

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

October 28, 2019

PLEDGE OF ALLEGIANCE

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

ROLL CALL Directors Reinhart, Matheis, Swan, and Withers and President LaMar

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 three 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).

CONSENT CALENDAR

Resolution No. 2019-28

Items 3-13

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

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

4. MINUTES OF BOARD MEETING

 Recommendation: That the minutes of the September 23, 2019, 2019 Regular Board meeting and the October 14, 2019 Special Board meeting be approved as presented.

CONSENT CALENDAR (CONTINUED) Resolution No. 2019-28 Items 3-13

5. SETTLEMENT OF SUBROGATION LAWSUIT RECOVERING
WORKERS' COMPENSATION COSTS FOR CERTAIN EMPLOYEES

Recommendation: That the Board authorize the General Manager to execute release in full of all claims and rights for George Sanchez, Rusty Harlow, and Gustavo Orozco.

6. SEPTEMBER 2019 TREASURY REPORTS

Recommendation: That the Board receive and file the Treasurer's Investment Summary Report, the Summary of Fixed and Variable Rate Debt, and Disclosure Report of Reimbursements to Board members and staff; approve the September 2019 Summary of Payroll ACH payments in the total amount of \$\$2,075,946 and approve the September 2019 accounts payable Disbursement Summary of warrants 401771 through 402585 through, Workers' Compensation distributions, wire transfers, payroll withholding distributions and voided checks in the total amount of \$\$17,799,657.

7. IRVINE RANCH WATER DISTRICT STRATEGIC MEASURES

Recommendation: Receive and file.

8. THREE-YEAR CATHODIC PROTECTION SYSTEM MONITORING
PROGRAM CONSULTANT SELECTION FOR FY 2019-20 THROUGH
FY 2021-22

Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$343,901 with HDR for the Three-Year Cathodic Protection Monitoring Program for Fiscal Year 2019-2020 through Fiscal Year 2021-2022.

9. ON-CALL PLAN CHECK SERVICES

Recommendation: That the Board authorize the General Manager to execute two Professional Services Agreements: one in the amount of \$100,000 with PacRim Engineering, Inc. and one in the amount of \$150,000 with Stantec Consulting Services, Inc. for on-call plan check services.

CONSENT CALENDAR

Resolution No. 2019-28

Items 3-13

10. NEWPORT COAST ZONE 4 TO 2 PRESSURE REGULATING VALVE MODIFICATION FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the Newport Coast Zone 4 to 2 Pressure Regulating Valve Modification, Project 05410; authorize the General Manager to file a Notice of Completion; and authorize the payment of the retention 35 days after the date of recording the Notice of Completion.

11. IRVINE INDUSTRIAL COMPLEX EAST ZONE A TO B RECYCLED WATER PUMP STATION UPGRADES FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the Irvine Industrial Complex East Zone A to B Recycled Water Pump Station Upgrades, Project 06198; authorize the General Manager to file a Notice of Completion; and authorize the payment of the retention 35 Days after the date of recording the Notice of Completion.

12. BONITA CANYON RECYCLED WATER ZONE D TO B PRESSURE REDUCING STATION SUPPLY LINE REPLACEMENT BUDGET INCREASE AND CONSTRUCTION AWARD

Recommendation: That the Board authorize a budget increase in the amount of \$86,400, from \$325,000 to \$411,400, for Project 10999; and authorize the General Manager to execute a construction contract with T.E. Roberts, Inc. in the amount of \$186,400 for the Bonita Canyon Recycled Water Zone D to B Pressure Reducing Station Supply Line Replacement, Project 10999.

13. MICHELSON WATER RECYCLING PLANT PAVING AT NORTH ODOR SCRUBBER AND DIVERTER CHUTES BUDGET INCREASE AND CONSTRUCTION AWARD

Recommendation: That the Board authorize budget increases in the amount of \$182,900, from \$195,000 to \$377,900, for Project 07890 and \$41,700, from \$180,500 to \$222,200, for Project 07891; and authorize the General Manager to execute a construction contract with SS Mechanical Corporation in the amount of \$289,553 for the Michelson Water Recycling Plant Paving at North Odor Scrubber and Diverter Chutes, Projects 07890 and 07891.

ACTION CALENDAR

14. LAKE FOREST ZONE B TO C RECYCLED WATER PUMP STATION
CONSULTANT SELECTION

Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement with Stantec Consulting Services, Inc. in the amount of \$735,378 for engineering design services for the Lake Forest Zone B to C Recycled Water Pump Station, Project 11168.

15. 2019 POTABLE WATER, SEWER, AND RECYCLED WATER REGIONAL
CAPITAL COST ALLOCATIONS

Recommendation: That the Board approve the proposed Regional Capital Cost Allocations and their application to capital projects, effective December 1, 2019.

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, and 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.

16. General Manager's Report

17. Directors' Comments

18. Receive oral update(s) from District liaison(s) regarding communities within IRWD's service area and provide information on relevant community events.

19. Closed Sessions

1) CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL—EXISTING LITIGATION - Pursuant to Government Code Section 54956.9(d)(1): *Irvine Ranch Water District v. Orange County Water District*, Case No. BS168278 [Lead Case] & Case No. BS175192 [Consolidated Case]

2) CLOSED SESSION: Conference with Labor Negotiator pursuant to Government Code Section 54957.6:
Agency Designated Representative: President LaMar
Unrepresented Employee: Paul Cook

OTHER BUSINESS (Continued)

20. Open Session
 - a. Report of any action in Closed Session.

21. 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.

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October 28, 2019
Prepared and
submitted by: K. Swan
Approved by: Paul A. Cook



CONSENT CALENDAR

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

SUMMARY:

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

Events/Meetings

Steven LaMar

October 22-23	California Environmental Dialogue Plenary Meeting, Sacramento
October 24	Southern California Water Coalition's Annual Meeting & Dinner, Long Beach
November 5-8	National Water Resources Association 88 th Annual Conference, Houston
November 20	Orange County Business Council's Turing Red Tape into Red Carpet Awards Ceremony
November 25	Monthly Discussion of District Activities with the General Manager

Mary Aileen Matheis

October 2	Irvine Unified School District Loma Ridge Elementary School Dedication Ceremony
October 19	National Water Research Institute's Clark Prize Award Ceremony
October 24	Southern California Water Coalition's Annual Meeting & Dinner, Long Beach
October 25	OCSD State of the District Breakfast, Fountain Valley
November 14	MWRP Tour & Syphon Tour for OC Realtors Policy Group
November 20	Orange County Business Council's Turing Red Tape into Red Carpet Awards Ceremony
December 10-13	Colorado River Water Users Association Annual Conference, Las Vegas

Douglas Reinhart

October 24	Southern California Water Coalition's Annual Meeting & Dinner, Long Beach
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John Withers

October 30	OCBC Annual Economic Forecast
November 8	OCWD & OCSD Groundwater Replenishment System Final Groundbreaking

Peer Swan

September 26	Delta Stewardship at OCSD
October 17	Orange County Conservation Corps' 25 th Anniversary Celebration, Anaheim
October 19	National Water Research Institute's Clark Prize Award Ceremony
October 24	Southern California Water Coalition's Annual Meeting & Dinner, Long Beach
October 25	OCSD State of the District Breakfast, Fountain Valley
October 30	Water Education Foundation's Water Summit, Sacramento
November 5-7	Water Education Foundation's Central Coast Tour, San Jose

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 HEREIN.

LIST OF EXHIBITS:

None.

October 28, 2019
Prepared and
submitted by: L. Bonkowski
Approved by: Paul A. Cook



CONSENT CALENDAR

MINUTES OF BOARD MEETINGS

SUMMARY:

Provided are the minutes of the September 23, 2019 Regular Board meeting and the October 14, 2019 Special Board meeting for approval.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE MINUTES OF THE SEPTEMBER 23, 2019 BOARD MEETING AND THE OCTOBER 14, 2019 SPECIAL BOARD MEETING BE APPROVED AS PRESENTED.

LIST OF EXHIBITS:

Exhibit "A" – September 23, 2019 Minutes
Exhibit "B" – October 14, 2019 Minutes

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EXHIBIT "A"

MINUTES OF REGULAR MEETING – SEPTEMBER 23, 2019

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 LaMar on September 23, 2019 in the District office, 15600 Sand Canyon Avenue, Irvine, California.

Directors Present: Reinhart, Swan, Matheis, Withers and LaMar.

Directors Absent: None.

Also Present: General Manager Cook, Executive Director of Technical Services Burton, Executive Director of Water Policy Weghorst, General Counsel Collins, Director of Recycling Operations Zepeda, Director of Water Operations Roberts, Director of Water Quality and Regulatory Compliance Colston, Director of Water Operations Roberts, Director of Treasury and Risk Management Jacobson, Director of Water Resources Sanchez, Director of Maintenance Mykitta, Government Relations Officer/Deputy General Counsel Compton, Secretary Bonkowski, and members of staff and the public.

WRITTEN COMMUNICATIONS: None.

ORAL COMMUNICATIONS:

Trabuco Canyon Water District's new General Manager, Mr. Fernando Paludi, introduced himself to the Board.

ITEMS TOO LATE TO BE AGENDIZED: None.

CONSENT CALENDAR

On MOTION by Withers, seconded by Matheis, and unanimously carried, CONSENT CALENDAR ITEMS 3 THROUGH 7 WERE APPROVED AS FOLLOWS:

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

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

4. MINUTES OF BOARD MEETING

Recommendation: That the minutes of the August 26, 2019 Regular Board meeting be approved as presented.

CONSENT CALENDAR (CONTINUED)

5. TREASURY REPORT

Recommendation: That the Board receive and file the Treasurer's Investment Summary Report, the Summary of Fixed and Variable Rate Debt, and Disclosure Report of Reimbursements to Board Members and staff; approve the August 2019 Summary of Payroll ACH Payments in the total amount of \$3,124,433, and approve the August 2019 accounts payable Disbursement Summary of warrants 400804 through 401770 Workers' Compensation Distributions, wire transfers, payroll withholding distributions and voided checks in the total amount of \$22,507,499.

6. SCE PIPELINE CROSSING LICENSE AGREEMENT

Recommendation: That the Board authorize the General Manager to execute the Southern California Edison License Agreement, Contract 9.2937, for the recycled water pipeline crossing the Southern California Edison transmission line right of way at Irvine Center Drive and Jeffrey Road.

7. LAKE FOREST ZONE B EAST RESERVOIR FLOATING COVER FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the Lake Forest Zone B East Reservoir Floating Cover, Project 10551, authorize the General Manager to file a Notice of Completion, and authorize the payment of the retention 35 days after the date of recording the notice of completion.

ACTION CALENDAR

2019 LEGISLATIVE UPDATE – AB 1486 SURPLUS LAND ACT

Government Relations Officer/Deputy General Counsel Compton provided an update on the end of session activities for the first year 2019-2020 state legislative session, and specifically, provided an update on AB 1486 (Ting, D-San Francisco), a legislative proposal that would amend the Surplus Land Act which would revise the definition of "surplus land" within the Government Code and would restrict local agencies' ability to dispose of surplus land. Under this bill, prior to a local agency conducting negotiations to dispose of real property it owns, the local agency must issue a written notice of availability to low- and moderate-income housing providers. This means that prior to negotiating the sale of any property owned by a local agency, a local agency would need to offer the property for housing.

Ms. Compton said that through and in conjunction with the coalition, IRWD worked to obtain amendments to AB 1486, which amendments will mitigate its impact on the District. On September 6, 2019, the author amended the bill, and given that the amendments, and the protection they afford the District for its current real property transactions, IRWD moved from an "oppose unless amended" position on the bill to a

“watch” position on September 9, consistent with the Board’s authorization. Following discussion on AB 1486 as well as SB1 (Atkins) relative to environmental, public health, and the Workers Defense Act, THE BOARD RECEIVED AND FILED THE 2019 LEGISLATIVE UPDATE.

UPDATED LANDOWNER AGREEMENT FOR COMPLIANCE WITH SUSTAINABLE GROUNDWATER MANAGEMENT ACT

General Manager Cook reported that in 2017, the Kern Groundwater Authority (KGA) was formed in pursuit of compliance with the requirements of the Sustainable Groundwater Management Act (SGMA). Rosedale-Rio Bravo Water Storage District is a member of KGA and is preparing a chapter of the KGA’s Groundwater Sustainability Plan (GSP) that will cover Rosedale’s service area. He said that in March 2019, the IRWD Board approved a Landowner Agreement and a Planning Agreement with Rosedale that would provide SGMA coverage for IRWD’s Kern County water banking properties by incorporation into Rosedale’s chapter of the GSP.

Mr. Weghorst said that due to recent jurisdictional changes in Kern County, the KGA is requesting that all undistricted landowners execute an updated Landowner Agreement rather than the amendment to the original Landowner Agreement, which will increase the landowners’ indemnity obligations and limit the ability to contest the actions of agencies with jurisdiction.

Director Swan reported that this item was reviewed by the Supply Reliability Programs Committee on September 19, 2019. Following discussion, on MOTION by Swan, seconded and unanimously carried, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE THE UPDATED LANDOWNER AGREEMENT FOR SUSTAINABLE GROUNDWATER MANAGEMENT ACT COMPLIANCE SUBJECT TO CHANGES APPROVED BY LEGAL COUNSEL AND THE SUPPLY RELIABILITY PROGRAMS COMMITTEE.

IRWD POLICY PRINCIPLES REGARDING PFAS CONTAMINANTS

General Manager Cook reported that IRWD policy position papers are reviewed periodically to determine if the positions are still valid, need to be revised, or if new papers should be written on other issues. Mr. Cook said that staff is proposing a new policy position for IRWD pertaining to the issues associated with per-and polyfluoroalkyl substances, also known as PFAS. At high enough concentrations, these contaminants can pose threats to human health. Regulations are now being developed that will likely have impacts on IRWD as well as water and sanitation agencies throughout Orange County and the United States.

Mr. Cook said that regulatory limitations for PFAS compounds will have implications across the entire water industry, and should be developed thoughtfully. He said that IRWD’s policy position as provided in the exhibit will support advocacy, both legislative and regulatory, to promote science-based regulations and appropriate timelines for implementing treatment solutions. Additionally, the District’s policy position will also provide clarity as to how IRWD has modified its operations, and how IRWD suggests Orange County Water District should work with all Groundwater Producer Agencies to develop and implement solutions to what appears to be a groundwater basin-wide problem.

Mr. Cook said that this topic was discussed by the IRWD Board at its Strategic Planning Workshop on August 8, 2019, and that due to timing and urgency of this matter, the policy position paper was not reviewed by a committee. Following discussion, Director Swan asked that language be changed to strongly encourage the Orange County Water District to strategically manage groundwater recharge, e.g., by curtailing the recharge of water from the Santa Ana River in the Santiago Pits, so the situation will not worsen. On MOTION by Reinhart, seconded by Withers, THE BOARD ADOPTED THE PROPOSED IRWD POLICY POSITION PAPER REGARDING PFAS CONTAMINANTS SUBJECT TO NONSUBSTANTIVE CHANGES AS AMENDED PURSUANT TO THE DIRECTION OF THE BOARD OF DIRECTORS.

OTHER BUSINESS

GENERAL MANAGER'S REPORT

General Manager Cook introduced it newly-hired Regulatory Compliance Manager Lisa Haney to the Board.

Mr. Cook presented to the Board an “Emerald Award” received from the Filipino American Chamber of Commerce of Orange County for the 2019 Greenest Company presented during the 11th Annual Green, Health, Sustainability & Technology Expo in Garden Grove.

Mr. Cook said that he had lunch with Mr. Eric Averett from Rosedale Rio-Bravo Water Storage District last Friday, and that he was looking forward to our joint event on October 14, 2019 in Bakersfield.

Mr. Cook said that Dr. Skinner of Newport Beach passed away in late August, and that the District made a donation to the Stanford Cancer Institute in his memory. He also asked that the Board meeting be closed in his memory. Director Swan provided a history of Dr. Skinner's efforts with water quality in the Newport Beach Back Bay along with other volunteer work in his profession as a physician.

DIRECTORS' COMMENTS

Director Reinhart said he attended all of his regular meetings along with a Special SOCWA Closed Session meeting.

Director Withers said he attended an OCWD Board meeting along with his regular meetings and noted an Orange County Fire Authority briefing in Santiago Canyon.

Director Swan reported on his attendance at a Newport Bay Executive Committee meeting, a WACO Planning meeting, and several Newport Beach Chamber of Commerce meetings.

Director Matheis reported on her attendance at a Colorado River Symposium in Santa Fe, New Mexico.

Director LaMar reported that he attended many ACWA meetings, and was looking forward to the two-day ACWA event this week being hosted at the District.

COMMUNITY UPDATE

Mr. Bruce Newell reported on a recent coastal meeting held with the Orange County Fire Authority.

CLOSED SESSION

Ms. Collins announced that that the following Closed Session will be held this evening:

CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL — EXISTING LITIGATION
- Pursuant to Government Code Section 54956.9(d)(1): *SCADA and Control Systems, Inc. v. Delta Systems Engineering, LLC, et al.*, Case No. 30-2018-01039707-CU-BC-CJC.

OPEN SESSION

Following the Closed Session, the meeting was reconvened with Directors LaMar, Matheis, Swan, Withers and Reinhart present. General Counsel Collins announced that no action was reported.

ADJOURNMENT

President LaMar adjourned in the Board meeting in memory of Dr. Jack Skinner at 7:15 p.m.

APPROVED and SIGNED this 28th day of October, 2019.

President, IRVINE RANCH WATER DISTRICT

Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

Claire Hervey Collins, Legal Counsel
Lewis Brisbois

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EXHIBIT "B"

MINUTES OF SPECIAL MEETING – OCTOBER 14, 2019

The special meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 6:00 a.m. by President LaMar on October 14, 2019 in the Boardroom, District Office, 15600 Sand Canyon Avenue, Irvine, California 92618.

Directors Present: Reinhart, Swan, Matheis, and LaMar.

Directors Absent: Withers.

Also Present: General Manager Cook, Executive Director of Water Policy Weghorst, Executive Director of Operations Chambers, Executive Director of Technical Services Burton, Director of Water Resources Sanchez, Ms. Kellie Welch, and Mr. Ray Bennett.

WRITTEN AND ORAL COMMUNICATIONS TO THE BOARD: None

ITEMS TOO LATE TO BE AGENDIZED: None.

CONSENT CALENDAR

On MOTION by Swan, seconded by Matheis, and unanimously carried, CONSENT CALENDAR ITEMS 3 THROUGH 7 WERE APPROVED AS FOLLOWS:

3. MICHELSON FORCE MAIN IMPROVEMENTS FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the Michelson Force Main Improvement Project 07097; authorize the General Manager to file a Notice of Completion; and authorize the payment of the retention 35 days after the date of recording the notice of completion.

4. ROCKFIELD ZONE 4-3 AUTOMATED VALVE FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the Rockfield Zone 4-3 Automated Valve, Project 07750; authorize the General Manager to file a Notice of Completion; and authorize the payment of the retention 35 days after the date of recording the notice of completion.

5. TRUCK MOUNTED AERIAL LIFT CONTRACT AWARD

Recommendation: That the Board authorize the General Manager to execute a contract with Utility and Crane Equipment, Inc. in the amount of \$104,548.74 for the purchase of a new mounted aerial lift.

6. BAKE PARKWAY DOMESTIC WATER ZONE 5 TO 4 FIRE FLOW PRESSURE REDUCING VALVE AND PIPELINE BUDGET INCREASE AND CONSTRUCTION AWARD

Recommendation: That the Board authorize a budget increase for Project 05404 in the amount of \$337,300, from \$412,700 to \$750,000; and the General Manager to execute a construction contract with Ferreira Construction Co., Inc. in the amount of \$484,825.50 for the Bake Parkway Domestic Water Zone 5 to 4 Fire Flow Pressure Reducing Valve and Pipeline, Project 05404.

CONSENT CALENDAR (CONTINUED)

7. 2019 LEGISLATIVE AND REGULATORY UPDATE

Recommendation: Receive and file.

TOUR OF ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT

At 6:05 a.m., the Board of Directors and staff left the District facilities, and at 9:45 a.m., they arrived at the Rosedale-Rio Bravo Water Storage District (Rosedale), 849 Allen Road, Bakersfield, California. At 10:00 a.m., they arrived at the Central Intake Pumping Plant for introductions, remarks, description of the CVC turnout and Pumping Plant, and ribbon-cutting with Rosedale's staff and Board of Directors along with Santa Clarita Valley Water Authority staff and its Board of Directors and staff. At 11:20 a.m., they toured Rosedale's West Basin Wells, Superior Wells, and Central Intake. Following the tour, they traveled to Rosdale's office, and at 1:00 p.m., a lunch break was held. At 2:10 p.m., an information discussion was held on the Kern Fan Groundwater Storage Project. No action was taken by either Board. At 2:45 p.m., the Board of Directors and staff departed from Rosedale's office, and at 6:35 p.m., arrived at IRWD.

