

**AGENDA
IRVINE RANCH WATER DISTRICT
BOARD OF DIRECTORS
REGULAR MEETING**

June 27, 2016

PLEDGE OF ALLEGIANCE

CALL TO ORDER

5:00 p.m., Board Room, District Office
15600 Sand Canyon Avenue, Irvine, California

ROLL CALL

Directors LaMar, Reinhart, Swan, Withers and President Matheis

NOTICE

If you wish to address the Board on any item, including Consent Calendar items, please file your name with the Secretary. Forms are provided on the lobby table. Remarks are limited to five minutes per speaker on each subject. Consent Calendar items will be acted upon by one motion, without discussion, unless a request is made for specific items to be removed from the Calendar for separate action.

COMMUNICATIONS TO THE BOARD

1. A. Written:

B. Oral:

2. ITEMS RECEIVED TOO LATE TO BE AGENDIZED

Recommendation: Determine the need to discuss and/or take immediate action on item(s).

PUBLIC HEARING

Resolution No. 2016-9

3. 2015 URBAN WATER MANAGEMENT PLAN

Recommendation:

- a. Open the Hearing.
- b. Inquire of the Secretary how the hearing was noticed.
- c. Receive and file the affidavit of posting and proof of publication.
- d. Request legal counsel to describe the nature of the proceedings.
- e. Inquire of the Secretary if there have been any written communications.
- f. Hear any person who wishes to speak relative to IRWD's 2015 Urban Water Management Plan.
- g. Board comments/discussion.
- h. Close the Hearing.
- i. That the Board rescind Resolution No. 2011-19 and adopt a resolution accepting the IRWD 2015 Urban Water Management Plan.

Reso No. 2016-

PUBLIC HEARING - Continued

Resolution No. 2016-9

4. REPORT ON WATER QUALITY RELATIVE TO PUBLIC HEALTH GOALS

Recommendation:

- a. Open the hearing.
- b. Inquire of the Secretary how the hearing was noticed.
- c. Receive and file the affidavit of posting and proof of publication.
- d. Inquire of the Secretary if there have been any written communications.
- e. Request legal counsel to describe the nature of the proceedings.
- f. Hear any person who wishes to speak regarding the 2015 Report on Water Quality Relative to Public Health Goals.
- g. Inquire of the Board if it has any comments or questions.
- h. Close the hearing and receive and file the report.

5. PROPOSED CHANGES TO THE SCHEDULE OF RATES AND CHARGES EFFECTIVE JULY 1, 2016

Recommendation:

- a. Inquire of the Secretary how the hearing was noticed.
- b. Receive and file the affidavit of mailing.
- c. Request legal counsel to describe the nature of the proceedings.
- d. Request the Executive Director of Finance to report on written protests received.
- e. Hear any person who wish to speak regarding the proposed changes to the rates and charges.
- f. Inquire of the Board if they have any comments or questions.
- g. Close the hearing.
- h. Adopt a resolution by title.

Reso No. 2016-

CONSENT CALENDAR

Resolution No. 2016-9

Items 6-18

6. MINUTES OF REGULAR BOARD MEETINGS

Recommendation: That the minutes of the May 23, 2016, and June 6, 2016 Regular Board meetings be approved as presented.

7. RATIFY/APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS

Recommendation: That the Board ratify/approve the meetings and events for Steven LaMar, Mary Aileen Matheis, Peer Swan, Douglas Reinhart, and John Withers as described.

CONSENT CALENDAR - Continued

Resolution No. 2016-9

Items 6-18

8. FISCAL YEAR 2016-17 GENERAL COUNSEL SERVICES FOR BOWIE, ARNESON, WILES AND GIANNONE

Recommendation: That the Board approve and authorize the General Manager to execute the Engagement Agreement with Bowie, Arneson, Wiles and Giannone effective July 1, 2016 for general counsel services in the amount not to exceed \$400,000.

9. APPROVING QUITCLAIM OF ASSETS, LIQUIDATION AND DISSOLUTION OF IRWD WATER SERVICE COMPANY II LLC

Recommendation: That the Board adopt a resolution approving quitclaim of assets, liquidation and dissolution of Irvine Ranch Water District Water Service Company II LLC.

Reso No. 2016-

10. MAY 2016 TREASURY REPORTS

Recommendation: That the Board receive and file the Treasurer's Investment Summary Report, the Monthly Interest Rate Swap Summary for May 2016, and disclosure report of reimbursements to board members and staff; approve the May 2016 summary of payroll ach payments in the total amount of \$1,612,023 and approve the May 2016 accounts payable disbursement summary of warrants 367199 through 367877, workers' compensation distributions, wire transfers, payroll withholding distributions and voided checks in the total amount of \$15,492,878.

11. LUMP SUM PAYMENT OPTION FOR EMPLOYER CONTRIBUTION FOR FY 2016-17 TO THE CALIFORNIA PUBLIC EMPLOYEES RETIREMENT SYSTEM

Recommendation: That the Board approve the lump sum payment for employer contributions to the California Public Employees Retirement System (CalPERS) by making a one-time contribution of \$5,450,130 for the District's FY 2016-17 employer contribution.

12. ASSET OPTIMIZATION – LAKE FOREST / SERRANO SUMMIT PROPERTY DEVELOPMENT AND CONSULTANT CONTRACT UPDATE

Recommendation: That the Board approve an increase to the FY 2015-16 Capital Budget in the amount of \$245,040 for the Lake Forest / Serrano Summit project (Project No. 1264) for design and consulting services.

CONSENT CALENDAR - Continued	Resolution No. 2016-9	Items 6-18
13. <u>2016 LEGISLATIVE UPDATE</u>	<p>Recommendation: That the Board adopt a “<i>Concerned</i>” position on SB 1298, the Water Foundation’s tiered water rates proposal, and authorize staff to communicate the District’s concern over any water rate legislation which is not consistent with the California Constitution, voluntary in nature, or provide sufficient clarity or flexibility to water agencies. authorize staff to encourage the Water Foundation to set their proposal aside this year and continue working with the water community over the fall on the constitutional concerns with the proposal and to more fully reflect the proposal the District put forward with EMWD last year.</p>	
14. <u>FY 2016-17 OPERATING BUDGET VENDOR EXPENDITURE COMMITMENTS GREATER THAN \$100,000</u>	<p>Recommendation: That the Board approve the list of vendor commitments greater than \$100,000 based on approved FY 2016-17 Operating Budget expenditures.</p>	
15. <u>INFORMATION SERVICES PROFESSIONAL SERVICES SUPPORT CONTRACT RENEWALS</u>	<p>Recommendation: That the Board authorize the General Manager to execute Professional Services Agreements for the period July 1, 2016 to June 30, 2017 with Infosys Ltd. in the amount of \$375,000 for managed support services and one-time projects; LCS Technologies in the amount of \$100,000 for on-call database administration services; and Outsource Technical in the amount of \$225,000 for on-call programming, analysis, project management, and networking services.</p>	
16. <u>OPERATIONS CENTER PERMANENT BACKUP GENERATOR CONSTRUCTION AWARD</u>	<p>Recommendation: That the Board authorize a budget increase for project 6167 in the amount of \$660,000, from \$618,800 to \$1,278,800; find that the irregularities in the bid submitted by Johnson-Peltier did not affect the amount of the bid or afford Johnson-Peltier a competitive advantage over the other bidders and waive the irregularities; and authorize the General Manager to execute a construction contract with Johnson-Peltier in the amount of \$955,255 for the Operations Center permanent backup generator, project 6167.</p>	

CONSENT CALENDAR - Continued	Resolution No. 2016-9	Items 6-18
<p>17. <u>RANCHO PARKWAY ZONE C RECYCLED WATER PIPELINE FINAL ACCEPTANCE</u></p>	<p>Recommendation: That the Board accept construction of the Rancho Parkway Zone C Recycled Water Pipeline, project 6215, authorize the filing of a Notice of Completion, and authorize the payment of the retention 35 days after the date of recording the Notice of Completion.</p>	
<p>18. <u>THREE-YEAR CATHODIC PROTECTION MONITORING PROGRAM CONSULTANT SELECTION FOR FISCAL YEAR 2016-17 THROUGH FISCAL YEAR 2018-19</u></p>	<p>Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement with HDR Engineering in the amount of \$243,800 for the three-year Cathodic Protection Monitoring program for FY 2016-17 through FY 2018-19.</p>	

ACTION CALENDAR

<p>19. <u>SETTING CONNECTION FEES AND PROPERTY TAXES FOR FISCAL YEAR 2016-17</u></p>	<p>Recommendation: That the Board approve identified increases in connection fees and property tax rates and adopt the following three resolutions by title: 1) Adopting changes to connection fees as set forth in the Schedule of Rates and Charges in Exhibit "B" to the Rules and Regulations of Irvine Ranch Water District for water, sewer, recycled water and natural treatment system service; 2) Establishing ad valorem tax revenues for Fiscal Year 2016-17; and 3) Amending allocation of ad valorem property taxes to debt service, subject to pledge.</p>	<p>Reso No, 2016- Reso No. 2016- Reso No. 2016-</p>
<p>20. <u>ZONE A TO B AND ZONE A TO C BOOSTER PUMP STATIONS PROJECT CONSULTANT SELECTION</u></p>	<p>Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement with AECOM in the amount of \$832,155 for engineering design, bidding support, and construction phase services for the Zone A to B and Zone A to C Booster Pump Stations, Projects 4400 and 4457.</p>	

ACTION CALENDAR - Continued

21. PROPOSED 2016 GENERAL OBLIGATION BOND AND CERTIFICATES OF PARTICIPATION DEBT ISSUANCE

Recommendation: That the Board approve the issuance of General Obligation Bonds in an amount not to exceed \$130 million in either a fixed or variable mode to be determined prior to issuance, and approve the issuance of Certificates of Participation in an amount not to exceed \$100 million, in a fixed or variable mode to be determined prior to issuance, and approve the retention of Bank of America Merrill Lynch and Morgan Stanley as underwriters for the GO bond issue, and approve the retention of Goldman Sachs as underwriter for the COPs issue (to include any potential refunding of the District's 2010 COPs issue), and retain Orrick, Herrington & Sutcliffe and Bowie, Arneson, Wiles & Giannone as co-bond counsel, and retain Bank of New York Mellon as trustee/paying agent for the GP bond issue, and retain US Bank as trustee/paying agent for the COP's issue; and adopt a resolution Declaring Intention to Issue Consolidated Bonds of said District (Consolidated Series 2016).

Reso No. 2016-

22. SANTIAGO HILLS II ZONE 5 TO 6 AND ZONE C+ TO E PUMP STATIONS AND ZONE 6 RESERVOIR CONSULTANT SELECTIONS

Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement with Lee & Ro in the amount of \$538,869 for engineering services for the Santiago Hills II Zone 5 to 6 and Zone C+ to E Pump Stations, Project 7136 and 7139, and authorize the General Manager to execute a Professional Services Agreement with Kleinfelder in the amount of \$480,057 for engineering services for the Santiago Hills II Zone 6 Reservoir, Project 7138.

23. BAKER WATER TREATMENT PLANT CONTRACT CHANGE ORDER AND CONSULTANT VARIANCES

Recommendation: That the Board approve Contract Change Order No. 20 in the amount of \$631,372 and a contract time extension of 216 calendar days with PCL Construction; authorize the General Manager to execute Variance No. 2 in the amount of \$501,600 with Carollo Engineers for additional engineering support services; authorize the General Manager to execute Variance No. 2, in the amount of \$416,813 with HDR for additional construction support services; authorize the General Manager to execute Variance No. 1 in the amount of \$204,290 with Jacobs Project Management Company for additional construction support services; and authorize the General Manager to execute Variance No. 1 in the amount of \$116,885 with Arcadis U.S. for additional construction support services for the Baker Water Treatment Plant, project 5027.

OTHER BUSINESS

Pursuant to Government Code Section 54954.2, members of the Board of Directors or staff may ask questions for clarification, make brief announcements, make brief reports on his/her own activities. The Board or a Board member may provide a reference to staff or other resources for factual information, request staff to report back at a subsequent meeting concerning any matter, or direct staff to place a matter of business on a future agenda. Such matters may be brought up under the General Manager's Report or Directors' Comments.

24. A. General Manager's Report

B. Directors' Comments

C. CLOSED SESSION Conference with Labor Negotiators - Government Code Section 54957.6:

Agency Designated Representatives: Paul Cook and Jenny Roney

Employee Group: Managers, Supervisors and Confidential Employees, and

CLOSED SESSION Conference with Legal Counsel relative to anticipated litigation- Government Code Section 54956.9(d)(2) – significant exposure to litigation (one potential case), and Government Code Section 54956.9(d)(4) initiation of litigation (one potential case).

D. Open Session

E. Adjourn

Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the Irvine Ranch Water District Board of Directors in connection with a matter subject to discussion or consideration at an open meeting of the Board of Directors are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Board less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Board Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available at the entrance to the Board of Directors Room of the District Office. The Irvine Ranch Water District Board Room is wheelchair accessible. If you require any special disability-related accommodations (e.g., access to an amplified sound system, etc.), please contact the District Secretary at (949) 453-5300 during business hours at least seventy-two (72) hours prior to the scheduled meeting. This agenda can be obtained in alternative format upon written request to the District Secretary at least seventy-two (72) hours prior to the scheduled meeting.

June 27, 2016

Prepared by: J. Corey/K. Welch

Submitted by: F. Sanchez/P. Weghorst

Approved by: Paul Cook

PUBLIC HEARING

2015 URBAN WATER MANAGEMENT PLAN

SUMMARY:

A draft of the District's 2015 Urban Water Management Plan (UWMP) has been prepared in accordance with the Urban Water Management Planning Act (Act) of 1983, as amended. Staff recommends that the Board conduct a public hearing to allow the public an opportunity to comment on the District's 2015 UWMP and adopt the Plan as appropriate.

OUTLINE OF PROCEEDINGS

President: Declare this to be the time and place for a hearing on the report relative to 2016 Urban Water Management Plan, and declare the hearing open. Ask the Secretary how the hearing was noticed.

Secretary: The report was filed with the Secretary on May 24, 2016 and notice of the filing of the report and the time and place of this hearing was published in the Orange County Register on May 30 and June 6, 2016. A notice was also posted in the District office on May 24, 2016.

President: Ask the Board for a Motion to receive and file the Affidavit of posting and Proof of Publication.

Board: RECOMMENDED MOTION: "RECEIVE AND FILE THE AFFIDAVIT OF POSTING AND THE PROOF OF PUBLICATION PRESENTED BY THE SECRETARY."

President: Request Legal Counsel to describe the nature of the proceedings.

Legal Counsel: Describe the proceedings.

President: Inquire of the Secretary whether there have been any written communications.

Secretary: Respond.

President: Inquire whether there is anyone present who wishes to address the Board concerning the 2015 Urban Water Management Plan.

President: Inquire whether there are any comments or questions from members of the Board of Directors. State that the hearing will be closed. Ask the Board for a motion to adopt a resolution for the 2015 Urban Water Management Plan.

Board: RECOMMENDED MOTION: "THAT THE HEARING BE CLOSED AND THAT THE FOLLOWING RESOLUTION BE ADOPTED BY TITLE:

RESOLUTION NO. 2016 –

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE RANCH
WATER DISTRICT RESCINDING RESOLUTION NO. 2011-19
AND ADOPTING THE 2015 URBAN WATER MANAGEMENT PLAN
FOR SAID DISTRICT

BACKGROUND:

The Act requires urban water suppliers, which provide water for municipal purposes to more than 3,000 customers or which supply more than 3,000 acre-feet annually, to prepare and adopt a UWMP. The adopted UWMP must be submitted to the Department of Water Resources (DWR) at least once every five years. The deadline for submission of the 2015 UWMP to DWR is July 1, 2016.

The purpose of the UWMP is to ensure and demonstrate to the State that there are adequate water supplies to meet existing and future water demands under various hydrologic scenarios. The Act requires that water suppliers describe and evaluate water supply reliability in five-year increments for a 20-year period, under normal, single-dry and multiple-dry years. Urban water suppliers must also describe water shortage contingency and catastrophic planning efforts. In accordance with the Act, IRWD last updated its UWMP in 2010.

Staff has prepared the District's 2015 UWMP incorporating all of the required elements of the Act. The document includes the most current planning projections of demands and supplies through year 2035. The draft IRWD 2015 UWMP is attached as Exhibit "A".

Changes to UWMP Requirements:

Changes in the Act have occurred since 2010 that have modified requirements or that necessitate additional compliance by urban water suppliers in the 2015 UWMP. The modifications and additional requirements are provided below. Where appropriate, information on IRWD's 2015 UWMP response to these requirements is also included:

- *Submittal Date:* The 2015 UWMP requires each urban water supplier to submit its 2015 plan to the Department of Water Resources (DWR) by July 1, 2016.
- *Electronic Submittal:* The 2015 UWMP requires each urban water supplier to electronically submit the Plan and any amendments to its Plan to DWR.
- *Standardized Forms:* The 2015 UWMP and any amendments to the Plan are required to include the DWR-specified standardized forms, tables or displays.

- *Water Loss:* Each supplier is required to quantify and report on distribution system water losses calculated using the AWWA's standard methodology and software. IRWD worked with consultants at Water Systems Optimization to complete the water loss report, and the results are provided in Chapter 4 of the Plan.
- *Defining Water Features:* Urban water suppliers are required to analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls and fountains, separately from swimming pools and spas in the Water Shortage Planning section. This requirement is addressed in the District's 2015 UWMP as part of the response measures of the Water Shortage Contingency Plan.
- *20 x 2020 Compliance:* Urban suppliers are required to report compliance with the Water Conservation Act of 2009, which mandates a 20% reduction in total gallons per capita per day use by 2020 from a defined baseline. Suppliers are also required to report on compliance with their interim 2015 target. IRWD's baseline use is 214 gallons per capita per day (gpcd), with a 2015 interim target of 192 gpcd and a final 2020 target of 171 gpcd. IRWD's 2015 reported use in the UWMP is 129 gpcd, which not only exceeds the requirement of the 2015 interim target, but is also well below the final 2020 target.
- *Demand Management Measures:* Urban water suppliers are required to provide narratives describing water demand management measures. Retail suppliers are required to address the nature and extent of each of their water demand management measures implemented over the past five years. Each supplier must also describe the water demand management measures that it plans to implement to achieve its water use targets. Alternatively, suppliers may submit copies of their reports demonstrating compliance with the requirements of the California Urban Water Conservation Council. This alternative approach is used in the District's 2015 UWMP.
- *Energy Intensity Reporting:* Suppliers are encouraged to voluntarily report energy intensity. In the District's 2015 UWMP, staff has included the requested information regarding the energy intensity of its water sources based on the District's Embedded Energy Study.

A public hearing is required prior to the Board of Directors adoption of the 2015 UWMP that will allow members of the public to have an opportunity to comment on the draft plan. Staff recommends that the Board hold a public hearing and adopt the 2015 Urban Water Management Plan.

FISCAL IMPACTS:

None.

Public Hearing: 2015 Urban Water Management Plan
June 27, 2016
Page 4

ENVIRONMENTAL COMPLIANCE:

This 2015 UWMP is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15262 which provides exemption for planning studies.

COMMITTEE STATUS:

This item was reviewed by the Water Resources Policy and Communications Committee on June 6, 2016.

LIST OF EXHIBITS:

Exhibit "A" – Final Draft IRWD 2015 Urban Water Management Plan
Exhibit "B" – Resolution

A COPY OF
EXHIBIT “A”
MAY BE OBTAINED
FROM THE DISTRICT
SECRETARY
OR VIEWED ON IRWD’S
WEBSITE AT:

<http://www.irwd.com/doing-business/urban-water-management-plan>

EXHIBIT "B"

RESOLUTION NO. 2016 -

IRVINE RANCH WATER DISTRICT
RESCINDING RESOLUTION NO. 2011-19 AND ADOPTING
THE 2015 URBAN WATER MANAGEMENT PLAN
FOR SAID DISTRICT

WHEREAS, Irvine Ranch Water District is a California Water District organized and existing under the California Water District Law; and

WHEREAS, pursuant to Section 10620 et seq. of the California Water Code the District prepared and adopted an Urban Water Management Plan for said District on June 13, 2010; and

WHEREAS, the Board of Directors of the District, pursuant to Section 10621 of the Water Code has reviewed the Plan and directed that it be amended; and

WHEREAS, the amended Plan, entitled "2015 Urban Water Management Plan" has been made available for public inspection and notice of a public hearing thereon has been given pursuant to Section 6066 of the California Government Code; and

WHEREAS, at the time set, the duly noticed public hearing was held and all persons interested were given an opportunity to be heard concerning any matter set forth in the Plan.

NOW, THEREFORE, the Board of Directors of the Irvine Ranch Water District does hereby RESOLVE, DETERMINE and ORDER as follows:

Section 1. Resolution No. 2011-19 adopted the 13th day of June 2011 be and hereby is rescinded in its entirety.

Section 2. The 2015 Urban Water Management Plan of the Irvine Ranch Water District, dated June 2016, is hereby adopted pursuant to Section 10642 of the California Water Code.

Section 3. The District Secretary is directed to file a copy of the 2015 Urban Water Management Plan of the Irvine Ranch Water District with the Department of Water Resources of the State of California, pursuant to Section 10644 of the California Water Code.

ADOPTED, SIGNED and APPROVED this 27th day of June, 2016.

President, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

Assistant Secretary, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

APPROVED AS TO FORM:
BOWIE, ARNESON, WILES & GIANNONE
Legal Counsel - IRWD

By: _____

June 27, 2016

Prepared by: L. Oldewage

Submitted by: K. Burton 

Approved by: Paul Cook 

PUBLIC HEARING

REPORT ON WATER QUALITY RELATIVE TO PUBLIC HEALTH GOALS

SUMMARY:

The 2016 Report on Water Quality Relative to Public Health Goals is a triennial report required by the California Health and Safety Code summarizing constituents detected in the District's water supply at levels exceeding applicable Public Health Goals or Maximum Contaminant Level Goals during calendar years 2013, 2014 and 2015. A public hearing regarding the report will be held at this evening's Board meeting to accept any public comments that may be provided regarding the report.

BACKGROUND:

The California Health and Safety Code, Section 116470, requires public water systems with more than 10,000 service connections to prepare a brief written report that provides information regarding the detection of any contaminants above the Public Health Goals adopted by the State Office of Environmental Health Hazard Assessment or the Maximum Contaminant Level Goals set by the United States Environmental Protection Agency. These reports are intended to provide information to the public in addition to the Consumer Confidence Report that is mailed annually to each customer. The California Department of Public Health does not require public water systems to take any action to reduce or eliminate any exceedance of a public health goal.

A public water system that is required to prepare a Public Health Goal Report is also required to hold a public hearing for the purpose of accepting and responding to public comments regarding the report. The public hearing may be part of any regularly scheduled meeting. Due to the detection of a number of contaminants detected in the IRWD potable water system above the Public Health Goals, the District is required to prepare a Public Health Goal Report and hold a public hearing at which time public comments may be provided regarding the report. Attached as Exhibit "A" is the District's 2016 Report on Water Quality Relative to Public Health Goals.

OUTLINE OF PROCEEDINGS

President: Declare this to be the time and place for the hearing on the Report on Water Quality Relative to Public Health Goals, and declare the hearing open.

Request the Secretary to report the manner by which the Notice of Hearing was given.

Secretary: The Notice of this hearing was published in the Orange County Register on June 11, 2016. A Notice was also posted in the District office on June 18, 2016. The Secretary presents an Affidavit of Posting and the Proof of Publication for the Board to receive and file.

Board: RECOMMENDATION: RECEIVE AND FILE THE AFFIDAVIT OF POSTING AND THE PROOF OF PUBLICATION PRESENTED BY THE SECRETARY.

President: Inquire of the Secretary whether there have been any written communications.

Secretary: Respond.

President: Request legal counsel to describe the nature of the proceeding.

Counsel: Describe the proceeding.

President: Inquire if staff would like to give a report.

Staff: Respond.

President: Inquire whether there is anyone present who wishes to address the Board concerning the Report on Water Quality Relative to Public Health Goals.

Inquire whether there are any comments or questions from members of the Board of Directors. State that the hearing will be closed and the Board is to receive and file the report.

Board: RECOMMENDATION: THAT THE HEARING BE CLOSED AND THAT THE REPORT ON WATER QUALITY RELATIVE TO PUBLIC HEALTH GOALS BE RECEIVED AND FILED.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

The 2016 Report on Water Quality Relative to Public Health Goals was reviewed by the Engineering and Operations Committee on June 21, 2016.

LIST OF EXHIBITS:

Exhibit "A" – Report on Water Quality Relative to Public Health Goals PWS #3010092

EXHIBIT "A"

IRVINE RANCH WATER DISTRICT REPORT ON WATER QUALITY RELATIVE TO PUBLIC HEALTH GOALS PWS #3010092

BACKGROUND:

Provisions of the California Health and Safety Code (Reference No. 1) specify that larger (>10,000 service connections) water utilities prepare a special report by July 1, 2016 if their water quality measurements have exceeded any Public Health Goals (PHGs). PHGs are non-enforceable goals established by the California Environmental Protection Agency's (Cal-EPA's) Office of Environmental Health Hazard Assessment (OEHHA). The law also requires that where OEHHA has not adopted a PHG for a constituent, the water suppliers are to use the Maximum Contaminant Level Goals (MCLGs) adopted by United States Environmental Protection Agency (USEPA). Only constituents which have a California primary drinking water standard and for which either a PHG or MCLG has been set are to be addressed. (Reference No. 2 is a list of all regulated constituents with the Maximum Contaminant Levels (MCLs) and PHGs or MCLGs.

There are a few constituents that are routinely detected in water systems at levels usually well below the drinking water standards for which no PHG or MCLG has yet been adopted by OEHHA or USEPA. These will be addressed in a future required report after a PHG has been adopted.

The law specifies what information is to be provided in the report. (See Reference No. 1)

If a constituent was detected in Irvine Ranch Water District's (IRWD) water supply in 2013, 2014 or 2015 at a level exceeding an applicable PHG or MCLG, this report provides the information required by the law. Included is the numerical public health risk associated with the MCL and the PHG or MCLG, the category or type of risk to health that could be associated with each constituent, the best treatment technology available that could be used to reduce the constituent level, and an estimate of the cost to install that treatment if it is appropriate and feasible.

What Are PHGs?

PHGs are set by the California Office of Environmental Health Hazard Assessment (OEHHA) which is part of Cal-EPA and are based solely on public health risk considerations. None of the practical risk-management factors that are considered by the USEPA or the California State Water Resources Control Board Division of Drinking Water (DDW) in setting drinking water standards (MCLs) are considered in setting the PHGs. These factors include analytical detection capability, treatment technology

available, benefits and costs. The PHGs are not enforceable and are not required to be met by any public water system. MCLGs are the federal equivalent to PHGs.

Water Quality Data Considered:

All of the water quality data collected by the IRWD system from 2013 to 2015 for purposes of determining compliance with drinking water standards was considered. This data was summarized in IRWD's Annual Consumer Confidence Reports which were distributed to all of IRWD's customers in 2014, 2015 and 2016.

Guidelines Followed:

The Association of California Water Agencies (ACWA) formed a workgroup which prepared guidelines for water utilities to use in preparing these newly required reports. The ACWA guidelines were used in the preparation of this report and the cost estimates. No guidance was available from state regulatory agencies.

Best Available Treatment Technology and Cost Estimates:

Both the USEPA and DDW adopt what are known as Best Available Technologies (BATs) which are the best known methods of reducing contaminant levels to the MCL. Costs can be estimated for such technologies. However, since many PHGs and all MCLGs are set much lower than the MCL, it is not always possible or feasible to determine what treatment is needed to further reduce a constituent downward to or near the PHG or MCLG, many of which are set at zero. Estimating the costs to reduce a constituent to zero is difficult, if not impossible because it is not possible to verify by analytical means that the level has been lowered to zero. In some cases, installing treatment to try and further reduce very low levels of one constituent may have adverse effects on other aspects of water quality.

CONSTITUENTS DETECTED THAT EXCEED A PHG OR A MCLG:

The following is a discussion of constituents that were detected in one or more of the IRWD's drinking water sources at levels above the PHG, or if no PHG, above the MCLG.

Arsenic:

The PHG for arsenic is 0.004 parts per billion (ppb). The MCL, or drinking water standard, for arsenic is 10 ppb. We have detected arsenic in 6 of IRWD's 18 Dyer Road Well Field (DRWF) wells at the following levels: 2.5 ppb in DRWF Well 1, 3.2 ppb in DRWF Well 2, 2.6 ppb in DRWF Well 4, 10.8 ppb in DRWF Well 5, 4.1 ppb in DRWF Well 6, and 2.6 ppb in DRWF Well 18. The water from all DRWF wells in operation is blended prior to entering the IRWD's drinking water distribution system. In 2015 IRWD

began weekly regulatory monitoring for arsenic at the DRWF entry point to the distribution system. The highest concentration of arsenic measured at the entry point was 3.2 ppb. We have detected arsenic in 5 of IRWD's 5 Irvine Desalter Project (IDP) wells at the following levels: 3.3 ppb in IDP Well 76, 3.7 ppb in IDP Well 77, 4.8 ppb in IDP Well 107, 7.4 ppb in IDP Well 110 and 5.4 ppb in IDP Well 115. The highest concentration of arsenic detected in product water from the IDP Potable Treatment Plant (IDP/PTP) was 5.5 ppb. Arsenic was detected in imported water purchased from the Metropolitan Water District of Southern California (MWD), the highest level was 2.3 ppb. These levels were below the MCL. The category of health risk associated with arsenic, and the reason that a drinking water standard was adopted for it, is that some people who drink water containing arsenic above the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of cancer. The numerical health risk for a PHG of 0.004 ppb is 1×10^{-6} (1 in 1,000,000). The numerical health risk for a MCL of 10 ppb is 2.5×10^{-3} (2.5 in 1,000). The BATs for arsenic to lower the level below the MCL are Reverse Osmosis (RO), Ion Exchange (IE), activated alumina, lime softening, electro dialysis reversal, oxidation/filtration or coagulation/filtration. RO or IE would be required to attempt to lower the arsenic levels to below the PHG. The IDP Potable Treatment Plant (PTP) is an RO facility which reduces arsenic levels in water from the IDP wells, though the plant would probably need to be operated with 0% bypass to meet the PHG. The estimated cost to install and operate such a treatment system on DRWF Wells 1, 2, 4, 5, 6 and 18 that would reliably reduce the arsenic levels to below the PHG would be approximately \$12,459,000 per year including annualized capital and O&M costs. The estimated cost to install and operate such a treatment system at each MWD turnout that would reliably reduce the arsenic level to below the PHG would be approximately \$214,441,000 per year including annualized capital and O&M costs. This would result in an assumed increased cost for each customer of \$2,168 per year.

Fluoride:

The PHG for fluoride is 1 mg/l. The MCL, or drinking water standard, for fluoride is 2 mg/l. We have detected fluoride above the PHG in 1 of IRWD's 27 wells at a level 1.5 mg/l in DRWF Well C9. The level detected was below the MCL. The category of health risk associated with fluoride, and the reason that a drinking water standard was adopted for it, is that people who drink water containing fluoride above the MCL throughout their lifetime could experience an increased risk of musculoskeletal disease and tooth mottling. Following blending with water from 1 other well and treatment for color removal at the Deep Aquifer Treatment System (DATS) the water is blended with water pumped from up to 16 other wells located in the DRWF prior to delivery to the drinking water distribution system. The highest level of fluoride detected in the blended DRWF water was 0.76 mg/l and the average level of fluoride in the blended DRWF was 0.54 mg/l. Since the fluoride level in the blended DRWF water is consistently below the PHG and the optimal level of fluoride in drinking water to prevent dental caries (or cavities) is 0.7 mg/l no further treatment is necessary, so no cost estimate has been prepared.

Gross Alpha Activity (excluding Uranium):

OEHHA has not established a PHG for gross alpha activity. The MCLG for gross alpha activity is 0 pCi/l. The MCL, or drinking water standard, for gross alpha activity is 15 pCi/l. We have detected gross alpha activity in 1 of IRWD's 27 wells at the following levels: 3.4 pCi/l in DRWF Well C9. Gross alpha activity was detected in imported water purchased from the MWD and the highest level was 4 pCi/l. All levels were below the MCL. The category of health risk associated with gross alpha activity, and the reason that a drinking water standard was adopted for it, is that people who drink water containing gross alpha activity above the MCL throughout their lifetime could experience an increased risk of cancer. The numerical health risk for a MCLG of 0 pCi/l is 0. Since gross alpha activity is not a specific chemical contaminant, but rather a group of radioactive elements the numeric health risk at the MCL of 15 pCi/l depends on the specific alpha emitting radionuclides present and is estimated to range from 1.0×10^{-3} (1 in 1,000) to 1.9×10^{-4} (1.9 in 10,000). The BATs for gross alpha activity to lower the level below the MCL are RO, IE, lime softening or coagulation/filtration. RO or IE would be required to attempt to lower the gross alpha activity level to the MCLG. The IDP PTP is an RO facility which reduces gross alpha activity levels in water from the IDP wells, though the plant would probably need to be operated with 0% bypass to meet the PHG. The estimated cost to install and operate such a treatment system on DRWF Well C9 that would reliably reduce the gross alpha activity levels to below the PHG would be approximately \$2,547,000 per year including annualized capital and O&M costs. The estimated cost to install and operate such a treatment system at each MWD turnout that would reliably reduce the gross alpha activity level to the MCLG would be approximately \$214,441,000 per year including annualized capital and O&M costs. This would result in an assumed increased cost for each customer of \$2,073 per year.

Gross Beta Activity:

OEHHA has not established a PHG for gross beta activity. The MCLG for gross beta activity is 0 pCi/l. The MCL or drinking water standard for gross beta activity is 50 pCi/l. Gross beta activity was detected in imported water purchased from the MWD and the highest level detected was 6 pCi/l. All levels were below the MCL. The category of health risk associated with gross beta activity, and the reason that a drinking water standard was adopted for it, is that people who drink water containing gross beta activity above the MCL throughout their lifetime could experience an increased risk of cancer. The numerical health risk for a MCLG of 0 pCi/l is 0. Since gross beta activity is not a specific chemical contaminant, but rather a group of radioactive elements the numeric health risk at the MCL of 50 pCi/l depends on the specific beta emitting radionuclides present and is estimated to range from 2.3×10^{-3} (2.3 in 1,000) to 4.5×10^{-4} (4.5 in 10,000). The BATs for gross beta activity to lower the level below the MCL are RO, IE, lime softening or coagulation/filtration. RO or IE would be required to attempt to lower the gross beta activity level to the MCLG. The estimated cost to install and operate such a treatment system at each MWD turnout that would reliably reduce the gross beta activity level to the MCLG would be approximately \$214,441,000 per year including annualized

capital and O&M costs. This would result in an assumed increased cost for each customer of \$2,049 per year.

Hexavalent Chromium:

The PHG for hexavalent chromium is 0.02 ug/l. The MCL, or drinking water standard, for hexavalent chromium is 10 ug/l. We have detected hexavalent chromium in 4 of IRWD's 18 DRWF wells at a level 0.72 ug/l in DRWF Well 1, 1.4 ug/l in DRWF Well 12, 1.0 ug/l in DRWF Well 14 and 1.3 ug/l in DRWF Well 17. Hexavalent chromium was also detected in the 21-22 Desalter source water, the highest level was 0.17 ug/l. The 21-22 Desalter is an RO facility which reduces hexavalent chromium levels in the source water from the Well 21 and Well 22. Hexavalent chromium was detected in the 21-22 Desalter product water, the highest level detected was 0.060 ug/l. Hexavalent chromium was not detected in imported water purchased from the MWD during MWD's routine analysis for regulatory compliance. However, hexavalent chromium was detected in water served to IRWD from MWD's turnout OC-74 using a more sensitive analytical method with a lower detection limit for reporting required under the USEPA's Unregulated Contaminant Monitoring Rule 3, the highest level detected was 0.071 ug/l. The levels detected were below the MCL. The category of health risk associated with hexavalent chromium, and the reason that a drinking water standard was adopted for it, is that people who drink water containing hexavalent chromium above the MCL throughout their lifetime could experience an increased risk of cancer. The numerical health risk for a PHG of 0.02 ug/l is 1×10^{-6} (1 in 1,000,000). The numerical health risk for a MCL of 10 ug/l is 5×10^{-4} (5 in 10,000). The BATs for hexavalent chromium to lower the level below the MCL are RO, weak base anion exchange, lime softening or reduction/coagulation/filtration. RO would be required to attempt to lower the hexavalent chromium levels to below the PHG. The 21-22 Desalter is an RO facility which reduces hexavalent levels in water from Well 21 and Well 22, though the plant would probably need to be operated with 0% bypass to meet the PHG. The estimated cost to install and operate such a treatment system on DRWF Wells 1, 12, 14, and 17 that would reliably reduce the hexavalent chromium level to below the PHG would be approximately \$8,684,000 per year including annualized capital and O&M costs. The estimated cost to install and operate such a treatment system at each MWD turnout that would reliably reduce the hexavalent chromium level to the PHG would be approximately \$214,441,000 per year including annualized capital and O&M costs. This would result in an assumed increased cost for each customer of \$2,132 per year.

Nitrate/Nitrite Nitrogen and Nitrate as Nitrate:

The PHG and the MCL, or drinking water standard, for nitrate/nitrite nitrogen is 10 mg/l. The PHG and the MCL, or drinking water standard, for nitrate as nitrate is 45 mg/l. We have detected nitrate/nitrite nitrogen and nitrate as nitrate in 1 of IRWD's 27 wells at a level 14 mg/l nitrate/nitrite nitrogen and 61 mg/l nitrate as nitrate in Well 21. The 21-22 Desalter is an RO facility which reduces nitrate/nitrite nitrogen and nitrate as nitrate levels in the water from Well 21. Nitrate/nitrite nitrogen and nitrate as nitrate were

detected in the 21-22 Desalter product water. The highest level detected for nitrate/nitrite nitrogen was 5.0 mg/l and the average level was 3.9 mg/l. The highest level detected for nitrate as nitrate was 22 mg/l and the average level was 17 mg/l. The levels detected in the treated water were below the MCL. The category of health risk associated with nitrate/nitrite nitrogen and nitrate as nitrate, and the reason that a drinking water standard was adopted for it, is that people who drink water containing nitrate/nitrite nitrogen or nitrate as nitrate above the MCL could experience an acute risk of hemotoxicity causing methemoglobinemia. Since the nitrate/nitrite nitrogen and nitrate as nitrate levels in the treated water are consistently below the PHG no further treatment is necessary, so no cost estimate has been prepared.

Uranium:

The PHG for uranium is 0.43 pCi/l. The MCL, or drinking water standard, for uranium is 20 pCi/l. We have detected uranium in 8 of IRWD's 27 wells at the following levels: 1.4 pCi/l in DRWF Well 12, 2.1 pCi/l in DRWF Well 17, 1.4 pCi/l in DRWF Well 18, 1.3 pCi/l in Lake Forest Well 2, 1.6 pCi/l in Well 21, 5.9 pCi/l in IDP Well 76, 5.9 pCi/l in IDP Well 77, 8.4 pCi/l in IDP Well 107, 8.5 pCi/l in IDP Well 110 and 3.6 pCi/l in IDP Well 115. The 21-22 Desalter is an RO facility which reduces uranium levels in water from the Well 21. Uranium was not detected in the 21-22 Desalter product water. The IDP/PTP is an RO facility which reduces uranium levels in water from the IDP wells. Uranium was detected in the IDP/PTP product water at a level of 3.3 pCi/l. Uranium was detected in imported water purchased from the MWD, the highest level detected was 3 pCi/l. These levels were below the MCL. The category of health risk associated with uranium, and the reason that a drinking water standard was adopted for it, is that people who drink water containing uranium above the MCL throughout their lifetime could experience kidney problems or an increased risk of cancer. The numerical health risk for a PHG of 0.43 pCi/l is 1×10^{-6} (1 in 1,000,000). The numerical health risk for a MCL of 20 pCi/l is 5×10^{-5} (5 in 100,000). The BATs for uranium to lower the level below the MCL are RO, IE, lime softening or coagulation/filtration. RO or IE would be required to attempt to lower the uranium level to below the PHG. The IDP PTP is an RO facility which reduces uranium levels in water from the IDP wells, though the plant would probably need to be operated with 0% bypass to meet the PHG. The estimated cost to install and operate such a treatment system on DRWF Wells 12, 17, 18 and Lake Forest Well 2 that would reliably reduce the uranium level to below the PHG would be approximately \$5,306,000 per year including annualized capital and O&M costs. The estimated cost to install and operate such a treatment system at each MWD turnout that would reliably reduce the uranium level to the MCLG would be approximately \$214,441,000 per year including annualized capital and O&M costs. This would result in an assumed increased cost for each customer of \$2,099 per year.

Combined Treatment Cost

Since the same technology is utilized to treat all of the constituents included in this report each of the locations above would only require a single treatment facility each to reduce

levels of all of these constituents to below the PHG or MCLG. The estimated cost to install and operate such a treatment system on DRWF Wells 1, 2, 4, 5, 6, 9, 12, 14, 17, 18 and Lake Forest Well 2 that would reliably reduce the levels of the above constituents to levels below the PHG or MCLG would be approximately \$18,215,000 per year including annualized capital and O&M costs. The estimated cost to install and operate such a treatment system at each MWD turnout that would reliably reduce the arsenic, gross alpha activity and gross beta activity level to the PHG or MCLG would be approximately \$214,441,000 per year including annualized capital and O&M costs. This would result in an assumed increased cost for each customer of \$2,223 per year to lower the levels of Arsenic, gross alpha activity, gross beta activity, hexavalent chromium and uranium to levels below the PHG or MCLG.

SUMMARY OF PHG EXCEEDENCES:

CONTAMINANT	UNITS	PHG [MCLG]	MCL	Level of Detection	Status
Arsenic	ppb	0.004	10	ND – 5.5	1
Fluoride	ppm	1	2	ND – 1.5	2
Gross Alpha Activity	pCi/L	[0]	15	ND – 4	1
Gross Beta Activity	pCi/L	[0]	50	ND – 6	1
Hexavalent Chromium	ppb	0.02	10	ND – 1.5	3
Nitrate/Nitrite Nitrogen	ppm	10	10	ND – 14	2
Nitrate as Nitrate	ppm	45	45	ND – 61	2
Uranium	pCi/L	0.43	20	ND – 3	1

Notes: Radium 228 was reported in 2013 PHG report, but is not required to be reported in 2016 PHG report.

Status: 1 – Reported in 2013 PHG report

2 – Not reported in 2013 PHG report

3 – Not reported in 2013 PHG report, new PHG and MCL promulgated by DDW

RECOMMENDATIONS FOR FURTHER ACTION:

The drinking water quality of the Irvine Ranch Water District meets all DDW and USEPA drinking water standards set to protect public health. To further reduce the levels of the constituents identified in this report that are already significantly below the health-based Maximum Contaminant Levels established to provide “safe drinking water”, additional costly treatment processes would be required. The effectiveness of the treatment processes to provide any significant reductions in constituent levels at these already low values is uncertain. The health protection benefits of these further hypothetical reductions are not at all clear and may not be quantifiable. Therefore, no action is proposed.

REFERENCES:

- No.1 Excerpt from California Health & Safety Code: Section 116470 (b)
- No.2 Table of Regulated Constituents with MCLs, PHGs or MCLGs

CALIFORNIA PUBLIC HEALTH GOAL REQUIREMENTS
REFERENCE NO. 1

California Health and Safety Code
Section 116470

(b) On or before July 1, 1998, and every three years thereafter, public water systems serving more than 10,000 service connections that detect one or more contaminants in drinking water that exceed the applicable public health goal, shall prepare a brief written report in plain language that does all of the following:

(1) Identifies each contaminant detected in drinking water that exceeds the applicable public health goal.

(2) Discloses the numerical public health risk, determined by the office, associated with the maximum contaminant level for each contaminant identified in paragraph (1) and the numerical public health risk determined by the office associated with the public health goal for that contaminant.

(3) Identifies the category of risk to public health, including, but not limited to, carcinogenic, mutagenic, teratogenic, and acute toxicity, associated with exposure to the contaminant in drinking water, and includes a brief plainly worded description of these terms.

(4) Describes the best available technology, if any is then available on a commercial basis, to remove the contaminant or reduce the concentration of the contaminant. The public water system may, solely at its own discretion, briefly describe actions that have been taken on its own, or by other entities, to prevent the introduction of the contaminant into drinking water supplies.

(5) Estimates the aggregate cost and the cost per customer of utilizing the technology described in paragraph (4), if any, to reduce the concentration of that contaminant in drinking water to a level at or below the public health goal.

(6) Briefly describes what action, if any, the local water purveyor intends to take to reduce the concentration of the contaminant in public drinking water supplies and the basis for that decision.

(c) Public water systems required to prepare a report pursuant to subdivision (b) shall hold a public hearing for the purpose of accepting and responding to public comment on the report. Public water systems may hold the public hearing as part of any regularly scheduled meeting.

(d) The department shall not require a public water system to take any action to reduce or eliminate any exceedance of a public health goal.

(e) Enforcement of this section does not require the department to amend a public water system's operating permit.

(f) Pending adoption of a public health goal by the Office of Environmental Health Hazard Assessment pursuant to subdivision (c) of Section 116365, and in lieu thereof, public water systems shall use the national maximum contaminant level goal adopted by the United States Environmental Protection Agency for the corresponding contaminant for purposes of complying with the notice and hearing requirements of this section.

(g) This section is intended to provide an alternative form for the federally required consumer confidence report as authorized by 42 U.S.C. Section 300g-3(c).

2016 PHG Triennial Report: Calendar Years 2013-2014-2015

MGLs, DLRs, and PHGs for Regulated Drinking Water Contaminants
(Units are in milligrams per liter (mg/L), unless otherwise noted.)

Last Update: December 29, 2015

(Reference last update 9/23/2015: http://www.waterboards.ca.gov/drinking_water/cdrlic/drinkingwater/MCLsandPHGs.shtml)

This table includes:

- DDW's maximum contaminant levels (MCLs)
- DDW's detection limits for purposes of reporting (DLRs)
- [Public health goals \(PHGs\) from the Office of Environmental Health Hazard Assessment \(OEHHA\)](#)
- PHGs for NDMA and 1,2,3-Trichloropropane (both are unregulated) are at the bottom of this table
- The federal MCLG for chemicals without a PHG, microbial contaminants, and the DLR for 1,2,3-TCP

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
Chemicals with MCLs in 22 CCR §64431—Inorganic Chemicals				
Aluminum	1	0.05	0.6	2001
Antimony	0.006	0.006	0.02	1997
Antimony	—	—	0.0007	2009 draft
Arsenic	0.010	0.002	0.000004	2004
Asbestos (MFL = million fibers per liter; for fibers >10 microns long)	7 MFL	0.2 MFL	7 MFL	2003
Barium	1	0.1	2	2003
Beryllium	0.004	0.001	0.001	2003
Cadmium	0.005	0.001	0.00004	2006
Chromium, Total - OEHHA withdrew the 1999 0.0025 mg/L PHG in Nov 2001	0.05	0.01	(0.100)	
Chromium, Hexavalent (Chromium-6)	0.01	0.001	0.00002	2011
Cyanide	0.15	0.1	0.15	1997
Fluoride	2	0.1	1	1997
Mercury (inorganic)	0.002	0.001	0.0012	1999 (rev2005)*
Nickel	0.1	0.01	0.012	2001
Nitrate (as N)	10 as N	0.4	45 as NO ₃ (=10 as N)	1997
Nitrite (as N)	1 as N	0.4	1 as N	1997
Nitrate + Nitrite (as N)	10 as N	0.4	10 as N	1997
Perchlorate	0.006	0.004	0.001	2015
Selenium	0.05	0.005	0.03	2010
Thallium	0.002	0.001	0.0001	1999 (rev2004)
Copper and Lead, 22 CCR §64672.3				
<i>Values referred to as MCLs for lead and copper are not actually MCLs; instead, they are called "Action Levels" under the lead and copper rule</i>				
Copper	1.3	0.05	0.3	2008
Lead	0.015	0.005	0.0002	2009

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
Radionuclides with MCLs in 22 CCR §64441 and §64443—Radioactivity				
[units are picocuries per liter (pCi/L), unless otherwise stated; n/a = not applicable]				
Gross alpha particle activity - OEHHA concluded in 2003 that a PHG was not practical	15	3	(zero)	n/a
Gross beta particle activity - OEHHA concluded in 2003 that a PHG was not practical	4 mrem/yr	4	(zero)	n/a
Radium-226	--	1	0.05	2006
Radium-228	--	1	0.019	2006
Radium-226 + Radium-228	5	--	(zero)	--
Strontium-90	8	2	0.35	2006
Tritium	20,000	1,000	400	2006
Uranium	20	1	0.43	2001
Chemicals with MCLs in 22 CCR §64444—Organic Chemicals				
(a) Volatile Organic Chemicals (VOCs)				
Benzene	0.001	0.0005	0.00015	2001
Carbon tetrachloride	0.0005	0.0005	0.0001	2000
1,2-Dichlorobenzene	0.6	0.0005	0.6	1997 (rev2009)
1,4-Dichlorobenzene (p-DCB)	0.005	0.0005	0.006	1997
1,1-Dichloroethane (1,1-DCA)	0.005	0.0005	0.003	2003
1,2-Dichloroethane (1,2-DCA)	0.0005	0.0005	0.0004	1999 (rev2005)
1,1-Dichloroethylene (1,1-DCE)	0.006	0.0005	0.01	1999
cis-1,2-Dichloroethylene	0.006	0.0005	0.1	2006
trans-1,2-Dichloroethylene	0.01	0.0005	0.06	2006
Dichloromethane (Methylene chloride)	0.005	0.0005	0.004	2000
1,2-Dichloropropane	0.005	0.0005	0.0005	1999
1,3-Dichloropropene	0.0005	0.0005	0.0002	1999 (rev2006)
Ethylbenzene	0.3	0.0005	0.3	1997
Methyl tertiary butyl ether (MTBE)	0.013	0.003	0.013	1999
Monochlorobenzene	0.07	0.0005	0.07	2014
Styrene	0.1	0.0005	0.0005	2010
1,1,2,2-Tetrachloroethane	0.001	0.0005	0.0001	2003
Tetrachloroethylene (PCE)	0.005	0.0005	0.00006	2001
Toluene	0.15	0.0005	0.15	1999
1,2,4-Trichlorobenzene	0.005	0.0005	0.005	1999
1,1,1-Trichloroethane (1,1,1-TCA)	0.2	0.0005	1	2006
1,1,2-Trichloroethane (1,1,2-TCA)	0.005	0.0005	0.0003	2006
Trichloroethylene (TCE)	0.005	0.0005	0.0017	2009
Trichlorofluoromethane (Freon 11)	0.15	0.005	1.3	2014
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	1.2	0.01	4	1997 (rev2011)
Vinyl chloride	0.0005	0.0005	0.00005	2000
Xylenes	1.75	0.0005	1.8	1997

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
(b) Non-Volatile Synthetic Organic Chemicals (SOCs)				
Alachlor	0.002	0.001	0.004	1997
Atrazine	0.001	0.0005	0.00015	1999
Bentazon	0.018	0.002	0.2	1999 (rev2009)
Benzo(a)pyrene	0.0002	0.0001	0.000007	2010
Carbofuran	0.018	0.005	0.0017	2000
Carbofuran	--	--	0.0007	2015 draft
Chlordane	0.0001	0.0001	0.00003	1997 (rev2006)
Dalapon	0.2	0.01	0.79	1997 (rev2009)
1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0.00001	0.0000017	1999
2,4-Dichlorophenoxyacetic acid (2,4-D)	0.07	0.01	0.02	2009
Di(2-ethylhexyl)adipate	0.4	0.005	0.2	2003
Di(2-ethylhexyl)phthalate (DEHP)	0.004	0.003	0.012	1997
Dinoseb	0.007	0.002	0.014	1997 (rev2010)
Diquat	0.02	0.004	0.015	2000
Diquat	--	--	0.006	2015 draft
Endrin	0.002	0.0001	0.0018	1999 (rev2008)
Endrin	--	--	0.0003	2015 draft
Endothal	0.1	0.045	0.094	2014
Ethylene dibromide (EDB)	0.00005	0.00002	0.00001	2003
Glyphosate	0.7	0.025	0.9	2007
Heptachlor	0.00001	0.00001	0.000008	1999
Heptachlor epoxide	0.00001	0.00001	0.000006	1999
Hexachlorobenzene	0.001	0.0005	0.00003	2003
Hexachlorocyclopentadiene	0.05	0.001	0.002	2014
Lindane	0.0002	0.0002	0.000032	1999 (rev2005)
Methoxychlor	0.03	0.01	0.00009	2010
Molinate	0.02	0.002	0.001	2008
Oxamyl	0.05	0.02	0.026	2009
Pentachlorophenol	0.001	0.0002	0.0003	2009
Picloram	0.5	0.001	0.5	1997
Picloram	--	--	0.166	2015 draft
Polychlorinated biphenyls (PCBs)	0.0005	0.0005	0.00009	2007
Simazine	0.004	0.001	0.004	2001
2,4,5-TP (Silvex)	0.05	0.001	0.003	2014
2,3,7,8-TCDD (dioxin)	3×10^{-8}	5×10^{-9}	5×10^{-11}	2010
Thiobencarb	0.07	0.001	0.07	2000
Thiobencarb	--	--	0.042	2015 draft
Toxaphene	0.003	0.001	0.00003	2003

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
Chemicals with MCLs in 22 CCR §64533—Disinfection Byproducts				
Total Trihalomethanes	0.080	--		
Total Trihalomethanes	--	--	0.0008	2010 draft
Bromodichloromethane	--	0.0010	(zero)	--
Bromoform	--	0.0010	(zero)	--
Chloroform	--	0.0010	(0.07)	--
Dibromochloromethane	--	0.0010	(0.06)	--
Haloacetic Acids (five) (HAA5)	0.060	--	--	--
Monochloroacetic Acid	--	0.0020	(0.07)	--
Dichloroacetic Acid	--	0.0010	(zero)	--
Trichloroacetic Acid	--	0.0010	(0.02)	--
Monobromoacetic Acid	--	0.0010	--	--
Dibromoacetic Acid	--	0.0010	--	--
Bromate	0.010	0.0050 or 0.0010 ^a	0.0001	2009
Chlorite	1.0	0.020	0.05	2009
Microbiological Contaminants (TT = Treatment Technique)				
Coliform % positive samples	%	5	(zero)	
<i>Cryptosporidium</i> **		TT	(zero)	
<i>Giardia lamblia</i> **		TT	(zero)	
<i>Legionella</i> **		TT	(zero)	
Viruses**		TT	(zero)	
Chemicals with PHGs established in response to DDW requests. These are not currently regulated drinking water contaminants.				
N-Nitrosodimethylamine (NDMA)	--	--	0.000003	2006
1,2,3-Trichloropropane	--	0.000005	0.0000007	2009

Notes:

^a DDW will maintain a 0.0050 mg/L DLR for bromate to accommodate laboratories that are using EPA Method 300.1. However, laboratories using EPA Methods 317.0 Revision 2.0, 321.8, or 326.0 must meet a 0.0010 mg/L MRL for bromate and should report results with a DLR of 0.0010 mg/L per Federal requirements.

*OEHHHA's review of this chemical during the year indicated (rev20XX) resulted in no change in the PHG

** Surface water treatment = TT

June 27, 2016

Prepared by: Christopher Smithson 

Submitted by: Cheryl Clary 

Approved by: Paul Cook 

PUBLIC HEARING

PROPOSED CHANGES TO THE SCHEDULE OF RATES AND CHARGES EFFECTIVE JULY 1, 2016

SUMMARY:

The Fiscal Year (FY) 2016-17 Operating Budget was adopted at the April 25, 2016 Board meeting. The proposed changes to the District's rates and charges were publicly noticed by mail as required under Proposition 218, and protests to the implementation of those rates and charges have been tallied by the District. As of June 22, 2016, eleven written protest letters were received by the District, which represents less than 0.01% of the total customers, substantially less than the 50% which would have been required to prevent the Board from adopting the current proposed rates and charges. Protests may be received up until the commencement of the public hearing; staff will provide an updated report as part of the hearing process.

Pursuant to the requirements of Proposition 218, a Public Hearing on the rates and charges is required. Following the Public Hearing, staff recommends that the Board adopt the proposed changes to the Schedule of Rates and Charges required to fund operating expenses.

OUTLINE OF PROCEEDINGS

President: Declare this to be the time and place for a hearing on the proposed changes to the rates and charges. Ask the Secretary how the hearing was noticed.

Secretary: The hearing was noticed by mail. Present affidavit of mailing.

Board: RECOMMENDED MOTION: "RECEIVE AND FILE THE AFFIDAVIT OF MAILING BY AN INDEPENDENT PROCESSING FIRM AS PRESENTED BY THE SECRETARY."

President: Request Legal Counsel to describe the nature of the proceedings.

Legal
Counsel: Describe the proceedings.

President: Request a staff report from the Executive Director of Finance on the proposed rates and charges and inquire whether there have been any written communications.

Executive Director
of Finance: Provide staff report and respond regarding the number of protests received to the implementation of the rates and charges.

President: Inquire whether there is anyone present who wishes to address the Board regarding the proposed changes to the rates and charges.

President: Inquire whether there are any comments or questions from members of the Board of Directors. After comments or questions, state that the hearing will be closed.

Board: RECOMMENDED MOTION: THAT THE HEARING BE CLOSED AND THAT THE FOLLOWING RESOLUTION BE ADOPTED BY TITLE:

RESOLUTION NO. 2016 -

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE RANCH
WATER DISTRICT, ORANGE COUNTY, CALIFORNIA
RESCINDING RESOLUTION NO. 2015-17 AND ADOPTING
CHANGES TO THE SCHEDULE OF RATES AND CHARGES AS
SET FORTH IN EXHIBIT "B" TO THE RULES AND
REGULATIONS OF IRVINE RANCH WATER DISTRICT
FOR WATER, SEWER AND RECYCLED WATER SERVICE

BACKGROUND:

Proposed Rates and Charges for FY 2016-17:

A redline version showing the changes to the rates and charges proposed for FY 2016-17 is attached as Exhibit "B". The proposed changes include both updates identified through the rate setting process and changes to the wording and format to better communicate the application of the District's rates to the customer.

All changes from the factors identified were included in the budget and rate setting process. Staff has reviewed costs and revenues for the treated water system, the untreated water system, the sewer system, and the recycled water system. As a result of this review, changes to the water and sewer rates for the Irvine Ranch rate area and the Los Alisos rate area recommended for FY 2016-17 include:

Irvine Ranch Rate Area

Treated Water System:

- An increase to the low volume rate of \$0.10, from \$1.11 to \$1.21 per ccf.
- An increase to the base commodity rate of \$0.03 per ccf, from \$1.62 to \$1.65 per ccf.
- No change to the current fixed service charge for the treated water system. The monthly service charge includes user rate contributions of \$2.10 per month for capital infrastructure replacements and \$0.70 per month for capital infrastructure enhancements.

Sewer System:

- The increase to the current monthly sewer service charge is \$1.35 per month for a typical residential customer based on the average use of 12 ccf per month. The monthly service charge includes the last of the planned increases to fund the replacement component of the biosolids project. User rate contributions of \$8.66 per month for capital infrastructure replacements and \$0.82 per month for capital infrastructure enhancements.

Recycled Water System:

- The recycled commodity rate is based on cost of service and is no longer set as a percentage of the potable rate (previously 90%). The rates identified will provide the necessary funding for the recycled system.
- An increase to the low volume rate of \$0.03, from \$1.08 to \$1.11 per ccf.
- An increase to the base commodity rate of \$0.09 per ccf, from \$1.37 to \$1.46 per ccf.
- No change to the current fixed service charge for the recycled system. The monthly service charge includes user rate contributions of \$2.10 per month for capital infrastructure replacements and \$0.70 per month for capital infrastructure enhancements.

Los Alisos Rate Area (ID 135/235)

Treated Water System:

- An increase to the low volume rate of \$0.16, from \$1.64 to \$1.80 per ccf.
- An increase to the base commodity rate of \$0.07 per ccf, from \$2.39 to \$2.46 per ccf.
- No change to the current fixed service charge for the treated water system.

Sewer System:

- The sewer changes mirror those identified for the Irvine Ranch rate area because the District has one sewer system.

Recycled Water System:

- The recycled changes mirror those identified for the Irvine Ranch rate area because the District has one recycled system.

The proposed treated water tiered rates for both rate areas are as follows (per ccf):

Tiers	Irvine Ranch	Los Alisos
Low Volume	\$1.21	\$1.80
Base Rate	\$1.65	\$2.46
Inefficient	\$4.01	\$4.01
Wasteful	\$12.01	\$12.01

A proposed redline version of the schedule of rates and charges is provided as Exhibit “B”, and contains the proposed rates for both rate areas.

User/Replacement and Enhancement Capital Component:

The replacement component was increased for water and sewer as noted above. Combined with the existing replacement and enhancement rate components, the total capital components are estimated to generate \$8.3 million and \$19.7 million on the treated water and sewer systems, respectively.

Comparison to City of Orange Rates:

On August 28, 2006, IRWD and the City of Orange executed an agreement by which IRWD would provide services to the area known as the “Santiago Hills II / East Orange Area”. One of the conditions stipulated in this agreement was that the cumulative fixed and commodity charges for water service to an IRWD customer using the City of Orange median amount of water (18 ccf per month) would not exceed the same charges incurred by a City of Orange customer. Based on the rates as proposed for FY 2016-17, a customer in IRWD using 18 ccf per month would pay an average of \$36.48 per month for fixed and commodity charges. Based on the most current water rates in the City of Orange, a customer using 18 ccf per month would pay an average of \$43.20 per month for fixed and commodity charges, or 18.4% more than a comparable ratepayer in IRWD.

Proposition 218 Notice:

Proposition 218, enacted in 1996, mandates that proposed increases in “property-related fees” must be noticed to property owners, and that such owners have an opportunity to protest prior to the enactment of the fee increases. While water districts and sewer agencies throughout the state believed, based on court decisions, that water and sewer service was exempt from this requirement, in July 2006, the California Supreme Court issued a decision in the matter of Bighorn, which held that water delivery charges are property-related. Following the Supreme Court’s logic, most interpretations of the decision are that both water and sewer charges should be noticed in order to be in compliance with Proposition 218.

Under Proposition 218, the notice to customers must be sent to all property owners. As permitted by statute, the District sent its notices to all of its customers (including tenants) in the District’s service area at their billing addresses.

The District contracted with Davis Farr, Certified Public Accountants to collect and count the rate increase protests. They will provide management with a report prior to the Board meeting on June 27, 2016 (45 days from the date of mailing the Prop 218 notices), and they will be present at the Public Hearing established for approval of the rates to answer questions on the process and final results.

As of June 22, 2016, the District received eleven written protests from property owners in the District at a separate post office box from the rest of the District’s mail. The eleven written protests represent 0.01% of the 97,181 notices sent and 0.82% were returned as undeliverable. Under Proposition 218, more than 50% of the IRWD customers would have to protest in order to prevent the Board from adopting the Proposed Rates and Charges.

Copies of all eleven protest letters received to date are attached as Exhibit "C".

ENVIRONMENTAL COMPLIANCE:

The establishment, modification, structuring, restructuring or approval of rates, tolls, fares, or other charges by public agencies are exempt from the requirements of the California Environmental Quality Act (CEQA) provided that certain findings are made specifying the basis for the claim of exemption. The necessary findings are contained in the proposed resolution.

FISCAL IMPACTS:

The District's FY 2016-17 Consolidated Operating Budget totals \$146.9 million, representing a \$6.6 million or 4.7% increase from the Fiscal Year 2015-16 Operating Budget. The proposed adjustments to the District's Schedule of Rates and Charges will generate approximately \$5.5 million of additional revenue for the treated water system, approximately \$3.0 million of additional revenue in the sewer system and approximately \$0.6 million of additional revenue in the recycled system. The budget includes \$0.9 million of rate stabilization for the sewer and recycled systems.

COMMITTEE STATUS:

The proposed changes to the Schedule of Rates and Charges were reviewed by the:

- Finance and Personnel Committee on March 1, 2016, March 15, 2016, and April 7, 2016.
- Board of Directors at a Workshop on April 11, 2016 and April 25, 2016.

LIST OF EXHIBITS:

Exhibit "A" – Resolution to Adopt Schedule of Rates and Charges
Exhibit "B" – Proposed changes to the Schedule of Rates and Charges
Exhibit "C" – Protest Letters received as of June 17, 2016

Exhibit "A"

RESOLUTION NO. 2016-

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE
RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA
ADOPTING CHANGES TO THE SCHEDULE OF RATES AND CHARGES
AS SET FORTH IN EXHIBIT "B" TO THE RULES AND
REGULATIONS OF IRVINE RANCH WATER DISTRICT
FOR WATER, SEWER AND RECLAIMED WATER SERVICE

WHEREAS, the Irvine Ranch Water District (IRWD) is a California Water District organized and existing under the California Water District Law, and all of the lands within the boundaries of said District are located in the County of Orange, State of California; and

WHEREAS, Sections 35423, 35470 and Section 35501 of the California Water Code empower the District to establish, print and distribute equitable rules and regulations and prescribe and collect rates or other charges for water and sewer service; and

WHEREAS, the Board of Directors of IRWD, by adoption of Resolution No. 2014-50 approved and adopted amended "Rules and Regulations of Irvine Ranch Water District for Water, Sewer, Recycled Water, and Natural Treatment System Service," effective November 10, 2014"; and

WHEREAS, Exhibit "B" of said Rules and Regulations sets forth Rates and Charges, which Exhibit "B" may be changed from time to time by adoption of changes to any of the rates and charges or any new rates and charges as may be established and set forth therein; and

WHEREAS, Section 21080(b) (8) of the Public Resources Code provides that the establishment, modification, structuring, restructuring or approval of rates, tolls, fares, or other charges by public agencies are exempt from the requirements of the California Environmental Quality Act (CEQA) provided that certain findings are made specifying the basis for the claim of exemption; and

WHEREAS, Article XIII B of the Constitution of the State of California, limiting local agencies' appropriations of proceeds of taxes, excludes user charges or fees or regulatory fees from the definition of proceeds of taxes, as long as such fees and charges do not produce revenue exceeding the costs reasonably borne in providing the regulation, product or service, and further excludes appropriations for debt service and appropriations for qualified capital outlay projects from appropriations subject to limitation; and

WHEREAS, IRWD has conducted a cost of service and rate design study through its consultant, Carollo Engineers, and the Board of Directors has received the final study dated June 18, 2015 (the "Cost Study"); and

WHEREAS, the Board of Directors of IRWD deems it advisable and finds that it would be in the best interest of the District to amend or establish certain rates and charges, consistent with applicable constitutional and statutory requirements and consistent with recommendations described in the Cost Study; and

WHEREAS, Article XIID of the Constitution of the State of California provides that, in imposing or increasing any property-related fee or charge, an agency shall provide written notice by mail of the proposed fee or charge to the record owner of each identified parcel upon which the fee or charge is proposed for imposition, the amount, basis of calculating, and reason for such proposed fee or charge, and the date, time and location of a public hearing on the proposed fee or charge to be conducted not less than 45 days after the mailing of said notice, and Government Code Section 53755 provides for such notice to be given by mailing to the address where billing statements are customarily sent by the District;

WHEREAS, a mailed notice was given, setting Monday, June 27, 2016, at the hour of 5:00 p.m. of said day in the Board of Directors Room of Irvine Ranch Water District, 15600 Sand Canyon Avenue, Irvine, California, as the time and place for a public hearing on the proposed increases in property-related rates and charges and any proposed new property-related rates and charges set forth in Exhibit "A" to this resolution; and

WHEREAS, at the time set, the duly noticed public hearing was held and all persons interested were given an opportunity to be heard concerning the increases in property-related rates and charges and any proposed new property-related rates and charges;

WHEREAS, this Board of Directors has considered all protests presented to the District by owners of identified parcels against the proposed increases in property-related rates and charges and any proposed new property-related rates and charges;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of IRWD as follows:

Section 1. It is hereby found and determined that the number of written protests presented to the District against the proposed increases in property-related rates and charges and any proposed new property-related rates and charges has been tabulated and does not constitute a majority of the number of owners of identified parcels.

Section 2. It is hereby found and determined that the proposed changes to the Schedule of Rates and Charges are within the purposes set forth in Section 21080(b) of the Public Resources Code including but not by way of limitation, the purposes of (1) meeting operating expenses, (2) purchasing or leasing supplies, equipment or materials, (3) meeting financial reserve needs and requirements, and (4) obtaining funds for capital projects necessary to maintain service within existing areas, and therefore, that such changes are exempt from CEQA.

Section 3. The recommendations set forth in the Cost Study (Section 4.3.2 - decoupling of recycled water rates; Section 4.5.1 – low volume credit; and Section 4.5.6 – three month minimum use to establish volumetric sewer service charge blocks) are hereby adopted.

Section 4. It is hereby found and determined that the rates, charges and fees adopted hereby are imposed upon the request for or use of services; that the rates, charges and fees recover and allocate the costs of service in accordance with the criteria and requirements of the Constitution of the State of California; and that the water user charges satisfy the criteria and requirements of Water Code Sections 370 *et seq.* relating to allocation-based conservation water pricing.

Section 5. It is hereby found and determined that relative to Article XIII B of the Constitution of the State of California, the user charges and fees and regulatory fees established or increased hereby do not produce revenues exceeding the costs reasonably borne in providing the regulation, product or service and/or are used for debt service or qualified capital outlay projects and accordingly do not constitute proceeds of taxes, the appropriation of which is limited under Article XIII B, and that the documentation used in making such determinations has been on file in the office of IRWD for not less than 15 days prior to the date hereof, pursuant to Section 7910 of the Government Code of the State of California.

Section 6. The new and/or revised rate(s), fee(s) and/or charge(s) as set forth in Exhibit "A" attached to this resolution and by this reference incorporated herein are hereby adopted, and the corresponding rate(s), fee(s) or charge(s), if any, as set forth in Exhibit B currently in effect, are hereby superseded. Staff is directed to incorporate the hereby adopted new and/or revised rate(s), fee(s) and/or charge(s) into Exhibit "B" to the Rules and Regulations.

Section 7. That the provisions of this Resolution shall be effective upon adoption.

Section 8. That the Secretary is hereby ordered and directed to post a certified copy of this Resolution in a public place within the Irvine Ranch Water District.

ADOPTED, SIGNED and APPROVED this 27th day of June, 2016.

President, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

Secretary, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

APPROVED AS TO FORM:
BOWIE, ARNESON, WILES & GIANNONE
Legal Counsel - IRWD

By: _____

Exhibit "B"

***IRVINE RANCH WATER DISTRICT
SCHEDULE OF RATES AND CHARGES***



EFFECTIVE

JULY 28, 2015 JULY 1, 2016

Table of Contents

Section 1: Water System Charges	Page
Monthly Water Service Charge	4
Service Charges – Private Fire Protection Service	Error! Bookmark not defined.
1. Service-Line Charge	5
2. Fire Hydrant Charge	5
3. Fire Flow Testing	5
Commodity Charges: Potable Water	6
Irvine Ranch Rate Area:	
1. Commodity Charge for Residential Detached Dwelling Units	6
2. Commodity Charge for Residential Condo Attached/Detached Dwelling Units	6
3. Commodity Charge for Apartments	6
4. Commodity Charge for Commercial, Industrial, Public Authority and Non residential Mixed Usage	6
5. Commodity Charge for Potable Landscape Irrigation	7
Los Alisos Rate Area:	
7. Commodity Charge for Residential Detached Dwelling Units	7
8. Commodity Charge for Residential Condo Attached/Detached Dwelling Units	7
9. Commodity Charge for Apartments	7
10. Commodity Charge for Commercial, Industrial, Public Authority and Non-residential Mixed Usage	8
11. Commodity Charge for Potable Landscape Irrigation	8
Commodity Charges: Potable Water System - Agricultural	9
1. Commodity Charge:	9
Commodity Charges: Nonpotable Water System Including Agricultural	10
1. Commodity Charge	10
2. Santiago Aqueduct Commission (SAC) Water	10
3. Surcharge	10
Commodity Charges: Nonpotable (Untreated) Water System Landscape Irrigation	11
1. Commodity Charge	11
Commodity Charges: Recycled Water System - Non-Agricultural Landscape Irrigation	12
1. Commodity Charge	12
2. Recycled Loan Customers	12
Commodity Charges: Recycled Water System - Commercial/Industrial	13
1. Commodity Charge for Commercial and Industrial	13
2. Commodity Charge for Commercial and Industrial Loan Customers	13
Allocations and Variances	14
1. Base Allocations for Commodity Charges	14
2. Variances from Ascending Tiered Rate Allocations	14
3. Grounds for Variance	14
4. Limitations	15
5. Effect of Increased Allocations	15
Pumping Surcharges	17
1. Potable Water Pumping Surcharges	17
2. Recycled Water Pumping Surcharges	16
Temporary Water Service Connection	18
1. Monthly Service Charge	17
2. Commodity Charge	18
3. Meter Deposit	18
4. Materials for Repairing Damaged Construction Meters	18
New Account Fees for Water Service	19
1. Charges	19
2. Residential Deposit	19
3. Non-Residential Deposit	19
Delinquency and Service Restoration Charges	20
1. Delinquency Charges	20
2. Non-Sufficient Funds Checks	20
3. Service Restoration Charges	19

Section 2: Sewage System Charges	Page	
2.1 Monthly Sewage Service Charges	20	21
2.2 Non-Residential Sewage	20	21
1. Alternative Service Charges	21	22
2. Fees for Noncompliance with Permit Conditions	21	22
3. Fats, Oils, and Grease (FOG) Control Program Fees	22	
4. Special Purpose Discharger Service Charges	22	23
5. Discharge Limits	22	23
 Section 3: Developer Services	 Page	 24
Water Connection Fees	23	24
Service Installations by District	25	
Meter Installations by District	25	
Plan Check and Inspection Fees	26	
Interim Water Service Charge - New Developments	26	
Sewer Connection Fees	27	
Sewer Installation Charges	29	
District Closed Circuit Television Inspection Charges	29	
 Exhibit B: History of Revisions to Schedule of Rates and Charges		30

Monthly Water Service Charge

Customer Description			
Irvine Ranch and Los Alisos Rate Areas			
Residential detached, Condo attached/detached and apartments ¹		See chart (a)	
Residential apartments and condominiums (master metered) ¹		See chart (a)	
Commercial, Industrial, Public Authority and Landscape		See chart (a)	
Landscape recycled user		See chart (a)	
Temporary <u>construction meters</u> *water service connections		See chart (b)	
Meter Size	Flow in Gallons Range in GPM ²	Chart (a)	Chart (b)
5/8" by 3/4" Disc	1/2-20	\$10.30	\$81.50
3/4" Disc	3/4-30	\$15.45	
1" Disc	3-501-50	\$25.75	\$115.49
1 1/2" Disc	2-100	\$51.50	\$116.63
2" Disc	2.5-160	\$82.40	\$145.67
3" Compound	161-280	\$164.80	\$217.88
4" Compound	361-450	\$309.00	\$419.10
6" Compound	451-750	\$515.00	\$578.47
8" Compound	1001-1450	\$991.40	\$903.78
10" Compound	1451-1600	\$1,133.00	\$1,189.25
14" Compound	2001-3500	\$1,802.50	\$1,795.35
2" Turbo	1-2501.5-250	\$108.15	\$170.01
3" Turbo	2.5-650	\$247.20	\$308.51
4" Turbo	2-12503.0-1260	\$515.00	\$557.89
6" Turbo	2.5-25004-2600	\$1,030.00	\$1,078.52
8" Turbo	4-47005-3600	\$1,802.50	\$1,860.34
10" Turbo	5-70006-5500	\$2,163.00	\$2,229.60
2" Magnetic Meter	161-280	\$160.15	\$211.66
4" Magnetic Meter	751-1000	\$640.15	\$693.41
6" Magnetic Meter	1601-2000	\$1,440.45	\$1,508.29
8" Magnetic Meter	2001-3500	\$2,561.60	\$2,643.74
6" Propeller	1001-1450	\$695.25	
8" Propeller	1451-1600	\$927.00	
10" Propeller	1601-2000	\$1,236.00	
12" or 14" Propeller	2001-3500	\$1,738.15	
16", 18", or 20" Propeller	3501-5500	\$2,935.50	
*Construction Meters			
4" Omni F2	0.75-1000	\$640.15	
6" Omni F2	1.5-2000	\$1,440.45	
8" Omni F2	2.5-3500	\$2,561.60	
10" Omni F2	3.5-5500	\$2,935.50	

¹ Potable residential and landscape customers that have 12 calendar months of billing history and stay within the low volume tier for 9 of those 12 months will receive a \$2.00 leaseback credit on the water service charge.

² GPM is Gallons per Minute.

Service Charges – Private Fire Protection Service

1. Service-Line Charge

FIRELINE CHARGES BY SERVICE AREA		
Rate Area	Monthly Service Charge	Commodity Charge
All Others	\$13.60/per diameter inch	NA
Former Los Alisos	\$9.50/per diameter inch	\$2.46/ccf \$2.39/ccf
Former Santiago County Water District Rate Area	1"-1½" \$9.40	NA
	Others \$13.60/per diameter inch	

2. Fire Hydrant Charge

The monthly charge for private fire hydrant service shall be \$23.70 per hydrant. This charge includes water used for fire extinguishing purposes.

3. Fire Flow Testing

The District will charge a one-time fee of \$250.00 to administer fire flow tests.

Commodity Charges: Potable Water

Irvine Ranch Rate Area

1. Commodity Charge for Residential Detached Dwelling Units

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.21 \$1.14	0-40
Base Rate	\$1.65 \$1.62	41-100
Inefficient	\$4.01 \$3.92	101-130
Wasteful	\$12.01 \$14.53	131+

2. Commodity Charge for Residential Condo Attached/Detached Dwelling Units

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.21 \$1.14	0-40
Base Rate	\$1.65 \$1.62	41-100
Inefficient	\$4.01 \$3.92	101-130
Wasteful	\$12.01 \$14.53	131+

3. Commodity Charge for Apartments

(Base allocation x number of dwelling units)

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.21 \$1.14	0-60
Base Rate	\$1.65 \$1.62	61-100
Inefficient	\$4.01 \$3.92	101-120
Wasteful	\$12.01 \$14.53	121+

4. Commodity Charge for Commercial, Industrial, Public Authority and Non-residential Mixed Usage

Tier	Rate/ccf	Percent of Allocation
Base Rate	\$1.65 \$1.62	0-100
Wasteful	\$12.01 \$14.53	101+

Irvine Ranch Rate Area (Continued)

5. Commodity Charge for Potable Landscape Irrigation

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.21 \$1.11	0-60
Base Rate	\$1.65 \$1.62	61-100
Inefficient	\$4.01 \$3.92	101-160
Wasteful	\$12.01 \$14.53	161+

Los Alisos Rate Area

76. Commodity Charge for Residential Detached Dwelling Units

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.80 \$1.64	0-40
Base Rate	\$2.46 \$2.39	41-100
Inefficient	\$4.01 \$3.60	101-130
Wasteful	\$12.01 \$15.20	131+

87. Commodity Charge for Residential Condo Attached/Detached Dwelling Units

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.80 \$1.64	0-40
Base Rate	\$2.46 \$2.39	41-100
Inefficient	\$4.01 \$3.60	101-130
Wasteful	\$12.01 \$15.20	131+

98. Commodity Charge for Apartments

(Base allocation x number of dwelling units)

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.80 \$1.64	0-60
Base Rate	\$2.46 \$2.39	61-100
Inefficient	\$4.01 \$3.60	101-120
Wasteful	\$12.01 \$15.20	121+

Los Alisos Rate Area (Continued)

109. Commodity Charge for Commercial, Industrial, Public Authority and Non-residential Mixed Usage

<u>Tier</u>	<u>Rate/ccf</u>	<u>Percent of Allocation</u>
Base Rate	<u>\$2.46</u> <u>\$2.39</u>	0-100
Wasteful	<u>\$12.01</u> <u>\$15.20</u>	101+

1110. Commodity Charge for Potable Landscape Irrigation

<u>Tier</u>	<u>Rate/ccf</u>	<u>Percent of Allocation</u>
Low Volume	<u>\$1.80</u> <u>\$1.64</u>	0-60
Base Rate	<u>\$2.46</u> <u>\$2.39</u>	61-100
Inefficient	<u>\$4.01</u> <u>\$3.60</u>	101-160
Wasteful	<u>\$12.01</u> <u>\$15.20</u>	161+

Commodity Charges: Potable Water System - Agricultural

Water supplied under this section shall be used only for the growing or raising, in conformity with recognized practices of husbandry, for the purposes of commerce, trade, or industry, of agricultural, or floricultural products, and produced (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, such products to be grown or raised on parcels of land having an area of not less than five acres utilized exclusively there for.

1. Commodity Charge:

Area	Rate/ccf	Per Acre Foot
Irvine Ranch Rate Area	\$2.23 \$ 1.96	\$971.39 \$863.15
Los Alisos Rate Area	\$2.88 \$ 2.77	\$1,254.53 \$1,207.85

Commodity Charges: ~~Non-potable~~ Potable Water System - Agricultural

1. Commodity Charge

The commodity charge for non potable water used for agricultural purposes shall be:

Area	Rate/ccf	Per Acre Foot
IRWD rate area	<u>\$2.06</u> \$1.50	<u>\$897.50</u> \$655.00

Non-potable water used for lake filler:

Tier	Rate/ccf	Percent of Allocation
Low Volume	<u>\$1.11</u> \$1.08	0-40
Base Rate	<u>\$1.46</u> \$1.37	41-100
Inefficient	<u>\$2.41</u> \$1.52	101-130
Wasteful	<u>\$6.05</u> \$5.79	131+

Source	Rate/ccf	Per Acre Foot
Recycled	<u>\$1.46</u> \$1.37	<u>\$636.00</u> \$596.75

2. Santiago Aqueduct Commission (SAC) Water

The commodity charge for non-potable SAC water used for agricultural and non-agricultural (landscape irrigation, commercial and grading) purposes shall be:

Area	Rate/ccf	Per Acre Foot
Agricultural	<u>\$2.07</u> \$1.72	<u>\$901.70</u> \$748.13
Non-Agricultural	<u>\$1.79</u> \$1.63	<u>\$780.36</u> \$712.06

3. Surcharge

The District reserves the right to impose, based upon relevant factors, a surcharge to the basic commodity rate for non-potable agricultural irrigation water.

Commodity Charges: Non-Potable (Untreated) Water System- Landscape Irrigation

1. Commodity Charge

The commodity charge for non potable water used for landscape irrigation (other than SAC water):

<u>Tier</u>	<u>Rate/ccf</u>	<u>Percent of Allocation</u>
Low Volume	<u>\$1.11</u> <u>\$4.08</u>	0-40
Base Rate	<u>\$1.46</u> <u>\$4.37</u>	41-100
Inefficient	<u>\$2.41</u> <u>\$4.52</u>	101-130
Wasteful	<u>\$6.05</u> <u>\$5.79</u>	131+

Commodity Charges: Recycled Water System Non-Agricultural Landscape Irrigation

1. Commodity Charge

Commodity charge for recycled water used for landscape irrigation:

Tier	Rate/ccf	Percent of Allocation
Low Volume	<u>\$1.11</u> \$1.08	0-40
Base Rate	<u>\$1.46</u> \$1.37	41-100
Inefficient	<u>\$2.41</u> \$1.52	101-130
Wasteful	<u>\$6.05</u> \$5.79	131+

2. Recycled Loan Customers

The commodity charge for recycled loan customers:

Tier	Rate/ccf	Percent of Allocation
Low Volume	<u>\$1.21</u> \$1.11	0-40
Base Rate	<u>\$1.65</u> \$1.62	41-100
Inefficient	<u>\$4.01</u> \$3.92	101-130
Wasteful	<u>\$12.01</u> \$14.53	131+

Commodity Charges: Recycled Water System - Commercial/Industrial

1. Commodity Charge for Commercial and Industrial

<u>Tier</u>	<u>Rate/ccf</u>	<u>Percent of Allocation</u>
Base Rate	<u>\$1.03</u> \$0.97	0-100
Wasteful	<u>\$6.05</u> \$5.79	101+

2. Commodity Charge for Commercial and Industrial Loan Customers

<u>Tier</u>	<u>Rate/ccf</u>	<u>Percent of Allocation</u>
Base Rate	<u>\$1.65</u> \$1.62	0-100
Wasteful	<u>\$12.01</u> \$14.53	101+

Allocations and Variances

1. Base Allocations for Commodity Charges

Monthly allocation includes a fixed component for indoor usage and a variable component based on evapotranspiration (ET) rate for landscape irrigation.

Account Type	Base Allocation Number of Residents	Landscape Area (LA)	Base Allocation Indoor	Base Allocation Outdoor $ET \times LA \times PF$	Total Allocation
Residential Detached	4	1300 sq. ft (0.03 acres)	# Residents x 50 gpd	$ET \times LA \times Kc \times 1.18 \times LA \times 0.75$	(Indoor x # days in bill service period) + Outdoor
Residential Condo Attached/ Detached*	3	435 sq. ft (0.01 acres)	# Residents x 50 gpd	$ET \times Kc \times 1.18 \times LA \times 0.75$	(Indoor x # days in bill service period) + Outdoor
Apartments*	2	N/A	# Residents x 50 gpd		Indoor x # days in bill service period
Potable Irrigation		Site specific based on irrigated acreage	N/A	$ET \times Kc \times 1.18 \times LA \times 0.75$	Outdoor based on bill service period
Recycled Irrigation		Site specific based on irrigated acreage	N/A	$ET \times Kc \times 1.40 \times LA \times 0.87$	Outdoor based on bill service period
Commercial, Industrial, Institutional			Site specific, based on productivity, employees, water use efficiency practices etc.	Site specific, based on irrigation needs	Site specific, adjusted for # days in bill service period

*For master-metered apartments and condominiums, the base allocation is multiplied by the number of dwelling units.

gpd = gallons per day

CCF = 100 cubic feet. 1 CCF = 1 billing unit = 748 gallons

ET (evapotranspiration) – from IRWD weather stations located in coastal, central or foothill zones for cool season turf

LA = irrigated landscape acreage.

PI = plant factor. Adjusts ET based on plant needs relative to cool season turf and irrigation system efficiency requirements.

Kc (crop co-efficient) – relative amount of water drought tolerant plants need at various times of the year. The plant factor for potable irrigation is 0.75. For recycled water the plant factor is 0.87. Crop-coefficient of 0.5 for drought tolerant plants is applied for potable irrigation, and a crop co-efficient averaging 0.65 for warm-season turf is applied to recycled water irrigation.

1.40 or 1.18 irrigation system efficiency – extra water to make up for inefficiencies in the irrigation system. An irrigation efficiency of 85% is applied to potable water and 71% to recycled water. In the formula this is calculated as $1/0.85 = 1.18$ is applied to potable customers and $1/0.71 = 1.4$ is applied to recycled water.

LA = irrigated landscape acreage.

2. Variances from Ascending Tiered Rate Allocations

Water allocations are based on the number of residents, landscape square footage and actual daily weather and evapotranspiration (ET) data for each of three microclimates within the District rate area. Variances are available for larger than normal landscaped areas, more people living in the home or special medical needs.

Procedure

See IRWD Rules and Regulations, Section 12.6

3. Grounds for Variance

Proof acceptable to the District will be required for each ground(s) of variance.

a. Number of people residing in a residential dwelling unit.

Each additional person increases the base by 1.6 ccf/month (indoor usage factor x 0.8)

b. Landscape

Increased allocations shall be given for residential lot size beyond the standard base allocation lot size. It is the obligation of the customer to provide to the District acceptable documentation of the actual irrigated landscape area served.

c. Medical Needs

- Approval is contingent upon medical documentation.
- Increased allocation will be determined on a case by case basis and based on the type of medical need.

d. Licensed Care Facilities (in a residential dwelling unit)

- A current license from appropriate regulatory agency will be required.
- A licensed 24-hour care facility will be allocated increases based on the additional people per dwelling unit formula at 1.6 ccf per month per additional person.
- A licensed day care facility (not 24-hour) will be granted one ccf per additional person of the licensed 24-hour care facility.
- Additional allocation for medical reasons will be determined on a case by case basis.

e. Fire Control Zones

- Adjustments to allocations will be determined by the District based upon relevant factors such as area, slope, planting material, etc.

f. Commercial/Industrial/Public Authority

- Adjustments to the base allocation will be determined on a case by case basis. Relevant factors will include expansion of productive capacity, existing conservation practices that can be shown to have reduced water usage, severe economic hardship, etc.

g. New Account Establishment Variance

Landscape Accounts - will be placed on ~~conservation~~ the base rate for the first six months.

Commercial and Industrial Accounts - will be placed on ~~conservation~~ the base rate for the first six months.

4. Limitations

a. An approved variance will become effective on the date the request for variance is submitted to the District, but must be submitted within thirty (30) days of receipt of the bill.

b. Approvals are valid for a period specified by the District (one year or less), and must be resubmitted on or before the expiration date to remain in effect.

5. Effect of Increased Allocations

a. Residential:

Approved variances will extend each tier of the residential structure by a percentage.

b. Non-Residential:

Approved variances will extend each tier of the non-residential structure by a given percentage (or other method) determined on a case by case basis.

Pumping Surcharges

1. Potable Water Pumping Surcharges

A surcharge will be added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based upon prevailing energy costs.

<u>Zone Name</u>	<u>Surcharge/ccf</u>
Zone 4	\$ 0.09
Coast Zone 4	\$ 0.22
Zone 6	\$ 0.23
Zone 6A	\$ 0.33
Coast Zone 6	\$ 0.34
Zone 7	\$ 0.47
Zone 8	\$ 0.37
Zone 9	\$ 0.44
Lake Forest Zone 3	\$ 0.23
Zone 1	\$ 0.21
Zone 2	\$ 0.35
Zone 3	\$ 0.65

2. Recycled Water Pumping Surcharges

A surcharge will be added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based upon prevailing energy costs.

<u>Zone Name</u>	<u>Surcharge/ccf</u>
Zone D	\$ 0.21
Zone D (Quail Hill Zone B)	\$ 0.21
Zone G	\$ 0.28
Zone H	\$ 0.40
Zone A	\$ 0.22
Zone B	\$ 0.36
Zone C	\$ 0.49

Temporary Water Service Connection

1. Monthly Service Charge

See Chart C on page 4.

2. Commodity Charge

Wherever feasible, recycled water shall be used for temporary construction uses. The Commodity Charge shall be as follows:

Irvine Ranch Rate Area – Potable	\$ <u>2.59</u> 2.27 /ccf
Recycled – All rate areas	\$ <u>1.46</u> 1.37 /ccf
Los Alisos Rate Area– Potable	\$ <u>3.74</u> 3.28 /ccf

3. Meter Deposit

A deposit equal to the replacement cost of the construction meter shall be collected at the time of service application. For FY 2015-16, this is estimated to be \$1,500.00 ~~1,025.00~~. The deposit will be applied to the closing bill and any remaining amount refunded to the customer. Lost meters will result in forfeiture of deposit.

4. Materials for Repairing Damaged Construction Meters

	Cost
Eddy Valve (2")	\$ 200.00
Eddy Valve (3")	\$ 380.00
Meter, complete	\$ 1,012.00
Swivel Adapter	\$ 158.00
Register	\$ 113.00
Male Fitting	\$ 95.00
Female Attachment	\$ 158.00
Lock & Chain	\$ 30.00
Chain (per five-foot length)	\$ 11.00
Lock	\$ 15.00
Handle (main case)	\$ 323.00
Hydrant Collar	\$ 100.00
Rotor	\$ 94.00
Rotor Cap	\$ 27.00
Collar (with barrel lock)	\$ 106.00
Barrel Lock	\$ 6.00
Stores Clearing	40% of total parts billed
Labor & Overhead	\$ 120.00
Meter Body only	\$ 323.00
Meters	At cost

(1) Santiago rates migrating to IRWD rates

New Account Fees for Water Service

This section is applicable to all requests for new or transferred service.

1. Charges

A fee of \$25.00 shall be collected to establish a new account for water and sewer service, or to transfer an existing account to a new location.

2. Residential Deposit

For residential customers, a deposit of \$50.00 may be required until a one year payment history is established.

3. Non-Residential Deposit

A deposit of \$100.00 is required until a one year payment history is established.

Delinquency, Returned Check and Service Restoration Charges

1. Delinquency Charges

All bills and charges for water, sewer and recycled water service shall be due and payable upon presentation and shall become delinquent twenty-five (25) calendar days thereafter. If payment is not made within twenty-five (25) calendar days after presentation, a late charge will be levied upon the unpaid balance as follows:

For residential and non-residential accounts with an unpaid balance of \$10 or more, a one-time charge of 10% of the unpaid balance plus 1.5% interest will be assessed, and each month thereafter the unpaid balance will be subject to an interest charge of 1.5%.

2. Non-Sufficient Funds Checks

A \$20.00 service fee will be charged for each check returned from the bank for non-sufficient funds.

3. Service Restoration Charges

(a) When service is discontinued because of delinquency in payment of a water, sewer, or recycled water bill, the service shall not be restored until all delinquent charges, late charges and interest charges, and a trip charge as specified in (b)(1) or (2), below, have been paid.

(b) When service is discontinued for any reason, including violation of the Rules and Regulations, service shall not be restored until a trip charge as specified in (1) or (2) below has been paid.

- (1) **Trip Charge During Normal Working Hours:** The trip charge applicable for work requested to be performed during normal working hours of the District will be \$70.00.
- (2) **Trip Charge After Normal Working Hours:** The trip charge applicable for work requested to be performed after normal working hours of the District will be \$95.00.

2.1 Monthly Sewage Service Charges

Residential	
(a) Single Family and Multi-family Dwelling Units	
<u>AVERAGE MONTHLY WATER USE^{1,2,3,4}</u>	<u>SERVICE CHARGE PER MONTH</u>
Over 1000 cubic feet (10 ccf)	• 100% rate = \$ <u>25.75</u> 24.05 per unit
501-1000 cubic feet (5.01-10.0 ccf)	• 90% rate = \$ <u>23.20</u> 21.85 per unit
0-500 cubic feet (0-5.0 ccf)	• 75% rate = \$ <u>19.30</u> 18.55 per unit
<p>(1) Monthly service charge based upon average of the actual lowest three water meter readings during the twelve month period ending December 31.</p> <p>(2) To qualify for the reduced rates a customer must have usage history for a full calendar year.</p> <p>(3) No credit will be granted for vacancies resulting from the normal turnover of occupants in an existing multiple dwelling unit. The price structure contained herein includes considerations of average vacancy rates.</p> <p>(4) A newly constructed multiple dwelling unit may be billed at the non-residential metered rate, with appropriate allowance for landscape irrigation, until the structure is substantially occupied.</p>	
(b) Collection Service Charge (assumes 10.0 ccf)	<u>SERVICE CHARGE PER MONTH</u>
	\$ 8.40 per unit
	<u>SERVICE CHARGE PER MONTH</u>
(1) Collection charge in Newport Coast (assumes 10.0 ccf)	• \$ 7.85 per unit
Non-Residential	
<p>Quantity charges are based on the supposition that 90 percent (90%) of non-residential water consumption returns to the sewer. Because of landscape irrigation or consumptive usage, some non-residential users may discharge substantially less of their metered water into the wastewater system. Those users may, upon request to the District, be permitted to have the amount of water being discharged into the sewer determined by means acceptable to the District. Upon request by the user and at the sole discretion of the District, an alternate service charge may be applied.</p>	
(a) Shall apply to all commercial, industrial and institutional users whose consumption is equal to or less than an average of 10 ccf per month¹.	<u>SERVICE AND QUANTITY CHARGE PER MONTH</u>
	<ul style="list-style-type: none"> • Service charge - \$ <u>25.75</u> 24.05 • Quantity charge beyond 10 ccf - \$ <u>2.74</u> 2.56/ccf
(1) To qualify for this rate, a customer usage history, based upon actual water meter readings, cannot be greater than 120 ccf in a full calendar year.	
(b) Shall apply to all commercial, industrial and institutional users whose consumption is in excess of 10 ccf per month.	<u>SERVICE /QUANTITY/COMMODITY CHARGE PER MONTH</u>
	<ul style="list-style-type: none"> • Service charge - \$ <u>25.75</u> 24.05 • Quantity charge beyond 10 ccf - \$ <u>2.74</u> 2.56/ccf = \$2.685 • Industrial Waste Charge - \$ <u>0.134</u> 0.124/ccf = <u>2.8745</u>

2.2 Non-Residential Sewage

This section shall be applicable to non-residential customers who discharge extra-strength sewage into the sewage collection system, or discharge or have the potential to discharge constituents subject to federal or state standards and local discharge limitations.

1. Alternative Service Charges

At the sole discretion of the District, users may request the application of an Alternative Service Charge for use. The Alternative Service Charge shall be based on measured quantity and quality of water being discharged to the sewer from the user's facility by a means acceptable to the District. The Alternative Service Charge for use shall be computed by the following formula:

$$\text{Charge for use} = VR_v + BR_b + SR_s$$

Where V = Total volume of flow in hundred cubic feet.

B = Total discharge of biochemical oxygen demand (BOD) in pounds.

S = Total discharge of suspended solids (SS) in pounds

R_v = \$ ~~1,570~~ 1,479 per hundred cubic feet

R_b = \$ ~~0.437~~ 0.412 per pound of BOD

R_s = \$ ~~0.381~~ 0.359 per pound of SS

2. Fees for Noncompliance with Permit Conditions

a. Minor Violation

Condition where the limitation is less than the violation and the violation is less than the technical review criterion.

Fee per violation - \$350

b. Significant Noncompliance or Significant Violation

Condition where the violation is greater than the technical review criterion or qualifies under the definition of significant noncompliance.

Fee per violation - \$550

c. Batch Dump or Slug Load

Fee per violation - \$550

d. Probation Orders

Enforcement Compliance Schedule Agreements and subsequent two year probation, and Regulatory Compliance Schedule Agreements.

Fee per violation - \$550

e. Appeals to the Board of Directors

Appeal fee - \$500

3. Fats, Oils, and Grease (FOG) Control Programs Fees

FOG Binder:

The FOG Program Binder must be available during an inspection. Failure to locate the binder during an inspection, whether misplaced or lost, will trigger the issuance of a new FOG Binder. The \$50.00 replacement cost will be billed to the Food Service Establishment (FSE) at the time of replacement.

Permitting Fees:

A FOG Wastewater Discharge Permit of two-year duration is \$200.00.

Service Call and Follow Up Inspection Fees:

The General Non-Compliance Fee for District follow-up activities due to permit, ordinance, or regulatory non-compliance is \$100.00 per event.

Significant Non-Compliance Fees:

A condition where the violation continues after 45 days of notification to the FSE. The fee is \$550.00 per violation and \$550.00 every 45 days thereafter.

4. Special Purpose Discharger Service Charges

Special Purpose Discharge Service Fees shall be applicable to those customers who have been required by the District to obtain a Special Purpose Discharge Permit issued jointly by the District and Orange County Sanitation District (OCS). Sewage service charges will be based on reported and verified monthly flow to sewer.

Flow Service Charge: up to \$1,361,091,347.15 per Million Gallons

5. Discharge Limits

The limits in this table are local limits. Customers subject to federal categorical pretreatment standards may be required to meet more stringent limits.

Constituent	Concentration Limit in mg/L
Arsenic	2.00
Cadmium	1.00
Chromium	2.00
Copper	3.00
Lead	2.00
Mercury	0.03
Nickel	10.00
Silver	5.00
Zinc	10.00
Cyanide (Total)	5.00
Cyanide (Amenable)	1.00
Polychlorinated Biphenyls	0.01
Pesticides	0.01
Total Toxic Organics	0.58
Sulfide (Total)	5.00
Sulfide (Dissolved)	0.50
Oil and grease of mineral or petroleum origin	100.00

Section 3, Developer Services to be considered
for adoption separately on June 27, 2016 under
item Setting Connection Fees and Property
Taxes for Fiscal Year 2016-17.

Exhibit "C"

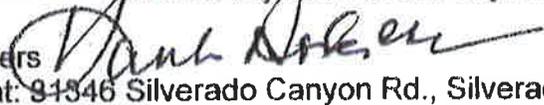
Subj: **Customer Profile Lack; Latest Rate Change Notice**
Date: 5/9/2016 3:34:20 P.M. Pacific Daylight Time
From: HANROD1@aol.com
To: customerservice@irwd.com
CC: hanrod1@aol.com

Please refer this e-mail to the proper department if not yours, and I request IRWD response.

1. I note that IRWD is now distinguishing, in rate setting, between "With Outdoor" and "No Outdoor" watering needs. However, the customer profile page does not show which of these we are in, including mine. Please advise.

2. The latest proposed rate change notice proposes modest increases for the first three tiers of service, BUT THE LAST TIER, "WASTEFUL" is proposed for a substantial DECREASE! The notice does not explain, or even discuss this. This smacks of possible IRWD intent to treat "big" customers, i.e. usually organizations, with special favor, at the expense of we individual property owners and water users who are trying so hard to save water, with substantial recent success.

I have posted comments as to 2. above on our local "Nextdoor" social neighborhood website, and I expect that you will also hear from some of these and, unless promptly explained, you may have some substantial objection to this at your public meeting on this.

Hank Rodgers 
Customer at: 81546 Silverado Canyon Rd., Silverado, CA
Account # 3834810000
Hanrod1@aol.com

C-1

Monday, May 09, 2016 AOL: HANROD1

IRWD Water Rate Increase Notice

7m ago

Hank Rodgers from **Silverado Modjeska Canyons**

We all have, with much success, tried to save water usage, eliminating lawns, etc., etc. Take note though of something that needs to be challenged in IRWDs latest water rate increase notice. There are, relatively modest rate increases proposed for the three lowest of the four rate tiers, LOW VOLUME, BASE RATE and INEFFICIENT; but a very substantial DECREASE proposed for the highest rate: i.e. WASTEFUL.

This smacks of possible IRWD intent to treat "big" customers, i.e. usually organizations, with special favor, at the expense of we individual property owners who are trying hard to conserve. You likely just got your copy of the notice today, and there is NO EXPLANATION or mention of this in that notice. IRWDs notice does provide a mail address for questioning or protesting these changes, as well a notice of a public hearing. I suggest that we make ourselves heard on this.

Daniel Hoffmann
2524 Westminster Avenue
Costa Mesa, CA 92627
+1.949.400.8208 m
dhoffmann51@gmail.com

June 1, 2016

Irvine Ranch Water District (IRWD)
P.O. Box 5149
Irvine, CA 92616

Re: Protest – Proposed Water & Sewer Rate Structure

Ladies and Gentlemen

I am the homeowner residing at the above residence and a customer of the IRWD.

The purpose of this letter is to express my strong protest against the Proposed Residential Commodity Rate Changes. I make reference to an announcement by IRWD entitled "Irvine Ranch Water District Notice of Proposed Water and Sewer Rate Changes" ("Announcement"), received in early May. Reviewing it, the Proposed Residential Commodity Rate (PRCR) changes caught my attention.

Frankly I consider the PRCP rates preposterous insult and a slap in the face to water conservation at large and those who have made an effort to save water. The PRCP changes are:

Proposed Residential Commodity Rates				
Tier	% of Monthly Water Budget Residential with Outdoor	% of Monthly Water Budget Multi-Family with No Outdoor	FY 2015-18 Rates per ccf	FY 2016-17 Rates per ccf
Low Volume	0-40 %	0-60%	\$ 1.11	\$ 1.21
Base Rate	41-100%	61-100%	\$ 1.62	\$ 1.65
Inefficient	101-130%	101-120%	\$ 3.82	\$ 4.01
Wasteful	131+	121+	\$14.53	\$12.01

In clear text this means the following:

- **Low Volume Tier – Rate Increase of +9.01%**
- **Base Rate – Rate increase of +1.2%**
- **Inefficient – Rate increase: +2.3%**
- **Wasteful – Rate change: -17.3%**

In short, those who have saved water and replaced turf are being penalized the most with a rate change of +9.01%. Meanwhile those wasting water are being rewarded by a rate change of -17.3%.

I am vehemently protesting against this illogical and irrational rate structure change. We are still in a drought and will be for years to come as the population growth is larger than the efforts to develop water resources.

Respectfully submitted,



Daniel Hoffmann

CC: To all Neighbors on the 2500 block of Westminster Ave (Via Email only)

MAY 10-2016

TO: IRWD

I Fiorina Mellone. kindly I would like to say enough of increase, especially for people with fixed income, everything increases except for retired seniors, we did not even get any increase for 55 in 2016, well what we get is not a big deal anyway. So please take this in consideration do not be so avid, there many people with half the belly full, have compassion for others.

Thank you,

Fiorina Mellone

FIORINA MELLONE

45 FULTON

IRVINE, CA. 92620-3349

James B. Hasty

21635 Superior Lane ♦ Lake Forest, Ca 92630 (949)862-0500 ♦ Fax (949)862-0515

May 11, 2016

Via Facsimile: (888)514-8350

Board of Directors
IRWD
PO Box 5149
Irvine, CA 92616

Re: Proposed Rate Increases

Dear Board Members:

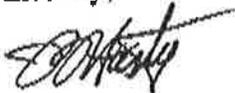
Last year you implemented a substantial rate increase and this year you propose another significant increase. Other water districts in the County have not followed this pattern which suggests IRWD is not being managed as effectively as other water districts in the County.

This proposal appears particularly egregious as it appears to be encouraging users to be wasteful and you are surprisingly lowering the usage rate for residential users that are "Wasteful".

In addition, you proposed fixed monthly water and sewer charges are inconsistent with encouraging conservation. These charges should also be based upon usage and not a flat rate.

I wish I could support your proposed water and sewer rate changes, but, in good faith, as the increases over the past two years significantly exceed the rate of inflation, I can't.

Sincerely,



James B. Hasty

cc: PUC

26071 Miralinda

Lake Forest, CA. 92630

May 10, 16

Protest Letter - Proposed Water and Sewer Rate Change

Board of Directors - IRWD

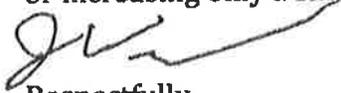
IRWD

P.O. Box 5149

Irvine, CA. 92616

Dear Board of Directors - IRWD:

I fully understand the need for a rate increase but I disagree with your approach. I believe by reducing the rate for wasteful tier usage by 21% and increasing the low volume tier rate by 9.75% you are punishing low water usage and rewarding wastefully behavior. I would recommend raising the wasteful tier rate and holding or increasing only a small amount the low volume tier rate.



Respectfully,
Joel Wildermuth

IRWD
PO Box 5149
Irvine, CA 92616

Subject: Proposed Rate Changes

I would like to protest the proposed rate changes because they're unfair. Why is the low volume tier rate rising the most (10 cents/ccf), while the wasteful tier is actually decreasing by \$2.52/ccf? That's going backwards.

The people wasting the most water can afford to pay much higher rates and they should continue to be given greater and greater price incentives to reduce their usage.

The low volume tier should be the one with the decreasing rate, while the wasteful tier should bear the brunt of the increasing costs.

Sincerely,

A handwritten signature in black ink, appearing to be 'John Shin', written in a cursive style.

John Shin, IRWD customer
242 Rodeo, Irvine, CA 92602

May 18th, 2016

Irvine Ranch Water District

PO BOX 5149

Irvine, CA 92616

Re: Notice of Proposed Water Rate Change -- STATEMENT OF PROTEST

To the Board of Directors,

As a long-time low volume customer who remains extremely vigilant about water usage, it is absolutely mind-boggling to me that your proposed FY16-17 increases punish the lowest usage customers the most with a massive 9% increase, while actually REWARDING the wasteful customers with a huge rate decrease of 18%!!! Has Donald Trump taken over your organization? Are you encouraging your customers to become wasteful users?? Please explain to me how this rate logic is fair or justifiable, thank you.

I have no problem with an increase for all customers, but I have a MAJOR problem with a decrease for the worst offenders! If anything, their rates should be increased more than anyone to further encourage conservation. I am left to assume that The Irvine Company's many properties fall in the wasteful category and you are bowing to their rate demands rather than respecting the budgets of hard-working individual homeowners.

Regards,



Steve Geise

18 Marbella Aisle

Irvine, CA 92614

May 14, 2016

IRVINE RANCH WATER DISTRICT
Post Office Box 5149
Irvine, CA 92616

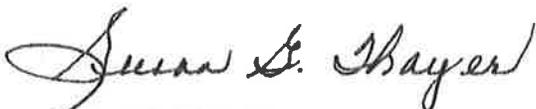
This document serves as a "Letter of Protest" regarding the proposed increase to water rates within the IRWD boundaries.

While I understand water rates must increase from time to time, IRWD has increased their water rates far too frequently. The current proposal is totally unfair to residents who have restricted their water usage to the point they can restrict it no further. I personally have restricted water usage in the following areas – outside watering, washing clothes, washing dishes, flushing the toilet and taking showers. I collect rainwater when it rains to assist with outside watering. I cannot restrict my water usage any further and the current rate increase proposal states that if I remain in the "Low Volume" tier usage, my rate will *increase* ten cents per ccf. The Base Rate tier *increases* three cents per ccf and the Inefficient tier *increases* nine cents. However the IRWD is rewarding the "Wasteful" tier – their water rates decrease \$2.52 per ccf. How is this fair?

I was afforded the opportunity to sit on a panel of twelve people to discuss the "Brown is now the new Green" campaign and the panel discussed several issues regarding water usage. It was apparent from this conversation that we all could do more in the areas of restricting water usage and I personally applied all of the suggestions I was not already performing in my own home. My home was purchased in 1969 and while I believe Irvine is a beautiful place to live, it is becoming too "rich and greedy" for its own good. I also believe we, as a community have not elected Board Members who are truly concerned about rewarding residents for applying water restrictions on a monthly basis and penalizing residents who do not comply with water restrictions during the current water shortage crisis.

Following the Public Hearing on June 27, 2016, I anticipate receiving written correspondence regarding the proposed increase in water rates and whether this proposal will receive further consideration for revising the current proposal among the IRWD voting members.

Respectfully,



Susan G. Thayer
5371 Kenosha Lane
Irvine, CA 92603

5/8/16

To: IRWD

Re: Protest of Proposed Rate Increases

I am not opposed to the rates being increased. I am opposed, however, to how the rates are being increased.

I don't think it's fair to increase the rates for the low volume users at a higher rate than the higher volume users. As you know, these are the percent changes:

Low - increase of 9%.

Base - increase of less than 2%.

Inefficient - increase of less than 0.25%.

Wasteful - decrease of over 17%.

This makes no sense to me. The higher volume users should have a greater percentage increase than the lower volume users - if you want to be fair, that is.

VALISA CARNEY
88 Saint James
Irvine, CA 92606

Sincerely,
Valisa Carney

IRWD
P.O. Box 5149
Irvine, CA 92616

June 7, 2016

Re: Proposed Water and Sewer Rate Change

Dear Member of the Board,

In reviewing the recently filed IRWD notice of proposed water and sewer rate charge the first thought that came to mind was 'Hallelujah, the drought is over!' Of course I could find no other water, natural resource authority, or State agency to confirm that the drought was over so I must therefore conclude that the proposal was no more than a way to shift the financial burden to those who have worked in earnest to cut back their water usage and reward those who continue to squander our precious resources.

This proposal is an affront to logic and reason. To burden those who have cut back to Low Volume and/or Base Rate with disproportionate to CPI rate increases while rewarding the appropriately named Wasteful category with a huge rate reduction is beyond egregious and borders on environmental malice as the unintended consequence will be an increase in water consumption with a net lower total price as a reward for those who have failed to react to the ongoing drought and continue to waste our water supply.

I strongly encourage you to consider the following rate change. One that will reward those who have and continue to take steps to conserve water while providing a financial 'incentive' to those who are wasteful to reconsider their lifestyle and provide an increased total revenue source to IRWD in order that they may continue to work on water system upgrades and new supplies.

Use %	2016 Rate / ccf		Water Costs		10 ccf Baseline example	
	Rate	Bill	2017 Proposed rate/ccf	Bill	Alternate Plan	Bill
40	\$ 1.11	\$ 4.44	\$ 1.21	\$ 4.84	\$ 1.15	\$ 4.60
41-100	\$ 1.62	\$ 9.72	\$ 1.65	\$ 9.90	\$ 1.64	\$ 9.84
101-130	\$ 3.92	\$ 11.76	\$ 4.01	\$ 12.03	\$ 4.05	\$ 12.15
131-200	\$ 14.53	\$101.71	\$ 12.01	\$ 84.07	\$ 15.11	\$105.77
Total		\$127.63		\$110.84		\$132.36

Note: above example for Residential with Outdoor

Please, make the right decision and do not approve the current rate proposal as submitted. The current proposal is counterproductive and will only encourage increased wasteful use of water while simultaneously reducing income. I urge you to consider a more fiscally and socially responsible alternative.

Best regards

Jack Pouchet
44 Viaggio Lane
Foothill Ranch, CA 92610



5-19-16

To: Irvine Ranch Water District
Board of Directors

From: Leslie Groenewold

Subject: Water Rate Change

In reviewing the proposed Water Rate Change I noted that the rates of the low volume users are increasing by .10, the highest increase for all tiers, while the rates of the wasteful users are dropping by \$2.35. This seems quite punitive to your customers like myself, who have spent considerable money and time to reduce water consumption including converting all outdoor landscape to native plants and a drip/micro sprayer system, all of which was done prior to any rebates being offered. The message seems to be waste water and you could be in line for a rate reduction. It would be interesting to know the rationale for this structure as it certainly isn't explained. Maybe you thought no one would look.

My disagreement is not with my rate increase, though I find it difficult to understand why the reward for being in the top 20% of water savers results in getting the highest increase, my disagreement is rewarding wasteful behavior with a substantial reduction. Without a rational explanation, it leaves the impression that those with influence get special treatment.

In the future, don't bother to send those letters commending me on low volume use, they really don't seem to mean anything in the larger picture.

Leslie Groenewold
PO Box 236
Silverado, CA 92676

June 27, 2016

Prepared and

Submitted by: L. Bonkowski 

Approved by: P. Cook 

CONSENT CALENDAR

MINUTES OF BOARD MEETINGS

SUMMARY:

Provided are the minutes of the May 23, 2016 and June 6, 2015 Regular Board Meeting for approval.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE MINUTES OF THE MAY 23, 2016 AND JUNE 6, 2016 REGULAR BOARD MEETING BE APPROVED AS PRESENTED.

LIST OF EXHIBITS:

Exhibit "A" – May 23, 2016 Minutes

Exhibit "B" – June 6, 2016 Minutes

Exhibit "A"

MINUTES OF REGULAR MEETING – MAY 23, 2016

The regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 5:00 p.m. by President Matheis on May 23, 2016 in the District office, 15600 Sand Canyon Avenue, Irvine, California.

Directors Present: Reinhart, Swan, Matheis and Withers.

Directors Absent: LaMar.

Also Present: General Manager Cook, Executive Director of Engineering and Water Quality Burton, Executive Director of Water Policy Weghorst, Executive Director of Operations Sheilds, Director of Treasury and Risk Management Jacobson, Director of Public Affairs Beeman, Director of Administrative Services Mossbarger, Director of Water Resources Sanchez, Director of Human Resources Roney, Assistant Director of Recycling Operations Zepeda, Legal Counsel Arneson, Secretary Bonkowski, Principle Engineer Malloy, Principle Engineer Akiyoshi, Mr. Ian Swift, Mr. Matt Veeh, Mr. Barkev Meserlian, Ms. Kellie Welch, Mr. Rob Hunter, Mr. Sat Tamaribuchi, Mr. Jeff Thomas, Mr. Jim Reed, Mr. Bruce Newell, Ms. Peggy Falcon, Ms. Joan Leonard, Ms. Julie Moriarty, and other members of the public and staff.

WRITTEN COMMUNICATIONS: None.

ORAL COMMUNICATIONS: None.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED: None.

PRESENTATION

MUNICIPAL WATER DISTRICT OR ORANGE COUNTY PROCLAMATION

MWDOC Directors Jeff Thomas and Sat Tamaribuchi presented a Proclamation expressing appreciation for the dedicated public service of IRWD for leadership in 2015-16 in meeting California's conservation mandates and for demonstrating to Governor Brown and others throughout the State that Southern California is truly aware of the value of water.

WORKSHOP

SEWER FLOW PROJECTIONS AND DEMAND FACTOR CALIBRATION

Using a PowerPoint presentation, Principle Engineer Akiyoshi provided background on the District's Sewer Collection System Master Plan (SCSMP). Mr. Akiyoshi said that IRWD's Demand Forecast Tool uses factors to project sewer flows from the current year through build-out conditions. He reviewed the updated demand factors, calibration methodology, sewer flow projections, and provided an update on the SCSMP schedule and progress.

Exhibit "A"

He further said that the future system hydraulic model, capacity analysis, and reliability and redundancy analysis are anticipated in late July with the 90% submittal, and that staff will also include an update on the SCSMP progress at a Board meeting in August or September. Following discussion, Director Swan asked to be provided a status report on current peak dry weather flow in the San Diego Creek Interceptor.

CONSENT CALENDAR

Director Swan asked that Item No. 6 be moved to the Action Calendar as he would like to add an additional meeting. There being no objections, Item No. 6 was moved accordingly. On MOTION by Reinhart, seconded and unanimously carried, CONSENT CALENDAR ITEMS 5 AND 7 THROUGH 13 WERE APPROVED AS FOLLOWS:

5. MINUTES OF BOARD MEETING

Recommendation: That the minutes of the April 25, 2016 Regular Board Meeting be approved as presented.

7. APRIL TREASURY REPORTS

Recommendation: That the Board receive and file the Treasurer's Investment Summary Report, the Monthly Interest Rate Swap Summary for April 2016, and Disclosure Report of Reimbursements to Board members and staff; approve the April 2016 summary of payroll ACH payments in the total amount of \$2,337,626 and approve the April 2016 accounts payable disbursement summary of Warrants 366466 through 367198, Workers' Compensation distributions, wire transfers, payroll withholding distributions and voided checks in the total amount of \$22,371,573.

8. PROPOSED AMENDED AND RESTATED LICENSE AND SUBLICENSE FOR USE OF SAN JOAQUIN WILDLIFE SANCTUARY SITE, FACILITIES AND ACCESSWAYS

Recommendation: That the Board approve the Third Amended and Restated License Agreement between Irvine Ranch Water District and San Joaquin Wildlife Sanctuary subject to non-substantive modifications.

9. 2016 LEGISLATIVE UPDATE

Recommendation: That the Board adopt a "Support in Concept" position on SB 970 (Leyva) and the development of a State program which would provide grants to wastewater agencies for the development or implementation of projects that would integrate food waste processing by the agencies at its wastewater treatment facilities, result in the diversion of organics from local landfills, and dedicate cap-and-trade revenues to the wastewater sector; and a "Support" position on the Santa Ana Mountains to Sea National Monument proposal.

Exhibit "A"

CONSENT CALENDAR (CONTINUED)

10. ON-CALL PLAN CHECK SERVICES

Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement with Stantec Consulting Services, Inc. for a not-to-exceed amount of \$250,000 for on-call plan check services.

11. HERITAGE FIELDS DISTRICT 8 BIORETENTION BASIN

Recommendation: That the Board approve acceptance of the District 8 Bioretention NTS Facility subject to the terms and conditions set forth in the application for service, addendum thereto, and Grant of Easement subject to non-substantive changes as the General Manager may approve.

12. PETERS CANYON WASH CHANNEL WATER CAPTURE AND REUSE PIPELINE CONTRACT CHANGE ORDER

Recommendation: That the Board authorize the General Manager to approve Contract Change Order No. 6 in the amount of \$128,296.20 with E.J. Meyer Company for the Peters Canyon Wash Channel Water Capture and Reuse Pipeline, project 4985.

13. MICHELSON WATER RECYCLING PLANT FILTER PUMP STATION 2 AND DYER ROAD WELLFIELD WELLS 12 AND 13 ROOF MODIFICATIONS CONSTRUCTION AWARD

Recommendation: That the Board authorize a budget increase in the amount of \$44,500, from \$340,500 to \$385,000, for project 5453; authorize a budget increase in the amount of \$278,600, from \$256,000 to \$534,600, for project 5469; and authorize the General Manager to execute a construction contract with Schuler Constructors in the amount of \$501,469 for the Michelson Water Recycling Plant Filter Pump Station 2, project 5469, and Dyer Road Wellfield Wells 12 and 13 Roof Modifications, project 5453.

ACTION CALENDAR

RATIFY/APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS

Director Swan said that he attended a Newport Beach Chambers luncheon meeting which he asked to be included in his list of meetings. On **MOTION** by Withers, seconded and unanimously carried, **THE BOARD RATIFIED/APPROVED THE MEETINGS AND EVENTS FOR STEVEN LAMAR, MARY AILEEN MATHEIS, DOUGLAS REINHART, PEER SWAN, AND JOHN WITHERS AS AMENDED.**

VERIFICATIONS OF SUFFICIENT WATER SUPPLY FOR THE WEST ALTON PARCEL AND EL TORO 100-ACRE PARCEL DEVELOPMENTS

Ms. Kellie Welch reported that in February 2016, staff received two requests from the County of Orange to complete Verifications of Sufficient Water Supply (WSV) for the West Alton Parcel and the El Toro 100-Acre Parcel developments located within the former Marine Corps Air Station (MCAS) El Toro Base. Ms. Welch said that on April 15, 2015, the Board approved separate Water Supply Assessments (WSA) for each of the proposed projects. The West Alton project WSA included 970 dwelling units which the County has reduced by 168 to 802 proposed dwelling units. The El Toro project includes 2,103 dwelling units and 2.1 million square feet of retail and office space and one hotel which is consistent with the approved WSA. As required under SB 221, and as part of the tract map approval process for projects including 500 or more dwelling units, the County has requested a WSV be prepared for its West Alton and El Toro projects. The WSVs for these projects are based upon the approved WSAs containing IRWD's determination that a sufficient water supply is available. SB 221 also requires several elements be included in the WSV that are not covered or required in the WSA. These elements are primarily covered in Sections 1(b)(ii), 1(b)(iii) and 1(b)(iv) of the "Detailed Verification" section in each of the attached WSVs. This information, together with the respective WSAs approved by IRWD in 2015, reflects IRWD's confirmation that the project water demands, together with demands from any other developments that have previously received WSVs or will-serve, or other projects that have come to IRWD's attention either through developers or through the respective land use agency approval process, are, in the aggregate, within the demands identified by that WSA. In accordance with this procedure, the attached WSVs are based on the respective WSAs and information contained in the WSVs.

Director Withers reported that this item was reviewed and approved by the Water Resources Policy and Communications Committee on May 12, 2016. On MOTION by Withers, seconded and unanimously carried, THE BOARD APPROVED THE VERIFICATION OF SUFFICIENT WATER SUPPLY FOR THE WEST ALTON PARCEL DEVELOPMENT AND THE VERIFICATION OF SUFFICIENT WATER SUPPLY FOR THE EL TORO 100-ACRE PARCEL DEVELOPMENT.

MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES CONTRACT CHANGE ORDERS AND AMENDMENT NO. 1 TO AGREEMENT WITH ORANGE COUNTY SANITATION DISTRICT FOR INTERIM SOLIDS HANDLING

General Manager Cook reported that construction of the Biosolids Project was awarded to Filanc/Balfour-Beatty (FBB) in March 2013 in the amount of \$163,513,307. The Biosolids Project will provide biosolids digestion, dewatering, energy production, and on-site sludge drying. The project includes excavation for subsurface structures; installation of 3,009 foundation piles; three egg-shaped digesters; a state-of-the-art odor control system; a biogas conditioning system and power generation using micro-turbines; a fats, oil and grease (FOG) receiving station; and new utility services. Mr. Cook said that staff negotiated a two-year time extension of the Orange County Sanitation District (OCSD) lease for Transfer of Wastewater Solids Residuals due to the Biosolids construction extending beyond December 2016.

Exhibit "A"

Executive Director of Engineering and Water Quality Burton reported that staff negotiated with FBB and agreed to the labor and material costs contained in Contract Change Order (CCO) No. 41. The change order contains Secondary Circuit Breakers for Transformers T-15, T-16, and T-1 for a cost of \$254,941.66; fire sprinkler system modifications for a cost of \$168,322.14; fiber optic system modifications for a cost of \$178,879.46; heating water boiler control modifications at a cost of \$71,379.00; concrete surface treatment at a cost of \$68,714.34; additional cameras at the unloading/loading area of the solids handling facility at a cost of \$61,731.96; additional Southern California Edison (SCE) and Southern California Gas modifications at a cost of \$51,238.69; additional potholing due to the electrical realignments at a cost of \$36,706.57; SCADA Control Modifications for the Acid Phase Digesters, Methane Digesters, and Sludge Holding Tank at a cost of \$50,540.23; miscellaneous SCADA, instrumentation, and electrical modifications at a cost of \$130,593.37; and centrifuge pedestal modifications at a cost of \$30,603.14.

Mr. Burton reported on CCO No. 42 includes several items that result in credits to IRWD. CCO No. 42 includes a change in the lightning protection installation for the egg-shaped digesters in the credit amount of <\$97,141.74>; value engineering of chemical pump systems in the credit amount of <\$48,549.90>; centrifuge seismic restraint design costs in the credit amount of <\$24,064.00>; overtime inspection hours from 6/1/2015 through 12/31/2015 in the credit amount of <\$17,710.00>; and deletion of electrical and instrumentation in the credit amount of <\$12,305.45>.

Director Reinhart said that this item was reviewed and approved by the Engineering and Operations Committee on May 17, 2016. On MOTION by Reinhart, seconded and unanimously carried, THE BOARD APPROVED CONTRACT CHANGE ORDER NO. 41 IN THE AMOUNT OF \$1,103,650.56 WITH FILANC/BALFOUR-BEATTY FOR THE MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES, PROJECT NO. 4286; APPROVED CONTRACT CHANGE ORDER NO. 42 IN THE CREDIT AMOUNT OF <\$199,771.09> WITH FILANC/BALFOUR-BEATTY FOR THE MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES, PROJECT NO. 4286; AND AUTHORIZED THE GENERAL MANAGER TO EXECUTE AMENDMENT NO. 1 TO THE AGREEMENT FOR TRANSFER OF WASTEWATER SOLIDS RESIDUALS WITH ORANGE COUNTY SANITATION DISTRICT, SUBJECT TO NON-SUBSTANTIVE CHANGES.

HOLT PROPERTY PURCHASE

Executive Director of Water Policy Weghorst reported that IRWD is pursuing the purchase of property in Riverside County that is located within Palo Verde Irrigation District (PVID). Mr. Weghorst said that on April 18, 2016, Bardeen Partners, pursuant to provisions included in its Articles of Incorporation, executed a Purchase and Sale Agreement to purchase the Holt Property comprised of 103 acres which is within the vicinity of the Eaton property that was purchased by IRWD in March 2016. Water tolls are paid on 100 acres of the Property which are enrolled in the existing Metropolitan Water District/PVID Fallowing Program.

Exhibit "A"

Mr. Weghorst said that in the near term, land purchased by IRWD in the PVID service area would continue to be farmed with tenant farm leases which would generate income for IRWD and IRWD would participate in the existing MWD/PVID fallowing program and receive fallowing payments from MWD. He said that in the long term, IRWD-owned land within PVID would continue to be cultivated through tenant farm leases; IRWD could participate in any fallowing and other water conservation programs developed and implemented by MWD and PVID; and IRWD would also work with MWD and Municipal Water District of Orange County to develop mutually-beneficial programs and agreements through which IRWD would receive increased water supply reliability during periods of drought and supply interruptions in exchange for water conserved on IRWD-owned lands in PVID.

Mr. Weghorst said that the Purchase Agreement provides for a 40-day due diligence period in which there is an opportunity to conduct any studies, tests and inspections that are deemed necessary prior to the acquisition of the property. He said that Dee Jaspar & Associates (DJA) was retained to oversee the due diligence investigations and to complete a Baseline Property Assessment Report. He said that the due diligence investigations have been completed and to date shows the Holt Property is generally maintained with no recognized onsite environmental conditions. This property is currently planted in alfalfa with 37 acres fallowed per the Fallowing Program. DJA reported that the alfalfa crop appears to be slightly spotty and less dense than growth in an adjacent field. The difference can be due to the different varieties of alfalfa planted, the age of the crop, or farming practices.

Director of Treasury and Risk Management Jacobson reported that staff found no items of record to contest in the initial Preliminary Title Report. While performing the mineral search of the Property, DJA identified a possible illegal transfer in 1995 of approximately 11 acres of property adjacent to two neighboring five-acre home sites. This transfer occurred in 1995. On May 11, 2016, the escrow provider and seller were notified of this finding. He said that if this transfer is found to be legal or is made legal via a parcel map or lot line adjustment, then it would remove about 11 acres from the Holt Property which would reduce the purchase from 103 acres to 92 acres. The seller's broker is working with the seller to resolve this issue.

Director Swan reported that this item was discussed by the Bardeen Property Ad Hoc Committee on May 19, 2016. On MOTION by Swan, seconded and unanimously carried, THE BOARD, SUBJECT TO BARDEEN PARTNERS, INC. APPROVAL OF THE ASSIGNMENT OF THE PURCHASE AGREEMENT TO IRWD, AUTHORIZED THE GENERAL MANAGER TO EXECUTE THE ASSIGNMENT AND ASSUMPTION OF REAL PROPERTY PURCHASE AGREEMENT ACCEPTING THE ASSIGNMENT OF THE PURCHASE AND SALE AGREEMENT FROM BARDEEN PARTNERS, INC.; AUTHORIZED THE TREASURER TO REQUEST AND EXECUTE ANY NECESSARY AMENDMENT TO THE PURCHASE AND SALE AGREEMENT OR AN ADDENDUM TO THE ESCROW INSTRUCTIONS TO EXTEND THE DUE DILIGENCE PERIOD FOR UP TO THIRTY DAYS TO CORRECT THE TITLE ISSUE IDENTIFIED ON THE PROPERTY; FIND THAT ALL MATTERS CURRENTLY IDENTIFIED WITH REGARD TO THE CONDITION OF TITLE, SUBJECT TO CORRECTION OF THE TITLE ISSUE IDENTIFIED ON THE PROPERTY, PHYSICAL CONDITION AND SUITABILITY OF THE PROPERTY FOR THE USES CONTEMPLATED ARE ACCEPTABLE; APPROVED THE ADDITION OF PROJECT 11956 (7305) TO THE FY

Exhibit "A"

2015-16 CAPITAL BUDGET IN THE AMOUNT OF \$1,690,000 FOR THE PURCHASE OF THE PROPERTY; FOUND THAT THE PROPERTY ACQUISITION ONLY IS EXEMPT FROM CEQA; APPROVED THE PROJECT AND AUTHORIZED STAFF TO POST AND FILE THE NOTICES OF EXEMPTION IN ORANGE AND RIVERSIDE COUNTIES; AND, AND AUTHORIZED THE GENERAL MANAGER AND TREASURER AND EACH OTHER OFFICER OF THE DISTRICT, EACH ACTING SINGLY, TO EXECUTE AND DELIVER ANY AND ALL DOCUMENTS, PROGRAM ASSIGNMENTS, CERTIFICATES, INSTRUCTIONS AND INSTRUMENTS NECESSARY OR PROPER FOR CARRYING OUT AND CLOSING THE REAL ESTATE PURCHASE TRANSACTION FOR THE ACQUISITION OF THE PROPERTY, SUBJECT TO CORRECTION OF THE TITLE ISSUE IDENTIFIED ON THE PROPERTY.

MARTIN PROPERTY PURCHASE

Executive Director of Water Policy Weghorst reported that IRWD is pursuing the purchase of an additional property in Riverside County located within Palo Verde Irrigation District (PVID). Mr. Weghorst said that on April 12, 2016, Bardeen Partners, pursuant to provisions included in its Articles of Incorporation, executed a Purchase and Sale Agreement to purchase the Martin Property comprised of 80 acres which is within the vicinity of the Eaton property purchased by IRWD in March 2016. Water tolls are paid on 74 acres of the Property which are enrolled in the existing Metropolitan Water District/PVID Fallowing Program.

Mr. Weghorst said that in the near term, land purchased by IRWD in the PVID service area would continue to be farmed with tenant farm leases which would generate income for IRWD and IRWD would participate in the existing MWD/PVID fallowing program and receive fallowing payments from MWD. He said that in the long term, IRWD-owned land within PVID would continue to be cultivated through tenant farm leases; IRWD could participate in any fallowing and other water conservation programs developed and implemented by MWD and PVID; and IRWD would also work with MWD and Municipal Water District of Orange County to develop mutually-beneficial programs and agreements through which IRWD would receive increased water supply reliability during periods of drought and supply interruptions in exchange for water conserved on IRWD-owned lands in PVID.

Mr. Weghorst said that the Purchase Agreement provides for a 40-day due diligence period in which there is an opportunity to conduct any studies, tests and inspections that are deemed necessary prior to the acquisition of the property. He said that Dee Jaspar & Associates (DJA) was retained to oversee the due diligence investigations and to complete a Baseline Property Assessment Report. He said that the due diligence investigations have been completed and to date shows the Martin Property is generally maintained with no recognized onsite environmental conditions. This property is currently planted in Bermuda grass with 25 acres fallowed per the Fallowing Program.

Mr. Weghorst said that a Phase I Environmental Site Assessment was performed by subcontractor Advanced Environmental Concepts, Inc. and identified no onsite recognized environmental issues. He said the Assessment identified the existence of a domestic well at the location of an old farmstead and the District will receive a credit from the Seller's proceeds at

Exhibit "A"

close of escrow to formally abandon the well. He said the Assessment also identified a 1.5-acre slough area on the southeast corner of the property that appears to have been used as a dump site for household waste, appliances and railroad ties. He said the seller has agreed to remove these items prior to closing.

Director of Treasury and Risk Management Jacobson reported that staff found no items of record to contest in the initial Preliminary Title Report.

Director Swan reported that this item was discussed by the Bardeen Property Ad Hoc Committee on May 19, 2016. On MOTION by Swan, seconded and unanimously carried, THE BOARD, SUBJECT TO BARDEEN PARTNERS, INC. APPROVAL OF THE ASSIGNMENT OF THE PURCHASE AGREEMENT TO IRWD, AUTHORIZED THE GENERAL MANAGER TO EXECUTE THE ASSIGNMENT AND ASSUMPTION OF REAL PROPERTY PURCHASE AGREEMENT ACCEPTING THE ASSIGNMENT OF THE PURCHASE AND SALE AGREEMENT FROM BARDEEN PARTNERS, INC.; AUTHORIZED THE TREASURER TO REQUEST AND EXECUTE ANY NECESSARY AMENDMENT TO THE PURCHASE AND SALE AGREEMENT OR AN ADDENDUM TO THE ESCROW INSTRUCTIONS FOR THE MARTIN PROPERTY TO ALLOW FOR BUYER ABANDONMENT OF THE WELL WITH A CREDIT FOR THE COST OF THE WELL ABANDONMENT TO BE APPLIED TO THE PURCHASE PRICE; FOUND THAT ALL MATTERS CURRENTLY IDENTIFIED WITH REGARD TO THE CONDITION OF TITLE, PHYSICAL CONDITION AND SUITABILITY OF THE PROPERTY FOR THE USES CONTEMPLATED ARE ACCEPTABLE; APPROVED THE ADDITION OF PROJECT 11955 (7302) TO THE FY 2015-16 CAPITAL BUDGET IN THE AMOUNT OF \$1,261,000 FOR THE PURCHASE OF THE MARTIN PROPERTY; FOUND THAT THE PROPERTY ACQUISITION ONLY IS EXEMPT FROM CEQA; APPROVED THE PROJECT AND AUTHORIZED STAFF TO POST AND FILE THE NOTICES OF EXEMPTION IN ORANGE AND RIVERSIDE COUNTIES; AND AUTHORIZED THE GENERAL MANAGER AND TREASURER AND EACH OTHER OFFICER OF THE DISTRICT, EACH ACTING SINGLY, TO EXECUTE AND DELIVER ANY AND ALL DOCUMENTS, PROGRAM ASSIGNMENTS, CERTIFICATES, INSTRUCTIONS AND INSTRUMENTS NECESSARY OR PROPER FOR CARRYING OUT AND CLOSING THE REAL ESTATE PURCHASE TRANSACTION FOR THE ACQUISITION OF THE PROPERTY.

GENERAL MANAGER'S REPORT

General Manager Cook said he learned of a community issue at the Portola High School in Irvine relative to potential contaminants which could be attributable to recycled water. Mr. Cook said he has been in contact with staff at the Irvine Unified School District and will be tracking this issue. Director Withers commented that he believed there was confusion with the terminology as the nursery had used irrigation water which was recycled, and may have been gravity drained to the high school site.

Mr. Cook reported on the drought regulation revisions by the State Board which are now supply based and are shifting control to handle the drought by self-certification. He further

Exhibit "A"

complimented Director Fiona Sanchez on her efforts. In response to Director Reinhart's comment on how to "cement in" conservation measures, Director Sanchez briefly described a few of the measures taken and said that an item will be submitted to the Water Resources and Policy Committee to discuss the new conservation framework going forward.

Mr. Cook reported on his vacation plans next week and that he will be appointing Executive Director of Clary to act on his behalf.

DIRECTORS' COMMENTS

Director Withers said he attended his regular monthly meetings.

Director Swan reported on his attendance at an ACWA conference, a WACO Planning meeting, a SAWPA Watershed meeting representing the Newport Bay Watershed Executive Committee, a Newport Coastal Coalition meeting, a Southern California Water Dialogue meeting, and a MWDOC/OCWD Joint Committee meeting.

Director Swan further commented on tonight's conservation proclamation received from MWDOC and said he believed that the customers should also be complimented on their conservation efforts.

Director Reinhart reported on his attendance at an ACWA conference, a MWDOC Board meeting, and an Orange County Water Summit meeting.

Director Matheis reported on her attendance at an ACWA conference, an Orange County Water Summit meeting, and an Irvine Historic Museum event which she attended with Director Swan.

CLOSED SESSION

President Matheis said that the following Closed Session would be held:

Conference with Legal Counsel relative to anticipated litigation- Government Code Section 54956.9(d)(2) – significant exposure to litigation (one potential case), and Government Code Section 54956.9(d)(4) initiation of litigation (one potential case)

OPEN SESSION

Following the Closed Session, the meeting was reconvened with Reinhart, Withers, Swan, and Matheis present. President Matheis said that there was no action to report.

ADJOURNMENT

There being no further business, President Matheis adjourned the meeting.

APPROVED and SIGNED this 27th day of June, 2016.

Exhibit "A"

President, IRVINE RANCH WATER DISTRICT

Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

Legal Counsel - Bowie, Arneson, Wiles & Giannone

EXHIBIT "B"

MINUTES OF REGULAR MEETING – JUNE 6, 2016

The regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 5:00 p.m. by President Matheis on June 6, 2016 in the District office, 15600 Sand Canyon Avenue, Irvine, California.

Directors Present: LaMar, Reinhart (arrived at 5:15 p.m.), Swan, Matheis and Withers.

Directors Absent: None.

Also Present: General Manager Cook, Executive Director of Engineering and Water Quality Burton, Executive Director of Finance Clary, Executive Director of Water Policy Weghorst, Executive Director of Operations Shields, Director of Administrative Services Mossbarger, Director of Human Resources Roney, Legal Counsel Arneson, Secretary Bonkowski, Principle Engineer Akiyoshi, Mr. Christopher Smithson, Mr. Matt Veeh, Ms. Derrien Cotton, and Mr. Ed Casey/

WRITTEN COMMUNICATIONS: None.

ORAL COMMUNICATIONS: Director of Administrative Services Mossbarger introduced Ms. Derrien Cotton, newly hired Customer Service Manager to the Board.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED: None.

CLOSED SESSION

President Matheis said that the following Closed Session would be held:

Conference with Legal Counsel relative to anticipated litigation- Government Code Section 54956.9(d)(2) – significant exposure to litigation (one potential case), and Government Code Section 54956.9(d)(4) initiation of litigation (one potential case).

OPEN SESSION

Following the Closed Session, the meeting was reconvened with LaMar, Reinhart, Withers, Swan, and Matheis present. President Matheis reported that on motion duly made and carried with Directors LaMar, Reinhart, Swan, Withers, and Matheis voting aye, an action was authorized to be filed against the Orange County Water District to invalidate the basin equity assessment as a penalty on IRWD's recycled water.

ADJOURNMENT

There being no further business, President Matheis adjourned the meeting.

APPROVED and SIGNED this 13th day of June, 2016.

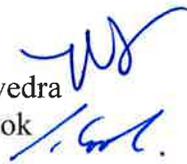
President, IRVINE RANCH WATER DISTRICT

Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

Legal Counsel - Bowie, Arneson, Wiles & Giannone

June 27, 2016
Prepared and
submitted by: N. Savedra
Approved by: P. Cook



CONSENT CALENDAR

RATIFY/APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS

SUMMARY:

Pursuant to Resolution 2006-29 adopted on August 28, 2006, approval of attendance of the following events and meetings are required by the Board of Directors.

Events/Meetings

Steven LaMar

6/08/16 South Orange County Agencies' Meeting
6/09/16 Special ACC-OC Water Committee Meeting
6/15/16 CCEEB Water Quality Task Force Committee Meeting
6/16/16 Natural Communities Coalition Quarterly Meeting
6/22/16 Southern California Water Committee Water Energy Workshop
6/22/16 Natural Communities Coalition Executive Committee Meeting

Mary Aileen Matheis

4/14/16 OC Watershed Meeting – Review of San Juan Creek Program
6/01/16 Staff Meeting relative to OCWD
6/07/16 ISDOC Executive Committee Meeting
6/09/16 Tustin State of the City Address
6/22/16 Orange County Forum – OC Community Indicators Report
6/23/16 Monthly Discussion of District Activities w/General Manager Paul Cook
6/30/16 ISDOC Quarterly Meeting

Douglas Reinhart

5/25/16 South Orange County Agencies' Meeting
6/08/16 South Orange County Agencies' Meeting
6/23/16 Monthly Discussion of District Activities w/General Manager Paul Cook

Peer Swan

6/03/16 Newport Chamber of Commerce Meeting
6/08/16 OCWD Water Issues Committee Meeting
6/15/16 OCWA June Meeting
6/21/16 WACO Planning Committee Meeting
6/22/16 Southern California Water Dialogue Meeting

John Withers

5/31/16	Portola High School VIP Hard Hat Tour & State of Education Address
6/07/16	ISDOC Executive Committee Meeting
6/09/16	Special ACC-OC Water Committee Meeting
6/22/16	Orange County Forum – OC Community Indicators Report
6/28/16	Chapman University Economic Forecast Update
6/30/16	ISDOC Quarterly Meeting

RECOMMENDATION:

THAT THE BOARD RATIFY/APPROVE THE MEETINGS AND EVENTS FOR STEVEN LAMAR, MARY AILEEN MATHEIS, DOUGLAS REINHART, PEER SWAN AND JOHN WITHERS AS DESCRIBED.

LIST OF EXHIBITS:

None

June 27, 2016
Prepared and
submitted by: N. Savedra
Approved by: Paul Cook



CONSENT CALENDAR

FISCAL YEAR 2016-17 GENERAL COUNSEL SERVICES
FOR BOWIE, ARNESON, WILES AND GIANNONE

SUMMARY:

Bowie, Arneson, Wiles and Giannone (BAWG) has provided a proposed Letter of Engagement for the purpose of providing legal services to the District for Fiscal Year (FY) 2016-17, effective July 1, 2016. BAWG's services shall not exceed \$400,000 without additional authorization from the District.

Attached as Exhibit "A" are the proposed terms of the Legal Services Agreement. BAWG's hourly rates are as follows with no increase from the previous fiscal year:

Partner:	\$220/hour
Senior Associate:	\$195/hour
Associate:	\$185/hour
Paralegal:	\$ 85/hour

As per the terms of the Legal Services Agreement, billing for miscellaneous general legal services will be on a fixed-fee basis, and all other services will be billed on an hourly basis. BAWG's hourly rates are based upon a number of factors, including the level of experience of the attorneys.

The only change to the terms of the contract from the previous fiscal year are the fees and expenses for bond counsel work as outlined in Exhibit "A" in section II(c) of the Letter of Engagement. The bond counsel work is pursuant to a recent Attorney General's opinion on compliance with Government Code 1090 requirements.

FISCAL IMPACTS:

BAWG's services shall not exceed a total of \$400,000 for FY 2016-17 without additional authorization from the District.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act Code of Regulations, Title 14, Chapter 3, Section 15378.

Consent Calendar: FY 2016-17 General Counsel Services for Bowie, Arneson, Wiles and
Giannone
June 27, 2016
Page 2

COMMITTEE STATUS:

This item was reviewed by the Finance and Personnel Committee on June 7, 2016.

RECOMMENDATION:

THAT THE BOARD APPROVE AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE THE ENGAGEMENT AGREEMENT WITH BOWIE, ARNESON, WILES AND GIANNONE EFFECTIVE JULY 1, 2016 FOR GENERAL COUNSEL SERVICES IN THE AMOUNT NOT TO EXCEED \$400,000.

LIST OF EXHIBITS:

Exhibit "A" – Terms of Legal Services Agreement from Bowie, Arneson, Wiles and Giannone

Exhibit "A"

BOWIE, ARNESON, WILES & GIANNONE

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS
ATTORNEYS AT LAW

ALEXANDER BOWIE*
JOAN C. ARNESON
WENDY H. WILES*
PATRICIA B. GIANNONE
ROBERT E. ANSLOW
BRIAN W. SMITH
JEFFREY A. HOSKINSON
JEFFREY W. FREY
TYLER E. MENDEZ
MARGOT E. H. STEVENS
CONOR H. MCELROY

4920 CAMPUS DRIVE
NEWPORT BEACH, CALIFORNIA 92660
(949) 851-1300

(800) 649-0997
FAX: (949) 851-2014

REF. OUR FILE
8001A20

*A PROFESSIONAL CORPORATION

May 27, 2016

Mr. Paul Cook
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92619-7000

Dear Paul:

This letter sets forth our firm's engagement to provide general counsel services to Irvine Ranch Water District. Our services shall not exceed \$400,000.00 for the District's fiscal year 2016-17 without additional authorization from the District. As described in the attached Terms of Legal Services Agreement, billing for miscellaneous general legal services will be on a fixed-fee basis, and all other services will be billed on an hourly basis.

Our firm's hourly rates are based upon a number of factors, including the level of experience of the attorneys. The 2016-17 hourly rates (effective July 1, 2016) are as follows:

Partner	\$220
Senior Associate	\$195
Associate	\$185
Paralegal	\$85

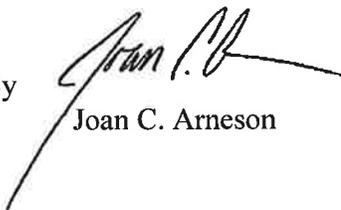
This letter, together with the attached Terms of Legal Services Agreement, sets forth the terms of our engagement.

We appreciate the opportunity to continue providing general counsel services to the District.

Very truly yours,

BOWIE, ARNESON,
WILES & GIANNONE

By


Joan C. Arneson

JCA:
Encl.
38688

Exhibit "A"

BOWIE, ARNESON, WILES & GIANNONE

Mr. Paul Cook

May 27, 2016

Approval of Engagement

We have read the foregoing letter and attached Terms of Legal Services Agreement and agree to the terms of Bowie, Arneson, Wiles & Giannone's engagement, effective as of the date on which Bowie, Arneson, Wiles & Giannone first provided services to us under the attached engagement terms.

Date: _____, 2016

IRVINE RANCH WATER DISTRICT

By: _____

Exhibit "A"

BOWIE, ARNESON, WILES & GIANNONE

Mr. Paul Cook

May 27, 2016

TERMS OF LEGAL SERVICES AGREEMENT

I. Legal Services Provided

Bowie, Arneson, Wiles & Giannone is retained by Irvine Ranch Water District for the purpose of providing legal services for general legal matters, including litigation and other matters as may be requested from time to time. Such services include bond counsel or co-bond counsel services. We will report regularly and keep you informed of significant developments in matters in which we are providing legal services. During the course of our services, we may express opinions or beliefs to you about the effectiveness of various courses of action, but such expressions shall not be construed as promises or guarantees.

II. Fees

A. Fixed Fee for Miscellaneous General Legal Services

The Miscellaneous General Legal Services ("General Services") provided by Bowie, Arneson, Wiles & Giannone to Irvine Ranch Water District will be charged on a fixed fee basis. The fixed fee for General Services will be paid on the basis of \$55,000.00 for the services billed during the 2016-17 District fiscal year. One-twelfth of said amount will be billed as a monthly installment at the same time as each monthly statement prepared and sent for our hourly-basis services. Proration of the monthly amount will be made as necessary to adjust for any partial billing periods used to match our June and July cycles to the District fiscal year.

For informational purposes, our statements will include hours expended for the work included in the fixed fee. Unless the fixed fee would be unconscionable, the fixed fee will be earned in full and will not be refundable in any part once substantial services have been performed; provided, a refund may be computed based on facts and circumstances in the event of our termination or withdrawal.

The fixed fee will not include expenses, which will be billed and payable as set forth in Section III.

B. Scope of Services Included in Fixed Fee

The services to be included within the fixed fee are those of the type that we have typically furnished to you under the invoice entitled "General" in our monthly statements and include the following services as requested by the Board or a staff member: attendance at Board of Directors meetings; attendance at Committee meetings (unless in conjunction with a specific matter being billed on an hourly basis); review of agendas and other material in preparation for Board and Committee meeting attendance; review and assistance with draft minutes; preparation or assistance with preparation of miscellaneous resolutions; assistance with draft agenda item/closed session item preparation; and legal advice, consultation, research, drafting or assistance with drafting of contracts and correspondence and other assistance on miscellaneous general and/or non-continuing items of limited scope or duration.

C. Services Excluded from the Fixed Fee

The fixed fee services will not include services in conjunction with: litigation; administrative hearing or investigatory proceedings; bond counsel or general counsel services related to financings or outstanding bonds; capital or special projects; financial/ real property matters; legislative matters; interagency matters; personnel matters; conflict of interest matters; reorganizations; and other ongoing or extended matters involving negotiation, representation, drafting and similar services that we have typically furnished to you under separate invoices other than "General."

Fees for legal services excluded from the fixed fee are charged on an hourly basis for the time of the legal personnel spent on a matter. The rates are based on several factors, including the expertise and level of experience of the attorneys. The rates are adjusted by the firm from time to time, usually effective for the period July 1-June 30. We will provide advance notice of any rate change. Time on any task is billed in increments of a tenth of an hour. Statements are prepared and sent each month, and are due when presented.

Exhibit "A"

Upon request and arrangement in advance, fees for a particular task or matter may be based on other than hourly rates or monthly billing. Fees and expenses for bond counsel, co-bond counsel and general counsel services related to financings shall be hourly, on a time and materials basis, and not on a percentage of the amount issued or other basis. Such hourly fees and expenses may be billed monthly or may be accrued and billed by us at closing to facilitate the District's aggregation of closing costs payable through the financing; however, such fees shall be payable whether or not the financing closes, and are not contingent.

Staffing work assignments will be made, to the extent possible, so as to maximize our legal effectiveness and minimize your legal expenses.

III. Expenses

In addition to fees, we will bill for reimbursement of actual and reasonable costs and expenses, including, but not limited to, reproduction of documents, long-distance telephone charges, messenger and courier services, facsimile, computerized legal research, document printing, recording charges and non-local mileage and travel expenses. We may also bill for clerical staff time of an unusual nature. Costs and expenses are included in the monthly statements.

IV. District's Obligations

You agree to provide us with direction and guidance and to keep us informed of significant developments related to matters with respect to which we are providing legal services. You also agree to pay our statements in a timely manner.

V. Termination of Representation

Our services may be terminated by you at any time by written notice to us. We may withdraw with your consent or for good cause. Good cause may include a failure to cooperate or follow our advice on a material matter, failure to pay our statements in a timely manner, or any fact or circumstance that would render our continuing representation unlawful or unethical. In the event of termination or withdrawal, we are to be paid for fees and charges incurred on your behalf up to the date of termination or withdrawal.

VII. Miscellaneous

No modifications hereof shall be effective unless set out in writing and signed by you and us.

We maintain errors and omissions insurance coverage applicable to the services to be rendered.

This statement of terms of legal services agreement shall be our entire agreement, subject to amendment by the parties to provide for, among other matters, other fee arrangements.

June 27, 2016

Prepared by: L. Bonkowski

Submitted by: C. Clary *CC*

Approved by: Paul Cook */s/ Paul Cook*

IRWD WATER SERVICE CORPORATION

APPROVING QUITCLAIM OF ASSETS, LIQUIDATION AND DISSOLUTION OF IRWD WATER SERVICE COMPANY II LLC

SUMMARY:

In 2008, the IRWD Water Service Corporation (IRWD WSC) executed various actions related to the acquisition and merger of the Orange Park Acres Mutual Water Company (OPAMWC) into the Irvine Ranch Water District. One of these actions was for IRWD WSC to form the IRWD Water Service Company II LLC (IRWD WSC II LLC) to engage in the sale and distribution of water to property owners and customers within the territory of OPAMWC, and any other business acquired under the Agreement of Merger. Staff has determined that IRWD WSC II LLC is no longer necessary as the acquisition balance has been retired and recommends taking such actions to dissolve this company requiring the adoption of a resolution to approve a quitclaim of assets, liquidation and dissolution. In addition, staff will also be submitting the same action for adoption at the IRWD Board meeting on June 27, 2016.

BACKGROUND:

In January of 2008, IRWD WSC and the Irvine Ranch Water District executed a Limited Liability Company Operating Agreement (Operating Agreement) for the purpose of forming the IRWD WSC II LLC. The purpose of this company was to engage in the sale and distribution of water to property owners and customers within the Orange Park Acres Mutual Water Company (OPAMWC) and any other business acquired under the Agreement of Merger.

As the acquisition balance was retired as of June 30, 2015, staff has reviewed the Operating Agreement and has determined that it is in the best interest of the IRWD WSC to authorize the execution and delivery of such documents and such actions by staff, to liquidate and dissolve this company. These documents are provided in Exhibits "A" and "B". Additionally, an agenda item will be submitted to the IRWD Board of Directors on June 27, 2016 to adopt a resolution approving the actions of the II LLC (as Members and Managers of the company).

FISCAL IMPACTS:

An annual savings of approximately \$9,600 for franchise taxes and fees and accountant tax preparation fees will be realized.

ENVIRONMENTAL COMPLIANCE:

None.

IRWD Consent Calendar: Approving Quitclaim of Assets, Liquidation and Dissolution of the
Irvine Ranch Water District Water Service Company II LLC

June 27, 2016

Page 2

RECOMMENDATION:

THAT THE FOLLOWING RESOLUTION BE ADOPTED BY TITLE:

RESOLUTION OF THE BOARD OF DIRECTORS OF THE
IRVINE RANCH WATER DISTRICT WATER APPROVING
QUITCLAIM OF ASSETS, LIQUIDATION AND DISSOLUTION OF
IRVINE RANCH WATER DISTRICT WATER SERVICE COMPANY II LLC

LIST OF EXHIBITS:

Exhibit "A" – Resolution

Exhibit "B" – Quitclaim Deed

EXHIBIT "A"

RESOLUTION NO. 2016 - ____

RESOLUTION OF THE BOARD OF DIRECTORS OF THE IRVINE RANCH WATER DISTRICT WATER SERVICE CORPORATION APPROVING QUITCLAIM OF ASSETS, LIQUIDATION AND DISSOLUTION OF IRVINE RANCH WATER DISTRICT WATER SERVICE COMPANY II LLC

WHEREAS, the Irvine Ranch Water District Water Service Corporation (the "Corporation") and the Irvine Ranch Water District ("IRWD") entered into a Limited Liability Company Operating Agreement, dated as of January 28, 2008 (the "Operating Agreement"), under the Beverly-Killea Limited Liability Company Act (the "Act") for the purpose of forming the IRWD Water Service Company II LLC, a California limited liability company ("LLC II"), the members of which are IRWD and the Corporation; and

WHEREAS, LLC II was duly formed; and

WHEREAS, the business purpose of LLC II under the Operating Agreement is to engage in the sale and distribution of water to property owners and customers within the territory of Orange Park Acres Mutual Water Company ("OPAMWC") and any other business acquired under an Agreement of Merger entered into by and between LLC II and OPAMWC; and

WHEREAS, under the Agreement of Merger, OPAMWC, as the disappearing company, was merged into LLC II, as the surviving company; and

WHEREAS, pursuant to the Operating Agreement, the Acquisition Balance, defined and determined therein as the equitable contribution of the OPAMWC service territory toward the cost of the existing IRWD system and property, was reduced to zero, commencing the setting of water commodity rates and service charges applicable within the former OPAMWC territory in the same manner as in other portions of IRWD; and

WHEREAS, this Board of Directors believes it to be in the best interest of the Corporation to authorize the execution and delivery of such documents and such actions by the Corporation, including in its capacity as a member of LLC II, as may be necessary to effect the liquidation, winding up and dissolution of LLC II; and

WHEREAS, the Act was recodified, effective January 1, 2014, and the actions taken and authorized herein are intended to be in compliance therewith to the extent applicable.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF IRVINE RANCH WATER DISTRICT WATER SERVICE CORPORATION HEREBY RESOLVES AND DETERMINES AS FOLLOWS:

Section 1. The Corporation hereby approves the quitclaiming of any and all interests of LLC II in property and assets to IRWD. Such approval includes the receipt of nominal or non-cash consideration for the quitclaim, including without limitation the commitments of IRWD described in Section 4 hereof. To the extent that such quitclaim constitutes a Terminating Capital Transaction as defined in the Operating Agreement, the Corporation, as a member of LLC II, hereby votes for and approves such Terminating Capital Transaction, and acknowledges that no net proceeds will accrue from

such Terminating Capital Transaction.

Section 2. The Corporation hereby votes for and approves the dissolution, liquidation and termination of LLC II, the winding up of LLC II's affairs and the cancellation of LLC II's articles of organization. The Corporation waives notice of such matters.

Section 3. The Corporation acknowledges receipt of financial reporting of LLC II as a blended component unit of IRWD in IRWD's financial statements. To the extent that as of this date any other reports or information required pursuant to Section 7.6.1 of the Operating Agreement have not been completed or submitted, or are hereafter required, the same are hereby waived. Without limiting the foregoing, statements or accountings relating to disposition of funds and assets upon dissolution are hereby waived.

Section 4. The Corporation is advised that IRWD will assume the remaining tax liability, if any, of LLC II. The Corporation is further advised that IRWD will assume or guarantee payment of all of the outstanding debts and liabilities, if any, of LLC II. Based upon due consideration of the financial responsibility of IRWD, such assumption is a reasonable and adequate means of making provision for the debts and liabilities of LLC II.

Section 5. In consideration of the Corporation's purpose to hold improvements and any other property or interest therein for the benefit of IRWD, the Corporation hereby directs that the distribution of any LLC II assets and any balance in its Capital Account, to which the Corporation may be entitled pursuant to the Operating Agreement upon dissolution of LLC II, be transferred to IRWD. To the extent that such distribution constitutes a Terminating Capital Transaction as defined in the Operating Agreement, , the Corporation, as a member of LLC II, hereby votes for and approves such Terminating Capital Transaction, and acknowledges that no net proceeds will accrue from such Terminating Capital Transaction.

Section 6. The President, Treasurer and Secretary and each other officer of the Corporation hereby are authorized and directed, on behalf of the Corporation, or on behalf of the Corporation as a member of LLC II or the manager of LLC II, as the case may be, to execute and deliver any and all documents and instruments and to do and cause to be done any and all acts and things necessary or proper for carrying out the transactions contemplated by this resolution.

ADOPTED, SIGNED and APPROVED this ____ day of _____, 2016

President, IRVINE RANCH WATER
DISTRICT WATER SERVICE
CORPORATION and of the Board of Directors
thereof

Secretary, IRVINE RANCH WATER
DISTRICT WATER SERVICE
CORPORATION and of the Board of Directors
thereof

APPROVED AS TO FORM:
BOWIE, ARNESON, WILES & GIANNONE
Legal Counsel

BAWG114423/061016

EXHIBIT "B"

**RECORDING REQUESTED BY AND
WHEN RECORDED RETURN TO:**

Ray Thatcher, District R/W Agent
Irvine Ranch Water District
15600 Sand Canyon Avenue
P.O. Box 57000
Irvine CA, 92619-7000
IRWD Doc. No. E _____
ASSESSOR PARCEL NO.(S):

(Space Above This Line For Recorder's Use)

This document is recorded at the request of and for the benefit of Irvine Ranch Water District and is therefore exempt from the payment of the recording fee pursuant to Government Code Section 6103 and from the payment of the documentary transfer tax pursuant to Revenue and Taxation Code Section 11922.

QUITCLAIM DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, IRWD WATER SERVICE COMPANY II LLC ("**Owner**"), a California limited liability company and the successor in interest to Orange Park Acres Mutual Water Company pursuant to certificate of merger filed May 19, 2008 in the Office of the Secretary of State of the State of California and recorded on May 21, 2008 as Instrument No. 2008000241910 of Official Records in the Office of the County Recorder of the County of Orange, State of California, does hereby remise, release, and forever quitclaim to IRVINE RANCH WATER DISTRICT, a California water district organized under and existing pursuant to Section 34000 *et seq.* of the California Water Code, its successors and assigns, the property described as follows:

- (1) all RIGHT, TITLE and INTEREST in and to Parcels 1, 2, 3, and 4 of Parcel Map No. 83-764 as shown on a map filed in Book 194, Pages 44 and 45 of Parcel Maps in the Office of the County Recorder of the County of Orange, State of California (Assessor's Parcel No. 383-294-02);
- (2) all RIGHT, TITLE and INTEREST in and to Lot 1 of Tract No. 918 as shown on a map filed in Book 28, Pages 41 through 43 of Miscellaneous Maps in the Office of the County Recorder of the County of Orange, State of California (Assessor's Parcel No. 393-293-01);
- (3) all RIGHT, TITLE and INTEREST in and to that portion of Lot 11 of Tract No. 944 as shown on a map filed in Book 29, Page 41 of Miscellaneous Maps as described in that certain Grant Deed recorded February 3, 1967 in Book 8169, Page 707 of Official Records, both in the Office of the County Recorder of the County of Orange, State of California (Assessor's Parcel No. 093-242-80); and
- (4) all other RIGHT, TITLE and INTEREST in, upon, or otherwise pertaining to, any lands within the County of Orange, State of California, held by Owner on the date of recording hereof, including without limitation fee simple, easements, rights of way, reservations, dedications, and any other interests in land, whether recorded or unrecorded, together with any pipelines, water system facilities or other improvements of any kind.

It is the intent of this instrument to convey to Irvine Ranch Water District any and all interests of Owner in and to real property.

Dated: June 27, 2016

"Owner"

IRWD WATER SERVICE COMPANY II LLC,
a California limited liability company

By: IRVINE RANCH WATER DISTRICT,
Manager

By: _____
Mary Aileen Matheis,
President

IRVINE RANCH WATER DISTRICT

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property conveyed by deed or grant dated _____ from IRWD WATER SERVICE COMPANY II LLC, a California limited liability company, to IRVINE RANCH WATER DISTRICT, a California Water District, is hereby accepted by the undersigned officer on behalf of the Board of Directors pursuant to authority conferred by Resolution 2014-40 of the Board of Directors, adopted on September 8, 2014, and the grantee consents to recordation thereof by its duly authorized officer.

Date: _____

IRVINE RANCH WATER DISTRICT

By: _____
Leslie Bonkowski
Secretary to the Board of Directors

June 27, 2016

Prepared by: Jennifer Davis/Tanja Fournier

Submitted by: Robert Jacobson/Cheryl Clary

Approved by: Paul Cook

CONSENT CALENDAR

MAY 2016 TREASURY REPORTS

SUMMARY:

The following is submitted for the Board's information and approval:

- A. The Investment Summary Report for May 2016. This Investment Summary Report is in conformity with the 2016 Investment Policy and provides sufficient liquidity to meet estimated expenditures during the next six months, as outlined in Exhibit "A".
- B. The Monthly Interest Rate Swap Summary as of May 31, 2016, as outlined in Exhibit "B".
- C. The Summary of Payroll ACH payments in the total amount of \$1,612,023, as outlined in Exhibit "C".
- D. The May 31, 2016 Disbursement Summary of warrants 367199 through 367877, wire transfers, Workers' Compensation distributions, payroll withholding distributions, and voided checks in the total amount of \$15,492,878 as outlined in Exhibit "D".
- E. The Disclosure Report of Reimbursements to Board Members and Staff for May 2016, detailing payments or reimbursements for individual charges of \$100.00 or more per transaction, as outlined in Exhibit "E".

FISCAL IMPACTS:

As of May 31, 2016, the book value of the investment portfolio was \$242,794,970, with a 0.76% rate of return and a market value of \$242,753,066. Based on the District's March 31, 2016 quarterly real estate investment rate of return of 13.63%, the weighted average return for the fixed income and real estate investments was 3.74%.

As of May 31, 2016, the total notional amount of the interest rate swap portfolio was \$130 million of fixed payer swaps. Cash accrual in May from all swaps was negative \$637,051.

Payroll ACH payments totaled \$1,612,023, and wire transfers, all other ACH payments, and checks issued for debt service, accounts payable, payroll, and water purchases for May totaled \$15,492,878.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act Code of Regulations, Title 14, Chapter 3 Section 15378.

COMMITTEE STATUS:

This item was not submitted to a Committee; however, the investment and interest rate swap reports are submitted to the Finance and Personnel Committee on a monthly basis.

RECOMMENDATION:

THAT THE BOARD RECEIVE AND FILE THE TREASURER'S INVESTMENT SUMMARY REPORT, THE MONTHLY INTEREST RATE SWAP SUMMARY FOR MAY 2016, AND DISCLOSURE REPORT OF REIMBURSEMENTS TO BOARD MEMBERS AND STAFF; APPROVE THE MAY 2016 SUMMARY OF PAYROLL ACH PAYMENTS IN THE TOTAL AMOUNT OF \$1,612,023 AND APPROVE THE MAY 2016 ACCOUNTS PAYABLE DISBURSEMENT SUMMARY OF WARRANTS 367199 THROUGH 367877, WORKERS' COMPENSATION DISTRIBUTIONS, WIRE TRANSFERS, PAYROLL WITHHOLDING DISTRIBUTIONS AND VOIDED CHECKS IN THE TOTAL AMOUNT OF \$15,492,878.

LIST OF EXHIBITS:

Exhibit "A" – Investment Summary Report

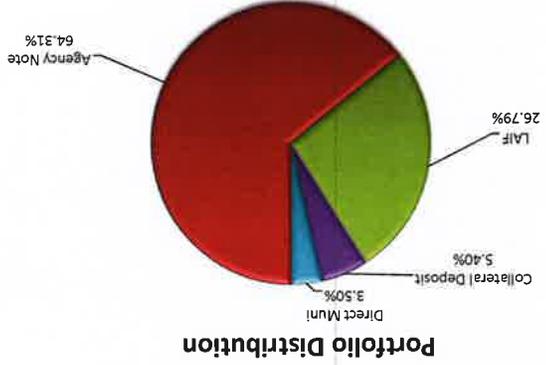
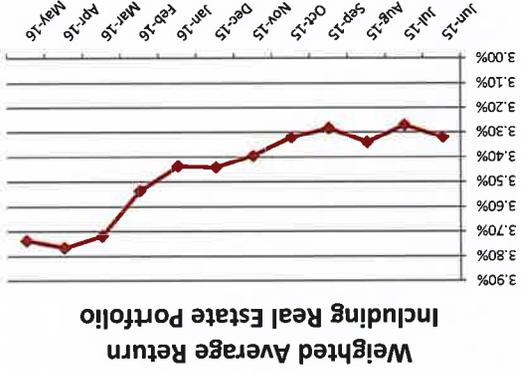
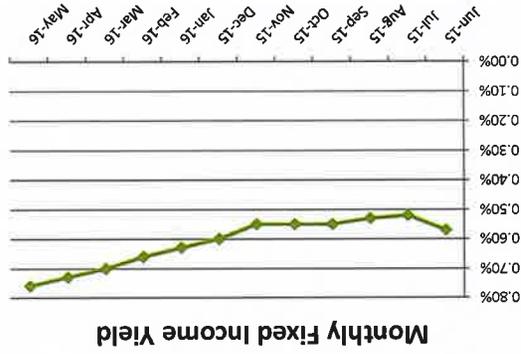
Exhibit "B" – Monthly Interest Rate Swap Summary

Exhibit "C" – Monthly Payroll ACH Summary

Exhibit "D" – Monthly Summary of District Disbursements

Exhibit "E" – Disclosure of Reimbursements to Board Members and Staff

Exhibit "A" Irvine Ranch Water District Investment Portfolio Summary May 2016

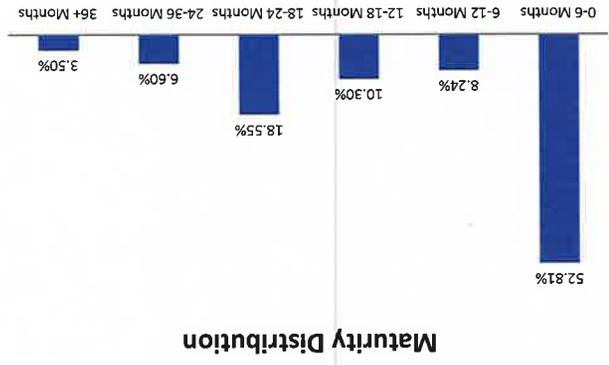


Investment Summary

Type	PAR	Book Value	Market Value
Agency Note	156,000,000	156,189,398	156,133,125
LAIIF	65,000,000	65,014,369	65,014,369
Collateral Deposit	13,108,997	13,108,997	13,108,997
Direct Muni	8,496,575	8,496,575	8,496,575
Grand Total	242,605,572	242,794,970	242,753,066

Top Issuers

Issuer	PAR	% Portfolio
State of California Treasury - LAIF	65,000,000	26.79%
Fed Home Loan Bank	56,000,000	23.10%
Fed Home Loan Mortgage Corp	55,000,000	22.67%
Fed Natl Mortgage Assoc	25,000,000	10.30%
Fed Farm Credit Bank	15,000,000	6.18%
ETWD	8,496,575	3.50%
Citi-Group Collateral	8,208,997	3.38%
Fed Ag Mortgage Corp	5,000,000	2.06%
Merrill Lynch Collateral	4,900,000	2.02%



IRVINE RANCH WATER DISTRICT INVESTMENT SUMMARY REPORT

05/31/16

SETTLEMENT *	Call	Schedule	Initial	Maturity	Date	Rating	INVESTMENT TYPE	INSTITUTION / ISSUER	PAR Amount	DISCOUNT	YIELD	YTPC	ORIGINAL COST	CARRY VALUE	MARKET VALUE ⁽¹⁾	UNREALIZED ⁽²⁾ GAIN/(LOSS)
--------------	------	----------	---------	----------	------	--------	-----------------	----------------------	------------	----------	-------	------	---------------	-------------	-----------------------------	---------------------------------------

05/04/16					06/01/16	LATF		State of California Tsy	\$65,000,000.00	0.510%			\$65,000,000.00	\$65,014,368.90		14,368.90
06/04/15	N/A		N/A		06/20/16	FHLB - Note	Aaa/Aa+/NR	Fed Home Loan Bank	5,000,000	0.340%	0.355%		4,999,200.00	4,999,960.21	5,000,050.00	89.79
07/01/15	N/A		N/A		06/24/16	FHLB - Note	Aaa/Aa+/NR	Fed Home Loan Bank	5,000,000	0.345%	0.445%		4,996,491.65	4,999,826.50	5,000,350.00	257.10
11/20/14	N/A		N/A		06/27/16	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Corp	5,000,000	0.375%	0.424%		4,999,926.30	4,999,926.30	5,000,050.00	225.70
01/11/16	N/A		N/A		06/30/16	FHLB - Note	NR	Fed Home Loan Bank	5,000,000	0.500%	0.500%		5,000,000.00	5,000,550.00	550.00	
05/08/14	N/A		N/A		07/05/16	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Assoc	5,000,000	0.375%	0.484%		4,999,495.82	5,000,150.00	654.18	
06/09/15	N/A		N/A		08/25/16	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Assoc	5,000,000	2.000%	0.467%		10,184,900.00	10,035,600.00	122.57	
10/19/15	N/A		N/A		09/28/16	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Assoc	10,000,000	1.250%	0.342%		10,085,280.00	10,029,897.01	(5,397.01)	
06/15/15	N/A		N/A		10/18/16	FHLB - Note	NR	Fed Ag Mortgage Corp	5,000,000	0.370%	0.378%		5,025,900.00	5,007,141.15	3,158.85	
10/09/15	N/A		N/A		11/09/16	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Bank	5,000,000	0.532%	0.532%		5,028,892.47	5,027,450.00	(942.47)	
10/08/15	N/A		N/A		11/30/16	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Assoc	5,000,000	1.250%	0.492%		5,049,445.00	5,025,031.53	(5,681.53)	
09/28/15	N/A		N/A		01/50/17	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Assoc	5,000,000	0.875%	0.570%		5,010,998.08	5,006,150.00	(4,848.08)	
09/21/15	N/A		N/A		02/22/17	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Assoc	5,000,000	0.625%	0.727%		4,990,950.00	4,998,950.00	3,129.05	
06/15/15	N/A		N/A		05/30/17	FHLB - Note	Aaa/Aa+/NR	Fed Home Loan Bank	5,000,000	0.642%	0.642%		4,998,500.00	4,991,600.00	(7,551.87)	
08/27/15	N/A		N/A		05/30/17	FHLB - Note	NR	Fed Home Loan Bank	5,000,000	0.625%	0.642%		4,998,500.00	4,991,600.00	(7,551.87)	
09/16/15	N/A		N/A		08/28/17	FHLB - Note	Aaa/Aa+/NR	Fed Home Loan Bank	5,000,000	0.750%	0.800%	0.960%	4,995,500.00	4,996,400.00	4,996,400.00	
09/16/15	N/A		N/A		09/15/17	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Corp	5,000,000	0.900%	0.915%		4,998,500.00	4,999,032.19	4,999,032.19	
09/29/15	Continuing Offer		N/A		03/28/16	FHLB - Note	Aaa/Aa+/NR	Fed Farm Credit Bank	5,000,000	0.815%	0.815%		4,999,500.00	4,999,668.49	(9,768.49)	
07/29/15			N/A		10/16/17	FHLB - Note	Aaa/Aa+/NR	Fed Home Loan Bank	5,000,000	1.000%	0.997%		5,000,000.00	4,996,150.00	(3,850.00)	
12/18/15	Continuing Offer		N/A		12/13/13	FHLB - Note	Aaa/Aa+/NR	Fed Farm Credit Bank	5,000,000	1.132%	1.132%		4,976,483.45	4,989,100.00	12,616.55	
04/21/16	N/A		N/A		12/18/17	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Corp	4,000,000	1.125%	1.138%		5,998,500.00	6,000,120.00	1,280.76	
03/16/16	N/A		N/A		03/18/17	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Corp	4,000,000	0.850%	0.859%		3,999,600.00	3,995,840.00	(3,784.73)	
03/16/16	N/A		N/A		03/16/18	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Corp	5,000,000	1.050%	1.050%		5,000,000.00	5,004,000.00	4,000.00	
03/16/16	Quarterly		N/A		05/26/16	FHLB - Note	NR	Fed Home Loan Bank	5,000,000	0.625%	0.625%		4,991,600.00	4,991,600.00	(520.69)	
03/16/16	Quarterly		N/A		06/16/16	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Corp	5,000,000	1.050%	1.050%		4,996,400.00	4,996,400.00	4,996,400.00	
03/23/16	N/A		N/A		03/23/18	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Corp	5,000,000	1.100%	1.100%		5,019,000.00	5,016,150.00	(7,760.96)	
04/07/16	N/A		N/A		04/09/18	FHLB - Note	Aaa/Aa+/NR	Fed Home Loan Bank	5,000,000	0.790%	0.790%		4,996,000.00	4,993,285.00	(3,015.55)	
03/16/16	One Time		N/A		04/27/18	FHLB - Note	Aaa/Aa+/NR	Fed Home Loan Bank	5,000,000	1.250%	1.096%	0.436%	5,014,386.94	5,005,550.00	(8,836.94)	
05/16/16	N/A		N/A		05/16/18	FHLB - Note	Aaa/Aa+/NR	Fed Farm Credit Bank	5,000,000	0.801%	0.750%		4,995,000.00	4,981,200.00	(13,909.59)	
05/16/16	N/A		N/A		05/21/18	FHLB - Note	Aaa/Aa+/AAA	Fed Home Loan Mortgage Assoc	5,000,000	0.875%	0.768%		5,010,700.00	5,010,424.53	(2,800.00)	
05/24/16	N/A		N/A		06/08/18	FHLB - Note	Aaa/Aa+/NR	Fed Home Loan Bank	11,000,000	1.250%	0.995%		11,056,540.00	11,063,580.00	7,647.14	
05/30/15	N/A		N/A		04/30/36	NR	Direct Muni	ETWLD	8,496,575	4.570%	4.570%		8,496,574.67	8,496,574.67		
SUB-TOTAL									\$229,496,575				\$229,956,831.32	\$229,644,068.57		(\$41,904.11)
03/01/16									\$8,208,997	0.370%	0.370%		\$8,208,997.08	\$8,208,997.08		
02/28/16									\$4,900,000	0.370%	0.370%		\$4,900,000.00	\$4,900,000.00		
SUB-TOTAL									\$13,108,997				\$13,108,997.08	\$13,108,997.08		
TOTAL INVESTMENTS									\$242,605,572				\$243,065,828.40	\$242,794,969.76		\$243,873,279
									3,400.00				3,400.00			
									804,050.23				804,050.23			
									\$243,873,278.63				\$243,873,278.63			

⁽¹⁾ LATF market value is as of the most recent quarter-end as reported by LATF.
⁽²⁾ Security market values are determined using Bank of New York ("Trading Prices"), Bloomberg and/or broker dealer pricing.
⁽³⁾ Gain (loss) calculated against carry value using the trading value provided by Bank of New York or Brokers.
⁽⁴⁾ Real estate rate of return is based on most recent quarter end return.
⁽⁵⁾ Calculation excludes Direct Muni - ETWLD.
⁽⁶⁾ Swap Collateral Deposits assumes 6 month maturity; dependent on interest rate changes.
This Investment Summary Report is in conformity with the 2016 Investment Policy.
and provides sufficient liquidity to meet the next six months estimated expenditures.
⁽⁷⁾ S - Slip up

Outstanding Variable Rate Debt
Investment to Variable Rate Debt Ratio: 13.1%
Investment Balance: \$243,873,279
Not Outstanding Variable Rate Debt (Less \$130 million fixed-payer swaps) \$186,200,000
\$316,200,000

Portfolio - Average Number of Days To Maturity: 263
Investment Portfolio
Real Estate Portfolio
Weighted Avg. Return

Change	May	April
	0.76%	0.73%
	13.63%	13.63%
	3.74%	3.77%

IRVINE RANCH WATER DISTRICT
SUMMARY OF MATURITIES

05/31/16

DATE	TOTAL	%	LAIIF	Agency Notes	Agency Discount Notes	Collateral Deposit	Direct Muni
05/16	\$65,000,000	26.79%	\$65,000,000				
06/16	20,000,000	8.24%		20,000,000			
07/16	5,000,000	2.06%		5,000,000			
08/16	10,000,000	4.12%		10,000,000			
09/16	10,000,000	4.12%		10,000,000			
10/16	18,108,997	7.46%		5,000,000		\$13,108,997	
11/16							
12/16	5,000,000	2.06%		5,000,000			
01/17	5,000,000	2.06%		5,000,000			
02/17	5,000,000	2.06%		5,000,000			
03/17	5,000,000	2.06%		5,000,000			
04/17							
SUB-TOTAL							
	\$148,108,997	61.05%	\$65,000,000	\$70,000,000		\$13,108,997	
13 Months - 3 YEARS							
05/01/17-07/30/17	5,000,000	2.06%		5,000,000			
08/01/17 - 10/31/2017	20,000,000	8.24%		20,000,000			
11/30/17 - 1/31/2018	15,000,000	6.18%		15,000,000			
02/01/2018-04/31/2018	25,000,000	10.30%		25,000,000			
05/01/2018-07/30/18	21,000,000	8.66%		21,000,000			
04/30/2036	8,496,575	3.50%					8,496,575
TOTALS	\$242,605,572	100.00%	\$65,000,000	\$156,000,000		\$13,108,997	\$8,496,575

% OF PORTFOLIO

26.79%

64.31%

5.40%

3.50%

Irvine Ranch Water District
 Summary of Real Estate
 3/31/2016

	<u>ACQUISITION DATE</u>	<u>PROPERTY TYPE</u>	<u>OWNERSHIP INTEREST</u>	<u>ORIGINAL COST</u>	<u>RATE OF RETURN QUARTER ENDED Mar-16</u>
Sycamore Canyon	Dec-92	Apartments	Fee Simple	\$ 43,550,810	17.84%
Wood Canyon Villas	Jun-91	Apartments	Limited Partner	\$ 6,000,000	8.58%
ITC (230 Commerce)	Jul-03	Office Building	Fee Simple	\$ 5,739,845	7.77%
Waterworks Business Pk.	Nov-08	Research & Dev.	Fee Simple	\$ 8,630,577	5.11%
Sand Canyon Professional Center	Jul-12	Medical Office	Fee Simple	\$ 8,648,594	8.28%
				<u>\$ 72,569,826</u>	<u>13.63%</u>

IRVINE RANCH WATER DISTRICT INVESTMENT SUMMARY REPORT
INVESTMENT ACTIVITY
May-16

MATURITIES/SALES/CALLS

PURCHASES

DATE	SECURITY TYPE	PAR	YIELD	Settlement Date	Maturity Date	SECURITY TYPE	PAR	YIELD TO MATURITY
5/4/2016	FHLB - Note	\$3,000,000	0.32%	5/13/2016	5/21/2018	FNMA - Note	\$5,000,000	0.77%
5/13/2016	FHLMC - Note	\$5,000,000	0.24%	5/16/2016	5/16/2018	FFCB - Note	\$5,000,000	0.80%
5/15/2016	FHLMC - Note	\$5,000,000	0.60%	5/24/2016	5/24/2018	FHLB - Note	\$11,000,000	1.00%
5/18/2016	FHLB - Note	\$5,000,000	0.31%					
5/27/2016	FHLMC - Note	\$50,002,000	0.30%					

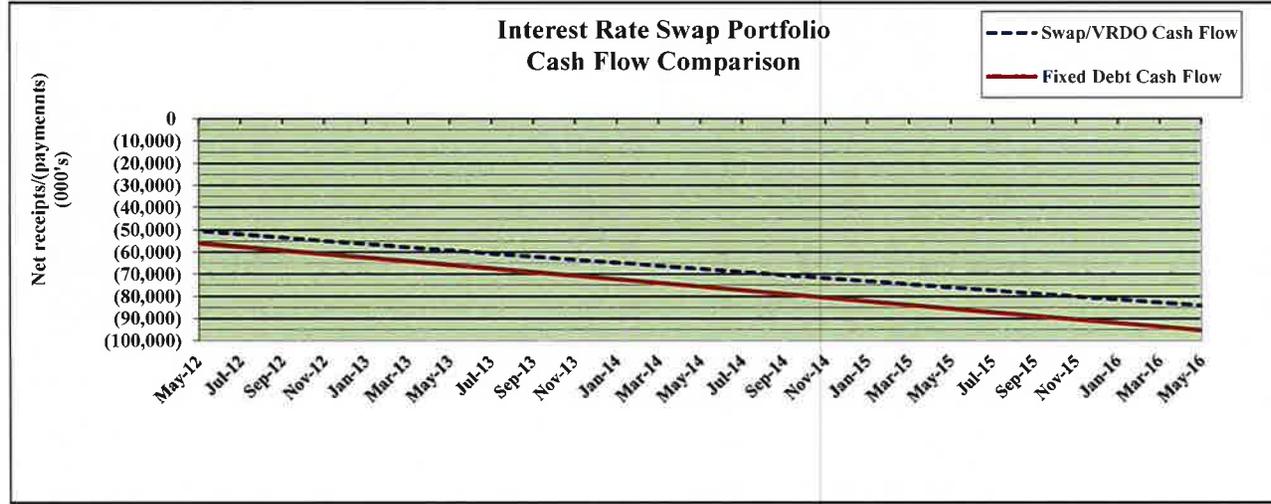
**IRVINE RANCH WATER DISTRICT
INTEREST RATE SWAP MONTHLY SUMMARY REPORT - DETAIL
May 31, 2016**

LIBOR Avg %	Prior Mo.	Current Mo.	12-Mo Avg
	0.44%	0.44%	0.31%

Current Fiscal Year Active Swaps								Cash Flow				Mark to Market		
Effective Date	Maturity Date	Years to Maturity	Counter Party	Notional Amt	Type	Base Index	Fixed Rate	Cash Flow			(Since 6/06)	Mark to Market		
								Prior Month	Current Month	Fiscal YTD	Cumulative Cash Flow	Current Mark to Market	Notional Difference	
Fixed Payer Swaps - By Effective Date														
6/4/2006	6/4/2019	3.0	ML	\$ 20,000,000	FXP	LIBOR	6.200%	(89,399)	(102,473)	\$ (1,083,181)	\$ (9,738,148)	\$ 16,916,047	\$ (3,083,953)	
6/4/2006	6/4/2019	3.0	CG	20,000,000	FXP	LIBOR	6.200%	(89,399)	(102,473)	(1,083,181)	(9,738,148)	16,913,242	(3,086,758)	
6/17/2006	6/17/2019	3.0	CG	30,000,000	FXP	LIBOR	6.140%	(132,657)	(152,129)	(1,607,905)	(14,445,808)	25,372,352	(4,627,648)	
3/10/2007	3/10/2029	12.8	ML	30,000,000	FXP	LIBOR	5.687%	(122,109)	(139,988)	(1,483,232)	(12,993,040)	16,272,888	(13,727,112)	
3/10/2007	3/10/2029	12.8	CG	30,000,000	FXP	LIBOR	5.687%	(122,109)	(139,988)	(1,483,232)	(12,993,040)	16,201,105	(13,798,895)	
Totals/Weighted Avgs				7.5	\$ 130,000,000		5.949%	\$ (555,673)	\$ (637,051)	\$ (6,740,731)	\$ (59,908,185)	\$ 91,675,634	\$ (38,324,366)	
Total Current Year Active Swaps					\$ 130,000,000			\$ (555,673)	\$ (637,051)	\$ (6,740,731)	\$ (59,908,185)	\$ 91,675,634	\$ (38,324,366)	

Current Fiscal Year Terminated Swaps								Cash Flow				Mark to Market	
Effective Date	Maturity Date		Counter Party	Notional Amt	Type	Base Index	Fixed Rate	Cash Flow			Mark to Market		
								Prior Month	Current Month	Fiscal YTD	Cumulative Cash Flow	Current Mark to Market	Notional Difference
Total Current Year Terminated Swaps								\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Current Fiscal Year - Total Swaps								Cash Flow				Mark to Market	
Effective Date	Maturity Date		Counter Party	Notional Amt	Type	Base Index	Fixed Rate	Cash Flow			Mark to Market		
								Prior Month	Current Month	Fiscal YTD	Cumulative Cash Flow	Current Mark to Market	Notional Difference
Total Current Year Active & Terminated Swaps								\$ (555,673)	\$ (637,051)	\$ (6,740,731)	\$ (59,908,185)	\$ 91,675,634	\$ (38,324,366)



Cash Flow Comparison	
Synthetic Fixed vs. Fixed Rate Debt	
<u>Cash Flow to Date</u>	
Synthetic Fixed =	\$84,287,532
Fixed Rate =	\$96,275,887
<u>Assumptions:</u>	
- Fixed rate debt issued at 5.10% in Jun-06, and 4.93% in Mar-07 (estimated TE rates - Bloomberg)	
- 'Synthetic' includes swap cash flow + interest + fees to date	

Exhibit "C"

MONTHLY SUMMARY OF PAYROLL ACH PAYMENTS

**May
2016**

	AMOUNT	VENDOR	PURPOSE
5/13/2016	804,060.43	BANK OF AMERICA	ACH Payments for Payroll
5/27/2016	807,962.79	BANK OF AMERICA	ACH Payments for Payroll
	<u>\$1,612,023.22</u>		

Exhibit "D"

>

IRWD Ledger

Void Payment Register

Report Date: 01-JUN-2016 17:07

Include Zero Amount Payments: Yes
 Display Payee Address: No

Period From: 01-MAY-16

Page: 1
 To: 31-MAY-16
 Date: Void Date

Bank: Bank of America N.A.