ADJOURNMENT

There being no further business, President LaMar adjourned the meeting at 6:40 p.m.

APPROVED and SIGNED this 28th day of October, 2019.

President, IRVINE RANCH WATER DISTRICT

Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

Claire Hervey Collins, Legal Counsel
Lewis Brisbois

October 28, 2019
Prepared and
Submitted by: J. Roney
Approved by: Paul A. Cook



CONSENT CALENDAR

SETTLEMENT OF SUBROGATION LAWSUIT RECOVERING WORKERS COMPENSATION COSTS FOR CERTAIN IRWD EMPLOYEES

SUMMARY:

On October 30, 2017, three IRWD employees – George Sanchez, Rusty Harlow and Gustavo Orozco – were injured in a car accident during work hours and were treated for their injuries under IRWD’s workers compensation program. This program sought recovery of the costs for treatment from the driver responsible for the accident in the subrogation lawsuit entitled *Irvine Ranch Water District v. Leslie Michelle Larios Morphin*.

IRWD’s subrogation counsel has reached a settlement for this lawsuit. The releases, attached as Exhibits “A”, “B” and “C” provide the terms of the settlements, under which the District would recover the full amount of the workers compensation payments for all three employees for a combined amount of \$8,037.86.

FISCAL IMPACTS:

Recovery of \$8,037.86 in workers compensation costs.

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.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE RELEASE IN FULL OF ALL CLAIMS AND RIGHTS FOR GEORGE SANCHEZ, RUSTY HARLOW, AND GUSTAVO OROZCO.

LIST OF EXHIBITS:

Exhibit "A" – Release related to Employee George Sanchez
Exhibit “B” – Release related to Employee Rusty Harlow
Exhibit “C” – Release related to Employee Gustavo Orozco

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RELEASE IN FULL OF ALL CLAIMS AND RIGHTS

For and in consideration of the sum of Two Thousand Three Hundred Seven and 41/100 Dollars (\$2,307.41), IRVINE RANCH WATER DISTRICT AND YORK INSURANCE SERVICES, as subrogees of George Sanchez, and their assigns, subrogors, subrogees, principals, agents, or other related entities, release and forever discharge LESLIE MICHELLE LARIOS MORFIN, HERIBERTO SANCHEZ, AND MARIA TORRES, their principal(s), agents, representatives, and assigns, from any and all rights, claims, demands, and damages of any kind, known or unknown, existing or arising in the future, resulting from or in any way related to any bodily injury(ies) and/or property damage(s) arising from an accident that occurred on or about October 30, 2017, at or near Irvine, California ("the Subject Accident").

We also expressly, voluntarily, knowingly and advisedly WAIVE any and all rights granted to us under California Civil Code Section 1542 with respect to any bodily injury(ies) arising from or in any way related to the Subject Accident.

Section 1542: "A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his or her favor at the time of executing the release and that, if known by him or her would have materially affected his or her settlement with the debtor or released party."

This release shall not destroy or otherwise affect the rights of persons on whose behalf this payment is made, or persons who may claim to be damaged by reason of the Subject Accident other than the undersigned, to pursue any legal remedies they may have against the undersigned or any other person.

We understand that this is a compromise settlement of all my claims involving the parties being released arising out of the Subject Accident, and that there is no admission of liability. We also understand that this is all the money or consideration we will receive from the parties being released for any and all of my claims involving the parties being released as a result of the Subject Accident. Furthermore, each side will bear their own costs and attorney fees arising from the Subject Accident.

FURTHER, we agree to reimburse and indemnify all the parties being released of any amounts which any insurance carriers, government entities, hospitals or other persons or organizations may recover from them in reimbursement for amounts paid to me or on my behalf as a result of the Subject Accident by way of contribution, subrogation, indemnity or otherwise, and to hold all released parties harmless from any and all liens.

FURTHER, as a condition of the settlement and release I/we represent and warrant that as of the date of this signing, I/we have provided the released party insurer Farmers Insurance Exchange ("Insurer") all information I/we know about any and all Medicare rights to recovery as of this date. I/we agree to reimburse, indemnify and hold harmless each of the persons, firms, corporations released hereunder and their Insurer, including their agents and assigns, with respect to all known and unknown Medicare rights to recovery related to the Subject Accident for which the federal government may seek repayment as well as any fine or penalty the federal government may seek resulting from the sufficiency and accuracy of the information I/we have provided to Insurer regarding Medicare rights to recovery known as of this date.

****This settlement is conditioned upon the undersigned handling any and all liens.****

WE HAVE READ THIS RELEASE AND UNDERSTAND IT.

Signed this _____ day of _____ 2019, at _____
(City State)

IRVINE RANCH WATER DISTRICT
(AUTHORIZED REPRESENTATIVE)

YORK INSURANCE SERVICES
(AUTHORIZED REPRESENTATIVE)

WITNESS

ADDRESS

For your protection California Law (Insurance Code §1871.2) requires the following to appear on this form. Any person who knowingly presents false or fraudulent claim for the payment of a loss is guilty of a crime and may be subject to fines and confinement in state prison. Every person who violates any provisions of Insurance Code §1871.4 subdivision (a) is punishable up to five years in the state prison or by a fine not exceeding \$50,000 or by both.

RELEASE IN FULL OF ALL CLAIMS AND RIGHTS

For and in consideration of the sum of Two Thousand Four Hundred Five and 34/100 Dollars (\$2,405.34), IRVINE RANCH WATER DISTRICT AND YORK INSURANCE SERVICES, as subrogees of Rusty Harlow, and their assigns, subrogors, subrogees, principals, agents, or other related entities, release and forever discharge LESLIE MICHELLE LARIOS MORFIN, HERIBERTO SANCHEZ, AND MARIA TORRES, their principal(s), agents, representatives, and assigns, from any and all rights, claims, demands, and damages of any kind, known or unknown, existing or arising in the future, resulting from or in any way related to any bodily injury(ies) and/or property damage(s) arising from an accident that occurred on or about October 30, 2017, at or near Irvine, California ("the Subject Accident").

We also expressly, voluntarily, knowingly and advisedly WAIVE any and all rights granted to us under California Civil Code Section 1542 with respect to any bodily injury(ies) arising from or in any way related to the Subject Accident.

Section 1542: "A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his or her favor at the time of executing the release and that, if known by him or her would have materially affected his or her settlement with the debtor or released party."

This release shall not destroy or otherwise affect the rights of persons on whose behalf this payment is made, or persons who may claim to be damaged by reason of the Subject Accident other than the undersigned, to pursue any legal remedies they may have against the undersigned or any other person.

We understand that this is a compromise settlement of all my claims involving the parties being released arising out of the Subject Accident, and that there is no admission of liability. We also understand that this is all the money or consideration we will receive from the parties being released for any and all of my claims involving the parties being released as a result of the Subject Accident. Furthermore, each side will bear their own costs and attorney fees arising from the Subject Accident.

FURTHER, we agree to reimburse and indemnify all the parties being released of any amounts which any insurance carriers, government entities, hospitals or other persons or organizations may recover from them in reimbursement for amounts paid to me or on my behalf as a result of the Subject Accident by way of contribution, subrogation, indemnity or otherwise, and to hold all released parties harmless from any and all liens.

FURTHER, as a condition of the settlement and release I/we represent and warrant that as of the date of this signing, I/we have provided the released party insurer Farmers Insurance Exchange ("Insurer") all information I/we know about any and all Medicare rights to recovery as of this date. I/we agree to reimburse, indemnify and hold harmless each of the persons, firms, corporations released hereunder and their Insurer, including their agents and assigns, with respect to all known and unknown Medicare rights to recovery related to the Subject Accident for which the federal government may seek repayment as well as any fine or penalty the federal government may seek resulting from the sufficiency and accuracy of the information I/we have provided to Insurer regarding Medicare rights to recovery known as of this date.

****This settlement is conditioned upon the undersigned handling any and all liens.****

WE HAVE READ THIS RELEASE AND UNDERSTAND IT.

Signed this _____ day of _____ 2019, at _____
(City State)

IRVINE RANCH WATER DISTRICT
(AUTHORIZED REPRESENTATIVE)

YORK INSURANCE SERVICES
(AUTHORIZED REPRESENTATIVE)

WITNESS

ADDRESS

For your protection California Law (Insurance Code §1871.2) requires the following to appear on this form. Any person who knowingly presents false or fraudulent claim for the payment of a loss is guilty of a crime and may be subject to fines and confinement in state prison. Every person who violates any provisions of Insurance Code §1871.4 subdivision (a) is punishable up to five years in the state prison or by a fine not exceeding \$50,000 or by both.

RELEASE IN FULL OF ALL CLAIMS AND RIGHTS

For and in consideration of the sum of Three Thousand Three Hundred Twenty Five and 11/100 Dollars (\$3,325.11), IRVINE RANCH WATER DISTRICT AND YORK INSURANCE SERVICES, as subrogees of Gustavo Orozco, and their assigns, subrogors, subrogees, principals, agents, or other related entities, release and forever discharge LESLIE MICHELLE LARIOS MORFIN, HERIBERTO SANCHEZ, AND MARIA TORRES, their principal(s), agents, representatives, and assigns, from any and all rights, claims, demands, and damages of any kind, known or unknown, existing or arising in the future, resulting from or in any way related to any bodily injury(ies) and/or property damage(s) arising from an accident that occurred on or about October 30, 2017, at or near Irvine, California ("the Subject Accident").

We also expressly, voluntarily, knowingly and advisedly WAIVE any and all rights granted to us under California Civil Code Section 1542 with respect to any bodily injury(ies) arising from or in any way related to the Subject Accident.

Section 1542: "A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his or her favor at the time of executing the release and that, if known by him or her would have materially affected his or her settlement with the debtor or released party."

This release shall not destroy or otherwise affect the rights of persons on whose behalf this payment is made, or persons who may claim to be damaged by reason of the Subject Accident other than the undersigned, to pursue any legal remedies they may have against the undersigned or any other person.

We understand that this is a compromise settlement of all my claims involving the parties being released arising out of the Subject Accident, and that there is no admission of liability. We also understand that this is all the money or consideration we will receive from the parties being released for any and all of my claims involving the parties being released as a result of the Subject Accident. Furthermore, each side will bear their own costs and attorney fees arising from the Subject Accident.

FURTHER, we agree to reimburse and indemnify all the parties being released of any amounts which any insurance carriers, government entities, hospitals or other persons or organizations may recover from them in reimbursement for amounts paid to me or on my behalf as a result of the Subject Accident by way of contribution, subrogation, indemnity or otherwise, and to hold all released parties harmless from any and all liens.

FURTHER, as a condition of the settlement and release I/we represent and warrant that as of the date of this signing, I/we have provided the released party insurer Farmers Insurance Exchange ("Insurer") all information I/we know about any and all Medicare rights to recovery as of this date. I/we agree to reimburse, indemnify and hold harmless each of the persons, firms, corporations released hereunder and their Insurer, including their agents and assigns, with respect to all known and unknown Medicare rights to recovery related to the Subject Accident for which the federal government may seek repayment as well as any fine or penalty the federal government may seek resulting from the sufficiency and accuracy of the information I/we have provided to Insurer regarding Medicare rights to recovery known as of this date.

****This settlement is conditioned upon the undersigned handling any and all liens.****

WE HAVE READ THIS RELEASE AND UNDERSTAND IT.

Signed this _____ day of _____ 2019, at _____
(City State)

IRVINE RANCH WATER DISTRICT
(AUTHORIZED REPRESENTATIVE)

YORK INSURANCE SERVICES
(AUTHORIZED REPRESENTATIVE)

WITNESS

ADDRESS

For your protection California Law (Insurance Code §1871.2) requires the following to appear on this form. Any person who knowingly presents false or fraudulent claim for the payment of a loss is guilty of a crime and may be subject to fines and confinement in state prison. Every person who violates any provisions of Insurance Code §1871.4 subdivision (a) is punishable up to five years in the state prison or by a fine not exceeding \$50,000 or by both.

October 28, 2019

Prepared by: J. Davis / T. Fournier

Submitted by: R. Jacobson / C. Clary

Approved by: Paul A. Cook



CONSENT CALENDAR

SEPTEMBER 2019 TREASURY REPORT

SUMMARY:

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

- A. The September 2019 Investment Summary Report. This Investment Summary Report conforms with the 2019 Investment Policy and provides sufficient liquidity to meet estimated expenditures during the next six months, as outlined in Exhibit "A".
- B. The Summary of Fixed and Variable Debt as of September 30, 2019, as outlined in Exhibit "B".
- C. The Monthly Interest Rate Swap Summary as of September 30, 2019, as outlined in Exhibit "C".
- D. The September 30, 2019 Disbursement Summary of warrants 401771 through 402585, wire transfers, Workers' Compensation distributions, payroll withholding distributions, and voided checks in the total amount of \$17,799,657 as outlined in Exhibit "D".
- E. The Summary of Payroll ACH payments in the total amount of \$2,075,946 as outlined in Exhibit "E".
- F. The Disclosure Report of Reimbursements to Board Members and Staff for September 2019, detailing payments or reimbursements for individual charges of \$100.00 or more per transaction, as outlined in Exhibit "F".

FISCAL IMPACTS:

As of September 30, 2019, the book value of the investment portfolio was \$358,741,268, with a 2.13% rate of return and a market value of \$360,182,105. Based on the District's September 30, 2019 quarterly real estate investment rate of return of 9.37%, the weighted average return for the fixed income and real estate investments was 4.38%.

As of September 30, 2019, the outstanding principal amount of fixed and variable rate debt was \$667,325,000. The monthly weighted average all-in variable rate was 1.54%. Including the District's weighted average fixed rate bond issues of 3.69% and the previous month's negative cash accruals from fixed payer interest rate swaps, which hedge a portion of the District's variable rate debt, the total average debt rate was 3.11%.

Payroll ACH payments totaled \$2,075,946, and wire transfers, all other ACH payments, and checks issued for debt service, accounts payable, payroll, and water purchases for September totaled \$17,799,657.

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 SUMMARY OF FIXED AND VARIABLE RATE DEBT, AND DISCLOSURE REPORT OF REIMBURSEMENTS TO BOARD MEMBERS AND STAFF; APPROVE THE SEPTEMBER 2019 SUMMARY OF PAYROLL ACH PAYMENTS IN THE TOTAL AMOUNT OF \$2,075,946; AND APPROVE THE SEPTEMBER 2019 ACCOUNTS PAYABLE DISBURSEMENT SUMMARY OF WARRANTS 401771 THROUGH 402585 WORKERS' COMPENSATION DISTRIBUTIONS, WIRE TRANSFERS, PAYROLL WITHHOLDING DISTRIBUTIONS AND VOIDED CHECKS IN THE TOTAL AMOUNT OF \$17,799,657.

LIST OF EXHIBITS:

Exhibit "A" – Investment Summary Report

Exhibit "B" – Summary of Fixed and Variable Debt

Exhibit "C" – Monthly Interest Rate Swap Summary

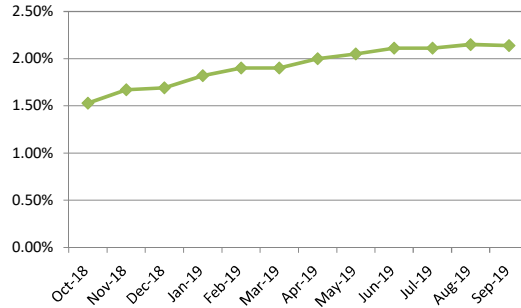
Exhibit "D" – Monthly Summary of District Disbursements

Exhibit "E" – Monthly Payroll ACH Summary

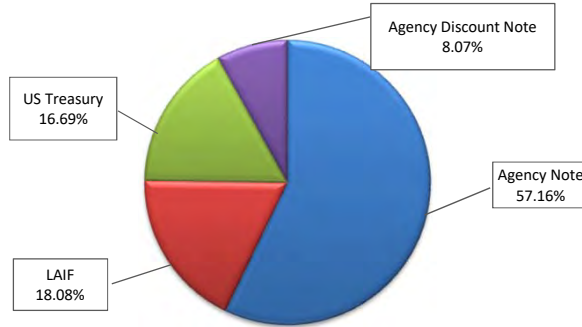
Exhibit "F" – Disclosure of Reimbursements to Board Members and Staff

Exhibit "A"
**Irvine Ranch Water District
Investment Portfolio Summary
September 2019**

Monthly Fixed Income Yield



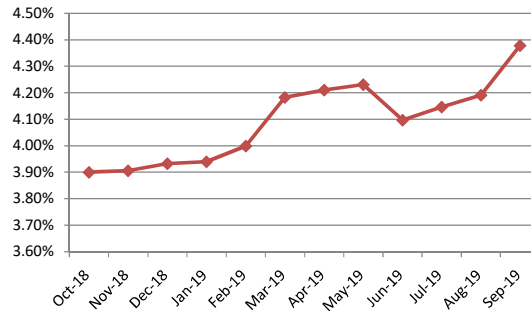
Portfolio Distribution



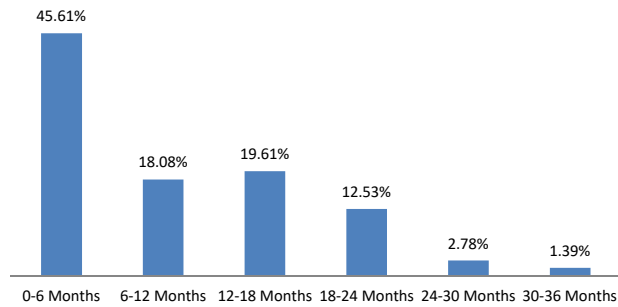
Investment Summary

Type	PAR	Book Value	Market Value
Agency Note	205,550,000	205,311,612	206,011,182
LAIF	65,000,000	65,000,000	65,106,783
US Treasury	60,000,000	59,478,243	60,106,640
Agency Discount Note	29,000,000	28,951,413	28,957,500
Grand Total	359,550,000	358,741,268	360,182,105

**Weighted Average Return
Including Real Estate Portfolio**



Maturity Distribution



Top Issuers

Issuer	PAR	% Portfolio
Fed Farm Credit Bank	80,000,000	22.25%
Fed Home Loan Bank	69,000,000	19.19%
State of California Treasury - LAIF	65,000,000	18.08%
US Treasury	60,000,000	16.69%
Fed Natl Mortgage Assoc	55,550,000	15.45%
Fed Home Loan Mortgage Corp	30,000,000	8.34%
Grand Total	359,550,000	100.00%