Branch: Los Angeles

Account: Checking AP and PR

Bank Account Currency: USD

Payment Currency: USD (US Dollar)

Payment Number	Date	Payee Name	Site	Address	Payment Amount	Void Date

Payment Document: IRWD CHECK						

365026	04-FEB-16	STICE COMPANY INC		PAY	1,025.00	31-MAY-16
365053	04-FEB-16	WEISS, LOUIS		PAY	11.81	31-MAY-16
365059	04-FEB-16	Cortez, Malcolm A (Malcolm)	HOME		73.20	25-MAY-16
366811	18-APR-16	CALIFORNIA DEPT OF FISH & G	3883 RUFFIN RD		1,474.25	05-MAY-16

Payment Document Subtotal 2,584.26

Bank Account Subtotal 2,584.26

Report Total 2,584.26

Report Count: 4

Voids

*** End of Report ***

>

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 1
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367199		03-MAY-16	JCI JONES CHEMICALS INC	CINCINNATI	2,920.89	06-MAY-16	2,920.89	Reconciled
367200		03-MAY-16	WESTAMERICA COMMUNICATIONS, INC.	LAKE FOREST	36,928.78	04-MAY-16	36,928.78	Reconciled
367201		05-MAY-16	Compton, Christine A		62.80	10-MAY-16	62.80	Reconciled
367202		05-MAY-16	Moeder, Jacob J (Jacob)		115.00	06-MAY-16	115.00	Reconciled
367203		05-MAY-16	Welch, Kelly A (Kellie)		177.20	10-MAY-16	177.20	Reconciled
367204		05-MAY-16	Burton, Kevin L (Kevin)		115.00	05-MAY-16	115.00	Reconciled
367205		05-MAY-16	Oldewage, Lars D (Lars)		54.54	09-MAY-16	54.54	Reconciled
367206		05-MAY-16	Lewis, Lyndy R		612.07	09-MAY-16	612.07	Reconciled
367207		05-MAY-16	Bennett, Ray R (Ray)		51.12	16-MAY-16	51.12	Reconciled
367208		05-MAY-16	Lao, Richard S		851.39	09-MAY-16	851.39	Reconciled
367209		05-MAY-16	Jacobson, Robert C (Rob)		4.25			Negotiable
367210		05-MAY-16	Nash, Joel	HOME	51.84	09-MAY-16	51.84	Reconciled
367211		05-MAY-16	A STITCH ON TIME.COM		767.34	11-MAY-16	767.34	Reconciled
367212		05-MAY-16	ACCURATE AIR ENGINEERING INC		3,750.41	09-MAY-16	3,750.41	Reconciled
367213		05-MAY-16	ADS LLC		1,936.50	09-MAY-16	1,936.50	Reconciled
367214		05-MAY-16	AFIFI, HOUDA		209.49	25-MAY-16	209.49	Reconciled
367215		05-MAY-16	ALLIANCE RESOURCE CONSULTING LLC		13,500.00	11-MAY-16	13,500.00	Reconciled
367216		05-MAY-16	ALPHA TRAFFIC SERVICES, INC.		570.00	10-MAY-16	570.00	Reconciled
367217		05-MAY-16	APD CONSULTANTS INC		6,805.00	17-MAY-16	6,805.00	Reconciled
367218		05-MAY-16	AQUA BEN CORPORATION		33,611.76	11-MAY-16	33,611.76	Reconciled
367219		05-MAY-16	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA		32,311.25	13-MAY-16	32,311.25	Reconciled
367220		05-MAY-16	AT&T		50.71	11-MAY-16	50.71	Reconciled
367221		05-MAY-16	AT&T		681.09	10-MAY-16	681.09	Reconciled
367222		05-MAY-16	AVISTA TECHNOLOGIES, INC		8,749.41	09-MAY-16	8,749.41	Reconciled
367223		05-MAY-16	BIGWIG MONSTER, LLC		9,600.00	09-MAY-16	9,600.00	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 2
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367224		05-MAY-16	BLACK & VEATCH CORPORATION		275,638.08	12-MAY-16	275,638.08	Reconciled
367225		05-MAY-16	BURKE, WILLIAMS & SORENSEN, LLP		2,015.00	09-MAY-16	2,015.00	Reconciled
367226		05-MAY-16	BUSH & ASSOCIATES INC		4,898.00			Negotiable
367227		05-MAY-16	BUTLER BOX & STAKE INC		2,110.64	09-MAY-16	2,110.64	Reconciled
367228		05-MAY-16	C WELLS PIPELINE MATERIALS INC		7,550.03	13-MAY-16	7,550.03	Reconciled
367229		05-MAY-16	CALIFORNIA BARRICADE INC		6,587.50	11-MAY-16	6,587.50	Reconciled
367230		05-MAY-16	CALIFORNIA PACIFIC HOMES		114.97	17-MAY-16	114.97	Reconciled
367231		05-MAY-16	CANON SOLUTIONS AMERICA, INC.		628.46	09-MAY-16	628.46	Reconciled
367232		05-MAY-16	CAPTIVE AUDIENCE MARKETING INC.		85.32	10-MAY-16	85.32	Reconciled
367233		05-MAY-16	CART MART INC.		24,371.82	09-MAY-16	24,371.82	Reconciled
367234		05-MAY-16	CHEM TECH INTERNATIONAL INC		18,157.23	18-MAY-16	18,157.23	Reconciled
367235		05-MAY-16	CITY OF ORANGE		126.59	09-MAY-16	126.59	Reconciled
367236		05-MAY-16	CITY OF SANTA ANA		18,980.06	13-MAY-16	18,980.06	Reconciled
367237		05-MAY-16	CLA-VAL COMPANY		2,440.56	09-MAY-16	2,440.56	Reconciled
367238		05-MAY-16	COMMERCIAL DOOR OF ORANGE COUNTY,		4,464.72	10-MAY-16	4,464.72	Reconciled

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
367239	05-MAY-16	INC.	COUNTY OF ORANGE		131.04	09-MAY-16	131.04	Reconciled
367240	05-MAY-16	COX COMMUNICATIONS, INC.			107.77	09-MAY-16	107.77	Reconciled
367241	05-MAY-16	CUMMINS PACIFIC, LLC			481.50	09-MAY-16	481.50	Reconciled
367242	05-MAY-16	D & H WATER SYSTEMS INC.			317.72	10-MAY-16	317.72	Reconciled
367243	05-MAY-16	DB INDUSTRIAL SUPPLY CO			767.58	09-MAY-16	767.58	Reconciled
367244	05-MAY-16	DEE JASPAR & ASSOCIATES, INC.			5,168.91	27-MAY-16	5,168.91	Reconciled
367245	05-MAY-16	DELPHIN COMPUTER SUPPLY			226.80	09-MAY-16	226.80	Reconciled
367246	05-MAY-16	DEVISE FABRICATION, LLC			2,090.44	09-MAY-16	2,090.44	Reconciled
367247	05-MAY-16	DILYTICS INC			4,350.98	10-MAY-16	4,350.98	Reconciled
367248	05-MAY-16	DMS FACILITY SERVICES, INC.			16,516.93	12-MAY-16	16,516.93	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 3
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367249	05-MAY-16	DUDEK			555.00	11-MAY-16	555.00	Reconciled
367250	05-MAY-16	E.J. MEYER COMPANY, INC.			25,190.00	11-MAY-16	25,190.00	Reconciled
367251	05-MAY-16	E.J. MEYER COMPANY, INC.			478,610.00	11-MAY-16	478,610.00	Reconciled
367252	05-MAY-16	ECO SERVICES LLC			3,963.10	11-MAY-16	3,963.10	Reconciled
367253	05-MAY-16	ECOMOTION, INC.			8,482.16	11-MAY-16	8,482.16	Reconciled
367254	05-MAY-16	ELECTRICAL RELIABILITY SERVICES INC			4,993.00	09-MAY-16	4,993.00	Reconciled
367255	05-MAY-16	ELITE EQUIPMENT, INC.			434.52	09-MAY-16	434.52	Reconciled
367256	05-MAY-16	ENVIRONMENTAL ENGINEERING AND CONTRACTING, INC.			24,670.56	12-MAY-16	24,670.56	Reconciled
367257	05-MAY-16	ENVIRONMENTAL RESOURCE ASSOCIATES			1,483.63	10-MAY-16	1,483.63	Reconciled
367258	05-MAY-16	ETHAN ALLEN INC			84.91			Negotiable
367259	05-MAY-16	FARRELL & ASSOCIATES			165.86	11-MAY-16	165.86	Reconciled
367260	05-MAY-16	FEDEX			334.03	10-MAY-16	334.03	Reconciled
367261	05-MAY-16	FEDEX NATIONAL LTL, INC			1,259.47	09-MAY-16	1,259.47	Reconciled
367262	05-MAY-16	FERGUSON ENTERPRISES, INC.			3,780.00	09-MAY-16	3,780.00	Reconciled
367263	05-MAY-16	FIDELITY SECURITY LIFE INSURANCE COMPANY			6,338.59	10-MAY-16	6,338.59	Reconciled
367264	05-MAY-16	FIRST CHOICE SERVICES			1,114.04	11-MAY-16	1,114.04	Reconciled
367265	05-MAY-16	FISERV			290.75	09-MAY-16	290.75	Reconciled
367266	05-MAY-16	FISHER SCIENTIFIC COMPANY LLC			324.29	09-MAY-16	324.29	Reconciled
367267	05-MAY-16	FRANK LA PLACA EXTERMINATING, INC.			175.00	13-MAY-16	175.00	Reconciled
367268	05-MAY-16	GANAHL LUMBER CO.			669.06	11-MAY-16	669.06	Reconciled
367269	05-MAY-16	GRAINGER			5,644.89	09-MAY-16	5,644.89	Reconciled
367270	05-MAY-16	GRAYBAR ELECTRIC COMPANY			2,830.05	09-MAY-16	2,830.05	Reconciled
367271	05-MAY-16	HACH COMPANY			2,172.87	09-MAY-16	2,172.87	Reconciled
367272	05-MAY-16	HARDY & HARPER INC			16,845.00	11-MAY-16	16,845.00	Reconciled
367273	05-MAY-16	HDR ENGINEERING INC			13,378.90	12-MAY-16	13,378.90	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 4
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367274	05-MAY-16	HEALTH SCIENCE ASSOCIATES, INC.			1,264.50	17-MAY-16	1,264.50	Reconciled
367275	05-MAY-16	HELPMATES STAFFING SERVICES			22,258.30	10-MAY-16	22,258.30	Reconciled
367276	05-MAY-16	HILL BROTHERS CHEMICAL COMPANY			3,216.00	09-MAY-16	3,216.00	Reconciled
367277	05-MAY-16	HOME DEPOT USA INC			1,222.41	13-MAY-16	1,222.41	Reconciled
367278	05-MAY-16	HSIEH, ANYI			77.19	10-MAY-16	77.19	Reconciled

367279	05-MAY-16	HYDRO INTERNATIONAL	497.30	13-MAY-16	497.30	Reconciled
367280	05-MAY-16	IDENTICARD SYSTEMS WORLDWIDE	718.45	10-MAY-16	718.45	Reconciled
367281	05-MAY-16	INDUSTRIAL METAL SUPPLY CO	214.17	09-MAY-16	214.17	Reconciled
367282	05-MAY-16	IRVINE CHAMBER OF COMMERCE	1,600.00	18-MAY-16	1,600.00	Reconciled
367283	05-MAY-16	IRVINE COMPANY	100.00	11-MAY-16	100.00	Reconciled
367284	05-MAY-16	IRVINE PIPE & SUPPLY INC	4,422.69	09-MAY-16	4,422.69	Reconciled
367285	05-MAY-16	ITURZAETA, ANNIE	36.57	09-MAY-16	36.57	Reconciled
367286	05-MAY-16	JACOBS PROJECT MANAGEMENT CO.	35,000.00	12-MAY-16	35,000.00	Reconciled
367287	05-MAY-16	JCI JONES CHEMICALS INC	5,505.50	09-MAY-16	5,505.50	Reconciled
367288	05-MAY-16	JOHN MICHAEL COVAS	195.80	20-MAY-16	195.80	Reconciled
367289	05-MAY-16	JONES, AARON	42.81	09-MAY-16	42.81	Reconciled
367290	05-MAY-16	KILL-N-BUGS TERMITE AND PEST CONTROL SERVICES	650.00	11-MAY-16	650.00	Reconciled
367291	05-MAY-16	KIMBALL MIDWEST	1,682.04	11-MAY-16	1,682.04	Reconciled
367292	05-MAY-16	KONECRANES INC	2,007.00	10-MAY-16	2,007.00	Reconciled
367293	05-MAY-16	KWOK, DAVID	17.69	11-MAY-16	17.69	Reconciled
367294	05-MAY-16	LA HABRA FENCE COMPANY INC	9,986.00	10-MAY-16	9,986.00	Reconciled
367295	05-MAY-16	LANDCARE HOLDINGS, INC.	26,222.43	11-MAY-16	26,222.43	Reconciled
367296	05-MAY-16	LOPREST WATER TREATMENT COMPANY	1,852.44	09-MAY-16	1,852.44	Reconciled
367297	05-MAY-16	LUBRICATION ENGINEERS, INC.	1,696.38	09-MAY-16	1,696.38	Reconciled
367298	05-MAY-16	MARTIN GUERRA	337.50			Negotiable
367299	05-MAY-16	MC FADDEN-DALE INDUSTRIAL	55.72	10-MAY-16	55.72	Reconciled
367300	05-MAY-16	MC MASTER CARR SUPPLY CO	115.07	09-MAY-16	115.07	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 5
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367301		05-MAY-16	MCR TECHNOLOGIES INC		151.20	09-MAY-16	151.20	Reconciled
367302		05-MAY-16	MICHAEL BAKER INTERNATIONAL, INC.		400.00	09-MAY-16	400.00	Reconciled
367303		05-MAY-16	MISCOWATER		49,151.36	16-MAY-16	49,151.36	Reconciled
367304		05-MAY-16	MOORE INDUSTRIES INTERNATIONAL, INC.		542.15	10-MAY-16	542.15	Reconciled
367305		05-MAY-16	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY		600.00	09-MAY-16	600.00	Reconciled
367306		05-MAY-16	MUTUAL PROPANE		75.72	10-MAY-16	75.72	Reconciled
367307		05-MAY-16	NATURAL COMMUNITIES COALITION		97.57	11-MAY-16	97.57	Reconciled
367308		05-MAY-16	NATURALWELL, LLC		990.00	09-MAY-16	990.00	Reconciled
367309		05-MAY-16	NMG GEOTECHNICAL INC		12,228.20			Negotiable
367310		05-MAY-16	NORTHWOOD PLACE APTS		531.61	12-MAY-16	531.61	Reconciled
367311		05-MAY-16	O'HAREN GOVERNMENT RELATIONS		6,500.00	10-MAY-16	6,500.00	Reconciled
367312		05-MAY-16	OLIN CORPORATION		22,832.83	12-MAY-16	22,832.83	Reconciled
367313		05-MAY-16	ONESOURCE DISTRIBUTORS LLC		657.29	09-MAY-16	657.29	Reconciled
367314		05-MAY-16	ORANGE COUNTY AUTO PARTS CO		889.35	09-MAY-16	889.35	Reconciled
367315		05-MAY-16	ORANGE COUNTY TREASURER		133.90	09-MAY-16	133.90	Reconciled
367316		05-MAY-16	PACIFIC COAST BOLT CORP		7,701.49	11-MAY-16	7,701.49	Reconciled
367317		05-MAY-16	PIPELOGIX INC		1,980.00	10-MAY-16	1,980.00	Reconciled
367318		05-MAY-16	PIVOT INTERIORS INC		204.16	09-MAY-16	204.16	Reconciled
367319		05-MAY-16	PRAXAIR DISTRIBUTION INC		224.22	09-MAY-16	224.22	Reconciled
367320		05-MAY-16	PTI SAND & GRAVEL INC		581.15	10-MAY-16	581.15	Reconciled
367321		05-MAY-16	PYRO-COMM SYSTEMS INC		185.00	09-MAY-16	185.00	Reconciled
367322		05-MAY-16	QUINN COMPANY		5,113.66	09-MAY-16	5,113.66	Reconciled
367323		05-MAY-16	R.F. MACDONALD CO.		1,370.52	09-MAY-16	1,370.52	Reconciled
367324		05-MAY-16	RAM AIR ENGINEERING INC		6,117.34	10-MAY-16	6,117.34	Reconciled
367325		05-MAY-16	RDSK INC		171.31			Negotiable

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07

BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 6
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367326		05-MAY-16	REED, JAMES D		1,930.00	24-MAY-16	1,930.00	Reconciled
367327		05-MAY-16	REFRIGERATION SUPPLIES DISTRIBUTOR		436.59	10-MAY-16	436.59	Reconciled
367328		05-MAY-16	RELIANCE SAFETY CONSULTANTS, INC.		4,500.00	11-MAY-16	4,500.00	Reconciled
367329		05-MAY-16	RESPONSE ENVELOPE, INC		2,700.46	13-MAY-16	2,700.46	Reconciled
367330		05-MAY-16	RINCON TRUCK CENTER INC.		1,652.19	09-MAY-16	1,652.19	Reconciled
367331		05-MAY-16	SANTIAGO AQUEDUCT COMMISSION		77,977.35	10-MAY-16	77,977.35	Reconciled
367332		05-MAY-16	SCHINDLER ELEVATOR CORPORATION		180.14	10-MAY-16	180.14	Reconciled
367333		05-MAY-16	SHAMROCK SUPPLY CO INC		1,655.85	09-MAY-16	1,655.85	Reconciled
367334		05-MAY-16	SIEMENS INDUSTRY INC		9,932.03	09-MAY-16	9,932.03	Reconciled
367335		05-MAY-16	SITMATIC		745.35	09-MAY-16	745.35	Reconciled
367336		05-MAY-16	SOUTHERN CALIFORNIA EDISON COMPANY		462,189.14	06-MAY-16	462,189.14	Reconciled
367337		05-MAY-16	SOUTHERN CALIFORNIA SECURITY CENTER, INC.		358.45	19-MAY-16	358.45	Reconciled
367338		05-MAY-16	SOUTHERN COUNTIES LUBRICANTS LLC		2,315.60	09-MAY-16	2,315.60	Reconciled
367339		05-MAY-16	STANTEC CONSULTING SERVICES INC.		9,762.50	09-MAY-16	9,762.50	Reconciled
367340		05-MAY-16	SUN-STAR ELECTRIC, INC.		23,311.07	12-MAY-16	23,311.07	Reconciled
367341		05-MAY-16	SUNSHINE SUPPLY COMPANY, INC.		20.52	09-MAY-16	20.52	Reconciled
367342		05-MAY-16	SURI, SIDDHARPH		33.53	09-MAY-16	33.53	Reconciled
367343		05-MAY-16	SWAINS ELECTRIC MOTOR SERVICE		15,882.67	13-MAY-16	15,882.67	Reconciled
367344		05-MAY-16	TESTAMERICA LABORATORIES, INC		384.30	11-MAY-16	384.30	Reconciled
367345		05-MAY-16	TETRA TECH, INC		2,966.40	09-MAY-16	2,966.40	Reconciled
367346		05-MAY-16	THE IRVINE COMPANY LLC		2,104.07	09-MAY-16	2,104.07	Reconciled
367347		05-MAY-16	THE PARK @ SPECTRUM APARTMENTS		17,203.75			Negotiable

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 7
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367348		05-MAY-16	THYSSENKRUPP ELEVATOR CORPORATION		179.64	09-MAY-16	179.64	Reconciled
367349		05-MAY-16	TROPICAL PLAZA NURSERY INC		3,434.15	09-MAY-16	3,434.15	Reconciled
367350		05-MAY-16	TRUCPARCO		1,765.44	11-MAY-16	1,765.44	Reconciled
367351		05-MAY-16	UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA		925.50	10-MAY-16	925.50	Reconciled
367352		05-MAY-16	UNITED PARCEL SERVICE INC		35.27	09-MAY-16	35.27	Reconciled
367353		05-MAY-16	UNITED STATES POST OFFICE		27,083.33	13-MAY-16	27,083.33	Reconciled
367354		05-MAY-16	USA BLUEBOOK		1,547.01	11-MAY-16	1,547.01	Reconciled
367355		05-MAY-16	VERIZON WIRELESS SERVICES LLC		1,817.05	10-MAY-16	1,817.05	Reconciled
367356		05-MAY-16	VWR INTERNATIONAL, LLC		1,453.72	10-MAY-16	1,453.72	Reconciled
367357		05-MAY-16	WALTERS WHOLESALE ELECTRIC		1,870.11	11-MAY-16	1,870.11	Reconciled
367358		05-MAY-16	WASTE MANAGEMENT OF ORANGE COUNTY		1,837.20	09-MAY-16	1,837.20	Reconciled
367359		05-MAY-16	WATERLINE TECHNOLOGIES INC		4,118.00	09-MAY-16	4,118.00	Reconciled
367360		05-MAY-16	WAXIE'S ENTERPRISES, INC		444.68	09-MAY-16	444.68	Reconciled
367361		05-MAY-16	WECK LABORATORIES INC		565.00	11-MAY-16	565.00	Reconciled

367362	05-MAY-16	WELLS TAPPING SERVICE INC		350.00	10-MAY-16	350.00	Reconciled
367363	05-MAY-16	WESTAMERICA COMMUNICATIONS, INC.		7,545.67	09-MAY-16	7,545.67	Reconciled
367364	05-MAY-16	WIRELESS WATCHDOGS, LLC		492.00	10-MAY-16	492.00	Reconciled
367365	05-MAY-16	WOLF, BENJAMIN		538.51	16-MAY-16	538.51	Reconciled
367366	05-MAY-16	XYLEM DEWATERING SOLUTIONS INC		2,970.00	09-MAY-16	2,970.00	Reconciled
367367	12-MAY-16	Mossbarger, Anthony J (Tony)		379.84	12-MAY-16	379.84	Reconciled
367368	12-MAY-16	Kelly, Cheryl D (Cheryl)		138.07	23-MAY-16	138.07	Reconciled
367369	12-MAY-16	Blaska, Erika M (Erika)		1,200.00	12-MAY-16	1,200.00	Reconciled
367370	12-MAY-16	Barreto, Gustavo		176.00	24-MAY-16	176.00	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 8
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367371		12-MAY-16	Oldewage, Lars D (Lars)		395.37	16-MAY-16	395.37	Reconciled
367372		12-MAY-16	Cortez, Malcolm A (Malcolm)		85.86	24-MAY-16	85.86	Reconciled
367373		12-MAY-16	Bowers, Marie		312.55	13-MAY-16	312.55	Reconciled
367374		12-MAY-16	Ramos, Martha A (Marta)		28.81	24-MAY-16	28.81	Reconciled
367375		12-MAY-16	Cook, Paul A (Paul)		66.74	17-MAY-16	66.74	Reconciled
367376		12-MAY-16	Weatherby, Thomas M (Thom)		230.00	16-MAY-16	230.00	Reconciled
367377		12-MAY-16	ORANGE COUNTY SANITATION DISTRICT	FOUNTAIN VALLEY	3,176,277.34	18-MAY-16	3,176,277.34	Reconciled
367378		12-MAY-16	A&A WIPING CLOTH CO		1,136.16	16-MAY-16	1,136.16	Reconciled
367379		12-MAY-16	AAF INTERNATIONAL		3,933.62	16-MAY-16	3,933.62	Reconciled
367380		12-MAY-16	AIRGAS, INC.		855.10	16-MAY-16	855.10	Reconciled
367381		12-MAY-16	ALEXANDER'S CONTRACT SERVICES, INC.		111,037.19	18-MAY-16	111,037.19	Reconciled
367382		12-MAY-16	ALLIANCE RESOURCE CONSULTING LLC		13,500.00	18-MAY-16	13,500.00	Reconciled
367383		12-MAY-16	ALPHA TRAFFIC SERVICES, INC.		1,140.00	19-MAY-16	1,140.00	Reconciled
367384		12-MAY-16	ARCADIS U.S., INC.		72,580.24	23-MAY-16	72,580.24	Reconciled
367385		12-MAY-16	AT&T		1,679.12	17-MAY-16	1,679.12	Reconciled
367386		12-MAY-16	AUTOZONE PARTS, INC.		293.59	17-MAY-16	293.59	Reconciled
367387		12-MAY-16	B & B METALS, INC.		150.12	16-MAY-16	150.12	Reconciled
367388		12-MAY-16	BAKER RANCH COMMUNITY ASSOCIATION		32.93	27-MAY-16	32.93	Reconciled
367389		12-MAY-16	BANK OF NEW YORK MELLON TRUST COMPANY NA		2,885.00	17-MAY-16	2,885.00	Reconciled
367390		12-MAY-16	BATTERIES PLUS AND BATTERIES PLUS BULBS		48.55	16-MAY-16	48.55	Reconciled
367391		12-MAY-16	BELL TOWER FLORIST & GIFTS		122.03	18-MAY-16	122.03	Reconciled
367392		12-MAY-16	BIOMAGIC INC		12,220.42	18-MAY-16	12,220.42	Reconciled
367393		12-MAY-16	BLAIRS TOWING INC		75.00			Negotiable
367394		12-MAY-16	BRUCE NEWELL		1,316.00	18-MAY-16	1,316.00	Reconciled
367395		12-MAY-16	CALIFORNIA BARRICADE INC		11,694.90	24-MAY-16	11,694.90	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 9
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367396		12-MAY-16	CALIFORNIA PACIFIC HOMES		606.41	17-MAY-16	606.41	Reconciled
367397		12-MAY-16	CANON FINANCIAL SERVICES, INC		1,315.44	17-MAY-16	1,315.44	Reconciled
367398		12-MAY-16	CANON SOLUTIONS AMERICA, INC.		677.25	16-MAY-16	677.25	Reconciled
367399		12-MAY-16	CARL WARREN & CO		96.00	16-MAY-16	96.00	Reconciled
367400		12-MAY-16	CDW GOVERNMENT LLC		40.80	19-MAY-16	40.80	Reconciled
367401		12-MAY-16	CDW GOVERNMENT LLC		461.68	19-MAY-16	461.68	Reconciled
367402		12-MAY-16	CHARLES P CROWLEY		990.96	26-MAY-16	990.96	Reconciled

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
367403		12-MAY-16	COMPANY INC CHO DESIGN ASSOCIATES, INC		11,900.00	19-MAY-16	11,900.00	Reconciled
367404		12-MAY-16	CHOU, SHU		554.01	16-MAY-16	554.01	Reconciled
367405		12-MAY-16	CIVILSOURCE, INC.		1,942.50	27-MAY-16	1,942.50	Reconciled
367406		12-MAY-16	CLEAN ENERGY		1,192.93	18-MAY-16	1,192.93	Reconciled
367407		12-MAY-16	CLEARINGHOUSE		477.67	16-MAY-16	477.67	Reconciled
367408		12-MAY-16	COMMERCIAL DOOR OF ORANGE COUNTY, INC.		638.96	18-MAY-16	638.96	Reconciled
367409		12-MAY-16	CR & R INCORPORATED		135.65	17-MAY-16	135.65	Reconciled
367410		12-MAY-16	CURT PRINGLE AND ASSOCIATES		10,000.00	23-MAY-16	10,000.00	Reconciled
367411		12-MAY-16	D & H WATER SYSTEMS INC.		401.58	20-MAY-16	401.58	Reconciled
367412		12-MAY-16	DDB ENGINEERING, INC.		2,160.00	19-MAY-16	2,160.00	Reconciled
367413		12-MAY-16	DUKE'S ROOT CONTROL INC		50,356.19	23-MAY-16	50,356.19	Reconciled
367414		12-MAY-16	DUNHAM, SCOTT		114.47	17-MAY-16	114.47	Reconciled
367415		12-MAY-16	EMPLOYEE BENEFIT SPECIALIST, INC		1,120.00	17-MAY-16	1,120.00	Reconciled
367416		12-MAY-16	EMPLOYMENT DEVELOPMENT DEPARTMENT		8,016.15	16-MAY-16	8,016.15	Reconciled
367417		12-MAY-16	ENVIRONMENTAL RESOURCE ASSOCIATES		120.08	18-MAY-16	120.08	Reconciled
367418		12-MAY-16	EXECUTIVE LIGHTING & ELECTRIC		2,293.22	17-MAY-16	2,293.22	Reconciled
367419		12-MAY-16	FEDEX		165.85	18-MAY-16	165.85	Reconciled
367420		12-MAY-16	FISHER SCIENTIFIC COMPANY LLC		2,591.61	16-MAY-16	2,591.61	Reconciled
367421		12-MAY-16	FITCH RATINGS, INC.		8,000.00	19-MAY-16	8,000.00	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 10
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367422		12-MAY-16	FLEET SOLUTIONS LLC		4,495.85	17-MAY-16	4,495.85	Reconciled
367423		12-MAY-16	FLW, INC.		1,467.97	17-MAY-16	1,467.97	Reconciled
367424		12-MAY-16	FRONTIER CALIFORNIA INC.		948.98	18-MAY-16	948.98	Reconciled
367425		12-MAY-16	GRAINGER		1,331.71	16-MAY-16	1,331.71	Reconciled
367426		12-MAY-16	GRAYBAR ELECTRIC COMPANY		21.40	16-MAY-16	21.40	Reconciled
367427		12-MAY-16	GT INTERNATIONAL LLC		67.66	20-MAY-16	67.66	Reconciled
367428		12-MAY-16	HAAKER EQUIPMENT COMPANY		927.48	17-MAY-16	927.48	Reconciled
367429		12-MAY-16	HACH COMPANY		1,621.30	17-MAY-16	1,621.30	Reconciled
367430		12-MAY-16	HAC, MICHELLE		81.21	17-MAY-16	81.21	Reconciled
367431		12-MAY-16	HARRINGTON INDUSTRIAL PLASTICS LLC		7,203.61	16-MAY-16	7,203.61	Reconciled
367432		12-MAY-16	HD SUPPLY		548.10	17-MAY-16	548.10	Reconciled
367433		12-MAY-16	WATERWORKS LTD HDR ENGINEERING INC		29,189.93	23-MAY-16	29,189.93	Reconciled
367434		12-MAY-16	HELPMATES STAFFING SERVICES		6,734.96	16-MAY-16	6,734.96	Reconciled
367435		12-MAY-16	HILL BROTHERS CHEMICAL COMPANY		5,812.20	16-MAY-16	5,812.20	Reconciled
367436		12-MAY-16	HOME DEPOT USA INC		321.87	19-MAY-16	321.87	Reconciled
367437		12-MAY-16	HUNSAKER & ASSOCIATES IRVINE		896.00	16-MAY-16	896.00	Reconciled
367438		12-MAY-16	IBM CORPORATION		254.00	17-MAY-16	254.00	Reconciled
367439		12-MAY-16	INDUSTRIAL ELECTRIC MACHINERY LLC		225.76	17-MAY-16	225.76	Reconciled
367440		12-MAY-16	INDUSTRIAL NETWORKING SOLUTIONS		1,509.25	16-MAY-16	1,509.25	Reconciled
367441		12-MAY-16	IRVINE PIPE & SUPPLY INC		816.47	16-MAY-16	816.47	Reconciled
367442		12-MAY-16	IRWD EMPLOYEE ASSOCIATION		800.00	13-MAY-16	800.00	Reconciled
367443		12-MAY-16	IRWD-PETTY CASH CUSTODIAN		1,016.86	13-MAY-16	1,016.86	Reconciled
367444		12-MAY-16	JCI JONES CHEMICALS INC		3,236.74	16-MAY-16	3,236.74	Reconciled
367445		12-MAY-16	JOHN ROBINSON CONSULTING, INC.		30,099.00	23-MAY-16	30,099.00	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 11
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)

Payment Type: All

Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367446		12-MAY-16	KAYUGA SOLUTION INC		23,595.00	19-MAY-16	23,595.00	Reconciled
367447		12-MAY-16	KENT & AMY DAHLBERG		24,841.10	19-MAY-16	24,841.10	Reconciled
367448		12-MAY-16	KLEINFELDER, INC.		43,788.00	19-MAY-16	43,788.00	Reconciled
367449		12-MAY-16	LEE, ALEX		12.25	19-MAY-16	12.25	Reconciled
367450		12-MAY-16	LGC GEOTECHNICAL, INC.		8,393.03	16-MAY-16	8,393.03	Reconciled
367451		12-MAY-16	LINKTURE CORP.		6,913.00	18-MAY-16	6,913.00	Reconciled
367452		12-MAY-16	MARINA LANDSCAPE MAINTENANCE, INC.		6,527.82	17-MAY-16	6,527.82	Reconciled
367453		12-MAY-16	MBC APPLIED ENVIRONMENTAL SCIENCES		1,300.00	16-MAY-16	1,300.00	Reconciled
367454		12-MAY-16	MC MASTER CARR SUPPLY CO		320.67	16-MAY-16	320.67	Reconciled
367455		12-MAY-16	MOTION INDUSTRIES INC		1,562.05	16-MAY-16	1,562.05	Reconciled
367456		12-MAY-16	MR CRANE INC		853.30	16-MAY-16	853.30	Reconciled
367457		12-MAY-16	MUNICIPAL MAINTENANCE EQUIPMENT INC		35,565.96	20-MAY-16	35,565.96	Reconciled
367458		12-MAY-16	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY		216,755.09	18-MAY-16	216,755.09	Reconciled
367459		12-MAY-16	NAKAE & ASSOCIATES		925.00	16-MAY-16	925.00	Reconciled
367460		12-MAY-16	NATURES IMAGE INC		144.96	17-MAY-16	144.96	Reconciled
367461		12-MAY-16	NEXLEVEL INFORMATION TECHNOLOGY, INC.		2,275.00	24-MAY-16	2,275.00	Reconciled
367462		12-MAY-16	OCTA		1,818.00	16-MAY-16	1,818.00	Reconciled
367463		12-MAY-16	OLIN CORPORATION		13,697.86	18-MAY-16	13,697.86	Reconciled
367464		12-MAY-16	OMEGA INDUSTRIAL SUPPLY, INC.		195.36	16-MAY-16	195.36	Reconciled
367465		12-MAY-16	ONESOURCE DISTRIBUTORS LLC		130.49	16-MAY-16	130.49	Reconciled
367466		12-MAY-16	ORANGE COUNTY AUTO PARTS CO		361.74	16-MAY-16	361.74	Reconciled
367467		12-MAY-16	ORANGE COUNTY FIRE AUTHORITY		242.00	18-MAY-16	242.00	Reconciled
367468		12-MAY-16	ORANGE COUNTY SHERIFF'S OFFICE		62.50	25-MAY-16	62.50	Reconciled
367469		12-MAY-16	OUTSOURCE TECHNICAL LLC		51,451.00	18-MAY-16	51,451.00	Reconciled
367470		12-MAY-16	PACIFIC COAST BOLT CORP		792.72	17-MAY-16	792.72	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 12
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367471		12-MAY-16	PACIFIC GAS AND ELECTRIC COMPANY		24.84	17-MAY-16	24.84	Reconciled
367472		12-MAY-16	PAPER DEPOT DOCUMENT DESTRUCTION LLC		720.00	20-MAY-16	720.00	Reconciled
367473		12-MAY-16	PARKHOUSE TIRE INC		770.60	17-MAY-16	770.60	Reconciled
367474		12-MAY-16	PAYNE & FEARS LLP		9,951.00	17-MAY-16	9,951.00	Reconciled
367475		12-MAY-16	PELLETIER & ASSOCIATES, INC.		1,820.00	16-MAY-16	1,820.00	Reconciled
367476		12-MAY-16	PERS LONG TERM CARE		771.11	16-MAY-16	771.11	Reconciled
367477		12-MAY-16	PRAXAIR DISTRIBUTION INC		584.32	17-MAY-16	584.32	Reconciled
367478		12-MAY-16	PRIDEMARK CONTRACTORS, INC.		819.33	20-MAY-16	819.33	Reconciled
367479		12-MAY-16	PRO MOBILE AUTO DETAILING		600.00	16-MAY-16	600.00	Reconciled
367480		12-MAY-16	PTI SAND & GRAVEL INC		1,028.94	17-MAY-16	1,028.94	Reconciled
367481		12-MAY-16	RAINBOW DISPOSAL CO INC		325.21	20-MAY-16	325.21	Reconciled
367482		12-MAY-16	REAL WATER CONSULTANTS INC.		34,839.00	19-MAY-16	34,839.00	Reconciled
367483		12-MAY-16	RICHARD C. SLADE & ASSOCIATES LLC		11,237.00			Negotiable
367484		12-MAY-16	RINCON TRUCK CENTER INC.		1,010.80	16-MAY-16	1,010.80	Reconciled
367485		12-MAY-16	RINGCLEAR LLC		38.76	16-MAY-16	38.76	Reconciled
367486		12-MAY-16	RODNEY HUNT-FONTAINE INC.		1,464.48	25-MAY-16	1,464.48	Reconciled

367487	12-MAY-16	RS HUGHES COMPANY, INC.		1,409.62	17-MAY-16	1,409.62	Reconciled
367488	12-MAY-16	SANTA ANA BLUE PRINT		109.88	25-MAY-16	109.88	Reconciled
367489	12-MAY-16	SANTA MARGARITA FOR)		1,345.87	16-MAY-16	1,345.87	Reconciled
367490	12-MAY-16	SAVANT CONSTRUCTION INC		857.30	17-MAY-16	857.30	Reconciled
367491	12-MAY-16	SHAMROCK SUPPLY CO INC		268.12	16-MAY-16	268.12	Reconciled
367492	12-MAY-16	SHERWIN WILLIAMS COMPANY		1,325.68	16-MAY-16	1,325.68	Reconciled
367493	12-MAY-16	SIMI VALLEY LANDFILL AND RECYCLING CENTER		604.86	16-MAY-16	604.86	Reconciled
367494	12-MAY-16	SITMATIC		1,155.85	17-MAY-16	1,155.85	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 13
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367495		12-MAY-16	SOFTCHOICE CORPORATION		16,988.40	23-MAY-16	16,988.40	Reconciled
367496		12-MAY-16	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT		612.65	19-MAY-16	612.65	Reconciled
367497		12-MAY-16	SOUTHERN CALIFORNIA EDISON COMPANY		8,895.80	16-MAY-16	8,895.80	Reconciled
367498		12-MAY-16	SPARKLETT'S		353.58	20-MAY-16	353.58	Reconciled
367499		12-MAY-16	SPATIAL WAVE, INC.		5,240.00	18-MAY-16	5,240.00	Reconciled
367500		12-MAY-16	SUSAN A. SIROTA		4,295.00	24-MAY-16	4,295.00	Reconciled
367501		12-MAY-16	THE FALLEN FIRE FIGHTERS RELIEF FUND		500.00	19-MAY-16	500.00	Reconciled
367502		12-MAY-16	THE FURMAN GROUP, INC.		12,673.00	20-MAY-16	12,673.00	Reconciled
367503		12-MAY-16	THE GAS COMPANY		3,286.09	18-MAY-16	3,286.09	Reconciled
367504		12-MAY-16	THE PARKLANDS		2,438.23	24-MAY-16	2,438.23	Reconciled
367505		12-MAY-16	TRI POINTE HOMES, INC.		106.08	17-MAY-16	106.08	Reconciled
367506		12-MAY-16	TROPICAL PLAZA NURSERY INC		673.63	16-MAY-16	673.63	Reconciled
367507		12-MAY-16	TRUCPARCO		1,021.10	18-MAY-16	1,021.10	Reconciled
367508		12-MAY-16	UNITED PARCEL SERVICE INC		51.32	17-MAY-16	51.32	Reconciled
367509		12-MAY-16	USA BLUEBOOK		2,015.95	19-MAY-16	2,015.95	Reconciled
367510		12-MAY-16	UTILITY SYSTEMS SCIENCE & SOFTWARE INC.		4,351.40	17-MAY-16	4,351.40	Reconciled
367511		12-MAY-16	VULCAN MATERIALS COMPANY		1,450.09	16-MAY-16	1,450.09	Reconciled
367512		12-MAY-16	WALTERS WHOLESALE ELECTRIC		2,069.39	18-MAY-16	2,069.39	Reconciled
367513		12-MAY-16	WARE MALCOMB		868.22	16-MAY-16	868.22	Reconciled
367514		12-MAY-16	WASTE MANAGEMENT OF ORANGE COUNTY		2,820.44	17-MAY-16	2,820.44	Reconciled
367515		12-MAY-16	WATERSMART SOFTWARE, INC		17,974.42	20-MAY-16	17,974.42	Reconciled
367516		12-MAY-16	WECK LABORATORIES INC		565.00	16-MAY-16	565.00	Reconciled
367517		12-MAY-16	WILMINGTON INSTRUMENT COMPANY INC		3,516.26	16-MAY-16	3,516.26	Reconciled
367518		12-MAY-16	ZEE MEDICAL SERVICE CO		438.81	16-MAY-16	438.81	Reconciled
367519		13-MAY-16	BRUCE NEWELL	ORANGE	1,316.00	18-MAY-16	1,316.00	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 14
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367520		16-MAY-16	STATE BOARD OF EQUALIZATION	SACRAMENTO	2,762.19	23-MAY-16	2,762.19	Reconciled
367521		19-MAY-16	Murphy, Alexander J (Alexander)		55.00	23-MAY-16	55.00	Reconciled
367522		19-MAY-16	Jackson, Bradley E (Brad)		105.30	26-MAY-16	105.30	Reconciled
367523		19-MAY-16	Fike, Ethan O (Ethan)		164.00	23-MAY-16	164.00	Reconciled
367524		19-MAY-16	Richardson, Kyle		43.19			Negotiable
367525		19-MAY-16	Bonkowski, Leslie A (Leslie)		134.80	23-MAY-16	134.80	Reconciled

367526	19-MAY-16	Lao, Richard S	61.56	31-MAY-16	61.56	Reconciled
367527	19-MAY-16	Moore, Rory M (Rory)	97.18	24-MAY-16	97.18	Reconciled
367528	19-MAY-16	Bonkowski, Thomas J (Thomas)	27.11	23-MAY-16	27.11	Reconciled
367529	19-MAY-16	AIR TECHNOLOGY LABORATORIES	289.00	25-MAY-16	289.00	Reconciled
367530	19-MAY-16	AIRGAS, INC.	1,626.70	23-MAY-16	1,626.70	Reconciled
367531	19-MAY-16	ALL AMERICAN ASPHALT	2,292.12	25-MAY-16	2,292.12	Reconciled
367532	19-MAY-16	ALPHA TRAFFIC SERVICES, INC.	570.00	23-MAY-16	570.00	Reconciled
367533	19-MAY-16	AMERICAN TRAINING RESOURCES, INC	1,079.15	23-MAY-16	1,079.15	Reconciled
367534	19-MAY-16	AN, SICKMON	28.31			Negotiable
367535	19-MAY-16	ANIXTER INC	842.40	23-MAY-16	842.40	Reconciled
367536	19-MAY-16	ANTHEM BLUE CROSS	562.26	24-MAY-16	562.26	Reconciled
367537	19-MAY-16	APPLIED INDUSTRIAL TECHNOLOGIES - CA LLC	13.50	23-MAY-16	13.50	Reconciled
367538	19-MAY-16	AQUA-METRIC SALES COMPANY	13,262.08	31-MAY-16	13,262.08	Reconciled
367539	19-MAY-16	ARC-ZONE.COM, INC	476.53	26-MAY-16	476.53	Reconciled
367540	19-MAY-16	ARCADIS U.S., INC.	13,112.50	26-MAY-16	13,112.50	Reconciled
367541	19-MAY-16	ASHFORD, WALT	294.28	23-MAY-16	294.28	Reconciled
367542	19-MAY-16	AT&T	3,545.90	24-MAY-16	3,545.90	Reconciled
367543	19-MAY-16	AT&T	3,649.06	24-MAY-16	3,649.06	Reconciled
367544	19-MAY-16	AT&T	48.51	25-MAY-16	48.51	Reconciled
367545	19-MAY-16	ATHENS SERVICES	10,207.83	25-MAY-16	10,207.83	Reconciled
367546	19-MAY-16	AUTOZONE PARTS, INC.	338.51	23-MAY-16	338.51	Reconciled
367547	19-MAY-16	BANK OF AMERICA	22,604.86	25-MAY-16	22,604.86	Reconciled
367548	19-MAY-16	BATTERIES PLUS AND BATTERIES PLUS BULBS	541.94	23-MAY-16	541.94	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 15
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367549		19-MAY-16	BDC SPECIAL WASTE		207.20	23-MAY-16	207.20	Reconciled
367550		19-MAY-16	BIGWIG MONSTER, LLC		2,100.00	31-MAY-16	2,100.00	Reconciled
367551		19-MAY-16	BLAIRS TOWING INC		115.00			Negotiable
367552		19-MAY-16	BORCHARD SURVEYING & MAPPING, INC.		6,607.50			Negotiable
367553		19-MAY-16	BRITHINEE ELECTRIC		24,750.84	25-MAY-16	24,750.84	Reconciled
367554		19-MAY-16	BROWN AND CALDWELL		36,577.06	26-MAY-16	36,577.06	Reconciled
367555		19-MAY-16	C WELLS PIPELINE MATERIALS INC		246.24	27-MAY-16	246.24	Reconciled
367556		19-MAY-16	CALIFORNIA BARRICADE INC		1,505.00	24-MAY-16	1,505.00	Reconciled
367557		19-MAY-16	CAMERON-COLE, LLC		2,702.90	24-MAY-16	2,702.90	Reconciled
367558		19-MAY-16	CANON FINANCIAL SERVICES, INC		1,508.05	23-MAY-16	1,508.05	Reconciled
367559		19-MAY-16	CERTIFIED TRANSPORTATION		1,393.82	23-MAY-16	1,393.82	Reconciled
367560		19-MAY-16	CITY OF LAKE FOREST		10,000.00	31-MAY-16	10,000.00	Reconciled
367561		19-MAY-16	CLARKE MOSQUITO CONTROL PRODUCTS, INC.		1,177.55	23-MAY-16	1,177.55	Reconciled
367562		19-MAY-16	CNC ENGINEERING		500.00	24-MAY-16	500.00	Reconciled
367563		19-MAY-16	COASTLINE EQUIPMENT COMPANY		417.00	23-MAY-16	417.00	Reconciled
367564		19-MAY-16	COMMERCIAL ROOFING SYSTEMS INC		7,964.00	27-MAY-16	7,964.00	Reconciled
367565		19-MAY-16	COX COMMUNICATIONS, INC.		109.00	23-MAY-16	109.00	Reconciled
367566		19-MAY-16	CREDENTIAL CHECK CORPORATION		79.20	23-MAY-16	79.20	Reconciled
367567		19-MAY-16	D & H WATER SYSTEMS INC.		636.93	24-MAY-16	636.93	Reconciled
367568		19-MAY-16	DATAZEO, INC.		2,541.52	24-MAY-16	2,541.52	Reconciled
367569		19-MAY-16	DCSE, INC.		10,200.00	27-MAY-16	10,200.00	Reconciled
367570		19-MAY-16	DEE JASPAR & ASSOCIATES, INC.		33,709.29	27-MAY-16	33,709.29	Reconciled
367571		19-MAY-16	DEVISE FABRICATION, LLC		283.00	23-MAY-16	283.00	Reconciled
367572		19-MAY-16	DEX MEDIA INC.		75.75	26-MAY-16	75.75	Reconciled
367573		19-MAY-16	DIRECTV INC		115.98	25-MAY-16	115.98	Reconciled
367574		19-MAY-16	DLT SOLUTIONS LLC		35,272.41	27-MAY-16	35,272.41	Reconciled
367575		19-MAY-16	DPR CONSTRUCTION		1,000.00			Negotiable
367576		19-MAY-16	DRAEGER SAFETY INC		1,572.96	27-MAY-16	1,572.96	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 16
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367577		19-MAY-16	EAGLE AERIAL PHOTOGRAPHY, INC.		18,900.00			Negotiable
367578		19-MAY-16	EBERHARD EQUIPMENT		444.31	23-MAY-16	444.31	Reconciled
367579		19-MAY-16	ECOLOGY CONTROL INDUSTRIES		2,529.16	23-MAY-16	2,529.16	Reconciled
367580		19-MAY-16	EI&C ENGINEERING INC		55,465.00	27-MAY-16	55,465.00	Reconciled
367581		19-MAY-16	ELITE EQUIPMENT, INC.		104.86	27-MAY-16	104.86	Reconciled
367582		19-MAY-16	EMPIREWORKS		683.38	27-MAY-16	683.38	Reconciled
367583		19-MAY-16	ENVIRONMENTAL EXPRESS INC		1,133.28	23-MAY-16	1,133.28	Reconciled
367584		19-MAY-16	ENVIRONMENTAL RESOURCE ASSOCIATES		475.07	24-MAY-16	475.07	Reconciled
367585		19-MAY-16	EXECUTIVE LIGHTING & ELECTRIC		460.69	23-MAY-16	460.69	Reconciled
367586		19-MAY-16	FEDEX		213.22	23-MAY-16	213.22	Reconciled
367587		19-MAY-16	FERGUSON ENTERPRISES, INC.		1,004.40	23-MAY-16	1,004.40	Reconciled
367588		19-MAY-16	FISHER SCIENTIFIC COMPANY LLC		342.18	23-MAY-16	342.18	Reconciled
367589		19-MAY-16	FRONTIER CALIFORNIA INC.		475.47	23-MAY-16	475.47	Reconciled
367590		19-MAY-16	GANAHL LUMBER CO.		6,997.98	25-MAY-16	6,997.98	Reconciled
367591		19-MAY-16	GEIGER BROS		3,942.41	24-MAY-16	3,942.41	Reconciled
367592		19-MAY-16	GRAINGER		1,050.36	23-MAY-16	1,050.36	Reconciled
367593		19-MAY-16	GRAYBAR ELECTRIC COMPANY		113.99	23-MAY-16	113.99	Reconciled
367594		19-MAY-16	HAMILTON, KURT		715.22	24-MAY-16	715.22	Reconciled
367595		19-MAY-16	HARDY & HARPER INC		39,206.50	25-MAY-16	39,206.50	Reconciled
367596		19-MAY-16	HARTFORD LIFE INSURANCE COMPANY		26,309.66	26-MAY-16	26,309.66	Reconciled
367597		19-MAY-16	HEBEISH, HESHAM		165.47	23-MAY-16	165.47	Reconciled
367598		19-MAY-16	HELPMATES STAFFING SERVICES		10,782.50	25-MAY-16	10,782.50	Reconciled
367599		19-MAY-16	HILL BROTHERS CHEMICAL COMPANY		5,790.95	25-MAY-16	5,790.95	Reconciled
367600		19-MAY-16	HILLCREST CONTRACTING, INC.		829.62	23-MAY-16	829.62	Reconciled
367601		19-MAY-16	HO, ANH		391.39	23-MAY-16	391.39	Reconciled
367602		19-MAY-16	HOFFMEYER, LENA		25.00			Negotiable
367603		19-MAY-16	HOME DEPOT USA INC		768.16	31-MAY-16	768.16	Reconciled
367604		19-MAY-16	HONG, ILGU		11.37			Negotiable
367605		19-MAY-16	HYDRANAUTICS		31,308.11	26-MAY-16	31,308.11	Reconciled
367606		19-MAY-16	IBM CORPORATION		925.00	23-MAY-16	925.00	Reconciled
IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07								
BANK: Bank of America N.A.			Branch : Los Angeles		Account: Checking AP and PR		Page: 17	
Bank Account Currency: USD (US Dollar)			Payment Currency: USD (US Dollar)					
Payment Type: All			Display Supplier Address: No					

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367607		19-MAY-16	IDEXX DISTRIBUTION, INC		1,745.26	23-MAY-16	1,745.26	Reconciled
367608		19-MAY-16	INFOSYS LIMITED		25,000.00	26-MAY-16	25,000.00	Reconciled
367609		19-MAY-16	IRVIN, KAREN		403.40			Negotiable
367610		19-MAY-16	IRVINE PIPE & SUPPLY INC		1,266.39	23-MAY-16	1,266.39	Reconciled
367611		19-MAY-16	IVY, JOHNELLA		89.09			Negotiable
367612		19-MAY-16	JELODARI, NARGES		101.19	26-MAY-16	101.19	Reconciled
367613		19-MAY-16	KENNY THE PRINTER		220.71	23-MAY-16	220.71	Reconciled
367614		19-MAY-16	KIM, HAK JUN		33.39	26-MAY-16	33.39	Reconciled
367615		19-MAY-16	KLEINFELDER, INC.		1,331.34	23-MAY-16	1,331.34	Reconciled
367616		19-MAY-16	KONECRANES INC		880.00	23-MAY-16	880.00	Reconciled
367617		19-MAY-16	KURZWEIL, LISA		563.85			Negotiable
367618		19-MAY-16	LEED ELECTRIC, INC.		2,768.78	24-MAY-16	2,768.78	Reconciled
367619		19-MAY-16	LIM, STEPHEN		111.59			Negotiable
367620		19-MAY-16	LU'S LIGHTHOUSE, INC.		1,473.42	23-MAY-16	1,473.42	Reconciled
367621		19-MAY-16	MARVIN GARDENS LLC		295.25	19-MAY-16	295.25	Reconciled
367622		19-MAY-16	MASSEY, STACY		74.24			Negotiable
367623		19-MAY-16	MC MASTER CARR SUPPLY CO		530.87	23-MAY-16	530.87	Reconciled
367624		19-MAY-16	MCCLURG, PATRICIA ANNE		5,000.00	23-MAY-16	5,000.00	Reconciled
367625		19-MAY-16	MEDINA, JAMES		292.87	31-MAY-16	292.87	Reconciled
367626		19-MAY-16	MISCOWATER		1,560.50	26-MAY-16	1,560.50	Reconciled
367627		19-MAY-16	MOBILE MODULAR MANAGEMENT CORPORATION		972.00	24-MAY-16	972.00	Reconciled
367628		19-MAY-16	MORAES, PEDRO		12.31			Negotiable
367629		19-MAY-16	MR CRANE INC		853.30	23-MAY-16	853.30	Reconciled

367630	19-MAY-16	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY		1,015.00	25-MAY-16	1,015.00	Reconciled
367631	19-MAY-16	MUTUAL PROPANE		18.00	23-MAY-16	18.00	Reconciled
367632	19-MAY-16	NAKAE & ASSOCIATES		1,850.00	23-MAY-16	1,850.00	Reconciled
367633	19-MAY-16	NATIONAL READY MIXED CONCRETE CO.		3,989.40	23-MAY-16	3,989.40	Reconciled
367634	19-MAY-16	NEWAGE INDUSTRIES INC		1,649.91	23-MAY-16	1,649.91	Reconciled
367635	19-MAY-16	NEWPORT RIDGE APTS		345.23			Negotiable
367636	19-MAY-16	OC WELDING SERVICES		4,236.28	31-MAY-16	4,236.28	Reconciled
367637	19-MAY-16	OCEAN BLUE ENVIRONMENTAL SERVICES INC		1,141.50	26-MAY-16	1,141.50	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 18
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367638		19-MAY-16	OLIN CORPORATION		14,149.52	26-MAY-16	14,149.52	Reconciled
367639		19-MAY-16	OLSON, HAGEL & FISHBURN, LLP		392.00	23-MAY-16	392.00	Reconciled
367640		19-MAY-16	ORANGE COUNTY AUTO PARTS CO		221.25	23-MAY-16	221.25	Reconciled
367641		19-MAY-16	OUTFRONT MEDIA LLC		19,148.00	27-MAY-16	19,148.00	Reconciled
367642		19-MAY-16	OUTSOURCE TECHNICAL LLC		49,724.00	25-MAY-16	49,724.00	Reconciled
367643		19-MAY-16	PACRIM ENGINEERING INC.		3,812.50	24-MAY-16	3,812.50	Reconciled
367644		19-MAY-16	PARK WEST LANDSCAPE		30.87			Negotiable
367645		19-MAY-16	PARK, JOHN		514.43			Negotiable
367646		19-MAY-16	PARKER, MIKE		58.53	23-MAY-16	58.53	Reconciled
367647		19-MAY-16	PATEL, JAYANTI P		188.43			Negotiable
367648		19-MAY-16	PAULUS ENGINEERING INC		281,114.50	25-MAY-16	281,114.50	Reconciled
367649		19-MAY-16	PEDALINO, INAAM		25.00			Negotiable
367650		19-MAY-16	PENG, WEI		35.90	31-MAY-16	35.90	Reconciled
367651		19-MAY-16	PINNACLE TOWERS LLC		666.04	23-MAY-16	666.04	Reconciled
367652		19-MAY-16	PIVOT INTERIORS INC		4,785.20	23-MAY-16	4,785.20	Reconciled
367653		19-MAY-16	PS BUSINESS PARKS		627.88			Negotiable
367654		19-MAY-16	RAM AIR ENGINEERING INC		2,290.68	24-MAY-16	2,290.68	Reconciled
367655		19-MAY-16	RANCHO MONTEREY APTS		665.16			Negotiable
367656		19-MAY-16	REACH EMPLOYEE ASSISTANCE INC		943.60			Negotiable
367657		19-MAY-16	RED HAWK FIRE & SECURITY (CA) LLC		375.00	23-MAY-16	375.00	Reconciled
367658		19-MAY-16	RELIANCE SAFETY CONSULTANTS, INC.		9,607.09	23-MAY-16	9,607.09	Reconciled
367659		19-MAY-16	RINCON TRUCK CENTER INC.		301.46	23-MAY-16	301.46	Reconciled
367660		19-MAY-16	RINCON TRUCK CENTER INC.		802.50	23-MAY-16	802.50	Reconciled
367661		19-MAY-16	RMC WATER AND ENVIRONMENT		5,422.00	23-MAY-16	5,422.00	Reconciled
367662		19-MAY-16	RUST AUTOMATION & CONTROLS INC		1,684.97	23-MAY-16	1,684.97	Reconciled
367663		19-MAY-16	SANDERS PAVING INC		13,090.62	26-MAY-16	13,090.62	Reconciled
367664		19-MAY-16	SANTA MARGARITA FORD		473.29	23-MAY-16	473.29	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 19
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367665		19-MAY-16	SEAL ANALYTICAL INC		405.87	23-MAY-16	405.87	Reconciled
367666		19-MAY-16	SERRANO WATER DISTRICT		71,417.42			Negotiable
367667		19-MAY-16	SHAHANGIAN, AIDA		189.94			Negotiable
367668		19-MAY-16	SHAMROCK SUPPLY CO INC		8,421.84	23-MAY-16	8,421.84	Reconciled
367669		19-MAY-16	SHIMODA, JUN		44.67	24-MAY-16	44.67	Reconciled
367670		19-MAY-16	SITMATIC		1,012.51	23-MAY-16	1,012.51	Reconciled
367671		19-MAY-16	SNAP-ON INCORPORATED		391.41	23-MAY-16	391.41	Reconciled
367672		19-MAY-16	SOUTH COAST ANSWERING SERVICE		830.38	23-MAY-16	830.38	Reconciled

367673	19-MAY-16	SOUTH COAST WATER CO.	40.00	26-MAY-16	40.00	Reconciled
367674	19-MAY-16	SOUTHERN CALIFORNIA EDISON COMPANY	600.00	23-MAY-16	600.00	Reconciled
367675	19-MAY-16	SOUTHERN CALIFORNIA EDISON COMPANY	278,486.39	23-MAY-16	278,486.39	Reconciled
367676	19-MAY-16	SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY	84,826.98			Negotiable
367677	19-MAY-16	SOUTHERN CALIFORNIA SECURITY CENTERS, INC.	180.00			Negotiable
367678	19-MAY-16	SPATIAL WAVE, INC.	50,000.00	25-MAY-16	50,000.00	Reconciled
367679	19-MAY-16	SPENCER, ASHLEY	43.92			Negotiable
367680	19-MAY-16	SPX CORP	540.88	23-MAY-16	540.88	Reconciled
367681	19-MAY-16	SUEZ TREATMENT SOLUTIONS INC.	156.96	23-MAY-16	156.96	Reconciled
367682	19-MAY-16	TETRA TECH, INC	9,862.37	23-MAY-16	9,862.37	Reconciled
367683	19-MAY-16	THE GAS COMPANY	4,205.85	23-MAY-16	4,205.85	Reconciled
367684	19-MAY-16	THOMPSON INDUSTRIAL SUPPLY	2,444.65	23-MAY-16	2,444.65	Reconciled
367685	19-MAY-16	TIPTON, SANDRA J	5,000.00	24-MAY-16	5,000.00	Reconciled
367686	19-MAY-16	TOLL BROS., INC	279.53			Negotiable
367687	19-MAY-16	TRI COUNTY PUMP COMPANY	50,312.00	25-MAY-16	50,312.00	Reconciled
367688	19-MAY-16	TROPICAL PLAZA NURSERY INC	2,784.80	23-MAY-16	2,784.80	Reconciled
367689	19-MAY-16	TRUCPARCO	770.87	25-MAY-16	770.87	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 20
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367690		19-MAY-16	UNITED PARCEL SERVICE INC		80.66	23-MAY-16	80.66	Reconciled
367691		19-MAY-16	UNITED SERVICE APPLICATIONS, INC		50.00	23-MAY-16	50.00	Reconciled
367692		19-MAY-16	UNITED STATES POST OFFICE		1,530.00	26-MAY-16	1,530.00	Reconciled
367693		19-MAY-16	VALLEY CREST LANDSCAPE COMPANIES		848.86	26-MAY-16	848.86	Reconciled
367694		19-MAY-16	VAUGHAN'S INDUSTRIAL REPAIR CO INC		9,023.21	23-MAY-16	9,023.21	Reconciled
367695		19-MAY-16	VERIZON WIRELESS SERVICES LLC		38.01	24-MAY-16	38.01	Reconciled
367696		19-MAY-16	VERTEX INC		4,250.00	23-MAY-16	4,250.00	Reconciled
367697		19-MAY-16	VT ELECTRIC, INC.		529.21	24-MAY-16	529.21	Reconciled
367698		19-MAY-16	VWR INTERNATIONAL, LLC		446.45	23-MAY-16	446.45	Reconciled
367699		19-MAY-16	W.M. LYLES CO		480,976.45	25-MAY-16	480,976.45	Reconciled
367700		19-MAY-16	WACO FILTERS CORPORATION		5,076.64	23-MAY-16	5,076.64	Reconciled
367701		19-MAY-16	WALTERS WHOLESAL E ELECTRIC		18,586.90	25-MAY-16	18,586.90	Reconciled
367702		19-MAY-16	WATER QUALITY INC		1,200.00	27-MAY-16	1,200.00	Reconciled
367703		19-MAY-16	WATER SYSTEMS OPTIMIZATION, INC.		3,245.00	27-MAY-16	3,245.00	Reconciled
367704		19-MAY-16	WATERLINE TECHNOLOGIES INC		1,420.00	23-MAY-16	1,420.00	Reconciled
367705		19-MAY-16	WAXIE'S ENTERPRISES, INC		3,336.33	27-MAY-16	3,336.33	Reconciled
367706		19-MAY-16	WESTAMERICA COMMUNICATIONS, INC.		22,080.73	25-MAY-16	22,080.73	Reconciled
367707		19-MAY-16	WESTAMERICA COMMUNICATIONS, INC.		3,948.06	23-MAY-16	3,948.06	Reconciled
367708		19-MAY-16	WESTERN SAFETY PRODUCTS INC		343.44	25-MAY-16	343.44	Reconciled
367709		19-MAY-16	WOODRUFF, SPRADLIN & SMART APC		819.00	24-MAY-16	819.00	Reconciled
367710		19-MAY-16	YP LLC		123.50	24-MAY-16	123.50	Reconciled
367711		19-MAY-16	YUNG, KATHERYN		34.46	23-MAY-16	34.46	Reconciled
367712		19-MAY-16	ZEBRON CONTRACTING INC		77,265.00			Negotiable
367713		19-MAY-16	ZEE MEDICAL SERVICE CO		860.93	23-MAY-16	860.93	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 21
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367714		26-MAY-16	AERATION INDUSTRIES INTERNATIONAL INC		16,218.22			Negotiable
367715		26-MAY-16	AFLAC		349.70	31-MAY-16	349.70	Reconciled
367716		26-MAY-16	AFLAC		7,337.46	31-MAY-16	7,337.46	Reconciled
367717		26-MAY-16	ALPHA TRAFFIC SERVICES, INC.		620.00			Negotiable
367718		26-MAY-16	ALSTON & BIRD LLP		5,098.25	31-MAY-16	5,098.25	Reconciled
367719		26-MAY-16	ANDERSONPENNA PARTNERS, INC		45,740.50			Negotiable
367720		26-MAY-16	ANTHONY N. LARSEN		400.00			Negotiable
367721		26-MAY-16	AQUA-AEROBIC SYSTEMS INC		8,406.40			Negotiable
367722		26-MAY-16	AQUA-METRIC SALES COMPANY		54,261.51			Negotiable
367723		26-MAY-16	ARCADIS U.S., INC.		10,723.94			Negotiable
367724		26-MAY-16	ARIZONA INSTRUMENT LLC		202.15	31-MAY-16	202.15	Reconciled
367725		26-MAY-16	AT&T		350.28			Negotiable
367726		26-MAY-16	AT&T		7,847.98			Negotiable
367727		26-MAY-16	ATHENS SERVICES		1,563.60	31-MAY-16	1,563.60	Reconciled
367728		26-MAY-16	AUSTIN HARDWOODS, INC		182.99			Negotiable
367729		26-MAY-16	AUTOZONE PARTS, INC.		351.25			Negotiable
367730		26-MAY-16	BATTERIES PLUS AND BATTERIES PLUS BULBS		373.03	31-MAY-16	373.03	Reconciled
367731		26-MAY-16	BATTERY SPECIALTIES		12,547.20			Negotiable
367732		26-MAY-16	BEE EMERGENCY RESPONSE TEAM		1,200.00	31-MAY-16	1,200.00	Reconciled
367733		26-MAY-16	BILL'S SWEEPING SERVICE INC		460.00			Negotiable
367734		26-MAY-16	BLAIRS TOWING INC		160.00			Negotiable
367735		26-MAY-16	BOOT WORLD, INC.		3,379.51			Negotiable
367736		26-MAY-16	BRENNTAG PACIFIC INC		1,452.52	31-MAY-16	1,452.52	Reconciled
367737		26-MAY-16	C WELLS PIPELINE MATERIALS INC		11,730.96			Negotiable
367738		26-MAY-16	CALIBRATE, INC.		2,665.99	31-MAY-16	2,665.99	Reconciled
367739		26-MAY-16	CALIFORNIA BARRICADE INC		1,672.50	31-MAY-16	1,672.50	Reconciled
367740		26-MAY-16	CALIFORNIA PACIFIC HOMES		99.77			Negotiable
367741		26-MAY-16	CAMFIL FARR INC		2,769.04	31-MAY-16	2,769.04	Reconciled
IRWD Ledger								
Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07								
BANK: Bank of America N.A.			Branch : Los Angeles		Account: Checking AP and PR		Page: 22	
Bank Account Currency: USD (US Dollar)					Payment Currency: USD (US Dollar)			
Payment Type: All					Display Supplier Address: No			

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367742		26-MAY-16	CITY OF NEWPORT BEACH		1,107.95			Negotiable
367743		26-MAY-16	CIVILSOURCE, INC.		15,729.00			Negotiable
367744		26-MAY-16	CKE HOLDING CORPORATION		2,674.00			Negotiable
367745		26-MAY-16	CLA-VAL COMPANY		3,559.19	31-MAY-16	3,559.19	Reconciled
367746		26-MAY-16	CNA INSURANCE E2C32542		14,332.61			Negotiable
367747		26-MAY-16	CNC ENGINEERING		4,460.00			Negotiable
367748		26-MAY-16	COLONIAL LIFE & ACCIDENT INSURANCE CO.		1,139.60			Negotiable
367749		26-MAY-16	COMMERCE ENERGY INC		169.25	31-MAY-16	169.25	Reconciled
367750		26-MAY-16	COMMERCIAL DOOR OF ORANGE COUNTY, INC.		755.96			Negotiable
367751		26-MAY-16	CONTROLLED KEY SYSTEMS INC		681.33			Negotiable
367752		26-MAY-16	COX COMMUNICATIONS, INC.		3,366.85	31-MAY-16	3,366.85	Reconciled
367753		26-MAY-16	D & H WATER SYSTEMS INC.		24,386.38			Negotiable
367754		26-MAY-16	DATA CLEAN CORPORATION		526.50			Negotiable
367755		26-MAY-16	DB INDUSTRIAL SUPPLY CO		2,946.13	31-MAY-16	2,946.13	Reconciled
367756		26-MAY-16	DEE JASPAR & ASSOCIATES, INC.		3,595.60	31-MAY-16	3,595.60	Reconciled
367757		26-MAY-16	DEX MEDIA INC.		75.75			Negotiable
367758		26-MAY-16	DILYTICS INC		31,500.00			Negotiable
367759		26-MAY-16	DIRECTV INC		113.55			Negotiable

367760	26-MAY-16	DMS FACILITY SERVICES, INC.		16,516.93			Negotiable
367761	26-MAY-16	EAGLE PRINT DYNAMICS		5,572.50	31-MAY-16	5,572.50	Reconciled
367762	26-MAY-16	EAST ORANGE COUNTY WATER DISTRICT		21,689.50			Negotiable
367763	26-MAY-16	ENVIRONMENTAL ENGINEERING AND CONTRACTING, INC.		5,310.00	31-MAY-16	5,310.00	Reconciled
367764	26-MAY-16	ENVIRONMENTAL RESOURCE ASSOCIATES		4,113.96			Negotiable

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles
 Bank Account Currency: USD (US Dollar)
 Payment Type: All

Payment Register For 01-MAY-16 To 31-MAY-16
 Account: Checking AP and PR
 Payment Currency: USD (US Dollar)
 Display Supplier Address: No

Report Date: 01-JUN-2016 17:07
 Page: 23

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367765		26-MAY-16	EXECUTIVE LIGHTING & ELECTRIC		719.77			Negotiable
367766		26-MAY-16	FEDEX		399.51			Negotiable
367767		26-MAY-16	FERGUSON ENTERPRISES, INC.		4,131.00	31-MAY-16	4,131.00	Reconciled
367768		26-MAY-16	FIRE EXTINGUISHING SAFETY & SERVICE		738.67			Negotiable
367769		26-MAY-16	FIRST CHOICE SERVICES		1,061.67			Negotiable
367770		26-MAY-16	FISERV		15,838.32			Negotiable
367771		26-MAY-16	FRONTIER CALIFORNIA INC.		99.26	31-MAY-16	99.26	Reconciled
367772		26-MAY-16	FUSCOE ENGINEERING, INC.		12,223.00			Negotiable
367773		26-MAY-16	GANAHL LUMBER CO.		803.48			Negotiable
367774		26-MAY-16	GOLDMAN, SACHS & CO		16,161.20			Negotiable
367775		26-MAY-16	GRAINGER		798.96	31-MAY-16	798.96	Reconciled
367776		26-MAY-16	GREGG OHLHAVER		415.00			Negotiable
367777		26-MAY-16	HAAKER EQUIPMENT COMPANY		570.85	31-MAY-16	570.85	Reconciled
367778		26-MAY-16	HABITAT RESTORATION SCIENCES, INC.		2,103.00			Negotiable
367779		26-MAY-16	HARMSWORTH ASSOCIATES		1,606.00			Negotiable
367780		26-MAY-16	HARRIS & ASSOCIATES, INC.		2,640.00	31-MAY-16	2,640.00	Reconciled
367781		26-MAY-16	HARTFORD LIFE AND ACCIDENT INSURANCE COMPANY		116.18	31-MAY-16	116.18	Reconciled
367782		26-MAY-16	HDR ENGINEERING INC		52,298.40			Negotiable
367783		26-MAY-16	HELPMATES STAFFING SERVICES		14,973.09			Negotiable
367784		26-MAY-16	HILL BROTHERS CHEMICAL COMPANY		18,105.73			Negotiable
367785		26-MAY-16	HOME DEPOT USA INC		239.27			Negotiable
367786		26-MAY-16	HYDRO-SCAPE PRODUCTS INC		550.35	31-MAY-16	550.35	Reconciled
367787		26-MAY-16	IBM CORPORATION		3,821.00	31-MAY-16	3,821.00	Reconciled
367788		26-MAY-16	INDUSTRIAL METAL SUPPLY CO		99.49			Negotiable
367789		26-MAY-16	IRVINE PIPE & SUPPLY INC		4,355.17	31-MAY-16	4,355.17	Reconciled

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles
 Bank Account Currency: USD (US Dollar)
 Payment Type: All

Payment Register For 01-MAY-16 To 31-MAY-16
 Account: Checking AP and PR
 Payment Currency: USD (US Dollar)
 Display Supplier Address: No

Report Date: 01-JUN-2016 17:07
 Page: 24

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367790		26-MAY-16	IRWD-PETTY CASH CUSTODIAN		1,109.47	27-MAY-16	1,109.47	Reconciled
367791		26-MAY-16	KILL-N-BUGS TERMITE AND PEST CONTROL SERVICES		650.00	31-MAY-16	650.00	Reconciled
367792		26-MAY-16	KOELLER NEBEKER CARLSON & HALUCK, LLP		1,520.00	31-MAY-16	1,520.00	Reconciled
367793		26-MAY-16	LABELLE-MARVIN INC		5,090.00			Negotiable
367794		26-MAY-16	LANDCARE HOLDINGS, INC.		29,441.57			Negotiable
367795		26-MAY-16	MARK ENTERPRISES, INC.		31,785.12			Negotiable
367796		26-MAY-16	MARVIN GARDENS LLC		2,685.82	26-MAY-16	2,685.82	Reconciled
367797		26-MAY-16	MC MASTER CARR SUPPLY CO		235.14	31-MAY-16	235.14	Reconciled

367798	26-MAY-16	MCR TECHNOLOGIES INC	284.08	31-MAY-16	284.08	Reconciled
367799	26-MAY-16	MICHAEL BAKER INTERNATIONAL, INC.	4,601.97	31-MAY-16	4,601.97	Reconciled
367800	26-MAY-16	MILLER, STEVEN	24.06			Negotiable
367801	26-MAY-16	MUNICIPAL MAINTENANCE EQUIPMENT INC	196.57	31-MAY-16	196.57	Reconciled
367802	26-MAY-16	NATIONAL READY MIXED CONCRETE CO.	1,450.71	31-MAY-16	1,450.71	Reconciled
367803	26-MAY-16	NEWPORT WINDOW MAINTENANCE INC	2,314.00			Negotiable
367804	26-MAY-16	NOVACOAST INC	9,188.00	31-MAY-16	9,188.00	Reconciled
367805	26-MAY-16	NOVELL, INC	23,769.00			Negotiable
367806	26-MAY-16	OC WELDING SERVICES	784.02	31-MAY-16	784.02	Reconciled
367807	26-MAY-16	OLIN CORPORATION	8,498.37			Negotiable
367808	26-MAY-16	ORANGE COUNTY AUTO PARTS CO	209.30	31-MAY-16	209.30	Reconciled
367809	26-MAY-16	ORANGE COUNTY TREASURER	568.27	31-MAY-16	568.27	Reconciled
367810	26-MAY-16	PACIFIC COAST BOLT CORP	2,386.82			Negotiable
367811	26-MAY-16	PACIFIC RESOURCE RECOVERY	2,341.75	31-MAY-16	2,341.75	Reconciled
367812	26-MAY-16	PARKHOUSE TIRE INC	434.68			Negotiable
367813	26-MAY-16	PARKWAY LAWNMOWER SHOP	1,828.44	31-MAY-16	1,828.44	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 25
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367814		26-MAY-16	PIVOT INTERIORS INC		342.25	31-MAY-16	342.25	Reconciled
367815		26-MAY-16	PRAXAIR DISTRIBUTION INC		2,263.13	31-MAY-16	2,263.13	Reconciled
367816		26-MAY-16	PRE-PAID LEGAL SERVICES INC		1,574.90			Negotiable
367817		26-MAY-16	PROMEDIA		115.13			Negotiable
367818		26-MAY-16	PRUDENTIAL OVERALL SUPPLY		4,879.95			Negotiable
367819		26-MAY-16	RAM AIR ENGINEERING INC		12,369.40			Negotiable
367820		26-MAY-16	RANCHO ALISAL APTS		14.81			Negotiable
367821		26-MAY-16	RICHARD C. SLADE & ASSOCIATES LLC		12,049.00			Negotiable
367822		26-MAY-16	RINCON TRUCK CENTER INC.		560.72	31-MAY-16	560.72	Reconciled
367823		26-MAY-16	RMS ENGINEERING & DESIGN, INC.		15,940.00			Negotiable
367824		26-MAY-16	SAFETY-KLEEN SYSTEMS, INC		261.00			Negotiable
367825		26-MAY-16	SANDERS PAVING INC		44,799.60			Negotiable
367826		26-MAY-16	SANTA ANA BLUE PRINT		274.41			Negotiable
367827		26-MAY-16	SANTA ROSA APARTMENTS		27.30			Negotiable
367828		26-MAY-16	SANTIAGO AQUEDUCT COMMISSION		8,049.95			Negotiable
367829		26-MAY-16	SECURTEC DISTRICT PATROL, INC.		1,600.00			Negotiable
367830		26-MAY-16	SHAMROCK SUPPLY CO INC		864.22	31-MAY-16	864.22	Reconciled
367831		26-MAY-16	SHIELDS, HARPER & CO.		1,542.00	31-MAY-16	1,542.00	Reconciled
367832		26-MAY-16	SNAP-ON INCORPORATED		369.32			Negotiable
367833		26-MAY-16	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT		1,519.67			Negotiable
367834		26-MAY-16	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT		980.24	31-MAY-16	980.24	Reconciled
367835		26-MAY-16	SOUTH COAST ANSWERING SERVICE		453.15	31-MAY-16	453.15	Reconciled
367836		26-MAY-16	SOUTH COAST WATER CO.		151.68	31-MAY-16	151.68	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 26
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								

367837	26-MAY-16	SOUTHERN CALIFORNIA EDISON COMPANY	59,158.68	31-MAY-16	59,158.68	Reconciled
367838	26-MAY-16	SPARLING INSTRUMENTS LLC	63.01	31-MAY-16	63.01	Reconciled
367839	26-MAY-16	STANFORD COURT APARTMENTS	9.12			Negotiable
367840	26-MAY-16	TESTAMERICA LABORATORIES, INC	295.15	31-MAY-16	295.15	Reconciled
367841	26-MAY-16	THOMAS HARDER & CO	14,181.25			Negotiable
367842	26-MAY-16	THOMPSON INDUSTRIAL SUPPLY	1,163.12			Negotiable
367843	26-MAY-16	TIC-SPECTRUM OFFICE	133.31			Negotiable
367844	26-MAY-16	TRI COUNTY PUMP COMPANY	15,655.40			Negotiable
367845	26-MAY-16	TRIPAC MARKETING INC	609.88			Negotiable
367846	26-MAY-16	TROPICAL PLAZA NURSERY INC	896.45	31-MAY-16	896.45	Reconciled
367847	26-MAY-16	TRUCPARCO	1,658.12			Negotiable
367848	26-MAY-16	UNITED PARCEL SERVICE INC	50.77	31-MAY-16	50.77	Reconciled
367849	26-MAY-16	UNITED SITE SERVICES OF CALIFORNIA INC	630.56	31-MAY-16	630.56	Reconciled
367850	26-MAY-16	USA BLUEBOOK	98.39			Negotiable
367851	26-MAY-16	UTILITY SYSTEMS SCIENCE & SOFTWARE INC.	7,955.00			Negotiable
367852	26-MAY-16	VAUGHAN'S INDUSTRIAL REPAIR CO INC	6,123.49	31-MAY-16	6,123.49	Reconciled
367853	26-MAY-16	VULCAN MATERIALS COMPANY	1,460.33	31-MAY-16	1,460.33	Reconciled
367854	26-MAY-16	WACO FILTERS CORPORATION	8,823.16	31-MAY-16	8,823.16	Reconciled
367855	26-MAY-16	WALTERS WHOLESALE ELECTRIC	2,440.11			Negotiable
367856	26-MAY-16	WATERLINE TECHNOLOGIES INC	1,483.00	31-MAY-16	1,483.00	Reconciled
367857	26-MAY-16	WATERWISE CONSULTING, INC.	1,500.00	31-MAY-16	1,500.00	Reconciled
367858	26-MAY-16	WECK LABORATORIES INC	115.00	31-MAY-16	115.00	Reconciled

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Bank of America N.A. Branch: Los Angeles Account: Checking AP and PR Page: 27
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
367859		26-MAY-16	WEST COAST SAFETY SUPPLY INC		9,544.41			Negotiable
367860		26-MAY-16	WESTAMERICA COMMUNICATIONS, INC.		4,249.80	31-MAY-16	4,249.80	Reconciled
367861		26-MAY-16	WESTERN WEATHER GROUP INC		2,793.00			Negotiable
367862		26-MAY-16	WILDLIFE SUPPLY COMPANY		411.00	31-MAY-16	411.00	Reconciled
367863		26-MAY-16	WIN-911 SOFTWARE		1,485.00			Negotiable
367864		26-MAY-16	WINDWOOD GLEN		152.22			Negotiable
367865		26-MAY-16	ORANGE COUNTY SHERIFF'S OFFICE	4601 JAMBOREE	62.50			Negotiable
367866		26-MAY-16	PERS LONG TERM CARE	PASADENA	771.11			Negotiable
367867		26-MAY-16	IRWD EMPLOYEE ASSOCIATION	15600 SC	940.00	27-MAY-16	940.00	Reconciled
367868		26-MAY-16	CLEARINGHOUSE	PHOENIX	477.67	31-MAY-16	477.67	Reconciled
367869		26-MAY-16	Hansen, Casey		650.00	27-MAY-16	650.00	Reconciled
367870		26-MAY-16	Reinhart, Douglas J		978.65	31-MAY-16	978.65	Reconciled
367871		26-MAY-16	Tran, Jason M (Jason)		86.00			Negotiable
367872		26-MAY-16	Withers, John B		532.62	31-MAY-16	532.62	Reconciled
367873		26-MAY-16	Figuroa, Jorge (Jorge)		187.03			Negotiable
367874		26-MAY-16	Garcia, Juan		141.67	31-MAY-16	141.67	Reconciled
367875		26-MAY-16	Cortez, Malcolm A (Malcolm)		73.20	27-MAY-16	73.20	Reconciled
367876		26-MAY-16	Matheis, Mary Aileen		129.26			Negotiable
367877		26-MAY-16	Swan, Peer		1,878.07			Negotiable
Payment Document Subtotal:					9,388,267.41		8,356,849.76	

Payment Document : IRWD Wire

11519	09-MAY-16	EMPLOYEE BENEFIT SPECIALIST, INC	PAY		9,934.88		Negotiable
11520	09-MAY-16	YORK INSURANCE SERVICES GROUP INC - CA	PAY		14,880.64		Negotiable
11521	09-MAY-16	SUMITOMO MITSUI BANKING CORPORATION	NEW YORK		16,495.90		Negotiable

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 Bank Account Currency: USD (US Dollar) Account: Checking AP and PR Page: 28
 Payment Type: All Payment Currency: USD (US Dollar) Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD Wire								
11522		09-MAY-16	U.S. BANK NATIONALPAY ASSOCIATION		5,625.19			Negotiable
11523		10-MAY-16	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	36,077.05			Negotiable
11524		10-MAY-16	SUMITOMO MITSUI BANKING CORPORATION	NEW YORK	3,868.03			Negotiable
11525		10-MAY-16	CALPERS	SACRAMENTO 1	428,176.23			Negotiable
11526		10-MAY-16	U.S. BANK NATIONALPAY ASSOCIATION		12,982.26			Negotiable
11527		10-MAY-16	BANK OF AMERICA	SAN FRANCISCO	11,437.14			Negotiable
11528		17-MAY-16	CALPERS	SACRAMENTO	89,257.70			Negotiable
11529		17-MAY-16	INTERNAL REVENUE SERVICE	FRESNO	178,053.98			Negotiable
11530		17-MAY-16	FRANCHISE TAX BOARD	SACRAMENTO	48,398.03			Negotiable
11531		17-MAY-16	EMPLOYMENT DEVELOPMENT DEPARTMENT	W SACRAMENTO	11,128.30			Negotiable
11532		17-MAY-16	ORDONEZ, CYNTHIA MARIE	DESERT HOT SPR	500.77			Negotiable
11533		17-MAY-16	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	SACRAMENTO	3,067.47			Negotiable
11534		17-MAY-16	EMPLOYEE BENEFIT SPECIALIST, INC	PAY	11,370.30			Negotiable
11535		17-MAY-16	GREAT-WEST LIFE & ANNUITY INSURANCE COMPANY	DENVER	106,913.15			Negotiable
11536		17-MAY-16	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	20,902.78			Negotiable
11537		17-MAY-16	MUNICIPAL WATER DISTRICT OF ORANGEVALLEY COUNTY	FOUNTAIN	507,859.77			Negotiable
11538		17-MAY-16	MUNICIPAL WATER DISTRICT OF ORANGEVALLEY COUNTY	FOUNTAIN	77,772.20			Negotiable
11539		19-MAY-16	U.S. BANK NATIONALST. ASSOCIATION	LOUIS	9,312.86			Negotiable

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 Bank Account Currency: USD (US Dollar) Account: Checking AP and PR Page: 29
 Payment Type: All Payment Currency: USD (US Dollar) Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD Wire								
11540		19-MAY-16	YORK INSURANCE SERVICES GROUP INC - CA	PAY	6,832.95			Negotiable
11541		24-MAY-16	PCL CONSTRUCTION, INC.	ACCT 6971821722	1,263,537.90			Negotiable
11542		24-MAY-16	PCL CONSTRUCTION, INC.	ESR 141511.1	140,393.10			Negotiable
11543		25-MAY-16	YORK INSURANCE SERVICES GROUP INC - CA	PAY	5,491.54			Negotiable
11544		26-MAY-16	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	63,402.77			Negotiable
11545		27-MAY-16	INTERNAL REVENUE SERVICE	FRESNO	178,755.64			Negotiable
11546		27-MAY-16	FRANCHISE TAX BOARD	SACRAMENTO	48,490.08			Negotiable
11547		27-MAY-16	EMPLOYMENT DEVELOPMENT DEPARTMENT	W SACRAMENTO	11,151.02			Negotiable
11548		27-MAY-16	ORDONEZ, CYNTHIA	DESERT HOT	500.77			Negotiable

11549	27-MAY-16	MARIE CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	SPR SACRAMENTO	3,067.47	Negotiable
11550	27-MAY-16	EMPLOYEE BENEFIT SPECIALIST, INC	PAY	10,709.33	Negotiable
11551	27-MAY-16	GREAT-WEST LIFE & ANNUITY INSURANCE COMPANY	DENVER	104,955.78	Negotiable
11552	27-MAY-16	FILANC-BALFOUR BEATTY JV	ACT 4427724347	2,393,306.69	Negotiable
11553	27-MAY-16	FILANC-BALFOUR BEATTY JV	ESR 211084000	265,922.96	Negotiable
11554	31-MAY-16	YORK INSURANCE SERVICES GROUP INC - CA	PAY	6,661.84	Negotiable

Payment Document Subtotal: 6,107,194.47

Bank Account Subtotal : 15,495,461.88 8,356,849.76

IRWD Ledger Payment Register For 01-MAY-16 To 31-MAY-16 Report Date: 01-JUN-2016 17:07
 BANK: Branch : Account: Page: 30
 Bank Account Currency: () Payment Currency: ()
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Report Count : 715		Report Total:		15,495,461.88	8,356,849.76			

Disbursements

*** End of Report ***

\$ 15,495,461.88 Disbursements
<2,584.26> Voids
 \$ 15,492,877.62 Total Voids and Disbursements

Exhibit "E"

IRWD Gov Code 53065.5 Disclosure Report

Payment or Reimbursements for Individual charges of \$100 or more per transaction for services or product received.

01-MAY-16 to 31-MAY-16

NAME	CHECK NO.	CHECK DATE	TRANSACTION	ITEM DESCRIPTION	EXPENSE JUSTIFICATION
Barreto, Gustavo	367370	12-May-16	176.00	Membership/Certification	CWEA membership renewal fee
Blaska, Erika	367369	12-May-16	1,200.00	Other(Misc)	"Fix a Leak" gift cards for customers
Bonkowski, Leslie	367525	19-May-16	134.80	Other(Misc)	Meeting supplies
Bowers, Marie	367373	12-May-16	312.55	Other(Misc)	Office supplies
Burton, Kevin	367204	5-May-16	115.00	Membership/Certification	Professional Engineers license renewal
Figuroa, Jorge	367873	26-May-16	187.03	Other(Misc)	Safety shoes allowance
Fike, Ethan	367523	19-May-16	164.00	Membership/Certification	CWEA membership renewal fee
Hansen, Casey	367869	26-May-16	350.00	Membership/Certification	Waste Water Grade III exam fee
Hansen, Casey	367869	26-May-16	300.00	Membership/Certification	Waste Water Grade III certification fee
Lao, Richard	367208	5-May-16	195.35	Lodging	2016 CWEA Annual Conf., Santa Clara, CA Apr. 26-29, 2016
Lao, Richard	367208	5-May-16	195.35	Lodging	2016 CWEA Annual Conf., Santa Clara, CA Apr. 26-29, 2016
Lao, Richard	367208	5-May-16	195.35	Lodging	2016 CWEA Annual Conf., Santa Clara, CA Apr. 26-29, 2016
Lewis, Lyndy	367206	5-May-16	227.00	Lodging	WEF FOG Seminar, Tempe, AZ Apr. 6-8, 2016
Lewis, Lyndy	367206	5-May-16	227.00	Lodging	WEF FOG Seminar, Tempe, AZ Apr. 6-8, 2016
Matheis, Mary Aileen	367876	26-May-16	109.26	Lodging	WEF Executive Briefing, Sacramento, CA Mar. 16, 2016
Moeder, Jacob	367202	5-May-16	115.00	Membership/Certification	Professional Engineers license renewal
Mossbarger, Tony	367367	12-May-16	112.01	Lodging	CS Week Conf., Phoenix, AZ Apr. 26-28, 2016
Mossbarger, Tony	367367	12-May-16	112.01	Lodging	CS Week Conf., Phoenix, AZ Apr. 26-28, 2016
Oldewage, Lars	367371	12-May-16	238.96	Airfare	ACWA Water Quality Committee, Monterey, CA May 3, 2016
Reinhart, Doug	367870	26-May-16	234.22	Lodging	ACWA Spring Conf., Monterey, CA May 3-6, 2016
Reinhart, Doug	367870	26-May-16	234.22	Lodging	ACWA Spring Conf., Monterey, CA May 3-6, 2016
Reinhart, Doug	367870	26-May-16	234.22	Lodging	ACWA Spring Conf., Monterey, CA May 3-6, 2016
Reinhart, Doug	367870	26-May-16	231.87	Auto Rental	ACWA Spring Conf., Monterey, CA May 3-6, 2016
Swan, Peer	367877	26-May-16	234.22	Lodging	ACWA Spring Conf., Monterey, CA May 1-6, 2016
Swan, Peer	367877	26-May-16	234.22	Lodging	ACWA Spring Conf., Monterey, CA May 1-6, 2016
Swan, Peer	367877	26-May-16	234.22	Lodging	ACWA Spring Conf., Monterey, CA May 1-6, 2016
Swan, Peer	367877	26-May-16	234.22	Lodging	ACWA Spring Conf., Monterey, CA May 1-6, 2016
Swan, Peer	367877	26-May-16	234.22	Lodging	ACWA Spring Conf., Monterey, CA May 1-6, 2016
Swan, Peer	367877	26-May-16	410.94	Mileage (Roundtrip)	ACWA Spring Conf., Monterey, CA May 1-6, 2016 and Kern County
Weatherby, Thomas	367376	12-May-16	230.00	Membership/Certification	Waste Water Grade II Treatment Plant certification renewal
Withers, John	367872	26-May-16	234.22	Lodging	ACWA Spring Conf., Monterey, CA May 3-4, 2016
Withers, John	367872	26-May-16	234.22	Lodging	ACWA Spring Conf., Monterey, CA May 3-4, 2016
Total Amount:			\$7,881.68		

July 11, 2016

Prepared by: Eileen Lin 

Submitted by: Cheryl Clary 

Approved by: Paul Cook 

CONSENT CALENDAR

LUMP SUM PAYMENT OPTION FOR EMPLOYER CONTRIBUTIONS FOR FY 2016-17 TO THE CALIFORNIA PUBLIC EMPLOYEES RETIREMENT SYSTEM

SUMMARY:

Staff recommends that the Board authorize the selection of the lump sum payment option for employer contributions to the California Public Employees Retirement System (CalPERS) by making a one-time contribution of \$5,450,130 for the District's FY 2016-17 employer contributions to CalPERS. This recommendation is consistent with the "pre-funding approach" developed by the Finance and Personnel Committee and the Board during the operating budget process.

BACKGROUND:

CalPERS-required employer contributions can be made in two ways: 1) a lump sum payment option made between July 1 and July 15 in the beginning of the new fiscal year, or 2) payments made based on each semi-monthly payroll total based on a payroll percentage established annually by CalPERS actuaries. Beginning in FY 2009-10, the District elected to utilize the lump sum payment option because it benefits from not incurring interest expense, at the assumed actuarial interest rate, which is currently 7.50%. In order to participate in the pre-payment method, the total contribution must be completed and returned to CalPERS Fiscal Services Division by July 15, 2016.

CalPERS shows that IRWD's lump sum payment would be \$5,450,130. If the District elects to make payments each semi-monthly payroll, the total contribution is estimated at \$5,650,815. Electing the lump sum payment option would result in an estimated savings of \$200,685.

The calculation from CalPERS establishing the amount of the lump sum prepayment option is attached as Exhibit "A".

The approved operating budget for FY 2016-17 also includes an additional contribution of \$1.8 million in excess of its annual required CalPERS contribution to the *Irvine Ranch Water District Post-Employment Benefits Trust* ("Trust") which will further reduce its pension liability. The recommendation for the contribution will be taken to the Retirement Board for approval. Staff is not recommending an additional contribution to the Trust at this time; however, staff will continue to evaluate the potential for future additional contributions.

FISCAL IMPACTS:

The District's approved operating budget for FY 2016-17 includes an employer contribution of \$6.0 million for the CalPERS requirement. The payments to the California Public Employees Retirement System are consistent with the impacts identified in setting rates for FY 2016-17.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act Code of Regulations, Title 14, Chapter 3, Section 15378.

COMMITTEE STATUS:

Due to the timing of the required contribution, this item was not reviewed by the Finance and Personnel Committee.

RECOMMENDATION:

THAT THE BOARD APPROVE THE LUMP SUM PAYMENT FOR EMPLOYER CONTRIBUTIONS TO THE CALIFORNIA PUBLIC EMPLOYEES RETIREMENT SYSTEM (CALPERS) BY MAKING A ONE-TIME CONTRIBUTION OF \$5,450,130 FOR THE DISTRICT'S FY 2016-17 EMPLOYER CONTRIBUTION.

LIST OF EXHIBITS:

Exhibit "A" – Letter from CalPERS regarding Lump Sum Prepayment Amount

Required Employer Contribution

	Fiscal Year 2015-16	Fiscal Year 2016-17
Actuarially Determined Employer Contributions		
1. Contribution in Projected Dollars		
a) Total Normal Cost	\$ 4,083,924	\$ 4,396,751
b) Employee Contribution ¹	2,194,235	2,277,129
c) Employer Normal Cost [(1a) – (1b)]	1,889,689	2,119,622
d) Unfunded Liability Contribution	3,217,804	3,531,193
e) Required Employer Contribution [(1c) + (1d)]	\$ 5,107,493	\$ 5,650,815
Projected Annual Payroll for Contribution Year	\$ 27,863,297	\$ 29,276,537
2. Contribution as a Percentage of Payroll		
a) Total Normal Cost	14.657%	15.018%
b) Employee Contribution ¹	7.875%	7.778%
c) Employer Normal Cost [(2a) – (2b)]	6.782%	7.240%
d) Unfunded Liability Rate	11.549%	12.062%
e) Required Employer Rate [(2c) + (2d)]	18.331%	19.302%
Minimum Employer Contribution Rate²	18.331%	19.302%
Annual Lump Sum Prepayment Option ³	\$ 4,926,104	\$ 5,450,130

¹ For classic members this is the percentage specified in the Public Employees Retirement Law, net of any reduction from the use of a modified formula or other factors. For PEPRA members, the member contribution rate is based on 50 percent of the normal cost. A development of PEPRA member contribution rates can be found in Appendix D. Employee cost sharing is not shown in this report.

² The Minimum Employer Contribution Rate under PEPRA is the greater of the required employer rate or the employer normal cost. The timing of contributions made during the year coincides with the employer's payroll reporting periods. § 20572 of the Public Employees' Retirement Law assesses interest at an annual rate of 10 percent if a contracting agency fails to remit the required contributions when due.

³ The Annual Lump Sum Prepayment can be made between July 1 and July 15 and should be made before the contributions for the first payroll reporting period of the new fiscal year are due. If there is contractual cost sharing or other change, this amount will change.

Plan's Funded Status

	June 30, 2013	June 30, 2014
1. Present Value of Projected Benefits	\$ 226,007,773	\$ 250,103,799
2. Entry Age Normal Accrued Liability	197,685,366	219,940,004
3. Market Value of Assets (MVA)	\$ 151,954,826	\$ 178,116,705
4. Unfunded Liability [(2) – (3)]	\$ 45,730,540	\$ 41,823,299
5. Funded Ratio [(3) / (2)]	76.9%	81.0%

June 27, 2016

Prepared by: Rob Jacobson 

Submitted by: Cheryl Clary 

Approved by: Paul Cook 

CONSENT CALENDAR

ASSET OPTIMIZATION – LAKE FOREST / SERRANO SUMMIT PROPERTY DEVELOPMENT AND CONSULTANT CONTRACT UPDATE

SUMMARY:

At the June 20, 2016 Asset Management Committee meeting, staff and representatives from the District's entitlement consultant, Lewis Operating Group (Lewis), provided an update on Serrano Summit final tract map design activities, the expected schedule for submittal of plans to the City of Lake Forest (City) and an estimated timeline for final map approval. Staff also provided an update on recent meetings with City staff regarding its planned Civic Center development and efforts to complete a planned Development Agreement (DA) Amendment between IRWD and the City. Finally, staff recommends Board approval of an increase to the project budget in the amount of \$254,040, primarily for additional services required due to a 3½-year environmental permitting process which was not contemplated in the original consultant's scope of services and schedules.

BACKGROUND:

In July 2008, the Board approved a DA between IRWD and the City providing terms under which development could occur on the Serrano Summit project. The DA was subsequently approved by the City Council in August 2008. In February 2012, the City Council approved the Serrano Summit tentative tract map (TTM) depicting the future planning areas and corresponding Area Plan for the property, and included certification of a project-specific Environmental Impact Report (EIR). The Serrano Summit project will include up to 608 residential units, neighborhood and passive parks, a city hall and civic center complex, and IRWD operating facilities.

In April 2012, the District retained Lewis to manage the process to obtain a recordable final map for the Serrano Summit project. Obtaining a recordable final map is an important entitlement milestone and is expected to add significant value to the property. In October 2012, the Board approved a budget increase of \$1,590,000 for costs related to design and processing the final tract map. The budget increase provided funding for continued entitlement management services (Lewis), sub-consulting services (civil, landscape architect, dry utility planning, environmental permitting, etc.) which are directly contracted with Lewis, plan check/agency fees and District staff time.

Following the Board's 2012 approval to begin final map processing, certain jurisdictional wetlands issues were identified on the Civic Center property requiring additional permitting authorization not addressed in the City-managed EIR. On March 3, 2016, following a 3½ year submittal/approval process, a 404 Individual Permit was issued related to the Civic Center portion of the Serrano Summit tract map.

Development Agreement Amendment Update:

Legal counsels and staff from the District and City have held multiple meetings regarding the planned DA Amendment. The DA Amendment will address the reduction of the Civic Center pad size from 9 net acres to 8 net acres, a reduction in fee credits to the District based on the reduced pad acreage and modifications to Self-Help language in the DA. Self-Help provisions state the terms under which the City may proceed with development of its Civic Center site prior to, and separate from, development of the Serrano Summit residential area.

Based on current project timing, the City has informed the District that there is a significant likelihood it will utilize its Self-Help option and proceed with development of its site prior to Serrano Summit residential development. Proposed revisions to the Self-Help language will provide clarity regarding reimbursement of certain grading/construction costs to the City from the future Serrano Summit residential developer(s), temporary maintenance of the anticipated borrow site for fill required at the Civic Center site and allocations of certain construction costs not addressed in the current DA. Staff anticipates a draft DA Amendment document will be presented for Board review in August 2016.

Final Map / Marketing Update:

The District's final map consultant team recently met and has re-initiated the design process for the Serrano Summit project. Lewis anticipates the District will have an approved (recordable) final tract map in early 2017. Based on this timeline, Lewis provided a recommended schedule for preparation of a marketing package and sales plan for the residential project which would begin in Fall 2016.

Recommended Project Budget Increase:

In October 2012, the Board approved an increase to the capital budget in the amount of \$1,590,000 for services related to design and processing the Serrano Summit final tract map. The increase included \$257,000 for entitlement management services (Lewis), \$865,000 for sub-consulting services to be contracted directly with Lewis (civil, landscape architect, dry utility planning, environmental permitting, etc.), plan check/agency fees of \$195,000, and an amount for contingencies and District staff time. The total project budget is \$6,709,150, with \$5,624,360 in expenditures to date.

Due to the unexpected delay in initiating final tract map services, certain project consultants retained in 2012 have provided minimal or no services to date. Other consultants, including the civil engineer, environmental permitting consultant and geotechnical consultant have provided additional services which were not originally contemplated but required to resolve the environmental permitting issues. Due to additional services required to resolve the environmental permitting process, and revised contract amounts from certain consultants, staff recommends an increase to the FY 2015-16 Capital Budget in the amount of \$245,040 for related design and consulting services for Project No. 1264. The table below shows the key consulting services and firm names, as well as original and revised contract amounts:

Services	Selected Firm	2012 Contract Amt	Revised Contract Amt	Increase/ (Decrease)
Civil Engineering	Michael Baker / RBF	\$324,875	\$442,955	\$118,080
Landscape Architecture	Architerra	\$176,275	\$197,725	\$21,450
Environmental Permitting	VCS	\$84,205	\$112,260	\$28,055
Dry Utility Planning	Utility Specialists	\$87,995	\$107,305	\$19,310
Geotechnical	GMU	\$121,995	\$180,140	\$58,145
	Totals	\$795,345	\$1,040,385	\$245,040

FISCAL IMPACTS:

The approved capital budget amount for the Asset Optimization – Lake Forest Property (Project No. 1264) is \$6,709,150. The proposed increase to the project budget is \$245,040. To date, project expenses for entitlement consulting, project planning and design, permits, fees and processing since project inception total \$5,624,360.

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA) and in conformance with the California Code of Regulations Title 14, Chapter 3, Article 7, an EIR was certified by the City of Lake Forest on February 7, 2012.

COMMITTEE STATUS:

This item was reviewed by the Asset Management Committee at its June 20, 2016 meeting.

RECOMMENDATION:

THAT THE BOARD APPROVE AN INCREASE TO THE FY 2015-16 CAPITAL BUDGET IN THE AMOUNT OF \$245,040 FOR THE LAKE FOREST / SERRANO SUMMIT PROJECT (PROJECT NO. 1264) FOR DESIGN AND CONSULTING SERVICES.

LIST OF EXHIBITS:

None.

June 27, 2016

Prepared and

submitted by: C. Compton 

Approved by: Paul Cook 

CONSENT CALENDAR

2016 LEGISLATIVE UPDATE

SUMMARY:

This report provides an update on the 2016 legislative session and IRWD priorities. As legislation develops, staff will provide updates and recommendations to the Water Resources Policy and Communications Committee and the Board, as appropriate.

Staff recommends that the Board consider the following actions/positions:

Water Foundation's Tiered Water Rates Proposal- "CONCERNED" and authorize staff to communicate the District's concern over any water rate legislation which is not consistent with the California Constitution, voluntary in nature, or provide sufficient clarity or flexibility to water agencies. Authorize staff to encourage the Water Foundation to set their proposal aside this year and continue working with the water community over the fall on the constitutional concerns with the proposal and to more fully reflect the proposal the District put forward with EMWD last year.

BACKGROUND:

The last day for fiscal committees to hear and report to the floor any bills introduced in its house was May 27, and the house of origin deadline was June 3. Any bill that did not meet the June 3 deadline and does not contain an urgency clause is now dead. June 15 was the constitutional deadline for passage of the budget, while June 30 is the last day for a legislative measure to qualify for the November 8 General Election.

A copy of the 2016 Legislative Matrix is attached as Exhibit "A". Exhibit "B" is the "2016 Legislative Update Report: Links to Bill Texts", which contains links to the bills discussed below, unless a separate exhibit is noted.

State Budget Update:

April Revenue Numbers:

On May 10, 2016, State Controller Betty Yee released her monthly report on the State's finances. She announced that the State took in \$1.19 billion, or 6.6 percent, less than projections during the month of April. The lower-than-expected revenues were largely due to lower personal income tax receipts, which were \$1.22 billion or 8.4 percent lower than budget estimates. Sales tax revenues were \$53.9 million, or 6.2 percent, lower than expected. Corporate taxes were the only revenues that beat budget projections. They came in \$95.4 million, or 5.1 percent, higher than anticipated.

The State Controller summarized April's revenue impact on the budget in the following way:

“April’s collections drove revenues for the fiscal year to date into negative territory compared to the January projections. For the fiscal year that began July 1, overall revenues of \$95.15 billion are off by \$680.5 million, or 0.7 percent. The personal income tax and the sales tax are falling short by \$1.16 billion and \$217.6 million, respectively. The corporation tax for the fiscal year to date is surpassing expectations by \$476.3 million.”

The State ended the month of April with borrowable resources of \$25.59 billion, and outstanding loans of \$7.34 billion

Governor’s May Revise:

Following the release of April’s disappointing fiscal news, Governor Brown released the May revision to his proposed State Fiscal Year 2016-2017 Budget (the May Revise) on May 13, 2016. The May Revise proposes \$173.06 billion in total expenditures, \$169.83 billion in total revenues and designates \$3.29 billion for the Budget Stabilization Account/Rainy Day Fund. This compares to the \$170.7 billion in total expenditures, \$170.5 billion in total revenues, and \$3.55 billion designated for the Budget Stabilization Account/Rainy Day Fund in the Governor’s Proposed Budget, released in January. The May Revise reflects a decrease in required contributions to debt payments and the Rainy Day Fund due to lower revenues but remains consistent with Proposition 2’s requirements. The contributions have been reduced by a total of \$1.6 billion since January in the current fiscal year and in the May Revise.

The May Revise reflects the Administration’s concern over declining revenues and ongoing State budget commitments by including no new major spending initiatives although it does include the major new spending commitments approved by the Legislature and Governor since the Proposed Budget’s release in January. These commitments include providing additional funding for developmental disability services, higher payments to Medi-Cal providers and the passage of legislation that made California the first state in the nation to raise the statewide minimum wage to \$15 per hour, which will eventually raise annual General Fund costs by an estimated \$3.4 billion. These commitments were on top of the extensive commitments made since 2012, which include expanding health care coverage, instituting the Local Control Funding Formula for schools, and other spending increases in safety net programs. These commitments have raised General Fund costs by over \$19 billion per year.

Because of all of these commitments, the May Revise cautions against any further long-term spending increases. The Governor’s position, as stated in the May Revise, is that:

“Barring any significant changes, the budget over the next two years is in balance...However, in the coming years, the [S]tate’s commitments will exceed expected revenues. By 2019-20, the annual shortfall between spending and revenues is forecast to be over \$4 billion. This shortfall does not take into account the likelihood of an economic slowdown or recession. The emerging shortfall is in large part — but not entirely — due to the expiration of the temporary taxes imposed under Proposition 30. This November, the state’s voters will be given the choice whether to extend the

Proposition 30 income tax rates for another 12 years. Even if the voters pass this extension of taxes, the longer-term budget outlook would be barely balanced. The cost of any additional new programs or obligations beyond the May Revision would need to be paid for through cuts in other programs or further tax increases beyond the Proposition 30 rates. If instead the voters do not pass the extension of taxes, the [S]tate will need to cut spending. Until the voters decide this important question, no significant new ongoing spending commitments should be made.”

(2016-17 May Revision, Introduction, Page 1). These factors have led Governor Brown to put forth a revised budget for the General Fund that is 3.27 percent higher than the Fiscal Year 2015-2016 approved budget.

Although the May Revision does not include any new major spending initiatives, it does contain several items of interest to IRWD. Of interest to the District are the budget’s proposed Cap-and-Trade Revenue expenditure plan and emergency drought response plan. More detail on each of these proposals is provided below.

Climate Change Policies and Cap-and-Trade Revenues:

In April 2015, the Governor issued Executive Order B-30-15 setting the greenhouse gas emissions reduction target at 40 percent below 1990 levels by 2030. Additionally, SB 350 (2015) was enacted doubling the rate of energy efficiency within California buildings, setting the Renewable Portfolio Standard at 50 percent and moving California towards greater transportation electrification. In order to further California’s climate change goals, the May Revision retains the \$3.1 billion Cap-and-Trade expenditure plan included in the Proposed Budget. The plan proposes to appropriate the Fiscal Year 2015-2016 and Fiscal Year 2016-2017 Cap-and-Trade auction proceeds as follows:

*Cap-and-Trade Expenditure Plan
(Fiscal Year 2016-2017 Proposed Budget)*

Investment Category	Department	Program	Amount (millions)
Continuous Appropriations	High-Speed Rail Authority	High-Speed Rail	\$500
	State Transit Assistance	Low Carbon Transit Operations	\$100
	Transportation Agency	Transit and Intercity Rail Capital Program	\$200
	Strategic Growth Council	Affordable Housing and Sustainable Communities Program	\$400
50 Percent Reduction in Petroleum Use	Transportation Agency	Transit and Intercity Rail Capital Program	\$400
	Caltrans	Low Carbon Road Program	\$100
	Air Resources Board	Low Carbon Transportation & Fuels	\$500
	Energy Commission	Biofuel Facility Investment	\$ 25

Local Climate Action	Strategic Growth Council	Transformational Climate Communities	\$100
Short-Lived Climate Pollutants	Air Resources Board	Black Carbon Woodsmoke	\$ 40
	Cal Recycle	Water Diversion	\$ 20
	Department of Food and Agriculture	Climate Smart Agriculture-Healthier Soils and Dairy Digesters	\$ 55
Safeguarding California/Water Action Plan	Department of Food and Agriculture & Water Resources	Water and Energy Efficiency	\$ 30
	Energy Commission	Drought Executive Order- Water and Energy Technology Program & Appliance Rebates	\$ 60
	Department of Fish and Wildlife	Wetlands and Watershed Restoration/CalEcoRestore	\$ 60
Safeguarding California/Carbon Sequestration	CalFire	Healthy Forests	\$150
		Urban Forestry	\$ 30
	Natural Resources Agency	Urban Greening	\$ 20
Energy Efficiency and Clean Energy	Department of General Services	Energy Efficiency for Public Buildings	\$ 30
	I Bank	California Lending for Energy and Environmental Needs Center	\$ 20
	Conservation Corps	Energy Corps	\$ 15
	Department of Community Services and Development	Energy Efficiency Upgrades/Weatherization	\$ 75
	University of California/California State University	Renewable Energy and Energy Efficiency Projects	\$ 60
TOTAL			\$ 3,090

SB 535 (2011) requires that at least 10 percent of the Cap-and-Trade proceeds be invested directly in disadvantaged communities and that at least 25 percent of the proceeds benefit those communities. The communities that qualify as disadvantaged have been identified by the California Environmental Protection Agency using CalEnviroScreen.

The Assembly and Senate budget committees have been discussing the Governor's proposal, but the California Air Resources Board released the most recent Cap-and-Trade auction results on May 25. The most recent auction substantially underperformed the Governor's projections. The State had anticipated nearly \$500 million in revenue from this auction, but it will only receive approximately \$10 million. While the Governor's plan includes approximately \$2 billion in past auction proceeds, this shortfall will impact the amount of funding that will be carried over in the Fiscal Year 2016-2017 Cap-and-Trade allocations.

Emergency Drought Response:

The Governor's May Revise includes an increase in emergency drought response funding of \$11.4 million. The majority of funding comes from Proposition 1, with some support coming from Cap-and-Trade revenues and the General Fund. The May Revise also reallocates a portion of the previous \$323.1 million included in the Governor's Proposed Budget. The significant adjustments are:

- An increase of \$11 million for CalFire for tree removal to assist in the removal and disposal of dead trees in high hazard areas. This includes \$6 million for grants to local entities and \$5 million to support additional miscellaneous equipment and personnel overtime. The Governor has also put forth a budget trailer bill to accelerate the utilization of biomass materials for energy production in high hazard fire zones. That trailer bill would allow small biomass facilities to defer certain system interconnection costs;
- An increase of \$4.2 million for activities related to the Delta Smelt. This includes:
 - An increase of \$2 million for an adaptive management pilot project to promote food production where Delta Smelt are known to occur and a restoration design plan to restore intertidal habitat near the confluence of the Sacramento and San Joaquin rivers;
 - An increase of \$1.8 million to complete Delta-wide mapping of aquatic weeds to increase weed control in critical Delta Smelt areas and to assess the effectiveness of such control action in improving habitat quality; and
 - An increase of \$400,000 for the development of non-lethal monitoring of Delta Smelt distribution, and a pilot project using new technologies for turbidity monitoring to further refine data on Smelt location and movement during periods of conflict with water pumps;
- An increase of \$4.5 million for the Department of Water Resources to review and update local water shortage contingency plans and to develop recommendations for new water use efficiency targets; and
- A \$42 million decrease to reflect that removal of salinity barriers in the Delta, which will not be needed in the fall of 2016, and an extension of \$31 million in existing bond funds to install barriers in the spring of 2017, if necessary.

The \$11.4 million in additional funding brings the total funding included in the Governor's May Revise to \$334.5 million for drought response. The proposed appropriations are summarized below:

Proposed Fiscal Year 2016-2017 Emergency Drought Funding

Investment Category	Department	Program	Proposed Budget Amount (millions)	May Revise Amount (millions)
Protecting Water Supplies	Department of Water Resources	Emergency Salinity Barriers in the Delta	\$42.0	\$0.0
		Local Assistance for Small Communities	\$ 5.0	\$ 10.0
	State Water Resources Control Board	Water Curtailment	\$ 5.4	\$ 5.4
		Emergency Drinking Water Projects	\$16.0	\$16.0
Water Conservation	Department of Water Resources	Urban Water Conservation & Save Our Water Campaign	\$32.8	\$12.0
	Energy Commission	Rebates for Appliances	\$30.0	\$30.0
		Water and Energy Technology Program	\$30.0	\$30.0
	Department of Food and Agriculture	Agricultural Water Conservation	\$20.0	\$20.0
Emergency Response	Department of Forestry and Fire Protection	Enhanced Fire Protection	\$77.4	\$87.8
		Tree Mortality	\$0.0	\$11.0
	Department of Water Resources	Drought Management and Response	\$12.0	\$12.0
	Department of Fish and Wildlife	Protection of Fish and Wildlife	\$17.7	\$13.5
		Delta Smelt Management Strategy	\$0.0	\$4.2
	Department of Social Services	Drought Food Assistance	\$18.4	\$18.4
	Office of Emergency Services	California Disaster Assistance Act	\$22.7	\$52.7
		State Operations Center	\$ 4.0	\$ 4.0
	Department of Community Services	Farmworker Assistance	\$ 7.5	\$ 7.5
TOTAL			\$323.1	\$334.5

Staff continues to monitor the budget negotiations and the proposed budget trailer bills, and continues to engage on the policy issues of interest to the District.

2016 State Legislation:

AB 2304 (Levine, D-Santa Rosa) — State Water Market Exchange:

Assembly Water, Parks and Wildlife Chairman Marc Levin (D, Santa Rosa) introduced AB 2304 on behalf of the Environmental Defense Foundation. As introduced, AB 2304 would establish the California Water Market Exchange in the Natural Resources Agency. The statewide exchange would be responsible for creating a centralized water market platform through which information regarding all transfer and exchanges of water occurring after December 31, 2017, would be recorded, and charged a fee. The bill also expressed legislative intent regarding water transfers and exchanges.

AB 2304 was significantly amended on May 11, 2016. As amended, the bill would establish the California Water Market Clearinghouse for the purpose of making the water transfer and exchange process more transparent and more efficient, and to enhance access to voluntary water market transactions. All conveyances or transfers across the Sacramento-San Joaquin Delta or from one watershed to another occurring after January 1, 2020, would be required to be submitted to and processed by the Clearinghouse, after paying an administrative fee. Additionally, the bill would require the Secretary of the Natural Resources Agency to convene a Water Market Clearinghouse Task Force to make recommendations on:

- Information on water transfers;
- Information required for water users and the public to track the progress of proposed transfers; and
- The type of information that the Clearinghouse should require.

In late May, after opposition to the bill raised a number of concerns to Chairman Levine, the Chairman decided to put AB 2304 aside for the year. AB 2304 remains in the Assembly Appropriations Committee and is now dead.

While AB 2304 will not move forward, Chairman Levine has indicated that he will move water transfer legislation forward in AB 2909. Attached in Exhibit “C” is a copy of the draft language expected to be inserted into AB 2909.

Staff continues to participate on the Association of California Water Agencies (ACWA) State Legislative Committee’s Work Group on Water Transfers, which has been discussing AB 2304. With Chairman Levine’s decision not to move forward with AB 2304 this year, the work group discussed AB 2909 and the possibility of ACWA sponsoring a bill on water transfers next year. The ACWA State Legislative Committee decided to adopt an “oppose” position on AB 2909, as proposed to be amended, and voted to pursue legislation next year. Staff will provide the Board with an update on any significant developments in these discussions.

SB 163 (Hertzberg, D-Van Nuys) — Wastewater Treatment: Recycled Water:

SB 163 authored by Senator Bob Hertzberg (D, Van Nuys) proposes a 100 percent ban on ocean discharge of treated wastewater. Specifically, the bill would declare that the discharge of treated wastewater from ocean outfalls, except in compliance with the bill's provisions, is a waste and unreasonable use of water in light of the cost-effective opportunities to recycle water for further beneficial use. It would require a 50 percent reduction in ocean discharges by January 1, 2026, and a 100 percent reduction by January 1, 2036.

The bill was referred to the Assembly Environmental Safety and Toxic Materials Committee and the Assembly Water, Parks and Wildlife Committee on June 6, 2016. The bill, which was amended on June 8, was heard by the Assembly Environmental Safety and Toxic Materials Committee on June 14. The Committee had a thorough discussion on the bill and the author stated that he would amend the bill further to address the Committee's concerns. Based on the author's proposed amendments, the Committee decided to hold a special hearing for the bill on June 21. On June 20, Senator Hertzberg announced that he would not be moving the bill forward this year. Senator Hertzberg has stated that he will introduced a similar measure to SB 163 next year.

Staff worked with the coalition led by the California Association of Sanitation Agencies and WaterReuse California to oppose the bill. The coalition had met with members of the Assembly to discuss SB 163, which aided in the Assembly Environmental Safety and Toxic Materials Committee's discussion and concern on the bill.

Proposition 218 Reform Efforts and Other Legislative Efforts Related to Water Rates:

Since *Capistrano Taxpayers Association, Inc. v. City of San Juan Capistrano* and the Board's discussion regarding the need for legislative clarification on tiered water rates, staff has actively worked with the District's industry and association partners on concepts that have been put forth seeking to clarify tiered water rates. As part of that effort, staff has participated on the ACWA Proposition 218 Work Group. At the end of April, ACWA shared a legislative concept related to tiered water rates put forward by the Water Foundation with the Proposition 218 Work Group. Since that time, the Water Foundation reached out to the District and the Eastern Municipal Water District (EMWD) to discuss their proposal.

The Water Foundation's proposal, which has been recently modified, seeks to:

- Define the proportional cost of service attributable to a parcel so that it includes low income rate subsidization;
- Define sewer service consistent with the Public Utilities Code; and
- Authorize agencies to charge, in addition to any property-related fee or charge imposed pursuant to Article XIII D of the California Constitution for water service, a separate and

distinct conservation and efficiency fee to create price signals to encourage conservation and encourage increased efficiency in the use of water.

Since the last report to the Board, the Water Foundation has worked with Senator Hertzberg to have the proposal inserted in SB 1298 as a gut and amend. As part of its outreach effort, the Water Foundation approached IRWD and EMWD seeking comments and suggestions on the most recent draft, and inquiring as to whether the districts could support/co-sponsor the proposal. Staff and legal counsel have reviewed the proposal. As currently drafted it appears to contain several provisions related to low income rates and stormwater funding that may not comply with the California Constitution. Additionally, the proposal contains select portions of the joint proposal IRWD and EMWD put forward for discussion last year related to tiered water rates. Staff recommends that the Board adopt a “concerned” position on the proposal, which has been placed into SB 1298, and authorize staff to communicate the District’s concern over any water rate legislation which is not consistent with the California Constitution, voluntary in nature, or provide sufficient clarity or flexibility to water agencies. Staff also recommends that the Board authorize staff to encourage the Water Foundation to set their proposal aside this year and continue working with the water community over the fall on the constitutional concerns with the proposal and to more fully reflect the proposal the District put forward with EMWD last year.

2016 Federal Legislation:

Water Resources Development Act of 2016:

The 2016 Water Resources Development Act (WRDA) is making its way through Congress. In April, the Senate Committee on Environment and Public Works marked up and reported its version of the 2016 Water Resources and Development Act, S. 2848. Last month, the House Committee on Transportation and Infrastructure marked up and reported its version of 2016 Water Resources and Development Act (WRDA), H.R. 5303.

In the House version of the bill, IRWD has been working with Representative Mimi Walters (R-Irvine) to clarify the definition of a “water resources and development project” to include environmental infrastructure projects. The bill, as introduced, expands the definition of a “water resources and development project” to include environmental infrastructure projects for some sections of WRDA, but it does not include the language IRWD had sought clarifying that environmental infrastructure projects are eligible under section of WRDA that would be utilized by the District. As a result, Representative Walters presented an amendment seeking to clarify the eligibility of environmental infrastructures projects to the House Committee on Transportation and Infrastructure during the mark up. Given the Committee Chairman’s and staff’s opposition to the amendment, Representative Walters withdrew the amendment after her presentation stating that she would like to work with the Chairman on the amendment prior to the bill moving to the floor.

IRWD’s staff and federal advocates continue to seek the amendment needed, and has been working with members of the House Committee on Transportation and Infrastructure to have the amendment included in the bill before it is presented to the floor.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was reviewed by the Water Resources Policy and Communications Committee on June 6, 2016.

RECOMMENDATION:

THAT THE BOARD ADOPT A "CONCERNED" POSITION ON SB 1298, THE WATER FOUNDATION'S TIERED WATER RATES PROPOSAL, AND AUTHORIZE STAFF TO COMMUNICATE THE DISTRICT'S CONCERN OVER ANY WATER RATE LEGISLATION WHICH IS NOT CONSISTENT WITH THE CALIFORNIA CONSTITUTION, VOLUNTARY IN NATURE, OR PROVIDE SUFFICIENT CLARITY OR FLEXIBILITY TO WATER AGENCIES. AUTHORIZE STAFF TO ENCOURAGE THE WATER FOUNDATION TO SET THEIR PROPOSAL ASIDE THIS YEAR AND CONTINUE WORKING WITH THE WATER COMMUNITY OVER THE FALL ON THE CONSTITUTIONAL CONCERNS WITH THE PROPOSAL AND TO MORE FULLY REFLECT THE PROPOSAL THE DISTRICT PUT FORWARD WITH EMWD LAST YEAR.

LIST OF EXHIBITS:

- Exhibit "A" – IRWD Legislative Matrix
- Exhibit "B" – 2016 Legislative Update Report: Links to Bill Texts
- Exhibit "C" – AB 2909 (Levine) Draft Amendments

EXHIBIT "A"
IRWD 2016 LEGISLATIVE MATRIX
Updated 06/21/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
AB 12 Cooley (D)	State Government: Administrative Regulations: Review		Requires each state agency after a noticed public hearing, to review the agency's regulations, identify any regulations that are duplicative, overlapping, inconsistent, or out of date, to revise those identified regulations, and report to the Legislature and Governor.	08/27/2015 - In SENATE Committee on APPROPRIATIONS: Held in committee.
AB 45 Mullin (D)	Household Hazardous Waste		Requires the Department of Resources Recycling to adopt model ordinance for a comprehensive program for the collection of household hazardous waste. Authorizes a local jurisdiction proposing to enact an ordinance for the collection and diversion of such waste to adopt a Department model. Requires a determination as to whether a nonprofit organization has been created and funded to make grants to local entities for purposes related to the disposal of such waste.	06/08/2016 - In SENATE Committee on ENVIRONMENTAL QUALITY: Not heard.
AB 259 Dababneh (D)	Personal Information Privacy		Requires an agency, if the agency was the source of the breach and the breach compromised a person's social security number, driver's license number, or California identification card number, to offer to provide the person with identity theft prevention and mitigation services at no cost for not less than 12 months.	08/27/2015 - In SENATE Committee on APPROPRIATIONS: Held in committee.
AB 291 Medina (D)	Environmental Quality Act: Local Agencies: Water		Authorizes a local agency, for certain water projects, to file a specified notice with the county clerk of the county in which the local agency's principal office is located, along with any required payment to the Department of Fish and Wildlife, and with the Office of Planning and Research and to transmit a copy of the notice to the county clerk of the counties in which the project is located. Requires the notice and the copies of the notice to be available to for public inspection. Relates to challenges.	06/10/2015 - From SENATE Committee on ENVIRONMENTAL QUALITY with author's amendments.;06/10/2015 - In SENATE. Read second time and amended. Re-referred to Committee on ENVIRONMENTAL QUALITY.
AB 453 Salas (D)	Groundwater: Semitropic Water Storage District		Authorizes, until a groundwater sustainability plan is adopted, a local agency that has adopted a groundwater management plan to impose fees on the extraction of groundwater from a groundwater basin to fund costs of groundwater management and to collect	06/15/2016 - In SENATE. Read second time. To third reading.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			groundwater extraction information, as long as a groundwater management plan adopted before a specified date, is in effect. Authorizes the Semitropic Water Storage District to impose fees and collect groundwater extraction information.	
<u>AB 577</u> Bonilla (D)	Biomethane: Grant Program		Requires the development and implementation of a grant program to award grants for projects that produce biomethane, that build or develop collection and purification technology or infrastructure, or that upgrade or expand existing biomethane facilities. Authorizes moneys in the Greenhouse Gas Reduction Fund to be used to fund grants awarded under the program.	09/11/2015 - Re-referred to SENATE Committee on RULES.
<u>AB 590</u> Dahle (R)	Greenhouse Gas Reduction Fund		Provides that moneys in the Greenhouse Gas Reduction Fund account may be made available for expenditure by the State Energy Resources Conservation and Development Commission for maintaining the current level of biomass power generation or geothermal energy generation in the State and revitalizing currently idle facilities in strategically located regions. Establishes requirements for an applicant to receive available funding for a facility's eligible electrical generation.	08/27/2015 - In SENATE Committee on APPROPRIATIONS: Held in committee.
<u>AB 615</u> Rendon (D)	Office of Sustainable Water Solutions: Assistance		Amends existing law that establishes the Office of Sustainable Water Solutions to promote permanent and sustainable drinking water and wastewater treatment solutions to ensure the effective and efficient provision of safe, clean, affordable, and reliable drinking water and wastewater treatment services and authorizes the office to provide technical assistance to disadvantaged communities and small drinking water systems and wastewater systems. Specifies the technical assistance that may be provided.	06/18/2015 - To SENATE Committee on ENVIRONMENTAL QUALITY.
<u>AB 647</u> Eggman (D)	Beneficial Use: Storing of Water Underground		Declares that the diversion of water to underground storage constitutes a beneficial use of water if the water so stored is thereafter applied to the beneficial purposes for which the appropriation for storage was made, or if the water is so stored	06/30/2015 - From SENATE Committee on NATURAL RESOURCES AND WATER with author's amendments.;06/30/2015 - In

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			consistent with a sustainable groundwater management plan, statutory authority to conduct groundwater recharge, or a judicial degree and is for specified purposes. Requires applying for a permit or petition for a change. Requires including specified conditions.	SENATE. Read second time and amended. Re-referred to Committee on NATURAL RESOURCES AND WATER.
AB 723 Rendon (D)	Rental Property: Plumbing Fixtures: Replacement		Requires the lease or rental agreement of a single-family residential real property or any portion of a multifamily residential real property or commercial real property that is entered into, renewed, or amended, be accompanied by a disclosure stating the property owner's responsibility to replace all noncompliant plumbing fixtures with water-conserving plumbing fixtures.	07/16/2015 - In SENATE. Read second time and amended. Re-referred to Committee on APPROPRIATIONS.
AB 935 Salas (D)	Water Projects		Requires, upon appropriation by the Legislature, the Department of Water Resources to provide funding for certain projects, provided that certain conditions are met.	09/10/2015 - In SENATE. From third reading. To Inactive File.
AB 937 Salas (D)	Groundwater Plan/Assistance: Disadvantaged Communities		Requires the Department of Water Resources to provide technical assistance to disadvantaged communities so that they may participate in groundwater planning, including planning for regional groundwater banking, with any county or other local agency.	08/27/2015 - In SENATE Committee on APPROPRIATIONS: Held in committee.
AB 938 Rodriguez (D)	Sustainable Groundwater Management Act: Basins		Amends the Sustainable Groundwater Management Act. Authorizes a watermaster or local agency administering an adjudicated basin to elect that the basin be subject to the provisions of the Act. Authorizes a court with jurisdiction over the basin to issue and order to set a hearing to determine if the basin shall be subject to the Act. Requires written notice to the Department of Water Resources that the basin is subject to the Act. Requires the notice to be posted on the Department's Web site.	03/09/2016 - From SENATE Committee on NATURAL RESOURCES AND WATER with author's amendments.;03/09/2016 - In SENATE. Read second time and amended. Re-referred to Committee on NATURAL RESOURCES AND WATER.
AB 954 Mathis (R)	Water and Wastewater Loan and Grant Pilot Program		Creates the Water and Wastewater Loan and Grant Program. Require the State Water Resources Control Board to establish a pilot program to provide low-interest loans and grants to local agencies for grants to eligible individual homeowners for purposes relating to	08/27/2015 - In SENATE Committee on APPROPRIATIONS: Held in committee.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			drinking water and wastewater treatment. Creates a related fund for use under the program. Transfers a specified amount of funds from the General Fund to the fund.	
AB 1144 Rendon (D)	Renewables Portfolio Standard Program: Credits		Provides that renewable energy credits may be used to meet certain portfolio content requirements if the credits are earned by electricity that is generated by an entity that would be excluded from the definition of an electrical corporation by operation of the exclusions for entities employing landfill or digester gas technology that meets certain requirements, including that the electricity is used at a wastewater treatment facility. Prohibits certain marketing claims.	08/17/2015 - From SENATE Committee on APPROPRIATIONS with author's amendments.;08/17/2015 - In SENATE. Read second time and amended. Re-referred to Committee on APPROPRIATIONS.
AB 1173 Williams (D)	Water Equipment: Backflow Prevention Devices Testing		Requires, if a local health officer does not maintain a program for certificate of backflow prevention device testers, the testing and maintenance of such device be performed by a person who has received a California-specific certification for such devices from one of the specified entities or a similar certification provider deemed acceptable by the State Water Resources Control Board.	07/14/2015 - In SENATE Committee on ENVIRONMENTAL QUALITY: Not heard.
AB 1201 Salas (D)	Delta: Predation by Nonnative Species	Support	Requires the State Department of Fish and Wildlife to develop a science-based plan that addresses predation by nonnative species upon species of fish listed pursuant to the State Endangered Species Act that reside all or a portion of their lives in the Sacramento-San Joaquin Delta and that considers predation reduction for all Chinook salmon and other native species not listed pursuant to the Act. Provides for input from the scientific community, water users and fishing communities.	08/27/2015 - In SENATE Committee on APPROPRIATIONS: Held in committee.
AB 1242 Gray (D)	Water Quality and Storage		Provides provisions of law requiring a specified increase in statewide water storage capacity, and updating water strategies and implementation plans. Requires the Water Resources Control Board, in formulating policy for water quality control and adopting or approving a water quality control plan for the Sacramento-San Joaquin Delta, to take into consideration any applicable groundwater	09/02/2015 - In SENATE. Read second time. To third reading.;09/02/2015 - Re-referred to SENATE Committee on RULES.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			sustainability plan or alternative and available information on impacts of groundwater use and beneficial uses of water.	
<u>AB 1463</u> Gatto (D)	Onsite Treated Water		Authorizes onsite treated water from a graywater or rainwater source to be used for nonpotable uses in residential, commercial, or industrial buildings. Requires the establishment of monitoring and reporting requirements for the nonpotable use of onsite treated water from certain other sources to its use in the internal plumbing of multifamily, residential, commercial, or industrial buildings. Prohibits the use of water from a toilet, sewer, or onsite wastewater system in a single-family building.	06/13/2016 - In SENATE Committee on ENVIRONMENTAL QUALITY: Not heard.
<u>AB 1550</u> Gomez (D)	Greenhouse Gases: Investment Plan: Communities		Relates to greenhouse gases and investments in communities. Requires the Greenhouse Investment Fund plan to allocate a minimum percentage of the available moneys in the Greenhouse Gas Reduction Fund to projects located within disadvantaged communities and a minimum percentage to projects that benefit low-income households, with a fair share of the moneys targeting households with incomes below a percentage of the federal poverty level.	06/09/2016 - To SENATE Committee on ENVIRONMENTAL QUALITY.
<u>AB 1586</u> Mathis (R)	Environmental Quality Act: Temperance Flat Reservoir		Prohibits the court, in an action or proceeding alleging a violation of the California Environmental Quality Act, from staying or enjoining the construction or operation of the Temperance Flat Reservoir unless the court makes certain findings.	04/04/2016 - In ASSEMBLY Committee on NATURAL RESOURCES: Failed passage.;04/04/2016 - In ASSEMBLY Committee on NATURAL RESOURCES: Reconsideration granted.
<u>AB 1587</u> Mathis (R)	Groundwater		Requires, in implementing competitive grants under the Water Quality, Supply, and Infrastructure Improvement Act of 2014, for projects that develop and implement groundwater planning requirements, special consideration be given to those projects that would create groundwater recharge basins in areas of fallow	05/27/2016 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			farmland. Appropriates a specified amount of funding from the proceeds of the Act for the purposes of the grant program.	
AB 1588 Mathis (R)	Water and Wastewater Loan and Grant Program		Requires the State Water Resources Control Board to establish a program to provide funding to counties to award low-interest loans and grants to eligible applicants for specified purposes relating to drinking water and wastewater treatment. Authorizes a county to apply for such funds. Creates the Water and Wastewater Loan and Grant Fund and provides the moneys in this fund are available to the Board to administer and implement the program. Transfers funds from the General Fund to the loan and grant fund.	06/15/2016 - From SENATE Committee on ENVIRONMENTAL QUALITY with author's amendments.;06/15/2016 - In SENATE. Read second time and amended. Re-referred to Committee on ENVIRONMENTAL QUALITY.
AB 1589 Mathis (R)	Environmental Quality Act: Exemption:Drought Mitigation		Exempts from the requirements of the California Environmental Quality Act, for the duration of a state of emergency proclaimed by the Governor due to drought conditions, certain projects that are undertaken, carried out, or approved by a public agency to mitigate those drought conditions.	04/04/2016 - In ASSEMBLY Committee on NATURAL RESOURCES: Failed passage.;04/04/2016 - In ASSEMBLY Committee on NATURAL RESOURCES: Reconsideration granted.
AB 1590 Mathis (R)	State Water Resources Control Board: Appointments		Requires that additional members be appointed to the State Water Resources Control Board by the Legislature. Requires that vacancies be immediately filled by the appointing power.	03/10/2016 - From ASSEMBLY Committee on WATER, PARKS AND WILDLIFE with author's amendments.;03/10/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on WATER, PARKS AND WILDLIFE.
AB 1647 Waldron (R)	Environmental Quality: Water Storage Facilities		Exempts from the Environmental Quality Act a project to expand the storage capacity of an existing surface water storage facility, or to replace an existing surface water storage facility, that is owned and operated by a public entity if that public entity adopts, by resolution, findings and declarations that the project meets specified criteria.	04/04/2016 - In ASSEMBLY Committee on NATURAL RESOURCES: Not heard.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
<u>AB 1649</u> Salas (D)	State Water Policy: Storage: Joint Powers Authorities		Requires the Department of Water Resources to develop a State water policy giving priority to the formation of joint powers authorities to address critical surface water storage needs and to funding of surface water projects. Provides that specified projects will meet statewide goals and provide specified public benefits to the greatest extent.	06/16/2016 - To SENATE Committee on NATURAL RESOURCES AND WATER.
<u>AB 1694</u> Lackey (R)	Grant Program for School Drinking Water		Requires the State Water Resources Control Board to establish a grant program for grants to public elementary and secondary schools to improve access to, and the quality of drinking water. Specifies various types of projects for which the grants could be awarded. Provides the priority for such grants. Requires the establishment of grant application procedures. Appropriates funds therefor. Provides such funds would supplement not supplant other state funds apportioned to these local agencies.	03/31/2016 - Re-referred to ASSEMBLY Committees on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS and EDUCATION.
<u>AB 1704</u> Dodd (D)	Water Rights		Requires the registrant for water appropriations to provide a copy of the registrant's registration form for small irrigation use to the Department of Fish and Wildlife and agree to general conditions. Requires the State Water Resources Control Board to consult with the Department of Fish and Wildlife in establishing general conditions specific to small irrigation use. Requires the Department to adopt related general conditions application to a water diversion upon determining that funds are available.	06/20/2016 - From SENATE Committee on NATURAL RESOURCES AND WATER with author's amendments.;06/20/2016 - In SENATE. Read second time and amended. Re-referred to Committee on NATURAL RESOURCES AND WATER.
<u>AB 1713</u> Eggman (D)	Sacramento-San Joaquin Delta: Peripheral Canal	Oppose	Prohibits the construction of a peripheral canal in the Sacramento-San Joaquin Delta unless expressly authorized by an initiative voted on by the voters of California, and requires the Legislative Analyst's Office to complete a prescribed economic feasibility analysis prior to a vote authorizing the construction of a peripheral canal.	05/27/2016 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.
<u>AB 1738</u> McCarty (D)	Building Standards: Dark Graywater		Defines dark graywater as a specified wastewater that comes from kitchen sinks and dishwashers. Requires the Department of Housing and Community Development, at the next triennial building	06/09/2016 - To SENATE Committees on TRANSPORTATION AND

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			standards rulemaking cycle, to develop and submit for approval building standards for the construction, installation, and alteration of dark graywater systems for indoor and outdoor uses.	HOUSING and ENVIRONMENTAL QUALITY.
<u>AB 1749</u> Mathis (R)	Environmental Quality Act: Exemption: Porterville		Amends the California Environmental Quality Act which exempts projects that provide for the expansion of recycled water pipeline and directly related infrastructure within existing rights of way, and directly related groundwater replenishment, if the project does not affect wetlands or sensitive habitat where construction impacts are mitigated and undertaken to mitigate drought conditions for which an emergency was proclaimed. Exempts a water treatment project in the City of Porterville.	06/15/2016 - From SENATE Committee on ENVIRONMENTAL QUALITY with author's amendments.;06/15/2016 - In SENATE. Read second time and amended. Re-referred to Committee on ENVIRONMENTAL QUALITY.
<u>AB 1755</u> Dodd (D)	Open and Transparent Water Data Act		Enacts the Open and Transparent Water Data Act. Requires the Department of Water Resources to create, operate, and maintain a statewide integrated water data platform that integrates existing water and ecological data information from multiple databases and provide data on completed water transfers and exchanges. Creates a related fund to provide money to specified entities for the improvement of water data or for certain other purposes of the Act.	06/13/2016 - From SENATE Committee on NATURAL RESOURCES AND WATER with author's amendments.;06/13/2016 - In SENATE. Read second time and amended. Re-referred to Committee on NATURAL RESOURCES AND WATER.
<u>AB 1773</u> Oberholte (R)	Local Government Renewable Energy Program		Amends existing law that authorizes a local governmental entity to receive a bill credit to a designated benefiting account, for electricity exported to the electrical grid by an eligible renewable generating facility. Includes as a local governmental entity for this purpose a joint powers authority.	05/19/2016 - To SENATE Committee on ENERGY, UTILITIES AND COMMUNICATIONS.
<u>AB 1815</u> Alejo (D)	Global Warming Solutions Act of 2006		Requires the Environmental Protection Agency to establish a comprehensive technical assistance program, upon the appropriation of moneys from the Greenhouse Gas Reduction Fund, for eligible applicants assisting eligible communities. Requires the Agency to provide technical assistance to communities based on a specified priority. Requires the Department of Finance to include in a	05/27/2016 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			specified investment plan an allocation to the Agency for the technical assistance program.	
<u>AB 1842</u> Levine (D)	Water: Pollution: Fines		Imposes a civil penalty for each gallon or pound of polluting material discharged. Requires that the civil penalty be reduced for every gallon or pound of the illegally discharged material that is recovered and properly disposed of by the responsible party. Prohibits a person from being subject to multiple civil penalties for the same act or failure to act.	06/09/2016 - To SENATE Committee on ENVIRONMENTAL QUALITY.
<u>AB 1866</u> Wilk (R)	High-Speed Rail Bond Proceeds: Water Projects		Provides that no further bonds shall be sold for high-speed rail purposes pursuant to the Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century, except as specifically provided with respect to an existing appropriation for high-speed rail purposes for early improvement projects. Requires redirection of the unspent proceeds received from outstanding bonds issued for other high-speed rail purposes to fund capital expenditures for water projects.	04/11/2016 - In ASSEMBLY Committee on TRANSPORTATION: Failed passage.;04/11/2016 - In ASSEMBLY Committee on TRANSPORTATION: Reconsideration granted.
<u>AB 1871</u> Waldron (R)	Coastal Resources: Development: Water Supply Projects		Limits the growth-inducing impacts the Coastal Commission may consider in its review of a coastal development permit for a water supply project.	03/18/2016 - From ASSEMBLY Committee on NATURAL RESOURCES with author's amendments.;03/18/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on NATURAL RESOURCES.
<u>AB 1882</u> Williams (D)	Oil and Gas: Groundwater Monitoring		Requires the Division of Oil, Gas, and Geothermal Resources to provide an opportunity and the information necessary for the State Water Resources Control Board and the appropriate regional water quality control board to review, comment on, and propose additional requirements for Class II underground injection well projects.	05/27/2016 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.
<u>AB 1925</u> Chang (R)	Desalination: Statewide Goal		Requires the State Department of Water Resources to establish a goal of a specific number of acre-feet of drinking water to be desalinated per year by a specified year and a greater number of	05/04/2016 - In ASSEMBLY Committee on APPROPRIATIONS: Not heard.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			acre-feet by a later year, as part of a comprehensive water plan that fully evaluates other, specified options.	
<u>AB 1928</u> Campos (D)	Water Efficiency Landscape Irrigation Equipment		Postpones the date by which the Resources Conservation and Development Commission is to adopt the performance standards and labeling requirements for landscape irrigation equipment prohibit the sale of that equipment unless it meets the performance standards and labeling requirements.	06/15/2016 - To SENATE Committee on NATURAL RESOURCES AND WATER.
<u>AB 1986</u> Wilk (R)	Water Resources: Permit to Appropriate: Application		Requires, if the State Water Resources Control Board has not rendered a final determination on an application for a permit to appropriate water within a specified time period from the date the application to appropriate water was filed, the Board to issue a notice and provide an opportunity for protests before rendering a final determination.	05/27/2016 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.
<u>AB 1989</u> Jones (R)	Water and Greenhouse Gas Emissions Reduction		Requires the State Water Resources Control Board to develop and implement a grant and low-interest loan program for water projects that result in the net reduction of water-related greenhouse gas emissions.	05/27/2016 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.
<u>AB 2022</u> Gordon (D)	Advanced Purified Demonstration Water	Support	Authorizes the operator of an advanced purified demonstration water facility to cause the advanced purified demonstration water to be bottled and distributed as samples for educational purposes and to promote water recycling. Prohibits the advanced purified demonstration water in each bottle from exceeding a specified amount. Prohibits the water from being distributed unless it meets or is superior to all federal and state drinking water standards. Requires a recycling program for distributed bottles.	06/15/2016 - From SENATE Committee on ENVIRONMENTAL QUALITY: Do pass to Committee on APPROPRIATIONS.
<u>AB 2040</u> Melendez (R)	Outdoor Water Efficiency Act of 2016: Tax Credits		Allows, under the Personal Income Tax Law, a credit for a percentage of the amount paid or incurred by a qualified taxpayer for water-efficiency improvements on qualified real property in the State. Limits the cumulative amount for each qualifying property.	05/27/2016 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			Requires the amount of the credit to be multiplied. Requires the taxpayer to obtain and retain a certification of the improvements from the appropriate water agency and to provide a copy of same to the Franchise Tax Board upon request.	
<u>AB 2076</u> Garcia (D)	Water and Energy Use Efficiency: Breweries		Requires the Department of Water Resources to develop water and energy use efficiency certification guidelines for the production of beer that includes certification seals. Requires the Department of Alcoholic Beverage Control to consult in label design and approval for the use of a seal on a beer bottle. Provides the procedures for the application of certification of a brewery. Requires the submission of a certification fee.	04/11/2016 - Re-referred to ASSEMBLY Committees on WATER, PARKS AND WILDLIFE and GOVERNMENTAL ORGANIZATION.
<u>AB 2099</u> Stone (D)	Safe Drinking Water Benefit		Requires the State Department of Social Services to convene a workgroup to develop recommendations for delivering a water benefit to supplement that purchase of drinking water for low-income households with inadequate access to safe drinking water. Requires a plan for identification of eligible households and the delivery of the benefit to those households. Requires the submission of a report with the recommendations to specified entities.	06/16/2016 - In SENATE. Read second time and amended. Re-referred to Committee on APPROPRIATIONS.
<u>AB 2257</u> Maienschein (R)	Local Agency Meeting: Agenda: Online Posting		Amends the Ralph M. Brown Act, which enables the legislative body of a local agency to call both regular and special meetings. Requires an online posting of an agenda for a local agency legislative body, if the agency has an Internet Web site, be posted on the site homepage accessible specified link. Exempts specified local entities if the legislative body has a specified integrated agenda management platform. Requires the agenda to meet specified standards. Defines related terms.	06/09/2016 - To SENATE Committee on GOVERNANCE AND FINANCE.
<u>AB 2292</u> Gordon (D)	Global Warming Solutions Act: Disadvantaged Communities		Requires the State Environmental Protection Agency to update the State Communities Environmental Health Screening Tool that identifies disadvantaged communities regarding the monitoring and regulation of sources of emissions of greenhouse gases, when it	05/27/2016 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			comes to investment opportunities in the multiyear investment plan for moneys in the Greenhouse Gas Reduction Fund.	
AB 2304 Levine (D)	State Water Market Clearinghouse	Seek Amendments	Establishes the State Water Market Clearinghouse within the Natural Resources Agency for making the water transfer and exchange process more transparent and more efficient and to enhance access to voluntary water market transactions. Requires a water market platform on the Clearinghouse's Internet Web site regarding water transfer or exchange. Requires convening a related task force, and requires the Clearinghouse to consider and act on the recommendations regarding transfers or exchanges.	05/25/2016 - In ASSEMBLY Committee on APPROPRIATIONS: Not heard.
AB 2389 Ridley-Thomas S (D)	Special Districts: District-Based Elections		Amends existing law relating to special districts, district-based elections and reapportionment. Authorizes a governing body of a special district, to require, by resolution, the election of the members of its governing body be elected using district-based elections without being required to submit the resolution to the voters for approval. Requires the resolution to include a declaration that the change in the method of election is being made in furtherance of the purposes of the Voting Rights Act of 2001.	06/08/2016 - From SENATE Committee on ELECTIONS AND CONSTITUTIONAL AMENDMENTS: Do pass to Committee on GOVERNANCE AND FINANCE.
AB 2438 Waldron (R)	Environmental Quality Act		Relates to the Environmental Quality Act (CEQA). Exempts from CEQA a project for the construction and installation of a new pipeline or the maintenance, repair, restoration, reconditioning, relocation, replacement, removal, or demolition of an existing pipeline for the distribution of recycled water within a public street, highway, or right-of-way. Requires a public hearing.	06/09/2016 - To SENATE Committee on ENVIRONMENTAL QUALITY.
AB 2444 Garcia E (D)	Water, Climate, Coastal Protection and Outdoor Access		Enacts the California Parks, Water, Climate, and Coastal Protection and Outdoor Access for All Act of 2016 which would authorize the issuance of bonds in a specified amount pursuant to the State General Obligation Bond Law to finance a water, climate, and coastal protection and outdoor access for all program.	06/02/2016 - In ASSEMBLY. Read second time. To third reading.;06/02/2016 - In ASSEMBLY. Assembly Rule 63 suspended.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
AB 2446 Gordon (D)	State Water Resources Control Board: Judicial Review		Updates provisions regarding the issuance of a order by the State Water Resources Control Board and an aggrieved party petitioning the superior court for a writ of mandate for review of a decision or order issued by the Board. Provides that a decision or order under the Safe Drinking Water Act by the Board is not subject to court review if no aggrieved party petitions for such writ within a specified time period after a service of a copy of the order or decision issued by the Board.	06/15/2016 - From SENATE Committee on ENVIRONMENTAL QUALITY: Do pass to Committee on JUDICIARY.
AB 2456 Cooley (D)	Public Employee Retirement Benefits: Prefunding		Requires the Board of Administration of the Public Employee's Retirement System to develop, establish, and administer the State Employer's Pension Prefunding Trust Program in order to encourage State and local public employers that provide a defined benefit pension plan to their employees to effectively manage their pension contributions.	03/17/2016 - To ASSEMBLY Committee on PUBLIC EMPLOYEES, RETIREMENT AND SOCIAL SECURITY.;03/17/2016 - From ASSEMBLY Committee on PUBLIC EMPLOYEES, RETIREMENT AND SOCIAL SECURITY with author's amendments.;03/17/2016 - In ASSEMBLY. Read second time and amen
AB 2468 Hadley (R)	Public Employees' Retirement System		Authorizes a public agency that has contracted with the Board of Administration of PERS to offer an alternative formula from that required by the California Public Employees Pension Reform Act to be applicable to certain miscellaneous, nonsafety employees, if specified contingencies are satisfied. Requires that such employees who are not new members, that were employed by a public employer that did not contract with PERS until a specified date, be covered by a default benefit formula.	04/12/2016 - From ASSEMBLY Committee on PUBLIC EMPLOYEES, RETIREMENT AND SOCIAL SECURITY with author's amendments.;04/12/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on PUBLIC EMPLOYEES, RETIREMENT AND SOCIAL SECURITY.
AB 2480 Bloom (D)	Source Watersheds: Financing		Requires source watershed maintenance and repair to receive financing consideration on the same basis with other water collection and treatment infrastructure. Specifies that the maintenance and repair activities that are eligible are limited to certain forest ecosystem management activities.	06/13/2016 - From SENATE Committee on NATURAL RESOURCES AND WATER with author's amendments.;06/13/2016 - In SENATE. Read second time and

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
				amended. Re-referred to Committee on NATURAL RESOURCES AND WATER.
AB 2488 Dababneh (D)	Protected Species: Stickleback: Possession	Support	Permits the Department of Fish and Wildlife to authorize, under the State Endangered Species Act, the take of unarmored threespine stickleback attributable to the periodic dewatering, inspection, maintenance, modification, or repair of the Metropolitan Water District of Southern California's Foothill Feeder water supply facility from Castaic Dam to the Joseph Jensen Treatment Plant in the County of Los Angeles, if certain conditions are satisfied.	06/14/2016 - From SENATE Committee on NATURAL RESOURCES AND WATER: Do pass as amended to Committee on APPROPRIATIONS.
AB 2515 Weber (D)	Water Conservation in Landscaping Act		Requires the Department of Water Resources to either update the model water-efficient landscaping ordinance or make a finding that an update to such ordinance at that time is not a useful or effective means to improve the efficiency of landscape water use or the administrative of the ordinance. Requires the Department to submit an update to the Building Standards Commission during the triennial revision process of the State Green Building Standards Code.	06/09/2016 - To SENATE Committee on NATURAL RESOURCES AND WATER.
AB 2550 Patterson (R)	Instream Flow Curtailments and Compensation		Requires the State Water Resources Control Board to financially compensate a person who is unable to divert the full amount of water authorized under his or her permit or license due to a board-issued instream flow curtailment, and a person who is required to file a statement of diversion and use is unable to divert the same amount of water in the succeeding year due to a board-issued instream flow curtailment.	03/08/2016 - To ASSEMBLY Committee on WATER, PARKS AND WILDLIFE.
AB 2551 Gallagher (R)	Contract Procurement: Surface Storage Projects		Allows a local agency to use the construction management at-risk, design-build, or design-build operate method of delivery on a surface storage project. Requires such contracts to be awarded on the best value basis or to the lowest responsible bidder. Establishes a procurement process for these contracts. Provides reasons which would prohibit a contracting entity from being prequalified or short-listed.	06/09/2016 - To SENATE Committee on GOVERNANCE AND FINANCE.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
<u>AB 2578</u> Bigelow (R)	Environmental Quality Act: Exemptions: Water Service		Exempts from the requirements of the California Environmental Quality Act, a project within a public street or highway or other public right-of-way for the maintenance, repair, restoration, reconditioning, relocation, replacement, removal or demolition of an existing water distribution pipeline to address water leakage. Exempts activities undertaken by a local agency in response to a drought to acquire water supplies, extend service, or provide water for drinking and sanitation.	03/18/2016 - From ASSEMBLY Committee on NATURAL RESOURCES with author's amendments.;03/18/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on NATURAL RESOURCES.
<u>AB 2583</u> Frazier (D)	Sacramento-San Joaquin Delta Reform Act of 2009	Oppose	Relates to the Sacramento-San Joaquin Delta Reform Act of 2009, the Delta Stewardship Council, the Delta Plan and the California Water Fix. Provides that the new Delta water conveyance infrastructure is interdependent parts of a system. Amends the point of diversion to a point on the Sacramento River. Prohibits construction of a new Delta conveyance facility until contracts are signed by contractors who will receive the water that commit them to pay costs and to mitigate facility property taxes.	05/27/2016 - From ASSEMBLY Committee on WATER, PARKS AND WILDLIFE without further action pursuant to JR 62(a).
<u>AB 2594</u> Gordon (D)	Stormwater Resources: Use of Captured Water		Authorizes a public entity that captures stormwater, in accordance with a stormwater resource plan and consistent with a municipal separate storm sewer system permit, before the water reaches a natural channel to use the captured stormwater.	06/16/2016 - Re-referred to SENATE Committee on NATURAL RESOURCES AND WATER.
<u>AB 2601</u> Eggman (D)	Building Standard: Residential Property: Graywater		Requires the Department of Housing and Community Development to adopt and submit to Building Standards Commission for approval amendments to the building standards adopted pursuant to these provisions that require that all new single-family and duplex residential dwelling units include specified components to allow the separate discharge of graywater for direct irrigation.	03/10/2016 - To ASSEMBLY Committee on HOUSING AND COMMUNITY DEVELOPMENT.
<u>AB 2617</u> Mayes (R)	Water Efficiency Measures		Requires the Department of Water Resources to develop and solicit comments on a proposed report and, to issue a final report that contains recommendations to public entities to help them achieve water-resilient communities and prioritize cost-effective water	06/09/2016 - To SENATE Committee on RULES.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			efficiency measures with low adverse environmental impacts based on local conditions.	
AB 2801 Gallagher (R)	Local Government: Fees and Charges: Protest		Requires a local agency to keep written protests securely stored and sealed until a public hearing. Prohibits an agency from requiring such protest to include property identification other than street address unless there is not a street address, and from requiring such protest to be submitted on an agency form. Requires the agency maintain such protests for a minimum time period following the date of the hearing to consider the protests.	06/15/2016 - From SENATE Committee on GOVERNANCE AND FINANCE: Do pass to Committee on APPROPRIATIONS.
AB 2890 Env Safety & Toxic Material Cmt	Drinking Water and Wastewater Operator Certification		Requires the State Water Resources Control Board to appoint an advisory committee to examine and certify people to operate water treatment plants and water distribution systems, and to review all proposed regulations and make recommendations to the Board. Relates to water treatment operator-in-training. Revises procedures for the suspension or revocation of a valid operator license. Authorizes certificate reciprocity. Provides certificate application fraud civil liability. Relates to an advisory committee.	06/15/2016 - From SENATE Committee on ENVIRONMENTAL QUALITY: Do pass to Committee on APPROPRIATIONS.
AB 2910 Local Government Cmt	Local Government: Organization: Omnibus Bill		Revises provisions of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 to remove references to a public agency's current service area and instead include references to the public agency's jurisdictional boundaries. Provides a purpose of a local agency formation commission is to encourage government services efficiency. Relates to commission membership. Relates to agency reorganization. Relates to uncollected revenues and taxes upon disincorporation. Relates to hospital districts.	06/16/2016 - In SENATE. From Consent Calendar. To third reading.
ACA 8 Bloom (D)	Local Government Financing: Water Facilities: Voters		Proposes an amendment to the Constitution to create an exception to a limit for a rate imposed by a city, county, city and county, or special district to service bonded indebtedness incurred to fund the construction, reconstruction, rehabilitation, or replacement of wastewater treatment facilities and related infrastructure, potable	02/18/2016 - INTRODUCED.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			water producing facilities and related infrastructure, nonpotable water producing facilities and related infrastructure, and stormwater treatment facilities and infrastructure.	
SB 7 Wolk (D)	Housing: Water Meters: Multi-unit Structures		Requires a landlord to make submeter disclosures to a tenant prior to executing a rental agreement. Relates to tenant billing procedures and requirements. Authorizes building standards that require the installation of water submeters in multiunit residential buildings. Provides structure exemptions. Relates to landlord requirements. Relates to the use of meters or submeters in new mixed-use residential and commercial structures as a condition for service. Requires licensed contractors do the installation.	09/08/2015 - In ASSEMBLY. Read third time. Failed to pass ASSEMBLY.;09/08/2015 - In ASSEMBLY. Motion to reconsider.
SB 20 Pavley (D)	State Water Resiliency Investment Act		Creates the State Water Resiliency Investment Fund. Provides that moneys in the Fund are available for the purpose of providing a more dependable water supply in the State. Creates various accounts within the Fund for prescribed purposes.	06/20/2016 - From ASSEMBLY Committee on WATER, PARKS AND WILDLIFE with author's amendments.;06/20/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on WATER, PARKS AND WILDLIFE.
SB 32 Pavley (D)	Global Warming Solutions Act of 2006: Emissions Limit		Requires the State Air Resources Board to approve a specified statewide greenhouse gas emissions limits that are the equivalent to a specified percentage below the 1990 level to be achieved by 2030.	06/10/2016 - From ASSEMBLY Committee on NATURAL RESOURCES with author's amendments.;06/10/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on NATURAL RESOURCES.
SB 122 Jackson (D)	Environmental Quality Act: Record of Proceedings		Amends the Environmental Quality Act. Relates to a database for the collection, storage, retrieval, and dissemination of environmental documents, notices of exemption, notices of preparation, notices of determination, and notices of completion provided to the office that shall be available online to the public through the internet. Provides for the phase-in of electronic documents. Requires the lead agency	08/27/2015 - In ASSEMBLY Committee on APPROPRIATIONS: Not heard.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			to submit to the State Clearinghouse a sufficient number of environmental documents for review.	
SB 163 Hertzberg (D)	Wastewater Treatment: Recycled Water	Oppose	Declares that it is a waste and unreasonable use of water to discharge treated wastewater from an ocean or bay outfall, or for a water supplier or water replenishment district to not take treated wastewater made available for certain purposes. Requires related regulations. Requires permitholders to submit plans to achieve beneficial reuse of treated wastewater. Requires reuse of a specified percentage of such wastewater. Requires convening an advisory group. Authorizes specified fees.	06/14/2016 - In ASSEMBLY Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS: Heard, remains in Committee.
SB 223 Galgiani (D)	Division of Boating and Waterways: Oversight Committee		Requires the Division of Boating and Waterways to establish an advisory and oversight committee to evaluate and monitor the activities of the Division relating to the management and control or eradication of invasive aquatic plants. Provides the expertise of members of the committee. Requires the committee to meet a specified amount of times per year and to communicate any findings or recommendations to the Division.	08/27/2015 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.
SB 248 Pavley (D)	Oil and Gas		Provides for an inspection program for all activities regulated pursuant to provisions concerning drilling, operation, maintenance, and abandonment of oil and gas wells and certain tanks and facilities. Requires inspections to be reported and posted, and the recording of information in a well history, including fluid injection, chemical composition, and waste disposal injection. Provides for shutdown. Requires updating related regulations. Requires notification and clearance of chemical injection.	08/27/2015 - In ASSEMBLY Committee on APPROPRIATIONS: Not heard.
SB 286 Hertzberg (D)	Electricity: Direct Transactions		Requires the Public Utilities Commission to adopt and implement a schedule that implements a specified phase-in period for expanding direct transactions for individual retail nonresidential end-use customers over a maximum time period, raising the allowable limit of kilowatthours that can be supplied by other electrical	03/01/2016 - From ASSEMBLY Committee on APPROPRIATIONS with author's amendments.;03/01/2016 - In ASSEMBLY. Read second time

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			corporation's distribution service territory to that corporation's share of the gigawatthours. Requires such customers to be responsible for their share of the costs of specified programs.	and amended. Re-referred to Committee on APPROPRIATIONS.
SB 471 Pavley (D)	Water, Energy, Reduction of Greenhouse Gas Emissions		Includes reduction of greenhouse emissions associated with water treatment among the investments that are eligible for funding from the Greenhouse Gas Reduction Fund. Requires the State Water Resources Control Board to establish a grant and loan program for water projects that result in the net reduction of water-related greenhouse gas emissions.	08/27/2015 - In ASSEMBLY. Joint Rule 62(a) suspended.;08/27/2015 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.
SB 551 Wolk (D)	State Water Policy: Water and Energy Efficiency	Seek Amendments	Declares the policy of the state that water use and water treatment shall operate in a manner that is as energy efficient as in feasible and energy use and generation shall operate in a manner that is as water efficient as is feasible. Requires all relevant state agencies to consider this state policy when revising, or establishing policies, regulations, and grant criteria when pertinent to these uses of water and energy.	08/27/2015 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.
SB 552 Wolk (D)	Public Water Systems: Disadvantaged Communities		Requires the State Water Resources Control Board to hold an initial public meeting prior to ordering the consolidation or extension of public water system service and to obtain well owner consent. Provides any affected resident and domestic well owner within the service area who does not consent is ineligible for any future water-related grants. Requires the Board to compensate certain water systems. Prohibits a charge increase for certain customers. Requires contracting for administrative services.	06/16/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on WATER, PARKS AND WILDLIFE.
SB 554 Wolk (D)	Delta Levee Maintenance		Relates to the maintenance or improvement of project or nonproject levees in the Sacramento-San Joaquin Delta. Declares legislative intent to reimburse up to a certain percent of costs incurred in any year for the maintenance or improvement of levees in excess of a specified sum per mile of levee and authorizes a specified board to	06/14/2016 - From ASSEMBLY Committee on WATER, PARKS AND WILDLIFE: Do pass to Committee on APPROPRIATIONS.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			advance funds in an amount that does not exceed a certain percent of the estimated state share to an eligible local agency.	
SB 814 Hill (D)	Drought: Excessive Water Use: Urban Retail Water Supply	Seek Amendments	Requires each urban retail water supplier to establish a method to identify and discourage excessive water use. Authorizes the establishment of a rate structure that penalizes such excessive water users. Authorizes an excessive water use ordinance, rule, or tariff condition. Makes a violation thereof an infraction or administrative civil penalty. Authorizes the penalty for a violation to be based on conditions identified by the water supplier.	06/14/2016 - From ASSEMBLY Committee on WATER, PARKS AND WILDLIFE: Do pass as amended to Committee on APPROPRIATIONS.
SB 885 Wolk (D)	Contracts: Design Professionals: Indemnity	Oppose	Specifies, for contracts, that a design professional only the has the duty to defend claims that arise out of, or pertain or relate to, negligence, recklessness, or willful misconduct of the design professional. Prohibits a waiver of these provisions. Updates claims defense procedures. Provides any clause, covenant, or agreement contained in, collateral to, or affecting a contract that requires a design professional to defend claims or lawsuits against other persons or entities is void and unenforceable.	06/16/2016 - From ASSEMBLY Committee on JUDICIARY with author's amendments.;06/16/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on JUDICIARY.
SB 919 Hertzberg (D)	Water Supply: Creation or Augmentation of Local Water		Requires the Public Utilities Commission to address the oversupply of renewable energy resources through a tariff or other economic incentive for electricity purchased by customers operating facilities that create or augment local water supplies to reduce the cost of electricity to those facilities.	06/15/2016 - From ASSEMBLY Committee on UTILITIES AND COMMERCE: Do pass to Committee on WATER, PARKS AND WILDLIFE.
SB 970 Leyva (D)	Greenhouse Gas Reduction Fund: Grants: Recyclables	Support in Concept	Requires the Department of Resources Recycling and Recovery, in awarding a grant for organic composting or anaerobic digestion under the grant program under the Greenhouse Gas Reduction Fund for financial assistance to reduce such gas emissions, to consider the amount of greenhouse gas emission reductions that may result from the project and the amount of organic material that may be diverted from landfills as a result of the project.	06/20/2016 - From ASSEMBLY Committee on NATURAL RESOURCES with author's amendments.;06/20/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on NATURAL RESOURCES.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
SB 974 Governance and Finance Cmt	Local Government: Omnibus	Support	Amends existing law regarding local government to include storing survey records, military discharge copy fees, notaries public, city financial condition reports, local sinking fund moneys investment, the Subdivision Map Act, local safety land use elements, Fort Ord reuse and redevelopment, sewage services and facilities fees, use of design-build, vehicle license fees, income tax collection, floating home taxation, synthetic grass, business assessments, and liquefied petroleum tax revenues.	06/15/2016 - From ASSEMBLY Committee on LOCAL GOVERNMENT: Do pass to Committee on APPROPRIATIONS.
SB 995 Pavley (D)	Well Standards		Requires the Department of Water Resources to update well standards for water wells, monitoring wells and cathodic protection wells based on existing knowledge and to submit these standards to the State Water Resources Control Board. Includes abandonment ordinances. Requires the state board to revise the model ordinances upon receipt of the standards.	06/09/2016 - To ASSEMBLY Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS.
SB 1026 Nielsen (R)	Lake or Streambed Alteration Agreements		Relates to lake or streambed alteration agreement. Limits the diversions and obstructions governed by alteration agreement requirements to the diversions and obstructions that alter the bed, channel, or bank of a river, stream or lake. Exempts routine maintenance and repair of facilities for instream agricultural diversions.	04/12/2016 - In SENATE Committee on NATURAL RESOURCES AND WATER: Failed passage.
SB 1043 Allen (D)	Biogas and Biomethane		Requires the State Air Resources Board to consider and adopt policies to significantly increase the sustainable production and use of biogas. Requires the Board, to ensure the production and use of renewable gas provides direct environmental benefits and identify barriers to the rapid development and use of biogas and potential sources of funding. Revises the definition of biogas and biomethane for pipeline integrity and safety purposes.	05/27/2016 - In SENATE Committee on APPROPRIATIONS: Held in committee.
SB 1173 Hertzberg (D)	Plumbing Fixtures: CalConserve Water Use Efficiency		Requires for commercial property the replacement of any noncompliant fixture or fitting in specified additions, alterations, and improvements to such property and the replacement of any	03/30/2016 - From SENATE Committee on TRANSPORTATION AND HOUSING with author's

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			noncompliant plumbing fixture or fitting in all such property in accordance with a specified schedule based on floor space. Provides related definitions. Authorizes county offices of education and school district boards to receive moneys from the CalConserve Water Use Efficiency Fund for efficiency projects.	amendments.;03/30/2016 - In SENATE. Read second time and amended. Re-referred to Committee on TRANSPORTATION AND HOUSING.
SB 1213 Wieckowski (D)	Renewable Energy: Biosolids: Matching Grants		Requires the Energy Resources Conservation Commission to develop and implement the Biosolids to Clean Energy Grant Program to provide matching funds to local wastewater agencies for biosolids to clean energy capital projects. Appropriates a specified amount of funds annually to the Commission for purposes of the program.	05/27/2016 - In SENATE Committee on APPROPRIATIONS: Held in committee.
SB 1233 McGuire (D)	Joint Powers Authority: Water Bill Savings Act		Enacts the Water Bill Savings Act. Authorizes a joint powers authority to provide funding for a customer of a local agency or its publicly owned utility to acquire, install, or repair a water efficiency improvement on the customer's property served by the local agency or its publicly owned utility. Requires repayment through an efficiency charge on the customer's water bill. Authorizes the authority to issue bonds to fund the program. Makes technical changes.	06/20/2016 - From ASSEMBLY Committee on LOCAL GOVERNMENT with author's amendments.;06/20/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on LOCAL GOVERNMENT.
SB 1260 Allen (D)	Stormwater: Municipalities: Online Resource Center		Requires the State Water Resources Control Board to establish an online resource center that addresses measures available for municipalities to comply with municipal stormwater permit requirements. Authorizes the inclusion of certain information.	06/14/2016 - From ASSEMBLY Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS: Do pass to Committee on APPROPRIATIONS.
SB 1262 Pavley (D)	Water Supply Planning		Requires a city or county that determines a project is subject to the California Environmental Quality Act to identify any water system whose service area includes the project site and any water system adjacent to the project site. Provides that hauled water is not a source of water for the purposes of an assessment. Revises the definition of sufficient water supply.	06/15/2016 - From ASSEMBLY Committee on WATER, PARKS AND WILDLIFE with author's amendments.;06/15/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on WATER, PARKS AND WILDLIFE.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
SB 1263 Wieckowski (D)	Public Water System: Permits		Requires an application for a permit for a proposed new public water system to first submit a preliminary technical report to the State Water Resources Control Board before initiating construction of any water-related improvement. Directs specified procedures to be followed by the applicant before submitting the application. Provides the bases for denial of such permit by the Board. Prohibits a local building permit for new residential development when the water supply is provided using certain methods.	06/20/2016 - From ASSEMBLY Committee on WATER, PARKS AND WILDLIFE with author's amendments.;06/20/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on WATER, PARKS AND WILDLIFE.
SB 1317 Wolk (D)	Groundwater Extraction Permit	Oppose Unless Amended	Requires a city or county overlying a basin designated as a high- or medium- priority basin to establish a process for the issuance of a groundwater extraction permit for the development of a groundwater extraction facility that requires an applicant to demonstrate the extraction from a proposed facility will not contribute to or create an undesirable result. Provides a city or county overlying such basin does not have to have a permit process under specified conditions.	06/20/2016 - From ASSEMBLY Committee on WATER, PARKS AND WILDLIFE with author's amendments.;06/20/2016 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on WATER, PARKS AND WILDLIFE.
SB 1318 Wolk (D)	Local Government: Drinking Water and Wastewater Service		Amends existing law that regulates to formation, consolidate, and merger of new districts to include annexation of a disadvantaged unincorporated community, a special district's sphere of influence, the review of adequacy and need for water and wastewater services in such communities, and a service review of the municipal services of unincorporated island, fringe, or legacy communities.	06/09/2016 - To ASSEMBLY Committees on LOCAL GOVERNMENT and ENVIRONMENTAL SAFETY AND TOXIC MATERIALS.
SB 1340 Wolk (D)	Water Conservation in Landscaping Act		Requires a local agency to require a permit for the installation of specified automatic irrigation systems, or the expansion of the same specified automatic irrigation system to increase the irrigated area by a specified percentage or more, for a landscape project. Allows the governing body of a local agency to adopt an ordinance prescribing fees for filing an application for the permit, subject to restrictions. Authorizes specified persons to submit the application for a residential landscape system.	06/14/2016 - In ASSEMBLY Committee on WATER, PARKS AND WILDLIFE: Failed passage.;06/14/2016 - In ASSEMBLY Committee on WATER, PARKS AND WILDLIFE: Reconsideration granted.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
<u>SB 1383</u> Lara (D)	Short-Lived Climate Pollutants		Requires the State Air Resources Board to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a specified reduction in methane, hydro-fluorocarbon gases, and anthropogenic black carbon below 2013 levels by 2030.	06/13/2016 - To ASSEMBLY Committee on NATURAL RESOURCES.
<u>SB 1415</u> Bates (R)	Environmental Quality Act: Local Water Projects		Amends the Environmental Quality Act which requires a lead agency to call a scoping meeting for transportation-related projects and projects of statewide, regional, or areawide significance to require that lead agency to call a scoping meeting to receive public comments for local projects for stormwater or dry weather runoff capture and reuse, water recycling, or wastewater treatment to improve water quality.	04/21/2016 - Re-referred to SENATE Committee on APPROPRIATIONS.
<u>SB 1425</u> Pavley (D)	Water Energy Nexus Registry		Requires the State Air Resources Board to develop a registry of greenhouse gas emission resulting from the water-energy nexus using the best available data including specified actions of a former registry as they relate to the water-energy nexus.	06/06/2016 - To ASSEMBLY Committee on NATURAL RESOURCES.
<u>SB 1440</u> Cannella (R)	Water Supply and Infrastructure Improvement		Requires a lead agency, in certifying the environmental impact report and in granting approvals for certain water storage projects funded, in whole or in part, by Proposition I, to comply with specified procedures. Authorizes the lead agency to concurrently prepare the record of proceedings for the project. Requires the Judicial Council to adopt a rule of court to establish procedures applicable to actions or proceedings seeking judicial review.	03/10/2016 - To SENATE Committees on ENVIRONMENTAL QUALITY and JUDICIARY.
<u>SB 1456</u> Galgiani (D)	Safe Drinking Water State Revolving Fund Law		Amends an existing law which establishes the Safe Drinking Water State Revolving Fund. Authorizes certain costs to be funded by loans or other repayable financing, grants, principal forgiveness, or a combination of grants and loans or other financial assistance, regardless of whether a public water system is a community public water system or a not-for-profit noncommunity public water system.	06/09/2016 - To ASSEMBLY Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS.

IRWD 2016 LEGISLATIVE MATRIX
Updated 02/4/2016

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
			Limits the principal forgiveness to capital improvements serving specified severely disadvantaged communities.	
<u>HR 2689</u> Walters (R)	Eligible Water Resources Projects	Support	Clarifies the scope of eligible water resources projects under the Water Resources Development Act of 1986 and the Water Resources Reform and Development Act of 2014.	06/10/2015 - In HOUSE Committee on TRANSPORTATION & INFRASTRUCTURE: Referred to Subcommittee on WATER RESOURCES AND ENVIRONMENT.
<u>HR 4615</u> Huffman (D)	Water Department Gross Income Exclusion	Support	Amends the Internal Revenue Code of 1986 to exclude from gross income amounts received from a water department for water conservation efficiency measures and water runoff management improvements.	02/25/2016 - INTRODUCED.;02/25/2016 - To HOUSE Committee on WAYS AND MEANS.
<u>S 2533</u> Feinstein (D)	Water Supplies for California and Drought Resiliency		Provides short-term water supplies to drought-stricken California, provides for long-term investments in drought resiliency throughout the Western United States.	05/17/2016 - Subcommittee on WATER AND POWER hearings held.
<u>S 2848</u> Inhofe (R)	Water Conservation and Development		Provides for the conservation and development of water and related resources, authorizes the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States.	04/28/2016 - In SENATE Committee on ENVIRONMENT AND PUBLIC WORKS: Ordered to be reported as amended.

Exhibit "B"

2016 Legislative Update Report: Links to Bill Texts

Bill Number/Version Date	Link to Bill Text
AB 2304 (Levine), as amended May 11, 2016.	http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB2304
SB 163 (Hertzberg), as amended June 8, 2015	http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB163
SB 1298 (Hertzberg), as amended June 13, 2015	http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1298
S. 2848: Water Resources Development Act of 2016 as amended by Committee	https://www.congress.gov/bill/114th-congress/senate-bill/2848/text
H.R. 5303: Water Resources Development Act of 2016 as amended by Committee	https://www.congress.gov/bill/114th-congress/house-bill/5303/text?q=%7B%22search%22%3A%5B%22%5C%22hr5303%5C%22%22%5D%7D&resultIndex=1

EXHIBIT "C"

AB 2909 (Levine)
Water Transfers Bill

SECTION 1. Section ____ is added to the Water Code, to read:

_____. (a) The department and the board shall develop an expedited 45-day review process for approval of applications for reoccurring water transfers and environmentally beneficial transfers.

(b) For purposes of this section, "reoccurring water transfers" means transfers of 1 year or less that are substantially similar in volume, time of year, and hydrologic conditions to those previously approved by the department or the board in the past 48 months may be eligible for expedited approval.

(c) For purposes of this section, "environmentally beneficial transfers" means any of the following:

(1) Transfers between water users that are designed to benefit the environment.

(2) Transfers that protect habitat and sensitive wildlife or enhance managed wetland supply, wildlife refuges, ecosystems, and instream flow.

(3) Transfers that benefit local drinking water supplies by reducing local groundwater overdraft or improving water quality.

(4) Transfers that contribute to implementation of the Sustainable Groundwater Management Act.

(d) Transfers under subdivision (c) will be expedited provided that such transfers have no negative impacts on ecosystems and local drinking water supplies in the source area.

(e) Transfers expedited according to the provisions of this section will not alter the priority for use of conveyance facilities.

(f) This section may not be used for more than five years from the date of the first water transfers.

(g) This section applies in addition to any other law relating to water transfers and exchanges.

(h) This section shall become inoperative and is repealed as of January 1, 2022, unless a later enacted statute, that becomes operative on or before January 1, 2022, deletes or extends the dates on which it becomes inoperative and is repealed.

June 27, 2016

Prepared by: Alex Aguilar

Submitted by: Rob Jacobson/Cheryl Clary

Approved by: Paul Cook

CONSENT CALENDAR

FY 2016-17 OPERATING BUDGET VENDOR EXPENDITURE COMMITMENTS GREATER THAN \$100,000

SUMMARY:

Each year, following Board approval of the District's operating budget, staff initiates or renews commitments with vendors for certain products and services included in the approved budget. Staff has provided a list of those vendors with expected commitments totaling \$100,000 or greater in fiscal year (FY) 2016-17 for the review. The list of vendor commitments excludes contracts/agreements which have been previously approved by separate Board action. Consistent with provisions included in the District's *Policy Regarding Authorization of Expenditures*, staff recommends that the Board approve the list of vendor expenditure commitments greater than \$100,000 for FY 2016-17.

BACKGROUND:

On an annual basis, the Board approves the fiscal year operating budget for the District for the upcoming year. Included in the operating budget are expenditures for line items such as chemicals, fuel, hauling of biosolids and other products and services which result in commitments greater than \$100,000. These expenditures typically utilize cooperative agreements for best pricing when applicable, or have been previously competitively bid and in some cases are for products (e.g., certain chemicals) provided by a single supplier.

These commitments are structured as open purchase orders and typically consist of multiple individual transactions during the fiscal year with the cumulative total of the purchase order exceeding \$100,000. The approval structure allows staff to order goods and services on a regular and efficient basis during the fiscal year. These commitments are a "not to exceed" amount and can be cancelled at any time.

A list of the planned vendor commitments exceeding \$100,000 for FY 2016-17 is attached as Exhibit "A". The list includes vendor names, descriptions of the products or services being provided, the basis for pricing (e.g., cooperative agreement, single source, etc.) and estimated annual expense. Excluded from this list are contracts in excess of \$100,000 which have been previously approved by separate Board action and are within their approved contract period, as well as recurring utility bills.

The total planned expenditure amount for the listed vendors for FY 2016-17 is \$2,241,400, representing approximately 1.5% of total planned expenditures in the approved operating budget. Consistent with provisions included in the District's *Policy Regarding Authorization of Expenditures*, staff recommends that the Board approve the list of vendor commitments greater than \$100,000 for FY 2016-17.

Consent Calendar: FY 2016-17 Operating Budget – Vendor Expenditure Commitments Greater than \$100,000
June 27, 2016
Page 2

FISCAL IMPACTS:

Total planned expenditures for FY 2016-17 for vendor commitments greater than \$100,000 (excluding contracts/agreements approved by separate Board action) are \$2,241,400, representing approximately 1.5% of total planned expenditures in the approved FY 2016-17 operating budget.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was reviewed by the Finance and Personnel Committee on June 7, 2016.

RECOMMENDATION:

THAT THE BOARD APPROVE THE LIST OF VENDOR COMMITMENTS GREATER THAN \$100,000 BASED ON APPROVED FY 2016-17 OPERATING BUDGET EXPENDITURES.

LIST OF EXHIBITS:

Exhibit “A” – FY 2016-17 Operating Budget - Vendor Commitments Greater than \$100,000

EXHIBIT "A"

VENDORS	SERVICES	PO#	Requester	Dept	TYPE	TIME	PO Amt
Hill Brothers Chemical (operating budget approved)	OPEN PO FOR FERROUS CHLORIDE DELIVERIES TO LAWRP FACILITY COLLECTIONS SYSTEM FEED SITE FOR ODOR CONTROL CHEMICAL AS REQUIRED DURING FY JULY 1, 2015 THRU JUNE 30, 2016. UNIT PRICE \$3.35/GAL, MINIMUM 1,500 GAL DEL. FUEL SURCHARGE \$30.	520588	H Solis	570	Competitive Bid	Year 2 of 2	MR \$ 140,000.00
Olin Corporation (operating budget approved)	OPEN PO TO SUPPLY MWRP WITH SODIUM HYPOCHLORITE 12.5% FOR EFFLUENT DISINFECTION DELIVERIES DURING FY JULY 1, 2015 THRU JUNE 30, 2016. DEL METHOD: BULK, VOL 4500-5000 GAL. SOCWA AGREEMENT.	520011	D Hayden	550	Cooperative Agreement (Socwa)	Annual	MR \$ 430,000.00
Athens Services (operating budget approved)	OPEN PO TO SUPPLY SCREENINGS AND GRIT REMOVAL FROM MWRP DURING FY JULY 1, 2015 THRU JUNE 30, 2016. DEL METHOD: ATHENS TRUCK SERVICE. SOCWA AGREEMENT.	520184	D Hayden	550	Cooperative Agreement (Socwa)	Annual	MR \$ 126,400.00
Olin Corporation (operating budget approved)	FY 15/16 OPEN PO FOR BULK SODIUM HYPOCHLORITE 12.5% (#105004 NSF APPROVED) SOCWA CONTRACT PRICE - \$0.554/GALLON UNTIL OCT 5, 2016	520007	W Wright	420	Cooperative Agreement (Socwa)	Annual	SB \$ 175,000.00
JCI Jones Chemicals Inc (operating budget approved)	FY 15/16 OPEN PO FOR 1-TON CHLORINE GAS CYLINDERS FOR DYER ROAD WELDFIELD PDF (2915 S. HALLADAY ST. ID# 1) & IDF (2510 SUSAN ST. ID# 2) ACCOUNT# 53450050.	519944	W Wright	420	Cooperative Agreement (Socwa)	Annual	SB \$ 140,000.00
Hill Brothers Chemical (operating budget approved)	OPEN PO FOR THE DELIVERY OF ODOR CONTROL PRODUCT (OXY-CAN) TO HATS DIVERSION SITE AS REQUIRED DURING FY JULY 1, 2015 THRU JUNE 30, 2016. UNIT PRICE \$3.35/GAL, MINIMUM 300 GAL DEL. FUEL SURCHARGE \$20.	520587	H Solis	570	Single Source	5 Years	MR \$ 100,000.00
Aqua Ben Corp (operating budget approved)	OPEN PO FOR HYDROFLOC 860 BULK SHIPMENTS FOR LAWRP DURING FY JULY 1, 2015 THRU JUNE 30, 2016. BULK SHIPMENT IS APPROX 4,200 GAL @ 10.34 LB/GAL = 43,428 LBS. EST @ \$0.70/LB DELIVERED.	519733	V Cady	590	Single Source	2 Years	MR \$ 155,000.00
II Fuels Inc (operating budget approved)	FY 15/16 OPEN PO FOR 87 OCTANE UNLEADED & ULTRA LOW SULPHUR DIESEL #2 FUELS AT MRWP AND LAWRP FACILITIES	520179	R Perry	850	Cooperative	Year 1 of 2	SB \$ 610,000.00
BioMagic Inc. (operating budget approved)	FY 15/16 OPEN PO FOR ODOR CONTROL CHEMICAL DELIVERIES(BIOMAGIC 250 - @3.20 PER GALLON) FOR COLLECTIONS LIFT STATION AND ODOR CONTROL INJECTION FACILITIES AS REQUIRED	525238	H. Solis	570	Single Source	5 Years	MR \$ 200,000.00
Chem Tech International Inc. (operating budget approved)	FY 15/16 OPEN PO FOR CL-50 CORROSION CONTROL(\$15.36/GALLON) TO SGU AND PAP SITES	525315	D.Paulson	420	Single Source	3 Years	SB \$ 165,000.00

June 27, 2016

Prepared by: Tony Mossbarger

Submitted by: Cheryl Clary

Approved by: Paul Cook



CONSENT CALENDAR

INFORMATION SERVICES PROFESSIONAL SERVICES
SUPPORT CONTRACT RENEWALS

SUMMARY:

IRWD requires additional resources to supplement existing staff to support and operate the Oracle Financial and Customer Care and Billing (CC&B) systems. In 2015, the Board authorized various outside service providers to assist in providing information technology services through June 2016. The providers include Infosys, the CC&B systems integrator, to provide managed support services; LCS Technologies to provide on-call database administration (DBA) services; and Outsource Technical to provide on-call programming, analysis, project management, and networking services. Staff has identified the need to continue these support services through FY 2017. In addition, staff has identified specific, one-time CC&B-related projects for completion by Infosys.