IRVINE RANCH WATER DISTRICT
INVESTMENT SUMMARY REPORT

09/30/19

SETTLMT	Call Schedule	Initial Call	Maturity Date	Rating	INVESTMENT TYPE	INSTITUTION / ISSUER	PAR Amount	COUPON DISCOUNT	YIELD	ORIGINAL COST	CARRY VALUE	MARKET VALUE ⁽¹⁾ 9/30/2019	UNREALIZED ⁽²⁾ GAIN/(LOSS)
08/23/17			10/01/19		LAIF	State of California Tsy.	\$65,000,000		2.320%	\$65,000,000.00	\$65,000,000.00	65,106,783.11	106,783.11
04/18/19	NA	NA	10/01/19	NR	FHLB - Discount Note	Fed Home Loan Bank	10,000,000	2.370%	2.429%	9,890,717.00	10,000,000.00	9,999,500.00	(500.00)
10/12/16	Continuous after	10/03/17	10/03/19	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	10,000,000	1.125%	1.160%	9,989,780.00	9,999,792.97	9,999,400.00	(392.97)
10/12/16	Continuous after	10/11/17	10/11/19	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	10,000,000	1.120%	1.205%	9,975,000.00	9,999,314.44	9,997,900.00	(1,414.44)
09/09/19	NA	NA	10/22/19	NR	FHLB - Discount Note	Fed Home Loan Bank	5,000,000	2.000%	2.033%	4,988,055.55	4,991,388.88	4,994,250.00	2,861.12
06/14/19	NA	NA	11/05/19	NR	FHLB - Discount Note	Fed Home Loan Bank	5,000,000	2.130%	2.178%	4,957,400.00	4,989,645.83	4,990,600.00	954.17
11/08/16	Quarterly	05/08/17	11/08/19	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.250%	1.245%	5,000,750.00	5,000,026.03	4,995,900.00	(4,126.03)
11/28/16	NA	NA	11/15/19	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	1.375%	1.440%	4,990,550.00	4,999,606.98	4,996,700.00	(2,906.98)
05/30/19	NA	NA	11/19/19	NR	FFCB - Discount Note	Fed Farm Credit Bank	5,000,000	2.315%	2.374%	4,944,375.69	4,984,245.14	4,986,950.00	2,704.86
11/28/16	Quarterly	05/25/17	11/25/19	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.400%	1.503%	4,985,000.00	4,999,244.51	4,994,800.00	(4,444.51)
09/18/19	NA	NA	12/05/19	NR	FHLB - Discount Note	Fed Home Loan Bank	4,000,000	1.920%	1.955%	3,983,360.00	3,986,133.33	3,986,200.00	66.67
12/12/16	NA	NA	12/12/19	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.450%	1.440%	5,001,450.00	5,000,094.10	4,996,450.00	(3,644.10)
12/21/16	NA	NA	12/19/19	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.500%	1.621%	4,982,350.00	4,998,724.29	4,996,700.00	(2,024.29)
12/20/17	NA	NA	01/17/20	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	1.500%	1.932%	4,956,250.00	4,987,879.29	4,993,550.00	5,670.71
10/16/17	NA	NA	02/28/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.500%	1.612%	4,987,025.00	4,997,750.00	4,992,350.00	(5,400.00)
12/19/18	NA	NA	02/29/20	Aaa/NR/AAA	Treasury - Note	US Treasury	10,000,000	1.250%	2.672%	9,833,593.76	9,937,550.06	9,973,437.50	35,887.44
12/20/17	NA	NA	03/13/20	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	4.125%	1.940%	5,237,200.00	5,077,512.53	5,051,550.00	(25,962.53)
12/20/18	NA	NA	03/31/20	Aaa/NR/AAA	Treasury - Note	US Treasury	10,000,000	2.250%	2.665%	9,948,000.00	9,978,398.29	10,017,578.00	39,179.71
10/03/17	NA	NA	04/20/20	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	1.375%	1.630%	4,968,350.00	4,993,125.48	4,986,000.00	(7,125.48)
06/29/18	NA	NA	04/23/20	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	2.500%	2.544%	4,996,000.00	4,998,850.93	5,017,250.00	18,399.07
06/29/18	NA	NA	05/15/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	2.550%	2.566%	4,998,450.00	4,999,487.10	5,018,500.00	19,012.90
11/21/17	Continuous after	02/20/18	05/20/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.830%	1.930%	4,987,500.00	4,990,751.83	5,000,000.00	9,248.17
06/11/18	NA	NA	06/11/20	Aaa/NR/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	2.550%	2.570%	4,997,100.00	4,998,992.34	5,025,350.00	26,357.66
11/10/17	NA	NA	06/22/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.500%	1.750%	4,968,000.00	4,996,967.62	4,985,000.00	(11,967.62)
04/19/18	NA	NA	07/30/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.500%	2.535%	4,886,000.00	4,958,533.01	4,986,100.00	27,566.99
06/08/18	NA	NA	07/30/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.500%	2.559%	4,890,100.00	4,957,471.65	4,986,100.00	28,628.35
12/20/17	Quarterly	11/10/16	08/10/20	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	1.450%	2.052%	4,923,000.00	4,966,771.78	4,983,400.00	16,628.22
09/14/18	NA	NA	08/24/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	2.680%	2.789%	4,989,700.00	4,995,241.69	5,039,000.00	43,758.31
05/21/18	Continuous after	12/01/17	09/01/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.680%	2.735%	4,884,250.00	4,953,366.91	4,994,500.00	41,133.09
09/14/18	NA	NA	09/04/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	2.690%	2.794%	4,990,050.00	4,995,321.71	5,040,750.00	45,428.29
12/12/17	One Time	09/28/18	09/28/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	2.000%	2.000%	5,000,000.00	5,000,000.00	5,000,750.00	750.00
10/31/17	One Time	10/30/18	10/30/20	Aaa/NR/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,550,000	1.850%	1.850%	5,550,000.00	5,550,000.00	5,540,232.00	(9,768.00)
09/28/18	NA	NA	10/31/20	Aaa/NR/AAA	Treasury - Note	US Treasury	5,000,000	1.750%	2.847%	4,889,453.13	4,836,205.42	4,996,679.70	160,474.28
12/13/17	Continuous after	08/23/17	11/23/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.770%	2.060%	4,958,750.00	4,979,758.36	4,994,850.00	15,091.64
12/13/17	Quarterly	05/24/18	11/24/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.900%	2.023%	4,982,500.00	4,991,404.36	5,000,450.00	9,045.64

IRVINE RANCH WATER DISTRICT
INVESTMENT SUMMARY REPORT

09/30/19

SETTLMT	Call Schedule	Initial Call	Maturity Date	Rating	INVESTMENT TYPE	INSTITUTION / ISSUER	PAR Amount	COUPON DISCOUNT	YIELD	ORIGINAL COST	CARRY VALUE	MARKET VALUE ⁽¹⁾ 9/30/2019	UNREALIZED ⁽²⁾ GAIN/(LOSS)
11/30/17	NA	NA	11/24/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.850%	1.964%	4,983,550.00	4,993,661.47	5,000,200.00	6,538.53
12/20/17	NA	NA	12/28/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.875%	2.023%	4,978,400.00	4,989,121.74	5,000,500.00	11,378.26
11/09/18	NA	NA	12/31/20	Aaa/NR/AAA	Treasury - Note	US Treasury	5,000,000	2.375%	2.958%	4,939,843.75	4,964,889.65	5,035,351.50	70,461.85
10/12/18	NA	NA	01/31/21	Aaa/NR/AAA	Treasury - Note	US Treasury	10,000,000	1.375%	2.890%	9,664,843.76	9,805,752.68	9,947,656.20	141,903.52
12/14/18	NA	NA	02/16/21	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	2.375%	2.806%	4,954,750.00	4,970,288.68	5,042,450.00	72,161.32
12/14/18	NA	NA	02/28/21	Aaa/NR/AAA	Treasury - Note	US Treasury	5,000,000	2.000%	2.755%	4,919,515.95	4,946,742.90	5,017,578.00	70,835.10
02/12/19	NA	NA	03/12/21	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	10,000,000	2.500%	2.516%	9,996,500.00	9,997,565.22	10,102,300.00	104,734.78
02/25/19	NA	NA	03/12/21	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	2.375%	2.549%	4,982,700.00	4,987,755.50	5,042,000.00	54,244.50
06/17/19	NA	NA	03/17/21	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.950%	1.938%	5,001,050.00	5,000,875.82	5,009,950.00	9,074.18
06/14/19	NA	NA	04/30/21	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.750%	1.913%	4,985,000.00	4,987,383.38	5,003,000.00	15,616.62
09/13/19	NA	NA	05/15/21	Aaa/NR/AAA	Treasury - Note	US Treasury	5,000,000	2.625%	1.757%	5,071,093.75	5,068,995.90	5,072,070.00	3,074.10
09/18/19	NA	NA	06/11/21	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	2.250%	1.786%	5,039,300.00	5,038,491.61	5,046,350.00	7,858.39
07/26/19	NA	NA	07/19/21	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.875%	1.927%	4,995,000.00	4,995,462.71	5,008,850.00	13,387.29
08/01/19	NA	NA	08/31/21	Aaa/NR/AAA	Treasury - Note	US Treasury	5,000,000	1.125%	1.816%	4,929,687.50	4,935,323.59	4,949,414.05	14,090.46
09/27/19	Quarterly	03/27/20	09/27/21	NA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	2.000%	2.000%	5,000,000.00	5,000,000.00	5,000,000.00	
03/08/19	NA	NA	01/15/22	Aaa/AA+/NR	Treasury - Note	US Treasury	5,000,000	2.500%	2.460%	5,005,468.75	5,004,384.43	5,096,875.00	92,490.57
03/21/19	NA	NA	02/03/22	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	2.030%	2.361%	4,954,350.00	4,962,784.38	5,040,750.00	77,965.62
03/08/19	NA	NA	03/11/22	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	2.500%	2.549%	5,002,750.00	5,002,232.03	5,101,300.00	99,067.97

TOTAL INVESTMENTS

\$359,550,000

\$357,913,863.59

\$358,741,268.55

\$360,182,105.06

\$1,440,836.51

Petty Cash
Ck Balance

Bank of America

3,400.00

273,413.00

\$358,190,676.59

⁽¹⁾ LAIF market value is as of the most recent quarter-end as reported by LAIF.

Security market values are determined using Bank of New York ("Trading Prices"), Bloomberg and/or broker dealer pricing.

⁽²⁾ Gain (loss) calculated against carry value using the trading value provided by Bank of New York/or Brokers

⁽³⁾ Real estate rate of return is based on most recent quarter end return

Outstanding Variable Rate Debt	\$270,200,000
Net Outstanding Variable Rate Debt (Less \$60 million fixed-payer swaps)	\$210,200,000
Investment Balance:	\$358,190,677
Investment to Variable Rate Debt Ratio:	170%
Portfolio - Average Number of Days To Maturity	262

	Investment Portfolio	Real Estate ⁽³⁾ Portfolio	Weighted Avg. Return
September	2.13%	9.37%	4.38%
August	2.14%	8.94%	4.19%
Change	-0.01%		0.19%

This Investment Summary Report is in conformity with the 2019 Investment Policy and provides sufficient liquidity to meet the next six months estimated expenditures.

*S - Step up

IRVINE RANCH WATER DISTRICT
SUMMARY OF MATURITIES

09/30/19

DATE	TOTAL	%	LAIF	Agency Notes	Agency Discount Notes	Collateral Deposit	US Treasury
09/19	\$65,000,000	18.08%	\$65,000,000				
10/19	35,000,000	9.73%		20,000,000	15,000,000		
11/19	25,000,000	6.95%		15,000,000	10,000,000		
12/19	14,000,000	3.89%		10,000,000	4,000,000		
01/20	5,000,000	1.39%		5,000,000			
02/20	15,000,000	4.17%		5,000,000			10,000,000
03/20	15,000,000	4.17%		5,000,000			10,000,000
04/20	10,000,000	2.78%		10,000,000			
05/20	10,000,000	2.78%		10,000,000			
06/20	10,000,000	2.78%		10,000,000			
07/20	10,000,000	2.78%		10,000,000			
08/20	10,000,000	2.78%		10,000,000			
SUB-TOTAL	\$224,000,000	62.30%	\$65,000,000	\$110,000,000	\$29,000,000		\$20,000,000
13 Months - 3 YEARS							
9/01/2020 - 11/30/2020	40,550,000	11.28%		35,550,000			5,000,000
12/01/2020 -02/28/2021	30,000,000	8.34%		10,000,000			20,000,000
03/01/2021 -5/31/2021	30,000,000	8.34%		25,000,000			5,000,000
06/01/2021 - 08/31/2021	15,000,000	4.17%		10,000,000			5,000,000
9/01/2021 - 11/30/2021	5,000,000	1.39%		5,000,000			
12/01/2021 -2/28/2022	10,000,000	2.78%		5,000,000			5,000,000
3/01/2022 - 04/30/2022	5,000,000	1.39%		5,000,000			
	-						
	-						
TOTALS	\$359,550,000	100.00%	\$65,000,000	\$205,550,000	\$29,000,000		\$60,000,000

% OF PORTFOLIO 18.08% 57.16% 8.07% 16.69%

Irvine Ranch Water District
Summary of Real Estate - Income Producing Investments
9/30/2019

	ACQUISITION DATE	PROPERTY TYPE	OWNERSHIP INTEREST	ORIGINAL COST	MARKET VALUE 9/30/2019	ANNUALIZED RATE OF RETURN QUARTER ENDED 9/30/2019
Sycamore Canyon	Dec-92	Apartments	Fee Simple	\$ 43,550,810	\$ 148,625,000	20.15%
Wood Canyon Villas	Jun-91	Apartments	Limited Partner	\$ 6,000,000	\$ 28,710,327	8.50%
ITC (230 Commerce)	Jul-03	Office Building	Fee Simple	\$ 5,739,845	\$ 11,730,000	9.29%
Waterworks Business Pk.	Nov-08	Research & Dev.	Fee Simple	\$ 8,630,577	\$ 9,180,000	6.64%
Sand Canyon Professional Center	Jul-12	Medical Office	Fee Simple	\$ 8,648,594	\$ 11,220,000	9.08%
Total - Income Properties				\$ 72,569,826	\$ 209,465,327	15.40%
OTHER REAL ESTATE DESCRIPTION						
Serrano Summit - Promissory Note	Sep-17	NA	NA	\$ 88,128,000	\$ 88,128,000	4.00%
Total - Income Producing Real Estate Investments				\$ 160,697,826	\$ 297,593,327	9.37%

IRVINE RANCH WATER DISTRICT INVESTMENT SUMMARY REPORT
INVESTMENT ACTIVITY
Sep-19

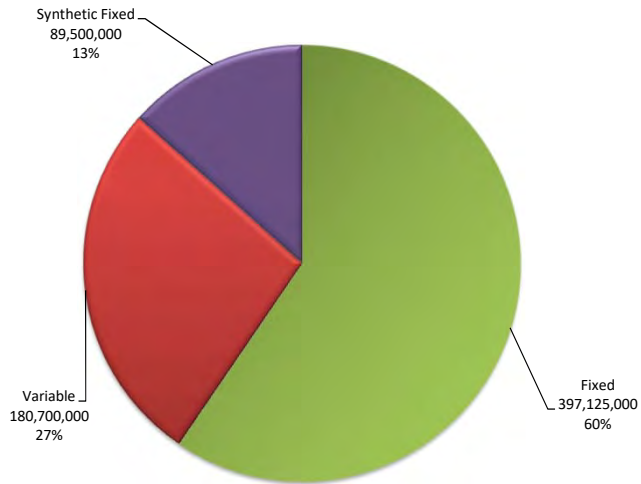
MATURITIES/SALES/CALLS

PURCHASES

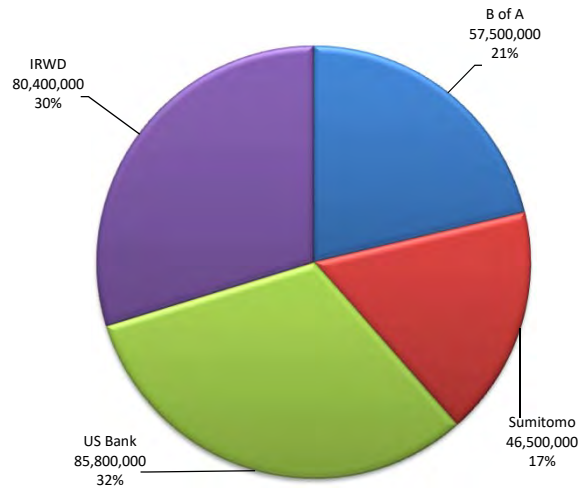
DATE	SECURITY TYPE	PAR	YIELD	Settlement Date	Maturity Date	SECURITY TYPE	PAR	YIELD TO MATURITY
9/9/2019	FNMA - Note	\$5,000,000	1.14%	9/9/2019	10/22/2019	FHLB - Discount Note	\$5,000,000	2.03%
9/13/2019	FHLB - Note	\$5,000,000	2.29%	9/13/2019	5/15/2021	Treasury - Note	\$5,000,000	1.76%
9/18/2019	FHLB - Discount Note	\$5,000,000	2.05%	9/18/2019	12/5/2019	FHLB - Discount Note	\$4,000,000	1.95%
9/27/2019	FHLB - Note	\$5,000,000	1.19%	9/18/2019	6/11/2021	FHLB - Note	\$5,000,000	1.79%
				9/27/2019	9/27/2021	FHLMC - Note	\$5,000,000	2.00%

Exhibit "B"
Irvine Ranch Water District
Summary of Fixed and Variable Rate Debt
September 2019

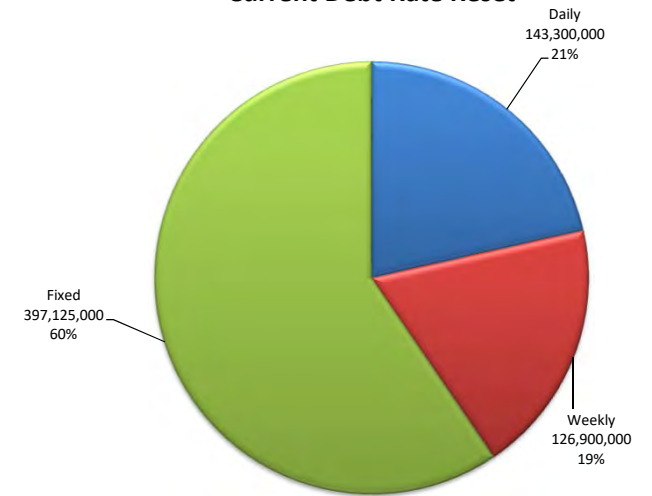
Current Debt Mix By Type



Letters of Credit / Support



Current Debt Rate Reset



Outstanding Par by Series

Series	Issue Date	Maturity Date	Remaining Principal	Percent	Letter of Credit/Support	Rmkt Agent	Mode	Reset
Series 1993	05/19/93	04/01/33	\$28,300,000	4.24%	US Bank	BAML	Variable	Daily
Series 2008-A Refunding	04/24/08	07/01/35	\$46,500,000	6.97%	Sumitomo	BAML	Variable	Weekly
Series 2011-A-1 Refunding	04/15/11	10/01/37	\$48,240,000	7.23%	IRWD	Goldman	Variable	Weekly
Series 2011-A-2 Refunding	04/15/11	10/01/37	\$32,160,000	4.82%	IRWD	Goldman	Variable	Weekly
Series 2009 - A	06/04/09	10/01/41	\$57,500,000	8.62%	US Bank	US Bank	Variable	Daily
Series 2009 - B	06/04/09	10/01/41	\$57,500,000	8.62%	B of A	Goldman	Variable	Daily
2010 Refunding COPS	02/23/10	03/01/20	\$1,980,000	0.30%	N/A	N/A	Fixed	Fixed
2016 COPS	09/01/16	03/01/46	\$116,745,000	17.49%	N/A	N/A	Fixed	Fixed
2010 Build America Taxable Bond	12/16/10	05/01/40	\$175,000,000	26.22%	N/A	N/A	Fixed	Fixed
Series 2016	10/12/16	02/01/46	\$103,400,000	15.49%	N/A	N/A	Fixed	Fixed
Total			\$667,325,000	100.00%				

IRVINE RANCH WATER DISTRICT
SUMMARY OF FIXED & VARIABLE RATE DEBT

September-19

ITN
Daily
Weekly

GENERAL BOND INFORMATION							LETTER OF CREDIT INFORMATION										TRUSTEE INFORMATION														
VARIABLE RATE ISSUES	Issue Date	Maturity Date	Principal Payment Date	Payment Date	Original Par Amount	Remaining Principal	Letter of Credit	Reimbursement Agreement Date	L/C Exp. Date	MOODY'S	S&P	FITCH	LOC Stated Amount	LOC Fee	Annual LOC Cost	Rmkt Agent	Reset	Rmkt Fees	Annual Cost	Trustee											
SERIES 1993	05/19/93	04/01/33	Apr 1	5th Bus. Day	\$38,300,000	\$28,300,000	US BANK	05/07/15	12/15/21	Aa3/VMIG1	AA-/A-1+	N/R	\$28,681,468	0.3300%	\$94,649	BAML	DAILY	0.10%	\$28,300	BANK OF NY											
SERIES 2008-A Refunding	04/24/08	07/01/35	Jul 1	5th Bus. Day	\$60,215,000	\$46,500,000	SUMITOMO	04/01/11	07/21/21	A1/P-1	A/A-1	A/F1	\$47,187,945	0.3150%	\$148,642	BAML	WED	0.07%	\$32,550	BANK OF NY											
SERIES 2011-A-1 Refunding	04/15/11	10/01/37	Oct 1	1st Bus. Day	\$60,545,000	\$48,240,000	N/A	N/A	N/A	Aa1/VMIG1	A-1+	AAA/F1+	N/A	N/A	N/A	Goldman	WED	0.13%	\$60,300	BANK OF NY											
SERIES 2011-A-2 Refunding	04/15/11	10/01/37	Oct 1	1st Bus. Day	\$40,370,000	\$32,160,000	N/A	N/A	N/A	Aa1/VMIG1	A-1+	AAA/F1+	N/A	N/A	N/A	Goldman	WED	0.13%	\$40,200	BANK OF NY											
SERIES 2009 - A	06/04/09	10/01/41	Oct 1	1st Bus. Day	\$75,000,000	\$57,500,000	US BANK	04/01/11	12/15/21	Aa2/VMIG 1	AA-/A-1+	AA/F1+	\$58,142,740	0.3300%	\$191,871	US Bank	DAILY	0.07%	\$40,250	US BANK											
SERIES 2009 - B	06/04/09	10/01/41	Oct 1	1st Bus. Day	\$75,000,000	\$57,500,000	B of A	04/01/11	05/16/22	Aa2/VMIG 1	A/A-1	A1/F1+	\$58,142,740	0.3000%	\$174,428	Goldman	DAILY	0.10%	\$57,500	US BANK											
\$349,430,000						\$270,200,000						SUB-TOTAL VARIABLE RATE DEBT					\$192,154,893					0.3172%					\$609,590				
															(Wt. Avg)					(Wt. Avg)											
FIXED RATE ISSUES																															
2010 REFUNDING COPS	02/23/10	03/01/20	Mar 1	Mar/Sept	\$85,145,000	\$1,980,000	N/A	N/A	N/A	Aa1	AAA	AAA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	BANK OF NY										
2010 GO Build America Taxable Bonds	12/16/10	05/01/40	May (2025)	May/Nov	\$175,000,000	\$175,000,000	N/A	N/A	N/A	Aa1	AAA	NR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	US BANK										
2016 COPS	09/01/16	03/01/46	Mar (2021)	Mar/Sept	\$116,745,000	\$116,745,000	N/A	N/A	N/A	NR	AAA	AAA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	US BANK										
SERIES 2016	10/12/16	02/01/46	Feb (2022)	Feb/Aug	\$103,400,000	\$103,400,000	N/A	N/A	N/A	NR	AAA	AAA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	BANK OF NY										
\$480,290,000						\$397,125,000						SUB-TOTAL FIXED RATE DEBT																			
\$829,720,000						\$667,325,000						TOTAL- FIXED & VARIABLE RATE DEBT																			