Staff recommends the Board authorize the General Manager to execute Professional Services Agreements for the period July 1, 2016 to June 30, 2017 as follows:

- Infosys Ltd. in the amount of \$375,000 for support services and one-time special projects;
- LCS Technologies in the amount of \$100,000 for on-call DBA services; and
- Outsource Technical in the amount of \$225,000 for on-call programming, analysis, project management, and networking services.

BACKGROUND:

Infosys Utility Billing Support Services

A utility billing software support services contract was awarded to Infosys in September 2015 in the amount of \$432,000. The contract provided managed support services for the period of August 2015 to June 2016 and one-time projects which staff did not have the existing resources to complete.

Infosys has provided IRWD with managed support services for the Oracle CC&B system since August 2014. It provides highly skilled, experienced, and reliable resources that are very familiar with IRWD's systems, standards, and staff. Infosys has proven that it can provide additional resources to handle urgent projects with tight deadlines, as occurred with rate changes for FY 2015-16.

Staff has identified the need to continue the software support services agreement for the period July 1, 2016 through June 30, 2017. Under the proposed scope, Infosys will provide support for issues involving a high degree of complexity, while District staff will handle routine and less complex requests. The proposed software support services contract will be in effect from July 1, 2016 through June 30, 2017, and is needed due to internal staffing and resource availability. The pricing for managed support services remains the same for this year's proposed contract. The proposed support request is \$28,333 per month for 12 months totaling \$340,000.

In addition to the software support services, staff has identified certain additional one-time projects which staff does not have the existing resources to complete. These projects include:

- Implementation of a new bill format to accommodate sewer loan accounts;
- Programming to automate adjustments for overcharges of late payment charges; and
- Modifications in CC&B required to generate the general ledger transactions resulting from the Oracle Financial Software Upgrade and Project Management implementation project.

The cost of the additional one-time projects totals \$35,000. The scope for the software managed support services and change requests is included in Exhibit "A".

The District is also in the process of redesigning its customer utility bill. The redesign is not yet completed; therefore, the cost of this effort is unknown at this time and is not included in the above scope of work.

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement with Infosys Ltd. in the amount of \$375,000.

LCS Technologies On-Call DBA Services

Staff currently utilizes database administration resources from LCS Technologies to provide support for the Oracle Financial System and the Oracle CC&B system. There is an ongoing need for database administration services for IRWD's software systems as a result of several projects the District has recently undertaken, including the Oracle Financial Software Upgrade and Project Management implementation project, as well as smaller scale software and networking projects. In addition, consultants with the required skills could be retained to back fill staff vacancies where staff is working on special projects or for leaves of absence.

LCS Technologies has provided IRWD with database administration support services for the District's Oracle systems since August 2011. It provides highly skilled, experienced, and reliable resources that are very familiar with IRWD's systems, standards, and staff. LCS Technologies has proven that it can provide resources to handle urgent projects with tight deadlines, as has occurred with the Oracle Financial System Software Upgrade and Project Management implementation project. The pricing for database administration support services remains the same for this year's proposed contract.

LCS Technologies' proposal with related fee schedule is attached as Exhibit "B".

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement with LCS Technologies in the amount of \$100,000.

Outsource Technical On-Call Programming and Analysis Services

Staff currently utilizes on-call programming and analysis resources from Outsource Technical to provide support to regular positions. There is an ongoing need for programming, analysis, project management, and network assistance related to IRWD's software systems and networks as a result of several major capital projects the District has recently undertaken, including the Oracle Financial System Software Upgrade and Project Management implementation project, as well as smaller scale software and networking projects. In addition, consultants with the required skills could be retained to backfill staff vacancies where staff is working on special projects or for leaves of absence. Staff proposes to retain programmers, analysts, project managers, and network consultants who would provide services on an on-call basis.

Outsource Technical has provided IRWD with on-call programming and analysis services for the District's Oracle systems since November 2012. It provides highly skilled, experienced, and reliable resources that are very familiar with IRWD's systems, standards, and staff. Outsource Technical has proven that it can provide quality resources to handle urgent projects, as has occurred with the Oracle Financial System Software Upgrade and Project Management implementation project. The pricing for on-call programming and analysis services remains the same for this year's proposed contract.

Outsource Technical's proposal with related fee schedule is attached as Exhibit "C".

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement with Outsource Technical in the amount of \$225,000.

FISCAL IMPACTS:

These amounts are budgeted in the current fiscal year's budget or in the current expense authorizations of affected projects. The professional services will be charged to the appropriate projects or expense account.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act Code of Regulations, Title 14, Chapter 3, Section 15378.

COMMITTEE STATUS:

This item was reviewed by the Finance and Personnel Committee on June 7, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE PROFESSIONAL SERVICES AGREEMENTS FOR THE PERIOD JULY 1, 2016 TO JUNE 30, 2017 WITH INFOSYS LTD. IN THE AMOUNT OF \$375,000 FOR MANAGED SUPPORT SERVICES AND ONE-TIME PROJECTS; LCS TECHNOLOGIES IN THE AMOUNT OF \$100,000 FOR ON-CALL DATABASE ADMINISTRATION SERVICES; AND OUTSOURCE TECHNICAL IN THE AMOUNT OF \$225,000 FOR ON-CALL PROGRAMMING, ANALYSIS, PROJECT MANAGEMENT, AND NETWORKING SERVICES.

LIST OF EXHIBITS:

- Exhibit "A" – Infosys Scope for Managed Support Services and Change Request
 - Exhibit "B" – LCS Technologies Proposal for On-Call DBA Services
 - Exhibit "C" – Outsource Technical Proposal for On-Call Programming, Analysis, Project Management, and Networking Services
-

Exhibit "A"

Service Level Agreement

- Total fixed price for **12 months of L2/L3 support** is **\$340 K USD**
- Scope and resource loading details are provided below
- No Enhancements hours
- Only CC&B Technical Resources are considered for the support. OUBI applications are not considered in the scope.
- Onsite Office hours : 9:00 AM PST/PDT – 5:30 PM PST/PDT
- Average 29 hours per ticket for L2/L3 support

	Jul'16	Aug'16	Sep'16	Oct'16	Nov'16	Dec'16	Jan'17	Feb'17	Mar'17	Apr'17	May'17	June'17
Tickets Per Month	20	20	20	20	20	20	20	20	20	20	20	20
Onsite Resource	1	1	1	1	1	1	1	1	1	1	1	1
Offshore Resource	2	2	2	2	2	2	2	2	2	2	2	2

Requirement Details	Onsite Effort (Hrs.)	Off shore Effort (Hrs.)	UAT Onsite (Hrs.)	UAT Off shore (Hrs.)	TOTAL	SValue	Remark
<p>Ticket 20886: CCB Analysis for EBS ID/Account Consolidation project.</p> <p>(1) There is the planning of new/adopted values in CC&B for following.</p> <ul style="list-style-type: none"> -GL Account -Process account -Improvement District <p>These new values will be added with new effective dates. For Improvement District on Premise there will be crossreference provision in CC&B, while generating GL string this crossreference will be used so that corresponding new values can be passed to EBS.</p> <p>(2) By default Future1 will be 16100 instead of 00000 and if any conservation fund comes, use value 17100. These values 16100 and 17100 will be confirmed by business. Below is the list of conservation fund.</p> <ul style="list-style-type: none"> - Over Allocation Commodity Low Volume - Over Allocation Commodity Inefficient - Over Allocation Commodity Excessive - Over Allocation Commodity Wasteful 	24	60	8	16	108	\$6,180.00	Please refer note 28916 under ticket 20886 for more detail
Miscellaneous Requests	40	40	10	10	100	\$11,700.00	
TOTAL	64	100	18	26	208	\$17,880.00	
TIME LINES: START DATE: 4-APRIL-2016 END DATE 29-APRIL-2016							

Requirement Details (CR 16983)	Onsite Effort (Hrs.)	Off shore Effort (Hrs.)	UAT Onsite (Hrs.)	UAT Off shore (Hrs.)	TOTAL	\$Value	Remark
1. SD#21722 New bill Template for Sewer Loan Accounts - Configuration of new route Type for Loan. - Set up new bill cycle for loan account. - Set up new Posttrout batch for Sewer Loan Accounts.(Existing folders will be used for generation of posttrout files for loan). - Custom Service Script for posttrout batch to fetch loan specific information like Previous month payment details, payment distribution, Previous principal balance, remaining principal balance etc. - A separate xml file will be created for loan. So additional Logic will be required to create separate xml for loan in BILDS batch. (Please note that the loan statment/bill will not be	40	152	24	24	240	\$12,320.00	
2. SD#21768 Fix for over charged LPC adjustments created between Aug-2014 to Mar 6th 2016 Requirement: In a bill, if multiple Late Payment Charges (LPC) are showing up due to non-timely payment of different bills in past, IRWD wants to return penalty part (10%) with interest, if Late Payment Charge is applied 11.5% consecutively. As part of IRWD process, first time 11.5 % (10%Penalty +1.5% interest) should be charged in bill under late payment but after that only 1.5% interest should be charged on bill. So except first time 11.5%, on all other consecutive 11.5% LPC showing up in a bill, 10% amount to be returned with interest. Below are the interest calculation and other rules. (1) For fiscal year 2014(July1)-2015(June30), interest rate will be $0.25 * 10 / 12 = 0.208$.	16	56	8	16	96	\$4,800.00	
TOTAL	56	208	32	40	336	\$17,120.00	

EXHIBIT B

April 4, 2016

ON CALL SERVICES

Hi Tony,

We very much appreciate your business and support. As you know, LCS Technologies, Inc. (LCS) is your single source provider for Oracle services and software.

We are providing this proposal for On Call Services to assist Irvine Ranch Water District with ongoing support of your Oracle database environments from July 1, 2016 through June 30, 2017.

We are providing this proposal on a Time and Materials basis. We will invoice IRWD for actual time and travel expenses incurred. We understand that most of the work will be provided remotely so travel expenses should be minimal.

Our hourly rates for On Call Services are:

- Project Manager \$150
- Database Administrator \$135

Please let me know if you have any questions.

Sincerely,



Steve Simonetto
CEO
LCS Technologies, Inc.
916-761-4097

EXHIBIT C



April 06, 2016

Irvine Ranch Water District
Attn: Tony Mossbarger, Director of Information Technology
15600 Sand Canyon Avenue
Irvine, CA 92619-7000

Dear Mr. Mossbarger,

Proposal for Information Technology (IT) Professional Services and Consulting

OS Technical (OST) is pleased to submit this proposal to provide Information Technology Professional Services and Consulting in response to your request.

OST is an IT consulting firm providing professional services to both public and private sector clientele. Our emphasis is providing experienced technical consultants on an on-demand basis to support enterprise software projects. OST has been in business for over 18 years and is headquartered in Newport Beach, CA. We have extensive experience providing IT professional services and consultants to numerous clients who continue to do business with us year over year. A few of our clients are Newport Corporation, County of Orange, Irvine Company, PIMCO, Pacific Life and CareMore among others.

OST has been providing IT professional services and consulting for Irvine Ranch Water District (the District) since February 2013 with an emphasis on Oracle R-12 E-Business Suite. During this time, we have provided subject matter expertise to support enterprise software implementations, customizations and quality assurance. Services include:

- Attending project meetings as requested by the District
- Producing monthly billings in a form acceptable to the District
- Participating in weekly project status phone calls with Mohit Saini, the Project Lead for the District
- Providing IT Professional Services and Consulting as requested by the District

Our staff executing the delivery of IT professional services and consulting will consist of:

Mr. Steven Shwam, Senior Account Executive - Mr. Shwam has been with OST for 8 years. He has provided IT professional services and consultants for enterprise software projects for clientele including CareMore, Molina Healthcare, Pacific Dental Services, Forever 21, and ICU Medical among others. Steven will be the primary point of contact for the District, providing delivery of IT professional services and consulting per the direction of the District.

Ms. Janet Chung, Recruiting Manager - Ms. Chung has been working with OST for 5 years. Janet has over 15 years of experience sourcing and screening technical professionals for deployment on enterprise software projects. Her competencies include Oracle EBS, .Net and Java.



Work will be billed at the following rates:

Hourly Rates

Project Management	\$128.00-\$140.00
Oracle DBA	\$120.00-\$135.00
Oracle Analyst	\$115.00-\$125.00
Oracle Developer	\$105.00-\$150.00
Software QA	\$90.00-\$100.00
IT Network & Systems Support	\$65.00-\$85.00

Our project delivery teams are paid current prevailing wage rates and we have insurance coverage that meets or exceeds the minimum District requirements.

If you have any questions, or I can be of further assistance, please call.

Sincerely,

A handwritten signature in cursive script that reads 'S Shwam'.

Steven Shwam
Sr. Account Executive
OS Technical

June 27, 2016

Prepared by: J. Smyth/M. Cortez

Submitted by: K. Burton 

Approved by: Paul Cook 

CONSENT CALENDAR

OPERATIONS CENTER PERMANENT BACKUP GENERATOR CONSTRUCTION AWARD

SUMMARY:

To comply with the California Air Resources Board's Portable Diesel Engine Air Toxics Control Measure, this project will replace an existing 600-kilowatt (kW) trailer mounted backup diesel generator that is utilized for the Operations Center with a permanent 750-kW backup diesel generator and automatic transfer switch. Staff recommends that the Board:

- Authorize a budget increase for Project 6167 in the amount of \$660,000, from \$618,800 to \$1,278,800;
- Find that the irregularities in the bid submitted by Johnson-Peltier did not affect the amount of the bid or afford Johnson-Peltier a competitive advantage over the other bidders and waive the irregularities; and
- Authorize the General Manager to execute a construction contract with Johnson-Peltier in the amount of \$955,255 for the Operations Center Permanent Backup Generator, Project 6167.

BACKGROUND:

Currently a non-certified 600-kW trailer mounted diesel generator with manual switching is utilized when backup power for the Operations Center is needed. The California Air Resources Board's Portable Diesel Engine Air Toxics Control Measure requires non-certified portable diesel-fueled engines to be removed from service by January 1, 2017. This project will install a permanent generator and an automatic transfer switch for use under Michelson Water Recycling Plant's existing Title V permit. The proposed 750-kW generator will be installed in the same location between the Operations Building and the Maintenance Shops, and will provide backup power to the Fleet Services, Meter, Maintenance Shops and Administration Buildings.

Construction Award:

The project was advertised for bid on May 20, 2016 to a select list of 20 electrical and general contractors. Four contractors attended the pre-bid meeting on May 31. The bid opening was held on June 16, with bids received from Johnson-Peltier and Leed Electric. Johnson-Peltier is the apparent low bidder with a bid amount of \$955,255; the engineer's estimate was \$986,000. The Bid Summary is attached as Exhibit "A".

Staff identified two minor irregularities with Johnson-Peltier's bid: its Contractor License class is "C-10", but is listed as "C" in the bid, and subcontractor E.P.C. is performing approximately 10% of the work per the bid schedule, but is shown in the bid as performing 1% of the work in the subcontractor listing. These are apparent clerical errors. Staff conferred with legal counsel who concurred that there is a sufficient basis for a factual finding by the Board that the

irregularities in Johnson-Peltier's bid are inconsequential and cannot have affected the bid amount or given the bidder a competitive advantage over the other bidders. Staff recommends that the Board waive the bid irregularities and award the construction contract to Johnson-Peltier in the amount of \$955,255.

FISCAL IMPACTS:

Project 6167 is included in the FY 2016-17 Capital Budget. Staff requests a budget increase in the amount of \$660,000 to fund construction of the project as shown in the table below:

<u>Project No.</u>	<u>Current Budget</u>	<u>Addition <Reduction></u>	<u>Total Budget</u>
6167	\$ 618,800	\$ 660,000	\$1,278,800

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) and in conformance with California Code of Regulations Title 14, Chapter 3, Sections 15301 and 15302. Section 15301 provides exemption for minor alterations of existing structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. Section 15302 provides exemption for replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced. A Notice of Exemption for the project was filed with the County of Orange on April 13, 2016.

COMMITTEE STATUS:

Construction awards are not routinely taken to Committee prior to submittal to the Board.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE A BUDGET INCREASE FOR PROJECT 6167 IN THE AMOUNT OF \$660,000, FROM \$618,800 TO \$1,278,800; FIND THAT THE IRREGULARITIES IN THE BID SUBMITTED BY JOHNSON-PELTIER DID NOT AFFECT THE AMOUNT OF THE BID OR AFFORD JOHNSON-PELTIER A COMPETITIVE ADVANTAGE OVER THE OTHER BIDDERS AND WAIVE THE IRREGULARITIES; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH JOHNSON-PELTIER IN THE AMOUNT OF \$955,255 FOR THE OPERATIONS CENTER PERMANENT BACKUP GENERATOR, PROJECT 6167.

LIST OF EXHIBITS:

Exhibit "A" – Bid Summary

Item No.	Description			Engineer's Estimate		1 Johnson-Peltier Santa Fe Springs, CA		2 Leed Electric, Inc. Santa Fe Springs, CA	
		Qty	Unit	Unit	Total	Unit	Total	Unit	Total
				Price	Amount	Price	Amount	Price	Amount
1	Mobilization/Demobilization (no greater than 4% of the total project cost)	1	LS	\$38,000.00	\$38,000.00	\$35,000.00	\$35,000.00	\$36,000.00	\$36,000.00
2	Electrical work including but not limited to conduit, wire, cable tray, supports, pads, panel boards and all appurtenant work.	1	LS	\$189,115.00	\$189,115.00	\$128,420.00	\$128,420.00	\$186,628.00	\$186,628.00
3	Instrumentation work including but not limited to PLC, PLC Panel, conduit, ethernet cable, and all appurtenant work.	1	LS	\$40,000.00	\$40,000.00	\$71,897.00	\$71,897.00	\$54,375.00	\$54,375.00
4	Generator installation work including but not limited to housekeeping pad, generator mounting/placement work, platform with skirting, storage, placement, and all appurtenant work.	1	LS	\$126,885.00	\$126,885.00	\$83,687.00	\$83,687.00	\$112,980.00	\$112,980.00
5	Switchboard Modifications including ATS, see Technical Specification 16443 and drawings. This equipment and work shall be provided and installed by EPC Electric, see proposal attached in Bid Form Appendix.	1	LS	\$97,000.00	\$97,000.00	\$97,000.00	\$97,000.00	\$97,000.00	\$97,000.00
6	Generator, see Technical Specification Section 16231 and drawings. This equipment and work shall be provided by Caterpillar, see proposal attached in Bid Form Appendix.	1	LS	\$443,000.00	\$443,000.00	\$443,000.00	\$443,000.00	\$443,000.00	\$443,000.00
7	Startup Testing	1	LS	\$16,000.00	\$16,000.00	\$7,500.00	\$7,500.00	\$8,000.00	\$8,000.00
8	Operation & Maintenance Manuals	1	LS	\$8,000.00	\$8,000.00	\$4,500.00	\$4,500.00	\$1,500.00	\$1,500.00
9	Final Record Drawings	1	LS	\$8,000.00	\$8,000.00	\$3,000.00	\$3,000.00	\$1,500.00	\$1,500.00
10	600 KW Temporary Generator for shutdowns and during removal of existing portable generator to install permanent generator, see Special Provisions Section 00200 and Technical Specifications Section 16010.	1	LS	\$10,000.00	\$10,000.00	\$15,163.00	\$15,163.00	\$35,310.00	\$35,310.00
	Subtotal				\$976,000.00		\$889,167.00		\$976,293.00
A-1	Alternative Bid Item: Weekly rental of 600 KW temporary generator for work after December 31, 2016 not caused by Contractor delay and as directed by District. Cost for weekly rental that is not required will be removed from contract price per change order, see Technical Specification Section 16010.	1	WK	\$ 10,000.00	\$10,000.00		\$30,618.00		\$5,400.00
	Sub-Total, Bid Items 1 thru 10 + A1				\$986,000.00		\$919,785.00		\$981,693.00
	Adjustment (+ or -)				\$0.00		\$35,440.00		\$0.00
	Total Amount of Bid				\$986,000.00		\$955,225.00		\$981,693.00
						Manufacturers:	Manufacturers:		
						Generator: Quinn CAT	Generator: Caterpillar		
						ATS: GE Zenith	ATS: GE Zenith		
						PLC: George T. Hall	PLC: Modicon		
						Modification to Low Voltage	Modification to Low Voltage		
						Switchboard: E.P.C.	Switchboard: EPC/GE		
						Ground Fault: GE Zenith	Ground Fault: EPC/GE		
						Load Bank: Quinn CAT	Load Bank: Load Banks Direct		
						Power Monitor: Schweitzer	Power Monitor: GE		
						Subcontractors:	Subcontractors:		
						Pascal Ludwig: Civil	316 Engineering & Construction Co.:		
						E.P.C.: Electrical	Structural & Mechanical		
						Penhall: Core Drill			
						George T. Hall: Controls			

June 27, 2016

Prepared by: T. Bonkowski/M. Cortez

Submitted by: K. Burton *K.B.*

Approved by: Paul Cook *P. Cook*

CONSENT CALENDAR

RANCHO PARKWAY ZONE C RECYCLED WATER PIPELINE FINAL ACCEPTANCE

SUMMARY:

This project removed an interim domestic water supply interconnection to the recycled water system and constructed pipelines and appurtenances to convert the irrigation supply to recycled water for a portion of the Baker Ranch Development, saving approximately 68 acre-feet per year of domestic water. The District awarded a construction contract to Paulus Engineering, Inc. on February 10, 2016. Paulus has completed the required work and all punch list items. This project has received final inspection and acceptance of construction is recommended.

BACKGROUND:

The District's Zone C recycled water system in Rancho Parkway, south of Alton Parkway in the City of Lake Forest, was supplied by the Lake Forest Zone 3R domestic water system through an interim interconnection. This project removed the interim domestic water interconnection and constructed new pipeline and appurtenances to supply the area with recycled water from the Zone C pressure zone. The improvements included piping modifications to disconnect the domestic water interconnection, installation of 1,670 feet of 12-inch recycled water pipeline in Rancho Parkway South, and 20 feet of six-inch recycled water pipeline to connect two existing separate recycled water pipelines in Rancho Parkway near Hermana Circle. These improvements will provide recycled water for the irrigation of a portion of the Baker Ranch development.

Project Title:	Rancho Parkway Zone C Recycled Water Pipeline
Project No:	6470
Design Engineer:	MBF Consulting, Inc.
Construction Management by:	IRWD Staff
Contractor:	Paulus Engineering, Inc.
Original Contract Cost:	\$413,125
Final Contract Cost:	\$410,755
Original Contract Days:	120
Final Contract Days:	120
Final Change Order Approved On:	May 25, 2016

FISCAL IMPACTS:

Project 6470 is included in the FY 2015-16 Capital Budget. The existing budget and Expenditure Authorization are sufficient to fund the final payment for the project.

ENVIRONMENTAL COMPLIANCE:

This project is categorically exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Statutory Exemption 15282, which provides for the installation of a new pipeline that does not exceed one mile (more than 5,210 feet) in length. A Notice of Exemption was filed with the County of Orange on August 25, 2015.

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD ACCEPT CONSTRUCTION OF THE RANCHO PARKWAY ZONE C RECYCLED WATER PIPELINE, PROJECT 6215, AUTHORIZE THE FILING OF A NOTICE OF COMPLETION, AND AUTHORIZE THE PAYMENT OF THE RETENTION 35 DAYS AFTER THE DATE OF RECORDING THE NOTICE OF COMPLETION.

LIST OF EXHIBITS:

None.

June 27, 2016

Prepared by: J. Smyth/M. Cortez

Submitted by: K. Burton 

Approved by: Paul Cook 

CONSENT CALENDAR

THREE-YEAR CATHODIC PROTECTION MONITORING PROGRAM CONSULTANT SELECTION FOR FISCAL YEAR 2016-17 THROUGH FISCAL YEAR 2018-19

SUMMARY:

The District installs and operates cathodic protection systems to prevent corrosion of essential metallic pipelines and steel tank reservoirs identified as having a high rate of corrosion potential. These cathodic protection systems require periodic monitoring, evaluation and adjustment to ensure optimal protection of the pipelines and structures. The District routinely utilizes consultant services to perform these functions. Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement with HDR Engineering, Inc. in the amount of \$243,800 for the Three-Year Cathodic Protection Monitoring Program for Fiscal Year (FY) 2016-17 through FY 2018-19.

BACKGROUND:

The District has installed impressed current and galvanic cathodic protection (CP) systems to prevent failure of essential metallic pipelines and steel tank reservoirs identified as having a high rate of corrosion. CP systems utilize anode beds and electric current requiring periodic monitoring, evaluation and adjustment to ensure optimal protection of the metallic structure. The District has routinely utilized consultant services to monitor, evaluate and adjust the CP systems of 36 metallic pipelines and 18 steel tanks for a term of three years.

Consultant Selection:

A Request for Proposal was issued on March 24, 2016 to five corrosion consultants: Farwest Corrosion, HDR, Michael Baker International (MBI), V&A Consulting Engineers and RF Yeager Engineering. Three consultants, HDR, MBI and V&A, attended the pre-proposal meeting and submitted proposals. Staff reviewed and ranked the proposals based on each consultant's team, project approach, and relevant experience as shown in the Consultant Selection Matrix, attached as Exhibit "A". Staff recommends executing a three-year Professional Services Agreement for cathodic protection monitoring with HDR in the amount of \$243,800 based on its excellent proposal. In its proposal, HDR included a value-added task to expand the District's documentation of its CP system by locating existing CP test stations and providing sub-foot global positioning system coordinates and pictures to include on the CP layer of the geographic information system. HDR's proposal is attached as Exhibit "B".

FISCAL IMPACTS:

Funding for the Cathodic Protection Monitoring Program is included in the FY 2016-17 Operating Budget. Staff will propose the needed funding in the FY 2017-18 and FY 2018-19 Operating Budgets.

Consent Calendar: Three-Year Cathodic Protection Monitoring Program Consultant Selection
for Fiscal Year 2016-17 through Fiscal Year 2018-19
June 27, 2016
Page 2

ENVIRONMENTAL COMPLIANCE:

This activity is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15268, Ministerial Projects.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 21, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH HDR ENGINEERING IN THE AMOUNT OF \$243,800 FOR THE THREE-YEAR CATHODIC PROTECTION MONITORING PROGRAM FOR FISCAL YEAR 2016-17 THROUGH FISCAL YEAR 2018-19.

LIST OF EXHIBITS:

Exhibit "A" – Consultant Selection Matrix
Exhibit "B" – HDR's Scope of Work and Fee Proposal

EXHIBIT "A"
Consultant Selection Matrix
Three-Year Cathodic Protection Monitoring Program
For FY2016-17 Through FY2018-19

Item	Description	Weights	RBF	HDR/Schiff	V&A Consulting			
A	TECHNICAL APPROACH	40%						
1	Overall Project Understanding / Approach	40%	2	1	3			
2	Scope of Proposal	40%	2	1	3			
3	Man Hour Estimates	20%	2	1	3			
	<u>Weighted Score (Technical Approach)</u>		2.0	1.0	3.0			
B	QUALIFICATION AND EXPERIENCE	60%						
1	Firm/Team	20%	2	1	3			
2	Project Manager	40%	3 Michael Boeck (19yrs)	1 Brien Clark (15yrs)	2 Debra Kaye (32yrs)			
3	Project Engineer	20%	1 James Jenkins (49yrs)	2 Greg Frost (7yrs)	3 Chris Sheldon (26yrs)			
4	Project Engineer	20%	1 JD Chiniaeff (26yrs)	3 Erika Perez (8yrs)	2 Michael Sherman (12yrs)			
	<u>Weighted Score (Experience)</u>		2.0	1.6	2.4			
	COMBINED WEIGHTED SCORE		2.0	1.4	2.6			
	Ranking of Consultants		2	1	3			
C	SCOPE OF WORK							
TASK			Task Hours	FEE	Task Hours	FEE	Task Hours	FEE
1	Initial Background Material Review		incl	incl	48	\$10,260	*	*
2	Initial Data Collection		1,032	\$138,930	756	\$102,810	*	*
3	CP System Adjustments		incl	incl	64	\$8,576	*	*
4	Initial Report and Comments Meeting		90	\$12,540	156	\$28,320	*	*
5	Quarterly Data		738	\$89,595	360	\$49,455	*	*
6	Final Report and Comments Meeting		81	\$12,825	170	\$29,060	*	*
7	90 Hrs. As Needed Troubleshooting		90	\$13,110	90	\$15,319	*	*
	TOTAL ENGINEERING SERVICES FEE (3-years)		2,031	\$267,000	1,644	\$243,800	1,308	\$193,688
D	OTHER							
	Joint Venture		No	No	No	No	No	No
	DIR Registration		1000004231	1000018262	None	None	None	None
	Exceptions taken to IRWD Std. Contract		None	None	None	None	None	None
	Insurance (Professional & General Liability)		Yes	Yes	Yes	Yes	Yes	Yes

Forced Ranking: 1 - Best, 2 - Next Best, 3 - Third Best
* Hours and Fee breakdown by task not provided

EXHIBIT "B"



April
2016

Request for Proposal

**Three-Year Cathodic Protection
Monitoring Program for Metallic
Pipelines and Reservoir Tanks for
FY2016-17 through FY2018-19**

Irvine Ranch Water District





April 25, 2016

Jeff Smyth, PE
Project Manager
IRVINE RANCH WATER DISTRICT
15600 Sand Canyon Avenue
P.O. Box 57000
Irvine, CA 92619-7000

RE: Request for Proposal – Three Year Cathodic Protection Monitoring Program for Metallic Pipelines and Reservoir Tanks for FY2016-17 through FY2018-19

Dear Mr. Smyth,

Thank you for the opportunity to present our qualifications for cathodic protection monitoring services for the District's metallic pipelines and reservoir tanks. We have provided these and related services since 1959, working closely with the staff of many water agencies, municipalities and privately owned companies throughout California, including Orange, Riverside, and San Diego Counties. We have a local office minutes from your own, with nationally-recognized expertise. HDR provides:

Practical Engineering Solutions that Match Customer Needs: We understand the challenges of operating aging metallic pipelines and reservoir tanks with limited resources. Our technical knowledge and unmatched cathodic protection and corrosion engineering experience enable us to find the solutions that best meet your needs.

A Depth of Expertise and Resources: We have performed cathodic protection and corrosion engineering services for over 50 years. Our diverse staff includes experienced professional corrosion, civil, chemical, mechanical, electrical, and materials engineers who specialize in water infrastructure. We have written the standards and books that others reference.

Responsiveness and Awareness to Scheduling and Operational Changes: We understand the urgency of construction schedule changes and operational mishaps. When client personnel have placed an emergency call to us, our local office has been able to provide support, typically with on-site assistance the same day.

Our proposal further demonstrates our ability to perform cathodic protection and corrosion engineering services for Irvine Ranch Water District. If you have any questions, please feel free to contact Graham Bell or Brian Eynon to discuss our proposal in more detail. We greatly appreciate this opportunity.

Sincerely,
HDR Engineering, Inc.

Brian Clark, PE
Project Manager
909.962.5470
brien.clark@hdrinc.com

Brian Eynon, GISP
Managing Principal/Quality
909.962.5471
brian.eynon@hdrinc.com

Kip Field, PE
Vice President
714.730.2300
kip.field@hdrinc.com



Contents

Scope of Work	3
Project Team and Experience	9
Project Team	9
Project Management / Office	9
HDR's Proposed Organizational Chart:	10
Team Schedule – Percent of Resource Allocation	11
Team Member Bios	12
Project Experience	15
Quality Control	18
References	19
Schedule	19
Budget	19
Joint Venture	19
Conflicts of Interest	20
Insurance	20
Contract Agreement	20
Public Work Requirements	20
Appendix	20

Scope of Work

1. Task 1 – Background Material Collection and Review

HDR will thoroughly review existing documentation, including, Atlas maps, as-built construction drawings for pipeline construction and cathodic protection installation, historical cathodic protection monitoring reports and recommendations, reservoir inspection reports, construction record drawings, geotechnical reports, plans and specifications, and other available information. In addition, HDR will review its GIS geodatabase created during previous surveys with IRWD to evaluate historical data and plan for data implementation for the future survey. For in-depth investigations, HDR may conduct interviews with District personnel to fill in the information gaps, and to determine the history of each pipeline with respect to repairs, leak history, pipe section replacements, and any third party damage.

It is understood that it is the Engineer's responsibility to ensure data is presented in a format acceptable to IRWD and consistent with IRWD naming conventions. Test points will be collected by pipeline, station number, and IRWD tagged Cathodic Protection ID number.

2. Task 2 – Initial Data Collection

- 2.1. Pipeline Corrosion Survey - The survey will include inspection of corrosion monitoring and cathodic protection systems, pipe-to-soil potential readings, rectifier readings, anode current output, and insulating flange and casing isolation testing. Minor maintenance or damage to corrosion test stations, including shunts and identification will be performed by HDR at no additional charge.

HDR's goal is to understand the District's objectives beyond this scope of work and help select appropriate criteria based on objectives an balanced by the need to protect, yet not over protect or create sources of stray current.

As part of each survey HDR will employ an innovative approach to improve efficiency and reduce the cost for this contract and future contracts. This will be performed using a proven technological improvement to data collection that HDR has successfully employed at other Districts. Using Trimble Global Positioning System (GPS), ESRI Geographic Information System (GIS) and Apple iPad technologies, our technicians are able to collect and tabulate data and imagery directly in the field. The iPad communicates directly with our server in real time, where the data file is safely stored and backed up. This means that the data are immediately available for quality control review by others in the office. This technique eliminates the cost of later tabulation of data, eliminates possible tabulation or transcription error, and allows for immediate quality control review of the data which eliminates the need for returning to the site to re-collect data. Once setup, a GIS geodatabase can be integrated into the District's existing GIS system allowing easy access to survey data and photo documentation by the District and future consultants to employ for all future contracts.



- 2.1.1 CPTS Pipe-to-Soil Potential Survey – Measurements of the pipeline pipe-to-soil potentials will be conducted on approximately 35 impressed current segments and



four (4) galvanic CP segments as outlined in the RFP's Project Description. The survey will measure on and instant off potentials by interrupting the cathodic protection current using GPS synchronizable interrupts. The interrupt cycle will have a minimum 80% duty cycle to minimize depolarization of the pipe during the survey.

HDR has reviewed the historical data contained in the 2015 Initial Report. It is unclear if depolarized, baseline pipe-to-soil potentials have been measured, or if they were used to determine pipeline polarization for some of the pipelines. These data are sometimes necessary to determine if proper polarization is being achieved on pipelines that are less than -850 mV when an instant-off is measured per NACE

SP0169-13. A more applicable NACE Standard is SP0100-14 for cement-mortar coated piping. If baseline data are unavailable, but found to be necessary, a depolarization survey may be performed where the cathodic protection system is briefly disconnected for a period of time to measure the depolarized, baseline potential.

Instant-off potential measurements such as those obtained at the Unit 42 Dyer Road DW Pipeline are less than -850 at many test locations throughout the alignment. However, that does not indicate that the pipeline is unprotected until baseline or depolarized potentials can be compared to instant-off potentials, or when current-applied potentials are evaluated when considering the significance of voltage drops in the earth and metallic paths. If necessary, HDR will conduct a potential survey to obtain depolarized potentials. This method will allow adjustments to the cathodic protection system that accurately reflect NACE criteria for cathodic protection.

All test stations, rectifiers and reservoirs will be photographed for updated imagery, and submitted to the District.

- 2.1.2 Flange Isolation and Casing Isolation Testing – Insulating flange and pipeline casing isolation testing will be conducted in accordance with NACE Standard RP0286-2002 and documented within the reports. Review of the Technical Memorandum testing results revealed possible shorts demonstrated by a similar shift on both sides of the insulating flange. One of these is at STN 444+44 of the Unit 3 Harvard Avenue 42" pipeline.

- 2.1.3 Rectifier Survey – Concurrent with the initial and quarterly surveys, a rectifier survey will be conducted to verify functionality. Anode and pipe connections, tap setting, and cleanliness will be recorded. Minor maintenance including cleaning, wire connections, and fuse replacement will be included as part of HDR's survey.

- 2.1.4 Stray Current Evaluation – Based on HDR’s review of the historical data there are pipelines that may be experiencing stray current from foreign cathodically protected pipelines, or potentially causing stray current to foreign structures. A complete stray current investigation requires coordination between owners, as well as coordinated field surveys. For this evaluation, the scope will be limited to review of record drawings and visual site assessments to preliminarily investigate possible cause. If the preliminary findings warrant further investigation, HDR will notify IRWD and recommend further action.
- 2.1.5 Site Visual Assessment – As conditions warrant, a visual investigation of the surrounding area will be performed. This will include looking for nearby rectifiers from foreign pipelines, damage to cathodic protection instrumentation and system hardware, leaks, corrosion, and other relevant features.

2.2 Reservoir Survey

- 2.2.1 Tank to water potentials will be measured at 16 reservoirs. In addition to the reservoir survey, the Zone 2 and Zone B reservoir bottoms and piping will also be assessed. Testing will be in accordance with NACE Standard SP0388-2007 for impressed current cathodic protection systems and SP0196-2011 for galvanic cathodic protection systems. Measurements will be collected at the bottom of each reservoir and every one (1) foot of elevation until the maximum water level is reached. Water levels and time of test will be recorded and included in the report. Instant off potentials will be evaluated in order to determine the current requirement of the submerged portion of the reservoir, as well as provide an indication of the bare surface, uncoated portion of the reservoir’s lining.



Based on the data from the Technical Memorandum, cathodic protection effectiveness is unknown, as there are no baseline potentials provided in the calculations to support cathodic protection criteria as defined by the above NACE Standards. As part of our survey, HDR will determine proper polarization of the internal surface of the reservoir by allowing it to depolarize for a minimum of 10 minutes. This will allow a baseline, native potential, which will be used to determine if the reservoirs are cathodically protected.

Since safety requires two technicians at tank sites, if authorized by IRWD, HDR would like to conduct a hatch inspection in order to assess the cathodic protection system, coating condition, and general condition of the reservoirs. In addition, a verification and calibration of the permanent reference electrode will be measured against a calibrated portable reference electrode. This will aid in

determining the condition, as well as provide clarity to other potential issues such as anode depletion, anode output and other related issues affecting cathodic protection and corrosion prevention. Photo documentation and tabulations of the interior visual assessment will be provided with the Task 6 Final Report. HDR has completed similar observations for Otay Water District (OWD), Eastern Municipal Water District (EMWD), and the City of Henderson. There will not be additional costs associated with this option since two technicians will already be onsite.

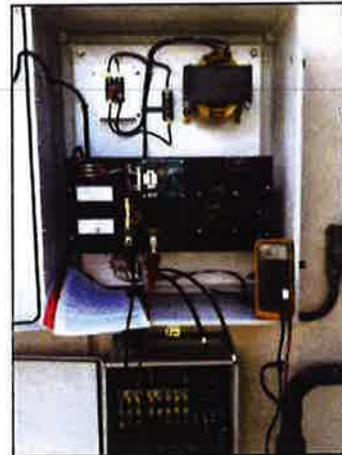
All test equipment including temporary reference electrodes and cables will be disinfected prior to insertion into the water reservoirs. HDR has conducted similar testing for multiple clients and understands the importance of disinfection. Prior to commencing work, a disinfection plan will be submitted along with a detailed safety plan, referencing this requirement.

Since safety and protection of the District's resources are a top priority, HDR will notify IRWD Systems Operations Department prior to entry or exit of any reservoir site. Additionally, it is understood that 72 hours notice is required prior to entering the East Irvine Zone 4 reservoir, and testing of the Canada reservoir be coordinated to coincide with the reservoir's time in service. All fall protection and confined space requirements will be practiced at all times.

3. Impressed Current Cathodic Protection System Adjustments

3.1 Subsequent to the CPTS Pipe-to-Soil potential survey, cathodic protection will be evaluated to determine current requirement to provide adequate cathodic protection, and the NACE International Standard most reflective for completing this will be determined. All testing shall be reflective of NACE Standards, which in many cases may determine that some of the pipelines and reservoirs are not receiving adequate cathodic protection.

3.2 Rectifier Survey – Concurrent with the initial and quarterly pipeline and tank surveys, a rectifier survey will be conducted to verify functionality. Anode and pipe connections, tap setting, and cleanliness will be recorded. Minor maintenance including cleaning, wire connections, and fuse replacement will be included as part of HDR's survey.



4 Initial Report – A draft Initial Report of the baseline pipeline data will be submitted to IRWD within eight (8) weeks after the Notice to Proceed at a review/comments meeting and each subsequent year within the contract period. Four bound hard copies and one PDF electronic copy will be submitted to IRWD for review. Within four (4) weeks of the review/comments meeting, four hard copies and the PDF electronic file for the Initial Report, including incorporated comments, will be submitted.



In addition to the baseline report, HDR will provide a GIS geodatabase containing all test stations and their respective attributes within the Scope. The geodatabase will continue to be updated with the District after each survey is completed.

5 Quarterly Data

5.1 HDR will monitor rectifier output and anode measurements to verify proper cathodic protection of the pipelines. As part of the survey, one test point midway between each rectifier or anode bed, and test points at the ends of the pipeline will be monitored to verify adequate distribution of cathodic protection. At the time of the survey, rectifier adjustments will be made in accordance with NACE criteria as outlined in SP0169-2013, *Control of External Corrosion on Underground or Submerged Metallic Piping Systems*. All quarterly data will be added to the GIS geodatabase.

It is understood that reservoirs with galvanic cathodic protection systems will not be included in the quarterly data collection. These systems will only be tested and adjusted once per year as part of Task 2 through Task 4.

6 Final Report – A draft Final Report will be submitted to IRWD following the 3rd quarter data collection at a review/comments meeting. Four bound hard copies and one PDF electronic copy shall be submitted to IRWD for review. Within 4 weeks following the comments meeting, four bound hard copies and the electronic file PDF of the Final Report, including incorporated comments, will be submitted. After the final report has been accepted, all GIS data will be uploaded to the District's GIS database.

As requested by the District, the report shall include the following:

- a) Presentation of the initial, quarterly, and final data in tabular and graphical form which shall include the data observations and results of the field surveys, calculations, estimates, analyses, and the Engineer's recommendations.
- b) Determination of interference on project pipelines from other cathodic protection systems and/or stray currents.
- c) Negative impacts on adjacent pipelines and recommendations for corrective measures.
- d) Summary of cathodic protection system adjustments.
- e) Recommended repair and maintenance items discovered during data collection to be corrected by IRWD.
- f) Recommendations for the type and extent of additional cathodic protection facilities that may be needed, including test stations, bonds, or insulators.
- g) Recommendations for the repair or replacement of cathodic protection facilities including anodes, rectifiers, permanent reference cell electrodes, and additional test stations.
- h) An Engineer's estimate of the design and construction costs of recommended facilities.

The following is a sample report from a similar project:

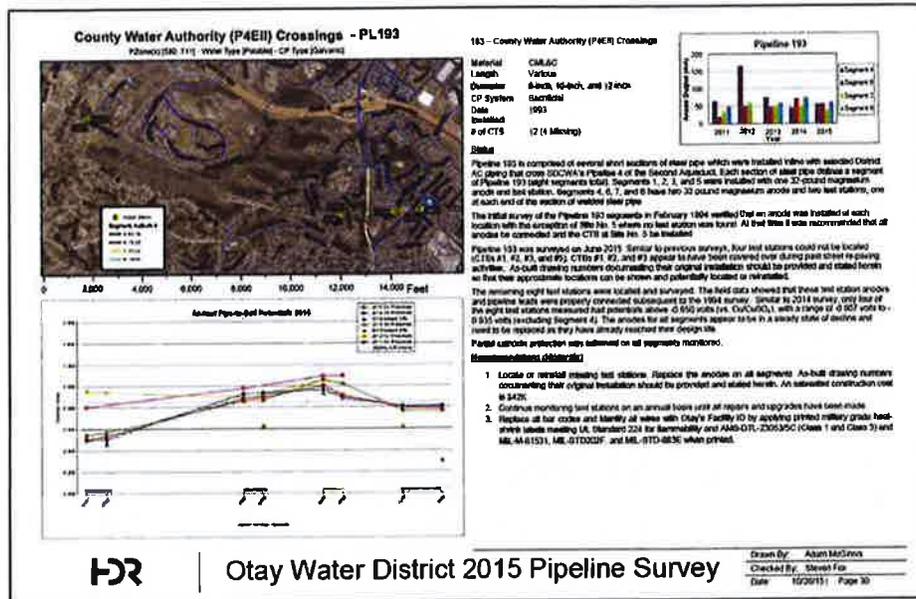


Figure 1 Sample Report

7 Troubleshooting – As part of this Scope of Work, thirty (30) hours per year (total 90 hours for three years) shall be proposed for troubleshooting various system issues. HDR will provide written confirmation of work within this task, as well as tracking such hours when the project is invoiced. In preparation for this proposal, HDR's review of the 2015 Technical Memorandum identified possible issues that would fall under this task order.

- a) Rectifier outputs for many of the District's pipelines may be in excess of what is necessary. This may result in a number of issues including accelerated anode depletion and early replacement; stray current interference to foreign pipelines; increased costs related to maintenance and functionality.
- b) Some rectifiers have been adjusted to levels that will achieve cathodic protection throughout the pipeline. However, outputs in some cases are extremely high when considering the above. Cause for questionable cathodic protection distributions should be investigated and potential risks assessed.
- c) NACE criteria may need to be confirmed in many cases. ON potentials outside the acceptable range will need to be considered with the significance of voltage drips in the earth and metallic path.
- d) Depolarized potentials may need to be measured for pipelines where potentials are more electropositive than -850 instant off, and evaluated to determine if the 100mV criteria is applicable.
- e) Pipelines exhibiting potential issues and selected for review.
 - 1. Unit 4 – Harvard Ave. 42"
 - 2. Unit 3 – Harvard Ave. 42"
 - 3. Unit 7 – University Drive



4. Unit 21 Zone 6 to 6A
5. Unit 30 – Michelson Intertie (University Drive)
6. Unit 41 – Tustin Market Place
7. Unit 42 – Dyer Road

Project Team and Experience

Project Team

We have assembled an outstanding team for the Cathodic Protection Monitoring Program, comprising seasoned veterans and specialists whose strength is cathodic protection, condition assessment of steel pipe associated with water transmission and water reservoirs. The team, as illustrated in the organizational chart below, has been selected based on each individual's ability to satisfy one or more of the criteria outlined in the RFP and our proposed Scope of Work. It is important to note that HDR's team consists of individuals who have worked together successfully on projects of a similar nature. Indeed, it is the case that good relationships often lead to good projects. Further, Brien Clark has worked on many other local projects, for clients in Orange County, Riverside County, Los Angeles County, and San Diego County.

Project Management / Office

Brien Clark, P.E., Project Manager, will manage and coordinate the work from HDR's Claremont office, with hands-on support from the selected team. Other team members will work from our Claremont and Irvine offices. Further, HDR can draw upon nearly 300 specialized personnel in the southern California area, should additional resources be required. Within those specialized personnel, HDR's Corrosion Control and Rehabilitation Department in Claremont is solely devoted to performing services related to cathodic protection, corrosion control, and condition assessments and can provide additional technical staff to the project should the need arise.

Biographies that include years of experience, registrations, and project experience for key team members are included at the end of this section. Full resumes are available in the Appendix.

Our team of highly qualified specialists offers:

- Outstanding technical knowledge
- Strong project management skills
- Experience in planning, design, construction, assessment, monitoring, and rehabilitation of



HDR's Proposed Organizational Chart:

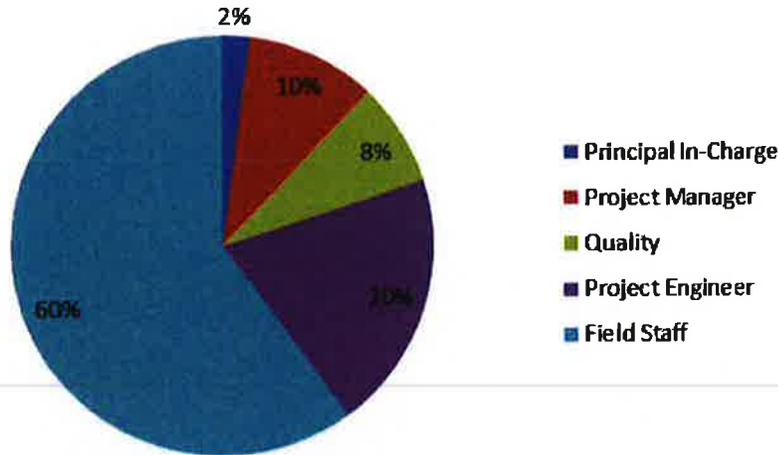
Below is an organizational chart of the professionals selected to work on your project:





Team Schedule – Percent of Resource Allocation

Project Manager: Brien Clark, PE
Principle In-Charge: Graham Bell, PE, PhD
Quality: Brian Eynon, GISP
Project Engineer: Greg Frost, PE
Field Technician: Erika Perez, EIT
Field Technician: Rodney Bamford



Together, we make great things possible.

We partner with you to push the boundaries of what's possible. Identifying your unique needs, we pull together the top minds and resources around the globe to design the smartest solutions for your challenges. Our all-service teams are custom-fit to each project, taking it from small detail to great achievement and building strong relationships along the way.



April 25, 2016

Jeff Smyth, PE
Project Manager
IRVINE RANCH WATER DISTRICT
15600 Sand Canyon Avenue
P.O. Box 57000
Irvine, CA 92619-7000

RE: Fee Proposal – Three Year Cathodic Protection Monitoring Program for Metallic Pipelines and Reservoir Tanks for FY2016-17 through FY2018-19

Dear Mr. Smyth,

We are pleased to submit our fee proposal in response to the Irvine Ranch Water District's Request for Proposal to provide "Three Year Cathodic Protection Monitoring Program for Metallic Pipelines and Reservoir Tanks for FY2016-17 through FY2018-19."

Our technical proposal, project understanding, scope and schedule form the basis of our fee estimate. Attached is a detailed spreadsheet showing the cost and staff-hour breakdown consistent with the requirements of the scope of work. Our proposal is a firm offer for 90 days from date of submittal. Evidence of our insurance coverage is included with the separate RFP proposal submittal.

We are very interested in providing a cost-efficient, quality-driven project for the District. As such, we are open to reviewing our estimates and costs with District staff and making appropriate adjustments, if necessary.

We will assign top priority to conducting your Cathodic Protection Monitoring Project. If you have questions or require additional information, please call any of us at the numbers below. We look forward to working with you and the District; on behalf of the entire HDR team, thank you for your consideration.

Sincerely,
HDR Engineering, Inc.

Brien Clark, PE
Project Manager
909.962.5470
brien.clark@hdrinc.com

Brian Eynon, GISP
Managing Principal
909.962.5471
brian.eynon@hdrinc.com

Kip Field, PE
Vice President
714.730.2300
kip.field@hdrinc.com



Fee Estimate

**Three-Year Cathodic Protection Monitoring Program
Irvine, CA
P16-0213ENG**

**Jeff Smyth
Irvine Ranch Water District
Irvine, CA**

Task Description	Personnel Hours								Non-Labor	Budget			
	Principal Engineer-PJM32 (\$310 /Hr)	Sr Corrosion Engr-EC130 (\$210 /Hr)	Corrosion Engineer-EC120 (\$160 /Hr)	Corrosion Tech (Non-Prevailing) -TEC02 (\$125 /Hr)	Corrosion Tech (Prevailing)-TEC01 (\$134 /Hr)	GIS Technician-CGE02 (\$110 /Hr)	Project Controller-PJS02 (\$105 /Hr)	Total Hours	Mileage (miles @ \$0.54/mile)	Labor	Subconsultants	Non-Labor	Total
2016 Scope													
Task 1: Background Mtrl Collection & Review	4	16		12				32		\$ 6,100	\$ -	\$ -	\$ 6,100
Task 2: Initial Data Collection								4		\$ 420	\$ -	\$ -	\$ 420
Task 2a: Pipelines (528 CTS's)					160		20	180	1,000	\$ 23,640	\$ -	\$ 540	\$ 24,180
Task 2b: Reservoirs (ICCP & Galvanic)					80		4	84	500	\$ 11,160	\$ -	\$ 270	\$ 11,430
Task 3: Impressed Current CP Adjustments								32		\$ 4,288	\$ -	\$ -	\$ 4,288
Task 4: Initial Report/Data Reduction	4	16	24	8				52		\$ 9,440	\$ -	\$ -	\$ 9,440
Task 5: Quarterly Data (58 PL/ICCP Resvs)							120	120	750	\$ 16,080	\$ -	\$ 405	\$ 16,485
Task 6: Final Report	2	12	40	8				62		\$ 10,540	\$ -	\$ -	\$ 10,540
Task 7: Troubleshooting (30 hours Combined)		15		15				30	100	\$ 5,025	\$ -	\$ 54	\$ 5,079
Subtotal	10	59	64	43	392	24	4	596	2,350	\$ 86,693	\$ -	\$ 1,269	\$ 87,962
2017 Scope													
Task 1: Background Mtrl Collection & Review	4	4						8		\$ 2,080	\$ -	\$ -	\$ 2,080
Task 2: Initial Data Collection								4		\$ 420	\$ -	\$ -	\$ 420
Task 2a: Pipelines					160			160	1,000	\$ 21,440	\$ -	\$ 540	\$ 21,980
Task 2b: Reservoirs (ICCP & Galvanic)					80			80	500	\$ 10,720	\$ -	\$ 270	\$ 10,990
Task 3: Impressed Current CP Adjustments					16			16		\$ 2,144	\$ -	\$ -	\$ 2,144
Task 4: Initial Report	4	16	24	8				52		\$ 9,440	\$ -	\$ -	\$ 9,440
Task 5: Quarterly Data (58 PL/ICCP Resvs)							120	120	750	\$ 16,080	\$ -	\$ 405	\$ 16,485
Task 6: Final Report	2	12	32	8				54		\$ 9,260	\$ -	\$ -	\$ 9,260
Task 7: Troubleshooting (30 hours Combined)		15		15				30	100	\$ 5,025	\$ -	\$ 54	\$ 5,079
Subtotal	10	47	56	31	376	-	4	524	2,350	\$ 76,609	\$ -	\$ 1,269	\$ 77,878
2018 Scope													
Task 1: Background Mtrl Collection & Review	4	4						8		\$ 2,080	\$ -	\$ -	\$ 2,080
Task 2: Initial Data Collection								4		\$ 420	\$ -	\$ -	\$ 420
Task 2a: Pipelines					160			160	1,000	\$ 21,440	\$ -	\$ 540	\$ 21,980
Task 2b: Reservoirs (ICCP & Galvanic)					80			80	500	\$ 10,720	\$ -	\$ 270	\$ 10,990
Task 3: Impressed Current CP Adjustments					16			16		\$ 2,144	\$ -	\$ -	\$ 2,144
Task 4: Initial Report	4	16	24	8				52		\$ 9,440	\$ -	\$ -	\$ 9,440
Task 5: Quarterly Data (58 PL/ICCP Resvs)							120	120	750	\$ 16,080	\$ -	\$ 405	\$ 16,485
Task 6: Final Report	2	12	32	8				54		\$ 9,260	\$ -	\$ -	\$ 9,260
Task 7: Troubleshooting (30 hours Combined)		15		15				30	100	\$ 5,025	\$ -	\$ 54	\$ 5,079
Subtotal	10	47	56	31	376	-	4	524	2,350	\$ 76,609	\$ -	\$ 1,269	\$ 77,878
Total	30	153	176	105	1,144	24	12	1,644	7,050	239,911	-	3,807	243,718
Grand Total for Above Tasks													\$ 243,800



**IRVINE RANCH WATER DISTRICT
FEE SCHEDULE 2016**

HDR has, since 1959, provided consulting services in the field of corrosion control engineering. Our services are furnished on the basis of the below listed terms and in accordance with the following schedule of fees and charges, which will be valid for the duration of the 3-year contract:

<i>Title</i>	<i>Hourly Rate</i>
Principal Engineer	\$310
Project Manager/Senior Corrosion Engineer	\$210
Corrosion Engineer	\$160
Corrosion Technician (Non-Prevailing Wage)	\$125
Corrosion Technician (Prevailing Wage)	\$134
Project Controller	\$105
CAD Operator/GIS Designer including Equipment	\$110

Personnel time is billed in one-hour increments. These rates apply to regular and travel time. Overtime, if required in the interest of the project, and approved by IRWD, will be charged at the above rates for professional personnel and 1.5 times the above rates for inspector, technician, and clerical personnel. Coating inspector has a four (4) hour minimum charge.

EQUIPMENT AND MISCELLANEOUS CHARGES:

Personnel charges include the indicating instruments commonly used in corrosion testing, which will not be charged. Specialized instrumentation/test equipment and facilities may require an additional charge, but will only be charged upon authorization by IRWD. Other direct costs (ODC), such as outside consultants or laboratories, rental equipment, and miscellaneous expenses will be charged at cost plus fifteen percent (15%) only upon authorization by IRWD. Mileage will be charged at \$.054 per mile.

2016 Fee Schedule

Effective 4/25/2016

June 27, 2016

Prepared by: Christopher Smithson

Submitted by: Cheryl Clary

Approved by: Paul Cook 

ACTION CALENDAR

SETTING CONNECTION FEES AND PROPERTY TAXES FOR FISCAL YEAR 2016-17

SUMMARY:

Staff recommends changes to the existing connection fees and tax rates based on updated data within the IRWD improvement districts (IDs). The long term capital funding plan, completed in November 2013, established connection fees and formed new IDs for funding capital requirements and setting tax rates. Connection fees were last updated in July 2015. IRWD's financial model has been updated for rate setting for FY 2016-17 to include the following factors:

- Updated Capital Improvement Program;
- Dedication of open space where development was planned (East Orange);
- Commercial and Residential development with no tax base; and
- Updated assessed valuations.

The proposed connection fees assume an increase within each of the IDs based on the Engineering News Records (ENR) estimated capital cost increase of 1.62% and are included in the Proposed Connection Fees and Property Tax Rates Summary included as Exhibit "A".

Staff recommends that the Board:

- Adopt a resolution amending the Rates and Charges, included as Exhibit "B", with revised Rates and Charges for connection fees, included as Exhibit "E";
- Adopt a resolution amending the Ad Valorem Property Tax Rates, included as Exhibit "C"; and
- Adopt a resolution amending Allocation of Ad Valorem Property Taxes to Debt Service providing for the annual allocation of 1% tax revenue, included as Exhibit "D".

BACKGROUND:

A fundamental concept in IRWD's capital funding plan is that the cost of new capital facilities is shared equally between the connection fees paid by the developer and property taxes paid by property owners when possible. IRWD uses a comprehensive financial model to incorporate regional capital costs, future development, growth rates, inflation, and other variables in order to determine connection fees. Connection fee increases were modeled for both residential and commercial development and a consolidated tax rate was also identified.

Connection fees were last updated for the IDs in July 2015, with recommended periodic updates based on an updated capital budget and other changing assumptions. The proposed changes, which include increases to the ENR construction cost index, are discussed below.

IDs 112/212 – Great Park Neighborhoods:

There were changes in the Capital Improvement Program primarily as a result of project allocation shifts related to the reduced development in the East Orange area. Staff recommends increasing connection fees to match the estimated increase in capital from ENR. This increases the water and sewer connection fee \$93, from \$4,910 to \$5,003 per unit or 1.9%. Staff recommends maintaining the current consolidated tax rate of \$0.7500 per \$100 of land assessed value in order to maintain the 50/50 split.

Some development is being considered that will have no tax base. This includes both potential residential units as well as commercial development. Staff recommends establishing a separate connection fee within the water and sewer IDs for land with no tax base. The connection fee will be based on the assumption that development is funded entirely from connection fees with no sharing of costs with property tax revenue. Establishing the rate structure will protect other developers by fairly allocating costs to all development within the IDs. The proposed water and sewer connection fee is \$9,206 per residential unit.

Improvement Districts	Connection Fees		Property Tax	
	Current	Proposed	Current	Proposed
112/212 (Great Park)	\$4,910	\$5,003	\$0.0750	\$0.0750
112a/212a (no tax base in Great Park)	\$0	\$9,206	\$0.0000	\$0.0000

IDs 113/213 – Tustin Base:

There were changes in the Capital Improvement Program with increases to the Tustin Legacy development projects and OCS D increases that increased capital costs associated with the sewer system by \$3.8 million. Current development projections show residential development will end within the next few years while commercial development is expected to continue for several years. Staff recommends increasing connection fees and property tax rates to offset the increase in capital. This will increase water and sewer connection fee \$973, from \$6,948 to \$7,921 per unit or 14%. Staff recommends increasing the property tax rate from \$0.06400 to \$0.09900 or \$0.035 per \$100 of land assessed value in order to maintain the 50/50 split.

Improvement Districts	Connection Fees		Property Tax	
	Current	Proposed	Current	Proposed
113/213	\$6,948	\$7,921	\$0.0640	\$0.0990

IDs 185/285 – Opportunity Study Area, Excluding Portola

In March 2014, General Obligation (GO) bonding authority was voted in for these IDs which provides for a sharing of the capital costs between connection fees and property taxes. Staff recommends increasing connection fees to match the estimated increase in capital, increasing the water and sewer connection fee \$103, from \$4,498 to \$4,601 per residential unit or 2.3%.

Improvement Districts	Connection Fees		Property Tax	
	Current	Proposed	Current	Proposed
185/285 (Opportunity Study)	\$4,498	\$4,601	\$0.0000	\$0.0000

IDs 188/288 – Portola – Portion of OSA

Staff recommends increasing connection fees to match the estimated increase in capital by \$91, increasing the water and sewer connection fee from \$3,944 to \$4,035 per residential unit or 2.3%.

Improvement Districts	Connection Fees		Property Tax	
	Current	Proposed	Current	Proposed
188/288 (Opportunity Study)	\$3,944	\$4,035	\$0.2254	\$0.2254 ¹

IDs 153/253 – Developing IDs

There has been significant change in the development projections in this area. The East Orange development has been reduced with the land being donated as open space. Capital demands and development projections have been updated. A draft of the Irvine Lake Management Plan has been completed and staff recommendation is to continue the assumed native water yield of 3,200 acre feet (AF). The actual annual yield will be trued up annually. Connection fees were increased with ENR in July 2015. Staff recommends increasing connection fees by ENR or \$67, increasing the water and sewer connection fee from \$4,121 to \$4,188 per residential unit or 1.6%.

Improvement Districts	Connection Fees		Property Tax	
	Current	Proposed	Current	Proposed
153/253 (Undeveloped ID)	\$4,121	\$4,188	\$0.0000	\$0.0000

All Other IDs

These areas experienced no significant changes in funding requirements. The recommendation for these ID's is a 1.62% increase to connection fees applied to the Capital Improvement Program, attributable to construction cost increases due to capital inflation. The change results in:

Improvement Districts	Connection Fees		Property Tax	
	Current	Proposed	Current	Proposed
125/225(Developed)	\$5,397	\$5,484	\$0.028	\$0.028
101/201(Developed no GO Authority) ²	\$8,955	\$9,100	NA	NA

¹ Maintain current rate because there is no other source of funding for existing debt service.

² Identifies the consolidated connection fee for a density between 5.9 to 10.8 dwelling units (DU) per acre.

Staff recommends the Board:

- Adopt a resolution amending changes to Rates and Charges, included as Exhibit “B”, with the changes identified in Exhibit “E”, the Developer Services portion of the Rates and Charges, and
- Adopt a resolution amending Allocation of Ad Valorem Property Taxes Rates, included as Exhibit “C”.

Allocation of One Percent Property Tax Revenue

One percent property tax revenue is allocated annually among the IRWD’s Improvement Districts. As in prior years, the Fiscal Year (FY) 2016-17 allocation will include a split between the new capital (72%) and replacement fund (28%) contemplated by the Board during the connection fee and property tax setting process of the LTFP process. Staff recommends the Board adopt a resolution amending Allocation of Ad Valorem Property Taxes to Debt Service included as Exhibit “D”.

FISCAL IMPACTS:

Minimal impact is expected for the FY2016-17.

ENVIRONMENTAL COMPLIANCE:

Not Applicable

COMMITTEE STATUS:

This item was reviewed by the Finance and Personnel Committee on June 7, 2016.

RECOMMENDATION:

THAT THE BOARD APPROVE IDENTIFIED INCREASES IN CONNECTION FEES AND PROPERTY TAX RATES AND ADOPT THE FOLLOWING RESOLUTIONS BY TITLE:

RESOLUTION NO. 2016-___

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA ADOPTING CHANGES TO CONNECTION FEES AS SET FORTH IN THE SCHEDULE OF RATES AND CHARGES IN EXHIBIT “B” TO THE RULES AND REGULATIONS OF IRVINE RANCH WATER DISTRICT FOR WATER, SEWER, RECYCLED WATER AND NATURAL TREATMENT SYSTEM SERVICE

RESOLUTION NO. 2016-___

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA
ESTABLISHING AD VALOREM TAX REVENUES FOR
FISCAL YEAR 2016-17

RESOLUTION NO. 2016-___

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT AMENDING ALLOCATION
OF AD VALOREM PROPERTY TAXES TO DEBT SERVICE,
SUBJECT TO PLEDGE

LIST OF EXHIBITS:

- Exhibit "A" – Proposed Connection Fees and Property Tax Rates by ID
- Exhibit "B" – Resolution Adopting Changes to Rates and Charges
- Exhibit "C" – Resolution Adopting Ad Valorem Property Tax Rates
- Exhibit "D" – Resolution Amending Allocation of Ad Valorem Property Taxes to Debt Service
- Exhibit "E" – Rates and Charges

Exhibit "A"

**Proposed Connection Fees and Property Tax Rates
Fiscal Year 2016-17**

CONNECTION FEES

Improvement District	Current			Proposed			Change	
	Water	Sewer	Total	Water	Sewer	Total	\$	%
	101/201 ⁽¹⁾	\$3,208	\$5,747	\$8,955	\$3,260	\$5,840	\$9,100	\$145
112/212	\$1,360	\$3,550	\$4,910	\$1,386	\$3,617	\$5,003	\$93	1.9%
112a/212a No Tax Authority (100% Connection Fee)				\$2,550	\$6,656	\$9,206	\$9,206	
113/213	\$2,527	\$4,421	\$6,948	\$2,881	\$5,040	\$7,921	\$973	14.0%
125/240	\$2,595	\$3,563	\$6,158	\$2,637	\$3,621	\$6,258	\$100	1.6%
125/225	\$2,595	\$2,802	\$5,397	\$2,637	\$2,847	\$5,484	\$87	1.6%
153/253	\$1,906	\$2,215	\$4,121	\$1,937	\$2,251	\$4,188	\$67	1.6%
153/253 PA 30	\$3,561	\$3,716	\$7,277	\$3,619	\$3,776	\$7,395	\$118	1.6%
101/256 OPA	\$3,208	\$25,427	\$28,635	\$3,260	\$25,839	\$29,099	\$464	1.6%
185/285	\$1,615	\$2,883	\$4,498	\$1,652	\$2,949	\$4,601	\$103	2.3%
188/288	\$1,453	\$2,491	\$3,944	\$1,486	\$2,549	\$4,035	\$91	2.3%
101/OPA1 (Ridgeline)	\$3,208	\$4,359	\$7,567	\$3,260	\$4,430	\$7,690	\$123	1.6%

PROPERTY TAX RATES⁽²⁾

Improvement District	Current	Proposed
112/212	\$0.0750	\$0.0750
113/213	\$0.0640	\$0.0990
125/225	\$0.0280	\$0.0280
153/253 ⁽³⁾	\$0.0000	\$0.0000
185/285 ⁽³⁾	\$0.0000	\$0.0000
188/288	\$0.2254	\$0.2254

(1) Assumes 5.9-10.8 dwelling units / acre.

(2) Based on \$100 of land assessed value.

(3) No current or proposed tax rate because debt has not been issued in these IDs.

Exhibit "B"

RESOLUTION NO. 2016-

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE
RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA
ADOPTING CHANGES TO CONNECTION FEES AS SET FORTH IN
THE SCHEDULE OF RATES AND CHARGES IN EXHIBIT "B" TO THE
RULES AND REGULATIONS OF IRVINE RANCH WATER DISTRICT
FOR WATER, SEWER, RECYCLED WATER, AND NATURAL
TREATMENT SYSTEM SERVICE

WHEREAS, the Irvine Ranch Water District (IRWD) is a California Water District organized and existing under the California Water District Law, and all of the lands within the boundaries of said District are located in the County of Orange, State of California; and

WHEREAS, Section 35423, 35470, and Section 35501 of the California Water Code empower the District to establish, print and distribute equitable rules and regulations and prescribe and collect rates or other charges for water and sewer service, and such authority to prescribe and collect rates or other charges for water and sewer service includes connection fees for connection and service capacity; and

WHEREAS, the Board of Directors of IRWD, by adoption of Resolution No. 2015-23 approved and adopted amended "Rules and Regulations of Irvine Ranch Water District for Water, Sewer, Recycled Water, and Natural Treatment System Service effective August 24, 2015"; and

WHEREAS, Exhibit "B" of said Rules and Regulations sets forth Rates and Charges, which Exhibit "B" may be changed from time to time by adoption of changes to any of the rates and charges or any new rates and charges as may be established and set forth therein; and

WHEREAS, Section 21080(b) (8) of the Public Resources Code provides that the establishment, modification, structuring, restructuring or approval of rates, tolls, fares, or other charges by public agencies are exempt from the requirements of the California Environmental Quality Act (CEQA) provided that certain findings are made specifying the basis for the claim of exemption; and

WHEREAS, Article XIII B of the Constitution of the State of California, limiting local agencies' appropriations of proceeds of taxes, excludes user charges or fees or regulatory fees from the definition of proceeds of taxes, as long as such fees and charges do not produce revenue exceeding the costs reasonably borne in providing the regulation, product or service, and further excludes appropriations for debt service and appropriations for qualified capital outlay projects from appropriations subject to limitation; and

WHEREAS, the Board of Directors of IRWD deems it advisable and finds that it would be in the best interest of the District to amend or establish connection fees, consistent with applicable constitutional and statutory requirements; and

Exhibit "B"

WHEREAS, the proposed revisions to the connection fees, as set forth in Exhibit "A" to this resolution, do not modify or establish any property-related fees or charges subject to the notice and hearing procedures of Article XIII D of the Constitution of the State of California; and

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of IRWD as follows:

Section 1. It is hereby found and determined that the proposed changes to the Schedule of Rates and Charges are within the purposes set forth in Section 21080(b) of the Public Resources Code including but not by way of limitation, the purposes of (1) meeting operating expenses, (2) purchasing or leasing supplies, equipment or materials, (3) meeting financial reserve needs and requirements, and (4) obtaining funds for capital projects necessary to maintain service within existing areas, and therefore, that such changes are exempt from CEQA.

Section 2. It is hereby found and determined that relative to Article XIII B of the Constitution of the State of California, the charges or fees or regulatory fees established or increased hereby do not produce revenues exceeding the costs reasonably borne in providing the regulation, product or service and/or are used for debt service or qualified capital outlay projects and accordingly do not constitute proceeds of taxes, the appropriation of which is limited under Article XIII B, and that the documentation used in making such determinations has been on file in the office of IRWD for not less than 15 days prior to the date hereof, pursuant to Section 7910 of the Government Code of the State of California. It is hereby further found and determined that relative to the requirements of Sections 66013 and 66016 of the Government Code of the State of California, the availability of such documentation also satisfies the requirement to make publicly available the data indicating the estimated cost and revenue sources to provide the service for which the fee is imposed at least 10 days prior to the meeting at which this resolution is adopted, and that the connection fees established or increased hereby do not exceed the estimated reasonable cost of providing the service for which they are imposed.

Section 3. The new and/or revised connection fees as set forth in Exhibit "A" attached to this resolution and by this reference incorporated herein are hereby adopted, and the corresponding rate(s), fee(s) or charge(s), if any, as set forth in Rules and Regulations Exhibit "B" currently in effect, are hereby superseded. Staff is directed to incorporate the hereby adopted new and/or revised connection fee(s) into Exhibit "B" to the Rules and Regulations.

Section 4. That the provisions of this Resolution shall be effective upon adoption.

Section 5. That the Secretary is hereby ordered and directed to post a certified copy of this Resolution in a public place within the Irvine Ranch Water District.

ADOPTED, SIGNED and APPROVED this 27th day of June, 2016.

President, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

Exhibit "B"

Assistant Secretary, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

APPROVED AS TO FORM:
BOWIE, ARNESON, WILES & GIANNONE
Legal Counsel - IRWD

By: _____

Exhibit "C"

RESOLUTION NO. 2016-

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA
ESTABLISHING AD VALOREM TAX REVENUES FOR
FISCAL YEAR 2016-17

WHEREAS, the Board of Directors of the Irvine Ranch Water District (IRWD) has duly considered the financial needs of the IRWD and its Improvement District Nos. 112, 113, 125, 153, 185, 188, 212, 213, 225, 240, 253, 285, and 288, for the fiscal year 2016-17 and the funds available and established to become available for meeting said financial needs; and

WHEREAS, pursuant to Section 37206 of the Water Code of the State of California, the Board of Directors annually shall furnish to the Board of Supervisors of Orange County and to the County Auditor, an estimate in writing of the amount of money needed to be raised by the District during the fiscal year for the payment of its proportion of the amount required for the purposes of the District; and

WHEREAS, Article XIII B of the Constitution of the State of California provides that the appropriations of local agencies will be limited each year to those of the previous year with specified adjustments permitted; and

WHEREAS, Section 9(a) of Article XIII B specifically excludes appropriations required to pay the cost of interest and redemption charges, including the funding of any reserve or sinking fund required in connection therewith, on indebtedness existing or legally authorized as of January 1, 1979, or on bonded indebtedness thereafter approved according to law by a vote of electors; and

WHEREAS, the ad valorem tax revenues established by IRWD are used entirely for debt service and are therefore exempt from the appropriations formula established by Article XIII B.

WHEREAS, the ad valorem tax revenues received by IRWD pursuant to this Resolution will provide a portion of the funds needed to pay principal and interest with respect to the General Obligation Bonds referenced below, and this Board wishes to specify the sources of the remainder of the amounts needed therefor in the current year.

NOW, THEREFORE, the Board of Directors of IRWD does hereby RESOLVE, DETERMINE, AND ORDER as follows:

Section 1. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 153 of IRWD for fiscal year 2016-17 is .00001 percent (.0000001) of full value.

Section 2. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 253 of IRWD for fiscal year 2016-17 is .00001 percent (.0000001) of full value.

Exhibit "C"

Section 3. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 225 of IRWD for fiscal year 2016-17 is .01500 percent (.0001500) of full value.

Section 4. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 240 of IRWD for fiscal year 2016-17 is .01500 percent (.0001500) of full value.

Section 5. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 125 of IRWD for fiscal year 2016-17 is .01300 percent (.0001300) of full value.

Section 6. That the tax to be levied for servicing Improvement District No. 252's just proportion of liability determined pursuant to Resolution No. 2005-41, for the General Obligation Bonds of Improvement District No. 225 of IRWD for fiscal year 2016-17 is .00001 percent (.0000001) of full value.

Section 7. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 188 of IRWD for fiscal year 2016-17 is .21540 percent (.0021540) of full value.

Section 8. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 288 of IRWD for fiscal year 2016-17 is .01000 percent (.0001000) of full value.

Section 9. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 113 of IRWD for fiscal year 2016-17 is .04000 percent (.0004000) of full value.

Section 10. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 213 of IRWD for fiscal year 2016-17 is .05900 percent (.000590) of full value.

Section 11. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 112 of IRWD for fiscal year 2016-17 is .03000 percent (.00030000) of full value.

Section 12. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 212 of IRWD for fiscal year 2016-17 is .04500 percent (.0004500) of full value.

Section 13. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 185 of IRWD for fiscal year 2016-17 is .00001 percent (.0000001) of full value.

Exhibit "C"

Section 14. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 285 of IRWD for fiscal year 2016-17 is .00001 percent (.0000001) of full value.

Section 15. The taxes levied pursuant to Sections 1 and 2 of this Resolution are for bonds approved before January 1, 1989. The taxes levied pursuant to Sections 7 through 14 are for bonds approved after January 1, 1989. The taxes levied pursuant to Sections 3 through 6 are for bonds approved before January 1, 1989 and bonds approved after January 1, 1989.

Section 16. That the Secretary and Treasurer of the District are hereby directed to furnish a certified copy of this resolution to the Auditor of the County of Orange.

Section 17. That the ad valorem tax revenues established by IRWD hereby for the fiscal year 2016-17 are in compliance with the provisions of Article XIII B of the constitution of the State of California.

Section 18. That principal and interest with respect to the General Obligation Bonds of IRWD shall be paid from (1) the ad valorem assessments received by IRWD pursuant to this Resolution; (2) any amounts held in bona fide debt service funds; (3) other monies, if any, required to be applied to the payment of debt service by the applicable indenture or resolution of issuance; (4) tax revenues applied pursuant to Resolution No. 2002-10 and to certain parity obligations as described in the Indenture of Trust, dated April 1, 2011, as amended and supplemented, relating to the Bonds of Irvine Ranch Water District, Refunding Series 2011A-1 (pledge of the 1% levy), as such application may be modified by resolution amending the allocation of tax revenues; and (5) to the extent additional amounts are necessary for such purpose, revenues which are received by IRWD within twelve months of being applied to the payment of debt service and which are legally available therefor, including income from the investment of such revenues where both the investment income and the revenues on which it is earned are received by IRWD within twelve months of being applied to the payment of debt service.

ADOPTED, SIGNED and APPROVED this 27th day of June, 2016.

President, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

Secretary, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

Exhibit "C"

APPROVED AS TO FORM:
BOWIE, ARNESON, WILES AND GIANNONE

Legal Counsel

Exhibit “D”

RESOLUTION NO. 2016 –

RESOLUTION OF THE BOARD OF DIRECTORS OF THE IRVINE RANCH WATER DISTRICT AMENDING ALLOCATION OF *AD VALOREM* PROPERTY TAXES TO DEBT SERVICE, SUBJECT TO PLEDGE

WHEREAS, the Board of Directors of the Irvine Ranch Water District (“IRWD”) has adopted Resolution Nos. 1992-48 and 2002-10, relating to IRWD’s appropriation and pledge of revenues from the general 1% *ad valorem* property tax; and

WHEREAS, such resolutions authorized and directed the Treasurer to annually allocate the general 1% *ad valorem* property tax revenues received by IRWD among the debt service requirements of the issues of bonds specified in said resolution (“Secured Bonds”) in accordance with a formula set forth therein, with the 2002 pledge formula to be applied in lieu of the 1992 pledge formula to the extent provided in Resolution No. 2002-10; and

WHEREAS, no Secured Bonds that received a pledge of general 1% *ad valorem* property tax revenues under Resolution No. 1992-48 currently remain outstanding, and;

WHEREAS, IRWD’s revenues from the general 1% *ad valorem* property tax have, to the extent not applied to pay principal and interest on the Secured Bonds, been pledged by IRWD to certain parity obligations (the “Parity Obligations”) identified by the Indenture of Trust, dated April 1, 2011, as amended and supplemented (the “2011 Indenture”), relating to the Bonds of Irvine Ranch Water District, Refunding Series 2011A-1; and

WHEREAS, on November 11, 2013, pursuant to Section 36454 *et seq.* of the California Water Code, the Board of Directors adopted Resolution No. 2013-43, ordering the consolidation of Improvement District Nos. 102, 105, 106, 121, 130, 135, 140, 161, 182, 184 and 186, as modified by certain annexations and detachments ordered by the Board, into a single improvement district designated “Improvement District No. 125” and the consolidation of Improvement District Nos. 2(202), 206, 221, 230, 235, 250, 261, 282, 284 and 286, as modified by certain annexations and detachments ordered by the Board, into a single improvement district designated “Improvement District No. 225”; and

WHEREAS, the consolidation is one of several actions taken by IRWD based upon its comprehensive evaluation and study of its long-term financial requirements, including: a detailed planning, engineering and financial assessment of the total costs of existing and future facilities in the water and wastewater systems; available bond authorization and other revenue sources to finance facilities to serve future development, augment system reliability and meet upgraded regulatory requirements for both existing and future demands and replace and refurbish the existing systems; debt service; simplification of the improvement district structure; and assurance of equitable and fair sharing of regional and local cost between existing and future users and among the areas that have comprised the various existing improvement districts and other geographic areas served by the system; and

Exhibit "D"

WHEREAS, pursuant to Section 36454.1 of the California Water Code, the included amounts and/or included percentages of each series of the Secured Bonds or Parity Obligations that constituted the general obligation of one or more of Improvement District Nos. 105, 121, 130, 135, 140, 161, 182, 184 and 186 were assumed by and became the liability of Improvement District No. 125, and the included amounts and/or included percentages of the respective series of the Secured Bonds or Parity Obligations that constituted the general obligation of one or more of Improvement District Nos. 221, 230, 235, 250, 261, 282, 284 and 286 were assumed by and became the liability of Improvement District No. 225; and

WHEREAS, the Board deems it to be appropriate, in the interest of IRWD and consistent with the pledges contained in Resolution No. 2002-10 and the 2011 Indenture (collectively, the "Pledges"), to modify the allocation of the revenues from the general 1% *ad valorem* property tax received during the 2016-17 fiscal year (the "Fiscal Year"), subject to the availability of other revenues for debt service on Secured Bonds and Parity Obligations in such year; and

WHEREAS, the proposed modifications consist of substitution of an allocation of 1% tax revenues among debt service obligations that is different from the allocation that would be calculated under the formulas specified in the Pledges; in addition, by separate resolution adopting the capital budget, this Board has allocated a portion of the 1% tax revenues for the Fiscal Year to one or both of IRWD's Replacement Fund or Enhancement Fund; and

WHEREAS, Article XIII B of the Constitution of the State of California provides that the appropriations of local agencies will be limited each year to those of the previous year, adjusted for changes in population, cost of living and transfers in sources of funding; and

WHEREAS, Section 9 of Article XIII B excludes from the appropriations subject to limitation appropriations for debt service and appropriations for all qualified capital outlay projects; a qualified capital outlay project is defined by statute as an appropriation for a fixed asset (including land and construction) with a useful life of 10 or more years and a value which equals or exceeds one hundred thousand dollars (\$100,000).

NOW, THEREFORE, the Board of Directors of the Irvine Ranch Water District DOES HEREBY RESOLVE, DETERMINE and ORDER as follows:

Section 1. Subject in all respects to the Pledges, the Treasurer is hereby authorized and directed to implement a modified allocation of the pledged amounts (as defined in the Pledges) of the general 1% *ad valorem* property tax revenues for the Fiscal Year in the manner set forth as follows:

- (a) the amount to be allocated to the Replacement Fund shall be as specified in the resolution adopting the capital budget for the Fiscal Year;
- (b) the amount to be allocated to the Enhancement Fund shall be as specified in the resolution adopting the capital budget for the Fiscal Year;

Exhibit "D"

- (c) the amount to be allocated to the sharing of regional and local cost by existing and future users of the areas known as "110" and 210" shall be as set forth in Exhibit "A," which exhibit is attached to this resolution and by this reference made a part hereof;
- (d) the allocation among the Improvement Districts' debt service obligations shall be as set forth in Exhibit "A," subject to adjustments as may be necessary to reflect actual tax revenues received by IRWD;
- (e) the amount allocated to each Improvement District or combination of Improvement Districts specified in Exhibit "A" shall be further allocated by the Treasurer among the various outstanding bond issues based upon their debt service requirements and/or other criteria as he deems appropriate;
- (f) the amounts to be allocated pursuant to paragraphs (d) and (e) from the pledged amount of the general 1% *ad valorem* property tax revenues received by IRWD shall be held unallocated until such allocations are made, and each such amount shall be deposited into the appropriate debt service fund or account for the respective bond issue as and when determined by the Treasurer.

The applications described in this section shall be made only if and to the extent there is not a deficiency at the time of application in the amounts available to pay debt service for any Secured Bonds or Parity Obligations.

Section 2. Nothing contained in this resolution is intended to impair or modify in any way the pledge of the general 1% *ad valorem* property tax revenues as stated in the Pledges. Nothing contained in this resolution is intended to create any entitlement with respect to the use of general 1% *ad valorem* property tax revenues for any particular purpose, it being intended that such revenues are unrestricted except by such Pledges and are subject to application as determined in the discretion of the Board of Directors from time to time.

Section 3. It is hereby found and determined that relative to appropriations subject to limitation under Article XIII B of the Constitution of the State of California, the applications of revenues described in this resolution are for debt service, and accordingly do not constitute proceeds of taxes the appropriation of which is limited under Article XIII B, and that the documentation used in making such determinations has been on file in the office of IRWD for not less than 15 days prior to the date hereof, pursuant to Section 7910 of the Government Code of the State of California

Section 4. The President, Secretary, Treasurer and each other officer of IRWD, acting singly, be and hereby is authorized and directed to execute and deliver any and all documents or instruments and to do and perform any and all acts and things necessary or proper for carrying out the transactions contemplated by this resolution.

Exhibit "D"

ADOPTED, SIGNED AND APPROVED this 27th day of June, 2016.

President/Vice President
IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

Secretary/Assistant Secretary
IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

APPROVED AS TO FORM:

BOWIE, ARNESON, WILES & GIANNONE
Legal Counsel - IRWD

By _____

jac/ 00106535/ 061114

Exhibit “D”

ID or Area (Water)	2002 Pledge Formula Allocation of 1% General Tax Revenue ^a	2016-17 Allocation of 1% General Tax Revenue	ID or Area (Sewer)	2002 Pledge Formula Allocation of 1% General Tax Revenue ^a	2016-17 Allocation of 1% General Tax Revenue
			1	0	0
112	0	0	212	0	0
113	0	0	213	0	0
125 ^{b c}	17%	25%	225 ^{d e}	23%	35%
153	0	0	240	3%	2%
154	0	0	252	0	0
185	0	0	253	0	0
188	0	0	288	0	0
“110”	NA	5%	“210”	NA	5%

Fund	Allocation of 1% Revenue, Per 2016-17 Capital Budget Resolution
Replacement Fund	28%
Enhancement Fund	0

^a No Secured Bonds that received a pledge of 1% general tax levy revenues under Resolution No. 1992-48 remain outstanding. The pledge made by Resolution No. 2002-10 secured the outstanding **Consolidated Series 1993 Bonds** (consisting of the included percentages of Improvement District Nos. 105 (14.67%), 140 (15.20%), 240 (43.73%) and 250 (26.40%) and **Consolidated Series 1995 Bonds** (consisting of the included percentages of Improvement District Nos. 105 (25.26%), 140 (11.61%), 240 (25.26%) and 250 (37.87%).

^b Improvement District No. 125 assumed the liability for the included amounts and/or included percentages of debt service for each series of the Secured Bonds or Parity Obligations that constituted the general obligation of one or more of the improvement districts consolidated as Improvement District No. 125: Nos. 105, 121, 130, 135, 140, 161, 182, 184 and 186.

^c After the formation of Improvement District No. 125, with respect to the **Series 1993 Bonds**, the aggregated included percentages of Improvement District Nos. 105 and 140 (36.87%) were assumed by Improvement District No. 125, and with respect to the **Series 1995 Bonds**, the aggregated included percentages of Improvement District Nos. 105 and 140 (36.87%) were assumed by Improvement District No. 125.

^d Improvement District No. 225 assumed the liability for the included amounts and/or included percentages of debt service for each series of the Secured Bonds or Parity Obligations that constituted the general obligation of one or more of the improvement districts consolidated as Improvement District No. 125: Nos. 2(202), 206, 221, 230, 235, 250, 261, 282, 284 and 286.

^e After the formation of Improvement District No. 225, with respect to the **Series 1993 Bonds**, the included percentage of Improvement District No. 250 (26.40%) was assumed by Improvement District No. 225, and with respect to the **Series 1995 Bonds**, the included percentage of Improvement District No. 250 (37.87%) was assumed by Improvement District No. 125.

Water Connection Fees

Residential

	IMPROVEMENT DISTRICT	0-5.8 DUs/acre	5.9-10.8 DUs/acre	10.9-25.8 DUs/acre	25.9-40.0 DUs/acre
Connection Fees Per Dwelling Unit	101*	\$3,696 \$3,637	\$3,260 \$3,208	\$2,762 \$2,718	\$2,332 \$2,295
	112	\$1,386 \$1,360	\$1,386 \$1,360	\$1,386 \$1,360	\$1,386 \$1,360
	112a (tax base)	\$2,550	\$2,550	\$2,550	\$2,550
	113	\$2,881 \$2,527	\$2,881 \$2,527	\$2,881 \$2,527	\$2,881 \$2,527
development shall be gross acres excluding private parks.	125	\$2,637 \$2,595	\$2,637 \$2,595	\$2,637 \$2,595	\$2,637 \$2,595
	153	\$1,937 \$1,906	\$1,937 \$1,906	\$1,937 \$1,906	\$1,937 \$1,906
	153 PA 30	\$3,619 \$3,561	\$3,619 \$3,561	\$3,619 \$3,561	\$3,619 \$3,561
	185	\$1,652 \$1,615	\$1,652 \$1,615	\$1,652 \$1,615	\$1,652 \$1,615
	188	\$1,486 \$1,453	\$1,486 \$1,453	\$1,486 \$1,453	\$1,486 \$1,453
	All others*				

Commercial, Industrial and Public Authority – Office Building

	IMPROVEMENT DISTRICT	Commercial	Industrial	Public Authority
Connection Fees Per Gross Acre	101*	\$20,509 \$20,182	\$31,237 \$30,739	\$20,509 \$20,182
	112	\$9,007 \$8,840	\$9,007 \$8,840	\$9,007 \$8,840
	112a (tax base)	\$16,575	\$16,575	\$16,575
	113	\$21,042 \$18,458	\$0 \$0	\$10,521 \$9,229
	125	\$13,078 \$12,870	\$18,565 \$18,269	\$13,078 \$12,870
	153	\$10,176 \$10,013	\$14,444 \$14,214	\$10,176 \$10,013
	PA 30	\$17,955 \$17,669	\$25,488 \$25,082	\$17,955 \$17,669
	185	\$7,720 \$7,546	\$7,720 \$7,546	\$7,720 \$7,546
	188	\$5,867 \$5,735	\$5,867 \$5,735	\$5,867 \$5,735
	All others*			

Parks, Churches and Commercial Recreational Facilities

	IMPROVEMENT DISTRICT	Indoor Water Use	Outdoor ⁽¹⁾ Water Use
Connection Fees Per Fixture Unit	101*	\$64.23 \$63.24	\$226.03 \$222.42
(1) As calculated per UPC as revised.	125	\$43.47 \$42.77	\$152.35 \$149.92
	153	\$33.86 \$33.32	\$118.69 \$116.80
	PA 30	\$59.72 \$58.77	\$209.31 \$206.97
	185	\$44.42 \$43.42	\$155.97 \$152.47
	188	\$29.31 \$28.65	\$103.12 \$100.80
	All others*		

*Connection fees will be set by the Board of Directors upon request for initial service for each such improvement district.

Schools (Public and Private)

	IMPROVEMENT DISTRICT	Primary & Intermediate	Secondary	Primary Intermediate & Secondary
Connection Fees Per	101*	\$5,061 \$4,981	\$6,788 \$6,680	\$217 \$214
100 Students Average Daily Attendance	125	\$3,418 \$3,364	\$4,590 \$4,517	\$153 \$151
	153	\$2,663 \$2,621	\$3,576 \$3,519	\$119 \$117
⁽²⁾ Minimum required	PA 30	\$4,696 \$4,622	\$6,306 \$6,205	\$210 \$207
	185	\$3,348 \$3,274	\$4,697 \$4,591	\$151 \$147
	188	\$2,681 \$2,620	\$3,587 \$3,507	\$114 \$112
	All others*			

*Connection fees will be set by the Board of Directors upon request for initial service for each such improvement district.

High Volume User – Commercial and Industrial

This section shall apply to all non-residential applicants in addition to standard connection fees in all improvement districts.

Connection Fee Formula

Additional High Volume Water User Connection Fee =

$$\frac{[\text{Est. GPD use} - (\text{no. acres} \times \text{use factor}^*)] \times \$1,15536,669083/\text{cfs}}{646,320 \text{ gal/day/cfs}}$$

*Non-Residential Water Use Factor

Land Use Category

Water Use Factors
(Gal/Acre/Day)

Commercial

2,000.00

Industrial

4,000.00

UCI

Special Contract

Definitions

Commercial: Commercial development including retail and offices

Industrial: Industrial development including manufacturing, research and development, and distributorships

Service Installations by District

Customers may request the District to install, relocate or abandon domestic water, recycled water and fire protection service lines. To request an action listed above, the customer must submit a Quote Request Form for Service or Meter Modifications which can be obtained by contacting the District's Development Services. District staff will prepare a cost estimate for the requestor. When payment is received, a work order will be issued to District staff to begin coordination and installation.

The District reserves the right to decline a customer's request for service installations by District for any reason. In the event the District declines to perform service installations, the requestor will need to submit design plans for review and approval through the District's Development Services. For further information, see the District's Development Services Procedural Guidelines and General Design Requirements document which can be found at www.irwd.com.

The District will not install sewer laterals.

Meter Installations by District

Customers may request the District to install or replace (downsize or upsize) domestic water or recycled water meters. To request an action listed above, the customer must submit a Quote Request Form for Service or Meter Modifications which can be obtained by contacting the District's Development Services. District staff will prepare a cost estimate for the requestor. When payment is received, a work order will be issued to District staff to begin coordination and installation. Meter installation and replacement charges are as follows:

<u>Meter size</u>	<u>Cost*</u>	<u>Meter size</u>	<u>Cost*</u>
5/8" x 3/4" **	\$130.00**	2" Disc	\$ 750.00
3/4"	\$200.00	2" Turbo	\$1,300.00
1"	\$250.00***	3" Turbo	\$1,500.00
1-1/2"	\$450.00	4" Turbo	\$2,800.00

* Prices shown are for standard meter installations only and do not include services, angle stops, meter boxes, meter box covers, vaults or meter box lids. Additional costs may apply. The customer will be responsible for any plumbing modifications downstream of the water meter.

** Developer installed-Residential only.

*** When a customer requests a meter to be upsized from 5/8" x 3/4" to 1", additional parts and labor will be required to make the conversion. The cost for District staff to perform this work is \$2,000.00 and will be collected along with the standard 1" meter cost.

Costs for larger meters will be determined at the time of request from Purchasing Dept. Cost of meter includes the strainer if not already built-in to the meter.

Upsizing and Downsizing of Meter

1. It is the customer's responsibility to make sure that any upsizing or downsizing of the meter will not have any adverse effects to the customer's system as it relates to water pressure, fire protection or ability to successfully serve the demand of the home or business. The District may require OCFA approval of any modifications and/or a signed waiver form provided by the customer.
2. Any private-side (downstream of the water meter) modifications or repairs are the sole responsibility of the customer.
3. If for whatever reason the customer chooses to change back to their original sized meter, all installation costs would once again apply.

A Quote Request Form for Service or Meter Modifications can be obtained at the District's Development Services Counter.

Plan Check and Inspection Fees

Plan check and inspection fees for water systems shall be calculated as 8% of the bondable cost for the off-site, public, potable or recycled water system or a fixed fee as described below:

1. Installation of a 1" or 2" service	\$400.00
2. Removal of a 1" or 2" service	\$400.00
3. Installation of a 4" or larger service	\$700.00
4. Installation or replacement of Fire DDCA	\$500.00

A non-refundable deposit of 5% of the estimated cost of the public potable or recycled water system is required with the submittal of the first plan check to cover the costs of plan checking. The total fee is due and payable prior to final plan approval.

Interim Water Service Charge – New Developments

A one-time charge of \$35.10 per connection to each pad in a new tract and/or development will be made to builders and developers for unmetered water service available for that period of time after in-tract lines have been connected to the District's water system until the new customer begins metered water service.

Unmetered water service is not permitted for custom lots. Developers for custom lots will be required to apply for a domestic water construction meter prior to starting construction.

Sewer Connection Fees

Residential

	IMPROVEMENT DISTRICT	0-5.8 DUs/acre	5.9-10.8 Dus/acre	10.9-25.8 Dus/acre	25.9-40.0 Dus/acre
Connection Fees Per Dwelling Unit	1 (201)*	\$6,563 \$6,458	\$5,840 \$5,747	\$4,807 \$4,730	\$3,793 \$3,732
	212	\$3,617 \$3,550	\$3,617 \$3,550	\$3,617 \$3,550	\$3,617 \$3,550
	212a (tax base)	\$6,656	\$6,656	\$6,656	\$6,656
	213	\$5,040 \$4,424	\$5,040 \$4,424	\$5,040 \$4,424	\$5,040 \$4,424
Total acreage for any given development shall be gross acres excluding private parks.	240	\$3,621 \$3,563	\$3,621 \$3,563	\$3,621 \$3,563	\$3,621 \$3,563
	225	\$2,847 \$2,802	\$2,847 \$2,802	\$2,847 \$2,802	\$2,847 \$2,802
	253	\$2,251 \$2,215	\$2,251 \$2,215	\$2,251 \$2,215	\$2,251 \$2,215
Parks.	253 PA 30	\$3,776 \$3,716	\$3,776 \$3,716	\$3,776 \$3,716	\$3,776 \$3,716
	256	\$25,839	\$25,839 \$25,427	\$25,839 \$25,427	\$25,839 \$25,427
	285	\$2,949 \$2,883	\$2,949 \$2,883	\$2,949 \$2,883	\$2,949 \$2,883
	288	\$2,549 \$2,494	\$2,549 \$2,494	\$2,549 \$2,494	\$2,549 \$2,494
	OPA1 (Ridgeline)	\$4,430 \$4,359	\$4,430 \$4,359	\$4,430 \$4,359	\$4,430 \$4,359
	All others*				

Commercial, Industrial and Public Authority – Office Building

	IMPROVEMENT DISTRICT	Commercial	Industrial	Public Authority
Connection Fees Per Gross Acre	1 (201)*	\$36,780 \$36,194	\$64,170 \$63,147	\$36,780 \$36,194
	212	\$21,597 \$21,195	\$21,597 \$21,195	\$21,597 \$21,195
	212a (tax base)	\$39,741	\$39,741	\$39,741
	213	\$30,028 \$26,340	\$0 \$0	\$15,526 \$13,620
	240	\$16,534 \$16,274	\$0 \$0	\$16,534 \$16,274
	225	\$13,921 \$13,699	\$16,468 \$16,206	\$9,924 \$9,766
	253	\$10,329 \$10,165	\$17,140 \$16,867	\$10,329 \$10,165
	253 PA 30	\$16,839 \$16,570	\$27,941 \$27,495	\$16,839 \$16,570
	285	\$5,894 \$5,765	\$5,894 \$5,765	\$5,894 \$5,765
	288	\$10,059 \$9,832	\$10,059 \$9,832	\$10,059 \$9,832
	All others*			

Parks, Churches and Commercial Recreational Facilities

	IMPROVEMENT DISTRICT	Fee
Connection Fees Per Fixture Unit	1 (201)*	\$406.93
	240	\$245.99 \$242.07
	225	\$218.19 \$214.72
	253	\$161.89 \$159.31
	253 PA 30	\$263.91 \$259.70
	288	\$66.74 \$65.24
	All others*	

*Connection fees will be set by the Board of Directors upon request for initial service for each such improvement district.

Schools (Public and Private)

	IMPROVEMENT DISTRICT	Primary & Intermediate	Secondary
Connection Fees Per 100 Students Average Daily Attendance	1 (201)*	\$19,282 \$18,975	\$25,713 \$25,303
	240	\$11,626 \$11,441	\$15,504 \$15,257
	225	\$10,252 \$10,088	\$13,669 \$13,451
	253	\$7,606 \$7,485	\$10,141 \$9,980
	253 PA 30	\$12,399 \$12,202	\$16,532 \$16,269
	288	\$3,213 \$3,144	\$4,282 \$4,186
	All Others*		

June 27, 2016

Prepared by: J. McGehee/R. Mori

Submitted by: K. Burton *KB*

Approved by: Paul Cook *P. Cook*

ACTION CALENDAR

ZONE A TO B AND ZONE A TO C BOOSTER PUMP STATIONS PROJECT CONSULTANT SELECTION

SUMMARY:

In accordance with the Recycled Water Distribution System Analysis report dated March 4, 2016, two booster pump stations are proposed to serve near-term and future demands in Zone B and Zone C and will ultimately replace the Northwood Zone B Booster Pump Station (BPS), replace the Orchard Hills Zone A to C BPS, and allow the Rattlesnake Zone A to C BPS to be converted to serve Zone C+. The project will also include facility planning and provisions for the future Zone A to Syphon BPS which will be located on the site when Syphon Reservoir is expanded. Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$832,155 with AECOM for engineering design, bidding support, and construction phase services for the Zone A to B and Zone A to C BPS, Projects 4400 and 4457.

BACKGROUND:

The non-potable water distribution system has undergone significant changes in operation, demands, and facility planning over the past several years. The most significant changes to the demands and operation are within the recycled water system, specifically the Zone B and Zone C pressure zones north of the I-5 Freeway. In addition to the demand and development changes, recycled water usage from the Michelson Water Recycling Plant is intended to be maximized to the greatest extent possible. Staff is proceeding with the design and construction of the Zone A to B and Zone A to C BPS Project (Project) in accordance with the recommendations provided in the Recycled Water Distribution System Analysis report, dated March 4, 2016.

The proposed Project facilities will be constructed in two phases. The first phase is needed to meet demands for the Near-Term and Future phases and includes the Zone A to B BPS and the Zone A to C BPS. The Zone A to B BPS will meet the growth in demands to Zone B and ultimately replace the existing Northwood Zone B BPS. The Zone A to C BPS will meet the growth in demands to Zone C and ultimately replace the existing Orchard Hills Zone A to C BPS. The second phase will be required to meet demands for the Ultimate Phase, which will include consideration for the future Syphon Reservoir Expansion project.

The near-term phase includes upcoming or ongoing developments or facilities that are currently in either the preliminary design, final design, or construction phase. The future phase is an intermediate phase between the near-term and the ultimate phases and accounts for anticipated development in the Great Park. The ultimate phase includes the Syphon Reservoir expansion and assumes all other currently known developments are built-out. Ultimately, three pump stations will be located at the project site. The three pump stations will pump from Zone A to Zone B, Zone C, and to Syphon Reservoir. Additionally, the pump stations and appurtenant facilities will be designed with adequate flexibility to enable the pump stations to meet both

Zone B and C demands from either Zone A or from Syphon Reservoir in the ultimate phase, while at the same time filling the Syphon Reservoir through the Zone A to Syphon BPS.

The proposed location for the project has been coordinated with the Irvine Company and a lot has been provided within the Planning Area 5B development area at the corner of Jeffrey and Irvine Boulevard as shown on the location map, attached as Exhibit "A".

Consultant Selection:

Staff received proposals for engineering design, bidding support, and construction phase services for the Zone A to B and Zone A to C Booster Pump Stations Project from AECOM, Brown and Caldwell, Carollo, and Tetra Tech. While each firm presented creative engineering alternatives for meeting the goals of this project and developed thorough approaches for completing the project, AECOM's proposal presented excellent design concepts that optimized the use of the available site space and provided operational flexibility when the Syphon Reservoir expansion occurs in the future. AECOM also proposed to reduce the design schedule duration by one month.

AECOM, previously as URS Corporation, has successfully completed several projects for IRWD in the past including design of the Stockdale West Integrated Water Banking Project Wellhead Facilities, Orange Park Acres Well No. 1 Wellhead Facilities, and the Zone 3 to 4 Booster Pump Station Projects. AECOM's proposed design fee is \$737,205. The total contract amount, including construction phase services, is \$832,155. A copy of the proposal ranking matrix is attached as Exhibit "B".

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement with AECOM since their design approach, schedule, and staff hours are consistent with the project goals. A copy of AECOM's scope of work and fee proposal is presented as Exhibit "C".

Design Schedule:

The project design schedule will be completed in accordance with the following schedule milestones:

Notice of Award	June 28, 2016
Kick-Off Meeting	July 12, 2016
Final PDR	January 2017
60% Design Submittal	February 2017
90% Design Submittal	April 2017
100% Design Submittal	May 2017
Plans Approved	June 2017
Bid Opening	July 2017
Notice of Award (Construction)	July 2017
Notice of Completion (Construction)	January 2019

FISCAL IMPACTS:

Projects 4400 and 4457 for the Zone A to B and Zone A to C booster pump stations, respectively, are included in the FY 2016-17 Capital Budget. The existing budgets are sufficient to fund the recommendation presented herein.

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA). In conformance with the California Code of Regulations Title 14, Chapter 3, Section 15004, the appropriate environmental document will be prepared when "meaningful information" becomes available. It is expected that preliminary analysis will lead to preparation a Mitigated Negative Declaration for the project.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 21, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH AECOM IN THE AMOUNT OF \$832,155 FOR ENGINEERING DESIGN, BIDDING SUPPORT, AND CONSTRUCTION PHASE SERVICES FOR THE ZONE A TO B AND ZONE A TO C BOOSTER PUMP STATIONS, PROJECTS 4400 AND 4457.

LIST OF EXHIBITS:

- Exhibit "A" – Location Map
- Exhibit "B" – Consultant Selection Matrix
- Exhibit "C" – AECOM Scope of Work and Fee Proposal

EXHIBIT "A"
LOCATION MAP

ZONE A TO B AND ZONE A TO C
BOOSTER PUMP STATIONS PROJECT

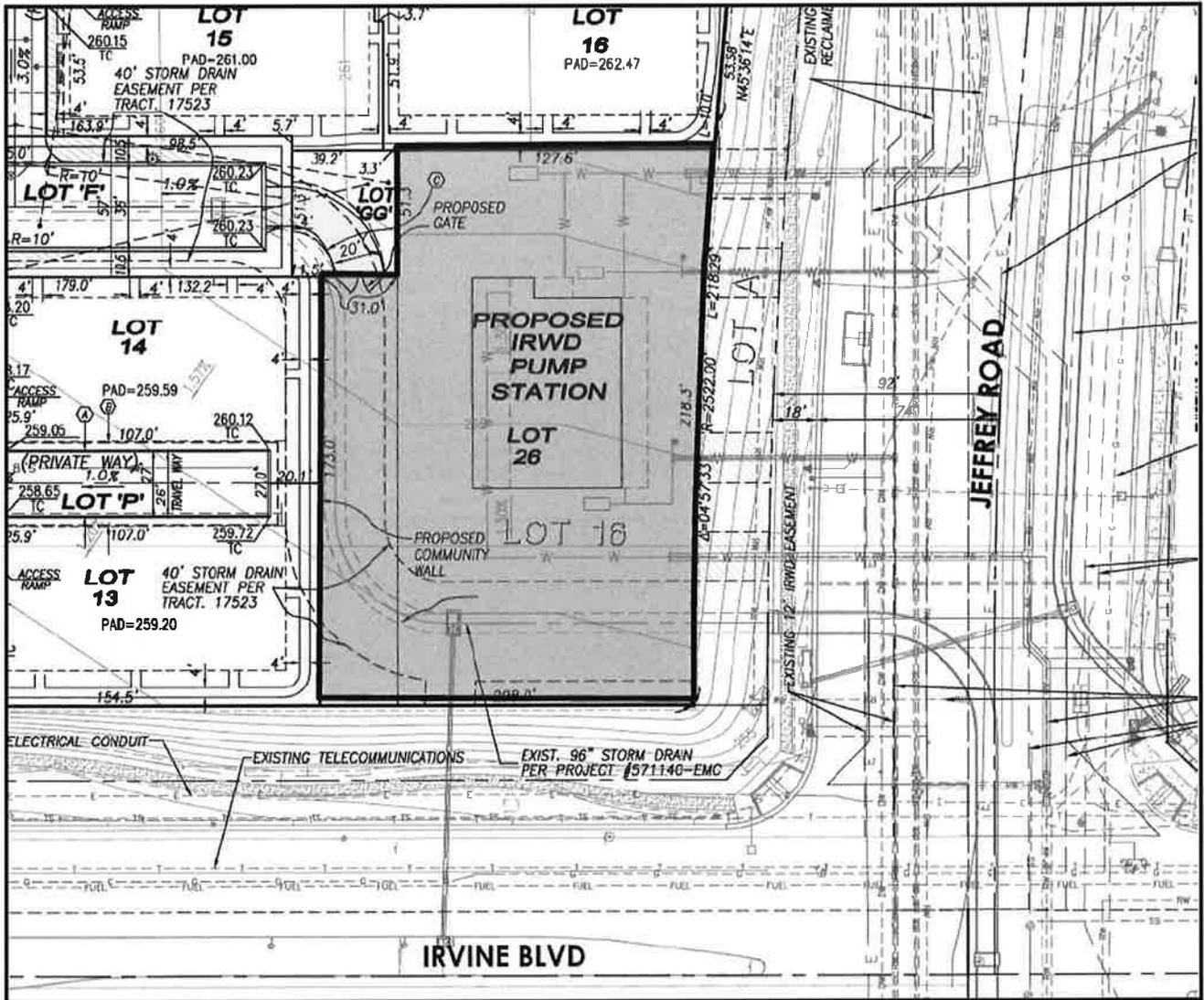


EXHIBIT "B"

CONSULTANT SELECTION MATRIX

Zone A to B and Zone A to C Recycled Water Booster Pump Stations Project									
Item	Description	Weights	AECOM	Brown and Caldwell	Carollo	Tetra Tech			
A	<u>TECHNICAL APPROACH</u>								
1	Project Understanding	30%	1	2	3	4			
2	Project Approach	40%	2	1	3	4			
3	Project Team	30%	1	2	4	3			
	<u>Weighted Score</u>		1.4	1.6	3.3	3.7			
	Ranking of Consultants		1	2	3	4			
B	<u>SCOPE OF WORK</u>								
TASK		Task Hours	FEE	Task Hours	FEE	Task Hours	FEE	Task Hours	FEE
1	Project Management	357	\$69,373	437	\$114,528	139	\$33,260	320	\$85,000
2	Preliminary Design	1,108	\$223,392	846	\$255,394	945	\$263,670	1,029	\$256,000
3	Final Design	3,420	\$444,440	2,371	\$557,065	2,072	\$385,050	1,926	\$285,000
4	Construction Phase Services	628	\$94,950	505	\$93,953	850	\$164,840	1,184	\$200,000
	Total Engineering Services Fee	5,513	\$832,155	4,159	\$1,020,940	4,006	\$846,820	4,459	\$826,000
C	<u>OTHER</u>								
	Number of Drawings	89	131	Not Provided	63				
	Engineering Design Services Fee per Drawing	\$4,994	\$4,252		\$4,524				
	<u>Sub Consultants</u>								
	Electrical								
	Structural								
	Architectural		Platt/Whitelaw	Manuel Oncina Architects					
	Geotech		Kleinfelder	Ninyo & Moore	Leighton Consulting				
	Mechanical								
	Survey		KDM Meridian	Borchard Surveying					
	Surge	Northwest Hydraulics	GEI Consultants	Flow Science	GEI Consultants				
	Noise		DHK Engineering	DHK Engineering	Behrens & Associates				
	Potholing	C Below	Cardno						
	Exceptions taken to IRWD Std. Contract	None	None	None	None				
	DIR Numbers Provided	Yes	Yes	Yes	Yes				
	Insurance (Professional & General Liability)	Yes	Yes	Yes	Yes				

EXHIBIT "C"

Scope of Services

The Scope of Work for the design and implementation of the Zone A to B and Zone A to C Booster Pump Stations includes a Preliminary Design Report, Final Design, and Construction Phase Services, with each phase being authorized by a separate Notice to Proceed (NTP). Work will be completed in accordance with requirements identified in IRWD's Design Process Manual. The Scope of Work and Budget will be stand-alone documents that will become the Agreement Exhibits.

Work will consist of, but not be limited to, the following tasks outlined below.

Task 1 – Project Management

AECOM will conduct effective project management that adheres to the scope, schedule, and budget; provide efficient and frequent communication with IRWD and other project stakeholders; and implement the AECOM's Quality Management System in order to provide effective quality assurance/quality control. The scope of services for Project Management includes the following items:

- A. Preparation of Project Status Reports. AECOM will prepare weekly and monthly project status reports for IRWD's management team. The weekly status reports will consist of a brief (one to two paragraphs) email summarizing work activities completed the previous week along with activities planned for the upcoming week. Monthly status reports will provide more detail and will summarize work for the previous and upcoming month. The monthly reports will include an updated project schedule (Microsoft Project Gantt chart) and a summary of budget expenditures to date per task and budget remaining. In addition to the status reports, AECOM's management team will maintain strong lines of communication with IRWD via email and telephone. AECOM will copy IRWD staff on all emails to and from agencies and other project stakeholders.
- B. Meetings and Workshops. AECOM will schedule and lead meeting with IRWD's team to ensure that all design, operational and maintenance issues are being addressed. AECOM will provide agendas of upcoming project coordination meetings five working days in advance of the meeting and prepare meeting minutes and action items within five working days subsequent to the meetings. These efforts are intended to ensure that all technical issues are being addressed and that the project remains on schedule. For the purposes of budgeting, the following meetings are anticipated for the project:

Meeting/Workshop	Description
General project management and design development meetings	Twelve (12) two-hour meetings
Coordination activities with agencies and project stakeholders including, but not limited to: City of Irvine, The Irvine Company, and SCE	Eight (8) two-hour meetings
Site Visits	Three (3) two-hour meetings
Discussions of background information and design recommendations for each technical memorandum in Task 2	Four (4) three-hour workshops
Present the Draft PDR	One (1) three-hour workshop
Present the 60% design and discuss IRWD's comments	One (1) two-hour workshop
Present the 90% design and discuss IRWD's comments	One (1) two-hour workshop

- C. **Quality Assurance/Quality Control.** AECOM will implement our Quality Management System (QMS) throughout the project to ensure consistent quality control for all project phases. The QMS system is based on the ISO 9001 standard and is required on all of our projects. Per this system, each project deliverable will undergo an independent technical review and a detail checking review, and construction documents will undergo a constructability review. The independent technical review will be provided by a technical expert in the related field, who has not been involved in preparation of the deliverable. The detail checking review focuses on a review of grammar, spelling, notes, construction call-outs, construction coordinates, plans and specification coordination, and discipline coordination. AECOM will provide IRWD with review comment disposition forms, redlines, redline back-checks, and QMS forms upon request.

Task 2 – Preliminary Design

AECOM will prepare a Preliminary Design Report (PDR) and various technical memorandums for all proposed facilities. AECOM will establish and confirm design criteria for the project. AECOM will specifically address the following items for the preliminary design phase:

- A. **Background Information.** AECOM will review Stantec's Recycled Water Analysis report, other existing reports, historical flow data for IRWD's recycled water system, record drawings, system processes, and all other available information. After review of the existing data is complete, AECOM will conduct a meeting with IRWD to discuss project phasing, hydraulic considerations, site constraints (i.e. space limitations, site access considerations, existing utility considerations), and facility considerations.
- B. **Hydraulic Analysis and Pump Selection.** AECOM will identify, develop, and evaluate at least five (5) pump selection alternatives including VFDs, constant speed drives, and combinations of the two to meet the hydraulic requirements of all three project phases (i.e. Near-Term, Future, and Ultimate Phases). Pump curves will be selected from IRWD's preferred vertical turbine suppliers.
- C. **A technical memorandum will be prepared describing the analysis, assumptions, and conclusions.** The technical memorandum will include the hydraulic analysis results, system head curves, and recommended pump curves. The submittals for this subtask include ten (10) copies of the Draft Technical Memorandum with one (1) copy on CD in PDF format and ten copies of the Final Technical Memorandum with one (1) copy on CD in PDF and original file format (i.e. Excel).
- D. **Hydraulic Model.** AECOM will evaluate the existing and proposed Zone A, Zone B, and Zone C system hydraulics while working with IRWD to validate the finding in the Recycled Water Distribution System Analysis. We understand that IRWD will perform the model update using AECOM's recommended pump selections. We have included a budget of \$10,000 to assist IRWD with the hydraulic model update.
- E. **Utility Research.** AECOM will perform an existing utility search for underground utilities within the project area. The initial utility search will be completed using Underground Services Alert (USA) and through as-built research at the City of Irvine and/or The Irvine Company records departments for the adjacent residential development and public right-of. Utility notifications will be prepared and sent to other utility providers within the project area to obtain as-builts, atlas mapping and existing easement documentation. Based on the site location map provided with the RFP, there are seven existing underground utilities that were previously stubbed out and will be utility connections for this project. We propose to pothole and survey these utilities using our subcontractor, C Below, to verify vertical and horizontal points of connection. For the purposes of this proposal, AECOM has included a minimum of seven (7) potholes for budgetary purposes. Adjustments to the actual required number of potholes will be refined as part of the preliminary design phase of the project.
- F. **Site Master Plan.** AECOM will develop a Site Master Plan that will evaluate ingress and egress of the site, required placement of equipment to ensure proper clearances for maintenance and building access for pump servicing and replacement.

- G. Preliminary Grading Plan. AECOM will develop a site grading plan for drainage and if required proper treatment of stormwater discharge into the local MS4. The grading plan will provide for horizontal control of the site.
- H. Architectural Renderings. AECOM will develop an architectural rendering depicting the style and finishes of the proposed building and site appurtenances. We understand that the proposed building will be required to the City of Irvine's development standards and it is anticipated that architectural styling and finishes will most likely need to be in concert with the surrounding residential communities.
- I. Surge Study. Of primary interest are the pressure transients created by the loss of power and start-up of the pumps at the Multi Zone Pump Station and their effect on Zone A, Zone B, Zone C and the pipeline to Syphon Reservoir under Near-Term, Future and Ultimate Phases.

- Power failure at the Multi Zone Pump Station is likely to cause the worst-case pressure transients in the system. For example, a loss of power to the pumps will create pressure drop waves that will propagate out from the discharge side of the pumps and into Zone B, Zone C and the pipeline to Syphon Reservoir. Simultaneously a pressure upsurge wave will be created on the suction side of each pump station that will propagate out from the suction side of the pump station and into Zone A or the Syphon Reservoir pipeline. If large in magnitude, these pressure upsurge waves could over-pressurize the Zone A pipelines or Syphon Reservoir pipeline.

If as a result of the pressure drop waves, the pressure is reduced sufficiently low in the Zone B, Zone C and Syphon Reservoir pipelines to create vapor pressure, vapor cavities will form, and fluid column separation will occur. Upon re-pressurization of the pipelines by a reflected water hammer wave or flow reversal, the vapor cavities will collapse back into solution and the fluid columns will rejoin. When the fluid columns rejoin, very high magnitude pressure spikes will be created that could damage the pipelines. The pipelines may also be damaged by large magnitude negative pressures resulting from the initial pressure drop waves and/or large magnitude high pressures created by flow reversal and reflected water hammer waves. Combination air valves installed on the pipelines that open during the pump power failure event may slam closed upon re-pressurization of the pipelines and create additional water hammer pressure waves that could damage the pipelines. Negative pressures may also create pathogen intrusion at pipeline leak locations.

- If the pumps are brought up to speed too quickly, the pump stations and Zone B, C and Syphon pipelines could be over-pressurized. Simultaneously, the pipelines in Zone A could be damaged by negative pressures should the suction pressure at the pump station be significantly reduced on pump start.

The objectives of the hydraulic transient analysis will be:

1. to predict the maximum and minimum HGL envelopes for the pipelines following pump power failure and pump startup at the Multi Zone Pump Station,
2. to recommend surge control, if necessary, to protect the pipelines from adverse pressure transients created by the Multi Zone Pump Station, and
3. to develop safe start times for the pumps at the Multi Zone Pump Station.

Surge tanks will likely be required at the Multi Zone Pump Station to protect Zones A, B and C from adverse transients under Near-Term, Future and Ultimate Phases. On the discharge sides of the pumps, surge tanks may be required to control transient pressures to acceptable levels in Zones B and C and on the suction side of the pumps a surge tank may be required to control transient pressures to acceptable levels in Zone A. A surge tank may also be required at the Multi Zone Pump Station to protect the Syphon Reservoir pipeline and it will be

designed to operate on both the suction and discharge sides of the pumps because this pump station will have the capability to both convey recycled water to the Syphon Reservoir and receive recycled water from the Syphon Reservoir. IRWD has expressed a preference for installing, if necessary, surge tanks that will be satisfactory for the worst case of Near-Term, Future and Ultimate Phases. In addition, the surge tanks will be contained in a depressed below grade containment area to reduce the vertical appearance of the equipment.

To identify worst-case conditions and design satisfactory surge protection for the Multi Zone Pump Station and associated Zone A, Zone B, Zone C and Syphon Reservoir pipelines hydraulic transient analyses are anticipated to be necessary for the following scenarios:

1. Zone A to B pumps operating under Future Phase
2. Zone A to C pumps operating under Future Phase
3. Zone A to Syphon Reservoir pumps operating under Ultimate Phase
4. Syphon Reservoir to Zone B pumps operating under Ultimate Phase
5. Syphon Reservoir to Zone C pumps operating under Ultimate Phase
6. Syphon Reservoir to Zone B pumps and Syphon Reservoir to Zone C pumps operating simultaneously under Ultimate Phase
7. Zone A to B pumps, Zone A to C pumps, and Zone A to Syphon Reservoir pumps operating simultaneously under Ultimate Phase

Transient analyses are not necessary for Near-Term phase operation because, by inspection, it is a lower flow condition than the Future phase and the zone piping modifications are not significant, which means that the transient pressures created following pump power failure and startup will be lower in magnitude for the Near-Term phase when compared to the Future phase.

Transient analyses of the MWRP, Rattlesnake Pump Station No. 2 Replacement, Northwood Zone B Pump Station, A to C+ Booster Pump Station (Orchard Hills), Existing Zone C to D Booster Pump Station (Portola), Bee Canyon Landfill Booster Pump Station, IIC East Zone B Booster Pump Station, Zone C+ and Zone D are beyond the scope of this proposal. For this analysis, the pump stations will be treated as demands/supplies when they are operating and zero demand/supply when they are idle.

Hydraulic / Transient Technical Approach

NHC proposes to construct a hydraulic transient analysis model of the system using the TransAM hydraulic transient analysis software. This Method of Characteristics (MOC) based computer model has been used by NHC to perform hydraulic transient analyses of pipeline systems with diameters as large as 22 ft and flow rates up to 1485 cfs. NHC has used TransAM to perform hydraulic transient analyses for IRWD, United States Bureau of Reclamation, Metropolitan Water District of Southern California, San Diego County Water Authority, NASA/Jet Propulsion Laboratory, Los Angeles Department of Water and Power, the Southern Nevada Water Authority, Calleguas Municipal Water District, City of San Diego, City of Stockton, City of Lodi, City of Fresno, City of Elk Grove, City of Dallas and many other water and wastewater agencies. TransAM has been extensively verified by comparison of computed transient pressures and flows with those measured in the field (e.g., Axworthy and Chabot, 2004) and laboratory (e.g., Axworthy, et al., 2002), and predicted by codes developed by others.

TransAM is one of the first transient analysis software products to fully exploit the parallel processing capabilities of the multi-core processor and has been used to analyze hundreds of pipelines and distribution systems. The resulting fast computer execution time makes this transient analysis software ideal for performing analyses of large and complex pipeline systems.

This Surge Study scope was developed assuming that the hydraulic transient analysis would be performed once with the information provided by AECOM and IRWD and that attendance at only the PDR Workshop would be required. Each task necessary to complete the hydraulic transient analyses for the project is discussed below.

Task 1 - Transient Analysis

1. Extract Zones A, B and C from IRWD's recycled water distribution system (i.e., steady state) model and import into the TransAM transient analysis software. Extract lengths, diameters, and elevations from the alignment/plan and elevation drawings for the piping associated with the Multi Zone Pump Station and pipeline to Syphon Reservoir. Calculate acoustic wavespeeds and Darcy-Weisbach friction factors for the pipes. Gather data (e.g., diameters, discharge coefficients, etc.) from manufacturer literature associated with the pumps and valves. Develop pump characteristics for the hydraulic transient analysis computer model using manufacturers pump performance curves supplied by AECOM for the pumps at the Multi Zone Pump Station. Setup a hydraulic transient analysis computer model of the Multi Zone Pump Station; Zones A, B and C; Syphon Reservoir pipeline; and relevant existing facilities and surge protection in the recycled water system for Future and Ultimate Phases.
2. Define maximum and minimum flow rates and hydraulic grade lines, as well as facilities status (e.g., operating, idle, open, closed, etc.) for the primary function of the Multi Zone Pump Station under Future and Ultimate Phases. Establish hydraulic grade line (HGL) elevations for the pipelines in the pressure zones and to the Syphon Reservoir under steady state operation (high and low demand conditions) and static conditions.
3. NHC will use the above initial HGL elevations to perform hydraulic transient analysis simulations for the operation of the Multi Zone Pump Station under Future and Ultimate Phases as described in the "Project Understanding" section above. Simulations will include pump power failure and pump startup at the proposed Multi Zone Pump Station for the critical operating scenarios.
4. Evaluate the results (i.e., predicted maximum and minimum pressures) of the transient analysis simulations and determine whether or not surge control measures are required to protect the Zone A, Zone B, Zone C and Syphon Reservoir Pipelines from adverse pressure transients (e.g., over-pressurization, vapor cavity formation, and large magnitude negative pressures) created by the loss of power and startup of the pumps at the proposed Multi Zone Pump Station under Future and Ultimate Phases.
5. If surge protection is deemed necessary, NHC will determine surge control measures (e.g., volume and dimensions of pressurized surge tanks recessed in concrete pits on both suction and discharge side of pumps, diameter and location of controlled venting vacuum relief valves, diameter and set point pressure of surge/pressure relief valves, etc.) for the Multi Zone Pump Station and Zone A, Zone B, Zone C and Syphon Reservoir Pipeline under Future (and by inspection Near-Term) and Ultimate Phases. The surge control measures will be designed to ensure that the maximum pressures do not exceed the maximum allowable pressure for the system, and to eliminate the possibility of vapor cavity formation and large magnitude negative pressures in the pipelines following pump power failure and pump startup. The results of the hydraulic transient analysis with the recommended surge protection improvements in place will also be provided. In addition, recommendations for safely starting the pumps will be provided.

Task 2 - Reporting

1. An engineering report will be prepared that will include (1) a description of the hydraulic transient analysis modeling approach, (2) a description of the physical facilities, including a schematic showing the hydraulic transient analysis model, (3) component data and assumptions used for the analyses, (4) the results of the hydraulic transient analysis, including graphical plots of the maximum and minimum HGL envelopes and

maximum allowable pressure along the pipelines, and plots of pressure head at the Multi Zone Pump Station and significant locations in the zones, etc., and (5) recommendations for surge control. Movies of the pertinent hydraulic transient analysis simulations may be included at no additional cost to help illustrate the results of the analysis and effectiveness of the surge control recommendations.

2. Quality Assurance/Quality Control review. Following quality assurance review, NHC will provide a draft report in portable document format (i.e., PDF) to AECOM.
3. Upon receipt of a consolidated set of comments from AECOM and the IRWD, NHC will address the comments and prepare two (2) bound copies of the final report including movies and an electronic version (i.e., PDF) of the final report.

I. Geotechnical Investigation. Based on data in our files, the subsurface materials in the area generally consist of younger alluvium soils underlain by bedrock composed of sandstone, shale and conglomerate. The alluvium typically consists largely of sand, silt and gravel, and lesser occurrences of clay. Groundwater is estimated to be deeper than 50 feet below ground surface. For the proposed facilities, we proposed the following scope of work for the geotechnical investigation:

Field Exploration: We propose to perform three hollow stem auger borings. One boring will be located at the proposed Zone A to Syphon Pump Station building to a depth of 50 feet. One boring will be performed at the location of the proposed Zone A to B and Zone A to C Pump Station Building to a depth of 50 feet. One boring to 5 feet depth will be performed at the proposed location of the driveway. Samples will be collected at approximately 5-foot intervals using Standard Penetration Test sampler or Modified California Sampler. Bulk samples will also be collected. The boring will be logged by a representative from AECOM and the samples returned to our Santa Ana geotechnical laboratory. The locations of the borings will be staked in the field and Underground Alert will be notified at least 48 hours prior to drilling. We have assumed that permits are not required, that there is unrestricted access during normal working hours (800 am to 500 pm) that the locations are accessible by truck mounted drill rig and that the holes can be backfilled with cuttings and remaining left onsite.

Laboratory Testing: Laboratory testing will be performed on selected samples from the field program for the purposes of soil classification and to evaluate the engineering properties of the materials. We estimate 15 water content, 13 dry density, 4 liquid limits and plasticity index, 6 sieve analyses, 6 wash analyses, 1 R-value, 1 consolidation test, 1 expansion index test, 1 sand equivalent 4 direct shear tests and 2 corrosivity suites. The actual number and type of tests will depend on the materials encountered.

Report: We will prepare a draft and final geotechnical investigation report for the project. The report will include:

1. Regional and local geologic conditions
2. Subsurface soil and groundwater conditions
3. Logs of borings and laboratory summary
4. Seismic considerations including faulting, ground motion parameters and liquefaction potential
5. Corrosion potential
6. Temporary excavations
7. Construction dewatering if needed
8. Recommendations for building foundations including foundation type, allowable bearing pressure and estimated settlement.
9. Active, at-rest, passive and dynamic earth pressures.
10. Coefficient of friction between foundation and soils/subgrade.
11. Earthwork recommendations including excavability of soils and compaction.
12. Trench excavation, shoring, pipeline bedding and backfill.

J. Permits and Coordination. During the development of the Preliminary Design Report, AECOM will identify required permits and approvals for the implementation of the project. It is understood that improvements are within the City of Irvine. Therefore, the AECOM project team will develop and submit the final construction documents to the City of Irvine for review and approval for encroachment permits.

K. Noise Model. According to Section I of the RFP, the proposed Project site is located "at the northwest corner of the intersection of Jeffrey Road and Irvine Boulevard in the City of Irvine. While this is a relatively busy intersection, the surrounding area appears to have Noise Zone 1 residential properties as classified by Section 6-8-204 of the City of Irvine Noise Ordinance ("Ordinance"). Since the Ordinance specifies exterior and interior daytime and nighttime noise limits for five (5) cumulative time periods within any hour, and does not appear to allow an adjustment of the thresholds with respect to pre-existing outdoor ambient noise levels at these nearby Noise Zone 1 residences, proper noise suppression design of the pump stations to comply with these local regulations will be important.

Consistent with the RFP Task 2 part K call for a noise model, we propose to develop a predictive noise analysis of pump station operation in three-dimensional (3-D) space so that aggregate sound pressure levels (L_p) due to the Project at virtually any receptor point on or in appropriate vicinity of the Project site can be evaluated and used to support design development and ascertain compliance with applicable noise regulations and standards. We expect this prediction model to consider the pump station building assembly details and features (e.g., walls, glazing, doors, etc.), ventilation systems and contained operating equipment. Input parameters will rely on manufacturers' data supplied to the design team, relevant past project experience, and publicly available reference data. While the Project site and its surroundings might be generally be considered to have relatively flat and smooth terrain, we will—to the extent practical—model existing residential structures, landscaping and infrastructure (e.g., existing roadways and privacy walls) that may influence the propagation of sound from the Project site and into the community.

Although not required by the Ordinance, we recommend that a field measurement survey of outdoor ambient noise levels be undertaken so as to provide IRWD empirical data on pre-Project or baseline conditions that may be useful for comparison with any future post-construction Project noise surveys or assessments that may be conducted by IRWD or other parties to help determine compliance with the Ordinance and/or resolve potential complaints.

The following proposed Scope of Work is a set of tasks that expand upon and detail the above approach.

1. **Review Documentation, Research and Develop Data Needs.** We will review relevant available preliminary Project documents and develop a detailed data needs and assumptions list for internal (i.e., fellow AECOM members of the engineering/design team) and IRWD review and response prior to predictive noise modeling of Project pump station operation. We will also check for updates of State, county and municipal laws, ordinances, regulations, standards (LORS) and guidance that may influence the assessment of noise impacts, including any relevant IRWD policies. We will also develop internal Project-specific guidance, work plan(s), and scope refinement that help direct and supervise the execution of baseline noise survey fieldwork, predictive noise modeling, report preparation, and QA as part of this task.
2. **Measure Existing (Baseline) Ambient Outdoor Sound Levels.** At up to two (2) nearest noise-sensitive receivers (NSR) in the vicinity of the proposed Project and up to two (2) onsite positions, we will conduct unattended long-term (LT, a 24-hour minimum period) L_p monitoring. We will also conduct a quantity of investigator-attended short-term (ST, typically 2-20 minutes each) L_p measurements, at AECOM discretion, to help characterize the outdoor ambient sound environment onsite and in the Project vicinity and document the associated environmental conditions (e.g., weather, observed or perceived audible sound sources or activities, etc.). Please see Assumptions for detailed parameters of these anticipated field efforts.

3. Predictive Modeling of Project Operation Noise Levels. We will predict noise due to nominal operation of up to three (3) newly-installed Project pump stations (corresponding with Zone A to Zone B, Zone A to Zone C, and Zone A to Syphon Reservoir) with CadnaA computer software (or methods/tools chosen at our discretion but based on industry-accepted sound propagation prediction algorithms such as International Organization of Standardization [ISO] 9613-2). Presented analysis results detail will include tabulated predicted Lp at representative NSR locations in the surrounding community and noise level contours superimposed on available aerial mapping imagery of the Project site and surroundings. We will consider up to three generalized meteorological categories ("calm", "upwind" and "downwind") in our analyses as they pertain to potential effects of wind speed and direction on the propagation of Project noise to the surrounding environment.
4. Prepare Draft Preliminary (60% Design Development [DD]) Noise Report. We will prepare a draft preliminary noise technical report that incorporates the data, analysis, findings and recommendations resulting from the performance of Tasks 1 through 3 described above. This preliminary report will reflect available data and information associated with 60% Design Development progress of the Project pump stations.
5. Prepare Final (90% Design Development [DD]) Noise Report. By way of revisions to the draft 60% DD noise report prepared from Task 4, we will respond to a single round of consolidated comments from AECOM colleagues and appropriate IRWD representatives. This effort will include updates to the predictive noise analysis reflecting update Project information associated with 90% DD progress.
6. Review Construction Documents. Prior to their preparation and issue to IRWD, we will review construction documents (CD) produced by AECOM design team colleagues to ensure that our acoustical assumptions and recommendations are reflected in the completed design of Project pump stations. We will provide comments—if any—to appropriate members of the design team in an internal memorandum.

Assumptions:

1. Task 3 will require appropriate GIS/CAD files and other information furnished by (or with adequate information from) IRWD, AECOM design team members or other authorized parties, to reasonably and accurately depict the locations and orientation of planned stationary noise-producing equipment and structures. Without such data, we can only make reasonable assumptions or use data from previous similar modeling efforts that may not represent actual Project conditions.
2. The Scope of Work does not include an assessment of Project construction noise. The Noise Ordinance allows construction to occur only during certain daytime periods and without quantified thresholds for noise level during such times.
3. For purposes of budgeting and conduct of Task 2 fieldwork, the following parameters apply:
 - i. A single field survey will involve up to two (2) continuous days, including AECOM investigator travel to the Project site (Irvine, CA), along with up to one (1) overnight stay in lodging near the Project site.
 - ii. One (1) AECOM field investigator would be expected to complete the LT monitoring and ST measurements.
 - iii. The two offsite LT positions would likely be, to the extent practical, NSR that are nearest to the Project in multiple cardinal directions. Project onsite locations, also to be coordinated and approved by IRWD, are likely to include property line (PL) positions.
 - iv. LT monitoring positions would need to be accessible during at least some portion of nighttime hours (10 p.m. to 7 a.m.) so as to allow AECOM field investigators the ability to check instrument deployment function.

- v. Execution of the fieldwork would proceed at AECOM investigator discretion (or at the direction of the Noise Task Lead), factoring in safety and suitability of climate and other environmental conditions.
 - vi. AECOM is not responsible for field survey sound level measurement delays due to weather (i.e., sustained winds greater than 10 mph or precipitation), operational restrictions or other factors outside of its control. Additional days in the field would accrue labor costs and expenses consistent with applicable rates.
 - vii. For Project property or other areas requiring access permission, IRWD or its agents will coordinate with AECOM and appropriate land owners, occupants or agencies to facilitate such access in advance of the fieldwork. Costs associated with such pre-survey field coordination and the provision of IRWD escorts, land agents or other personnel, as needed, are not included in this proposal. Alternately, AECOM can limit noise level monitoring locations to publicly-accessible land, right-of-ways, easements, etc.
 - viii. To economize investigator travel costs and help reserve needed instrumentation, AECOM will need field survey schedule confirmation and IRWD approval to proceed at least one (1) week prior to the expected first day of fieldwork.
4. Additional field survey work or the creation of new predictive analysis models is not included. These tasks can be estimated upon review of received IRWD comments and submitted to the IRWD for consideration and approval.

L. Surveying Services. Our teaming partner, Stantec, will provide surveying services for this project.

Aerial Topography: Stantec will perform aerial and field surveys to locate all topographic features within the project limits. Stantec's aerial mapping consultant will fly and photograph the project site.

Ground Topography: Stantec will supplement the aerial survey with a ground-based survey of improvements at 10-scale, including evidence of utility location, utility covers, manholes, and lids as well as other features, as deemed necessary for water utility design.

Record Data Base Map: Stantec will use the field survey data along with the aerial mapping to create a base map for the project site. The base map will be prepared in AutoCAD 3D format compatible with District requirements with 10-scale mapping and 1-foot contour intervals.

Control shall be based on the California Coordinate System (NAD83) and the Orange County Surveyor's Vertical Control Network (NAVD88).

Deliverables will include the following:

1. Two (2) CAD files consisting of:
 - a. Aerial mapping base; and
 - b. Survey points collected in the field
2. Digital Images collected during the survey
3. ASCII point files with points shown in state plane coordinates (PNEZD)
4. Orthorectified digital image of the project area.

M. Electrical and Controls. AECOM will prepare a preliminary operational scheme including Process and Instrumentation Diagram (P&ID), single line diagram, control equipment list and method of integration into the IRWD SCADA system for the pumping facilities, strainers, and sodium hypochlorite injection disinfection system.

AECOM will conduct a field review to investigate a suitable location for establishing radio telemetry. As part of the control designs, we will incorporate a Quantum PLC based RTU meeting the latest IRWD standards. RTU drawings and Bill of Materials will be prepared for IRWD staff review and acceptance. AECOM will prepare a PLC I/O and control alarm functions and trigger points schedule. System operations and descriptions will be prepared for PLC programming by IRWD staff members.

AECOM will be developed based on existing data to support the development of this project.

N. CEQA Documentation. AECOM understands that IRWD will hire a separate consultant for CEQA documentation for the project. AECOM has included a budget of \$7,500 for supporting IRWD and their CEQA consultant through the CEQA documentation process, as stipulated in the RFP. AECOM's CEQA support may include review of the environmental document, preparation of exhibits, attendance at meetings, and sharing of project-related information.

O. Project Schedule. AECOM will prepare an updated project schedule identifying all design activities, review periods and critical elements of the projects. In addition, AECOM will prepare a preliminary construction schedule for project planning purposes.

P. Opinion of Probable Construction Cost. AECOM will prepare a preliminary Opinion of Probable Construction Costs for all elements of the project.

Q. Preliminary Design Report (PDR). AECOM proposes the following Table of Contents for the Preliminary Design Report:

Zone A to B and Zone A to C Booster Pump Stations Project
 Preliminary Design Report
 (Proposed Table of Contents)

Section	
0.0	EXECUTIVE SUMMARY
1.0	INTRODUCTION
1.1	Project Background
1.2	Project Purpose
1.3	Evaluation of Background Information
2.0	UTILITY INVESTIGATION
2.1	Identification of Existing Utility Providers
2.2	Existing Utility As-Builts
2.3	Preliminary Utility Base Mapping
3.0	PROPOSED BOOSTER PUMP STATION IMPROVEMENTS
3.1	Site Aerial and Land Topographic Surveying
3.2	Booster Pump Station Design Criteria and Proposed Layouts
	<ul style="list-style-type: none"> • Near-Term Phase • Future Phase • Ultimate Phase
3.3	Site Master Plan (Covered in more detail with Tech Memo)
3.4	Preliminary Grading Plan Layout and Design Criteria

- 3.5 Architectural Renderings
- 3.6 Identification of Potential Utility Conflicts
- 3.7 Preliminary Utility Alignments
- 3.8 Identification of Potential Utility Conflicts
- 3.9 Identification of Utility Easements
- 3.10 Identification of Temporary Construction Easements
- 3.11 Identification of Pothole Requirements
- 3.12 Special Considerations for Construction
- 3.13 Identification of Potential Physical Impediments
- 3.14 Inter-agency Coordination Efforts
- 4.0 HYDRAULIC ANALYSIS
 - 4.1 Introduction
 - 4.2 Existing Hydraulic Model Evaluation and Establishment of Design Discharges
 - 4.3 Hydraulic Modeling and Sizing Criteria
 - 4.4 Surge Study Summary
- 5.0 GEOTECHNICAL CONSIDERATIONS
 - 5.1 Introduction
 - 5.2 Review of Existing Geotechnical Information
 - 5.3 Develop Final Geotechnical Scope of Services
 - 5.5 Geotechnical Investigation (Geotechnical Investigation Report provided under separate cover)
 - 5.6 Geotechnical Testing and Recommendations
- 6.0 NOISE MODEL
 - 5.1 Introduction
 - 5.2 City of Irvine Noise Ordinance
 - 5.3 Develop Noise Study Scope of Services
 - 5.4 Noise Testing and Recommendations
 - 5.5 Noise Study Summary (Noise Analysis Report provided under separate cover)
- 6.0 ELECTRICAL AND CONTROLS
 - 6.1 Introduction
 - 6.2 Electrical and SCE Requirements and Load Demands
 - 6.3 Back-up Power Requirements
 - 6.4 Motor Control Center
 - 6.5 Programmable Logic Controller
 - 6.6 Instrumentation
 - 6.7 Operational Controls
 - 6.8 Description of Operational Sequences
- 7.0 CONSTRUCTION ISSUES, PERMITS, SCHEDULES AND CONSTRUCTION DOCUMENTATION
 - 7.1 Introduction

- 7.2 List of Permits and Requirements
- 7.3 Material Deliveries and Associated Lead Times
- 7.4 Preliminary and Final Design Schedule
- 7.5 Recommendations for Construction Phasing and Schedule
- 7.6 Drawing List
- 7.7 Specifications List Project Manual Outline
- 7.8 Opinion of Probable Construction Costs

Task 3 – Final Design

Final design will be completed in accordance with IRWD's Design Process Manual. AECOM will address the following items in final design:

A. Project Manual. AECOM will prepare the Project Manual for the project in standard IRWD format and complete IRWD templates for the bidding and contract requirements section of the manual. AECOM will use the latest version of IRWD's Project Manual for the front-end documents related to bidding, agreements, general provisions, and special provisions. The special provisions will be tailored for the project. The Project Manual will reference the applicable sections of IRWD's General Technical Specifications, modify these sections as needed, and provide new technical sections as needed for the project. The Project Manual will also include an Appendix with District holidays, District Alternating Friday Closure Schedule, standard construction forms, permit documents, NPDES documents, Project Sign figure, and various other forms for construction.

We will provide an original set of bidding documents in 8-½ inch x 11-inch format. Computer files of the Project Manual will be submitted to IRWD in the latest version of Microsoft Word on one CD and as a single PDF file on a second CD. AECOM has copies of example Project Manuals from IRWD that will be used for reference.

B. Construction Plans. AECOM will prepare detailed construction drawings in AutoCAD 2016 using NCS V4.0 layering standards. Construction plans will be prepared on IRWD standard 22-inch x 34-inch sheet with IRWD title block. Pipeline plan and profile sheets will be prepared of two-strip (e.g. profile over plan view) at a scale of 1"=40' horizontal and 1"=4' vertical. This will include general plans, civil plans, mechanical plans, and associated details. The horizontal and vertical control will be established with NAD83 and NAVD88 survey standards, respectively. The following table presents our proposed listing of the potential construction drawings.

ZONE A TO B AND ZONE A TO C BOOSTER PUMP STATIONS PROJECT

Sheet No.	Drawing No.	Sheet Title
1	G-1	Title Sheet
2	G-2	Location Map, Vicinity Map, and Drawing Index
3	G-3	General Notes, Symbols, Agency Index & Abbreviations
4	G-4	Construction Notes
5	C-1	Overall Site Plan
6	C-2	Horizontal Control Plan
7	C-3	Site Grading, Drainage, and Paving Plan
8	C-4	Yard Piping Plan
9	C-5	Yard Piping Details
10	C-6	Site Details
11	C-7	Civil Details 1

Sheet No.	Drawing No.	Sheet Title
12	C-8	Civil Details 2
13	C-9	Civil Details 3
14	M-1	Mechanical Legend, Symbols, and Abbreviations
15	M-2	ZA-B & ZA-C Booster Pump Station Plan
16	M-3	ZA-B & ZA-C Booster Pump Station Sections
17	M-4	ZA-B & ZA-C Booster Pump Station Sections & Details
18	M-5	ZA-B & ZA-C Booster Pump Station Details
19	M-6	Zone A Surge Tank Plan, Section, and Details
20	M-7	Zone B Surge Tank Plan, Section, and Details
21	M-8	Zone C Surge Tank Plan, Section, and Details
22	M-9	Surge Tank Air Compressor Plans, Sections, and Details
23	M-10	PRV Vault Plan and Sections
24	M-11	PRV Vault Details
25	M-12	Mechanical Details 1
26	M-13	Mechanical Details 2
27	M-14	Mechanical Details 3
28	M-15	Mechanical Details 4
29	A-1	ZA-B & ZA-C Booster Pump Station Building Plan, Codes, and Notes
30	A-2	ZA-B & ZA-C Booster Pump Station Building Roof Plan and Details
31	A-3	ZA-B & ZA-C Booster Pump Station Building Floor Plan and Details
32	A-4	ZA-B & ZA-C Booster Pump Station Building Exterior Elevations 1
33	A-5	ZA-B & ZA-C Booster Pump Station Building Exterior Elevations 2
34	A-6	ZA-B & ZA-C Booster Pump Station Building Sections and Wall
35	A-7	Architectural Details 1
36	A-8	Architectural Details 2
37	A-9	Architectural Details 3
38	A-10	Architectural Details 4
39	A-11	Architectural Details 5
40	S-1	Structural Notes and Design Criteria
41	S-2	ZA-B & ZA-C Booster Pump Station Structural Foundation/Floor Plan
42	S-3	ZA-B & ZA-C Booster Pump Station Roof Framing Plans
43	S-4	ZA-B & ZA-C Booster Pump Station Wall Sections and Details 1
44	S-5	ZA-B & ZA-C Booster Pump Station Wall Sections and Details 2
45	S-6	ZA-B & ZA-C Booster Pump Station Wall Sections and Details 1
46	S-7	Zone A Surge Tank Sump Structure
47	S-8	Zone B Surge Tank Sump Structure
48	S-9	Zone C Surge Tank Sump Structure
49	S-10	Structural Details 1
50	S-10	Structural Details 2

Sheet No.	Drawing No.	Sheet Title
51	S-10	Structural Details 3
52	S-10	Structural Details 4
53	S-10	Structural Details 5
54	P-1	Plumbing Legend, Schedule, and Notes
55	P-2	ZA-B & ZA-C Booster Pump Station Plumbing Plan
56	P-3	Plumbing Details
57	HVAC-1	HVAC Legend, Schedules, Notes, and Specifications
58	HVAC-2	ZA-B & ZA-C Booster Pump Station HVAC Plan
59	HVAC-3	Control Room HVAC Plan
60	HVAC-4	HVAC Details
61	E-1	Electrical Standard Symbols and Abbreviations
62	E-2	Electrical Site Plan
63	E-3	Single Line Diagrams/Elevations
64	E-4	BPS Power and Signal Plan
65	E-5	BPS Building Lighting Plan
66	E-6	Control Diagram 1
67	E-7	Control Diagram 2
68	E-8	Control Diagram 3
69	E-9	Control Diagram 4
70	E-10	Fixture and Panel Board Schedules
71	E-11	Conduit Schedule 1
72	E-12	Conduit Schedule 2
73	E-13	Electrical Details 1
74	E-14	Electrical Details 2
75	E-15	Electrical Details 3
796	E-16	Electrical Details 4
77	E-17	Electrical Details 5
78	I-1	P&ID Standard Symbols and Abbreviations
79	I-2	P&ID ZA-B & ZA-C Booster Pump Station 1
80	I-3	P&ID ZA-B & ZA-C Booster Pump Station 2
81	I-4	P&ID ZA-B & ZA-C Booster Pump Station 3
82	I-5	P&ID Surge Tanks
83	I-6	RTU Control Diagram 1
84	I-7	RTU Control Diagram 2
85	I-8	RTU Control Diagram 3
86	I-9	RTU Control Diagram 4
87	I-10	RTU Control Diagram 5
88	I-11	RTU Layout Diagram
89	I-12	System Architecture

C. Electrical/Instrumentation.**D. SCE Final Service Plan.**

E. Project Schedule. AECOM will submit monthly project schedule updates and with each final design submittal, including a detailed construction schedule. The project schedule will reflect coordination items, submittal milestones, critical path items, IRWD review times, shop drawing approvals, manufacturing, delivery, seasonal weather impacts, and affected construction projects. AECOM will prepare the schedule in Microsoft Project format.

F. Liquidated Damages Spreadsheet. AECOM will assist in calculating liquidated damages for the project, which would take effect if the Contractor exceeds the contract time. AECOM will fill out IRWD's standard liquidated damage calculation form. AECOM has completed this form for IRWD on numerous projects.

G. Opinion of Probable Construction Cost. AECOM will provide IRWD with an engineer's estimate of probable construction costs for the 60%, 90% 100% and final submittals. AECOM will incorporate and address comments from IRWD related to the cost estimate. Construction costs will be determined from a variety of resources, including: vendor quotes, RS Means Costworks software, Caltrans Cost Data Books, recent IRWD construction bids, and bids from other local pipeline projects that AECOM has recently designed.

H. Design Deliverables. AECOM will provide final design deliverables pursuant to IRWD's Design Process Manual. Hard copies of construction plans will be reproduced in either full-size (22"x34") bond format or tabloid (11"x17") bond format, per IRWD preference. The Project Manual will be reproduced in double-sided letter-size format with color paper per IRWD standards. The submittals will be provided as described below.

1. AECOM will submit ten (10) hard copies and one (1) electronic file in PDF format of the first (60%) submittal. Plans for the first submittal will include a draft set of drawings for the entire project. The 60% plans will include BPS site layout, mechanical equipment, structural and architectural layouts, pipelines, preliminary pipeline profiles, and existing utilities at a minimum. The first submittal will include all sections of the Project Manual with technical specifications and an engineer's estimate of probable construction cost. The General Provisions will not be included in the Project Manual for this submittal.
2. AECOM will submit ten (10) hard copies and one (1) CD containing AutoCAD files of the entire plan set for the second (90%) submittal. Plans for the second submittal will show all of the design elements of the 60% Submittal, but in much greater detail. AECOM will incorporate IRWD staff comments on the 60% submittal. AECOM will update the Project Manual and engineer's estimate of probable construction cost for this submittal. All sections of the Project Manual, except for the appendices, will be provided for this submittal.
3. AECOM will submit ten (10) hard copies, one (CD) with AutoCAD files for the entire plans set, and one (1) CD with a single full-scale PDF file of the construction plans for the third (100%) submittal. This submittal will include the complete plan set and specifications and a notebook with the design calculations (including mechanical, civil, structural, HVAC, electrical, pipe thickness and restraint). AECOM will incorporate IRWD staff comments on the 90% submittal, as well as comments received at the 90% plan review meeting. AECOM will update the Project Manual and engineer's estimate of probable construction cost for this submittal.
4. AECOM will submit stamped and signed reproducible plans (mylars) of the final construction plans and original signed Project Manual for IRWD signatures. AECOM will attend IRWD's meeting for signatures to explain the project and answer questions. A final engineer's estimate of probable construction cost will be submitted with the final plans and Project Manual.

K. Addenda Preparation and Pre-Bid Meeting. During the bidding period, AECOM will provide bidding support and assistance as it pertains to the contract documents and construction drawings. For budgetary purposes, we have assumed a number of hours in our fee estimate to answer questions from prospective bidding contractors, and assist IRWD in providing information and clarification of the bid documents. AECOM will consult with IRWD to address concerns or answer their questions in support of administering the bid process. AECOM has budgeted for up to three (3) addenda to the construction plans and/or Project Manual for prospective bidders, if requested by IRWD. Addenda preparation will include:

- Plan Revisions: AECOM has budgeted twenty (20) hours of staff time for plans revisions.
- Specification Revisions: AECOM has budgeted fifteen (15) hours of staff time for revisions to the Project Manual.
- Bidder Questions: AECOM has budgeted fifteen (15) hours of staff time to address and respond to bidder questions.
- Pre-Bid Meeting: AECOM will prepare for and conduct one (1) two-hour pre-bid meeting along with a site visit with potential bidders, if required. AECOM will prepare the meeting agenda, exhibits, sign-in sheet, and minutes for the pre-bid meeting.

Task 4 – Construction Phase Services

AECOM will provide construction phase services for the project. AECOM is very familiar with the District's construction phase procedures. We understand that being responsive, organized, and detail-oriented during the construction phase will help the District keep the project on schedule and avoid contract change orders from the Contractor. AECOM's anticipated level of service during the construction phase is detailed below:

5. Project Manual. AECOM will attend/conduct twenty-six (30) progress meetings of two hours each during the course of the project construction and provide agendas and meeting minutes within five (5) working days of the meeting.
6. Contractor's Request for Information (RFI). AECOM will respond to seventy-five (75) Requests for Information. AECOM will maintain a log of RFIs using IRWD standard submittal log. AECOM will return responses to IRWD within seven calendar days or earlier per the contract requirements.
7. Minor Plan Revisions. AECOM has budgeted sixty (60) hours of staff time for minor plan revisions to the construction drawings.
8. Site Visits. AECOM has budgeted for six (6) site visits of two hours each during construction.
9. Energy Control Procedures (ECP's) and Asset Management. AECOM will prepare ECP's in accordance with California Occupational Safety and Health (Cal/OSHA) requirements for all equipment that may have potential energy. AECOM will also complete IRWD's Asset Management spreadsheet to inventory all of the new equipment for the project. AECOM recently submitted ECP's and an Asset Management spreadsheet for IRWD's Orange Park Acres Project.
10. Shop Drawing Reviews. AECOM has budgeted for the review of one hundred fifty (150) shop drawing submittals and/or resubmittals. Submittals will be reviewed for completeness and conformity with the contract documents. AECOM will provide comments on the IRWD shop drawing transmittal form and/or the submittal electronically using Adobe PDF Professional. AECOM will maintain a log of submittals using IRWD standard submittal log. AECOM will return comments to IRWD within fourteen calendar days or earlier per the contract requirements.
11. Record Drawings. AECOM will prepare record drawings on 22-inch by 34-inch mylars at construction completion, using the Contractor's and IRWD Inspector's red lines. AECOM will prepare final record drawings mylars, reissued signed mylars (as needed), AutoCAD electronic files on CD, and one color PDF file of the entire construction plan set on CD and deliver the record drawing package to IRWD.

Estimated Cost Breakdown of Total Fee
 Irvine Ranch Water District
 Zone A to B and Zone A to C Booster Pump Station Project
 June 2, 2016

Task No.	Task Description	Labor Category with Billing Rate						TOTAL HOURS	TOTAL LABOR	Subconsultants			Direct Costs / Materials ¹	
		Principal-in-Charge	Principal Engineer-Architect	Project Manager / Senior Engineer-Architect	Project Engineer-Architect	Staff Engineer-Architect	Senior CAD Designer			Admin / Clerical	Surge Analysis Northwest Hydraulic Consultants	Surveying Services Stanlec		Utility Potting Services C Below
		\$250	\$210	\$170	\$140	\$110	\$100			\$90				
TASK 1: Project Management														
A.	Preparation of Project Status Reports			40					40	\$6,800				
B.	Meetings and Workshops													
	General Project and Design Development Meetings (12 meetings of 2 hours)	16	36	36	18		4	110	\$20,560					\$240
	Coordination with Agencies and Stakeholders (8 meetings of 2 hours)	4		24	32		4	64	\$9,920					\$160
	Site Visits (3 meetings of 2 hours)	2	12	9	9		2	34	\$5,990					\$60
	Discussion for Each Technical Memo (4 meetings of 2 hours)	4	12	12	12		2	42	\$7,420					\$80
	Present Draft PDR (1 workshop of 3 hours)	4	4	8	8		4	28	\$4,720	\$5,903				\$20
	Present 60% Design and Discuss Comments (1 meeting of 2 hours)	3	3	4	3			13	\$2,480					\$20
	Present 90% Design and Discuss Comments (1 meeting of 2 hours)	3	3	4	3			13	\$2,480					\$20
	Present 100% Design and Discuss Comments (1 meeting of 2 hours)	3	3	4	3			13	\$2,480					\$20
C.	Quality Assurance/Quality Control (Labor Assigned Per Task)													
	SUBTOTAL TASK 1	39	73	141	88		4	357	\$62,850	\$5,903				\$620
TASK 2: Preliminary Design														
A.	Background Information (1 Meeting)	2	8	8	8			26	\$4,860					\$20
B.	Hydraulic Analysis and Pump Selection (1 Technical Memo)	4	16	8	8	40	40	118	\$15,420					\$100
C.	Hydraulic Model	2	8	8	40	6		64	\$9,800					\$200
D.	Utility Research (Assume 7 potholes)			4	4	4	8	22	\$2,650				\$6,630	
E.	Site Master Plan (1 Technical Memo)	2	4	8	8	12	40	74	\$9,140					\$100
F.	Preliminary Grading Plan		4	4	4	16	20	48	\$5,840					
G.	Architectural Renderings	2	8		12		16	38	\$5,450					\$200
H.	Surge Study		4	4			2	10	\$1,700	\$37,766				
I.	Geotechnical Investigation		2	12	16	40	8	82	\$10,260					\$9,440
J.	Permits & Coordination		4	8	12	8	4	38	\$5,340					\$5,000
K.	Noise Model	2	8	16	40	60	16	144	\$18,640					\$1,090
L.	Surveying Services			2			2	6	\$720		\$12,546			
M.	Electrical and Controls		4	8	16	8		36	\$5,240					
N.	CEQA Documentation	2	4	8	12	12	16	56	\$7,480					\$20
O.	Project Schedule		2	4				6	\$1,100					
P.	Opinion of Probable Construction Cost		2	2	8	8	8	28	\$3,580					
Q.	Preliminary Design Report (PDR)	8	40	40	60	80	4	312	\$42,760					\$500
	SUBTOTAL TASK 2	24	116	144	248	288	266	1,108	\$149,780	\$37,766	\$12,546	\$6,630		\$16,670
TASK 3: Final Design														
A.	Project Manual	8	80	40	80		20	228	\$38,600					\$1,000
B.	Construction Plans (89 Sheets)	10	200	300	400	800	1200	10	2920	\$360,400				\$3,000
C.	Electrical/Instrumentation		8	8	8		20	44	\$6,160					
D.	SCE Final Service Plan		4	4			8	16	\$2,320					
E.	Project Schedule		2	8				10	\$1,780					
F.	Liquidated Damages Spreadsheet		1		2			3	\$490					
G.	Opinion of Probable Construction Cost	2	8	8	16	16	12	62	\$8,740					
H.	Design Deliverables	8	12	12	12	12	20	4	\$11,920					\$1,500
K.	Addenda Preparation and Pre-Bid Meeting (3 Addenda, 1 Meeting)													
	Plan Revisions (20 hours)		2	2	6		10	20	\$2,600					\$50
	Specification Revisions (15 hours)		2	4	6	2	1	15	\$2,250					\$50
	Bidder Questions (15 hours)		2	4	6	2	1	15	\$2,250					\$50
	Pre-Bid Meeting (1 Meeting of 2 hours)		3	4				7	\$1,310					\$20
	SUBTOTAL TASK 3	28	324	394	636	832	1270	3,420	\$438,820					\$5,620
TASK 4: Construction Phase Services														
A.	Project Meetings (26 Meetings)	26	30	78			4	138	\$26,420					\$520
B.	Contractor's RF1 (75 RF1s)	2	4	20	25	20	20	2	93	\$12,620				
C.	Minor Plan Revisions (80 Hours)	2	8	8	8	12	20	2	60	\$8,160				\$100
D.	Site Visits (6 Visits)	6	6	12	12			36	\$6,480					\$120
E.	Energy Control Procedures and Asset Management		2	2	8	16		32	\$4,000					
F.	Shop Drawing Reviews (150 Shop Drawings, including Resubmittals)	4	12	16	112	75	4	223	\$30,530					
G.	Record Drawings		2	8		12	24	46	\$5,800					\$500
	SUBTOTAL TASK 4	40	64	144	165	138	84	628	\$93,710					\$1,240
TOTAL (TASKS 1 THRU 4)		171	277	522	1,237	1,320	1,280	48	3,223	\$79,140	\$43,969	\$12,546	\$6,630	\$24,190

June 27, 2016

Prepared by: Tanja Fournier 

Submitted by: Robert Jacobson/Cheryl Clary 

Approved by: Paul Cook 

ACTION CALENDAR

PROPOSED 2016 GENERAL OBLIGATION BOND AND CERTIFICATES OF PARTICIPATION DEBT ISSUANCE

SUMMARY:

Based on the District's decreasing cash balances, additional planned capital projects and regulations limiting reimbursement of prior Capital Fund and Replacement Fund expenditures, staff recommends the issuance of debt to fund previous and future capital expenditures.

In May 2016, staff and the District's independent registered municipal advisor, Public Financial Management (PFM), developed and distributed a Request for Proposal to a group of pre-qualified underwriters for a bond issuance estimated for September 2016. In connection with the proposed bond issuance and based on the proposals received, staff is recommending the following:

- Issuance of General Obligation Bonds (GO) in an amount not to exceed \$130,000,000;
- Issuance of Certificates of Participation (COPs) for an amount not to exceed \$100,000,000;
- Retention of Bank of America Merrill Lynch and Morgan Stanley as Underwriters for a GO Bond issue;
- Retention of Goldman Sachs as Underwriter for a COPs issue;
- Retention of Orrick, Herrington & Sutcliffe and Bowie, Arneson, Wiles & Giannone as co-bond counsel;
- Retention of Bank of New York Mellon as Trustee/Paying Agent for the GO Bond Issue;
- Retention of US Bank as Trustee/Paying Agent for the COPs issue and,
- That the Board adopt the Resolution of Intent to Issue Bonds, attached as Exhibit "A".

BACKGROUND:

As of April 30, 2016, IRWD's cash balance was \$237 million, which is a \$207 million (or 46.6%) decrease from December 2010 when the District last issued new money debt (\$175 million Build America Bonds). All bond proceeds from the 2010 bond issuance have since been spent. The District's history of sufficient unrestricted cash balances (liquidity) has been a substantial contributor to its current exemplary credit ratings (AAA, AAA, Aa1). Cash flow projections indicate that further reductions in the District's cash balances will continue. A Summary of Cash Flow Projections, including the recommended debt issuance, is attached as Exhibit "B".

Regulations Regarding Reimbursement of Capital Expenditures:

Public agencies are permitted to issue bonds for reimbursement of previous capital expenditures and to fund future planned capital projects. Treasury regulations provide the District with the

ability to reimburse costs for a period of up to three years following expenditures for an open project, and 18-months following Board acceptance of a project.

As was previously discussed with the Committee, in September 2016 the District will begin to lose the ability to reimburse the capital and replacement funds for significant expenditures that have occurred over the past three years. The capital reimbursements are primarily related to the Biosolids project, as well as the Baker Water Treatment facility and other smaller capital projects. A Schedule of Eligible Project Reimbursements, showing available reimbursement amounts by month, is attached as Exhibit "C". Staff will provide additional detail regarding reimbursement restrictions at the meeting.

GO Bond and COPs Issuance:

Staff proposes the District proceed with a GO bond issuance, primarily for new capital reimbursement, with an expected issuance in September 2016 for a maximum of \$130,000,000 million, including cost of issuance. The proposed bond proceeds would reimburse advances from the Capital Fund for expenditures from September 2013 through August 2016.

Staff also proposes issuing COPs to reimburse replacement-related capital expenditures for construction of the District's Biosolids facility. Based on the amount of replacement costs expended to date, as well as remaining projected replacement expenditures for the Biosolids facility, staff proposes an amount not to exceed \$100,000,000, including cost of issuance. Utilizing a COPs structure for Replacement Fund expenditures is necessary because the use of District GO authorization is not permitted to finance replacement project expenditures. The proposed COPs issuance is net of \$11.1 million in contributions to the Replacement Fund received from fiscal year (FY) 2013-2014 through FY 2016-17 from the Biosolids fixed charge paid by District customers during that period. The Summary of Expenditures by Improvement District for the GO and COPs issues is attached as Exhibit "D".

Potential 2010 COPs Refunding Opportunity:

The District currently has \$54.7 million COPs outstanding at a fixed rate of 3.82%. As part of the recommended COPs issuance, staff also recommends including the option to refund all, or a portion of, the District's 2010 COPs fixed rate issue, should favorable economics continue. Based on current economics, a refunding of the issue would generate savings to the District of approximately \$5.0 to \$5.5 million. Staff will continue to monitor potential savings during the new issuance process in order to determine if a refunding continues to provide an economic benefit to the District.

Underwriters and Bond Counsel Selection:

In connection with the GO and COPs issuance, staff received proposals from Bank of America Merrill Lynch (BAML), Goldman Sachs (Goldman), Morgan Stanley, Citigroup, US Bank and Wells Fargo to act in an underwriter capacity for the District's debt issuance. Staff and PFM evaluated the proposals and, based on proposed fee schedules, recommended financing structures, planned financing teams and marketing strategies selected Goldman, BAML and Morgan Stanley, as finalists for debt issuance.

Based on staff's analysis of the proposals, as well as feedback from PFM, staff recommends that BAML and Morgan Stanley be retained as underwriters for the GO bond issue and Goldman Sachs be retained as underwriter for the COP's issue, including any potential refunding of the 2010 COPs issue. A comparison of proposed fee structures including bond takedown, reimbursable expenses and legal costs is attached as Exhibit "E".

Additionally, it is recommended that Orrick, Herrington & Sutcliffe, and Bowie, Arneson, Wiles & Giannone be retained as co-bond counsel.

Proposed Issuance Mode and Structure:

Staff continues to evaluate the proposed debt structuring options available to the District including fixed versus variable mode, senior versus subordinate status and principal repayment schedule.

FISCAL IMPACTS:

A \$130 million GO bond sale will reimburse the Capital Fund for approximately \$123 million of eligible expenditures that have occurred during the three years prior to expected issuance, and a \$100 million COP's issuance will reimburse the Replacement Fund for eligible expenditures that have occurred over the past three years, and remaining estimated expenditures related to the Biosolids project through project completion.

The underwriter fees, expenses, and cost of issuance, including legal, rating agencies, trustee, and printing for the GO bond issue and the COPs issue are estimated at \$563,000 and \$501,000, respectively.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act Code of Regulations, Title 14, Chapter 3, Section 15378.

COMMITTEE STATUS:

This item was reviewed by the Finance and Personnel Committee on June 7, 2016.

RECOMMENDATION:

THAT THE BOARD APPROVE THE ISSUANCE OF GENERAL OBLIGATION BONDS IN AN AMOUNT NOT TO EXCEED \$130 MILLION IN EITHER A FIXED OR VARIABLE MODE TO BE DETERMINED PRIOR TO ISSUANCE, AND APPROVE THE ISSUANCE OF CERTIFICATES OF PARTICIPATION IN AN AMOUNT NOT TO EXCEED \$100 MILLION, IN A FIXED OR VARIABLE MODE TO BE DETERMINED PRIOR TO ISSUANCE, AND APPROVE THE RETENTION OF BANK OF AMERICA MERRILL LYNCH AND MORGAN STANLEY AS UNDERWRITERS FOR THE GO BOND ISSUE, AND APPROVE THE RETENTION OF GOLDMAN SACHS AS UNDERWRITER FOR THE COPS ISSUE (TO INCLUDE ANY POTENTIAL REFUNDING OF THE DISTRICT'S 2010 COPS ISSUE), AND RETAIN ORRICK, HERRINGTON & SUTCLIFFE AND BOWIE, ARNESON, WILES & GIANNONE AS CO-BOND COUNSEL, AND RETAIN BANK OF NEW YORK MELLON AS TRUSTEE/PAYING AGENT FOR THE GO BOND ISSUE, AND RETAIN US BANK AS TRUSTEE/PAYING AGENT FOR THE COP'S ISSUE; AND ADOPT THE FOLLOWING RESOLUTION BY TITLE:

RESOLUTION NO. 2016 - ____

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE IRVINE RANCH WATER DISTRICT
DECLARING INTENTION TO ISSUE
CONSOLIDATED BONDS OF SAID DISTRICT
(CONSOLIDATED SERIES 2016)

LIST OF EXHIBITS:

- Exhibit "A" – Resolution of Intent to Issue Bonds
- Exhibit "B" – Summary of Cash Flow Projections
- Exhibit "C" – Schedule of Eligible Project Reimbursements
- Exhibit "D" – Summary of Project Expenditures and Cost of Issuance
- Exhibit "E" – Summary of Underwriter Proposal Fees and Expenses

Exhibit "A"

RESOLUTION NO. 2016-_____

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE IRVINE RANCH WATER DISTRICT
DECLARING INTENTION TO ISSUE
CONSOLIDATED BONDS OF SAID DISTRICT
(CONSOLIDATED SERIES 2016)

WHEREAS, the Board of Directors of Irvine Ranch Water District ("IRWD") deems it proper that bonds of Improvement District Nos. 112, 113, 125, 153, 154, 185, 188, 212, 213, 225, 240, 253, 285 and 288 (the "Included Improvement Districts") be issued as consolidated bonds (hereinafter referred to as the "Bonds") pursuant to Sections 36447 and following of the California Water Code and Section 53541 of the California Government Code; and

WHEREAS, the Board of Directors has been presented with a proposed resolution providing for the issuance of the Bonds.

NOW, THEREFORE, the Board of Directors of the Irvine Ranch Water District DOES HEREBY RESOLVE, DETERMINE and ORDER as follows:

Section 1. The resolution providing for issuance of the Bonds, as presented to this Board of Directors concurrently herewith, is approved as to form. The total principal amount of the Bonds shall be a maximum amount of \$130,000,000, and the Bonds shall be comprised of the proportional amounts of the Included Improvement Districts determined as provided therein. The Bonds shall constitute the consolidated several general obligations of the Included Improvement Districts and shall, in addition, constitute obligations of IRWD payable from certain net revenues and secured by a pledge of revenues of IRWD as provided in said resolution providing for issuance.

The Bonds, the provisions for payment of and security for the Bonds, the interest rates to be borne by the Bonds, conversion from one interest rate determination method to another, purchase, remarketing, and other features of the Bonds shall be conceptually as set forth in the proposed form of the resolution providing for issuance of the Bonds and in an indenture to be entered into in connection with the negotiated sale of the Bonds. The indenture or the form thereof shall be adopted concurrently with the adoption of the resolution providing for issuance.

Section 2. Monday, the 25th day of July, 2016, at the hour of 5:00 p.m. of said day (or as soon thereafter as is reasonably practicable) in the Board of Directors Room of Irvine Ranch Water District, 15600 Sand Canyon Avenue, Irvine, California, be and the same are hereby fixed by this Board of Directors as the time and place for a hearing on the proposed resolution of issuance.

Section 3. At the time and place fixed in Section 2 or at any time or place to which such hearing may be continued, any person interested, including any person owning land in the Included Improvement Districts or any person otherwise interested in the Bonds as consolidated bonds, may appear and be heard concerning any matter set forth in this resolution declaring

intention and the proposed resolution of issuance or any matters material thereto, including the question of whether the burden on the lands of any of the Included Improvement Districts would be increased over the burden that would be borne by such Included Improvement District were its bonds sold separately.

Section 4. The Secretary is directed to publish notice of such hearing by publishing a copy of this resolution declaring intention once a week for two successive weeks pursuant to Section 6066 of the California Government Code, in a newspaper of general circulation published in Orange County. The first publication shall be at least fourteen (14) days prior to the time fixed for the hearing. The Secretary is further directed to post a copy of this resolution declaring intention in three public places within each Included Improvement District for at least fourteen (14) days prior to the time fixed for the hearing. To the extent the Secretary has, prior to adoption hereof, accomplished any of the publications or postings directed by this Section, the same are hereby ratified.

ADOPTED, SIGNED AND APPROVED this _____ day of _____, 2016.

President/Vice President
IRVINE RANCH WATER DISTRICT
and of the Board of Directors
thereof

Secretary/Assistant Secretary
IRVINE RANCH WATER DISTRICT
and of the Board of Directors
thereof

APPROVED AS TO FORM:

BOWIE, ARNESON,
WILES & GIANNONE
Legal Counsel - IRWD

By _____

BAWG/ 00191143/ 053116

RESOLUTION NO. __

RESOLUTION OF THE BOARD OF DIRECTORS OF
THE IRVINE RANCH WATER DISTRICT PROVIDING
FOR THE ISSUANCE OF CONSOLIDATED BONDS
OF SAID DISTRICT, APPROVING DOCUMENTS AND
AUTHORIZING AND RATIFYING CERTAIN ACTIONS
(CONSOLIDATED SERIES 2016)

WHEREAS, the below-recited authorized, unissued bonds of improvement districts of Irvine Ranch Water District (“IRWD”) may be issued as consolidated bonds;

IMPROVEMENT DISTRICT NO. 112

WHEREAS, pursuant to Resolution No. 2008-29 adopted by the Board of Directors of IRWD on May 27, 2008, a special election was conducted in Improvement District No. 112 of IRWD on August 26, 2008, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 112 thereof in the amount of \$28,512,300 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage, distribution and treatment of water and water rights, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment, urban runoff diversion and treatment systems, and all necessary equipment and property therefor, reconstruction, replacements and additions to said facilities, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 112?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$28,512,300, the principal amounts of \$1,370,000 comprising a portion of consolidated bonds designated “BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A,” \$1,370,000 comprising a portion of consolidated bonds designated “BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B” and \$3,000,000 comprising a portion of consolidated bonds designated “BONDS OF IRVINE RANCH WATER DISTRICT, SERIES 2010B have been issued and sold;

IMPROVEMENT DISTRICT NO. 113

WHEREAS, pursuant to Resolution No. 2004-21 adopted by the Board of Directors of IRWD on June 14, 2004, a special election was conducted in Improvement District No. 113 of IRWD on August 31, 2004, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 113 thereof in the amount of \$25,769,500 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage, distribution and treatment of water and water rights, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment, urban runoff diversion and treatment systems, and all necessary equipment and property therefor, reconstruction, replacements and additions to said facilities, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 113?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$25,769,500, the principal amount of \$1,500,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2006," \$5,000,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2007," \$1,500,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$1,500,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$5,300,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, SERIES 2010B have been issued and sold;

IMPROVEMENT DISTRICT NO. 125

WHEREAS, by Resolution No. 2013-43 adopted on November 11, 2013, and pursuant to Section 36454 *et seq.* of the California Water Code, the Board of Directors of IRWD ordered the consolidation of Improvement District Nos. 102, 105, 106, 121, 130, 135, 140, 161, 182, 184 and 186, as modified by certain annexations and detachments previously ordered by the Board, into a single improvement district designated "Improvement District No. 125," and the authorized but unissued bonds of Improvement District Nos. 102, 105, 106, 121, 130, 135, 140, 161, 182, 184 and 186 permitted pursuant to Section 36438 of the California Water Code to be issued and sold as the bonds of Improvement District No. 125 totaled \$xxxxxxxxxxxxx upon said consolidation;

WHEREAS, the bonds permitted to be issued and sold as the bonds of Improvement District No. 125 consist of authorized but unissued bonds of Improvement District Nos. 106, 121, 130, 140, 161, 182, 184 and 186, as recited below (at the time of said consolidation no

unissued amounts remained from the authorizations for Improvement District Nos. 102, 105 and 135);

Improvement District No. 106

WHEREAS, pursuant to Resolution No. 1976-70 adopted by the Board of Directors of IRWD on August 20, 1976, a special election was conducted in Improvement District No. 106 of IRWD on November 2, 1976, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 106 thereof in the amount of \$22,895,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 106?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$22,895,000, the principal amounts of \$4,475,000 of bonds designated "WATERWORKS BONDS, ELECTION 1976, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 106," \$1,505,000 of bonds designated "WATERWORKS BONDS, ELECTION 1976, SERIES B, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 106," \$1,170,000 of bonds designated "WATERWORKS BONDS, ELECTION 1976, SERIES C, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 106," \$3,570,000 of bonds designated "WATERWORKS BONDS, ELECTION 1976, SERIES D, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 106," \$10,670,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984" and \$1,179,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1985" have been issued and sold prior to the above-recited consolidation of Improvement District No. 106 into Improvement District No. 125;

Improvement District No. 121

WHEREAS, pursuant to Resolution No. 1978-58 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 121 of

IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 121 thereof in the amount of \$35,437,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, to enable said District to utilize a water supply furnished under the State Water Resources Development System (commonly known as the "State Water Project") pursuant to Section 12944.5 of the Water Code of the State of California, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 121?

WHEREAS, more than one-half of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$35,437,000, the principal amounts of \$1,350,000 of bonds designated "WATERWORKS BONDS, ELECTION 1978, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 121," \$9,850,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984," \$782,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1985," \$2,900,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$2,900,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$14,400,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, SERIES 2010B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 121 into Improvement District No. 125;

Improvement District No. 130 (consolidated)

WHEREAS, by Resolution No. 2008-56 adopted on October 13, 2008, the Board of Directors of IRWD ordered the consolidation of Improvement District Nos. 103 and 109 into a single improvement district designated "Improvement District No. 130," and pursuant to Section 36438 of the California Water Code, the authorized but unissued bonds of Improvement District Nos. 103 and 109, recited as follows, permitted to be issued and sold as the bonds of Improvement District No. 130 totaled \$72,304,000 upon said consolidation;

WHEREAS, pursuant to Resolution No. 1977-37 adopted by the Board of Directors of IRWD on April 18, 1977, a special election was conducted in Improvement District No. 103 of

IRWD on May 31, 1977, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an additional indebtedness and issue general obligation bonds for Improvement District No. 103 thereof in the amount of \$19,345,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 103 as heretofore amended by and described in Resolution No. 1977-36 of the Board of Directors of the District?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, pursuant to Resolution No. 1978-59 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 103 of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 103 thereof in the amount of \$7,381,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, to enable said District to utilize a water supply furnished under the State Water Resources Development System (commonly known as the "State Water Project") pursuant to Section 12944.5 of the Water Code of the State of California, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Supplement to the Plan of Works for Improvement District No. 103?

WHEREAS, more than one-half of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, pursuant to Resolution No. 1978-64 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 109 of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 109 thereof in the amount of \$73,194,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, to enable said District to utilize a water supply furnished under the State Water Resources Development System (commonly known as the "State Water Project") pursuant to Section 12944.5 of the Water Code of the State of California, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Supplement to the Plan of Works for Improvement District No. 109?

WHEREAS, more than one-half of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of the above-recited authorized amounts of Improvement District Nos. 103 and 109, the following amounts were issued and sold prior to the consolidation of said improvement districts into Improvement District No. 130: (1) Improvement District No. 103 (1977 authorization) - the principal amounts of \$6,530,000 comprising a portion of the bonds designated "WATERWORKS BONDS, SERIES B, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 103," \$275,000 of bonds designated "WATERWORKS BONDS, SERIES C, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 103," \$4,450,000 of bonds designated "WATERWORKS BONDS, SERIES D, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 103," \$3,750,000 of bonds designated "WATERWORKS BONDS, SERIES E, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 103" and \$470,000 of bonds designated "WATERWORKS BONDS, ELECTION 1977, SERIES F, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 103;" (2) Improvement District No. 103 (1978 authorization) - no bonds of said authorized amount of \$7,381,000 were issued and sold prior to the above-recited consolidation of Improvement District No. 103; (3) Improvement District No. 109 - the principal amounts of \$4,800,000 of bonds designated "WATERWORKS BONDS, ELECTION 1978, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 109," \$1,200,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984" and \$6,141,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1985;"

WHEREAS, of the authorized and unissued amount of \$72,304,000 of Improvement District No. 130 upon its consolidation, the principal amounts of \$2,650,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$2,650,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$11,700,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, SERIES 2010B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 130 into Improvement District No. 125;

Improvement District No. 140 (consolidated)

WHEREAS, by Resolution No. 1989-59 adopted on August 28, 1989, the Board of Directors of IRWD ordered the consolidation of Improvement District Nos. 104, 141 and 142 into a single improvement district designated "Improvement District No. 140," and pursuant to Section 36438 of the California Water Code, the authorized but unissued bonds of Improvement District Nos. 104, 141 and 142, recited as follows, permitted to be issued and sold as the bonds of Improvement District No. 140 totaled \$108,773,000 upon said consolidation;

WHEREAS, pursuant to Resolution No. 1972-53 adopted by the Board of Directors of IRWD on November 17, 1972, Improvement District No. 104 of IRWD was formed and general obligation bonds of IRWD for Improvement District No. 104 in the amount of \$32,760,000 were authorized in proceedings taken pursuant to the provisions of Chapter 3.5 of Part 6 of Division 13 of the California Water Code;

WHEREAS, pursuant to Resolution No. 1978-60 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 141 of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 141 thereof in the amount of \$43,471,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, to enable said District to utilize a water supply furnished under the State Water Resources Development System (commonly known as the "State Water Project") pursuant to Section 12944.5 of the Water Code of the State of California, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 141?

WHEREAS, more than one-half of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, pursuant to Resolution No. 1978-61 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 142 of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 142 thereof in the amount of \$40,899,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, to enable said District to utilize a water supply furnished under the State Water Resources Development System (commonly known as the "State Water Project") pursuant to Section 12944.5 of the Water Code of the State of California, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 142?

WHEREAS, more than one-half of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of the above-recited authorized amounts of Improvement District Nos. 104, 141 and 142, the following amounts were issued and sold prior to the consolidation of said improvement districts into Improvement District No. 140: (1) Improvement District No. 104 - the principal amount of \$xxxxxxx comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1989"; (2) Improvement District No. 141 - the principal amounts of \$2,350,000 of bonds designated "WATERWORKS BONDS, ELECTION 1978, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 141," \$5,250,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984" and \$642,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1985;" (3) Improvement District No. 142 - the principal amount of \$115,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984;"

WHEREAS, of the authorized and unissued amount of \$108,773,000 of Improvement District No. 140 upon its consolidation, the principal amounts of \$[11,341,750] comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1989," \$6,000,000 comprising a portion of consolidated bonds

designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1993," \$4,827,320 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1995," \$900,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A" and \$900,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 140 into Improvement District No. 125;

Improvement District No. 161

WHEREAS, pursuant to Resolution No. 1978-63 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 161 of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 161 thereof in the amount of \$40,786,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, to enable said District to utilize a water supply furnished under the State Water Resources Development System (commonly known as the "State Water Project") pursuant to Section 12944.5 of the Water Code of the State of California, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 161?