Remarketing Agents			GO VS COP's		
Goldman	137,900,000	51%	GO:	548,600,000	82%
BAML	74,800,000	28%	COPS:	118,725,000	18%
US Bank	57,500,000	21%	Total	<u>667,325,000</u>	
	<u>270,200,000</u>				

LOC Banks		Breakdown Between Variable & Fixed Rate Mode	
SUMITOMO	46,500,000	Daily Issues	143,300,000 21%
BANK OF AMERICA	57,500,000	Weekly Issues	46,500,000 7%
US BANK	85,800,000	ITN Issues	80,400,000 12%
	<u>189,800,000</u>	Sub-Total	<u>270,200,000</u>
		Fixed Rate Issues	\$397,125,000 60%
		Sub-Total - Fixed	<u>397,125,000</u>
		TOTAL DEBT	
		FIXED & VAR.	<u>667,325,000</u> 100%

IRVINE RANCH WATER DISTRICT
SUMMARY OF DEBT RATES
Sep-19

Rmkt Agent Mode	GOLDMAN DAILY	GOLDMAN WEEKLY	GOLDMAN WEEKLY	MERRILL LYNCH DAILY	MERRILL LYNCH WEEKLY	US BANK DAILY
Bond Issue	2009 - B	2011 A-1	2011 A-2	1993	2008-A	2009-A
Par Amount	57,500,000	48,240,000	32,160,000	28,300,000	46,500,000	57,500,000
Bank	BOFA	(SIFMA -1)	(SIFMA -1)	US BANK	Sumitomo	US BANK
Reset		Wednesday	Wednesday	Wednesday	Wednesday	
9/1/2019	1.07%	1.34%	1.34%	1.15%	1.27%	1.20%
9/2/2019	1.07%	1.34%	1.34%	1.15%	1.27%	1.20%
9/3/2019	0.92%	1.34%	1.34%	1.09%	1.27%	1.10%
9/4/2019	0.95%	1.34%	1.34%	1.07%	1.27%	1.05%
9/5/2019	0.95%	1.27%	1.27%	1.01%	1.17%	1.02%
9/6/2019	1.00%	1.27%	1.27%	1.02%	1.17%	1.00%
9/7/2019	1.00%	1.27%	1.27%	1.02%	1.17%	1.00%
9/8/2019	1.00%	1.27%	1.27%	1.02%	1.17%	1.00%
9/9/2019	1.00%	1.27%	1.27%	1.03%	1.17%	1.00%
9/10/2019	1.00%	1.27%	1.27%	1.02%	1.17%	1.00%
9/11/2019	1.02%	1.27%	1.27%	1.05%	1.17%	1.02%
9/12/2019	1.02%	1.30%	1.30%	1.04%	1.18%	1.02%
9/13/2019	1.02%	1.30%	1.30%	1.06%	1.18%	1.02%
9/14/2019	1.02%	1.30%	1.30%	1.06%	1.18%	1.02%
9/15/2019	1.02%	1.30%	1.30%	1.06%	1.18%	1.02%
9/16/2019	1.06%	1.30%	1.30%	1.07%	1.18%	1.05%
9/17/2019	1.05%	1.30%	1.30%	1.08%	1.18%	1.05%
9/18/2019	1.05%	1.30%	1.30%	1.10%	1.18%	1.05%
9/19/2019	1.06%	1.46%	1.46%	1.10%	1.35%	1.10%
9/20/2019	1.13%	1.46%	1.46%	1.12%	1.35%	1.11%
9/21/2019	1.13%	1.46%	1.46%	1.12%	1.35%	1.11%
9/22/2019	1.13%	1.46%	1.46%	1.12%	1.35%	1.11%
9/23/2019	1.12%	1.46%	1.46%	1.17%	1.35%	1.12%
9/24/2019	1.14%	1.46%	1.46%	1.23%	1.35%	1.15%
9/25/2019	1.15%	1.46%	1.46%	1.31%	1.35%	1.18%
9/26/2019	1.25%	1.57%	1.57%	1.37%	1.40%	1.27%
9/27/2019	1.35%	1.57%	1.57%	1.44%	1.40%	1.35%
9/28/2019	1.35%	1.57%	1.57%	1.44%	1.40%	1.35%
9/29/2019	1.35%	1.57%	1.57%	1.44%	1.40%	1.35%
9/30/2019	1.37%	1.57%	1.57%	1.54%	1.40%	1.38%
Avg Interest Rates	1.09%	1.38%	1.38%	1.15%	1.27%	1.11%
Rmkt Fee	0.10%	0.13%	0.13%	0.10%	0.07%	0.07%
LOC Fee	0.30%			0.33%	0.32%	0.33%
All-In Rate	1.49%	1.51%	1.51%	1.58%	1.65%	1.51%
Par Amount	105,740,000		32,160,000	74,800,000		57,500,000

Interest Rate Mode	Percent of Total Variable Rate Debt	Par Outstanding	Weighted All-In Average Rate	Base Rate Average
Daily	53.03%	143,300,000	1.52%	1.11%
Weekly	46.97%	126,900,000	1.56%	1.34%
	100.00%	\$ 270,200,000	1.54%	1.22%
Fixed				
COPS 2010	0.50%	1,980,000	3.82%	
COPS 2016	29.40%	116,745,000	2.90%	
BABS 2010	44.07%	175,000,000	4.44%	(1)
SERIES 2016	26.04%	103,400,000	3.32%	
	100.00%	\$ 397,125,000	3.69%	
All-In Debt Rate Including \$60 Million Notional Amount of Swaps				3.11%

(1) Rate adjusted up from 4.35% as a result of sequestration reducing BAB's subsidy by 5.9%

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**IRVINE RANCH WATER DISTRICT
INTEREST RATE SWAP MONTHLY SUMMARY REPORT - DETAIL
September 30, 2019**

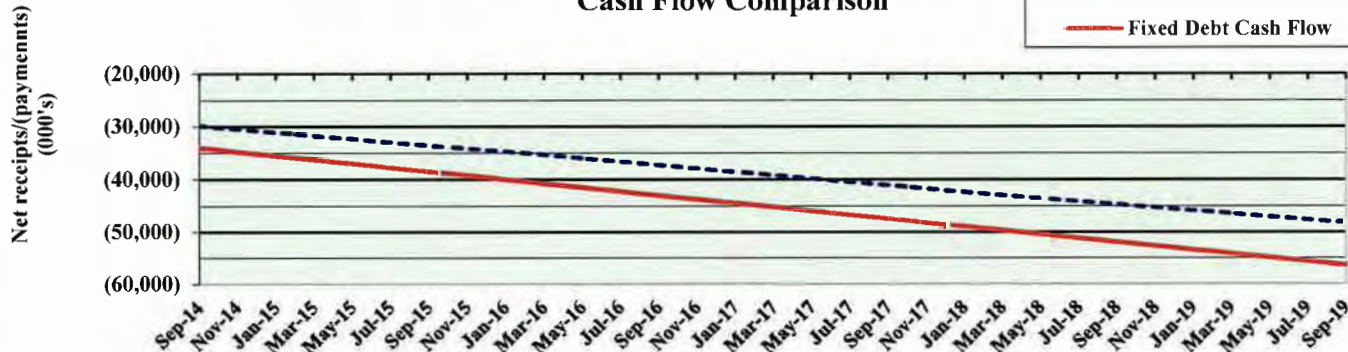
LIBOR Avg %	Prior Mo.	Current Mo.	12-Mo Avg
	2.17%	2.04%	2.35%

Current Fiscal Year Active Swaps								Cash Flow				(Since 3/07)	Mark to Market	
Effective Date	Maturity Date	Years to Maturity	Counter Party	Notional Amt	Type	Base Index	Fixed Rate	Prior Month	Current Month	Fiscal YTD	Cumulative Net Accrual	Current Mark to Market	Notional Difference	
Fixed Payer Swaps - By Effective Date														
3/10/2007	3/10/2029	9.4	ML	30,000,000	FXP	LIBOR	5.687%	(80,926)	(60,633)	(232,193)	(17,077,920)	18,713,952	(11,286,048)	
3/10/2007	3/10/2029	9.4	CG	30,000,000	FXP	LIBOR	5.687%	(80,926)	(60,633)	(232,193)	(17,077,920)	18,716,515	(11,283,485)	
Totals/Weighted Avgs		9.4		\$ 60,000,000			5.687%	\$ (161,852)	\$ (121,266)	\$ (464,386)	\$ (34,155,839)	\$ 37,430,467	\$ (22,569,533)	
Total Current Year Active Swaps				\$ 60,000,000				\$ (161,852)	\$ (121,266)	\$ (464,386)	\$ (34,155,839)	\$ 37,430,467	\$ (22,569,533)	

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

Current Fiscal Year - Total Swaps								Cash Flow				Mark to Market	
								Prior Month	Current Month	Fiscal YTD	Cumulative Net Accrual	Current Mark to Market	Notional Difference
Total Current Year Active & Terminated Swaps				\$ 60,000,000				\$ (161,852)	\$ (121,266)	\$ (464,386)	\$ (34,155,839)	\$ 37,430,467	\$ (22,569,533)

**Interest Rate Swap Portfolio
Cash Flow Comparison**



Cash Flow Comparison Synthetic Fixed vs. Fixed Rate Debt	
Cash Flow to Date	
Synthetic Fixed =	\$48,105,741
Fixed Rate =	\$59,724,129
Assumptions:	
- Fixed rate debt issued at 4.93% in Mar-07 (estimated TE rate - Bloomberg)	
- 'Synthetic' includes swap cash flow + interest + fees to date	

Note: This page is intentionally left blank.

Exhibit "D"
IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
401771	NATIONAL WATER RESEARCH INSTITUTE	3-Sep-19	IRWD Check	50,000.00	Reconciled
401772	JESUS MASTACHE	4-Sep-19	IRWD Check	1,070.00	Reconciled
401773	IRWD-PETTY CASH CUSTODIAN	4-Sep-19	IRWD Check	1,109.46	Reconciled
401774	Chaney, David (Dave)	5-Sep-19	IRWD Check	286.00	Reconciled
401775	Crowe, David M (David)	5-Sep-19	IRWD Check	1,147.85	Reconciled
401776	Fabris, John	5-Sep-19	IRWD Check	12.18	Reconciled
401777	Hoffman, Michael S (Mike)	5-Sep-19	IRWD Check	99.00	Reconciled
401778	Marcacci, Mark	5-Sep-19	IRWD Check	116.00	Reconciled
401779	Morse, Devon	5-Sep-19	IRWD Check	78.26	Reconciled
401780	Nash, Joel	5-Sep-19	IRWD Check	75.40	Reconciled
401781	Nguyen, Quynh-Giao (Quynh)	5-Sep-19	IRWD Check	22.54	Reconciled
401782	Oldewage, Lars D (Lars)	5-Sep-19	IRWD Check	71.00	Reconciled
401783	Reynoso, Pio (Pio)	5-Sep-19	IRWD Check	99.00	Reconciled
401784	Zanetti, Enrique	5-Sep-19	IRWD Check	8.00	Negotiable
401785	AMAZON CAPITAL SERVICES, INC.	5-Sep-19	IRWD Check	203.57	Reconciled
401786	ANTHEM BLUE CROSS	5-Sep-19	IRWD Check	234.65	Reconciled
401787	ANTHEM BLUE CROSS	5-Sep-19	IRWD Check	597.14	Reconciled
401788	AQUA-METRIC SALES COMPANY	5-Sep-19	IRWD Check	30,669.31	Reconciled
401789	AT&T	5-Sep-19	IRWD Check	56.24	Reconciled
401790	AT&T	5-Sep-19	IRWD Check	4,119.37	Reconciled
401791	AT&T	5-Sep-19	IRWD Check	570.90	Reconciled
401792	AUTOZONE PARTS, INC.	5-Sep-19	IRWD Check	381.01	Reconciled
401793	AVALOS, STACY S	5-Sep-19	IRWD Check	55.02	Reconciled
401794	BANUELOS, MARTHA	5-Sep-19	IRWD Check	149.60	Reconciled
401795	BEST DRILLING AND PUMP, INC.	5-Sep-19	IRWD Check	61,400.00	Reconciled
401796	BIGI, MICHAEL	5-Sep-19	IRWD Check	50.17	Negotiable
401797	BILL'S SWEEPING SERVICE INC	5-Sep-19	IRWD Check	1,072.50	Reconciled
401798	BROWN AND CALDWELL	5-Sep-19	IRWD Check	132,598.42	Reconciled
401799	C WELLS PIPELINE MATERIALS INC	5-Sep-19	IRWD Check	985.92	Reconciled
401800	CADMUS, SONYA	5-Sep-19	IRWD Check	36.83	Reconciled
401801	CALIFORNIA BARRICADE RENTAL, INC.	5-Sep-19	IRWD Check	5,320.00	Reconciled
401802	CANON SOLUTIONS AMERICA, INC.	5-Sep-19	IRWD Check	1,077.21	Reconciled
401803	CANON SOLUTIONS AMERICA, INC.	5-Sep-19	IRWD Check	5.39	Reconciled
401804	CDW GOVERNMENT LLC	5-Sep-19	IRWD Check	5,336.14	Reconciled
401805	CHARLES P CROWLEY COMPANY INC	5-Sep-19	IRWD Check	927.38	Reconciled
401806	CHEM TECH INTERNATIONAL INC	5-Sep-19	IRWD Check	18,002.04	Reconciled
401807	CHITTOOR PREM, AISHANI	5-Sep-19	IRWD Check	65.23	Negotiable
401808	CITY OF TUSTIN	5-Sep-19	IRWD Check	4,301.86	Reconciled
401809	COLONIAL LIFE & ACCIDENT INSURANCE CO.	5-Sep-19	IRWD Check	3,600.86	Reconciled
401810	CONSTELLATION NEWENERGY, INC.	5-Sep-19	IRWD Check	39,460.94	Reconciled
401811	COOMBS SERVICE GROUP	5-Sep-19	IRWD Check	44,250.00	Reconciled
401812	COUNTY CIRCUIT BREAKERS	5-Sep-19	IRWD Check	7,937.01	Reconciled
401813	COX COMMUNICATIONS, INC.	5-Sep-19	IRWD Check	416.76	Reconciled
401814	CRANE DEVELOPMENT	5-Sep-19	IRWD Check	447.74	Negotiable
401815	CUTRIGHT, LOUISE	5-Sep-19	IRWD Check	47.00	Reconciled
401816	CYFIR LLC	5-Sep-19	IRWD Check	92,236.65	Reconciled
401817	DATASITE INC	5-Sep-19	IRWD Check	6,476.00	Reconciled
401818	DEALERS SERVICE, INC	5-Sep-19	IRWD Check	1,969.94	Reconciled
401819	DILEEP, GAYATHRI	5-Sep-19	IRWD Check	1.95	Negotiable
401820	EAGLE INDUSTRIAL GROUP INC	5-Sep-19	IRWD Check	221.22	Reconciled
401821	EAST ORANGE COUNTY WATER DISTRICT	5-Sep-19	IRWD Check	50,194.58	Reconciled
401822	EKI ENVIRONMENT & WATER, INC.	5-Sep-19	IRWD Check	14,351.19	Reconciled
401823	ENVIRONMENTAL ENGINEERING AND CONTRACTING, INC.	5-Sep-19	IRWD Check	20,387.50	Reconciled
401824	EXECUTIVE LIGHTING & ELECTRIC	5-Sep-19	IRWD Check	1,647.82	Reconciled
401825	FARRELL & ASSOCIATES	5-Sep-19	IRWD Check	3,331.81	Reconciled
401826	FIRE EXTINGUISHING SAFETY & SERVICE	5-Sep-19	IRWD Check	613.06	Reconciled
401827	FIRST CHOICE SERVICES	5-Sep-19	IRWD Check	911.38	Reconciled
401828	FISHER SCIENTIFIC COMPANY LLC	5-Sep-19	IRWD Check	2,284.84	Reconciled
401829	FLEET SOLUTIONS LLC	5-Sep-19	IRWD Check	4,933.52	Reconciled
401830	FOSTER, ERIC	5-Sep-19	IRWD Check	41.38	Reconciled
401831	FRONTIER CALIFORNIA INC.	5-Sep-19	IRWD Check	285.22	Reconciled
401832	GAMAL, JENNIFER	5-Sep-19	IRWD Check	610.95	Reconciled
401833	GANAHL LUMBER CO.	5-Sep-19	IRWD Check	105.60	Reconciled

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
401834	GEI CONSULTANTS INC	5-Sep-19	IRWD Check	1,188.25	Reconciled
401835	GEIGER BROS	5-Sep-19	IRWD Check	3,812.41	Reconciled
401836	GRAINGER	5-Sep-19	IRWD Check	4,322.12	Reconciled
401837	GRAYBAR ELECTRIC COMPANY	5-Sep-19	IRWD Check	3,368.45	Reconciled
401838	HAAKER EQUIPMENT COMPANY	5-Sep-19	IRWD Check	878.36	Reconciled
401839	HACH COMPANY	5-Sep-19	IRWD Check	14,045.66	Reconciled
401840	HARRINGTON INDUSTRIAL PLASTICS LLC	5-Sep-19	IRWD Check	2,047.27	Reconciled
401841	HART BROTHERS CONSTRUCTION INC	5-Sep-19	IRWD Check	1,171.35	Reconciled
401842	HARTFORD LIFE AND ACCIDENT INSURANCE COMPANY	5-Sep-19	IRWD Check	144.60	Reconciled
401843	HATAMI, FRED	5-Sep-19	IRWD Check	39.04	Negotiable
401844	HDR ENGINEERING INC	5-Sep-19	IRWD Check	35,076.11	Reconciled
401845	HELPMATES STAFFING SERVICES	5-Sep-19	IRWD Check	9,258.75	Reconciled
401846	HILL BROTHERS CHEMICAL COMPANY	5-Sep-19	IRWD Check	5,357.80	Reconciled
401847	IDEXX DISTRIBUTION, INC	5-Sep-19	IRWD Check	1,216.50	Reconciled
401848	INDUSTRIAL METAL SUPPLY CO	5-Sep-19	IRWD Check	63.01	Reconciled
401849	INFOSYS LIMITED	5-Sep-19	IRWD Check	26,880.00	Reconciled
401850	IRVINE PACIFIC	5-Sep-19	IRWD Check	223.16	Reconciled
401851	IRVINE PIPE & SUPPLY INC	5-Sep-19	IRWD Check	1,797.44	Reconciled
401852	IRVINE UNIFIED SCHOOL DISTRICT	5-Sep-19	IRWD Check	46,819.36	Reconciled
401853	KILL-N-BUGS TERMITE AND PEST CONTROL SERVICES	5-Sep-19	IRWD Check	4,400.00	Reconciled
401854	KIMBALL MIDWEST	5-Sep-19	IRWD Check	257.63	Reconciled
401855	KOH, MICHELLE	5-Sep-19	IRWD Check	68.10	Reconciled
401856	KOURY ENGINEERING & TESTING, INC.	5-Sep-19	IRWD Check	31,617.75	Reconciled
401857	LAMAISON, DENISE	5-Sep-19	IRWD Check	363.08	Reconciled
401858	LANDCARE HOLDINGS, INC.	5-Sep-19	IRWD Check	43,138.38	Reconciled
401859	LANDSEA HOLDINGS CORPORATION	5-Sep-19	IRWD Check	337.02	Negotiable
401860	LANDSEA HOMES	5-Sep-19	IRWD Check	2,330.00	Reconciled
401861	LE, KIM DUNG	5-Sep-19	IRWD Check	59.63	Reconciled
401862	LENNAR HOMES	5-Sep-19	IRWD Check	1,738.76	Reconciled
401863	LIGHTMAN, KRISTINA	5-Sep-19	IRWD Check	38.92	Reconciled
401864	LIM, YEON JUN	5-Sep-19	IRWD Check	23.13	Reconciled
401865	LUBRICATION ENGINEERS, INC.	5-Sep-19	IRWD Check	624.38	Reconciled
401866	LY, TEVIN	5-Sep-19	IRWD Check	35.17	Negotiable
401867	MAILFINANCE INC	5-Sep-19	IRWD Check	3,265.46	Reconciled
401868	MARK KADESH	5-Sep-19	IRWD Check	10,000.00	Reconciled
401869	MBC AQUATIC SCIENCES, INC.	5-Sep-19	IRWD Check	1,350.00	Reconciled
401870	MBF CONSULTING, INC.	5-Sep-19	IRWD Check	8,035.96	Reconciled
401871	MC MASTER CARR SUPPLY CO	5-Sep-19	IRWD Check	905.17	Reconciled
401872	MISSION COMMUNICATIONS, LLC	5-Sep-19	IRWD Check	158.00	Reconciled
401873	MOBILE MODULAR MANAGEMENT CORPORATION	5-Sep-19	IRWD Check	1,212.19	Reconciled
401874	MSC INDUSTRIAL SUPPLY CO	5-Sep-19	IRWD Check	1,227.92	Reconciled
401875	MUJEEB-U-RAHMAN, MUHAMMAD	5-Sep-19	IRWD Check	27.38	Reconciled
401876	MUTUAL PROPANE	5-Sep-19	IRWD Check	108.03	Reconciled
401877	MW RESIDENTIAL ALTON MURPHY CORP	5-Sep-19	IRWD Check	1,213.73	Reconciled
401878	NINYO & MOORE	5-Sep-19	IRWD Check	1,282.50	Reconciled
401879	NMG GEOTECHNICAL INC	5-Sep-19	IRWD Check	8,826.80	Reconciled
401880	OCTA	5-Sep-19	IRWD Check	6,043.00	Reconciled
401881	OLIN CORPORATION	5-Sep-19	IRWD Check	25,424.54	Reconciled
401882	ORANGE COUNTY AUTO PARTS CO	5-Sep-19	IRWD Check	599.81	Reconciled
401883	ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT	5-Sep-19	IRWD Check	3,060.17	Reconciled
401884	PACIFIC COAST BOLT CORP	5-Sep-19	IRWD Check	628.27	Reconciled
401885	PANDIT, RAKESH V	5-Sep-19	IRWD Check	218.47	Reconciled
401886	PARK PLACE MICHELSON LLC	5-Sep-19	IRWD Check	8,295.45	Reconciled
401887	PARKHOUSE TIRE INC	5-Sep-19	IRWD Check	3,917.22	Reconciled
401888	PHILLIPS PLYWOOD CO, INC.	5-Sep-19	IRWD Check	127.45	Reconciled
401889	POMEROY, GARY	5-Sep-19	IRWD Check	11.71	Negotiable
401890	PONNAYA, JOSEPH ALEXIS	5-Sep-19	IRWD Check	3,485.90	Reconciled
401891	PONTON INDUSTRIES INC	5-Sep-19	IRWD Check	960.00	Reconciled
401892	PUMP CHECK	5-Sep-19	IRWD Check	995.00	Reconciled
401893	RAM AIR ENGINEERING INC	5-Sep-19	IRWD Check	4,871.90	Reconciled
401894	RECOVCO MORTGAGE MANAGEMENT	5-Sep-19	IRWD Check	90.93	Negotiable
401895	ROSEDALE - RIO BRAVO WATER STORAGE DISTRICT	5-Sep-19	IRWD Check	6,908.94	Reconciled
401896	S & J SUPPLY CO INC	5-Sep-19	IRWD Check	1,508.50	Reconciled

**IRVINE RANCH WATER DISTRICT
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CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
401897	SAMILA AMANYRAOUFPOOR & IYAD AFALQA	5-Sep-19	IRWD Check	86.34	Reconciled
401898	SANDERS PAVING INC	5-Sep-19	IRWD Check	18,038.00	Reconciled
401899	SANTA ANA BLUE PRINT	5-Sep-19	IRWD Check	346.30	Reconciled
401900	SHAMROCK SUPPLY CO INC	5-Sep-19	IRWD Check	487.06	Reconciled
401901	SHEETS, DARRELL	5-Sep-19	IRWD Check	13.01	Negotiable
401902	SHUBIN, WENDY	5-Sep-19	IRWD Check	58.87	Reconciled
401903	SIRIUS COMPUTER SOLUTIONS INC	5-Sep-19	IRWD Check	62.50	Reconciled
401904	SKORUZ TECHNOLOGIES	5-Sep-19	IRWD Check	3,850.00	Reconciled
401905	SMT AUTOMOTIVE LLC	5-Sep-19	IRWD Check	449.40	Reconciled
401906	SOCAL HOSPITALITY LLC	5-Sep-19	IRWD Check	1,268.63	Reconciled
401907	SOUTH BAY FOUNDRY, INC	5-Sep-19	IRWD Check	7,542.50	Reconciled
401908	SOUTHERN CALIFORNIA EDISON COMPANY	5-Sep-19	IRWD Check	478,292.88	Reconciled
401909	SOUTHERN CALIFORNIA EDISON COMPANY	5-Sep-19	IRWD Check	82.03	Reconciled
401910	STANTEC CONSULTING SERVICES INC.	5-Sep-19	IRWD Check	7,964.50	Reconciled
401911	STEVEN HENDERSON AND SANDRA HENDERSON	5-Sep-19	IRWD Check	36.40	Reconciled
401912	SUPPORT PRODUCT SERVICES, INC	5-Sep-19	IRWD Check	1,277.95	Reconciled
401913	TE ROBERTS, INC	5-Sep-19	IRWD Check	1,481.30	Negotiable
401914	TESORO	5-Sep-19	IRWD Check	1,822.57	Negotiable
401915	TETRA TECH, INC	5-Sep-19	IRWD Check	5,465.50	Reconciled
401916	THOMPSON INDUSTRIAL SUPPLY	5-Sep-19	IRWD Check	6,489.99	Reconciled
401917	THYSSENKRUPP ELEVATOR CORPORATION	5-Sep-19	IRWD Check	198.24	Reconciled
401918	TIC-RETAIL PROPERTIES	5-Sep-19	IRWD Check	3,030.24	Reconciled
401919	TOLL BROS., INC.	5-Sep-19	IRWD Check	1,018.08	Reconciled
401920	TRAN, SON	5-Sep-19	IRWD Check	36.17	Reconciled
401921	TRI POINTE HOMES, INC.	5-Sep-19	IRWD Check	916.05	Reconciled
401922	UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA	5-Sep-19	IRWD Check	922.93	Reconciled
401923	VERIZON WIRELESS SERVICES LLC	5-Sep-19	IRWD Check	5,303.98	Reconciled
401924	VERTECH INDUSTRIAL SYSTEMS, LLC	5-Sep-19	IRWD Check	16,022.56	Reconciled
401925	WANG, DANDAN	5-Sep-19	IRWD Check	31.70	Reconciled
401926	WANG, JUAN	5-Sep-19	IRWD Check	2,101.20	Reconciled
401927	WARE MALCOMB	5-Sep-19	IRWD Check	24,596.06	Reconciled
401928	WAXIE'S ENTERPRISES, INC	5-Sep-19	IRWD Check	408.76	Reconciled
401929	YOUNG, DAVID	5-Sep-19	IRWD Check	158.53	Reconciled
401930	YSI, INC	5-Sep-19	IRWD Check	627.66	Reconciled
401931	YU, JOE	5-Sep-19	IRWD Check	65.70	Reconciled
401932	YU, XIAOFEI	5-Sep-19	IRWD Check	50.83	Reconciled
401933	ZANG, YANBIN	5-Sep-19	IRWD Check	136.03	Reconciled
401934	TESTAMERICA LABORATORIES, INC.	5-Sep-19	IRWD Check	541.80	Reconciled
401935	CALIFORNIA ASSOCIATION OF LOCAL AGENCY FORMATION COMMISSIONS (CALAFCO)	5-Sep-19	IRWD Check	750.00	Reconciled
401936	JCI JONES CHEMICALS INC	9-Sep-19	IRWD Check	2,486.06	Reconciled
401937	Barboza, Armando	12-Sep-19	IRWD Check	94.00	Reconciled
401938	Cariker, Cody J (Cody)	12-Sep-19	IRWD Check	12.76	Reconciled
401939	Castaneda, Natalie N (Natalie)	12-Sep-19	IRWD Check	52.20	Negotiable
401940	Colina, Dilcia E	12-Sep-19	IRWD Check	150.75	Reconciled
401941	Compton, Christine A	12-Sep-19	IRWD Check	119.55	Negotiable
401942	Corral, Edward Jr (Ed)	12-Sep-19	IRWD Check	120.00	Reconciled
401943	Cortez, Malcolm A (Malcolm)	12-Sep-19	IRWD Check	55.68	Negotiable
401944	Hansen, Casey	12-Sep-19	IRWD Check	36.66	Reconciled
401945	Hufana, Mr. Eugenio D II (Gino)	12-Sep-19	IRWD Check	122.38	Reconciled
401946	Koenig, Timothy (Tim)	12-Sep-19	IRWD Check	500.00	Negotiable
401947	Lao, Richard S	12-Sep-19	IRWD Check	127.60	Reconciled
401948	Magana, Husai	12-Sep-19	IRWD Check	607.50	Reconciled
401949	Murphy, Alexander J (Alexander)	12-Sep-19	IRWD Check	115.00	Reconciled
401950	Orozco, Linda	12-Sep-19	IRWD Check	55.00	Reconciled
401951	Phuong, Sophia	12-Sep-19	IRWD Check	150.00	Negotiable
401952	Prewoznik, Frank	12-Sep-19	IRWD Check	323.75	Reconciled
401953	Samaniego, Steven	12-Sep-19	IRWD Check	12.76	Negotiable
401954	ABSOLUTE STANDARDS, INC.	12-Sep-19	IRWD Check	227.50	Reconciled
401955	ACCUSOURCE, INC.	12-Sep-19	IRWD Check	321.25	Reconciled
401956	ACCUSTANDARD INC	12-Sep-19	IRWD Check	119.47	Reconciled
401957	ADAIR, MARIE	12-Sep-19	IRWD Check	42.93	Reconciled
401958	AEGIS ENGINEERING MANAGEMENT, INC.	12-Sep-19	IRWD Check	3,081.00	Reconciled
401959	AGILENT TECHNOLOGIES, INC.	12-Sep-19	IRWD Check	2,052.37	Reconciled

**IRVINE RANCH WATER DISTRICT
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CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
401960	AIRGAS, INC.	12-Sep-19	IRWD Check	1,231.71	Reconciled
401961	ALEXANDER'S CONTRACT SERVICES, INC.	12-Sep-19	IRWD Check	121,234.12	Reconciled
401962	ALL STAR GLASS	12-Sep-19	IRWD Check	351.92	Reconciled
401963	AMAZON CAPITAL SERVICES, INC.	12-Sep-19	IRWD Check	36.62	Reconciled
401964	ANACAPA APARTMENTS	12-Sep-19	IRWD Check	474.58	Reconciled
401965	AQUA BEN CORPORATION	12-Sep-19	IRWD Check	3,104.73	Reconciled
401966	ARCADIS U.S., INC.	12-Sep-19	IRWD Check	71,002.12	Reconciled
401967	ARMORCAST PRODUCTS COMPANY	12-Sep-19	IRWD Check	9,140.72	Reconciled
401968	ASHFORD, WALT	12-Sep-19	IRWD Check	587.06	Reconciled
401969	AT&T	12-Sep-19	IRWD Check	1,666.07	Reconciled
401970	AT&T	12-Sep-19	IRWD Check	1,096.92	Reconciled
401971	AUSTIN HARDWOODS, INC	12-Sep-19	IRWD Check	75.38	Reconciled
401972	AUTOZONE PARTS, INC.	12-Sep-19	IRWD Check	304.80	Reconciled
401973	BASHIRTASH, SAEED	12-Sep-19	IRWD Check	38.55	Reconciled
401974	BATTERIES PLUS AND BATTERIES PLUS BULBS	12-Sep-19	IRWD Check	1,475.81	Reconciled
401975	BC TRAFFIC SPECIALIST	12-Sep-19	IRWD Check	303.09	Reconciled
401976	BDC SPECIAL WASTE	12-Sep-19	IRWD Check	465.00	Reconciled
401977	BIOMAGIC INC	12-Sep-19	IRWD Check	13,098.41	Reconciled
401978	BIOMERIEUX INC	12-Sep-19	IRWD Check	399.21	Reconciled
401979	BIOTAGE LLC	12-Sep-19	IRWD Check	607.74	Reconciled
401980	BLAIRS TOWING INC	12-Sep-19	IRWD Check	400.00	Reconciled
401981	BLOOMBERG FINANCE LP	12-Sep-19	IRWD Check	13,305.00	Reconciled
401982	BOYD & ASSOCIATES	12-Sep-19	IRWD Check	3,753.00	Reconciled
401983	BRENNTAG PACIFIC INC	12-Sep-19	IRWD Check	5,675.20	Reconciled
401984	BRUCE HADLEY NEWELL	12-Sep-19	IRWD Check	2,500.00	Reconciled
401985	BSI SERVICES AND SOLUTIONS (WEST) INC.	12-Sep-19	IRWD Check	8,663.54	Reconciled
401986	BUTLER BOX & STAKE INC	12-Sep-19	IRWD Check	837.65	Reconciled
401987	C WELLS PIPELINE MATERIALS INC	12-Sep-19	IRWD Check	1,099.05	Reconciled
401988	CALIFORNIA BARRICADE RENTAL, INC.	12-Sep-19	IRWD Check	10,912.50	Reconciled
401989	CALIFORNIA PACIFIC HOMES	12-Sep-19	IRWD Check	179.82	Reconciled
401990	CANON FINANCIAL SERVICES, INC	12-Sep-19	IRWD Check	436.10	Reconciled
401991	CANON FINANCIAL SERVICES, INC	12-Sep-19	IRWD Check	401.91	Reconciled
401992	CANON SOLUTIONS AMERICA, INC.	12-Sep-19	IRWD Check	59.08	Reconciled
401993	CAROLLO ENGINEERS, INC	12-Sep-19	IRWD Check	34,969.25	Reconciled
401994	CDW GOVERNMENT LLC	12-Sep-19	IRWD Check	4,581.80	Reconciled
401995	CHAKRAVARTHI, SURESH	12-Sep-19	IRWD Check	90.30	Reconciled
401996	CHO DESIGN ASSOCIATES, INC	12-Sep-19	IRWD Check	6,044.34	Reconciled
401997	CIVIL SOURCE, INC.	12-Sep-19	IRWD Check	16,105.00	Reconciled
401998	CLA-VAL COMPANY	12-Sep-19	IRWD Check	957.78	Reconciled
401999	CLARKE MOSQUITO CONTROL PRODUCTS, INC.	12-Sep-19	IRWD Check	5,754.07	Reconciled
402000	CLEAN ENERGY	12-Sep-19	IRWD Check	4,836.67	Reconciled
402001	CLIFFORD MORIYAMA	12-Sep-19	IRWD Check	4,000.00	Reconciled
402002	CONSTELLATION NEWENERGY, INC.	12-Sep-19	IRWD Check	23,418.09	Reconciled
402003	CORELOGIC INC	12-Sep-19	IRWD Check	82.26	Reconciled
402004	CORPORATE PROPERTY MANAGEMENT	12-Sep-19	IRWD Check	23.86	Negotiable
402005	COUNTY CIRCUIT BREAKERS	12-Sep-19	IRWD Check	6,828.13	Reconciled
402006	CR & R INCORPORATED	12-Sep-19	IRWD Check	412.62	Reconciled
402007	CRESCENT CHEMICAL CO.	12-Sep-19	IRWD Check	51.98	Reconciled
402008	CS-AMSCO	12-Sep-19	IRWD Check	506.91	Reconciled
402009	CULLIGAN OF SANTA ANA	12-Sep-19	IRWD Check	21,000.00	Reconciled
402010	D & H WATER SYSTEMS INC.	12-Sep-19	IRWD Check	9,051.80	Reconciled
402011	DATA CLEAN CORPORATION	12-Sep-19	IRWD Check	840.00	Reconciled
402012	DC FROST ASSOCIATES, INC.	12-Sep-19	IRWD Check	10,960.12	Reconciled
402013	DEE JASPAR & ASSOCIATES, INC.	12-Sep-19	IRWD Check	2,406.00	Reconciled
402014	DELL MARKETING LP	12-Sep-19	IRWD Check	10,802.29	Reconciled
402015	DEPARTMENT OF TOXIC SUBSTANCES CONTROL	12-Sep-19	IRWD Check	2,805.00	Reconciled
402016	DG INVESTMENT INTERMEDIATE HOLDINGS 2, INC.	12-Sep-19	IRWD Check	4,618.36	Reconciled
402017	DISCOVERY SCIENCE CENTER OF ORANGE COUNTY	12-Sep-19	IRWD Check	43,960.00	Reconciled
402018	DO, DZUNG	12-Sep-19	IRWD Check	25.00	Reconciled
402019	EAGLE PRINT DYNAMICS	12-Sep-19	IRWD Check	146.34	Reconciled
402020	ECO SERVICES LLC	12-Sep-19	IRWD Check	5,224.35	Reconciled
402021	EHS INTERNATIONAL, INC	12-Sep-19	IRWD Check	3,000.00	Reconciled
402022	ENVIRONMENTAL RESOURCE ASSOCIATES	12-Sep-19	IRWD Check	446.22	Reconciled

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
402023	ENVIRONMENTAL SCIENCE ASSOCIATES	12-Sep-19	IRWD Check	2,831.59	Reconciled
402024	FARRELL & ASSOCIATES	12-Sep-19	IRWD Check	298.29	Negotiable
402025	FEDEX	12-Sep-19	IRWD Check	327.72	Reconciled
402026	FERGUSON ENTERPRISES, LLC	12-Sep-19	IRWD Check	401.99	Reconciled
402027	FERGUSON ENTERPRISES, LLC	12-Sep-19	IRWD Check	18,640.76	Reconciled
402028	FIRE EXTINGUISHING SAFETY & SERVICE	12-Sep-19	IRWD Check	673.96	Reconciled
402029	FIRST CHOICE SERVICES	12-Sep-19	IRWD Check	396.78	Reconciled
402030	FISHER SCIENTIFIC COMPANY LLC	12-Sep-19	IRWD Check	2,458.97	Reconciled
402031	FLOTECH, INC.	12-Sep-19	IRWD Check	277.95	Reconciled
402032	FOUGHT, CYNTHIA J.	12-Sep-19	IRWD Check	3,034.93	Reconciled
402033	FRONTIER CALIFORNIA INC.	12-Sep-19	IRWD Check	56.40	Reconciled
402034	FU, JIANG	12-Sep-19	IRWD Check	29.34	Negotiable
402035	GANAHL LUMBER CO.	12-Sep-19	IRWD Check	765.00	Reconciled
402036	GARZA INDUSTRIES, INC	12-Sep-19	IRWD Check	3,002.34	Reconciled
402037	GOLDEN BELL PRODUCTS	12-Sep-19	IRWD Check	9,997.50	Reconciled
402038	GRAINGER	12-Sep-19	IRWD Check	1,968.83	Reconciled
402039	GRAYBAR ELECTRIC COMPANY	12-Sep-19	IRWD Check	277.96	Reconciled
402040	GUO, SHAN	12-Sep-19	IRWD Check	59.90	Reconciled
402041	HACH COMPANY	12-Sep-19	IRWD Check	8,804.52	Reconciled
402042	HARRINGTON INDUSTRIAL PLASTICS LLC	12-Sep-19	IRWD Check	8,311.70	Reconciled
402043	HASCO OIL COMPANY	12-Sep-19	IRWD Check	251.87	Reconciled
402044	HDR ENGINEERING INC	12-Sep-19	IRWD Check	44,089.98	Reconciled
402045	HELPMATES STAFFING SERVICES	12-Sep-19	IRWD Check	12,243.44	Reconciled
402046	HERITAGE FIELDS EL TORO, LLC	12-Sep-19	IRWD Check	541.26	Reconciled
402047	HICKOK, MICHAEL	12-Sep-19	IRWD Check	27.65	Negotiable
402048	HILL BROTHERS CHEMICAL COMPANY	12-Sep-19	IRWD Check	18,964.23	Reconciled
402049	HIT IT HARD INDUSTRIES	12-Sep-19	IRWD Check	4,423.14	Reconciled
402050	HOME DEPOT USA INC	12-Sep-19	IRWD Check	416.13	Reconciled
402051	HOYA OPTICAL LABS OF AMERICA, INC.	12-Sep-19	IRWD Check	211.00	Reconciled
402052	HUANG, QIONG	12-Sep-19	IRWD Check	124.80	Reconciled
402053	HUMANA INSURANCE COMPANY	12-Sep-19	IRWD Check	73.80	Reconciled
402054	INDUSTRIAL NETWORKING SOLUTIONS	12-Sep-19	IRWD Check	294.38	Reconciled
402055	INFOSYS LIMITED	12-Sep-19	IRWD Check	26,880.00	Reconciled
402056	INTERNATIONAL E-Z UP, INC.	12-Sep-19	IRWD Check	1,661.92	Reconciled
402057	IRON MOUNTAIN INFORMATION MANAGEMENT INC	12-Sep-19	IRWD Check	2,010.66	Reconciled
402058	IRVINE PIPE & SUPPLY INC	12-Sep-19	IRWD Check	1,184.96	Reconciled
402059	IRWD-PETTY CASH CUSTODIAN	12-Sep-19	IRWD Check	737.22	Reconciled
402060	JCI JONES CHEMICALS INC	12-Sep-19	IRWD Check	8,451.42	Reconciled
402061	JOHN MICHAEL COVAS	12-Sep-19	IRWD Check	173.20	Negotiable
402062	JOHNSON, MATTHEW	12-Sep-19	IRWD Check	24.72	Negotiable
402063	KAYUGA SOLUTION INC	12-Sep-19	IRWD Check	4,860.00	Reconciled
402064	KHALEDY, CYRUS	12-Sep-19	IRWD Check	336.91	Negotiable
402065	KLEINFELDER, INC.	12-Sep-19	IRWD Check	810.00	Reconciled
402066	KONECRANES INC	12-Sep-19	IRWD Check	7,325.00	Reconciled
402067	LAGUNA BEACH COUNTY WATER DISTRICT	12-Sep-19	IRWD Check	7,929.84	Reconciled
402068	LANDCARE HOLDINGS, INC.	12-Sep-19	IRWD Check	39,783.41	Reconciled
402069	LEE & RO, INC.	12-Sep-19	IRWD Check	66,402.96	Reconciled
402070	LI, MINA	12-Sep-19	IRWD Check	61.98	Reconciled
402071	LUBRICATION ENGINEERS, INC.	12-Sep-19	IRWD Check	4,341.05	Reconciled
402072	MACK, LESLIE	12-Sep-19	IRWD Check	24.27	Reconciled
402073	MC MASTER CARR SUPPLY CO	12-Sep-19	IRWD Check	62.51	Reconciled
402074	MERRIMAC PETROLEUM, INC.	12-Sep-19	IRWD Check	23,660.24	Reconciled
402075	MOUSA, NOHAD	12-Sep-19	IRWD Check	11.58	Reconciled
402076	MPULSE MOBILE, INC	12-Sep-19	IRWD Check	124.34	Reconciled
402077	MUTUAL PROPANE	12-Sep-19	IRWD Check	27.00	Reconciled
402078	NATIONAL METER & AUTOMATION, INC.	12-Sep-19	IRWD Check	59,348.70	Reconciled
402079	NATURES IMAGE INC	12-Sep-19	IRWD Check	1,459.00	Reconciled
402080	NEILSON CONSTRUCTION INC	12-Sep-19	IRWD Check	1,000.00	Reconciled
402081	NEWPORT REAL ESTATE SERVICES	12-Sep-19	IRWD Check	13,255.83	Reconciled
402082	NINYO & MOORE	12-Sep-19	IRWD Check	20,239.36	Reconciled
402083	NORTHERN SAFETY CO INC	12-Sep-19	IRWD Check	2,824.27	Reconciled
402084	NOVACOAST INC	12-Sep-19	IRWD Check	1,125.00	Reconciled
402085	NRD, LLC	12-Sep-19	IRWD Check	100.00	Reconciled