WHEREAS, more than one-half of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$40,786,000, the principal amounts of \$735,000 of bonds designated "WATERWORKS BONDS, ELECTION 1978, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 161," \$1,100,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2006," \$1,800,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A;" \$1,800,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$7,000,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, SERIES 2010B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 161 into Improvement District No. 125;

Improvement District No. 182

WHEREAS, pursuant to Resolution No. 1988-11 adopted by the Board of Directors of IRWD on January 25, 1988, a special election was conducted in Improvement District No. 182 of IRWD on March 1, 1988, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 182 thereof in the amount of \$74,653,000 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, to enable the Irvine Ranch Water District to utilize a water supply furnished under the State Water Resources Development System (commonly known as the "State Water Project"), including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 182?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$74,653,000, the principal amounts of \$7,350,000 of bonds designated "WATERWORKS BONDS, ELECTION 1988, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 182," \$357,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2006," \$850,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$850,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$3,000,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2010B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 182 into Improvement District No. 125;

Improvement District No. 184

WHEREAS, pursuant to Resolution No. 1988-30 adopted by the Board of Directors of IRWD on March 14, 1988, a special election was conducted in Improvement District No. 184 of IRWD on April 19, 1988, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 184 thereof in the amount of \$79,065,000 at a maximum interest rate of twelve

percent (12%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, to enable the Irvine Ranch Water District to utilize a water supply furnished under the State Water Resources Development System (commonly known as the "State Water Project"), including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 184?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$79,065,000, the principal amounts of \$600,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$600,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$2,750,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2010B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 184 into Improvement District No. 125;

Improvement District No. 186

WHEREAS, pursuant to Resolution No. 1989-27 adopted by the Board of Directors of IRWD on April 24, 1989, a special election was conducted in Improvement District No. 186 of IRWD on June 13, 1989, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 186 thereof in the amount of \$19,266,000 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, to enable the Irvine Ranch Water District to utilize a water supply furnished under the State Water Resources Development System (commonly known as the "State Water Project"), including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 186?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$19,266,000, the principal amounts of \$5,632,690 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1989," \$500,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A" and \$500,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 186 into Improvement District No. 125;

WHEREAS, no bonds of the consolidated authorized amount of \$xxxxxxxxxxxxx permitted to be sold as the bonds of Improvement District No. 125 have heretofore been issued and sold;

IMPROVEMENT DISTRICT NO. 153

WHEREAS, pursuant to Resolution No. 78-5-3 adopted by the Board of Directors of the Santiago County Water District ("SCWD") on May 2, 1978, a special election was conducted in Improvement District No. 1 of SCWD on June 13, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Santiago County Water District incur a bonded indebtedness for Improvement District No. 1 thereof in the sum of \$237,300,000 for the purpose of the acquisition and construction of works and facilities useful or necessary to convey, supply, store or make use of water, including all land, easements, rights of way and other property necessary therefor, and including all engineering, inspection, legal and fiscal agent's fees, costs of the bond election and of the issuance of bonds, and bond interest estimated to accrue during the construction period and for a period not to exceed twelve months after the completion of construction, and all costs and estimated costs incidental to or connected with such acquisition, construction or financing of said facilities?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and SCWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, effective July 1, 2006, SCWD was consolidated with IRWD and IRWD was designated the consolidated successor district, and pursuant to the order of consolidation, the \$237,300,000 authorized but unissued principal amount of SCWD Improvement District No. 1's water bonds were transferred to Improvement District No. 153;

WHEREAS, no bonds of said authorized amount of \$237,300,000 have been issued and sold;

IMPROVEMENT DISTRICT NO. 154

WHEREAS, pursuant to Resolution No. 78-5-11 adopted by the Board of Directors of the Santiago County Water District ("SCWD") on May 2, 1978, a special election was conducted in Improvement District No. 2 of SCWD on June 13, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Santiago County Water District incur a bonded indebtedness for Improvement District No. 2 thereof in the sum of \$4,760,000 for the purpose of the acquisition and construction of works and facilities useful or necessary to convey, supply, store or make use of water, including all land, easements, rights of way and other property necessary therefor, and including all engineering, inspection, legal and fiscal agent's fees, costs of the bond election and of the issuance of bonds, and bond interest estimated to accrue during the construction period and for a period not to exceed twelve months after the completion of construction, and all costs and estimated costs incidental to or connected with such acquisition, construction or financing of said facilities?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and SCWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, effective July 1, 2006, SCWD was consolidated with IRWD, IRWD was designated the consolidated successor district, and pursuant to the order of consolidation, the \$4,760,000 authorized but unissued principal amount of SCWD Improvement District No. 2's water bonds were transferred to Improvement District No. 154;

WHEREAS, no bonds of said authorized amount of \$4,760,000 have been issued and sold;

IMPROVEMENT DISTRICT NO. 185

WHEREAS, pursuant to Resolution No. 2013-57 adopted by the Board of Directors of IRWD on December 16, 2013, a special election was conducted in Improvement District No. 185 of IRWD on March 4, 2014, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 185 thereof in the amount of \$13,500,000 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage, distribution and treatment of water and water rights, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment, urban runoff diversion and treatment systems, and all necessary equipment and property therefor, reconstruction, replacements and additions to said facilities, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 185?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, no bonds of said authorized amount of \$13,500,000 have been issued and sold;

IMPROVEMENT DISTRICT NO. 188

WHEREAS, pursuant to Resolution No. 1989-28 adopted by the Board of Directors of IRWD on April 24, 1989, a special election was conducted in Improvement District No. 188 of IRWD on June 13, 1989, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 188 thereof in the amount of \$8,174,000 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the acquisition, collection, storage and distribution of water and water rights, to enable the Irvine Ranch Water District to utilize a water supply furnished under the State Water Resources Development System (commonly known as the "State Water Project"), including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 188?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$8,174,000, the principal amounts of \$2,957,010 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1989," \$90,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$90,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$1,300,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2010B" have been issued and sold;

IMPROVEMENT DISTRICT NO. 212

WHEREAS, pursuant to Resolution No. 2008-30 adopted by the Board of Directors of IRWD on May 27, 2008, a special election was conducted in Improvement District No. 212 of

IRWD on August 26, 2008, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 212 thereof in the amount of \$108,711,800 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage and the storage and distribution of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, reconstruction, replacements and additions to said facilities, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 212?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$108,711,800, the principal amounts of \$3,650,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$3,650,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$8,400,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2010B" have been issued and sold;

IMPROVEMENT DISTRICT NO. 213

WHEREAS, pursuant to Resolution No. 2004-22 adopted by the Board of Directors of IRWD on June 14, 2004, a special election was conducted in Improvement District No. 213 of IRWD on August 31, 2004, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 213 thereof in the amount of \$87,647,500 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage and the storage and distribution of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, reconstruction, replacements and additions to said facilities, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 213?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$87,647,500, the principal amount of \$11,100,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2006," \$6,300,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2007," \$3,200,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A" and \$3,200,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" have been issued and sold;

IMPROVEMENT DISTRICT NO. 225

WHEREAS, by Resolution No. 2013-43 adopted on November 11, 2013, and pursuant to Section 36454 *et seq.* of the California Water Code, the Board of Directors of IRWD ordered the consolidation of Improvement District Nos. 2(202), 206, 221, 230, 235, 250, 261, 282, 284 and 286, as modified by certain annexations and detachments ordered by the Board, into a single improvement district designated "Improvement District No. 225," and the authorized but unissued bonds of Improvement District Nos. 2(202), 206, 221, 230, 235, 250, 261, 282, 284 and 286 permitted to be issued and sold pursuant to Section 36438 of the California Water Code as the bonds of Improvement District No. 225 totaled \$406,892,840 upon said consolidation;

WHEREAS, the bonds permitted to be issued and sold as the bonds of Improvement District No. 225 consist of authorized but unissued bonds of Improvement District Nos. 2(202), 206, 221, 230, 250, 261, 282, 284 and 286, as recited below (at the time of said consolidation no unissued amount remained from the authorization for Improvement District No. 235);

Improvement District No. 2(202)

WHEREAS, pursuant to Resolution No. 1971-xx adopted by the Board of Directors of IRWD on June 18, 1971, Improvement District No. 2^a of IRWD was formed and general obligation bonds of IRWD for Improvement District No. 2 in the amount of \$30,316,000 were authorized in proceedings taken pursuant to the provisions of Chapter 3.5 of Part 6 of Division 13 of the California Water Code;

WHEREAS, of said authorized amount of \$30,316,000, the principal amounts of \$8,160,000 of bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 2, 1971 SEWER BONDS, SERIES A," \$8,370,000 of bonds

^a Subsequently renamed Improvement District No. 2(202).

designated "BONDS OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 2, 1971 SEWER BONDS, SERIES B" and \$11,880,000 of bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 2, 1971 SEWER BONDS, SERIES C;"

Improvement District No. 206

WHEREAS, pursuant to Resolution No. 1975-46 adopted by the Board of Directors of IRWD on July 17, 1975, a special election was conducted in Improvement District No. 206 of IRWD on November 4, 1975, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: : Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 206 thereof in the amount of \$69,665,000, at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the collection, treatment, and disposal of sewage, including dams, reservoirs, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 206?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$69,665,000, the principal amounts of \$4,515,000 of bonds designated "SEWER BONDS, ELECTION 1975, SERIES A, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 206," \$3,925,000 of bonds designated "SEWER BONDS, ELECTION 1975, SERIES B, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 206," \$2,135,000 of bonds designated "SEWER BONDS, ELECTION 1975, SERIES C, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 206," \$2,405,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984" and \$4,937,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1985" have been issued and sold prior to the above-recited consolidation of Improvement District No. 206 into Improvement District No. 225;

Improvement District No. 221

WHEREAS, pursuant to Resolution No. 1978-65 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 221 of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 221 thereof in the amount of \$50,452,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage, and the acquisition, storage and treatment of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 221?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$50,452,000, the principal amounts of \$8,980,000 of bonds designated "SEWER BONDS, ELECTION 1978, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 221," \$11,660,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984," \$8,314,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1985," \$7,800,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$7,800,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$5,900,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2010B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 221 into Improvement District No. 225;

Improvement District No. 230 (consolidated)

WHEREAS, by Resolution No. 2008-56 adopted on October 13, 2008, the Board of Directors of IRWD ordered the consolidation of Improvement District Nos. 3(203) and 290 into a single improvement district designated "Improvement District No. 230," and pursuant to Section 36438 of the California Water Code, the authorized but unissued bonds of Improvement District Nos. 3(203) and 290, recited as follows, permitted to be issued and sold as the bonds of Improvement District No. 230, totaled \$132,651,000 upon said consolidation;

WHEREAS, pursuant to Resolution No. 1971-25 adopted by the Board of Directors of IRWD on June 18, 1971, Improvement District No. 3^b of IRWD was formed and general obligation bonds of IRWD for Improvement District No. 3 in the amount of \$23,630,000 were

^b Subsequently renamed Improvement District No. 3(203).

authorized in proceedings taken pursuant to the provisions of Chapter 3.5 of Part 6 of Division 13 of the California Water Code;

WHEREAS, pursuant to Resolution No. 1978-66 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 3(203) of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 3(203) thereof in the amount of \$56,662,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage, and the acquisition, storage and treatment of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Supplement to the Plan of Works for Improvement District No. 3(203)?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, pursuant to Resolution No. 1978-71 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 290 of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 290 thereof in the amount of \$78,231,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage, and the acquisition, storage and treatment of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 290?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of the above-recited authorized amounts of Improvement District Nos. 3(203) and 290, the following amounts were issued and sold prior to the consolidation of said improvement districts into Improvement District No. 230: (1) Improvement District No. 3(203) (1971 authorization) - the principal amount of \$9,090,000 of bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 3, 1971 SEWER BONDS, SERIES A;" (2) Improvement District No. 3(203) (1978 authorization) - the principal amounts of \$1,285,000 of bonds designated "SEWER BONDS, ELECTION 1978, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 3(203)" and \$3,475,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984;" and (3) Improvement District No. 290 - the principal amounts of \$905,000 of bonds designated "SEWER BONDS, ELECTION 1978, SERIES A, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 290," \$500,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984," \$7,422,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1985" and \$3,195,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1991" were issued and sold prior to the below-recited consolidation of Improvement District No. 290;

WHEREAS, of the authorized and unissued amount of \$132,651,000 of Improvement District No. 230 upon its consolidation, the principal amounts of \$8,350,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A;" \$8,350,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B," and \$21,200,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2010B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 230 into Improvement District No. 225;

Improvement District No. 250

WHEREAS, pursuant to Resolution No. 1978-69 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 250 of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 250 thereof in the amount of \$286,727,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage, and the acquisition, storage and treatment of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts

with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 250?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$286,727,000, the principal amounts of \$7,590,000 of bonds designated "SEWER BONDS, ELECTION 1978, SERIES A, OF THE IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 250," \$7,980,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984," \$29,526,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1985," \$10,217,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1991," \$9,900,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1993," \$15,071,160 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1995," \$19,884,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2006," \$42,000,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2007," \$15,650,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$15,650,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$43,150,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, SERIES 2010B have been issued and sold prior to the above-recited consolidation of Improvement District No. 250 into Improvement District No. 225;

Improvement District No. 261

WHEREAS, pursuant to Resolution No. 1978-70 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 261 of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 261 thereof in the amount of \$46,364,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage, and the acquisition, storage and treatment of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts

with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 261?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$46,364,000, the principal amounts of \$1,275,000 of bonds designated "SEWER BONDS, ELECTION 1978, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 261," \$1,100,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2006," \$3,950,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$3,950,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$17,100,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2010B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 261 into Improvement District No. 125;

Improvement District No. 282

WHEREAS, pursuant to Resolution No. 1988-13 adopted by the Board of Directors of IRWD on January 25, 1988, a special election was conducted in Improvement District No. 282 of IRWD on March 1, 1988, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 282 thereof in the amount of \$59,101,000 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage and the storage and distribution of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 282?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$59,101,000, the principal amounts of \$5,000,000 of bonds designated "SEWER BONDS, ELECTION 1988, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 282," \$490,000

comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$490,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$3,500,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2010B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 282 into Improvement District No. 225;

Improvement District No. 284

WHEREAS, pursuant to Resolution No. 1988-14 adopted by the Board of Directors of IRWD on January 25, 1988, a special election was conducted in Improvement District No. 284 of IRWD on March 1, 1988, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 284 thereof in the amount of \$92,590,000 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage and the storage and distribution of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 284?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$92,590,000, the principal amounts of \$7,650,000 of bonds designated "SEWER BONDS, ELECTION 1988, SERIES A, OF IRVINE RANCH WATER DISTRICT FOR IMPROVEMENT DISTRICT NO. 284," \$850,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A," \$850,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" and \$3,500,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2010B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 284 into Improvement District No. 225;

Improvement District No. 286

WHEREAS, pursuant to Resolution No. 1989-29 adopted by the Board of Directors of IRWD on April 24, 1989, a special election was conducted in Improvement District No. 286 of IRWD on June 13, 1989, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 286 thereof in the amount of \$40,531,000 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage and the storage and distribution of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 286?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$40,531,000, the principal amounts of \$250,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A" and \$250,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" have been issued and sold prior to the above-recited consolidation of Improvement District No. 286 into Improvement District No. 225;

WHEREAS, no bonds of the consolidated authorized amount of \$406,892,840 permitted to be sold as the bonds of Improvement District No. 225 have heretofore been issued and sold;

IMPROVEMENT DISTRICT NO. 240

WHEREAS, by Resolution No. 1989-59 adopted on August 28, 1989, the Board of Directors of IRWD ordered the consolidation of Improvement District Nos. 204, 241 and 242 into a single improvement district designated "Improvement District No. 240," and pursuant to Section 36438 of the California Water Code, the authorized but unissued bonds of Improvement District Nos. 204 and 242^c, recited as follows, permitted to be issued and sold as the bonds of Improvement District No. 240 totaled \$35,267,000 upon said consolidation;

WHEREAS, pursuant to Resolution No. 1972-54 adopted by the Board of Directors of IRWD on November 17, 1972, Improvement District No. 204 of IRWD was formed and general obligation bonds of IRWD for Improvement District No. 204 in the amount of \$27,385,000 were authorized in proceedings taken pursuant to the provisions of Chapter 3.5 of Part 6 of Division 13 of the California Water Code;

WHEREAS, pursuant to Resolution No. 1978-68 adopted by the Board of Directors of IRWD on April 17, 1978, a special election was conducted in Improvement District No. 242 of IRWD on June 19, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

^c No authorized bonds of Improvement District No. 241 remained unissued upon the consolidation of such improvement districts.

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 242 thereof in the amount of \$7,942,000 at a maximum interest rate of eight percent (8%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage, and the acquisition, storage and treatment of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, and the payment of operating and other costs of the District and the establishment of all or part of the bond reserve fund out of the proceeds of the sale of said bonds, all in accordance with the Plan of Works for Improvement District No. 242?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of the above-recited authorized amounts of Improvement District Nos. 204, and 242, the following amount was issued and sold prior to the consolidation of said improvement districts into Improvement District No. 240: Improvement District No. 204 - \$60,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1984;"

WHEREAS, subsequent to such consolidation, pursuant to Resolution No. 1989-67 adopted by the Board of Directors of IRWD on October 23, 1989, a special election was conducted in Improvement District No. 240 of IRWD on November 28, 1989, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 240 thereof in the amount of \$79,949,000 at a maximum interest rate of twelve percent (12%) per annum, to be issued in addition to previously authorized bonds to acquire and construct works and facilities for the collection, treatment and disposal of sewage and the storage and distribution of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the consolidated and amended Plan of Works for Improvement District No. 240?

WHEREAS, of said authorized and unissued amount of \$115,216,000 of Improvement District No. 240, the principal amounts of \$15,068,550 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1989," \$16,800,000 comprising a portion of consolidated bonds designated "BONDS

OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1993,” \$10,050,920 comprising a portion of consolidated bonds designated “BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 1995,” \$2,250,000 comprising a portion of consolidated bonds designated “BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A” and \$2,250,000 comprising a portion of consolidated bonds designated “BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B” have been issued and sold;

IMPROVEMENT DISTRICT NO. 253

WHEREAS, pursuant to Resolution No. 78-5-7 adopted by the Board of Directors of the Santiago County Water District (“SCWD”) on May 2, 1978, a special election was conducted in Improvement District No. 1 of SCWD on June 13, 1978, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Santiago County Water District incur a bonded indebtedness for Improvement District No. 1 thereof in the sum of \$121,280,000 for the purpose of the acquisition and construction of works for the collection, treatment and disposal of sewage, waste water, including trunk sewers, sewage treatment, water reclamation facilities, pumping stations, and including all land, easements and other property necessary therefor, and including all engineering, inspection, legal and fiscal agent’s fees, costs of the bond election and of the issuance of bonds, and bond interest estimated to accrue during the construction period and for a period not to exceed twelve months after the completion of construction, and all costs and estimated costs incidental to or connected with such acquisition, construction or financing of said facilities?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and SCWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, effective July 1, 2006, SCWD was consolidated with IRWD and IRWD was designated the consolidated successor district, and pursuant to the order of consolidation, the \$121,280,000 authorized but unissued principal amount of SCWD Improvement District No. 1’s sewer bonds were transferred to Improvement District No. 253;

WHEREAS, no bonds of said authorized amount of \$121,280,000 have been issued and sold;

IMPROVEMENT DISTRICT NO. 285

WHEREAS, pursuant to Resolution No. 2013-58 adopted by the Board of Directors of IRWD on December 16, 2013, a special election was conducted in Improvement District No. 285 of IRWD on March 4, 2014, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 285 thereof in the amount of \$21,300,000 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage and the storage and distribution of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, reconstruction, replacements and additions to said facilities, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 285?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, no bonds of said authorized amount of \$21,300,000 have been issued and sold;

IMPROVEMENT DISTRICT NO. 288

WHEREAS, pursuant to Resolution No. 1989-30 adopted by the Board of Directors of IRWD on April 24, 1989, a special election was conducted in Improvement District No. 288 of IRWD on June 13, 1989, at which election there was submitted to the qualified voters of said Improvement District the following bond proposition:

BOND PROPOSITION: Shall the Irvine Ranch Water District incur an indebtedness and issue general obligation bonds for Improvement District No. 288 thereof in the amount of \$8,977,000 at a maximum interest rate of twelve percent (12%) per annum, to acquire and construct works and facilities for the collection, treatment and disposal of sewage and the storage and distribution of reclaimed water, including dams, reservoirs, storage tanks, treatment facilities, pipes, pumping equipment and all necessary equipment and property therefor, acquiring funds to fulfill contractual commitments to carry out the powers and purposes of the District contained in contracts, including contracts with other agencies, all in accordance with the Plan of Works for Improvement District No. 288?

WHEREAS, more than two-thirds of the votes cast at said election were cast in favor of incurring said indebtedness and issuing said general obligation bonds and IRWD was authorized to issue bonds in the amount and for the purpose set forth in said proposition;

WHEREAS, of said authorized amount of \$8,977,000, the principal amounts of \$150,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009A" and \$150,000 comprising a portion of consolidated bonds designated "BONDS OF IRVINE RANCH WATER DISTRICT, CONSOLIDATED SERIES 2009B" have been issued and sold;

WHEREAS, the Board of Directors has evaluated the various factors associated with the issuance of portions of the above-described authorized, unissued bonds as consolidated bonds and has found that the sale of the bonds of the Included Improvement Districts, as defined below, as consolidated bonds will not increase the cost that any Included Improvement District will pay for its bonds over the cost it would have paid had its bonds been sold separately;

WHEREAS, the Board of Directors of IRWD deems it proper that portions of the above-described authorized, unissued bonds of the Included Improvement Districts (as hereinafter defined, the "Bonds") be issued as the consolidated several general obligations of the Included Improvement Districts pursuant to Section 36447 *et seq.* of the California Water Code, and pursuant to Section 53541 of the California Government Code;

WHEREAS, pursuant to Water Code Section 36447.15 IRWD is authorized to provide credit enhancement in connection with the issuance or carrying of consolidated general obligation bonds for improvement districts by pledging and applying all or any part of the revenues of IRWD to the payment or security of any or all of the principal, redemption price and purchase price of the bonds and the interest thereon in the manner and upon terms that the Board of Directors may deem advisable;

WHEREAS, it is in the interest of IRWD to secure the timely payment of the principal, redemption price and purchase price of and interest on the Bonds by pledging certain revenues of IRWD;

WHEREAS, pursuant to subdivision (f) of Section 36447.15, the Board of Directors of IRWD has, by adoption of Resolution No. 2010-40, adopted criteria to govern its determinations to use pledges pursuant to Section 36447.15, including evaluation of the use of a pledge in lieu of or in combination with other credit enhancement and liquidity options available to the Board, and has duly considered such criteria in regard to the use of a pledge of certain revenues of IRWD in connection with the proposed Bonds;

WHEREAS, there has been placed on file with the Secretary of IRWD the form of an indenture for the Bonds, pursuant to which the above-described transactions will be accomplished, as well as the form of a contract of purchase relating to the Bonds and this Board desires to approve the forms and authorize the execution thereof;

WHEREAS, the Bonds will be offered for sale using an official statement;

[WHEREAS, it is in the interest of IRWD to secure the timely payment of the principal and purchase price of and interest on the Bonds by obtaining a letter of credit with respect to the Bonds and entering into a reimbursement agreement with the provider of the letter of credit;]

WHEREAS, this Board desires to authorize the selection of the initial trustee [and initial remarketing agent] with respect to the Bonds, and such other agents as may be required or permitted to perform the duties described under the indenture;

WHEREAS, the forms of the indenture and other documents on file with the Secretary as described in this resolution set forth or describe the terms of the Bonds and/or the sale thereof, and the terms pursuant to which the above-described transactions will be accomplished;

WHEREAS, this Board finds that the sale of the Bonds on such terms is in the best interest of IRWD and each of the Included Improvement Districts and finds that the sale of the Bonds as consolidated bonds on such terms will not cause any Included Improvement District to pay more than it would have paid had its bonds been sold separately or had its bonds been sold without such terms;

WHEREAS, this Board desires to authorize the execution and delivery of any and all documents and instruments and the performance of any and all acts and things necessary or proper for carrying out the transactions contemplated by this resolution and the indenture, including, but not limited to, any and all documents, instruments, acts and things necessary or proper for securing and maintaining a rating or ratings with respect to the Bonds.

NOW, THEREFORE, the Board of Directors of IRWD DOES HEREBY RESOLVE, DETERMINE AND ORDER as follows:

Section 1. Pursuant to Division 13 of the California Water Code, consolidated bonds of IRWD (the "Bonds"), shall be issued for the purposes set forth in the recitals hereof in an aggregate principal sum of not to exceed [\$130,000,000] and maturing on or before 40 years from their date, as tax-exempt obligations under the provisions of Sections 103, 148 and 149 of the Internal Revenue Code of 1986. Subject to the preceding limitations in this Section, the Treasurer of IRWD (the "Treasurer") is authorized, at the time of sale of the Bonds, to determine and set forth in a certificate(s) delivered by the Treasurer at the time of closing and delivery of the Bonds the principal amount, dates of maturity and sinking fund payments that will in his judgment optimize the cost of funds to IRWD. Pursuant to Section 36447 *et seq.* of the Water Code, the Bonds shall constitute, when originally issued, the consolidated several general obligations, in the proportions determined by the Treasurer and set forth in a certificate(s) delivered by the Treasurer at the time of closing and delivery of the Bonds, of Improvement District Nos. 112, 113, 125, 153, 154, 185, 188, 212, 213, 225, 240, 253, 285 and 288 (collectively, the "Included Improvement Districts" and each, an "Included Improvement District"), whose remaining authorized amounts of bonds, described in the recitals hereof, shall be reduced by such respective amounts. The Bonds shall in addition constitute obligations of IRWD payable from certain net revenues and secured by a pledge of revenues of IRWD as provided herein.

Section 2. The Bonds shall be designated "BONDS OF IRVINE RANCH WATER DISTRICT, [CONSOLIDATED] SERIES 2016" and further designated as provided in the Indenture (defined below), and the Bonds shall be numbered as determined by the Trustee (defined below). The Bonds shall be of the denominations specified in the Indenture. Pursuant to the determinations by the Treasurer as provided above, the Bonds shall be dated, bear interest at the rates, mature on the dates and in the aggregate principal amounts, be issued in the form, have such sinking fund installments, be subject to redemption, and have such other terms and be in other respects as provided in the Indenture.

Section 3. Pursuant to Section 5050 et seq. of the Government Code, the President of the Board of Directors of IRWD is hereby authorized and directed to sign all of said Bonds by his manual or facsimile signature and the Secretary of IRWD is hereby authorized and directed to affix thereto the seal of IRWD by facsimile or otherwise and to attest thereto by her manual or facsimile signature.

Section 4. The Bonds shall be issued pursuant to an indenture of trust (the "Indenture") by and between IRWD and the Trustee, as defined herein. The Indenture, including the form of the Bonds, is hereby approved in the form on file with the Secretary upon adoption of this resolution, and the President and Secretary of IRWD are authorized and directed to execute it in such form, with such changes, insertions and deletions as are approved by, and on the date for closing and delivery established by, the Treasurer with the concurrence of the President of IRWD, which approval and concurrence will be conclusively evidenced by execution and delivery thereof. The form of the Indenture as so executed and delivered is incorporated herein as of its date, by this reference. This resolution, each Bond and the Indenture shall together constitute the contract between IRWD and the owner of such Bond, and reference is hereby made to this resolution, each Bond and the Indenture for a complete statement of such contract. [_____] is hereby selected as the initial Trustee (the "Trustee").

Section 5. The Bonds shall be the several consolidated obligations of the Included Improvement Districts in the proportions that the respective amounts of Bonds attributed to each Included Improvement District determined by the Treasurer as set forth in Section 1 hereof bear to the aggregate principal amount of Bonds being issued. The Bonds shall be payable from the following sources: (1) ad valorem assessments on taxable land in the Included Improvement Districts, (2) water and sewer charges which in the discretion of the Board of Directors of IRWD are fixed and collected in the Included Improvement Districts in lieu of assessments, (3) proceeds from the sale of property in the Included Improvement Districts for delinquent assessments, all such amounts referred to in clauses (1), (2) and (3) to be collected and applied as the several obligations of the Included Improvement Districts as provided herein, (4) all moneys and earnings thereon held in the funds and accounts created under the terms of the Indenture (except the Rebate Fund, as that term is defined in the Indenture), and (5) certain net revenues of IRWD as provided in Section 6.

Section 6. IRWD covenants hereby to impose and collect or cause the imposition and collection of the annual assessments in the Included Improvement Districts, or charges for water and sewer service in the Included Improvement Districts in lieu thereof, and delinquent assessments and proceeds from the sale of property therefor, in the amounts necessary to satisfy the requirements stated in the Indenture. The assessments and charges levied upon and collected within any Included Improvement District shall not exceed the amount required to pay such Included Improvement District's proportional share of the requirements stated in the Indenture with respect to principal, purchase price and redemption price of, and interest on, the Bonds, which share shall correspond to the portion of the total par value of the Bonds comprised by the par value included on behalf of such Included Improvement District, as specified in Section 1 hereof. Any provision of this resolution to the contrary notwithstanding, IRWD may, to the extent permitted by law, but except as provided in the next paragraph, shall not be obligated to, apply funds of IRWD to the payment of principal, purchase price and redemption price of, and interest on the Bonds.

IRWD hereby further pledges certain revenues for the payment of the Bonds in accordance with the terms and conditions set forth in such forms of the Indenture.

Section 7. There shall be created and funded pursuant to the Indenture a general obligation bond fund designated “2016 BONDS OF THE IRVINE RANCH WATER DISTRICT, GENERAL OBLIGATION BOND FUND” or as otherwise provided in the Indenture (the “General Obligation Bond Fund”).

Moneys deposited in the General Obligation Bond Fund shall be apportioned within the fund according to each Included Improvement District's proportional share thereof determined as specified in Section 1 hereof. The General Obligation Bond Fund shall be applied for the purposes provided in the Indenture, and all taxable land within each Included Improvement District having a proportional share thereof shall be and remain liable to be assessed for such purposes. The assessments and charges levied upon and collected within any such Included Improvement District shall not exceed the amount required to pay such Included Improvement District's proportional share of the requirements stated in the Indenture with respect to principal, purchase price and redemption price of, and interest on, the Bonds, which share shall correspond to the portion of the total par value of the Bonds comprised by the par value included on behalf of such Included Improvement District. Moneys raised by each Included Improvement District for this purpose shall be deposited to the Included Improvement District's account within the General Obligation Bond Fund and shall be used solely for the purpose of paying such Included Improvement District's proportional share of the requirements stated in the Indenture with respect to principal, purchase price and redemption price of, and interest on, the Bonds.

Section 8. There shall be created such other funds and accounts as are required under the Indenture. Any moneys deposited in any such fund or account that is apportioned to Included Improvement Districts shall be obtained from and apportioned within the fund or account according to each Included Improvement District's proportional share in accordance with Section 36447.1 of the Water Code. Moneys in any fund or account that is apportioned to Included Improvement Districts shall be disbursed only to the extent of the share apportioned therein to the Included Improvement District on whose behalf they are disbursed. Any charges and annual assessments used to establish any fund or account under the Indenture that is apportioned to Included Improvement Districts shall be set aside within such fund or account to the account of the Included Improvement District from which they were obtained.

Section 9. The contract of purchase for the Bonds, by and between IRWD and _____ (the “Underwriter”), to be dated as of such date as may be established by the Treasurer of IRWD, is hereby approved in the form on file with the Secretary upon adoption of this resolution, and the Treasurer of IRWD is authorized and directed to execute it in such form, with such changes, insertions and deletions as are approved by, and on the date for delivery established by, the Treasurer, which approval will be conclusively evidenced by execution and delivery thereof. The form of the contract of purchase relating to the Bonds, as so executed and delivered (the “Contract of Purchase”) is incorporated herein as of its date, by this reference.

Section 10. In accordance with Sections 36447.7 and 36447.9 of the California Water Code, and after review of the terms and provisions of the Bonds (including the terms of the sale

of the Bonds under the proposed form of the Contract of Purchase), the Board of Directors hereby finds that the sale of the Bonds at private sale without advertising for bids will be consistent with the prudent management of IRWD's fiscal affairs and will produce a lower interest cost on the Bonds.

Section 11. The preliminary official statement relating to the Bonds (the "Preliminary Official Statement"), in substantially the form presented to the Board at this meeting, is hereby approved with such changes, insertions and deletions as the Treasurer with the concurrence of the President of IRWD shall approve; such approval shall be conclusively evidenced by the Treasurer's execution and delivery of a "deemed final" certificate under the Securities and Exchange Act of 1934, as amended, with respect to the Preliminary Official Statement, which execution and delivery are hereby authorized and approved. The Board hereby approves the use of the Preliminary Official Statement by the Underwriter in connection with the offering and sale of the Bonds. An official statement relating to the Bonds to be dated the date determined by the Treasurer (the "Official Statement"), in substantially the form of the Preliminary Official Statement with such changes thereto as are necessary or appropriate to reflect the terms of the Bonds and satisfy the requirements of the Contract of Purchase and with such other changes as the Treasurer with the concurrence of the President shall approve (such approval and concurrence to be conclusively evidenced by execution and delivery thereof), is hereby approved, and the Board hereby approves the use of the Official Statement by the Underwriter in connection with the offering and sale of the Bonds, and the Board hereby further approves the use by the Underwriter of any supplement or amendment to the Official Statement which the Treasurer shall determine is necessary so that the Official Statement does not include any untrue statement of a material fact and does not omit to state a material fact necessary to make the statements therein not misleading. The Treasurer of IRWD is hereby authorized and directed to execute the Official Statement and any amendment or supplement thereto, in the name and on behalf of IRWD and thereupon to cause the Official Statement and any such amendment or supplement to be delivered to the Underwriter.

Section 12. The distribution of the Preliminary Official Statement and the Official Statement, inclusive of the above-authorized changes, is hereby authorized.

Section 13. The Treasurer, with the concurrence of the President of IRWD, is hereby authorized and directed to select and appoint, or approve the selection and appointment of, such initial paying agents and other agents as may be required or permitted to perform the duties described under the Indenture.

Section 14. Upon the payment of the purchase price for the Bonds as provided for in the Contract of Purchase, the Trustee is hereby authorized and directed to authenticate and deliver the Bonds as provided in the Contract of Purchase, in the amounts, maturities and denominations as provided in the Indenture.

[Section 15. The reimbursement agreement relating to the Bonds, by and between IRWD and _____, inclusive of the letter of credit described therein, is hereby approved in the form on file with the Secretary upon adoption of this resolution, and the President and Secretary of IRWD are authorized and directed to execute it in such form, with such changes, insertions and deletions as are approved by, and on the date for closing and delivery established by, the Treasurer with the concurrence of the President of

IRWD, which approval will be conclusively evidenced by execution and delivery thereof. The form of the reimbursement agreement, inclusive of the letter of credit, as so executed and delivered is incorporated herein as of its date, by this reference.]

[Section 16. _____ is hereby selected as the initial remarketing agent for the Bonds. The remarketing agreement relating to the Bonds, by and between IRWD and _____, is hereby approved in the form on file with the Secretary upon adoption of this resolution, and the President and Secretary of IRWD are authorized and directed to execute it in such form, with such changes, insertions and deletions as are approved by, and on the date for closing and delivery established by, the Treasurer with the concurrence of the President of IRWD, which approval and concurrence will be conclusively evidenced by execution and delivery thereof. The form of the remarketing agreement relating to the Bonds, as so executed and delivered is incorporated herein as of its date, by this reference.]

[Section 17. When the Bonds shall be in an index tender mode, the Treasurer of the District is authorized for all tender periods to do or cause to be done any and all of the following, if and to the extent required or permitted by the Indenture: to require an unscheduled mandatory tender and establish the date thereof, to rescind an unscheduled mandatory tender, to determine the scheduled mandatory tender date and call protection date for each ensuing tender period, and on behalf of the District in connection with all of the foregoing to give, exercise, make and deliver any notices, directions, elections and requests required or permitted in the Indenture or remarketing agreement to be given, exercised, made or delivered by the District.]

Section 18. The President, the Treasurer, the Secretary and each other officer of IRWD, acting singly, be and each of them hereby is authorized and directed to execute and deliver any and all documents and instruments, and to do and cause to be done any and all acts and things necessary or proper for carrying out the transactions contemplated by this resolution, the Indenture, and the other documents and instruments approved or authorized by this resolution including, but not limited to, continuing disclosure agreements and any and all documents, instruments, acts and things necessary or proper for securing and maintaining a rating or ratings with respect to the Bonds.

Section 19. This resolution shall take effect immediately upon its adoption.

ADOPTED, SIGNED AND APPROVED this _____ day of _____, 2016.

President/Vice President
IRVINE RANCH WATER DISTRICT
and of the Board of Directors
thereof

Secretary/Assistant Secretary

IRVINE RANCH WATER DISTRICT
and of the Board of Directors
thereof

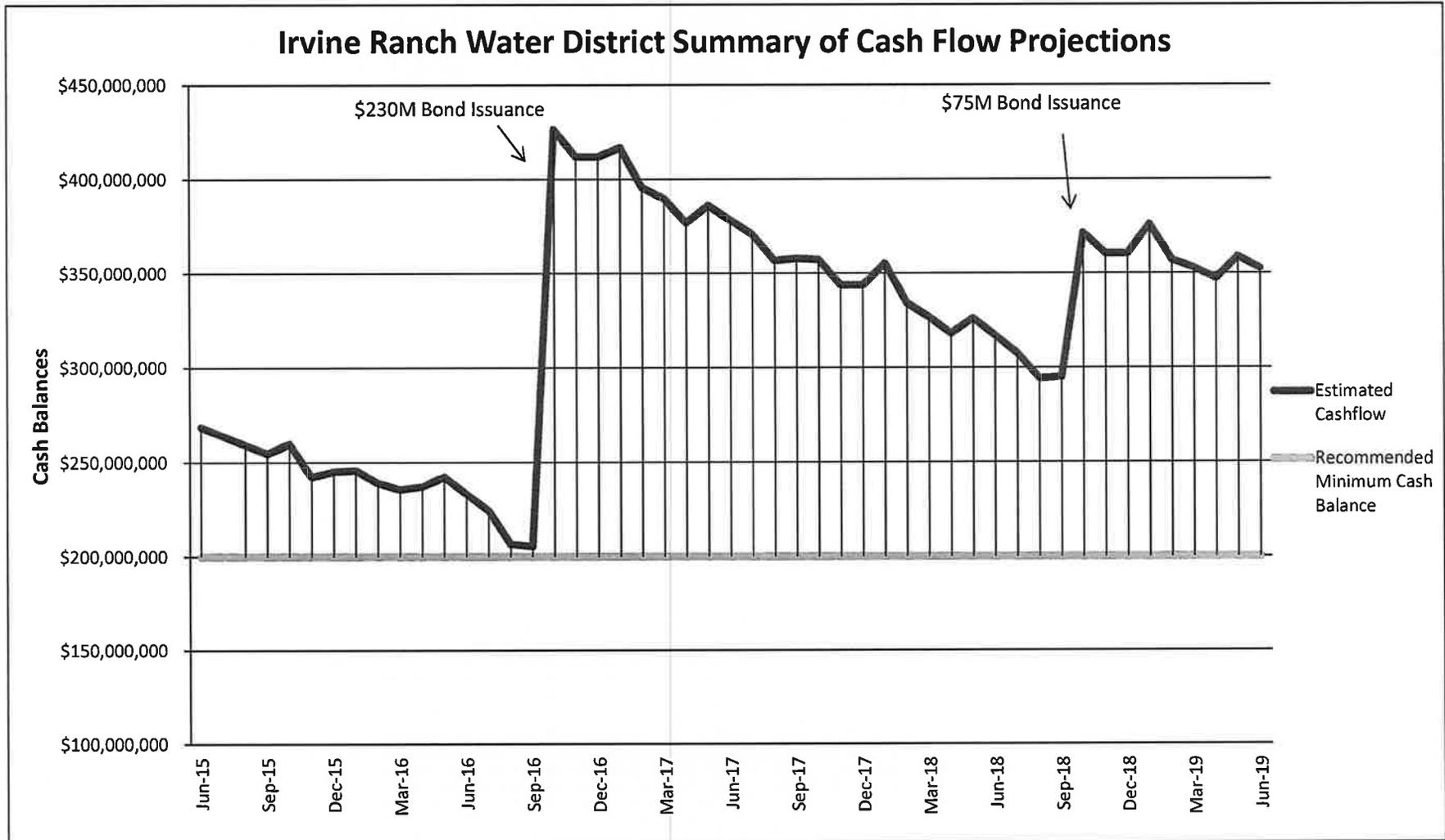
APPROVED AS TO FORM:

BOWIE, ARNESON,
WILES & GIANNONE
Legal Counsel - IRWD

By _____

BAWG/00191105/053116

Exhibit "B"



IRVINE RANCH WATER DISTRICT
Summary of Cash Flow Projections
FY 2016/2017 through FY 2018/2019

2016-2017	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	
BEGINNING BALANCE	<i>Estimated</i> \$224,514,442	\$206,528,066	\$205,392,327	\$426,470,398	\$412,092,423	\$412,092,423	\$416,857,463	\$395,548,816	\$389,841,087	\$376,842,381	\$386,147,377	\$378,417,291	
ENDING BALANCE		\$206,528,066	\$205,392,327	\$426,470,398	\$412,092,423	\$404,253,855	\$416,857,463	\$395,548,816	\$389,841,087	\$376,842,381	\$386,147,377	\$378,417,291	\$370,649,998
MONTHLY CHANGES	(\$17,986,376)	(\$1,135,739)	\$221,078,071	(\$14,377,975)	(\$7,838,567)	\$4,765,040	(\$21,308,647)	(\$5,707,729)	(\$12,998,706)	\$9,304,996	(\$7,730,086)	(\$7,767,293)	138,296,989
Notes Proposed Bond Issuance			230,000,000										

2017-2018	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	
BEGINNING BALANCE	\$370,649,998	\$356,907,361	\$357,908,442	\$357,353,660	\$343,604,624	\$343,604,624	\$355,264,150	\$333,932,087	\$326,669,681	\$317,835,403	\$326,054,834	\$316,724,136	
ENDING BALANCE		\$356,907,361	\$357,908,442	\$357,353,660	\$343,604,624	\$336,450,293	\$355,264,150	\$333,932,087	\$326,669,681	\$317,835,403	\$326,054,834	\$316,724,136	\$307,365,465
MONTHLY CHANGES	(\$13,742,637)	\$1,001,082	(\$554,783)	(\$13,749,036)	(\$7,154,331)	\$11,659,526	(\$21,332,063)	(\$7,262,406)	(\$8,834,278)	\$8,219,431	(\$9,330,698)	(\$9,358,671)	(70,438,865)
Notes Proposed Bond Issuance													

2018-2019	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	
BEGINNING BALANCE	\$307,365,465	\$294,130,491	\$294,857,948	\$371,346,603	\$360,461,236	\$360,461,236	\$375,998,047	\$357,069,111	\$352,795,316	\$347,068,224	\$358,821,462	\$352,558,820	
ENDING BALANCE		\$294,130,491	\$294,857,948	\$371,346,603	\$360,461,236	\$356,424,328	\$375,998,047	\$357,069,111	\$352,795,316	\$347,068,224	\$358,821,462	\$352,558,820	\$346,385,491
MONTHLY CHANGES	(\$13,234,974)	\$727,458	\$76,488,654	(\$10,885,367)	(\$4,036,908)	\$15,536,811	(\$18,928,936)	(\$4,273,795)	(\$5,727,092)	\$11,753,239	(\$6,262,643)	(\$6,173,329)	34,983,119
Notes Proposed Bond Issuance			75,000,000										

Assumptions:

Revenue does not include sale of Serrano Summit

Debt service assumes \$130 million ad valorem assessment bonds and \$100 million COPS issued in FY 2016-2017 & \$75 Million ad valorem assessment bonds FY 2018-2019

Exhibit "C"

Irvine Ranch Water District Schedule of Eligible Project Reimbursements

MONTH	FY 2013-2014	FY 2014-2015	FY 2015-2016
July	129,150 ⁽¹⁾	2,459,109	2,330,572
August	465,106 ⁽¹⁾	3,496,998	3,471,530
September	2,468,520	1,769,635	2,537,131
October	1,178,783	11,228,693	7,874,038
November	1,711,864	5,182,641	6,536,008
December	3,193,402	9,041,334	12,201,009
January	1,431,225	6,557,447	2,113,906
February	4,792,013	5,679,783	7,280,469
March	1,851,060	7,415,425	4,601,350
April	2,569,416	7,209,251	5,240,096
May	2,999,847	5,848,755	5,417,284 ⁽²⁾
June	8,255,983	12,986,662	5,417,284 ⁽²⁾
Total	30,452,114	78,875,734	65,020,677
Eligible Reimbursements To Date			174,348,525

⁽¹⁾ Expenditures no longer available for reimbursement

⁽²⁾ Estimate Based on FY 15/16 Ten Month Average

Exhibit "D"

IRVINE RANCH WATER DISTRICT
SUMMARY OF EXPENDITURES BY IMPROVEMENT DISTRICT
May 31, 2016

General Obligation Bonds

ID	GO Authorization	Eligible Reimbursements Through April 2016	Estimated Additional Expenditures Through August 2016	Total Estimated Reimbursable Expenditures
112	\$22,772,300	\$2,405,892	\$233,868	\$2,639,760
113	10,969,500	1,573,060	319,398	1,892,458
125	322,089,640	17,910,274	2,452,797	20,363,071
153	237,300,000	8,223,438	900,799	9,124,237
154	4,839,000	163,777	21,933	185,710
185	13,500,000	1,657,185	266,297	1,923,482
188	3,736,990	160,002	23,974	183,976
212	93,011,800	10,579,686	1,474,133	12,053,819
213	63,847,500	4,612,955	390,730	5,003,685
225	406,894,840	45,783,385	5,978,766	51,762,151
240	68,796,530	1,379,322	225,196	1,604,518
253	122,283,000	12,849,900	1,661,097	14,510,997
285	21,300,000	1,618,644	299,990	1,918,634
288	8,677,000	151,456	20,156	171,612
Total	\$1,400,018,100	\$109,068,976	\$14,269,134	\$123,338,110
Contingency				\$6,099,565
Estimated Cost of Issuance ⁽¹⁾				\$562,325
Total Estimated Bond Issue				\$130,000,000

(1) Assumes \$130 million par bond amount of bonds issued

Certificates of Participation

Eligible Reimbursements Through April 2016	Potential Biosolids Expenditures between May 2016 and Project Completion	Contribution to Replacement Fund for Biosolids 2014-2017	Total Reimbursable Expenditures	Total COP Issuance
\$54,444,983	\$54,352,531	(\$11,100,000)	\$97,697,514	\$97,697,514
Contingency				1,801,469
Estimated Cost of Issuance ⁽¹⁾				\$501,017
Total Estimated COP's Issue				\$100,000,000

(1) Assumes \$100 million par COPs issued

Exhibit "E"
Proposed Underwriter Expenses

General Obligation Bonds (\$130 Million) ⁽¹⁾						
Underwriting Expenses	Goldman		(Recommended) Bank of America		(Recommended) Morgan Stanley	
	\$/Bond	Total	\$/Bond	Total	\$/Bond	Total
Fixed Rate ⁽²⁾	1.82	236,600.00	1.99	258,700.00	1.99	258,700.00
Variable Rate ⁽²⁾	0.74	96,200.00	1.04	135,200.00	1.54	200,200.00

Certificate of Participation (\$100 Million) ⁽¹⁾						
Underwriting Expenses	(Recommended) Goldman		Bank of America		Morgan Stanley	
	\$/Bond	Total	\$/Bond	Total	\$/Bond	Total
Fixed Rate ⁽³⁾	2.07	207,000.00	2.24	224,000.00	2.24	224,000.00

(1) Assumes 30 yr Level Debt

(2) Assumes \$0.29 for other fees

(3) Assumes \$0.54 for other fees

June 27, 2016

Prepared by: T. Lynch/J. Moeder/R. Mori

Submitted by: K. Burton *K.B.*

Approved by: Paul Cook *P. Cook*

ACTION CALENDAR

SANTIAGO HILLS II ZONE 5 TO 6 AND ZONE C+ TO E PUMP STATIONS AND ZONE 6 RESERVOIR CONSULTANT SELECTIONS

SUMMARY:

The Irvine Community Development Company (ICDC) is currently developing the Santiago Hills II (SHII) development located in the City of Orange, along Santiago Canyon Road between the 261 Toll Road and Jamboree Road. ICDC completed the Sub Area Master Plan (SAMP) update for SHII, which identifies the need for a new Zone 5 to 6 domestic water and Zone C+ to E recycled water pump stations and a Zone 6 domestic water reservoir to serve the development. Staff is proceeding with the engineering design of the pump stations and reservoir under two separate Professional Services Agreements. Staff solicited proposals from five engineering firms for the design of the proposed pump stations and from four engineering firms for the design of the proposed reservoir. Staff recommends that the Board:

- Authorize the General Manager to execute a Professional Services Agreement with Lee & Ro in the amount of \$538,869 for engineering services for the Zone 5 to 6 and Zone C+ to E Pump Stations, Projects 7136 and 7139, and
- Authorize the General Manager to execute a Professional Services Agreement with Kleinfelder in the amount of \$480,057 for engineering services for the Zone 6 Reservoir, Project 7138.

BACKGROUND:

The SHII development, which is divided into a northern and southern section by Santiago Canyon Road, consists of approximately 200 acres of low to medium density residential units and over 200 acres of open space and landscaped areas. The SHII SAMP describes various IRWD infrastructure improvements required to serve the new development domestic and recycled water including domestic water and recycled water pump stations and a domestic water reservoir.

The proposed Zone 5 to 6 and Zone C+ to E pump stations, which will be located next to the existing Zone 5 to 8 pump station on Santiago Canyon Road, will supply domestic water and recycled water to the SHII community. The proposed Zone 5 to 6 domestic water pump station will supply the proposed 2.4 million gallon (MG) Zone 6 domestic water reservoir that will serve the northern section of the development and after reducing pressure through a pressure reducing valve, will serve the southern section. The proposed Zone C+ to E recycled water pump station will directly feed the entire SHII development through a closed-loop system.

To better manage the schedule for the design and construction of the SHII pump stations and reservoir improvements, staff divided the project into two components: (1) the SHII Zone 5 to 6 and Zone C+ to E Pump Stations Project and (2) the SH II Zone 6 Reservoir Project. The design

and construction of the two projects will progress simultaneously with completion anticipated in Summer 2018.

Consultant Selection – Pump Stations:

Staff received proposals for design of the SH II Zone 5 to 6 and Zone C+ to E Pump Stations Project from Arcadis, GHD, Lee & Ro, and Stantec. CDM Smith declined to submit. Lee & Ro's proposal presented the most relevant overall pump station experience and a detailed understanding of the complexity and issues associated with the project. Lee & Ro's proposal demonstrated a solid understanding of the coordination required with other projects in the vicinity and presented a thorough understanding of the system hydraulics. The staff proposed for Lee & Ro's design team, which includes subconsultants, have successfully completed previous pump station projects including the recently completed Hidden Canyon Booster Pump Station Project, which is very similar to the proposed SHII pump stations. A copy of the proposal ranking matrix is attached as Exhibit "A".

Lee & Ro's proposed design fee is \$538,869. The construction phase services are not included in the scope of work and will be negotiated at the end of the design phase when the project is fully defined. A copy of Lee & Ro's scope of work and fee proposal is attached as Exhibit "B".

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$538,869 with Lee & Ro since its design approach, schedule, and staff hours are consistent with the project goals.

Consultant Selection – Reservoir:

Staff received proposals for design of the SHII Zone 6 Reservoir Project from Kleinfelder and Tetra Tech. AECOM and HDR declined to submit. Kleinfelder's proposal presented an excellent understanding of the project and staff capable of meeting the demanding design schedule. Kleinfelder recently completed the design of the ILP North Conversion Reservoir project and is familiar with the Santiago Hills development and parties involved. Kleinfelder has recent experience coordinating with the Irvine Company on the ILP North Conversion project that will prove beneficial for the proposed reservoir project. A copy of the proposal ranking matrix is attached as Exhibit "C".

Kleinfelder's proposed design fee is \$480,057. The construction phase services are not included in the scope of work and will be negotiated at the end of the design phase when the project is fully defined. A copy of Kleinfelder's scope of work and fee proposal is attached as Exhibit "D".

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$480,057 with Kleinfelder since its design approach, schedule, and staff hours are consistent with the project goals.

FISCAL IMPACTS:

The Santiago Hills Zone 5 to 6 pump station, Zone C+ to E pump station, and Zone 6 Reservoir Projects, Project 7136, 7139, and 7138, respectively, are included in the FY 2016-17 Capital Budget. The existing budgets are sufficient to fund engineering services.

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA). In compliance with CEQA, the California Public Resources Code Section 21000 et. seq., and per the California CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3, as lead agency, the City of Orange filed a Notice of Determination with the County of Orange on November 8, 2005. The City of Orange is preparing an Addendum to Santiago Hills Environmental Impact Report (EIR) to address changes in the development since certification, including the construction of the Santiago Hills II Zone 5 to 6 and Zone C+ to E Pump Station and Santiago Hills II Zone 6 Reservoir.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 21, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH LEE & RO IN THE AMOUNT OF \$538,869 FOR ENGINEERING SERVICES FOR THE SANTIAGO HILLS II ZONE 5 TO 6 AND ZONE C+ TO E PUMP STATIONS, PROJECT 7136 AND 7139, AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH KLEINFELDER IN THE AMOUNT OF \$480,057 FOR ENGINEERING SERVICES FOR THE SANTIAGO HILLS II ZONE 6 RESERVOIR, PROJECT 7138.

LIST OF EXHIBITS:

- Exhibit "A" – Consultant Selection Matrix for the SHII Zone 5 to 6 and Zone C+ to E Pump Stations Project
- Exhibit "B" – Lee & Ro's Scope of Work and Fee Proposal for the SHII Zone 5 to 6 and Zone C+ to E Pump Stations Project
- Exhibit "C" – Consultant Selection Matrix for the SHII Zone 6 Reservoir Project
- Exhibit "D" – Kleinfelder's Scope of Work and Fee Proposal for SHII Zone 6 Reservoir Project

EXHIBIT "A"

CONSULTANT SELECTION MATRIX

Santiago Hills II Zn 5 to 6 and Zn C+ to E Pump Stations										
Item	Description	Weights	Arcadis		GHD		Lee & Ro		Stantec	
A	<u>TECHNICAL APPROACH</u>									
1	Project Understanding	30%	4		3		1		2	
2	Project Approach	30%	4		3		2		1	
3	Project Team	40%	3		4		1		2	
	<u>Weighted Score</u>		3.6		3.4		1.3		1.7	
	Ranking of Consultants		4		3		1		2	
B	<u>SCOPE OF WORK</u>									
TASK			Task Hours	FEE	Task Hours	FEE	Task Hours	FEE	Task Hours	FEE
1	Project Management		241	\$52,972	250	\$56,098	384	\$68,704	274	\$55,890
2	Preliminary Design		740	\$136,720	644	\$140,355	1,086	\$205,106	536	\$116,647
3	Final Design		2,100	\$297,566	2,467	\$378,295	1,795	\$265,059	2,093	\$314,763
	TOTAL ENGINEERING SERVICES FEE		3,081	\$487,258	3,361	\$574,748	3,265	\$538,869	2,903	\$487,300
C	<u>OTHER</u>									
	Number of Drawings		83		86		88		84	
	Engineering Services Fee per Design Drawing		\$3,585		\$4,399		\$3,012		\$3,747	
	<u>Sub Consultants</u>									
	Electrical		In-House		In-House		In-House		In-House	
	Structural		In-House		In-House		In-House		In-House	
	Architectural		In-House		In-House		In-House		In-House	
	Geotech		Ninyo & Moore		NMG Geotechnical, Inc.		Ninyo & Moore		NMG Geotechnical, Inc.	
	Mechanical		In-House		In-House		In-House		In-House	
	Hydraulic Analysis/Pump Selection		In-House		Dennis Phinney Engineering		In-House		In-House	
	Survey		Borchard Surveying & Mapping		Bush and Associates		The Phizm Group		In-House	
	Surge		Flow Science		In-House		Flow Science		In-House	
	Potholing		Not Mentioned		Not Mentioned		SAF-R-DIG		C Below Potholing	
	Exceptions taken to IRWD Std. Contract		None		Yes		None		None	
	Insurance (Professional & General Liability)		Yes		Yes		Yes		Yes	



EXHIBIT "B"

Section 1: Approach & Scope of Work

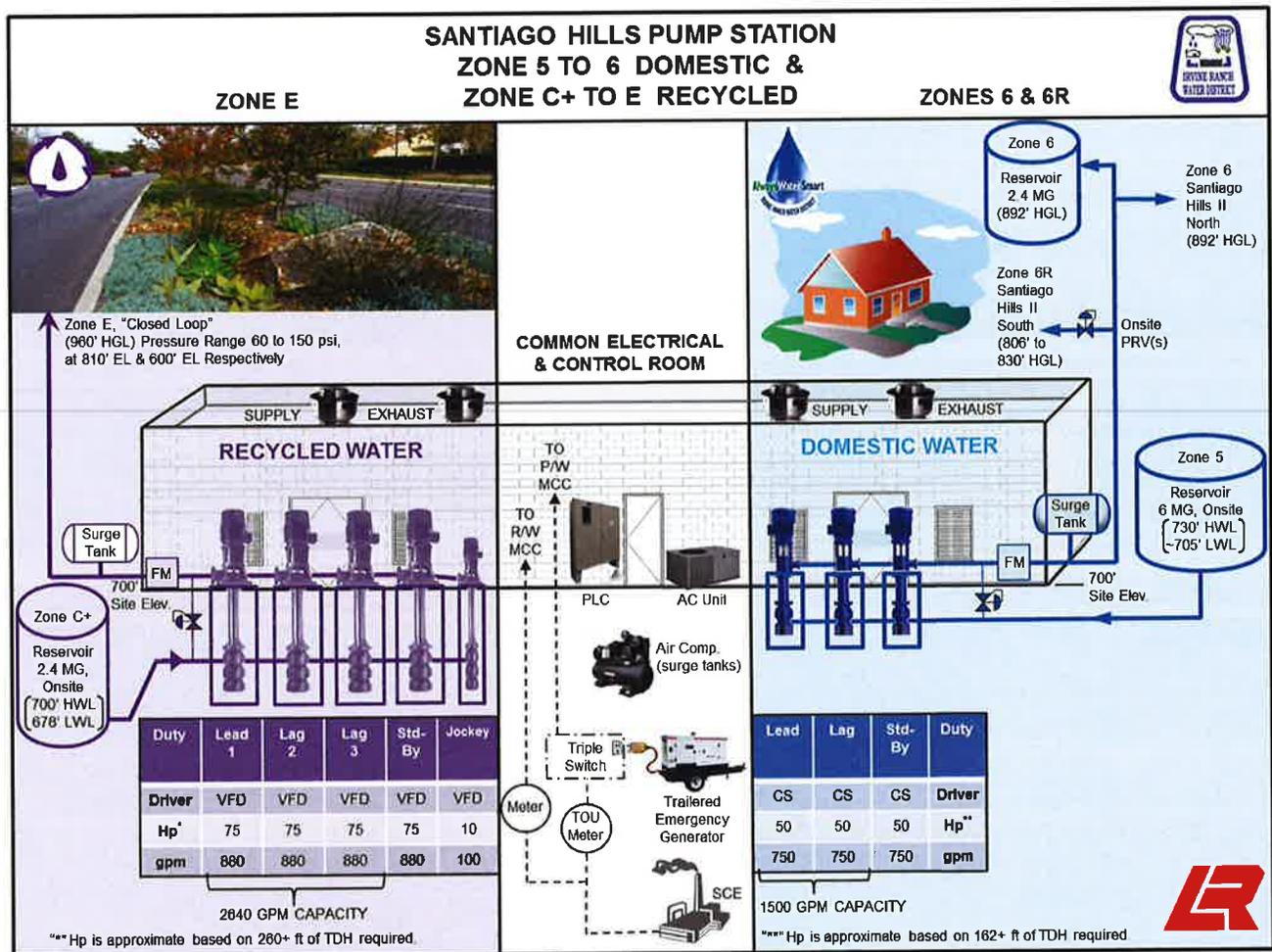
PROJECT UNDERSTANDING

The project consists of developing a domestic water and recycled water pump station to meet the needs for the Santiago Hills development. *Exhibit 1-1* summarizes the basic requirements for the Santiago Hills pump stations.

Summary of Domestic & Recycled Water Pump Stations:

- Domestic Water Zone 5 to 6 & 6R 1500 gpm rate to fill reservoir, (18 hr TOU)
- Recycled Water Zone C+ to E 2640 gpm peak 1hr demand, (Closed Loop)

Exhibit 1-1: Basic Requirements for the Pump Stations



LEE & RO takes no exceptions to the RFP, and our fee proposal breakdown (enclosed in a separate sealed envelope) includes all the scope items defined in the RFP. Our proposal herein, further explains and clarifies our understanding of the scope of work and approach methodology for a complete and successful project.



DESIGN APPROACH & SCOPE OF WORK

1.1 LESSONS LEARNED

At the beginning of the project, LEE & RO will request a meeting to go over previous projects to listen to feedback from Irvine Ranch Water District (IRWD) Staff and apply those lessons going forward on this project. We would first like to focus in on our past IRWD booster pump station (BPS) projects such as:



Hidden Canyon Zone 3 to 4 DW
and Zone B to C RW BPS

- Hidden Canyon Zone 3 to 4 DW and Zone B to C RW BPS
- Expansion of the Foothill Ranch Zone 6A BPS
- Turtle Rock Zone B+ BPS Modifications

Secondly, we would also like to go over other similar IRWD project designs by others. Many of the team member we present in this proposal worked on the three IRWD projects listed above. Eric Lovering, PE was the project manager for the three listed projects above, and will serve as the project manager for this project. Through productive feedback from IRWD we hope to have continued success working with IRWD to support their infrastructure engineering needs into the future.

1.2 PRELIMINARY DESIGN REPORT (PDR)

After the initial kickoff meetings, LEE & RO will proceed with the development of the Preliminary Design Report (PDR). The existing Sub Area Master Plan (SAMP) report has already sited the pump station location and basic parameters. Therefore, the first critical path item will be to determine and refine the system hydraulics and pumping arrangements. Per the *Exhibit 1-1* on the previous page, LEE & RO has already considered an initial setup. The station consists of a recycled and a potable water pump station. On the *Exhibit 1-2* on the following page, we have overlaid a scaled pump station onto the site. The pump station recycled water systems is shown in purple and pink, the potable domestic water is shown in light and dark blue, and the sanitary sewer and drain lines are shown in green. The schematic also shows a common electrical room to the right, and a bathroom and surge tanks on the left. We anticipate a building approximately 35' wide x 60' long will be required based on our initial assessment.

During the PDR we will develop (3) different alternatives for each pump station. We will explain and discuss the pros and cons of increasing or decreasing the number of pumps, the type of pumps such as a vertical turbine, and steep verses shallow pump curves. Project specific hydraulic and mechanical systems are further discussed on *Section 1.7, Hydraulics and Mechanical*.



Exhibit 1-2 Aerial of Pump Station Schematic Piping



After the system hydraulics are initially analyzed, the next major task shall be to determine the overall site arrangement and development. The site will be initially handed over as roughly graded at around the 700 foot elevation. We shall develop (3) three site plan alternative layouts. We will explain the pros and cons for each layout arrangement, and through IRWD workshops determine the final preferred layout. During this process, we will also refine the preferred alternative to a final 3D rendering for IRWD use.

We have developed an initial 3D rendering of the site to illustrate how the site may finally look when completed. We have also roughed out some of the anticipated future features that will be designed by others so we can better understand how our pump station will interplay with the surrounding features and neighborhood. These currently unbuilt site elements include:

- Santiago Canyon Rd widening
- 2:1 slope along Santiago Canyon Rd
- Zone C+ Reservoir, including site grading and roads
- Landscaping

We have inserted into our 3D model the new scaled pump station, pipeline schematic, rough paving, and site access. The three 11x17 exhibits presented on the following pages are rendered from three different angles. Note, due to lack of CAD files during the proposal, some terrain features are left to be interpolated by software and can be refined during the actual design phase. Also, we have overlaid some of the schematic piping on the surface to better illustrate the process piping.



Exhibit 1-3 South-East View





Exhibit 1-4 South-West View





Exhibit 1-5 North View





1.3 COORDINATION WITH OTHER PROJECTS

While developing the site arrangements, it will be critical to coordinate with other adjacent projects designed by others such as:

- Santiago Canyon Road widening
- Santiago Hills Reservoir Site Zone C+ Reservoir Site Plan and Horizontal Control Plan
- Santiago Hills II Development. This includes final design coordination for:
 - Zone E Recycled Water Forcemain Connection (near property line)
 - Zone 6R & 6R Domestic Water Forcemain Connection(s) (near property line)
 - Zone 5 Suction (Onsite)
 - Zone C+ Suction (Onsite)
 - Sanitary Sewer Connection
- Landscaping and Irrigation
- SCE Undergrounding of existing Zone 5-8 pump stations primary feed

In addition, we will coordinate with IRWD's Operations and Maintenance Staff to coordinate any constraints in keeping the Zone 5-8 pump station and RMS operational throughout. During the project meetings and ongoing correspondence with IRWD's project manager, we will fully coordinate all the projects critical path design interactions.

The above coordination items may put strain on the day-to-day schedule, but based on our previous work on IRWD pump station projects we will be able to anticipate changes, be nimble with our design approach, and bring any potential issues to the forefront to lessen any potential strain on the schedule. LEE and RO is committed to maintaining the overall schedule outlined in the PDR, and will make resource adjustments as necessary to maintain the schedule.

We will coordinate and update the project's schedule on a regular basis. One example of project scheduling coordination is when to send our surveyor to survey the site? We will need to coordinate with the, *Santiago Hills Reservoir Site Zone C+ Reservoir Site Plan and Horizontal Control Plan*, construction schedule. We will likely proceed with the PDR and 60% designs based on the As-built CAD files for the site. It would be preferred to survey the site in the As-built future condition to prevent any potential conflicts in the final design.

The *Santiago Hills Reservoir Site Zone C+ Reservoir Site Plan and Horizontal Control Plan*, is providing the majority of the site grading preparation, several pipeline stub-outs, and miscellaneous site improvements. During our design we will bring up to IRWD's project manager any potential impacts their design may have on our design and discuss potential construction addenda to provide overall cost effective solutions and prevent our project from having to undo any of their work. Some examples of potential items could be pipeline stub-up locations, roadway alignment, and site drainage. Regardless, we may need to create a few site demolition drawings to facilitate our project, which we have included in our preliminary drawing list.



1.4 CIVIL ENGINEERING AND DESIGN APPROACH

Through ongoing project coordination we will continuously develop and refine our civil layout and approach. We will review any existing Zone 5-8 pump station record drawings and include that research into our plans. Note, Zone 5-8 pump station record were not made available during the RFP.

LEE & RO's team includes several sub-consultants that are necessary for the civil design. Our sub-consultants include potholing, geotechnical engineering, and survey.

- **SAF-R-DIG FOR POTHOLING:** Since there is likely to be some uncertainty in Zone 5-8 as-builts, some of our potholing efforts will likely be focused in on those utilities. LEE & RO actively manages all of our sub-consultants, and we will prepare a potholing plan for the sub and IRWD's review. The RFP requested at minimum 4 potholes, but we have include up to 5 potholes in our fee proposal to account for unknown conditions.
- **NINYO & MOORE FOR GEOTECHNICAL ENGINEERING:** Due to the lack of differential height between the Zone C+ reservoir low-water-level of 678' and the new pump station grade elevation of 700', the recycled water vertical turbine pumps will require deep barrels. Also, we anticipate our borings to occur during the current site grading condition of 710', which is 10' higher than the final design. Thus, our boring will be drilled up to a depth of 40' below grade.
- **THE PRIZM GROUP FOR SURVEY:** We will coordinate the sequencing of survey with the other projects as previously discussed and in addition, we will survey the potholes locations.

The overall site layout needs to consider the constraints of the other projects. In addition, operations and maintenance personal support equipment such as a boom truck access needs to be considered. Note, the recycled water pump barrels will likely be 20' below finished grade. To lift the pumps IRWD will need a very large boom truck to get the ~20' of turbine pump, ~5 feet of motor, and clear ~15' of roof. The vehicle will need to boom out well over 40' to accomplish the lift.

Zone 6R, PRV will need to be clarified during the PDR phase for the civil layout. The RFP requests on onsite PRV for Zone 6R but the SAMP report shows offsite PRVs. This will be a critical path item to clarify if a single potable water pipeline will be leaving the station or two potable water pipeline will be leaving the site.

1.5 ELECTRICAL ENGINEERING AND DESIGN APPROACH

A common electrical room will house all the electrical equipment for the dual pump station. In addition, the systems will be controlled by a single PLC. The project will consist of a main service entrance switchboard, UPS, VFDs, dual MCCs, power panels, and lighting and receptacle loads. Portable generator switching will also be required.

The project is also requested to be setup with a time-of-use meter (TOU) from the utility (SCE). The TOU offers advantages of lower rates per KW during off-peak hours, but



then you typically pay above market rate for usage during on-peak hours. This scheme is great for the potable domestic water system that can pump during off-peak hours and fill the reservoir. A potential issue for this project, is that a recycled water pump will also require power, and is on a closed loop system which requires power throughout a 24 hour cycle. We will need to coordinate with SCE to determine if a dual meter is allowed for one site; a TOU meter for domestic water BPS and a normal meter for the recycled water BPS.

LEE & RO works with Southern California Edison (SCE) on a regular basis to support our client's needs. This project will require proactive coordination with SCE to insure a successful project. The undergrounding of the overhead utilities will also be coordinated.

ELECTRICAL CALCULATIONS: LEE & RO's main software for electrical calculations is ETAP. The following are routine electrical calculations performed by LEE & RO Licensed Staff:

- NEC Calculations
- Load Analysis
- Breaker Trip
- Trip Coordination
- Arc Flash
- Short-Circuit
- Lighting Luminosity
- Title 24 Calculations
- Cable Ampacity
- Equipment Ground
- Cable Pulling
- Electrical Heat Loads

DRAWING SHEETS: Every year LEE & RO's Electrical and I&C Department produces thousands of drawings encompassing many different types of electrical and I&C work. A Preliminary Project Drawing list is included in **Section 1.10**. Listed below are types of drawings LEE & RO routinely produces depending on the size and scope of the project.

- P&IDs
- Control
- Point-to-Point Wiring
- Loop Diagrams
- Lighting Schedules
- Title 24 Electrical
- Power Panels Schedules
- NFPA 820 Area
- Single-Line Diagrams
- Power & Control Plans
- Cable and Conduit Schedules
- MCC & Switchgear

ELECTRICAL DOCUMENTATION: Typical project technical documentation includes specification writing, development of control strategies, input/output PLC or Remote I/O lists, instrumentation set points and requirements, and HMI documentation. Our staff is familiar with relevant industry standards for electrical design including IEC, IEEE, NEMA, and ANSI.

1.6 INSTRUMENTATION AND CONTROLS (I&C) ENGINEERING DESIGN APPROACH

LEE & RO utilizes in-house staff for I&C system design. Our previous work with IRWD includes developing specifications for closed loop distribution systems, as is required for this project. Our I&C engineers work closely with the mechanical engineers from the very beginning of a project to develop closed loop systems that complement system



demand, pump curves, and rate of change responsiveness to non-steady state flow conditions. LEE & RO, (Eric as Project Manager) recently completed several closed loop systems for IRWD.

COMMISSIONING PLAN: Based on our past experience with IRWD development projects, we will write a specifications for closed loop testing onsite with temporary piping prior to connecting to the system.

The pump stations will also require telemetry via either a leased telephone line or tying into the existing SCADA antenna. LEE & RO will coordinate and make provisions for a complete and functional system.

1.7 HYDRAULICS AND MECHANICAL

The pump stations will likely utilize Vertical Turbine Pumps (VTPs) to meet the customer demands. LEE & RO routinely designs several pump station projects every year. Refer to our Pump Station Matrix and representative projects in *Section 3* showing selected LEE & RO pump stations. LEE & RO has successfully completed previous booster pump station projects for the District, such as:

- Hidden Canyon Zone 3 to 4 DW and Zone B to C RW BPS
- Expansion of the Foothill Ranch Zone 6A Booster Pump Station
- Turtle Rock Zone B+ Booster Pump Station Modifications

LEE & RO will utilize Flow Science to perform a hydraulic surge study to determine if surge tanks are required on the system(s).

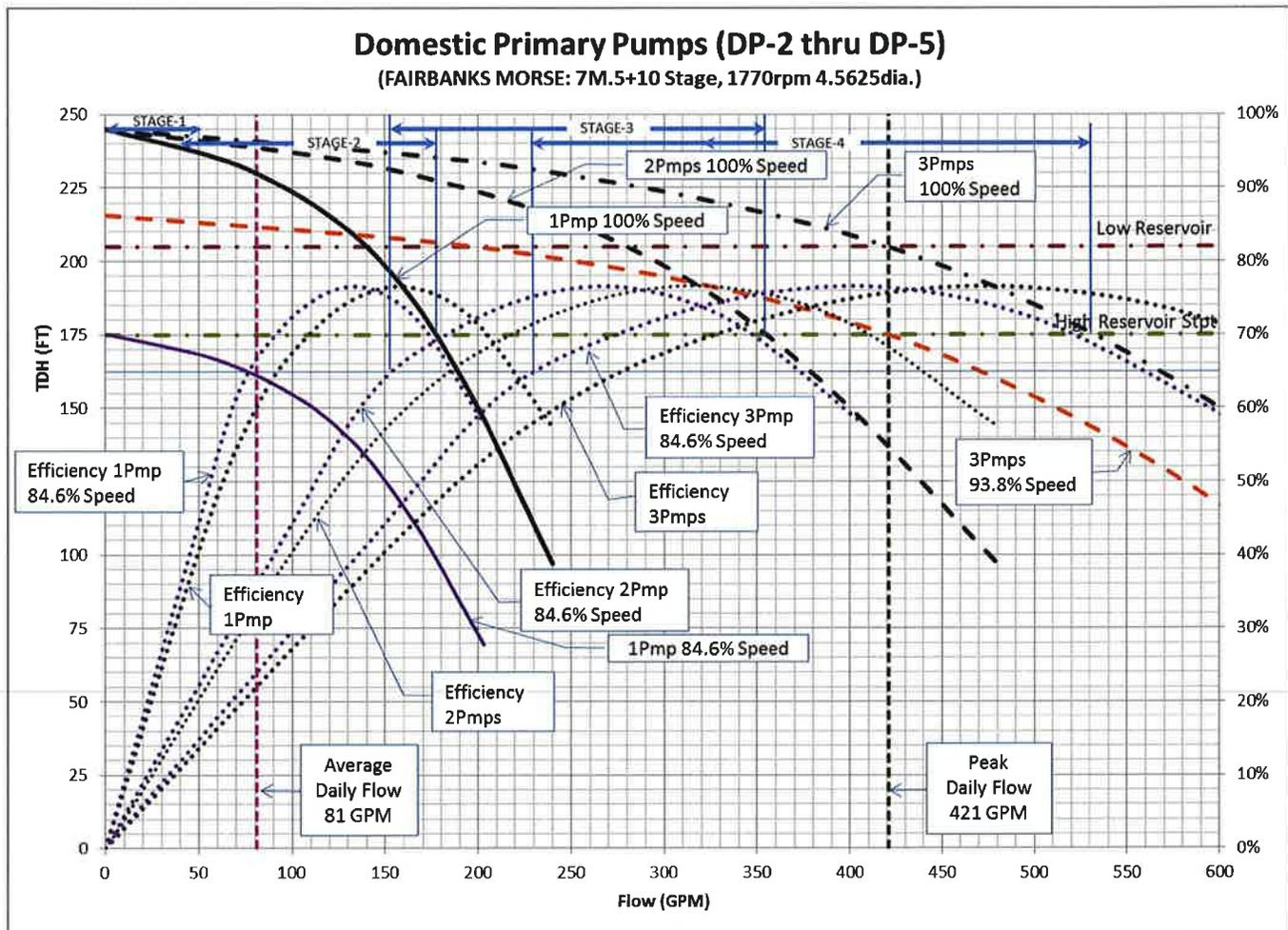
POTABLE DOMESTIC WATER PUMP STATION (ZONE 5 TO 6 & 6R): Based on our pump station experience and initial assessment of the SAMP report, the station will likely require three (3) 50 hp pumps, (2+1) configuration, 163+ TDH, pumps rated at 750 gpm/ea, with a total capacity of 1,500 gpm. Note, the reservoir Zone 6 fill pipeline is the same pipeline that distributes flows do the domestic water sources in Santiago Hills. As a result, during filling, the residence may see higher than anticipated pressures as outlined in the SAMP report. The SAMP report may need to add additional pressure regulators on homes several 10's of feet lower in elevation than called out for in their plan.

RECYCLED WATER PUMP STATION (ZONE C+ TO E): The pressure range and capacity for the recycled water system is significantly larger than the potable water pump station. The station will likely require four (4) 75 hp pumps, (3+1) configuration, a jockey pump, 260+ TDH, pumps rated at 880 gpm/ea, with a total capacity of 2,640 gpm. In addition, due to the lack of differential height between the Zone C+ reservoir low-water-level of 678' and the new pump station grade elevation of 700', the recycled water vertical turbine pumps will require deep barrels.

LEE & RO has worked with these SAMP reports on previous projects and knows how to coordinate the hydraulic requirements for a successful project. In *Exhibit 1-6*, we show typical pump curves LEE & RO developed for IRWD's Hidden Canyon Zone 3 to 4 DW and Zone B to C RW BPS.



Exhibit 1-6: LEE & RO
Representative Example of Closed Loop Pumping Requirements
(Hidden Canyon Zone 3 to 4 DW and Zone B to C RW BPS)



1.8 HVAC

The pump station will require an air conditioner for the electrical and controls room. All HVAC openings to the buildings will have wire mesh to mitigate floating embers from entering the building during an external fire and the pump stations will also be equipped with fire dampers to seal off the building from outside fire threats.

1.9 ARCHITECTURAL & STRUCTURAL

The project is along a major road and will sub-divide Santiago Hills residential neighborhoods. Sensible consideration shall be incorporated into the design so as not to be a nuisance to the surrounding neighbors. Our experienced in-house team of Structural Engineers and Architects routinely design CMU structures for our clients. Our architect will explore different colors and patterns of CMU blocks and roof colors and materials to



provide an aesthetically pleasing as well as functional building. The architect will also participate in the site development to assure the overall site has, “a campus feel”. The building will be constructed to meet the *Fire Protection Recommendations for New Construction*, per the latest *IRWD Facility Fire Protection Improvements* requirements.

1.10 DRAWING LISTS

LEE & RO has developed a preliminary list of drawings as indicated below in *Exhibit 1-7*. We estimate approximately 88 drawings will be required for this project.

Exhibit 1-7: Preliminary Drawing List

GENERAL		
SHEET	DWG #	DESCRIPTIONS
1	G-1	TITLE SHEET
2	G-2	LOCATION & VICINITY MAPS & DRAWING INDEX
3	G-3	GENERAL NOTES - 1
4	G-4	GENERAL NOTES - 2
5	G-5	SYMBOLS & ABBREVIATIONS
DEMOLITION		
6	D-1	SITE DEMOLITION PLAN
CIVIL		
7	C-1	YARD PIPING PLAN
8	C-2	PAVING AND GRADING PLAN
9	C-3	WALL AND SIGNAGE PLAN
10	C-4	CIVIL DETAILS - 1
11	C-5	CIVIL DETAILS - 2
12	C-6	CIVIL DETAILS - 3
ARCHITECTURAL		
13	A-1	ARCHITECTURAL ABBREVIATIONS, NOTES , & SCHEDULES
14	A-2	ARCHITECTURAL FLOOR PLAN
15	A-3	ARCHITECTURAL ROOF PLAN
16	A-4	ARCHITECTURAL ELEVATIONS - 1
17	A-5	ARCHITECTURAL ELEVATIONS - 2
18	A-6	ARCHITECTURAL DETAIL - 1
19	A-7	ARCHITECTURAL DETAIL - 2
STRUCTURAL		
20	S-1	STRUCTURAL ABBREVIATIONS & NOTES
21	S-2	STRUCTURAL FLOOR PLAN
22	S-3	STRUCTURAL ROOF FRAMING PLAN
23	S-4	STRUCTURAL - SURGE TANK FOUNDATION PLAN & DETAILS
24	S-5	STRUCTURAL SECTIONS - 1
25	S-6	STRUCTURAL SECTIONS - 2
26	S-7	STRUCTURAL DETAILS - 1
27	S-8	STRUCTURAL DETAILS - 2
28	S-9	STRUCTURAL DETAILS - 3
29	S-10	STRUCTURAL DETAILS - 4
30	S-11	STRUCTURAL DETAILS - 5
31	S-12	STRUCTURAL DETAILS - 6



MECHANICAL		
32	M-1	MECHANICAL MATERIALS LIST & GENERAL NOTES
33	M-2	MECHANICAL FLOOR PLAN
34	M-3	MECHANICAL SECTIONS - 1
35	M-4	MECHANICAL SECTIONS - 2
36	M-5	MECHANICAL SECTIONS - 3
37	M-6	SURGE TANK(S) PLAN
38	M-7	SURGE TANK(S) SECTION AND DETAILS
39	M-8	MECHANICAL DETAILS - 1
40	M-9	MECHANICAL DETAILS - 2
41	M-10	MECHANICAL DETAILS - 3
42	M-11	MECHANICAL DETAILS - 4
PLUMBING		
43	P-1	DRAINAGE PLAN
44	P-2	RESTROOM PLAN AND SECTIONS
HVAC		
45	HVAC-1	HVAC PLAN
46	HVAC-2	HVAC SCHEDULE
47	HVAC-3	HVAC DETAILS
ELECTRICAL		
48	E-1	ELECTRICAL SYMBOLS & ABBREVIATIONS
49	E-2	ELECTRICAL OVERALL SITE PLAN
50	E-3	ELECTRICAL ENLARGE SITE PLAN (SURGE TANK(S))
51	E-4	ELECTRICAL POWER PLAN
52	E-5	ELECTRICAL CONTROL AND SIGNAL PLAN
53	E-6	ELECTRICAL SINGLE LINE DIAGRAM
54	E-7	ELECTRICAL PANEL ELEVATIONS
55	E-8	ELECTRICAL CABLE AND CONDUIT SCHEDULE - 1
56	E-9	ELECTRICAL CABLE AND CONDUIT SCHEDULE - 2
57	E-10	ELECTRICAL GROUNDING & LIGHTING PLAN
58	E-11	ELECTRICAL LIGHTING SCHEDULE
59	E-12	ELECTRICAL DETAILS - 1
60	E-13	ELECTRICAL DETAILS - 2
61	E-14	CONTROL SCHEMATIC - VARIABLE SPEED PUMPS
62	E-15	CONTROL SCHEMATIC - CONSTANT SPEED PUMPS
63	E-16	CONTROL SCHEMATIC - VENTILATION FANS
64	E-17	PLC PANEL LAYOUT
65	E-18	CONTROL PANEL POWER WIRING - 1
66	E-19	CONTROL PANEL POWER WIRING - 2
67	E-20	CONTROL PANEL I/O WIRING - 1
68	E-21	CONTROL PANEL I/O WIRING - 2
69	E-22	CONTROL PANEL I/O WIRING - 3
70	E-23	CONTROL PANEL I/O WIRING - 4
71	E-24	CONTROL PANEL I/O WIRING - 5
72	E-25	CONTROL PANEL I/O WIRING - 6
73	E-26	CONTROL PANEL I/O WIRING - 7
74	E-27	CONTROL PANEL I/O WIRING - 8



75	E-28	CONTROL PANEL I/O WIRING - 9
76	E-29	CONTROL PANEL I/O WIRING - 10
77	E-30	CONTROL PANEL I/O WIRING - 11
78	E-31	CONTROL PANEL I/O WIRING - 12
79	E-32	UPS PANEL POWER DISTRIBUTION AND CONTROLS
80	E-33	COMMUNICATION EQUIPMENT DETAILS
INSTRUMENTATION		
81	I-1	INSTRUMENTATION SYMBOLS & ABBREVIATIONS
82	I-2	PROCESS INSTRUMENTATION DIAGRAM - DOMESTIC WATER PUMPS
83	I-3	PROCESS INSTRUMENTATION DIAGRAM - RECYCLED WATER PUMPS
84	I-4	PROCESS INSTRUMENTATION DIAGRAM - PUMP STATION GENERAL
85	I-5	PROCESS INSTRUMENTATION DIAGRAM - SURGE TANK(S)
86	I-6	COMMUNICATION BLOCK DIAGRAM
87	I-7	INSTRUMENTATION DETAILS - 1
88	I-8	INSTRUMENTATION DETAILS - 2

1.11 PROBABLE CONSTRUCTION COSTS

LEE & RO recognizes that a dependable construction cost estimate is an essential tool for monitoring and evaluating project success. LEE & RO will make sure quantity take-offs are detailed, comprehensive, and complete. In addition, we will obtain current prices from vendors and contractors. The estimate will be a dynamic document, which will benefit from refinement during the course of the project to reflect the additional detail available as the design progresses.

LEE & RO will update construction cost estimates at each milestone. All cost estimates are developed using spreadsheets, facilitating regular updates. Any change in the estimated construction cost shall be discussed with the IRWD project manager.

1.12 STANDARDS

LEE & RO is familiar with, will comply with, and implement as necessary, the following IRWD publications as related to this project:

- IRWD Project Manual
- IRWD Construction Manual
 - IRWD's: General Technical Specifications
 - IRWD's: Standard Drawings
- IRWD's: Rules and Regulation for Water, Sewer, Recycled Water and Natural Treatment System, Service
- IRWD's: Procedural Guidelines and General Design Requirements, Development Services
- Electrical Standards
- Chapter 7 – Instrumentation and Control

1.13 MANAGEMENT APPROACH

Our Project Manager, Eric Lovering, PE, will be responsible for team communication and production of the deliverables. LEE & RO's project management approach includes:



- Preparation of a Work Plan including a project design schedule.
- Coordinate in-house design staff and subconsultants. An internal project team kickoff meeting will be conducted to ensure that all project team members are fully informed of the Work Plan, responsibilities, project coordination and reporting procedures.
- Develop and implement an Agency Coordination Plan to streamline agency communication to expedite permitting and other necessary stakeholder approvals.
- Weekly monitoring of the budget and schedule.
- Communicate potential project issues early with IRWD.
- Establish the QA/QC schedule early and perform QA/QC at the PDR, 60%, 90%, 100% and final submittal levels.

Eric Lovering will work closely with the all project team members to develop a clear understanding of the project deliverables prior to beginning production, highlighting the following areas:

- Quality Management Program
- Productive Communication
- Effective Cost Control

QUALITY MANAGEMENT. LEE & RO will implement a Quality Assurance and Quality Control (QA/QC) program throughout the project duration. A well-executed QA/QC program will significantly reduce costs and improve the quality of the project. Our QA/QC program will focus on three distinctive aspects: (1) production of high quality design documents, (2) effectively meeting the budgetary needs of IRWD, and (3) quality of services.

PROJECT-SPECIFIC QA/QC CHECK LISTS. Our Technical Advisors will develop a QA/QC Checklist that is a dynamic working document and is updated as the project progresses. The checklist includes items and ideas to validate key assumption criteria, correct common mistakes, deal with regulatory and code compliance issues, and verify coordination issues.

QA/QC ACTIVITIES PLANNING. QA/QC takes time and requires advance scheduling. QA/QC activities must be planned and budgeted at the outset of the project. We will plan our QA/QC activities so that the project can benefit from the experience of our senior QA/QC team members, through production of high quality deliverables and design documents.

INDEPENDENT QA/QC REVIEWS. QA/QC tasks will be performed by an independent team not participating in the day-to-day project activities. The QA/QC team will render unbiased perspectives, identify potential problems, and value-engineer project design elements. We recognize that decisions made early in a project's development phase have the greatest opportunity for cost savings and higher project quality. Our QA/QC reviews will start with the establishment of the project design criteria.

COMMUNICATION. The importance of proactive and frequent communication cannot be overemphasized. Successful communication among the LEE & RO team, the project owner (IRWD), all permit agencies, affected municipalities and communities where the project is located, and utility companies with facilities in the project's area will result in a



cost-effective project completed within budget and on schedule.

IRVINE RANCH WATER DISTRICT COMMUNICATION. Our project manager, Eric Lovering, will be the day-to-day point of contact for IRWD. Dhiru Patel, PE, Principal-in-Charge, will communicate with the IRWD's management staff, as necessary, to ensure that expectations are being met and that all work is progressing well. The Work Plan developed at the beginning of the project delineates the lines of communication for the entire project team and stakeholders.

LEE & RO TEAM COMMUNICATION. Project files will be maintained on our data servers, accessible from any office within our team or remotely via VPN, allowing for efficient sharing of project documents among all team members including subconsultants. We enjoy an excellent working relationship with our subconsultant team members. Because these team members all know one another, communication flows freely between them. Our subconsultants, in effect, work as an extension of LEE & RO staff.

THIRD PARTY COMMUNICATION. This project will require coordination between various stakeholders. Where the project involves coordination with any third party agency, LEE & RO will document correspondence and maintain decision logs for each. LEE & RO believes that meeting with stakeholders up front to determine their requirements and time frames is a key element to keeping the project on schedule and having the project ultimately become a success for all. LEE & RO's experience with similar and more complex projects involving many permit agencies will facilitate a smooth permit acquisition process.

PROJECT COST CONTROL. Effective management of design/engineering and construction budgets is critical to any project. LEE & RO monitors engineering costs weekly and proactively addresses issues to prevent budget shortfalls. Production of a project within the District's established construction budget is also critical to the project's success. LEE & RO reviews and monitors construction costs at each critical milestone submittal. If the costs projected by LEE & RO exceed the District's budget, LEE & RO will quickly bring the matter to the IRWD's attention and work with IRWD to develop a corrective action plan.

CONSTRUCTABILITY REVIEW AND VALUE ENGINEERING. Opportunities occur throughout the design process to enhance the design and potentially reduce costs. The LEE & RO team will be proactive in taking advantage of these opportunities by conducting value engineering of the design, and performing constructability reviews. These reviews help to identify and correct ambiguities and conflicts between the design documents thereby providing complete, comprehensive, and consistent information to bidding contractors. This process yields not only better designs, but also promotes better construction bids with fewer change orders, minimizes construction delays and project risk, at an ultimately less overall cost.