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
402086	NV5, INC.	12-Sep-19	IRWD Check	75,932.50	Negotiable
402087	O.C. SUPERIOR CUSTOM CLEANING	12-Sep-19	IRWD Check	792.00	Reconciled
402088	OLIN CORPORATION	12-Sep-19	IRWD Check	47,718.86	Reconciled
402089	ONESOURCE DISTRIBUTORS LLC	12-Sep-19	IRWD Check	1,791.20	Reconciled
402090	ORACLE AMERICA, INC.	12-Sep-19	IRWD Check	19,112.99	Reconciled
402091	ORANGE COUNTY AUTO PARTS CO	12-Sep-19	IRWD Check	1,329.39	Reconciled
402092	ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT	12-Sep-19	IRWD Check	13,856.68	Reconciled
402093	ORANGE LINE OIL COMPANY	12-Sep-19	IRWD Check	1,477.57	Reconciled
402094	PACIFIC HYDROTECH CORPORATION	12-Sep-19	IRWD Check	42,053.18	Reconciled
402095	PACIFIC HYDROTECH CORPORATION	12-Sep-19	IRWD Check	35,180.62	Reconciled
402096	PACIFIC HYDROTECH CORPORATION	12-Sep-19	IRWD Check	1,467,442.30	Reconciled
402097	PACIFIC PARTS & CONTROLS INC	12-Sep-19	IRWD Check	2,102.09	Reconciled
402098	PASCAL & LUDWIG CONSTRUCTORS	12-Sep-19	IRWD Check	316,630.91	Reconciled
402099	PASCAL & LUDWIG CONSTRUCTORS	12-Sep-19	IRWD Check	16,664.78	Reconciled
402100	PAULUS ENGINEERING, INC.	12-Sep-19	IRWD Check	12,000.00	Reconciled
402101	PENN ARCHIVE SERVICES	12-Sep-19	IRWD Check	47.50	Reconciled
402102	PHAM, KATE	12-Sep-19	IRWD Check	18.25	Negotiable
402103	PHENIX ENTERPRISES, INC	12-Sep-19	IRWD Check	2,433.36	Reconciled
402104	PIPELOGIX INC	12-Sep-19	IRWD Check	3,000.00	Negotiable
402105	PRO MOBILE AUTO DETAILING	12-Sep-19	IRWD Check	300.00	Reconciled
402106	PRUFTECHNIK INC	12-Sep-19	IRWD Check	9,835.00	Reconciled
402107	PSOMAS	12-Sep-19	IRWD Check	10,286.25	Reconciled
402108	PTI SAND & GRAVEL INC	12-Sep-19	IRWD Check	1,296.52	Reconciled
402109	PYRO-COMM SYSTEMS INC	12-Sep-19	IRWD Check	270.00	Reconciled
402110	QUINN COMPANY	12-Sep-19	IRWD Check	1,808.02	Reconciled
402111	QUINTANA, WATTS & HARTMANN, LLC	12-Sep-19	IRWD Check	5,607.36	Reconciled
402112	R C FOSTER CORPORATION	12-Sep-19	IRWD Check	328,992.76	Reconciled
402113	R.F. MACDONALD CO.	12-Sep-19	IRWD Check	2,678.54	Reconciled
402114	RAM AIR ENGINEERING INC	12-Sep-19	IRWD Check	9,251.98	Reconciled
402115	RED WING SHOE STORE	12-Sep-19	IRWD Check	396.89	Reconciled
402116	REFRIGERATION SUPPLIES DISTRIBUTOR	12-Sep-19	IRWD Check	407.36	Reconciled
402117	RELIANCE SAFETY CONSULTANTS, INC.	12-Sep-19	IRWD Check	1,250.00	Reconciled
402118	RESTEK CORPORATION	12-Sep-19	IRWD Check	1,336.65	Reconciled
402119	RINCON TRUCK CENTER INC.	12-Sep-19	IRWD Check	527.13	Reconciled
402120	RLG ENTERPRISES, INC	12-Sep-19	IRWD Check	675.84	Reconciled
402121	ROMANO, ERIC	12-Sep-19	IRWD Check	242.62	Negotiable
402122	SAFETY CENTER INCORPORATED	12-Sep-19	IRWD Check	3,080.00	Reconciled
402123	SANDERS PAVING INC	12-Sep-19	IRWD Check	29,987.50	Reconciled
402124	SANTA MARGARITA FORD	12-Sep-19	IRWD Check	2,764.81	Reconciled
402125	SCHINDLER ELEVATOR CORPORATION	12-Sep-19	IRWD Check	221.90	Reconciled
402126	SECURITAS SECURITY SERVICES USA, INC.	12-Sep-19	IRWD Check	62,293.21	Reconciled
402127	SERRANO WATER DISTRICT	12-Sep-19	IRWD Check	20,801.94	Reconciled
402128	SKORUZ TECHNOLOGIES	12-Sep-19	IRWD Check	19,250.00	Reconciled
402129	SMARTCOVER SYSTEMS	12-Sep-19	IRWD Check	644.46	Reconciled
402130	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	12-Sep-19	IRWD Check	37,347.88	Reconciled
402131	SOUTH COAST WATER DISTRICT	12-Sep-19	IRWD Check	3,018.36	Reconciled
402132	SOUTHERN CALIFORNIA EDISON COMPANY	12-Sep-19	IRWD Check	41,514.46	Reconciled
402134	SOUTHERN CALIFORNIA GAS COMPANY	12-Sep-19	IRWD Check	735.78	Reconciled
402135	STANTEC CONSULTING SERVICES INC.	12-Sep-19	IRWD Check	2,059.82	Reconciled
402136	SUNSHINE SUPPLY COMPANY, INC.	12-Sep-19	IRWD Check	470.65	Reconciled
402137	SWINERTON BUILDERS	12-Sep-19	IRWD Check	1,750.00	Reconciled
402138	TAIG, DARCY	12-Sep-19	IRWD Check	20.33	Reconciled
402139	TASSIN SCIENTIFIC SERVICES, LLC.	12-Sep-19	IRWD Check	1,158.75	Reconciled
402140	TEREX SERVICES	12-Sep-19	IRWD Check	296.32	Reconciled
402141	TESCO CONTROLS, INC.	12-Sep-19	IRWD Check	14,956.00	Reconciled
402142	THOMAS HARDER & CO	12-Sep-19	IRWD Check	18,805.00	Reconciled
402143	TIC-OFFICE PROPERTIES	12-Sep-19	IRWD Check	333.59	Reconciled
402144	TOLL BROS., INC.	12-Sep-19	IRWD Check	53.28	Reconciled
402145	TOP TEN REAL ESTATE INC	12-Sep-19	IRWD Check	64.57	Reconciled
402146	TRI COUNTY PUMP COMPANY	12-Sep-19	IRWD Check	3,986.75	Reconciled
402147	TRICENTIS AMERICAS, INC.	12-Sep-19	IRWD Check	5,250.00	Reconciled
402148	TROPICAL PLAZA NURSERY INC	12-Sep-19	IRWD Check	1,958.00	Reconciled
402149	TRUCPARCO	12-Sep-19	IRWD Check	85.61	Reconciled

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
402150	TRUKSPECT, INC	12-Sep-19	IRWD Check	3,320.84	Reconciled
402151	UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA	12-Sep-19	IRWD Check	1,501.60	Reconciled
402152	UNITED HEALTHCARE INSURANCE COMPANY	12-Sep-19	IRWD Check	284.07	Reconciled
402153	UNITED PARCEL SERVICE INC	12-Sep-19	IRWD Check	326.85	Reconciled
402154	UNITED SITE SERVICES OF CALIFORNIA INC	12-Sep-19	IRWD Check	852.63	Reconciled
402155	USA BLUEBOOK	12-Sep-19	IRWD Check	234.90	Reconciled
402156	VALIN CORPORATION	12-Sep-19	IRWD Check	3,004.43	Reconciled
402157	VIAU, CATALINA	12-Sep-19	IRWD Check	99.97	Negotiable
402158	VIRTUAL GRAFFITI, INC.	12-Sep-19	IRWD Check	6,026.46	Reconciled
402159	VOYTKO MECHANICAL, INC.	12-Sep-19	IRWD Check	2,235.00	Reconciled
402160	VULCAN MATERIALS COMPANY	12-Sep-19	IRWD Check	1,474.05	Reconciled
402161	WARMINGTON HOMES	12-Sep-19	IRWD Check	82.68	Negotiable
402162	WASTE MANAGEMENT OF ORANGE COUNTY	12-Sep-19	IRWD Check	2,640.54	Reconciled
402163	WATERLINE TECHNOLOGIES INC	12-Sep-19	IRWD Check	4,952.00	Reconciled
402164	WAXIE'S ENTERPRISES, INC	12-Sep-19	IRWD Check	3,390.69	Reconciled
402165	WECK LABORATORIES INC	12-Sep-19	IRWD Check	8,827.00	Reconciled
402166	WEST COAST SAFETY SUPPLY INC	12-Sep-19	IRWD Check	1,910.79	Reconciled
402167	WEST COAST SAND & GRAVEL INC.	12-Sep-19	IRWD Check	49,000.00	Reconciled
402168	WOODARD & CURRAN INC	12-Sep-19	IRWD Check	22,153.83	Reconciled
402169	WOODBIDGE WILLOWS APARTMENTS	12-Sep-19	IRWD Check	18.52	Reconciled
402170	WORKFORCE SAFETY LLC	12-Sep-19	IRWD Check	6,000.00	Reconciled
402171	ZEBRON CONTRACTING INC	12-Sep-19	IRWD Check	47,509.99	Reconciled
402172	ZHUANG, WEIPENG	12-Sep-19	IRWD Check	42.71	Reconciled
402173	CALIFORNIA BARRICADE RENTAL, INC.	12-Sep-19	IRWD Check	540.00	Reconciled
402174	STATE OF CALIFORNIA, EDD	13-Sep-19	IRWD Check	75.00	Reconciled
402175	FRANCHISE TAX BOARD	13-Sep-19	IRWD Check	380.00	Negotiable
402176	PERS LONG TERM CARE	13-Sep-19	IRWD Check	538.89	Reconciled
402177	INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL 47	13-Sep-19	IRWD Check	2,489.24	Reconciled
402178	ORANGE COUNTY SHERIFF'S OFFICE	13-Sep-19	IRWD Check	62.50	Reconciled
402179	STANFORD UNIVERSITY	16-Sep-19	IRWD Check	100.00	Reconciled
402180	IRWD-PETTY CASH CUSTODIAN	18-Sep-19	IRWD Check	1,342.58	Reconciled
402181	Colston, James	19-Sep-19	IRWD Check	43.64	Reconciled
402182	Moeder, Jacob J (Jacob)	19-Sep-19	IRWD Check	13.92	Reconciled
402183	Murphy, Alexander J (Alexander)	19-Sep-19	IRWD Check	300.00	Reconciled
402184	Rojas, Anthony A (Tony)	19-Sep-19	IRWD Check	87.26	Reconciled
402185	Schreck, Jeffrey A (Jeffrey)	19-Sep-19	IRWD Check	12.76	Reconciled
402186	Shanafelt, Shane D (Shane)	19-Sep-19	IRWD Check	1,259.70	Reconciled
402187	Shanafelt, Shane D (Shane)	19-Sep-19	IRWD Check	1,259.70	Reconciled
402188	ABC ICEHOUSE, INC.	19-Sep-19	IRWD Check	412.64	Reconciled
402189	ABM INDUSTRY GROUPS, LLC	19-Sep-19	IRWD Check	18,915.01	Reconciled
402190	ACCURATE AIR ENGINEERING INC	19-Sep-19	IRWD Check	2,490.15	Reconciled
402191	ACWA	19-Sep-19	IRWD Check	1,250.00	Reconciled
402192	AGILENT TECHNOLOGIES, INC.	19-Sep-19	IRWD Check	1,518.56	Reconciled
402193	ALVAREZ, FERMINO	19-Sep-19	IRWD Check	57.37	Negotiable
402194	AMAZON CAPITAL SERVICES, INC.	19-Sep-19	IRWD Check	997.00	Reconciled
402195	ARCHROCK SERVICES, L.P.	19-Sep-19	IRWD Check	12,197.47	Reconciled
402196	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	19-Sep-19	IRWD Check	679.79	Reconciled
402197	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	19-Sep-19	IRWD Check	712.96	Reconciled
402198	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	19-Sep-19	IRWD Check	36,475.69	Reconciled
402199	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	19-Sep-19	IRWD Check	38,025.50	Reconciled
402200	AT&T	19-Sep-19	IRWD Check	173.55	Reconciled
402201	AT&T	19-Sep-19	IRWD Check	5,951.53	Reconciled
402202	AT&T	19-Sep-19	IRWD Check	66.00	Reconciled
402203	ATHENS SERVICES	19-Sep-19	IRWD Check	7,865.80	Reconciled
402204	AUTOZONE PARTS, INC.	19-Sep-19	IRWD Check	366.85	Reconciled
402205	BAGHORI, SUSAN	19-Sep-19	IRWD Check	35.11	Negotiable
402206	BEE EMERGENCY RESPONSE TEAM	19-Sep-19	IRWD Check	700.00	Reconciled
402207	BILL'S SWEEPING SERVICE INC	19-Sep-19	IRWD Check	780.00	Reconciled
402208	BLACK & VEATCH CORPORATION	19-Sep-19	IRWD Check	510,206.90	Reconciled
402209	BLANCHARD, ROBIN	19-Sep-19	IRWD Check	198.33	Reconciled
402210	BORCHARD SURVEYING & MAPPING, INC.	19-Sep-19	IRWD Check	4,590.00	Negotiable
402211	BRIGHTVIEW LANDSCAPE DEVELOPMENT	19-Sep-19	IRWD Check	1,377.93	Negotiable
402212	BROOKFIELD RESIDENTIAL	19-Sep-19	IRWD Check	156.14	Negotiable

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
402213	BROWN AND CALDWELL	19-Sep-19	IRWD Check	4,698.20	Reconciled
402214	BURKE, WILLIAMS & SORENSEN, LLP	19-Sep-19	IRWD Check	2,015.00	Reconciled
402215	C WELLS PIPELINE MATERIALS INC	19-Sep-19	IRWD Check	51,529.30	Reconciled
402216	CABELA'S MARKETING AND BRAND MANAGEMENT INC	19-Sep-19	IRWD Check	36.42	Reconciled
402217	CALIFORNIA BARRICADE RENTAL, INC.	19-Sep-19	IRWD Check	5,520.09	Reconciled
402218	CALIFORNIA PACIFIC HOMES	19-Sep-19	IRWD Check	53.37	Negotiable
402219	CANON FINANCIAL SERVICES, INC	19-Sep-19	IRWD Check	8,398.83	Reconciled
402220	CANON SOLUTIONS AMERICA, INC.	19-Sep-19	IRWD Check	11,117.49	Reconciled
402221	CAPTIVE AUDIENCE MARKETING INC.	19-Sep-19	IRWD Check	79.00	Reconciled
402222	CAROLLO ENGINEERS, INC	19-Sep-19	IRWD Check	43,239.61	Reconciled
402223	CHAPPLE, NICOLE	19-Sep-19	IRWD Check	44.46	Reconciled
402224	CHARLES P CROWLEY COMPANY INC	19-Sep-19	IRWD Check	370.26	Reconciled
402225	CHEM TECH INTERNATIONAL INC	19-Sep-19	IRWD Check	5,200.80	Reconciled
402226	CITY OF IRVINE	19-Sep-19	IRWD Check	5,276.80	Reconciled
402227	CLARIS STRATEGY INC.	19-Sep-19	IRWD Check	25,715.00	Negotiable
402228	CLARKE MOSQUITO CONTROL PRODUCTS, INC.	19-Sep-19	IRWD Check	9,690.60	Reconciled
402229	CLAVERIA, JULIE	19-Sep-19	IRWD Check	89.28	Negotiable
402230	CLEANTECH SERVICES LLC	19-Sep-19	IRWD Check	1,799.20	Reconciled
402231	CNC ENGINEERING	19-Sep-19	IRWD Check	13,549.02	Negotiable
402232	COHEN, HERBERT	19-Sep-19	IRWD Check	599.94	Reconciled
402233	COMMERCIAL DOOR OF ORANGE COUNTY, INC.	19-Sep-19	IRWD Check	3,620.92	Reconciled
402234	COMMERCIAL TRANSPORTATION SERVICES, INC	19-Sep-19	IRWD Check	9,532.80	Reconciled
402235	CONSOLIDATED CONTRACTING SERVICES INC	19-Sep-19	IRWD Check	752.00	Reconciled
402236	CONSTELLATION NEWENERGY, INC.	19-Sep-19	IRWD Check	1,445.22	Reconciled
402237	CONTROLLED KEY SYSTEMS INC	19-Sep-19	IRWD Check	597.05	Reconciled
402238	CRAMER FISH SCIENCES	19-Sep-19	IRWD Check	1,800.00	Reconciled
402239	DATA CLEAN CORPORATION	19-Sep-19	IRWD Check	554.00	Reconciled
402240	DDB ENGINEERING, INC.	19-Sep-19	IRWD Check	14,242.12	Reconciled
402241	DEE JASPAR & ASSOCIATES, INC.	19-Sep-19	IRWD Check	5,469.72	Reconciled
402242	DOAN, KHANH	19-Sep-19	IRWD Check	113.03	Reconciled
402243	DUKE CULTURAL RESOURCES MANAGEMENT, LLC	19-Sep-19	IRWD Check	342.50	Reconciled
402244	EDUCATION & TRAINING SERVICES, LLC	19-Sep-19	IRWD Check	4,491.00	Reconciled
402245	EI&C ENGINEERING INC	19-Sep-19	IRWD Check	43,234.00	Reconciled
402246	EMERGENCY POWER CONTROLS INC	19-Sep-19	IRWD Check	3,019.68	Reconciled
402247	ERVEN, CHRISTOPHER	19-Sep-19	IRWD Check	61.79	Negotiable
402248	EVANS, DEAN	19-Sep-19	IRWD Check	22.89	Negotiable
402249	EVANTEC CORPORATION	19-Sep-19	IRWD Check	293.60	Reconciled
402250	EXECUTIVE LIGHTING & ELECTRIC	19-Sep-19	IRWD Check	100.13	Reconciled
402251	FARRELL & ASSOCIATES	19-Sep-19	IRWD Check	1,251.80	Reconciled
402252	FEDEX	19-Sep-19	IRWD Check	194.87	Reconciled
402253	FERGUSON ENTERPRISES, LLC	19-Sep-19	IRWD Check	1,058.64	Reconciled
402254	FERGUSON ENTERPRISES, LLC	19-Sep-19	IRWD Check	34,867.90	Reconciled
402255	FIDELITY SECURITY LIFE INSURANCE COMPANY	19-Sep-19	IRWD Check	15,140.54	Reconciled
402256	FISHER SCIENTIFIC COMPANY LLC	19-Sep-19	IRWD Check	2,725.10	Reconciled
402257	FLEET SOLUTIONS LLC	19-Sep-19	IRWD Check	984.02	Reconciled
402258	FORESTRY SUPPLIERS INC	19-Sep-19	IRWD Check	1,185.25	Reconciled
402259	FRONTIER CALIFORNIA INC.	19-Sep-19	IRWD Check	285.11	Reconciled
402260	GANAHL LUMBER CO.	19-Sep-19	IRWD Check	501.38	Reconciled
402261	GEIGER BROS	19-Sep-19	IRWD Check	2,484.96	Reconciled
402262	GENERAL MONITORS INC.	19-Sep-19	IRWD Check	603.49	Reconciled
402263	GJ AUTOMOTIVE EQUIPMENT CO INC	19-Sep-19	IRWD Check	14,330.75	Reconciled
402264	GRAINGER	19-Sep-19	IRWD Check	3,883.35	Reconciled
402265	HACH COMPANY	19-Sep-19	IRWD Check	30,648.18	Reconciled
402266	HALL GRIFFIN LLP	19-Sep-19	IRWD Check	6,181.72	Reconciled
402267	HARRINGTON INDUSTRIAL PLASTICS LLC	19-Sep-19	IRWD Check	791.70	Reconciled
402268	HASCO OIL COMPANY	19-Sep-19	IRWD Check	189.47	Reconciled
402269	HDR ENGINEERING INC	19-Sep-19	IRWD Check	36,807.35	Reconciled
402270	HELP/SYSTEMS, LLC	19-Sep-19	IRWD Check	2,032.60	Reconciled
402271	HELPMATES STAFFING SERVICES	19-Sep-19	IRWD Check	7,916.54	Reconciled
402272	HENSEL PHELPS CONSTRUCTION CO	19-Sep-19	IRWD Check	869.28	Reconciled
402273	HILL BROTHERS CHEMICAL COMPANY	19-Sep-19	IRWD Check	20,322.57	Reconciled
402274	HIT IT HARD INDUSTRIES	19-Sep-19	IRWD Check	3,210.96	Reconciled
402275	HOME DEPOT USA INC	19-Sep-19	IRWD Check	1,491.34	Reconciled

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
402276	HOWDEN ROOTS LLC	19-Sep-19	IRWD Check	6,155.76	Reconciled
402277	HYDROTECH ELECTRIC	19-Sep-19	IRWD Check	20,600.00	Reconciled
402278	ICP DAS USA INC	19-Sep-19	IRWD Check	400.75	Reconciled
402279	IDEXX DISTRIBUTION, INC	19-Sep-19	IRWD Check	249.29	Reconciled
402280	IMPACT MARKETING SPECIALIST	19-Sep-19	IRWD Check	58.03	Negotiable
402281	INDUSTRIAL METAL SUPPLY CO	19-Sep-19	IRWD Check	82.18	Reconciled
402282	INSITUFORM TECHNOLOGIES INC	19-Sep-19	IRWD Check	1,034,035.36	Reconciled
402283	IRVINE GATEWAY DEVELOPMENT	19-Sep-19	IRWD Check	245.38	Negotiable
402284	IRVINE PIPE & SUPPLY INC	19-Sep-19	IRWD Check	3,454.91	Reconciled
402285	IRVINE PIPELINE COMPANY, INC	19-Sep-19	IRWD Check	772.64	Negotiable
402286	JIANG, MINGRUI	19-Sep-19	IRWD Check	296.28	Reconciled
402287	JOSEPH A DECONINCK	19-Sep-19	IRWD Check	27,202.39	Reconciled
402288	K HOVNIANIAN HOMES	19-Sep-19	IRWD Check	77.91	Reconciled
402289	KAPI RESIDENCES INC	19-Sep-19	IRWD Check	880.34	Reconciled
402290	KLEINFELDER, INC.	19-Sep-19	IRWD Check	3,272.00	Reconciled
402291	KONECRANES INC	19-Sep-19	IRWD Check	642.50	Reconciled
402292	KOURY ENGINEERING & TESTING, INC.	19-Sep-19	IRWD Check	20,078.00	Reconciled
402293	KPRS CONSTRUCTION SERVICES, INC.	19-Sep-19	IRWD Check	766,131.24	Reconciled
402294	LA HABRA FENCE COMPANY INC	19-Sep-19	IRWD Check	965.00	Reconciled
402295	LANDSEA HOLDINGS CORPORATION	19-Sep-19	IRWD Check	17.79	Negotiable
402296	LENNAR HOMES	19-Sep-19	IRWD Check	3,343.96	Reconciled
402297	LG SONIC US, LLC	19-Sep-19	IRWD Check	98,677.45	Reconciled
402298	LIANG, XIYUE	19-Sep-19	IRWD Check	18.33	Reconciled
402299	LIBRESCU, MARC	19-Sep-19	IRWD Check	50.45	Reconciled
402300	LIU, ESTIN	19-Sep-19	IRWD Check	57.96	Negotiable
402301	LIU, VHIHUI	19-Sep-19	IRWD Check	143.13	Negotiable
402302	LIZALDI, ARIANNA	19-Sep-19	IRWD Check	117.88	Negotiable
402303	LOS ANGELES TIMES	19-Sep-19	IRWD Check	144.51	Reconciled
402304	LU'S LIGHTHOUSE, INC.	19-Sep-19	IRWD Check	2,828.95	Reconciled
402305	LU, JEFF	19-Sep-19	IRWD Check	15.53	Negotiable
402306	LUBRICATION ENGINEERS, INC.	19-Sep-19	IRWD Check	2,082.56	Reconciled
402307	MANASCO, LORI	19-Sep-19	IRWD Check	25.91	Reconciled
402308	MANHATTAN STITCHING COMPANY, INC	19-Sep-19	IRWD Check	124.99	Reconciled
402309	MAP COMMUNICATIONS, INC.	19-Sep-19	IRWD Check	1,951.34	Reconciled
402310	MARINA LANDSCAPE, INC	19-Sep-19	IRWD Check	536.25	Reconciled
402311	MARINA LANDSCAPE, INC.	19-Sep-19	IRWD Check	79,232.47	Negotiable
402312	MBF CONSULTING, INC.	19-Sep-19	IRWD Check	13,616.00	Reconciled
402313	MC FADDEN-DALE INDUSTRIAL	19-Sep-19	IRWD Check	344.81	Reconciled
402314	MCR TECHNOLOGIES INC	19-Sep-19	IRWD Check	3,902.55	Reconciled
402315	MICHAEL BAKER INTERNATIONAL, INC.	19-Sep-19	IRWD Check	15,615.00	Reconciled
402316	MONJAZEB, ROHAN	19-Sep-19	IRWD Check	52.35	Negotiable
402317	MR CRANE INC	19-Sep-19	IRWD Check	1,074.60	Reconciled
402318	MSC INDUSTRIAL SUPPLY CO	19-Sep-19	IRWD Check	135.42	Reconciled
402319	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	19-Sep-19	IRWD Check	226,288.71	Reconciled
402320	NASSER, SIROUS	19-Sep-19	IRWD Check	28.62	Reconciled
402321	NATIONAL READY MIXED CONCRETE SALES, LLC	19-Sep-19	IRWD Check	1,224.69	Reconciled
402322	NATURALWELL, LLC	19-Sep-19	IRWD Check	715.00	Reconciled
402323	NEW RESOURCES GROUP INC	19-Sep-19	IRWD Check	489.00	Reconciled
402324	NINYO & MOORE	19-Sep-19	IRWD Check	3,524.00	Reconciled
402325	NIXON-EGLI EQUIPMENT COMPANY INC.	19-Sep-19	IRWD Check	1,573.15	Reconciled
402326	NMG GEOTECHNICAL INC	19-Sep-19	IRWD Check	10,745.00	Negotiable
402327	NOVACOAST INC	19-Sep-19	IRWD Check	75.00	Reconciled
402328	O.C. SUPERIOR CUSTOM CLEANING	19-Sep-19	IRWD Check	3,600.00	Reconciled
402329	OC WELDING SERVICES	19-Sep-19	IRWD Check	1,260.00	Reconciled
402330	OLIN CORPORATION	19-Sep-19	IRWD Check	43,469.49	Reconciled
402331	ORANGE COUNTY AUTO PARTS CO	19-Sep-19	IRWD Check	659.48	Reconciled
402332	ORANGE COUNTY CONSERVATION CORPS	19-Sep-19	IRWD Check	2,500.00	Reconciled
402333	PAULUS ENGINEERING INC	19-Sep-19	IRWD Check	31,182.17	Reconciled
402334	PCL CONSTRUCTION, INC.	19-Sep-19	IRWD Check	105,972.50	Negotiable
402335	PELLETIER & ASSOCIATES, INC.	19-Sep-19	IRWD Check	1,020.00	Reconciled
402336	PIVOT INTERIORS INC	19-Sep-19	IRWD Check	536.34	Reconciled
402337	PLUMBERS DEPOT INC.	19-Sep-19	IRWD Check	1,789.72	Reconciled
402338	PM SOUTH, INC	19-Sep-19	IRWD Check	37.31	Negotiable

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
402339	POLLARDWATER.COM	19-Sep-19	IRWD Check	3,429.91	Reconciled
402340	PRAXAIR DISTRIBUTION INC	19-Sep-19	IRWD Check	1,888.50	Reconciled
402341	PROCARE WORK INJURY CENTER	19-Sep-19	IRWD Check	85.00	Reconciled
402342	PRUDENTIAL OVERALL SUPPLY	19-Sep-19	IRWD Check	7,039.73	Reconciled
402343	PSOMAS	19-Sep-19	IRWD Check	5,998.75	Reconciled
402344	PTI SAND & GRAVEL INC	19-Sep-19	IRWD Check	666.09	Reconciled
402345	QIAO, LINLIN	19-Sep-19	IRWD Check	24.00	Negotiable
402346	R.M.J.F., LLC	19-Sep-19	IRWD Check	567.87	Reconciled
402347	RAM AIR ENGINEERING INC	19-Sep-19	IRWD Check	315.00	Reconciled
402348	REACH EMPLOYEE ASSISTANCE INC	19-Sep-19	IRWD Check	2,142.00	Reconciled
402349	REFRIGERATION SUPPLIES DISTRIBUTOR	19-Sep-19	IRWD Check	199.62	Reconciled
402350	RELIANCE SAFETY CONSULTANTS, INC.	19-Sep-19	IRWD Check	1,250.00	Reconciled
402351	RELIANCE STANDARD LIFE INSURANCE COMPANY	19-Sep-19	IRWD Check	59,596.52	Negotiable
402352	RINCON TRUCK CENTER INC.	19-Sep-19	IRWD Check	186.05	Reconciled
402353	ROWELL, JASON	19-Sep-19	IRWD Check	33.04	Negotiable
402354	SAFETY-KLEEN SYSTEMS, INC	19-Sep-19	IRWD Check	1,904.51	Reconciled
402355	SANDERS PAVING INC	19-Sep-19	IRWD Check	26,704.81	Reconciled
402356	SANTA ANA BLUE PRINT	19-Sep-19	IRWD Check	2,508.22	Reconciled
402357	SCHULER CONSTRUCTORS, INC.	19-Sep-19	IRWD Check	56,012.27	Reconciled
402358	SEARLES, TOM	19-Sep-19	IRWD Check	36.06	Negotiable
402359	SHOETERIA	19-Sep-19	IRWD Check	111.50	Reconciled
402360	SHRIVASTAVA, MRADUL	19-Sep-19	IRWD Check	173.45	Reconciled
402361	SOUTH COAST WATER CO.	19-Sep-19	IRWD Check	90.00	Reconciled
402362	SOUTHERN CALIFORNIA EDISON COMPANY	19-Sep-19	IRWD Check	674,666.46	Reconciled
402363	SOUTHERN CALIFORNIA EDISON COMPANY	19-Sep-19	IRWD Check	12,000.00	Reconciled
402364	SOUTHERN CALIFORNIA EDISON COMPANY	19-Sep-19	IRWD Check	67.36	Reconciled
402365	SOUTHERN CALIFORNIA GAS COMPANY	19-Sep-19	IRWD Check	16,665.25	Reconciled
402366	SOUTHERN CALIFORNIA SECURITY CENTERS, INC.	19-Sep-19	IRWD Check	468.59	Negotiable
402367	SPARKLETTS	19-Sep-19	IRWD Check	317.96	Reconciled
402368	STREAKWAVE WIRELESS, INC.	19-Sep-19	IRWD Check	1,043.72	Reconciled
402369	SUJARIYAKUL, SUPICHAYA	19-Sep-19	IRWD Check	36.57	Reconciled
402370	SUKLE ADVERTISING INC.	19-Sep-19	IRWD Check	2,280.00	Reconciled
402371	SUSTAIN SOCIAL	19-Sep-19	IRWD Check	1,000.00	Reconciled
402372	T.E. ROBERTS, INC.	19-Sep-19	IRWD Check	99,808.42	Reconciled
402373	TAYLOR MORRISON	19-Sep-19	IRWD Check	431.43	Reconciled
402374	TERREROS, ELYSE	19-Sep-19	IRWD Check	46.66	Negotiable
402375	TESTAMERICA LABORATORIES, INC.	19-Sep-19	IRWD Check	1,111.95	Reconciled
402376	TOLL BROS., INC.	19-Sep-19	IRWD Check	176.80	Negotiable
402377	TRABUCO CANYON WATER DISTRICT	19-Sep-19	IRWD Check	50,636.66	Reconciled
402378	TRI POINTE HOMES, INC.	19-Sep-19	IRWD Check	275.51	Negotiable
402379	TROPICAL PLAZA NURSERY INC	19-Sep-19	IRWD Check	3,422.00	Reconciled
402380	TUTTLE-CLICK FORD LINCOLN	19-Sep-19	IRWD Check	251,945.07	Reconciled
402381	TYCO FIRE & SECURITY (US) MANAGEMENT INC	19-Sep-19	IRWD Check	4,821.61	Reconciled
402382	UNIVAR SOLUTIONS USA INC.	19-Sep-19	IRWD Check	3,584.00	Reconciled
402383	VAUGHAN'S INDUSTRIAL REPAIR CO INC	19-Sep-19	IRWD Check	11,013.65	Reconciled
402384	VULCAN MATERIALS COMPANY	19-Sep-19	IRWD Check	1,431.51	Reconciled
402385	WALTERS WHOLESALE ELECTRIC	19-Sep-19	IRWD Check	1,530.05	Reconciled
402386	WANG, LINGLI	19-Sep-19	IRWD Check	3,029.25	Negotiable
402387	WANG, YIWEN	19-Sep-19	IRWD Check	36.55	Negotiable
402388	WARD, WILLIAM P JR.	19-Sep-19	IRWD Check	1,291.46	Reconciled
402389	WATER RESEARCH FOUNDATION	19-Sep-19	IRWD Check	55,066.96	Negotiable
402390	WATERSMART SOFTWARE, INC	19-Sep-19	IRWD Check	13,597.50	Reconciled
402391	WAXIE'S ENTERPRISES, INC	19-Sep-19	IRWD Check	566.90	Reconciled
402392	WECK LABORATORIES INC	19-Sep-19	IRWD Check	8,005.00	Reconciled
402393	WESTAMERICA COMMUNICATIONS, INC.	19-Sep-19	IRWD Check	2,441.42	Reconciled
402394	WILLIAM D ROYER	19-Sep-19	IRWD Check	280.00	Reconciled
402395	WOOD, LUKE	19-Sep-19	IRWD Check	112.99	Negotiable
402396	YORK INSURANCE SERVICES GROUP INC - CA	19-Sep-19	IRWD Check	8,175.50	Reconciled
402397	ZHANG, XUAN	19-Sep-19	IRWD Check	24.13	Negotiable
402398	JCI JONES CHEMICALS INC	19-Sep-19	IRWD Check	2,469.60	Reconciled
402399	CALIFORNIA DEPARTMENT OF TAX AND FEE ADMINISTRATION	23-Sep-19	IRWD Check	9,138.00	Negotiable
402400	Alfaro, Alvaro (Alvaro)	26-Sep-19	IRWD Check	105.00	Negotiable
402401	Avalos, Joaquin	26-Sep-19	IRWD Check	78.00	Negotiable

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
402402	Bill, Cody (Cody)	26-Sep-19	IRWD Check	192.00	Negotiable
402403	Cano, Marco T (Marco)	26-Sep-19	IRWD Check	220.00	Negotiable
402404	Corral, Edward Jr (Ed)	26-Sep-19	IRWD Check	50.00	Reconciled
402405	Garcia, Jose (Joe)	26-Sep-19	IRWD Check	155.00	Negotiable
402406	Marcacci, Mark	26-Sep-19	IRWD Check	218.50	Reconciled
402407	Monday, Jason	26-Sep-19	IRWD Check	170.55	Reconciled
402408	Mwe, Nang	26-Sep-19	IRWD Check	167.16	Reconciled
402409	Orozco, Linda	26-Sep-19	IRWD Check	125.00	Negotiable
402410	Parra, Dennis	26-Sep-19	IRWD Check	78.00	Negotiable
402411	Sanchez, Hector A (Hector)	26-Sep-19	IRWD Check	290.00	Reconciled
402412	Shinbashi, Allen	26-Sep-19	IRWD Check	111.69	Reconciled
402413	Swan, Peer	26-Sep-19	IRWD Check	3,432.12	Negotiable
402414	A & R CORPORATION INC.	26-Sep-19	IRWD Check	2,580.05	Negotiable
402415	A&A WIPING CLOTH CO	26-Sep-19	IRWD Check	1,336.10	Negotiable
402416	A&Y ASPHALT CONTRACTORS, INC.	26-Sep-19	IRWD Check	18,077.00	Negotiable
402417	ABC ICEHOUSE, INC.	26-Sep-19	IRWD Check	157.85	Negotiable
402418	ADS LLC	26-Sep-19	IRWD Check	2,250.00	Reconciled
402419	AGILENT TECHNOLOGIES, INC.	26-Sep-19	IRWD Check	303.93	Reconciled
402420	AIR RESOURCES BOARD	26-Sep-19	IRWD Check	735.00	Negotiable
402421	AIRGAS, INC.	26-Sep-19	IRWD Check	694.26	Reconciled
402422	ALLIANT INSURANCE SERVICES, INC	26-Sep-19	IRWD Check	10,562.33	Negotiable
402423	AMAZON CAPITAL SERVICES, INC.	26-Sep-19	IRWD Check	176.88	Negotiable
402424	APIS-US, INC.	26-Sep-19	IRWD Check	2,825.00	Negotiable
402425	AQUA-AEROBIC SYSTEMS INC	26-Sep-19	IRWD Check	35,624.59	Negotiable
402426	AQUA-METRIC SALES COMPANY	26-Sep-19	IRWD Check	10,829.45	Negotiable
402427	ARMORCAST PRODUCTS COMPANY	26-Sep-19	IRWD Check	405.45	Reconciled
402428	AT&T	26-Sep-19	IRWD Check	7,077.11	Negotiable
402429	AUSTIN HARDWOODS, INC	26-Sep-19	IRWD Check	24.78	Negotiable
402430	AUTOZONE PARTS, INC.	26-Sep-19	IRWD Check	649.53	Negotiable
402431	B & K ELECTRIC WHOLESALE	26-Sep-19	IRWD Check	82.64	Reconciled
402432	BHARATHI KOLLA, PRATIBHA	26-Sep-19	IRWD Check	45.10	Negotiable
402433	BLAIRS TOWING INC	26-Sep-19	IRWD Check	95.00	Negotiable
402434	C WELLS PIPELINE MATERIALS INC	26-Sep-19	IRWD Check	1,224.31	Negotiable
402435	CALIFORNIA BARRICADE RENTAL, INC.	26-Sep-19	IRWD Check	1,070.00	Negotiable
402436	CALSENSE	26-Sep-19	IRWD Check	700.00	Negotiable
402437	CANON SOLUTIONS AMERICA, INC.	26-Sep-19	IRWD Check	16.99	Reconciled
402438	CERON, LUISA	26-Sep-19	IRWD Check	25.27	Negotiable
402439	CHARLES WILLIAM ROBLE, JR.	26-Sep-19	IRWD Check	855.00	Negotiable
402440	CHEM TECH INTERNATIONAL INC	26-Sep-19	IRWD Check	20,303.94	Negotiable
402441	CITY OF IRVINE	26-Sep-19	IRWD Check	128.00	Reconciled
402442	CITY OF NEWPORT BEACH	26-Sep-19	IRWD Check	1,352.98	Negotiable
402443	CITY OF SANTA ANA	26-Sep-19	IRWD Check	181.35	Reconciled
402444	CLARIS STRATEGY INC.	26-Sep-19	IRWD Check	5,740.00	Negotiable
402445	COASTLINE EQUIPMENT COMPANY	26-Sep-19	IRWD Check	363.81	Reconciled
402446	CONSOLIDATED CONTRACTING SERVICES INC	26-Sep-19	IRWD Check	2,600.00	Negotiable
402447	CONSTELLATION NEWENERGY, INC.	26-Sep-19	IRWD Check	1,901.28	Negotiable
402448	COX COMMUNICATIONS, INC.	26-Sep-19	IRWD Check	3,394.09	Reconciled
402449	CRESCENT CHEMICAL CO.	26-Sep-19	IRWD Check	258.53	Reconciled
402450	CUSTOM TRUCK ONE SOURCE, L.P.	26-Sep-19	IRWD Check	350.32	Negotiable
402451	D & H WATER SYSTEMS INC.	26-Sep-19	IRWD Check	4,525.90	Negotiable
402452	DATASITE INC	26-Sep-19	IRWD Check	4,596.00	Negotiable
402453	DILYTICS INC	26-Sep-19	IRWD Check	3,770.00	Negotiable
402454	DIRECTV INC	26-Sep-19	IRWD Check	264.51	Negotiable
402455	EARTH MECHANICS INC	26-Sep-19	IRWD Check	1,716.53	Negotiable
402456	ELITE EQUIPMENT, INC.	26-Sep-19	IRWD Check	238.30	Negotiable
402457	EMD MILLIPORE CORPORATION	26-Sep-19	IRWD Check	860.01	Negotiable
402458	EMERGENCY POWER CONTROLS INC	26-Sep-19	IRWD Check	4,052.43	Negotiable
402459	EMMERSON CONSTRUCTION INC	26-Sep-19	IRWD Check	2,600.00	Negotiable
402460	ENVIRONMENTAL RESOURCE ASSOCIATES	26-Sep-19	IRWD Check	145.06	Negotiable
402461	ENVIRONMENTAL SCIENCE ASSOCIATES	26-Sep-19	IRWD Check	74,059.58	Negotiable
402462	EVANTEC CORPORATION	26-Sep-19	IRWD Check	68.49	Negotiable
402463	EVERETT DOREY LLP	26-Sep-19	IRWD Check	11,853.65	Negotiable
402464	EXECUTIVE LIGHTING & ELECTRIC	26-Sep-19	IRWD Check	5,675.61	Negotiable