Exhibit 1: PROJECT BUDGET

Santiago Hills Zone 5 to 6 and Zone C+ to E Booster Pump Stations Project

TASK NO.	ENGINEERING CLASSIFICATIONS: E8 Managing Eng, E7 Supervising Eng, E6 Principal Eng, E5 Senior Eng, E3 Associate Engineer, T4 Designer, T3 Associate Designer, A2 Word Processor II (See Billing Rate Schedule for Entire Labor Classifications).	LEE & RO Hours per Labor Category							Total Hours	Labor Cost	Other Direct Costs (ODCs)	Subs	TOTAL FEES	
		E8	E7	E6	E5	E3	T4	T3						A2
		\$223	\$199	\$178	\$161	\$131	\$116	\$101						\$75
	PROJECT TASK DESCRIPTION									1.00				
1	Project Management													
1.A	Weekly / Monthly Status Reports	25				16			8	50	\$8,494		\$8,494	
1.B	Meetings and Workshops					24				48	\$8,496	\$300	\$8,796	
1.B.1	General Project Management and Design Development Meetings (RFP Specified 6 two-hour meetings)	24								10	\$1,310		\$1,310	
1.B.2	Site Visits (5 two-hour visits)					10				56	\$9,912	\$100	\$10,012	
1.B.3	Coordination Meetings with Agencies and Stakeholders (RFP Specified 7 two-hour meetings)					28				8	\$1,416	\$50	\$1,466	
1.B.4	Hydraulic Design and Pump Selection (RFP Specified 1 two-hour workshop)	4				4				8	\$1,416	\$50	\$1,466	
1.B.5	Site Master Plan (RFP Specified 1 two-hour workshop)	4				4				8	\$1,416	\$50	\$1,466	
1.B.6	Preliminary Design Workshop (RFP Specified 1 two-hour workshop)	4				4				8	\$1,416	\$50	\$1,466	
1.B.7	Present Draft PDR (RFP Specified 1 two-hour workshop)	4				4				8	\$1,416	\$50	\$1,466	
1.B.8	60% Design Review (RFP Specified 1 two-hour workshop)	4				4				8	\$1,416	\$50	\$1,466	
1.B.9	90% Design Review (RFP Specified 1 two-hour workshop)	4				4				8	\$1,416	\$50	\$1,466	
1.B.10	100% Design Review (RFP Specified 1 two-hour workshop)	4				4				8	\$1,416	\$50	\$1,466	
1.C	QA/QC	40	60	40					24	164	\$29,780	\$50	\$29,830	
	SUBTOTAL TASK 1 - PROJECT MANAGEMENT	146	60	40	0	106	0	0	32	384	\$67,904	\$800	\$68,704	
2	Preliminary Design													
2.A	Background Information	8		8		16				32	\$5,304		\$5,304	
2.B	Hydraulic Analysis and Pump Selection	40				20				60	\$11,540		\$11,540	
2.C	Site Master Plan	80		60		120	100	120		480	\$67,960		\$67,960	
2.D	Architectural Renderings	8		8		32	60			108	\$14,360		\$14,360	
2.E	Surge Study	2				4				6	\$970	\$14,585	\$15,555	
2.F	Geotechnical Investigation	2				4				6	\$970	\$16,729	\$17,699	
2.G	Grading Plan	2				32		40		74	\$8,678		\$8,678	
2.H	Electrical and Controls	8		40				60		108	\$14,964		\$14,964	
2.I	Topographic Mapping	2				4				6	\$970	\$8,867	\$9,837	
2.J	Permits				40					40	\$6,440	\$5,150	\$11,590	
2.K	Project Schedule	4			16					20	\$3,468		\$3,468	
2.L	Opinion of Probable Construction Cost	2	4	4	4	12				26	\$4,170		\$4,170	
2.M	Preliminary Design Report (PDR)	40		24		40			16	120	\$19,632	\$350	\$19,982	
	SUBTOTAL TASK 2 - PRELIMINARY DESIGN	198	4	144	60	284	160	220	16	1,086	\$159,426	\$5,500	\$40,180	
3	Final Design													
3.A	Project Manual	36		36		40			36	148	\$22,376		\$22,376	
3.B	Construction Plans	100		100		200	200	200		800	\$109,700		\$109,700	
3.C	Utility Research	4				16				20	\$2,988	\$4,200	\$7,188	
3.D	Electrical/Instrumentation	100		50	150		150	200		650	\$92,950		\$92,950	
3.E	SCE Final Service Plan	2	2		16					20	\$3,420		\$3,420	
3.F	Project Schedule	4			12					16	\$2,824		\$2,824	
3.G	Liquidated Damages Spreadsheet	2			4					6	\$1,090		\$1,090	
3.H	Opinion of Probable Construction Cost	4		4		12				20	\$3,176		\$3,176	
3.I	Final Design Deliverables					40				40	\$5,240	\$4,500	\$9,740	
3.J	Addenda Preparation and Pre-Bid Meeting	25		10		40				75	\$12,595		\$12,595	
	SUBTOTAL TASK 3 - FINAL DESIGN	277	2	200	182	348	350	400	36	1,795	\$256,359	\$4,500	\$4,200	
4	Construction Phase Services													
4.A	Project Meetings (14 two-hour construction meetings)	8				56				64	\$9,120		\$9,120	
4.B	Respond to RFI's from Contractor (70 RFI's) (Budget 3 hrs per RFI)	40	8	36	10	116				210	\$33,726		\$33,726	
4.C	Minor Plan Revisions (Budget of 40 hours)							40		40	\$4,040		\$4,040	
4.D	Site Visits (8 two-hour visits)	8			32					40	\$6,936		\$6,936	
4.E	Shop Drawing Review (120 total submittals, plus 60 additional resubmittals) (Budget 4 hrs per submittal)	80	20	60	80	480				720	\$108,260		\$108,260	
4.F	Prepare As-Built Record Drawings							40		40	\$4,040	\$1,000	\$5,040	
4.G	Energy Control Procedures and Asset Management (Budget \$10,000)				29	40			1	70	\$9,984	\$16	\$10,000	
	SUBTOTAL TASK 4 - CONSTRUCTION PHASE SERVICES	136	28	96	151	692	0	80	1	1,184	\$176,106	\$1,016	\$0	
	TOTAL NOT TO EXCEED	757	94	480	393	1430	510	700	85	4,449	\$ 659,795	\$ 11,816	\$ 44,380	

→ **\$538,869**

EXHIBIT "C"

CONSULTANT SELECTION MATRIX

Santiago Hills Zone 6 Domestic Water Reservoir						
Item	Description	Weights	Kleinfelder		Tetra Tech	
A TECHNICAL APPROACH						
1	Project Understanding	30%	1		2	
2	Project Approach	30%	1		2	
3	Project Team	40%	1		2	
	<u>Weighted Score</u>		1.0		2.0	
	Ranking of Consultants		1		2	
B SCOPE OF WORK						
TASK			Task Hours	FEE	Task Hours	FEE
1	Project Management		374	\$68,945	180	\$44,000
2	Preliminary Design		748	\$136,223	806	\$129,310
3	Final Design		1,456	\$244,146	1,982	\$290,000
	Subtotal		2,578	\$449,314	2,968	\$463,310
	Optional Geotechnical Investigation		106	\$30,743	-	-
	TOTAL ENGINEERING SERVICES FEE		2,684	\$480,057	2,968	\$463,310
C OTHER						
	Number of Drawings		63		76	
	Engineering Services Fee per Design Drawing		\$3,875		\$3,816	
	Sub Consultants					
	Electrical		Morales Pham & Associates		In-House	
	Structural		In-House		In-House	
	Mechanical		In-House		In-House	
	Survey		Bush & Associates Land Surveyors		In-House	
	Geotech		In-House		NMG Geotechnical	
	Cost/Constructability		In-House		In-House	
	Exceptions taken to IRWD Std. Contract		None		None	
	Insurance (Professional & General Liability)		Yes		Yes	

SCOPE OF SERVICES

After carefully reviewing the scope of services as presented in the RFP, we are proposing the following scope of services for the Santiago Hills Zone 6 Domestic Water Reservoir Project.

Task 1: Project Management

Kleinfelder's Project Manager, Laura Robinson, PE will oversee the project delivery and incorporate daily, weekly and monthly communication with IRWD. This communication will keep IRWD apprised of the project progress, as well as identify key coordination efforts required between the design team, IRWD, ICDC and the SHII developer. Laura will be actively involved in all phases of field investigation, design, preparation of deliverables, internal QA/QC, invoicing, preparation of meeting agendas and minutes, management of subconsultants, meeting contractual obligations, communications, and project closeout.

Once under contract, Kleinfelder will execute the work in accordance with the scope, schedule, and detailed work plan as appropriate. Early in the process we will work directly with IRWD's Project Manager to establish effective management tools like monthly general project management and design team meetings, Microsoft Project scheduling, resource allocation, progress reports, and budget tracking systems (project controls). We will also implement both internal and external quality control and quality assurance programs. Since these tools have been effective in our management of the Zone C+ Reservoir project, we are proposing to use the same tools and processes for the Zone 6 Reservoir project.

Kleinfelder employs a computerized project accounting system that provides our Project Manager accurate performance information required to effectively manage the project's scope, budget, and schedule. This system enables continuous forecasting and scheduling of staff resources, and allows for real-time feedback on project financial status for all team members and management. Specific project management activities will include:

- A. Preparation of Project Status Reports:** Our Project Manager will provide weekly and monthly status reports to IRWD throughout the project duration. Weekly status reports will follow the format established for the Zone C+ Reservoir project, and will include a brief report summarizing:

- Activities completed the previous week
- Activities planned for the upcoming week
- Critical decisions requiring resolution
- Potential scope and schedule impacts

Monthly status reports will provide comprehensive details of the overall project progress, including a summary of work completed to-date and a status review of current work relative to the overall project budget and schedule. An updated project schedule will also be included in the monthly status report.

- B. Meetings and Workshops:** Kleinfelder will organize, attend, and conduct meetings and workshops as required. For all meetings and workshops, Kleinfelder's project team will prepare and submit meeting agendas for IRWD's review and concurrence at least five days prior to the meeting. Following each meeting, Kleinfelder will prepare draft and final minutes for all meetings and workshops. Minutes will be submitted to IRWD within one week of the meeting and/or workshop.

Kleinfelder will plan and conduct a Kick-off Meeting. This meeting will be used to establish lines of communication, introduce the team and key IRWD personnel, and identify points-of-contact. While the RFP did not explicitly request this meeting, Kleinfelder encourages the scheduling of this meeting to outline project goals, delineate project deliverables, and verify the project deliverable schedule for a successful approach to the project. Conversely, we propose to combine the meetings for reviewing site layouts with the Preliminary Design Workshop. Since the site design is so closely tied to the function of the site, we believe that having separate meetings will be cumbersome and will slow the design progress. We will plan an agenda to facilitate this Workshop and will plan the meeting such that the appropriate District staff can attend the relevant portions of the meeting.

We anticipate that additional site visits may be necessary, especially as the final design advances, therefore we have budgeted for two additional site visits during final design. We anticipate holding design development meetings midway through the 60-, 90- and 100-percent phases to facilitate communication and resolve outstanding questions with IRWD's

1. SCOPE

Project Manager. These meetings will be informal and will be used primarily to introduce changes to the design.

For the progression of the design, our scope of services assumes the meeting frequency shown below. Design review workshops will be held at every

deliverable milestone, and coordination activities with key stakeholders is anticipated as noted in the preliminary meeting schedule listed below. Although not requested in the RFP, we have also included time to attend the Plan Signing meeting with IRWD.

TOTAL	MEETING/WORKSHOP DESCRIPTION
1	Project Kick-off Meeting (Two-hour Meeting)
4	General Project Management and Design Development Meetings (Two-hour Meeting)
4	Site Visits (Two-hour Meetings)
5	Coordination Activities with Jurisdictional Agencies and Project Stakeholders, including but not limited to: The Irvine Company and Southern California Edison (Two-hour Meetings)
1	Site Layouts / Preliminary Design Workshop (Three-hour workshop)
1	Present Draft Preliminary Design Report (Two-hour Meeting)
1	Present 60% Design/Discuss IRWD's Comments and Method to Address
1	Present 90% Design/Discuss IRWD's Comments and Method to Address
1	Present 100% Design/Discuss IRWD's Comments and Method to Address
1	Plan Signing

C. Quality Assurance/Quality Control (QA/QC)

Kleinfelder maintains an unyielding commitment to achieving industry-leading performance in quality and offer a proven, comprehensive internal QA/QC program that will be adopted and applied to this project. With the goal to deliver ongoing and consistent quality control throughout all project phases, the project team will benefit from **over 100 years of experience** in the waterworks industry of our Quality Peer Reviewers (QPR), Eric Ng, PE, SE, Daniel Smith, PE, and Larry Perko, PE, GE. A final draft of all deliverables will receive independent technical reviews by our QPRs, and internal review comments will be incorporated into all deliverables prior to submission to IRWD. Project deliverables will meet the standard of care of the profession, terms of the contract, IRWD's design standards, and any additional conditions set by the Project Manager.

Task 2: Preliminary Design

Kleinfelder will begin the design of this project with a thorough preliminary design phase. The subtasks described below were adopted from IRWD's RFP with additional details added related to Kleinfelder's approach. The results of the preliminary design phase will be documented and compiled into a Preliminary Design Report (PDR) detailed below.

A. **Background Information:** The Kleinfelder's project team will perform a comprehensive review of existing documents as necessary to effectively design the proposed improvements. Activities included in this task are:

- Review of Geotechnical Reports
- Verify Pipe Sizing/Materials
- Develop CAD Basefile and Project Drawing Structure
- Compile List of Information to Verify during Field Survey Activities

B. Site Layouts: Kleinfelder will develop detailed site layouts for the Zone 6 Reservoir site, including:

- Valve/Meter Vaults
- Overflow/Air Gap Facilities
- Electrical Transformers/Panels
- Maintenance Access and Roads
- Pipelines/Storm Drains
- Catch Basins
- Site Lighting
- Fencing/Motorized Gate
- Ancillary Facilities
- Valves/Blowoffs/Air-Vacs
- Area Reserved for Future Reservoir Management System (RMS)

Kleinfelder's project team will collaborate with IRWD to develop and evaluate three site master plan layouts. The access road study will include access road alternative analysis, alignment studies, road cross-sections, and drainage crossings. Each layout will include conceptual layouts for pipelines, including locations of valves, blowoffs, and air-vacs. Evaluation of pipe sizing and material selection will be integral to the site layout development.

The site layout alternatives will consider ways to minimize land acquisition and balancing cut and fill. The alternatives will consider site improvements to be completed by ICDC prior to construction of the reservoir, as well as additional site improvements that IRWD may construct in the future.

- **Future RMS Facility:** Kleinfelder will review IRWD's existing RMS facility designs to determine an appropriate footprint for future design at the Zone 6 facility. The site design effort will include an evaluation and recommendation of which, if any, components of the RMS facility should be designed and constructed as part of the Zone 6 Reservoir to facilitate installation in the future.

C. Santiago Hills Zone 6 Reservoir: It is anticipated that a partially buried cast-in-place prestressed concrete tank will be utilized for the reservoir. The reservoir will be designed for lateral seismic loads and hoop stresses created by static and dynamic water pressure according to the current AWWA D110 Type I design standard. The exposed face of the reservoir will be determined as part of the site layout and grading analysis.

The preliminary design will evaluate seismic requirements, performance, and ways to reduce concrete shrinkage and cracking, and will explore proposed reservoir features including overflow provisions, venting, interior column sizing and spacing, subgrade preparation, foundation and footing requirements, pipe penetrations, and an evaluation of the need for a reservoir sub-drain system. Reservoir appurtenances, including ladders, hatches, and guardrails will be included in the preliminary design assessment, as well as a reservoir mixing system and chlorine analyzer to manage and monitor the water quality in the reservoir. The mixing system may consist of a vortex, jet or propeller type mixing device.

Kleinfelder's project team will incorporate the reservoir design and details into the construction documents and will provide a full design specification for the tank as opposed to a performance specification.

D. Geotechnical Investigation: As described in our Approach, the following tasks can be selected individually or combined to facilitate alternative site design layouts.

- **Task 2.D:** Based on currently available information reviewed by Kleinfelder, we propose a geotechnical scope of work that maximizes the use of existing geotechnical data. Our scope will include:
 - ↳ A review of readily-available geotechnical and geologic data related to the development of the site and planned adjacent housing development.
 - ↳ A review of current proposed ICDC grading plans as they relate to the reservoir and access roadway and collaboration with the Kleinfelder design team to apply the geotechnical and geologic data to the selection of alternative reservoir site layouts.
 - ↳ One day of field geologic mapping to confirm conditions reported by NMG and LGC. Updating seismic design criteria provided by NMG and LGC for the site by application of the existing site specific geotechnical information.
 - ↳ Confirm safe excavation slopes by calculation.

↳ Complete a summary geotechnical report for the selected reservoir location and a letter that accepts the role of geotechnical engineer-of-record.

- **Task 2.D (Optional Services):** From our preliminary review, it appears that the chosen reservoir site does not capture the previous borings. To address this, we propose an optional task that includes drilling, logging, laboratory testing, and analysis of up to two boreholes at locations of reservoir that are not covered by existing explorations. The need to exercise this optional exploration would be assessed during the preliminary design stage of the project, after preferred alternatives are defined.

E. Grading Plan: Kleinfelder will develop grading concepts for the reservoir site, access road, pipelines, and any other ancillary facilities, incorporating any geotechnical issues and minimizing environmental and aesthetic impacts.

F. Electrical and Controls: Kleinfelder will develop electrical and controls design requirements associated with the proposed reservoir. The preliminary design will include an evaluation of the required power and controls systems improvements. Kleinfelder's project team will also identify power and control requirements specific to the security improvements.

G. Topographic Mapping: Kleinfelder's subconsultant, Bush & Associates, Inc., will conduct appropriate surveying for the proposed facilities and access road including, but not limited, to the following:

- ↳ Establish survey ground control for aerial mapping using NAD83 coordinates and NAVD88 county benchmark elevations,
- ↳ Provide contour mapping at 10 scale (1"=10') with 1-foot contours, and
- ↳ Field locate and add obscured surface features.

Bush & Associates, Inc. will establish horizontal and vertical control and provide topographic maps to be used in the construction drawings for the proposed facilities and to facilitate preparation of detailed plans.

An electronic copy of the topographic maps will be provided to IRWD. The majority of this item will be performed during the Preliminary Design phase of the project, topographic field checks and verification of specific features will be performed during final design site visits.

An optional service under this task would include location of the property line along the toll road right-of-way. This optional service is identified in the fee table.

H. Permitting: Kleinfelder will identify required permits and controlling agencies including required fees and anticipated permit processing times. The project team will begin to identify necessary permits as early as practical to avoid project delay. Copies of permit approvals completed during design will be inserted as an Appendix to the Project Manual. Permits required to be applied for by the Contractor will be drafted and included in the Appendix.

As noted in the RFP, IRWD anticipates that the project will require a Storm Water Pollution Prevention Program (SWPPP). Kleinfelder will determine the risk level for the project and prepare the SWPPP accordingly. Kleinfelder will serve as the Qualified SWPPP Developer (QSD) and IRWD will assign a Legally Responsible Party (LRP). It is expected that the required monitoring and reporting will be assigned to the Contractor as the Qualified SWPPP Practitioner (QSP) as part of the construction contract.

Kleinfelder has included a \$5,000 allowance for necessary permit fees to be reimbursed by IRWD with no surcharge. This allowance is in addition to the necessary labor effort described above. We anticipate that this allowance will be used to cover fees for the SCE Final Service Plan. In addition, we expect that the Contractor will need to obtain a transportation permit for dirt hauling within the City of Orange.

I. Project Schedule: Kleinfelder will develop a project schedule in Microsoft Project including detailed schedules for both design and construction activities. The schedule will incorporate critical factors affecting the project schedule including implementation, permitting,

and coordination activities to ensure that the project is completed in accordance with the proposed schedule.

J. Opinion of Probable Construction Cost:

Kleinfelder will develop a detailed and itemized opinion of probable construction cost (OPCC) for the proposed facilities for submittal with the preliminary design. The OPCC will include items to match the proposed bid form.

K. Preliminary Design Report (PDR):

Kleinfelder will compile the results of the preliminary design task into a PDR. The PDR will summarize the results of the subtasks identified above along with additional design criteria identified by the engineer during the preliminary design. Kleinfelder will provide a draft PDR for discussion and review by IRWD. Upon receipt of comments and incorporating information discussed during design development meetings, Kleinfelder will finalize the PDR for resubmission to IRWD prior to proceeding with the 60 percent design.

SUBTASK 2-K DELIVERABLES

- **Draft PDR:**
 - Ten (10) Hard Copies
 - One (1) PDF Electronic Copy on CD
- **Final PDR:**
 - Ten (10) Hard Copies
 - One (1) PDF Electronic Copy on CD

Task 3: Final Design

After submission and acceptance of the Final PDR, Kleinfelder will commence the Final Design phase, including preparation of construction documents as described below.

A. Project Manual: Kleinfelder will prepare a Project Manual in IRWD's standard format. The project team will update the front-end documents (Divisions 0 and 1) as appropriate, and will examine IRWD's standard documents to determine if additional supplemental general/special provisions are necessary to comply with IRWD's general provisions and front-end requirements. The Project Manual will describe the

allowable shutdown durations and sequencing associated with connections and tie-ins to existing IRWD facilities. The project team will identify relevant IRWD General Technical Specifications, develop modifications to standard specifications as needed, and provide other project specific technical specifications.

B. Construction Plans: Kleinfelder will prepare detailed construction drawings incorporating comments from the preliminary design provided by IRWD. The Construction Plans will be prepared in the latest version of AutoCAD and using NCS V4.0 layering standards, on 22-inch x 34-inch sheets utilizing IRWD's standard border template. Kleinfelder will develop general design plans to identify sheet index/location map/legend, general notes, index map, construction notes, condensed profiles, phasing, and detail connections. The index map will include a sheet legend, final access road alignment, valve locations, surrounding streets, and significant project site locations. Existing IRWD utilities will be identified on the plan view by as-built plan set number with the pipeline material and IRWD pressure zone labeled. Construction plans will be prepared using the NAVD 88 and NAD 83 survey standards.

Construction notes will be used on all construction drawings (no callouts).

For the purposes of this proposal, it is assumed that approximately 63 sheets will be necessary, as detailed below. Final design calculations will be submitted at the 100% completion level. The team's QA/QC engineer will perform a Quality Peer Review prior to submitting each design submittal to IRWD.

DRAWINGS LIST

- G-1 Cover Sheet
- G-2 Sheet Index, Project Key Plan/Index and Vicinity Map
- G-3 General Notes
- G-4 Project Design Criteria, Legend, Abbreviations, Symbols
- G-5 Construction Phasing/Storage and Mobilization
- C-1 Civil/Site Notes
- C-2 Site Layout and Horizontal Control Plan
- C-3 Excavation Grading Plan
- C-4 Grading Plan
- C-5 Excavation Grading Section
- C-6 Access Road Plan and Profile I
- C-7 Access Road Plan and Profile II
- C-8 Pipeline Plan and Profile I
- C-9 Pipeline Plan and Profile II
- C-10 Sewer Pipeline Plan and Profile I
- C-11 Sewer Pipeline Plan and Profile II
- C-12 Reservoir Top Plan
- C-13 Final Grading Plan
- C-14 Grading Sections
- C-15 Site Drainage Plan
- C-16 Civil Details I
- C-17 Civil Details II
- C-18 Civil Details III
- C-19 Civil Details IV
- C-20 Reservoir Details
- C-21 Reservoir Inlet/Outlet Vault Details
- C-22 Reservoir Overflow Details
- C-23 Reservoir SubDrain/Drain Details
- C-24 Interior Ladder and Roof Hatch Details
- EC-1 Erosion control Plan for Construction Grading
- M-1 Mechanical – Flow Control and Metering Facility Modifications
- M-2 Mechanical Details I
- M-3 Mechanical Details II
- M-4 Mechanical Details III
- M-5 Mechanical Details IV
- S-1 Structural Notes
- S-2 Structural Foundation Plan
- S-3 Structural Roof Framing Plan
- S-4 Structural Reservoir Section
- S-5 Structural Stair Sections and Details
- S-6 Structural Typical Details
- S-7 Structural Wall and Wall Footing Details
- S-8 Structural Roof Reinforcing Details
- S-9 Structural Details I
- S-10 Structural Details II
- S-11 Structural Details III
- S-12 Structural Roof Slab Reinforcing
- S-13 Structural Sump Plan and Sections
- S-14 Structural Valve Vault Plan and Sections
- E-1 Standard Symbols and Abbreviations
- E-2 Electrical Site Plan - Santiago Hills Zone 6 Reservoir
- E-3 Santiago Hills Zone 6 Reservoir Area Plans I
- E-4 Santiago Hills Zone 6 Reservoir Area Plans II
- E-5 Schedules
- E-6 Electrical Details I
- E-7 Electrical Details II
- E-8 Electrical Details III
- E-9 PLC 1
- E-10 PLC 2
- E-11 PLC 3
- E-12 PLC 4
- I-1 P&ID Standard Symbols and Abbreviations
- I-2 P&ID Santiago Hills Zone 6 Reservoir

- C. Reference Drawing Research:** In addition to the existing information, grading plans, and utility drawings provided with the RFP, Kleinfelder will review existing information from utility companies and identify the location of existing underground utilities and/or other physical features in the immediate vicinity of the proposed facilities and appurtenances. Information on utilities including material, size, horizontal, and vertical locations will be identified.
- D. Electrical/Instrumentation:** Our subconsultant, Moraes/Pham & Associates (MPA), will prepare an operational scheme including process and instrumentation diagrams (P&IDs), single line diagrams, PLC loop drawings, control equipment list, and method of integrating the proposed facilities into IRWD's existing SCADA system. Prior to this process, Kleinfelder will meet with IRWD electrical/automation staff in order to incorporate their standard operations, PLC, SCADA, and equipment tagging requirements into the design. MPA will develop and provide the operational scheme and functional descriptions (in plain English) for IRWD review and approval. See listing of Electrical and Instrumentation plans above.
- E. SCE Final Service Plan:** Kleinfelder will coordinate with Southern California Electric (SCE) early in the design process to develop a Final Service Plan. The Plan will be included in the Appendix of the Project Manual. Kleinfelder will communicate project requirements, address comments from SCE, and implement requirements into the project design.
- F. Project Schedule:** Kleinfelder's Project Manager, Laura Robinson, will maintain and consistently update the project schedule developed during the preliminary design phase. The schedule will include both design and construction activities, and will include critical factors impacting the project schedule including implementation, permitting and coordination activities to support delivery of the project within the schedule provided in the RFP. A copy of the schedule will accompany the monthly progress reports as described in Task 1.
- G. Liquidated Damages Spreadsheet:** Kleinfelder will calculate the liquidated damages value for the construction project, should the contract time be exceeded. IRWD's standard liquidated damages form will be utilized.
- H. Opinion of Probable Construction Costs (OPCC):** Through the advancement of the 60-, 90- and 100-percent design as well as the final submittal, the team will update the OPCC developed during the preliminary design phase for review by IRWD. The respective OPCC will accompany the appropriate Final Design deliverables described in Item I. below.
- I. Final Design Deliverables:** The Final Design deliverables, in addition to the meetings to present each of these submittals, will include:
- **60% Submittal:** Design drawings will include civil/site design, reservoir plans and sections, mechanical, structural, electrical, and P&ID plans. The plans will show basic mechanical equipment, as well as structural and architectural layouts. Horizontal pipeline alignments and preliminary profiles will demonstrate the proposed pipeline design, as well as mapping of existing utilities. The submittal will also include the Table of Contents for the Project Manual.
 - **90% Submittal:** The design drawings will be updated to include concepts of each component of the design such as civil, structural, architectural, mechanical, electrical, and instrumentation. The plans will show plan, profile, connections, and location of appurtenances. Pipeline plan and profile and mechanical details will be developed to a high level of detail. The submittal will include color coded copies of all sections of the Project Manual, including contract documents, general provisions, special provisions, general requirements, technical specifications, and appendices.

60 % DELIVERABLES

- **60% Design Plans:**
 - Ten (10) 11x17 Hard Copies
 - One (1) PDF Electronic Copy on CD
- **Project Manual:**
 - Table of Contents

90 % DELIVERABLES

- **90% Design Plans:**
 - Ten (10) Hard Copies
 - One (1) PDF Electronic Copy on CD
- **Project Manual:**
 - Three (3) Color Coded Hard Copies

- **100% Submittal:** The 100 percent submittal will include complete plans and specifications and a notebook with the design calculations (including, but not limited to: mechanical, civil, structural, electrical, pipe thickness, and restraint). The submittal will include color coded copies of all sections of the Project Manual, including contract documents, general provisions, special provisions, general requirements, technical specifications, and appendices.

100 % DELIVERABLES

- **100% Design Plans:**
 - Ten (10) Hard Copies
 - All CAD Files for Entire Plan Set
 - One (1) PDF electronic copy on CD
- **Project Manual:**
 - Three (3) Color Coded Hard Copies
- **Design Calculation Notebook:**
 - One (1) Hard Copy

- **Final Submittal:** Kleinfelder will address any remaining comments from IRWD on the 100% submittal and will prepare the contract documents for bidding. The submittal will include one set of stamped and signed reproducible plans on mylar and original signed Project Manual for IRWD's signatures. Kleinfelder will attend the plan signing meeting to answer any remaining questions.

FINAL DELIVERABLES

- **Final Design Plans:**
 - One (1) Set Stamped and Signed Reproducible Plans on Mylar
- **Project Manual:**
 - One (1) Original Signed Hard Copy

- J. **Addenda Preparation and Pre-bid Meeting:** During the bidding period, Kleinfelder will assist with providing information and clarification of bid documents to prospective bidders and prepare up to three addenda. Addenda preparation activities will include:
- **Plan Revisions:** Kleinfelder has budgeted 10 hours for a Project Engineer to complete revisions to the construction drawings, as needed.
 - **Specification Revisions:** Kleinfelder has budgeted 10 hours for a Project Engineer to complete specification revisions or additions, as needed.
 - **Bidder Questions:** Kleinfelder has budgeted 15 hours for the Project Manager and Project Engineer to address and respond to bidder questions, as needed.
 - **Pre-Bid Meeting:** Kleinfelder will assist in conducting one (two-hour duration) pre-bid meeting, including a site visit with potential bidding contractors. Kleinfelder will provide agendas, exhibits, sign-in sheet, and prepare minutes for the meeting.

Task 4: Construction Phase Services

- A. **Project Meetings:** Kleinfelder will schedule and conduct a total of fourteen project progress meetings during the construction period, and will prepare agenda and meeting minutes. Each meeting is assumed to be two hours in duration. One of the Project Meetings will be a Pre-Construction Meeting with the Contractor to set expectations for construction, communicate design intent, and establish a strong working relationship.

B. Contractor's Request for Information: Kleinfelder will review and respond to the Contractor's Requests for Information (RFI), up to a maximum of fifty RFIs.

C. Minor Plan Revisions: Depending on field conditions, the project team is prepared to perform minor plan revisions during construction. This task includes a maximum of twenty-five hours of staff time for minor plan revisions to the construction drawings, as needed.

D. Site Visits: Kleinfelder will perform up to eight visits to the site (two-hour duration) to observe the progress and quality of the executed work of the Contractor. Site visits will be scheduled to coincide with project meetings to maximize team efficiencies and minimize travel time.

E. Shop Drawing Reviews: Kleinfelder will provide an initial review of up to eighty shop drawing submittals. It is anticipated that a second review will be performed for forty shop drawings to verify comments from the initial submittal are addressed. Approximately two hours per initial shop drawing review, and one hour for subsequent reviews is included.

F. Record Drawings: Kleinfelder will prepare record drawings on 22-inch by 34-inch mylars at the completion of construction using IRWD-approved Contractor's and IRWD Inspector's redlines. Final record drawing mylars, reissued signed mylars (as needed), AutoCAD electronic files, and a single color PDF of the final as-built mylars will be submitted to IRWD on CD at the completion of construction.

G. Energy Control Procedures and Asset Management: Kleinfelder will prepare Energy Control Procedures (ECP's) in accordance with California Occupational Safety and Health (Cal/OSHA) requirements for all equipment and operations that may store potential energy. The project team will prepare an inventory of new equipment utilizing IRWD's asset management parent/child spreadsheet format. This task includes a budget of \$6,000 as requested in the RFP.

ASSUMPTIONS

- Rough grading of the site and access roadway will be performed by the developer's grading contractor. Kleinfelder will prepare an interim grading plan for use by ICDC.
- Fill that will be placed will be compacted in a manner to minimize settlements and will be graded using non-expansive materials within several feet of depth below the proposed roadway surface.
- The design effort includes minor retaining walls (less than five feet) for equipment pads, however, requirements for taller retaining wall (greater than five feet) requiring detailed structural design and geotechnical analysis are not included in this scope.
- The conclusions presented in the 2002 NMG and 2016 LGC reports remain valid and the site is geotechnically suitable for the proposed construction.
- Geologic observations by Kleinfelder will confirm the formations and bedding orientations identified in the vicinity of the reservoir by NMG and LGC.
- At least one of the borings by NMG or LGC will fall within the limits of the chosen site of the proposed reservoir, otherwise additional borings will be required.
- If optional geotechnical subsurface investigation is required, boring locations can be accessed with truck-mounted drilling equipment. Specialized equipment (track-mounted or hillside drilling rigs) are not included in the optional scope.
- Construction observation during rough grading of the access roadway is not included in our scope of work.

IRVINE RANCH WATER DISTRICT
Engineering Services for the Santiago Hills Zone 6 Domestic Water Reservoir Project

TASKS	PROJECT ROLE	Project Manager	Assistant Project Manager	QA/QC	Civil Engineer	Structural Engineer	Project Engineer	Staff Engineer II	Geotechnical Engineer	Geotechnical Manager	Drafter	Structural Drafter	Word Processor	Clerical	Geotechnical Project Engineer	Geotechnical Staff Engineer	TOTAL HRS	TOTAL TASK FEE	MORAES PHAM	BUSH & ASSOCIATES	DRILLING	ODCs	TOTAL	% of Total project Cost	
	STAFF	Laura	Christina	Dan/Eric/Bart	Bob	Matt	Ari/Rachel	Jason	Brian	Larry	Mark	Soo May	Carmen												
HOURLY RATE	170.00	165.00	205.00	160.00	145.00	145.00	135.00	180.00	215.00	90.00	135.00	70.00	70.00	145.00	135.00										
TASK 1 PROJECT MANAGEMENT																									
SUBTASK A: Preparation of project status reports	24	50		10			10										74	\$12,330					\$12,330	12.72%	
SUBTASK B: Meetings and workshops	80	100															200	\$33,150	\$2,205			\$2,160	\$37,515		
SUBTASK C: Quality Assurance / Quality Control	40		60														100	\$19,100					\$19,100		
SUBTOTAL	144	150	60	10	0	0	10	0	0	0	0	0	0	0	0	0	374	\$64,580	\$2,205	\$0	\$0	\$2,160	\$68,945		
TASK 2 PRELIMINARY DESIGN																									
A. Background Information	4	4		4			4										20	\$3,280					\$3,280	24.60%	
B. Site Layouts	12	16		22			24	55			20						149	\$20,905					\$20,905		
C. Santiago Hills Zone 6 Reservoir	6	20	4			10					20						62	\$9,630					\$9,630		
D. Geotechnical Investigation, Confirm Geotechnical Data									23	23	12			7	40	28	133	\$20,235				\$181	\$20,416		
E. Grading Plan	10	8		16				40			16						90	\$12,420					\$12,420		
F. Electrical and Controls	12	8															20	\$3,360					\$3,360		
G. Topographic Mapping	12	8															20	\$3,360		\$14,910			\$18,270		
H. Permits	4	4					10	30									48	\$6,840				\$5,000	\$11,840		
I. Project Schedule	2	6					20	6									30	\$4,560					\$4,560		
J. Opinion of Probable Construction Cost	4	4	2				18	6									32	\$4,880					\$4,880		
K. Preliminary Design Report	10	20	2	6	16	50	12	6		16	20	6	7	40	28		144	\$20,500	\$2,822			\$400	\$23,722		
SUBTOTAL	78	100	8	48	28	124	143	33	23	84	20	6	7	40	28		748	\$109,970	\$2,822	\$14,910	\$0	\$5,581	\$133,283		
TASK 3 FINAL DESIGN																									
A. Project Manual	12	24	8	16	76		16						15				167	\$24,550					\$24,550	45.60%	
B. Construction Plans	50	60	8	56	100	80	140	16		120	100						730	\$101,180					\$101,180		
C. Reference Drawings Research	2	8			8		8										34	\$5,060					\$5,060		
D. Electrical/Instrumentation	10	6					8										26	\$4,100	\$33,339				\$37,439		
E. SCE Final Service Plan	4	8				24	16			8							60	\$8,360	\$1,607				\$9,967		
F. Project Schedule	4	8				20											32	\$4,900					\$4,900		
G. Liquidated Damages Spreadsheet	2	4															6	\$1,000					\$1,000		
H. Opinion of Probable Construction Cost		12				36	12										60	\$8,820					\$8,820		
I. Final Design Deliverables	24	48		8	30	30	40	8		50	20	15					273	\$37,070				\$4,050	\$41,120		
J. Addenda and Pre-Bid Meeting	10	16	8	76	160	288	232	44	0	186	120	30	0	0	0		68	\$10,110					\$10,110		
SUBTOTAL	118	196	8	76	160	288	232	44	0	186	120	30	0	0	0		1456	\$205,150	\$34,946	\$0	\$0	\$4,050	\$244,146		
TASK 4: CONSTRUCTION PHASE SERVICES																									
A. Project Meetings	30	70					7						14				114	\$17,630	\$1,103			\$1,512	\$20,245	17.82%	
B. Contractor's Request For Information	25	50		6			6			6							100	\$16,815	\$735				\$17,550		
C. Minor Plan Revisions	8	16					12			8	5						25	\$3,015	\$1,602				\$4,617		
D. Site Visits	15	25		15	25	50		10									24	\$4,000	\$1,470				\$5,470		
E. Shop Drawing Reviews	4	16				20	40			20	20						140	\$21,780	\$2,688				\$24,438		
F. Record Drawings	10	20				6							2				120	\$16,120	\$2,027				\$18,147		
G. Energy Control Procedures and Asset Management	92	197	0	21	25	82	59	10	0	34	25	16	0	0	0		38	\$6,010					\$6,010		
SUBTOTAL	197	397	0	21	25	82	59	10	0	34	25	16	0	0	0		561	\$84,340	\$9,625	\$0	\$0	\$1,512	\$95,477		
Total Hours	432	643	76	155	211	502	434	87	23	284	165	52	7	40	28		3139								
TOTAL LABOR AND DIRECT COSTS	\$ 73,440.00	\$ 106,095.00	\$ 16,580.00	\$ 24,800.00	\$ 30,895.00	\$ 72,790.00	\$ 58,590.00	\$ 15,860.00	\$ 4,945.00	\$ 25,560.00	\$ 22,275.00	\$ 3,840.00	\$ 490.00	\$ 5,900.00	\$ 3,790.00		\$484,040	\$49,598	\$14,910	\$0	\$12,303	\$541,851	100.00%		
% of Total Project Cost	13.55%	19.58%	2.88%	4.58%	5.66%	13.43%	10.81%	2.89%	0.91%	4.72%	4.11%	0.87%	0.09%	1.07%	0.70%				9.15%	2.75%	0.00%	2.48%	100%		
TASK 2.D: OPTIONAL GEOTECHNICAL SERVICES																									
I. Subsurface Investigations								7	14	6			3	20	56		106	\$15,480				\$12,600	\$2,663	\$30,743	
SUBTOTAL	0	0	0	0	0	0	0	7	14	6	0	0	3	20	56		106	\$15,480				\$12,600	\$2,663	\$30,743	
TASK 6: OPTIONAL SURVEYING SERVICES																									
A. Optional Survey																	0	\$0		\$2,940			\$2,940		

Note: Subconsultant totals include a 5% markup.

\$480,057 ←

June 27, 2016

Prepared by: S. Toland/R. Mori

Submitted by: K. Burton *K.B.*

Approved by: Paul Cook *P. Cook*

ACTION CALENDAR

BAKER WATER TREATMENT PLANT CONTRACT CHANGE ORDER AND CONSULTANT VARIANCES

SUMMARY:

PCL Construction is constructing the Baker Water Treatment Plant (Baker WTP), which is about 90 percent complete. The project, which was originally scheduled for completion in April 2016, has experienced various delays and is now scheduled for completion in November 2016. Staff and PCL negotiated a contract change order to extend the completion date and as a result of the schedule extension, variances to the construction management consultant contracts are required. Staff recommends that the Board:

- Approve Contract Change Order No. 20 in the amount of \$631,372 and a contract time extension of 216 calendar days with PCL Construction for the Baker Water Treatment Plant;
- Authorize the General Manager to execute Variance No. 2 in the amount of \$501,600 with Carollo Engineers for additional engineering support services;
- Authorize the General Manager to execute Variance No. 2 in the amount of \$416,813 with HDR for additional construction support services;
- Authorize the General Manager to execute Variance No. 1 in the amount of \$204,290 with Jacobs Project Management Company for additional construction support services; and
- Authorize the General Manager to execute Variance No. 1 in the amount of \$116,885 with Arcadis U.S. for additional construction support services;

BACKGROUND:

The Baker WTP is a regional project that will produce up to 28 million gallons per day (43.5 cubic feet per second) of drinking water. The source water for this facility will be untreated imported water from Metropolitan Water District of Southern California (MWD) and local water from Irvine Lake. Project participants include El Toro Water District, Moulton Niguel Water District, Santa Margarita Water District, Trabuco Canyon Water District, and IRWD. The Baker WTP will utilize microfiltration and ultraviolet disinfection as the primary treatment processes. The project also includes the construction of Raw Water Conveyance Facilities (RWCF) that will be used to pump water from Irvine Lake to the Baker WTP. These facilities will provide an operational source of supply and, in the event of short-term water shortage emergencies, will enhance water reliability for the project participants. Construction of both projects commenced in January 2014.

Contract Change Order No. 20:

Staff and PCL completed negotiations for Contract Change Order No. 20, attached as Exhibit "A", which contains several construction-related items and a contract time extension. The majority of the total cost of the change order is associated with two items including a negotiated settlement with PCL relative to all schedule delay impacts and any potential associated costs encountered during construction of the project to date, and building structural steel framing modifications. The balance of the change order consists of a variety of other items associated with changes necessary to provide for complete and functional systems in accordance with District standards which staff have confirmed are necessary.

During construction of the project, multiple construction issues have been encountered that have impacted completion of the project in accordance with the original schedule. To date, PCL has submitted two separate notices of owner-caused delays with each containing a request for additional contract time and compensation associated with extended overhead costs. The first notice of delay, associated with delays related to electrical work in the treatment building, requested a contract time extension of 78 calendar days and compensation of \$842,638. The second notice of delay, associated with building structural steel design issues, requested a contract time extension of 56 calendar days and compensation of \$594,424. Staff and the District's construction management consultants evaluated the notices and replied that PCL's justifications for the owner-caused delays were without merit. After several written correspondences and meetings between staff and PCL, it was agreed to elevate the discussions beyond the field management teams of both IRWD and PCL to attempt to resolve the dispute without further impacting the construction progress. Following these discussions and negotiations, the mutually agreed upon resolution includes a schedule extension of 216 calendar days and compensation to PCL in the amount of \$395,000 in exchange for an all-inclusive settlement for all supplemental, indirect, consequential, cumulative costs and delays, including extended overhead costs, associated with all impacts resulting from schedule delays from the date of the Notice of Award through June 8, 2016. The agreed upon time extension exceeds the additional time formally requested by PCL in the two notices of delay because the time extension also accounts for shared project delays associated with other construction issues that are not solely attributable to either PCL or IRWD.

The second largest component of the change order is for building structural steel framing modifications. During the course of submittal review and inspection of the partially erected building structures, the engineer of record noted that required roof decking support members and required framing for roof penetrations were not being provided as required per the drawings and technical specifications. PCL disagreed with the engineer's assertion and claimed that the additional support members and framing were not explicitly identified on the structural drawings and the technical specifications, and therefore, those items were not accounted for in PCL's bid. Staff reviewed the issue and determined that the drawings and specifications, while showing some portions of the disputed work, could have been more explicit and more closely coordinated to convey the requirements. Staff confirmed that the additional support members and framing were required, and as such, agreed to compensate the contractor for the direct costs associated with this work.

Staff reviewed this change order and recommends approval in the amount of \$631,372 and an additional 216 calendar days for a completion date of November 18, 2016. A complete summary of project change orders to date is presented as Exhibit "B".

In accordance with the Baker WTP Agreement, Baker Project Committee approval of the contract change order is required. The Baker Project Committee verbally concurred with the change order including the settlement and contract time extension at its June 9, 2016 meeting. The El Toro Water District Board formally approved the change order June 23, 2016, and the other partner agencies are currently in the process of obtaining formal approval of the change order from their respective Boards.

Consultant Variances:

The construction management (CM) team consists of a combination of IRWD staff and consultants including Carollo Engineers, HDR, Jacobs, and Arcadis. Carollo Engineers, with various subconsultants, is providing engineering services during the construction phase and is scoped to provide various post-construction phase services during the first year of plant operation to verify plant performance criteria. HDR, Jacobs, and Arcadis are providing various construction management support services including engineering support, construction inspection, schedule review/support, and the project document control system. The initial Professional Service Agreements (PSA) with each consultant were budgeted through April 2016 which corresponded with the original project completion date of April 5, 2016.

To continue providing construction management support services through the extended project duration, variances to each consultant PSA are required. Each variance will provide additional scope and budget to maintain the onsite presence of the CM Team through the November 18, 2016 project completion date. Staff also requested each consultant to include a contingency budget for an additional two months of CM support services should the project extend beyond the revised completion date. The contingency budget will be held in reserve and will only be used upon receipt of written authorization from IRWD.

Staff reviewed the variances, which are attached as Exhibits "C", "D", "E", and "F" respectively, and recommends approval of:

- Variance No. 2 to Carollo Engineers in the amount of \$501,600
- Variance No. 2 to HDR in the amount of \$416,813
- Variance No. 1 to Jacobs in the amount of \$204,290
- Variance No. 1 to Arcadis in the amount of \$116,885

In accordance with the Baker WTP Agreement, Baker Project Committee approval of the variances is required. The Baker Project Committee verbally concurred with the need for the variances, including the contingency budget, at its June 9, 2016 meeting. The El Toro Water District Board formally approved the variances June 23, 2016, and the other partner agencies are currently in the process of obtaining formal approval of the variances from their respective Boards.

FISCAL IMPACTS:

Project 5027 is included in the FY 2015-16 Capital Budget. The existing budget and Expenditure Authorization are sufficient to fund the requested variances summarized herein.

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA) and an Environmental Impact Report (EIR) was prepared in conformance with California Code of Regulations Title 14, Chapter 3, Article 7. The Final EIR was certified and adopted by the Board in April 2011. Addenda No. 1 and No. 2 to the EIR were prepared in accordance with Section 15164 of the CEQA Guidelines and were approved by the Board in February 2012, and March 2013, respectively.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 21, 2016.

RECOMMENDATION:

THAT THE BOARD APPROVE CONTRACT CHANGE ORDER NO. 20 IN THE AMOUNT OF \$631,372 AND A CONTRACT TIME EXTENSION OF 216 CALENDAR DAYS WITH PCL CONSTRUCTION; AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 2 IN THE AMOUNT OF \$501,600 WITH CAROLLO ENGINEERS FOR ADDITIONAL ENGINEERING SUPPORT SERVICES; AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 2, IN THE AMOUNT OF \$416,813 WITH HDR FOR ADDITIONAL CONSTRUCTION SUPPORT SERVICES; AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 1 IN THE AMOUNT OF \$204,290 WITH JACOBS PROJECT MANAGEMENT COMPANY FOR ADDITIONAL CONSTRUCTION SUPPORT SERVICES; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 1 IN THE AMOUNT OF \$116,885 WITH ARCADIS U.S. FOR ADDITIONAL CONSTRUCTION SUPPORT SERVICES FOR THE BAKER WATER TREATMENT PLANT, PROJECT 5027.

LIST OF EXHIBITS:

- Exhibit "A" – Contract Change Order No. 20
- Exhibit "B" – Contract Change Order Summary
- Exhibit "C" – Carollo Engineers Variance No. 2
- Exhibit "D" – HDR Variance No. 2
- Exhibit "E" – Jacobs Variance No. 1
- Exhibit "F" – Arcadis Variance No. 1

EXHIBIT "A"

CONTRACT CHANGE ORDER

IRVINE RANCH WATER DISTRICT
 15600 Sand Canyon Avenue
 Irvine, California 92619
 (949) 453-5300



C.O. No. 20
 Final

Project No. 11747(5027)

Baker WTP
 Project Title

06/27/16
 Date

THE FOLLOWING CHANGE TO CONTRACT, DRAWINGS AND SPECIFICATIONS IS PROPOSED.	\$ ADDITIONS	\$ DELETIONS	DAYS ±
<u>CR-041:</u> Modification of the utility water and potable water piping in the MF Feed Pump Station and Treatment Building.	\$9,976.00	\$0.00	0
<u>CR-086r2:</u> Additional lighting at the membrane rack area.	\$22,509.00	\$0.00	0
<u>CR-091:</u> Revision to the chemical designations for the sodium hypochlorite and sodium hydroxide systems including pipe, equipment, and instrument labeling and SCADA programming and graphics where applicable.	\$7,391.00	\$0.00	0
<u>CR-108:</u> Modification of grating platform along the south wall of the CIP area.	\$9,038.00	\$0.00	0
<u>CR-111:</u> Modifications to the chemical batch tank control panels.	\$8,368.00	\$0.00	0
<u>CR-113:</u> Increased conductor sizes in conduit 8002P.	\$15,378.00	\$0.00	0
<u>CR-118:</u> Addition of water hammer arrestors on boiler piping.	\$4,471.00	\$0.00	0
<u>CR-125:</u> Installation of sealer on concrete ceiling in Dewatering Building electrical room.	\$2,200.00	\$0.00	0
<u>CR-130:</u> Modification of crane rail supports in the UV area.	\$5,843.00	\$0.00	0
<u>CR-131:</u> Addition of two power monitors to the main switchboards in the Zone 2 West and Zone B pump stations.	\$3,015.00	\$0.00	0
<u>CR-132:</u> Additional structural steel framing for solatube roof openings, upper and lower roof monitor deck supports, and roof penetrations for vent piping.	\$125,876.00	\$0.00	0

NOTE: The documents supporting this Change Order, including any drawings and estimates of cost, if required are attached hereto and made a part hereof. This Change Order shall not be considered as such until it has been signed by the Owner and the Contractor. Upon final approval, distribution of copies will be made as required. The parties mutually agree the pricing set forth in this Change Order are complete and fair compensation for the entirety of the work authorized under this Change Order and that no additional compensation is warranted nor shall it be allowed.

CHANGES: All workmanship and materials called for by this Change Order shall be fully in accord with the original Contract Documents insofar as the same may be applied without conflict to the conditions set forth by this Change Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order.

CSG-02

<u>CR-133:</u> Repair of unmarked duct bank encountered during construction of the 42-inch product water pipeline.	\$16,096.00	\$0.00	0
<u>CR-134:</u> Relocation of FRP stairs in the CIP area due to conflict with 4-inch NTR pipe.	2,203.00	\$0.00	0
<u>CR-135:</u> Modification of FRP grating platform adjacent to the gooseneck piping in the UV area.	\$4,008.00	\$0.00	0
The Contract Price is hereby increased to provide for an all-inclusive settlement for all supplemental, indirect, consequential, cumulative costs and delays, including extended overhead costs associated with all impacts resulting from schedule delays, from the date of the Notice of Award of the Baker WTP construction contract, January 6, 2014 to the date this change order is signed by the PCL Project Manager as indicated below. The settlement also includes a no cost time extension of 216 calendar days, which extends the Contract Time from 831 calendar days to 1,047 calendar days.	\$395,000.00	\$0.00	216
TOTAL	\$631,372.00	\$0.00	216

DAYS ±

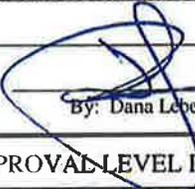
1. NET AMOUNT THIS CHANGE ORDER	=	\$631,372.00	216
2. ORIGINAL CONTRACT AMOUNT	=	\$77,520,613.00	820
3. TOTAL PREVIOUS CHANGE ORDER(S)	=	\$983,571.00	11
4. TOTAL BEFORE THIS CHANGE ORDER (2+ 3)	=	\$78,504,184.00	831
5. PROPOSED REVISED CONTRACT AMOUNT TO DATE (1+4) =		\$79,135,036.00	1047

We hereby agree to make the above change subject to the terms of this change order for the sum of \$631,372.00

Six hundred thirty-one thousand three hundred seventy-two and no/100s dollars and two hundred sixteen calendar days

6-8-16
Date

PCL Construction
Contractor


By: Dana Lebeda, Project Manager

SIGNATURE	DATE	APPROVAL LEVEL REQUIRED
 IRWD Engineer or Consulting Engineer	<u>6/8/16</u> Date	Department Director Approval Required <input type="checkbox"/>
 Principal Engineer	<u>06/13/16</u> Date	Executive Director Approval Required <input type="checkbox"/>
 Executive Director of Engineering & Water Quality	<u>6/14/16</u> Date	General Manager Approval Required <input type="checkbox"/>
General Manager	Date	Board Approval Required <input checked="" type="checkbox"/>
		517629
		Purchase Order No.

NOTE: The documents supporting this Change Order, including any drawings and estimates of cost, if required are attached hereto and made a part hereof. This Change Order shall not be considered as such until it has been signed by the Owner and the Contractor. Upon final approval, distribution of copies will be made as required. The parties mutually agree the pricing set forth in this Change Order are complete and fair compensation for the entirety of the work authorized under this Change Order and that no additional compensation is warranted nor shall it be allowed.

CHANGES: All workmanship and materials called for by this Change Order shall be fully in accord with the original Contract Documents insofar as the same may be applied without conflict to the conditions set forth by this Change Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order.

EXHIBIT "B"

**Baker WTP
PR 11747 (5027)
Construction Change Order Summary**

Date: June 14, 2016
Contractor: PCL Construction
Design Engineer: RBF/Carollo

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$77,520,613.00						Original Days: 820				4/5/2016
Change Order No.	Description	Category	Approved by Baker PC	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Order Days	Cum. Change Order Days	Revised Total Contract Days	Revised Completion Date
1	Approved by General Manager Approved on June 5, 2014		Not required		\$ 44,737.00	\$ -	\$ 44,737.00	0.06%	\$77,565,350.00	0	0	0	820	4/5/2016
	CR-1: Modifications to the 8-inch irrigation pipeline pressure reducing station PRVs.	A		\$ 41,966.00										
	CR-11: Removal and disposal of hazardous materials, mercury.	B		\$ 2,771.00										
2	Approved by Executive Director of Eng. and WQ Approved on October 28, 2014		Not required		\$ (126,920.00)	\$ 44,737.00	\$ (82,183.00)	-0.11%	\$ 77,438,430.00	0	0	0	820	4/5/2016
	CR-4: Modify contract price for inflation adjustment to Pall membrane filtration system purchase order.	A		\$ (117,869.00)										
	CR-6: Modify contract price for inflation adjustment to Wedeco UV system purchase order.	A		\$ (9,051.00)										
3	Approved by Executive Director of Eng. and WQ Approved on October 28, 2014		Not required		\$ 72,631.00	\$ (82,183.00)	\$ (9,552.00)	-0.01%	\$77,511,061.00	0	0	0	820	4/5/2016
	CR-2A: Delete poly coated chain link swing gate and replace with an ornamental swing gate and add perforated screen to swing and slide gates.	D		\$ 10,747.00										
	CR-7: Provide bent steel plate for dewatering building roof and an H-20 Bilco steel hatch at treatment building. CR-12: Revise doors and hardware and add card readers.	D		\$ 16,331.00 \$ 45,553.00										
4 (PWPS)	Approved by Executive Director of Eng. and WQ Approved on November 20, 2014		Not required		\$ 42,312.00	\$ (9,552.00)	\$ 32,760.00	0.04%	\$77,553,373.00	0	0	0	820	4/5/2016
	CR-3: Modifications to the SCP valve vault piping and appurtenances per MWD post-bid revisions.	C		\$ 6,095.00										
	CR-13: Over excavation and removal of unsuitable soils in the PWPS area	B		\$ 36,217.00										
5	Approved by Executive Director of Eng. and WQ Approved on December 10, 2014		Not required		\$ 49,562.00	\$ 32,760.00	\$ 82,322.00	0.11%	\$77,602,935.00	0	0	0	820	4/5/2016
	CR-5: SCE service plan modifications received after bid date.	C		\$ 8,032.00										
	CR-9: Delete removal of 24-inch ACP, add 10 cy concrete for plug, add removal and disposal of 20 cy rubble and add site glass for the flocculator gear boxes.	B		\$ 2,736.00										
	CR-10: Design clarification for the fire and utility water systems at the treatment building.	A		\$ -										
	CR-14: T&M 1, over excavation of unsuitable soils at dewatering facility \$7,469. T&M 2, clean and coat flange serving TCWD raw water line \$689. T&M 3, new loose flange for installation of blind flange \$1,036. T&M 5, relocate drain piping under pipe gallery \$3,638.	B		\$ 12,832.00										
	CR-18: Rebar for pipe encasement at CT basin 42-inch pipe. CR-21: Change from Multilin to Schweitzer for power monitors and relays.	D A		\$ 3,904.00 \$ -										

**Baker WTP
PR 11747 (5027)
Construction Change Order Summary**

Date: June 14, 2016
Contractor: PCL Construction
Design Engineer: RBF/Carollo

Change Order No.	Description	Category	Approved by Baker PC	Contract Amount						Contract Days				Original Completion Date:	
				Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Original Days:				4/5/2016	
										Change Order Days	Previous Change Order Days	Cum. Change Order Days	Revised Total Contract Days	Revised Completion Date	
5 (cont.)	<u>CR-22</u> : Provide fire sprinkler system in HCL room in chemical building. <u>CR-24</u> : Revise drain line and davit sleeves for Disposal EQ basin. <u>CR-29</u> : Provide stainless steel wear rings for vertical turbine pump bowls and impellers. <u>CR-32</u> : Provide and install additional lap rebar for CMU block wall at chemical building.	C E D D		\$ 3,034.00 \$ \$ 15,871.00 \$3,153.00											
6	Approved by Executive Director of Eng. and WQ Approved on January 20, 2015 <u>CR-015</u> : Provide mini power centers and change mufflers from carbon steel to stainless steel. <u>CR-020</u> : Provide remote motor controller, flow and level sensor transmitters for Disposal EQ basin. <u>CR-026</u> : Delete unneeded davit sleeves and provide shorter sleeves per alternate listed supplier. <u>CR-030</u> : Remove unknown concrete in 30-inch storm drain trench. <u>CR-031</u> : Provide larger roof hatches and mineral wool sound insulation at the MF Feed pump station. <u>CR-033</u> : Provide 2-inch hub drain with tubing for AC equipment in chlorine dioxide room, Chemical Building. <u>CR-035</u> : Provide additional steel tube framing for lower canopies at Treatment Building. <u>CR-037</u> : Provide double check valve back flow preventers and associated piping and valves for the OCFA connections at the Chemical Building, Treatment Building and MF Feed pump station. <u>CR-039</u> : Provide increased insurance limits of \$5,000,000 for the General Liability and Automotive Policies. <u>CR-044</u> : Provide spray nozzles for screw conveyors at Dewatering Facility.	B A D B D D D C A A	Not Required	\$2,090.00 No cost (\$6,357.00) \$ 3,251.00 \$ 7,365.00 \$ 2,948.00 \$ 2,731.00 \$ 11,365.00 \$ 1,290.00 \$1,076	\$25,759.00	\$ 82,322.00	\$ 108,081.00	0.14%	\$77,628,694.00	0	0	0	820	4/5/2016	
7	Approved by Executive Director of Eng. and WQ Approved on May 29, 2015 <u>CR-034</u> : Provide slurry backfill at Treatment Bldg. <u>CR-036</u> : Provide conduit for future electric service at TCWD pump station and rotate panels at Chemical Building. <u>CR-040</u> : Add hollow metal door for electrical room in TCWD pump station. <u>CR-043</u> : Relocate vendor control panel (VCP 1150) in Chemical Building. <u>CR-045</u> : Revise exterior lighting in various locations. <u>CR-051</u> : Provide a credit for eight stainless steel sample taps supplied by IRWD.	B D D B D A	Not Required	\$8,221.00 \$5,984.00 \$5,669.00 \$1,255.00 \$0.00 \$ (1,728.00)	\$ 30,456.00	\$ 108,081.00	\$ 138,537.00	0.18%	\$77,659,150.00	0	0	0	820	4/5/2016	

**Baker WTP
PR 11747 (5027)
Construction Change Order Summary**

Date: June 14, 2016
Contractor: PCL Construction
Design Engineer: RBF/Carollo

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$77,520,613.00						Original Days: \$20				4/5/2016
Change Order No.	Description	Category	Approved by Baker PC	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Order Days	Cum Change Order Days	Revised Total Contract Days	Revised Completion Date
7 (cont)	CR-052: Unmarked 2-inch waterline, Palmwood Dr. CR-053: Revise footings in Dewatering Building. CR-054: Add horizontal curb for sedimentation basin sludge collectors. CR-055: Revise chlorine dioxide injection quill solution tubes from PVC to Hastelloy.	B D D D		\$3,021.00 \$891.00 \$5,117.00 \$2,026.00										
8 (PWPS)	Approved by Board of Directors Approved on September 28, 2015 CR-059: VE option - open trench vs Jack & Bore	A	Not Required	\$ (134,327.00)	\$ (134,327.00)	\$ 138,537.00	\$ 4,210.00	0.01%	\$77,524,823.00	0	0	0	820	4/5/2016
9	Approved by Executive Director of Eng. and WQ Approved on October 13, 2015 CR-064: Remove unknown valve and provide associated pipe modifications on existing 24-inch line to OC-74. CR-065: Delete Dormer and add a roof exhaust hood at the Treatment Building. CR-074: Modify piping colors. CR-075: Provide Colonial Red coating for exterior door canopies to maintain architectural scheme.	B D A D	Not required	\$ 11,687.00 \$ 10,529.00 \$ - \$ 22,600.00	\$ 49,502.00	\$ 4,210.00	\$ 53,712.00	0.07%	\$77,574,325.00	0	0	0	820	4/5/2016
10	Approved by Executive Director of Eng. and WQ Approved on November 30, 2015 CR-042r1: Modifications to the plant fiber optic ring. CR-047r1: Additional wiring for moisture detectors at MFWW and Decant Return Pump Stations, addition of a float switch at TCWD PS meter vault, and additional disconnect switch for roll up door motor at Treatment Building. CR-060: Modify Control Room lighting fixtures. CR-067: Modify Dewatering lighting fixtures. CR-068: Modify Treatment Building Pipe Gallery lighting fixtures. CR-069: Increase size of electrical pull box PB-A. CR-073: Add exit light at the Forebay electrical room. Rain Day Time Extension beyond allowance (3 Days)	A A D D A D D B	Not required	\$26,323.00 \$9,131.00 \$3,815.00 \$9,742.00 \$7,002.00 \$2,508.00 \$2,372.00 \$0.00	\$60,893.00	\$53,712.00	\$114,605.00	0.15%	\$77,635,218.00	3	0	3	823	4/8/2016

**Baker WTP
PR 11747 (5027)
Construction Change Order Summary**

Date: June 14, 2016
Contractor: PCL Construction
Design Engineer: RBF/Carollo

Change Order No.	Description	Category	Approved by Baker PC	Contract Amount						Contract Days				Original Completion Date:	
				Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Order Days	Cum. Change Order Days	Revised Total Contract Days	Revised Completion Date	
															4/5/2016
															820
11 (PWPS)	Approved by Executive Director of Eng. and WQ Approved on November 30, 2015 <u>CR-083</u> : Provide cross-gutter and additional concrete curb at Peachwood Drive at the direction of the City of Lake Forest. <u>CR-084</u> : Modify pre-cast electrical cable trench at PWPS.	C D	Not required	\$8,563.00 \$3,398.00	\$11,961.00	\$114,605.00	\$126,566.00	0.16%	\$77,647,179.00	0	3	3	823	4/8/2016	
12	Approved by Executive Director of Eng. and WQ Approved on December 22, 2015 <u>CR-046</u> : Add light switches, modify J-boxes and card reader locations. <u>CR-048R1</u> : Add boiler room mini power center and lab appliance circuits. <u>CR-056</u> : Provide additional conduit, floor boxes, and revise conduit configuration for control room telephone and high speed internet services. <u>CR-063</u> : Extend slabs through doorways at all buildings. <u>CR-085</u> : Provide additional pipe supports for 42-inch MFW line in the Pipe Gallery. <u>CR-088</u> : Provide additional pull boxes for site lighting and security. <u>CR-095</u> : Provide modifications to Clearwell chemical vault. <u>CR-096</u> : Provide integral flow meters for PRV 0202 and PRV 0602. <u>CR-097</u> : Griffith standby time.	A D A D D D D D B	Not required	\$3,140.00 \$24,900.00 \$15,665.00 \$0.00 \$8,900.00 \$7,005.00 \$5,713.00 \$5,131.00 \$1,043.00	\$71,497.00	\$126,566.00	\$198,063.00	0.26%	\$77,718,676.00	0	3	3	823	4/8/2016	
13	Approved by Executive Director of Eng. and WQ Approved on January 29, 2016 <u>CR-025r1</u> : Add circuits for water heaters (plumbing and generators). <u>CR-058r1</u> : Add raw water turbidimeter. <u>CR-061</u> : VFD exhaust fan control changes. <u>CR-066r1</u> : Add lighting circuit in MFWW Blowdown Room. <u>CR-072</u> : Add Break Glass emergency stops at Chemical Building. <u>CR-078</u> : Replace braided PVC with PE tubing at Clearwell No. 2 chemical vault. Rain Day Time Extension beyond allowance (7 Days) per BKR-498 and BKR-505.	D D A D C D B	Not required	\$4,546.00 \$26,859.00 \$8,683.00 \$4,793.00 \$20,587.00 \$4,532.00 \$0.00	\$70,000.00	\$198,063.00	\$268,063.00	0.35%	\$77,788,676.00	7	3	10	830	4/19/2016	
14	Approved by Board of Directors Approved on March 14, 2016 <u>CR-087.3</u> : Add soffits at eaves at all buildings (excluding Dewatering Building).	A	1/14/2016	\$357,883.00	\$357,883.00	\$268,063.00	\$625,946.00	0.81%	\$78,146,559.00	0	10	10	830	4/19/2016	
15 (PWPS)	Approved by Executive Director of Eng. and WQ Approved on February 16, 2016 <u>CR-077</u> : Corner beams for the PWPS roof framing.	D	Not Required	\$14,054.00	\$14,054.00	\$625,946.00	\$640,000.00	0.83%	\$78,160,613.00	0	10	10	830	4/19/2016	

**Baker WTP
PR 11747 (5027)
Construction Change Order Summary**

Date: June 14, 2016
Contractor: PCL Construction
Design Engineer: RBF/Carollo

Change Order No.	Description	Category	Approved by Baker PC	Contract Amount						Contract Days				Original Completion Date:
				Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Original Days:			Revised Completion Date	
										Change Order Days	Previous Change Order Days	Cum. Change Order Days	Revised Total Contract Days	
							\$77,520,613.00						820	4/5/2016
16	Approved by General Manager Approved on February 29, 2016 <u>CR-103</u> : Provide shim plates for roof deck support at Dewatering Building. <u>CR-027B</u> : Install additional piping and valves for PALL CIP drain lines	D B	Not Required	\$6,205.00 \$72,261.00	\$78,466.00	\$640,000.00	\$718,466.00	0.93%	\$78,239,079.00	0	10	10	830	4/19/2016
17	Approved by General Manager Approved on March 22, 2016 <u>CR-104</u> : Provide surface preparation and prime, intermediate, and finish paint coats on galvanized pipe, including touch up, as required in Areas 200, 300 and 700. <u>CR-114</u> : Raise HVAC ductwork in the MF Feed and Product Water Pump Stations	D D	Not Required	\$91,675.00 \$6,877.00	\$98,552.00	\$718,466.00	\$817,018.00	1.05%	\$78,337,631.00	0	10	10	830	4/19/2016
18	Approved by General Manager Approved on April 27, 2016 <u>CR-081b</u> : Modify concrete curb, add concrete curb, and construct concrete pad for SCE equipment north of the Chemical Building and at the PWPS. <u>CR-110</u> : Additional PLC and SCADA programming. <u>CR-1121</u> : Remove and dispose of unknown 10-inch and 18-inch ACP. <u>CR-116</u> : Framing and sheet metal for hip beam corners.	C B B A	Not Required	\$29,280.00 \$3,534.00 \$53,784.00 \$12,370.00	\$98,968.00	\$817,018.00	\$915,986.00	1.18%	\$78,436,599.00	0	10	10	830	4/19/2016
19	Approved by General Manager Approved on May 31, 2016 <u>CR-028r2</u> : SCADA hardware and software modifications. <u>CR-080</u> : Diaphragm seals for pressure switches PSHL 1810 and PSHL-1820. <u>CR-098</u> : Cap plates at the top of rake walls in the Treatment and Dewatering Buildings. <u>CR-099</u> : Check valves for product water pumps. <u>CR-101</u> : Modification of the Serrano Creek Outfall trash rack. <u>CR-102</u> : Cross brace modifications at the truck loading station. <u>CR-105</u> : Roof drains at the Treatment Building. <u>CR-107</u> : Additional steel framing for MF Feed Pump Station access hatches. <u>Rain Day Time Extension</u> : Non-compensable Contract Time extension for rain days in excess of those established in the Contract	A D D D D D D B	Not Required	(\$11,838.00) \$3,021.00 \$20,362.00 \$22,825.00 \$7,638.00 \$4,737.00 \$15,225.00 \$5,615.00 \$0.00	\$67,585.00	\$915,986.00	\$983,571.00	1.27%	\$78,504,184.00	1	10	11	831	4/20/2016
20	Approved by Board of Directors Approved on <u>CR-041</u> : Modification of the utility water and potable water piping in the MF Feed Pump Station and Treatment Building. <u>CR-086r2</u> : Additional lighting at the membrane rack area.	D D		\$9,976.00 \$22,509.00	\$631,372.00	\$983,571.00	\$1,614,943.00	2.08%	\$79,135,556.00	216	11	227	1,047	11/18/2016

**Baker WTP
PR 11747 (5027)
Construction Change Order Summary**

Date: June 14, 2016
Contractor: PCL Construction
Design Engineer: RBF/Carollo

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$77,520,613.00						Original Days: \$20				4/5/2016
Change Order No.	Description	Category	Approved by Baker PC	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Order Days	Cum. Change Order Days	Revised Total Contract Days	Revised Completion Date
20 (cont)	CR-091: Revision to the chemical designations for the sodium hypochlorite and sodium hydroxide systems including pipe, equipment, and instrument labeling and SCADA programming and graphics where applicable.	A		\$7,391.00										
	CR-108: Modification of grating platform along the south wall of the CIP area.	B		\$9,038.00										
	CR-111: Modifications to the chemical batch tank control panels.	A		\$8,368.00										
	CR-113: Increased conductor sizes in conduit 8002P.	D		\$15,378.00										
	CR-118: Addition of water hammer arrestors on boiler piping.	D		\$4,471.00										
	CR-125: Installation of sealer on concrete ceiling in Dewatering Building electrical room.	D		\$2,200.00										
	CR-130: Modification of crane rail supports in the UV area.	D		\$5,843.00										
	CR-131: Addition of two power monitors to the main switchboards in the Zone 2 West and Zone B pump stations.	D		\$3,015.00										
	CR-132: Additional structural steel framing for solatube roof openings, upper and lower roof monitor deck supports, and roof penetrations for vent piping.	D		\$125,876.00										
	CR-133: Repair of unmarked duct bank encountered during construction of the 42-inch product water pipeline.	B		\$16,096.00										
	CR-134: Relocation of FRP stairs in the CIP area due to conflict with 4-inch NTR pipe.	D		\$2,203.00										
CR-135: Modification of FRP grating platform adjacent to the gooseneck piping in the UV area.	D		\$4,008.00											
Settlement for multiple project delays and non-compensable time extension.	A		\$395,000.00											

Category	Total Amount	% of Original Contract
A - Owner Directed Change	\$ 620,475.00	0.80%
B - Differing/Unknown Condition	\$ 239,837.00	0.31%
C - External Agency, Regulatory, and/or Permit Required Change	\$ 86,956.00	0.11%
D - Design Oversight	\$ 667,675.00	0.86%
E - Design Error	\$ -	0.00%
Total Change Order Amount (A + B + C + D + E)	\$ 1,614,943.00	2.08%

**IRVINE EXHIBIT "C" DISTRICT
PROFESS _____ VARIANCE**

Project Title: Baker Water Treatment Plant

Project No.: 11747 (5027) Date: May 31, 2016

Purchase Order No.: 597591 Variance No.: 2

Originator: IRWD ENGINEER/CONSULTANT Other Contractor Extension

Description of Variance (*attach any back-up material*):

Additional construction support services to meet the contractor's new project completion date of October 2016, plus Baker Committee requested contingency, if needed, to December 2016. (See attached proposal for detailed breakdown.)

Engineering & Management Cost Impact:

Classification	Labor hours	Billing Rate \$	Labor \$	Direct Costs \$	Sub-con. \$	Total \$
Additional support through 10/31/16	1,560	187.00	291,720	18,880	15,000	325,600
2-month contingency	900	187.00	168,300	7,700	0	176,000
Total \$ =						501,600

Schedule Impact:

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
2	Additional construction support	3/24/16	9 months	12/31/16

Required Approval Determination:

Total Original Contract	\$ <u>3,418,900</u>	<input type="checkbox"/> Director: Cumulative total of Variances less than or equal to \$50,000. <input type="checkbox"/> Executive Director: Cumulative total of Variances less than or equal to \$75,000. <input type="checkbox"/> General Manager: Cumulative total of Variances less than or equal to \$100,000. <input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$100,000.
Previous Variances \$	\$ <u>355,900</u>	
This Variance	\$ <u>501,600</u>	
Total Sum of Variances	\$ <u>857,500</u>	
New Contract Amount	\$ <u>4,276,400</u>	
Percentage of Total Variances to Original Contract	<u>25.1 %</u>	

ENGINEER/CONSULTANT: Carollo Engineers

IRVINE RANCH WATER DISTRICT

Scott Hol (IRWD PM) 6/1/16
Project Engineer/Manager Date
James A. Murchauer 5/31/2016
Engineer's/Consultant's Management Date

Karin J. Burt 6/14/16
Department Director Date
C-1 _____
Card Date

IRVINE RANCH WATER DISTRICT

PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: Baker Water Treatment Plant

Project No.: 11747 (5027) Project Manager: Scott Toland

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	Review of additional submittals, equipment modifications, equipment deviations, equipment substitutions, & permitting not contemplated in original agreement (see attached proposal).			\$355,900
2	Additional construction support through the extended project duration.			\$501,600



May 31, 2016

Scott Toland, P.E.
Irvine Ranch Water District
15600 Sand Canyon Ave.
Irvine, CA 92618

Subject: Baker WTP - Budget Variance No. 2

Dear Mr. Toland:

Carollo Engineers and our subconsultants have been supporting the District for the past 27 months for the Baker WTP construction project. Our initial budget was based on a 27 month construction duration in which we would provide a full-time field engineer and construction support team to assist with this project. Our budget for construction services for a full-time field engineer was budgeted through March 24, 2016. The latest schedule provided by PCL indicates the project will continue for another seven months. The District asked Carollo Engineers to submit this variance for continued construction support through October 31, 2016. This amounts to 158 additional working days. Our proposal is to provide a field engineer on-site through October 31, 2016. In addition, we will provide construction support to continue to assist with questions, clarifications, issues, meetings, and management. We have included a breakdown of our anticipated budget for this duration in Exhibit 1.

We reviewed the adequacy of our existing budget to meet the additional seven months of construction. We have many supporting tasks on this project where budget has been allocated, including pre start-up support, start-up support, training, and post start-up (monitoring) activities. In addition, we were scoped to provide an Operation Plans, O&M Manual, Energy Control Procedures, and final record drawings. Our original allocated budgets for each of these activities appear to be sufficient. We also have budget remaining for submittal reviews and contractor RFIs. Our goal is to manage our submittal and RFI budget throughout the additional seven month construction duration.

Our proposed variance considers three different budgets: field engineer, off-site project support, and subconsultants. The field engineer budget is based on providing full-time field support through October 31, 2016. This equates to 158 working days for a total of 1,260 hours. The field engineer will continue to be involved in many different construction activities. Our attached budget breakdown provides an example of where the 1,260 hours may be spent, including attending project meetings, performing quality control activities, answering/coordinating questions, managing resources, assisting with start-up activities, assisting with operator training, closing out submittals, and supporting the District. The field engineer tasks amounts to \$248,200, which is approximately 75% of our proposed budget.

Carollo will also continue to provide off-site project support to provide ongoing coordination, answer questions, and provide clarifications. As indicated above, our goal is to manage these requests with our existing budget. However, the extended construction duration may require effort above and beyond our original budget. We have allocated approximately 40 hours per month for these activities. The effort for these activities amounts to \$62,400, which is approximately 20% of our proposed budget.

Scott Toland, P.E.
Irvine Ranch Water District
May 31, 2016
Page 2

Carollo has subconsultant agreements to support project disciplines including Civil/Electrical (RBF), Structural (Envirocon), Architectural (RRM), and HVAC (ERM). We have some existing budget which we will use to manage remaining tasks for RBF for the extended construction duration. The requested budget for subconsultants is \$15,000, which is 5% of our proposed budget.

As shown in the attached budget summary table, we estimate we will need \$325,600 to provide support through October 31, 2016. Please note that we are maintaining our project billing rates at what they have been for the past two years. In addition to the anticipated scope and budget through October 31, 2016, IRWD has requested we also include a lump sum contingency of \$176,000 in the event the contractor's schedule slips an additional two months. The contingency is based on the actual average monthly expenses incurred of \$88,000 per month, for a total of two months. The District may authorize this contingency at a later date based on the contractor's schedule of completion. This unauthorized contingency is carried as a separate line item in the attached Exhibit 1. The total amount of this variance is \$501,600. We appreciate the opportunity to work with the District on this very important project. Should you have any questions, feel free to contact me.

Sincerely,

CAROLLO ENGINEERS, INC.



Michael Bundy, P.E.
Project Manager

**Exhibit 1
Estimated Labor Hours & Fee Summary**

**IRVINE RANCH WATER DISTRICT
BAKER WATER TREATMENT PLANT CONSTRUCTION VARIANCE**

TASK DESCRIPTION	ESTIMATED LABOR HOURS									EXPENSES		SUBCONSULTANTS				COSTS			
	Project Lead	Field Engineer	Process Specialist	Lead Engineer	Staff Engineer	CAD Technician	Senior CAD Technician	Support Staff	Total Hours	Reproductions / Mailing	Project Equipment / Communication Expense	RBF	Envirocon	RRM Design Group	Engineering Resources Mechanical	Carollo Labor	Subconsultants	Other Direct Costs	Total Costs
Hourly Rate	\$230	\$185	\$205	\$200	\$152	\$99	\$140	\$85			\$12.00								
Task 1 - Field Services																			
1.1.1 Pre-Construction Meeting	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
1.1.2 Weekly Construction Progress Meetings	--	60	--	--	--	--	--	--	60	--	\$720	--	--	--	\$11,100	\$0	\$700	\$11,800	\$0
1.1.3 SCE Coordination Meetings	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
1.2 General Site Visits/Project Meetings	40	270	20	10	10	--	--	--	350	--	\$4,200	--	--	--	\$66,900	\$0	\$4,200	\$71,100	\$0
1.3 Discipline Site Visits/Pre-Submittal Conferences	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
1.4 Process Control Strategy Development Assistance	--	100	--	--	--	--	--	--	100	--	\$1,200	--	--	--	\$18,500	\$0	\$1,200	\$19,700	\$0
1.5 SCADA & HMI Assistance	--	100	--	--	--	--	--	--	100	--	\$1,200	--	--	--	\$18,500	\$0	\$1,200	\$19,700	\$0
1.6 Project Closeout/Quality Control	--	250	--	--	--	--	--	--	250	--	\$3,000	--	--	--	\$46,300	\$0	\$3,000	\$49,300	\$0
FIELD SERVICES SUBTOTAL	40	780	20	10	10	0	0	0	860	\$0	\$10,320	\$0	\$0	\$0	\$161,300	\$0	\$10,300	\$171,600	\$0
Task 2 - Office Engineering																			
2.1 Conformed Documents	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
2.2 Submittal and Shop Drawing Review	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
2.3 RFI Responses/Contractor Clarifications	--	300	80	--	100	--	--	--	480	--	\$5,760	--	\$5,000	\$5,000	\$88,100	\$15,000	\$5,800	\$108,900	\$0
2.4 Change Order Proposals Review	--	100	--	--	--	--	--	--	100	--	\$1,200	--	--	--	\$18,500	\$0	\$1,200	\$19,700	\$0
2.5 Record Drawings Preparation	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
2.6 Project Management	40	80	--	--	--	--	--	--	120	--	\$1,440	--	--	--	\$24,000	\$0	\$1,400	\$25,400	\$0
OFFICE ENGINEERING SUBTOTAL	40	480	80	0	100	0	0	0	700	\$0	\$8,400	\$0	\$5,000	\$5,000	\$130,600	\$15,000	\$8,400	\$154,000	\$0
Task 3 - Facilities Start-Up and Operations Services																			
3.1 Factory Acceptance Tests	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
3.2 Direct Integrity Test Validation	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
3.3 DPH Operation Plan	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
3.4 Facility Start-Up Protocol	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
3.5 Operational Training	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
3.6 Arc Flash Training	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
3.7 Facility Start-Up	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
3.8 Electronic O&M Manuals	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
3.9 Membrane MTP & Warranty Period	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
3.10 UV Testing & Warranty Period Evaluation	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
3.11 Follow-Up Services	--	--	--	--	--	--	--	--	0	--	\$0	--	--	--	\$0	\$0	\$0	\$0	\$0
FACILITIES START-UP AND OPERATIONS SUBTOTAL	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

**IRVINE EXHIBIT "D" DISTRICT
PROFESS VARIANCE**

Project Title: Baker Water Treatment Plant

Project No.: 11747 (5027) Date: June 2, 2016
Purchase Order No.: 517593 Variance No.: 2

Originator: IRWD ENGINEER/CONSULTANT Other (Explain) _____

Description of Variance (*attach any back-up material*):
Additional construction support services to meet the contractor's new project completion date of October 2016, plus Baker Committee requested contingency, if needed, to December 2016. (See attached proposal for detailed breakdown.)

Engineering & Management Cost Impact:

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
Additional Support through 10/31/16	Varies	Varies	\$260,417			\$260,417
2-month Contingency	Varies	Varies	\$156,396			\$156,396
Total \$ =						\$416,813

Schedule Impact:

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
1	Additional Construction Support	April 30, 2016	8 months	December 31, 2016

Required Approval Determination:

Total Original Contract	\$ <u>1,253,936</u>	<input type="checkbox"/> General Manager: Single Variance less than or equal to \$30,000.
Previous Variances \$	<u>412,375</u>	<input type="checkbox"/> Committee: Single Variance greater than \$30,000, and less than or equal to \$60,000.
This Variance \$	<u>416,813</u>	<input type="checkbox"/> Board: Single Variance greater than \$60,000.
Total Sum of Variances	\$ <u>829,188</u>	<input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$60,000, or 30% of the original contract, whichever is higher.
New Contract Amount	\$ <u>2,083,124</u>	
Percentage of Total Variances to Original Contract	<u>66.1%</u>	

ENGINEER/CONSULTANT: HDR Engineering Inc.
Company Name

IRVINE RANCH WATER DISTRICT

Scott Hill (IRWD PM) 6/2/16
IRWD Project Manager Date

Kevin L. Burk 6/14/16
Department Director Date

W.D.Z. 6/2/16
Engineer's/Consultant's Management Date

General Manager/Comm./Board Date

IRVINE RANCH WATER DISTRICT

PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: Baker Water Treatment Plant

Project No.: 11747 (5027) Project Manager: Scott Toland

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	Additional Construction Inspection Services	8/27/14		\$412,375
2	Additional construction support through extended project duration.	6/2/16		\$416,813



June 2, 2016

Mr. Scott Toland, P.E.
Senior Engineer
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, California 92618

RE: Request for Additional Construction Support
Baker Water Treatment Plant (BWTP) Construction Management

Dear Mr. Toland:

HDR is pleased to propose extending the service of staff already committed to the BWTP project. As we discussed, the project schedule is being extended and we are proposing service through October 2016. As project activity tapers off, staff will be phased out to match demand. We currently project that Sean Hoss will remain through October 2016, Jin Chong will remain into September 2016, Jesus Sosa will remain into August 2016, and the full-time equivalent engineering support will remain into July 2016.

The billing rates established in the original agreement were effective through April 2016. The billing rates for Sean Hoss and Jin Chong have been fixed for the 27-month contract duration and will increase starting with the May 2016 invoice to account for escalation. The billing rate for Sean Hoss will increase from \$130 to \$139 per hour. The billing rate for Jin Chong will increase from \$136 to \$143 per hour. Jesus Sosa's rate is tied to prevailing wage determination SC-23-63-2-2013-1D (with pre-determined increases) through the original contract duration. That determination expired but has not been superseded by a new one. Jesus Sosa's billing rate of \$132 per hour will remain unchanged until a new prevailing wage determination is announced. Our existing agreement for the full-time equivalent engineering support provided by Rossette Winkler and Stephanie Shamblin Gray continues their billing rate of \$130 per hour into July 2016 and we are not projecting an increase to cover the two-month contingency should it be needed.

Based on the estimated service and revised billing rates, the attached Variance #2 continues service on BWTP for a not-to-exceed amount of \$260,417. The proposed variance assumes that the construction inspectors will not work any overtime (the contractor has not requested any in six months). It also assumes that the contractor will not work on IRWD Holidays of Independence Day or Labor Day (the contractor requested to work on President's Day and Good Friday and staff covered those days).

Per IRWD request, our proposal also includes a contingency budget that may be authorized at a later date at the District's discretion. The contingency accounts for an additional two months of inspection and field support in the event that the contractor's

hdrinc.com

3230 El Camino Real, Suite 200, Irvine, CA 92602-1377
(714) 730-2300

Page 1 of 2

Mr. Scott Toland, P.E.
June 2, 2016

schedule extends beyond the current anticipated end date. The contingency also accounts for field engineer (Sean Hoss) assistance with closeout/punch list items that may extend beyond the current October 2016 completion date. One or both contingency items may be authorized by the District at a later date, depending on actual project needs. The following table summarizes the details of our proposal:

Staff	Authorized Rate through April 2016	Proposed Rate	Schedule	Estimated Hours	Estimated Fee
Sean Hoss	\$130	\$139	Oct 31, 2016	1,024	\$142,336
Jin Chong	\$136	\$143	Sep 8, 2016	719	\$103,961
Jesus Sosa	\$132	\$132	Aug 11, 2016	574	\$75,768
Rossette Winkler	\$130	\$130	Jul 22, 2016	269	\$34,970
Stephanie S Gray	\$130	\$130	Jul 22, 2016	181	\$23,530
Subtotal of Estimated Fee					\$380,565
Authorized Budget Remaining After April 2016					\$120,148
Variance #2 Subtotal					\$260,417
Unauthorized Additional Contingency					
2-Month Extension		Varies	12/31/16	Varies	\$136,396
Additional close-out support		\$139	12/31/16	143	\$20,000
Additional Contingency Subtotal					\$156,396
Total Variance #2					\$416,813

As requested in the District's original RFP, the billing rates stated above are inclusive of other direct costs (ODCs), computer/communication charges, vehicles, travel, per diem, personal protective equipment and annual escalation through the anticipated project duration. It is understood that IRWD will provide office space, office phone, access to office supplies, color copier/printer/scanner and internet access. HDR's field staff will provide their own computer and cell phone for use in the field office.

Thank you for the continuing opportunity to meet your staffing needs and assist you in the successful completion of your project. If you have any questions or need additional information, please contact Sean Hoss at 951.206.9722.

Sincerely,
HDR Engineering, Inc.


Kip D. Field, P.E.
Vice President

IRVINE RANCH EXHIBIT "E" DISTRICT
PROFESSIONAL VARIANCE

Project Title: Baker Water Treatment Plant

Project No.: 11747 (5027) Date: May 31, 2016

Purchase Order No.: 517598 Variance No.: 1

Originator: IRWD ENGINEER/CONSULTANT Other (Explain) _____

Description of Variance (*attach any back-up material*):

Additional construction support services to meet the contractor's new project completion date of October 2016, plus Baker Committee requested contingency, if needed, through December 2016. (See attached proposal for detailed breakdown.)

Engineering & Management Cost Impact:

Classification	Labor hours	Billing Rate \$	Labor \$	Direct Costs \$	Sub-con. \$	Total \$
Full Time Services through 10/16	1120	190.00	212,800	0	0	212,800
Less Budget Remaining	--	--	(89,310)	0	0	(89,310)*
Net total through October, 2016	650	190.00	123,490	0	0	123,490
2-month Contingency	320	190.00	60,800	0	0	60,800
Additional closeout negotiations	105	190.00	20,000	0	0	20,000
<i>*estimate</i>						Total \$ = 204,290

Schedule Impact:

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
1	Additional Construction Support	April 30, 2016	8 Months	December 31, 2016

Required Approval Determination:

Total Original Contract	<u>\$ 810,600.00</u>	<input type="checkbox"/> Director: Cumulative total of Variances less than or equal to \$50,000.
Previous Variances \$ 0		
This Variance	<u>\$ 204,290.00</u>	<input type="checkbox"/> Executive Director: Cumulative total of Variances less than or equal to \$75,000.
Total Sum of Variances	<u>\$ 204,290.00</u>	
New Contract Amount	<u>\$ 1,014,890.00</u>	<input type="checkbox"/> General Manager: Cumulative total of Variances less than or equal to \$100,000.
Percentage of Total Variances to Original Contract	<u>25.2 %</u>	<input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$100,000.

ENGINEER/CONSULTANT: Jacobs

IRVINE RANCH WATER DISTRICT

[Signature] (IRWD PM)
Project Engineer/Manager
Date 6/1/16

[Signature]
Department Director
Date 6/14/16

[Signature]
Engineer's/Consultant's Management
Date 6/1/16

General Manager/Board
Date _____

IRVINE RANCH WATER DISTRICT

PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: Baker Water Treatment Plant

Project No.: 11747 (5027) Project Manager: Scott Toland

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	Additional construction support through the extended project duration			\$204,290.00



3161 Michelson Drive, Suite 500
 Irvine, California 92612 United States
 T +1.949.224.7500
 F +1.949.224.7501
 www.jacobs.com

April 25, 2016

Scott Toland, PE
 Senior Engineer
 Irvine Ranch Water District 15600
 Sand Canyon Ave. Irvine, CA
 92618

Baker Water Treatment Plant
 11747(5027)

Subject: Professional Services Agreement, CM Staff Augmentation – Variance No. 1

Dear Mr. Toland,

Per your request, this letter provides the proposed revised billing rate and Not-to-Exceed authorization amount to extend the completion date of the Agreement for Professional Services, dated January 20, 2014 to October 31, 2016. The proposed revised billing rate for the extended completion date is \$190 per hour.

Based on an estimate of 1120 labor hours from April 6, 2016 to October 31, 2016, the total amount of the budget amendment request is \$212,800.00. Upon reviewing the remaining budget in the current purchase order (P.O. No. 517598), we project a surplus of \$89,310.00 at the expiration of the existing agreement. Based on the projected surplus, the net increase in the budget would be \$123,490.00.

In addition to extending the scope through October 2016 as summarized above, and per IRWD request, our proposal also includes a contingency budget that may be authorized at a later date at the District's discretion. The contingency accounts for an additional 2 months of full-time support in the event that the contractor's schedule extends beyond the current anticipated end date. The contingency also accounts for assistance with extended closeout negotiations if requested by the District. The following table summarizes the details of our proposal:

Activity	Proposed Rate	Schedule	Estimated Hours	Estimated Fee
FT services extended	\$190	October 31, 2016	1120	\$212,800
Authorized Budget Remaining (Estimate)				\$(89,310)
Subtotal of Additional FT Services Fee through Oct. 2016				\$123,490
Unauthorized Additional Contingency				
2-Month Extension	\$190	Dec. 31, 2016	320	\$60,800
Add'l close-out negotiations	\$190	Dec. 31, 2016	105	\$20,000
Additional Contingency Subtotal				\$80,800
Total Variance				\$204,290

We appreciate the opportunity to continue providing support services to the District on the Baker WTP.

Yours sincerely,

Alan Tanjuaquio, PE
 Divisional Vice President

IRVINE EXHIBIT "F" DISTRICT
PROFESSIONAL SERVICES VARIANCE

Project Title: Baker Water Treatment Plant

Project No.: 11747(5027)

Date: June 1, 2016

Purchase Order No.: 517592

Variance No.: 1

Originator: IRWD ENGINEER/CONSULTANT Other (Explain) _____

Description of Variance (*attach any back-up material*):

Additional Construction Scheduling and Document Control System (DCS) Maintenance through the Baker WTP Construction Project's revised construction project completion date of October 2016. Also included is a District-authorized contingency effort for an additional two months (to December 2016) for schedule support and detailed schedule analysis/contractor claim support.

Engineering & Management Cost Impact:

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
Scheduler	180	195	\$35,100	\$0	\$0	\$35,100
Project Engineer	30	179	\$5,370	\$0	\$0	\$5,370
2-month contingency	85	varies	\$16,415	\$0	\$0	\$16,415
Claims Consultant	240	250	\$60,000	\$0	\$0	\$60,000
Total \$ =						116,885

Schedule Impact:

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
1	Additional Schedule and DCS Support	April 2016	8 months	December 31, 2016

Required Approval Determination:

Total Original Contract	<u>\$145,662</u>	<input type="checkbox"/> Director: Cumulative total of Variances less than or equal to \$50,000. <input type="checkbox"/> Executive Director: Cumulative total of Variances less than or equal to \$75,000. <input type="checkbox"/> General Manager: Cumulative total of Variances less than or equal to \$100,000. <input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$100,000.
Previous Variances \$0		
This Variance	<u>\$116,885</u>	
Total Sum of Variances	<u>\$116,885</u>	
New Contract Amount	<u>\$289,131</u>	
Percentage of Total Variances to Original Contract	<u>80.2</u> %	

ENGINEER/CONSULTANT: ARCADIS U.S., Inc.
Company Name

IRVINE RANCH WATER DISTRICT

Scott [Signature] (IRWD PM)
Project Engineer/Manager

[Signature]
Department Director

6/1/16
Date

6/1/16
Date

[Signature]
Engineer's/Consultant's Management

General Manager/Board

6/1/16
Date

Date

IRVINE RANCH WATER DISTRICT

PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: Baker Water Treatment Plant

Project No.: 11747(5027) Project Manager: Richard Mori, PE

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	Additional Scheduling/DCS Support			\$116,885

Mr. Scott Toland, PE
Senior Engineer
Irvine Ranch Water District
15600 Sand Canyon
Irvine, CA 92618

Subject:
Variance 1 – Baker WTP Project Additional Scheduling, DCS and District Authorized Contingency Effort, PR 11747 (5027)

Dear Mr. Toland:

As requested, Arcadis is submitting this Variance 1 for the additional Construction Scheduling and Document Control System (DCS) Maintenance through the Baker WTP Construction Project's revised construction project completion date of October 2016. Also included is a District-authorized contingency effort for an additional two months (to December 2016) for schedule support and detailed schedule analysis/contractor claim support.

Work covered by this variance is expected to increase the existing project schedule by up to an additional eight months beyond the original completion date. Our fee breakdown for the variance and the additional deliverable items are described on the enclosed Variance 1 fee table. Variance 1 is for a not-to-exceed amount of \$116,885 and is summarized in the table below:

Task	Billing Rate	Hours	Subtotal
1. Construction Schedule Review	\$195/hr	180	\$35,100
2. DCS Maintenance	\$179/hr	30	\$5,370
3. District Authorized Contingency – Construction Schedule Review			\$16,415
4. District Authorized Contingency- Detailed Schedule Analysis/Contractor Claim Support			\$60,000
Task 1-4 Total			\$116,885

Sincerely,

ARCADIS U.S., Inc.



Jim Cathcart, PE
Principal in Charge

Enclosure:

Variance 1 Fee Estimate for Construction Phase Services

Date:
June 1, 2016

Contact:
Jim Cathcart

Phone:
714 508 2632

Email:
jim.cathcart@arcadis.com

Our ref:
01120047.0000