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
402465	FEDEX	26-Sep-19	IRWD Check	245.12	Negotiable
402466	FERGUSON ENTERPRISES, LLC	26-Sep-19	IRWD Check	1,624.87	Reconciled
402467	FIONA HUTTON & ASSOCIATES, INC.	26-Sep-19	IRWD Check	29,965.46	Negotiable
402468	FIRE EXTINGUISHING SAFETY & SERVICE	26-Sep-19	IRWD Check	853.13	Negotiable
402469	FISHER SCIENTIFIC COMPANY LLC	26-Sep-19	IRWD Check	596.61	Reconciled
402470	FRONTIER CALIFORNIA INC.	26-Sep-19	IRWD Check	319.77	Negotiable
402471	GEORGE HILLS COMPANY, INC.	26-Sep-19	IRWD Check	1,311.60	Negotiable
402472	GRAINGER	26-Sep-19	IRWD Check	5,710.62	Negotiable
402473	HABITAT RESTORATION SCIENCES, INC.	26-Sep-19	IRWD Check	1,183.00	Negotiable
402474	HACH COMPANY	26-Sep-19	IRWD Check	8,078.10	Reconciled
402475	HARRINGTON INDUSTRIAL PLASTICS LLC	26-Sep-19	IRWD Check	25,700.18	Negotiable
402476	HDR ENGINEERING INC	26-Sep-19	IRWD Check	22,490.48	Negotiable
402477	HEIDARI, ALIREZA RYAN	26-Sep-19	IRWD Check	40.35	Negotiable
402478	HELP/SYSTEMS, LLC	26-Sep-19	IRWD Check	1,800.00	Reconciled
402479	HELPMATES STAFFING SERVICES	26-Sep-19	IRWD Check	10,605.56	Negotiable
402480	HENSEL PHELPS CONSTRUCTION CO.	26-Sep-19	IRWD Check	1,046.98	Negotiable
402481	HILL BROTHERS CHEMICAL COMPANY	26-Sep-19	IRWD Check	13,929.45	Negotiable
402482	HOME DEPOT USA INC	26-Sep-19	IRWD Check	107.62	Negotiable
402483	HOWDEN ROOTS LLC	26-Sep-19	IRWD Check	2,227.19	Reconciled
402484	HWANG, DAVID	26-Sep-19	IRWD Check	24.23	Negotiable
402485	HYDROTECH ELECTRIC	26-Sep-19	IRWD Check	5,530.68	Reconciled
402486	IRVINE COMMUNITY DEVELOPMENT COMPANY LLC	26-Sep-19	IRWD Check	18,907.50	Negotiable
402487	IRVINE PACIFIC	26-Sep-19	IRWD Check	151.29	Negotiable
402488	IRVINE PIPE & SUPPLY INC	26-Sep-19	IRWD Check	3,515.53	Reconciled
402489	IRWD-PETTY CASH CUSTODIAN	26-Sep-19	IRWD Check	930.77	Reconciled
402490	JOHNSON PLASTICS	26-Sep-19	IRWD Check	680.28	Negotiable
402491	JUST ENERGY SOLUTIONS INC.	26-Sep-19	IRWD Check	1,270.20	Reconciled
402492	KEY INFORMATION SYSTEMS, INC.	26-Sep-19	IRWD Check	2,050.00	Reconciled
402493	KIM, SOON TAE	26-Sep-19	IRWD Check	900.00	Negotiable
402494	KO, ROBERT	26-Sep-19	IRWD Check	1,074.11	Negotiable
402495	KWAK, SOON	26-Sep-19	IRWD Check	42.71	Negotiable
402496	LCS TECHNOLOGIES, INC.	26-Sep-19	IRWD Check	5,400.00	Reconciled
402497	LENNAR HOMES	26-Sep-19	IRWD Check	95.77	Negotiable
402498	LOWDER, JAMES	26-Sep-19	IRWD Check	17.11	Negotiable
402499	MC FADDEN-DALE INDUSTRIAL	26-Sep-19	IRWD Check	650.84	Negotiable
402500	MCKENNA GENERAL ENGINEERING, INC.	26-Sep-19	IRWD Check	954.95	Negotiable
402501	MCR TECHNOLOGIES INC	26-Sep-19	IRWD Check	1,216.76	Reconciled
402502	MESHKIN, SARAH	26-Sep-19	IRWD Check	321.51	Negotiable
402503	MGH PAINTING INC	26-Sep-19	IRWD Check	1,621.50	Reconciled
402504	MICHAEL BAKER INTERNATIONAL, INC.	26-Sep-19	IRWD Check	542.00	Reconciled
402505	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	26-Sep-19	IRWD Check	795.00	Reconciled
402506	NATIONAL READY MIXED CONCRETE SALES, LLC	26-Sep-19	IRWD Check	1,304.69	Reconciled
402507	NEOFUNDS	26-Sep-19	IRWD Check	2,000.00	Negotiable
402508	NMG GEOTECHNICAL INC	26-Sep-19	IRWD Check	5,156.00	Negotiable
402509	OLIN CORPORATION	26-Sep-19	IRWD Check	14,746.75	Negotiable
402510	ORACLE AMERICA, INC.	26-Sep-19	IRWD Check	1,636.20	Negotiable
402511	ORANGE COUNTY AUTO PARTS CO	26-Sep-19	IRWD Check	963.42	Reconciled
402512	ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT	26-Sep-19	IRWD Check	6,105.85	Negotiable
402513	ORANGE COUNTY SANITATION DISTRICT	26-Sep-19	IRWD Check	11,439.35	Negotiable
402514	OUTSOURCE TECHNICAL LLC	26-Sep-19	IRWD Check	3,300.00	Negotiable
402515	PANG, LU	26-Sep-19	IRWD Check	178.68	Negotiable
402516	PARADA PAINTING INC	26-Sep-19	IRWD Check	13,900.00	Negotiable
402517	PAULUS ENGINEERING, INC.	26-Sep-19	IRWD Check	5,300.00	Negotiable
402518	PEREZ, KATHERINE	26-Sep-19	IRWD Check	13.90	Negotiable
402519	PINNACLE TOWERS LLC	26-Sep-19	IRWD Check	749.21	Reconciled
402520	PIPELINE PRODUCTS INC	26-Sep-19	IRWD Check	645.70	Reconciled
402521	PIVOT INTERIORS INC	26-Sep-19	IRWD Check	30,545.31	Negotiable
402522	PMC ENGINEERING LLC.	26-Sep-19	IRWD Check	675.35	Reconciled
402523	PRAXAIR DISTRIBUTION INC	26-Sep-19	IRWD Check	242.16	Negotiable
402524	PROCARE WORK INJURY CENTER	26-Sep-19	IRWD Check	360.00	Negotiable
402525	PULTE GROUP	26-Sep-19	IRWD Check	177.98	Negotiable
402526	PYRO-COMM SYSTEMS INC	26-Sep-19	IRWD Check	2,942.88	Reconciled
402527	QUALITY ENVIRONMENTAL CONTAINERS	26-Sep-19	IRWD Check	3,778.29	Negotiable

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
402528	RAM AIR ENGINEERING INC	26-Sep-19	IRWD Check	5,925.00	Negotiable
402529	RASHID, JOWDAT	26-Sep-19	IRWD Check	27.01	Negotiable
402530	REFRIGERATION SUPPLIES DISTRIBUTOR	26-Sep-19	IRWD Check	221.88	Reconciled
402531	RENTOKIL NORTH AMERICA, INC	26-Sep-19	IRWD Check	11,738.00	Negotiable
402532	RESTEK CORPORATION	26-Sep-19	IRWD Check	95.47	Reconciled
402533	RICHARD C. SLADE & ASSOCIATES LLC	26-Sep-19	IRWD Check	15,350.84	Negotiable
402534	RINCON TRUCK CENTER INC.	26-Sep-19	IRWD Check	109.15	Negotiable
402535	ROGOFF, DEBRA	26-Sep-19	IRWD Check	93.70	Negotiable
402536	ROSEDALE - RIO BRAVO WATER STORAGE DISTRICT	26-Sep-19	IRWD Check	12,537.19	Negotiable
402537	ROYAL INDUSTRIAL SOLUTIONS	26-Sep-19	IRWD Check	1,028.61	Reconciled
402538	SANTA ANA BLUE PRINT	26-Sep-19	IRWD Check	1,097.91	Negotiable
402539	SANTIAGO AQUEDUCT COMMISSION	26-Sep-19	IRWD Check	11,996.07	Reconciled
402540	SHAMROCK SUPPLY CO INC	26-Sep-19	IRWD Check	2,293.52	Reconciled
402541	SHEA HOMES LP	26-Sep-19	IRWD Check	2,298.10	Negotiable
402542	SIMI VALLEY LANDFILL AND RECYCLING CENTER	26-Sep-19	IRWD Check	217.44	Negotiable
402543	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	26-Sep-19	IRWD Check	1,399.46	Negotiable
402544	SOUTHERN CALIFORNIA EDISON COMPANY	26-Sep-19	IRWD Check	127,547.29	Reconciled
402545	SOUTHERN CALIFORNIA GAS COMPANY	26-Sep-19	IRWD Check	11,940.25	Negotiable
402546	SPARKLETTES	26-Sep-19	IRWD Check	120.57	Negotiable
402547	SPATIAL WAVE, INC.	26-Sep-19	IRWD Check	8,756.00	Reconciled
402548	STANTEC CONSULTING SERVICES INC.	26-Sep-19	IRWD Check	15,676.75	Negotiable
402549	STORMS CONSULTING ENGINEERS	26-Sep-19	IRWD Check	1,627.50	Negotiable
402550	STRADLING YOCCA CARLSON & RAUTH	26-Sep-19	IRWD Check	196.00	Reconciled
402551	SU, YURONG	26-Sep-19	IRWD Check	1,724.33	Negotiable
402552	SUKLE ADVERTISING INC.	26-Sep-19	IRWD Check	2,142.00	Negotiable
402553	SULZER ELECTRO-MECHANICAL SERVICES (US) INC.	26-Sep-19	IRWD Check	4,339.30	Negotiable
402554	SWAINS ELECTRIC MOTOR SERVICE	26-Sep-19	IRWD Check	6,878.86	Negotiable
402555	SYN-TECH SYSTEMS INC	26-Sep-19	IRWD Check	825.00	Negotiable
402556	TAYLOR MORRISON	26-Sep-19	IRWD Check	87.48	Reconciled
402557	TEKDRAULICS	26-Sep-19	IRWD Check	75,038.90	Negotiable
402558	TEVORA BUSINESS SOLUTIONS, INC.	26-Sep-19	IRWD Check	7,055.66	Negotiable
402559	TOTAL RESOURCE MANAGEMENT, INC.	26-Sep-19	IRWD Check	4,940.96	Negotiable
402560	TROPICAL PLAZA NURSERY INC	26-Sep-19	IRWD Check	47,283.84	Negotiable
402561	TRUKSPECT, INC	26-Sep-19	IRWD Check	1,807.92	Reconciled
402562	TURTLE ROCK CANYON APTS	26-Sep-19	IRWD Check	129.70	Negotiable
402563	UDAGAWA, NINA	26-Sep-19	IRWD Check	23.32	Negotiable
402564	US BANK NAT'L ASSOCIATION NORTH DAKOTA	26-Sep-19	IRWD Check	72,366.02	Negotiable
402565	VWR INTERNATIONAL, LLC	26-Sep-19	IRWD Check	2,157.73	Negotiable
402566	WALTERS WHOLESALE ELECTRIC	26-Sep-19	IRWD Check	278.05	Reconciled
402567	WANG, MEI-HUI	26-Sep-19	IRWD Check	78.95	Negotiable
402568	WANG, PANSY	26-Sep-19	IRWD Check	1,969.87	Negotiable
402569	WASTE MANAGEMENT OF ORANGE COUNTY	26-Sep-19	IRWD Check	1,420.34	Negotiable
402570	WATERWISE PRO TRAINING LLC	26-Sep-19	IRWD Check	3,600.00	Negotiable
402571	WEST COAST SAFETY SUPPLY INC	26-Sep-19	IRWD Check	7,858.57	Negotiable
402572	WESTAMERICA COMMUNICATIONS, INC.	26-Sep-19	IRWD Check	957.27	Reconciled
402573	XUE, YAN	26-Sep-19	IRWD Check	27.62	Negotiable
402574	YORKE ENGINEERING, LLC	26-Sep-19	IRWD Check	726.25	Negotiable
402575	YSI, INC	26-Sep-19	IRWD Check	1,697.56	Negotiable
402576	JOHN MICHAEL COVAS	27-Sep-19	IRWD Check	173.20	Negotiable
402577	ANTHEM BLUE CROSS	27-Sep-19	IRWD Check	234.65	Negotiable
402578	HUMANA INSURANCE COMPANY	27-Sep-19	IRWD Check	73.80	Negotiable
402579	UNITED HEALTHCARE INSURANCE COMPANY	27-Sep-19	IRWD Check	284.07	Negotiable
402580	ANTHEM BLUE CROSS	27-Sep-19	IRWD Check	597.14	Negotiable
402581	STATE OF CALIFORNIA, EDD	27-Sep-19	IRWD Check	75.00	Negotiable
402582	ORANGE COUNTY SHERIFF'S OFFICE	27-Sep-19	IRWD Check	62.50	Negotiable
402583	FRANCHISE TAX BOARD	27-Sep-19	IRWD Check	380.00	Negotiable
402584	INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL 47	27-Sep-19	IRWD Check	2,489.24	Reconciled
402585	PERS LONG TERM CARE	27-Sep-19	IRWD Check	538.89	Negotiable
SUB-TOTAL CHECK DISBURSEMENTS				11,484,507.39	

13356	CHARD SNYDER & ASSOCIATES, INC.	3-Sep-19	IRWD Wire	9,881.39	Negotiable
13357	CHARD SNYDER & ASSOCIATES, INC.	3-Sep-19	IRWD Wire	3,423.05	Negotiable
13358	YORK INSURANCE SERVICES GROUP INC - CA	10-Sep-19	IRWD Wire	13,869.17	Negotiable

**IRVINE RANCH WATER DISTRICT
AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019**

CHECK OR ELECTRONIC #	SUPPLIERS	PAYMENT DATE	PAYMENT METHOD	PAYMENT AMOUNT	STATUS
13359	CHARD SNYDER & ASSOCIATES, INC.	10-Sep-19	IRWD Wire	1,549.03	Negotiable
13360	CHARD SNYDER & ASSOCIATES, INC.	10-Sep-19	IRWD Wire	1,633.50	Negotiable
13361	CHARD SNYDER & ASSOCIATES, INC.	10-Sep-19	IRWD Wire	2,191.37	Negotiable
13362	CHARD SNYDER & ASSOCIATES, INC.	10-Sep-19	IRWD Wire	8,192.29	Negotiable
13363	CALPERS	12-Sep-19	IRWD Wire	518,184.16	Negotiable
13364	CALPERS	12-Sep-19	IRWD Wire	2,892.23	Negotiable
13365	MERRILL LYNCH CAPITAL SERVICES, INC	16-Sep-19	IRWD Wire	484,682.00	Negotiable
13366	CITIGROUP GLOBAL MARKETS INC.	16-Sep-19	IRWD Wire	484,682.00	Negotiable
13367	BANK OF NEW YORK MELLON TRUST COMPANY NA	16-Sep-19	IRWD Wire	58,720.64	Negotiable
13368	BANK OF NEW YORK MELLON TRUST COMPANY NA	16-Sep-19	IRWD Wire	39,147.09	Negotiable
13369	U.S. BANK NATIONAL ASSOCIATION	16-Sep-19	IRWD Wire	57,043.12	Negotiable
13370	BANK OF AMERICA	16-Sep-19	IRWD Wire	55,058.23	Negotiable
13371	U.S. BANK NATIONAL ASSOCIATION	16-Sep-19	IRWD Wire	28,268.98	Negotiable
13372	SUMITOMO MITSUI BANKING CORPORATION	16-Sep-19	IRWD Wire	48,283.57	Negotiable
13373	YORK INSURANCE SERVICES GROUP INC - CA	17-Sep-19	IRWD Wire	3,670.48	Negotiable
13374	U.S. BANK NATIONAL ASSOCIATION	18-Sep-19	IRWD Wire	7,707.29	Negotiable
13375	CHARD SNYDER & ASSOCIATES, INC.	18-Sep-19	IRWD Wire	1,444.15	Negotiable
13376	SCHMUTZ, ASHLEY	19-Sep-19	IRWD Wire	41.13	Negotiable
13377	BOONE, TERRIE	19-Sep-19	IRWD Wire	32.93	Negotiable
13378	YORK INSURANCE SERVICES GROUP INC - CA	24-Sep-19	IRWD Wire	9,920.39	Negotiable
13379	FILANC-BALFOUR BEATTY JV	25-Sep-19	IRWD Wire	255,720.18	Negotiable
13380	FILANC-BALFOUR BEATTY JV	25-Sep-19	IRWD Wire	313.90	Negotiable
13381	CHARD SNYDER & ASSOCIATES, INC.	26-Sep-19	IRWD Wire	5,130.18	Negotiable
13382	CHARD SNYDER & ASSOCIATES, INC.	26-Sep-19	IRWD Wire	4,264.30	Negotiable
13383	CALPERS	26-Sep-19	IRWD Wire	234,101.60	Negotiable
13384	CALPERS	26-Sep-19	IRWD Wire	899.53	Negotiable
13385	INTERNAL REVENUE SERVICE	27-Sep-19	IRWD Wire	209,583.75	Negotiable
13386	FRANCHISE TAX BOARD	27-Sep-19	IRWD Wire	65,114.97	Negotiable
13387	EMPLOYMENT DEVELOPMENT DEPARTMENT	27-Sep-19	IRWD Wire	14,292.00	Negotiable
13388	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	27-Sep-19	IRWD Wire	3,026.42	Negotiable
13389	GREAT-WEST LIFE & ANNUITY INSURANCE COMPANY	27-Sep-19	IRWD Wire	163,652.19	Negotiable
13390	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	27-Sep-19	IRWD Wire	473,465.30	Negotiable
13391	INTERNAL REVENUE SERVICE	27-Sep-19	IRWD Wire	214,105.34	Negotiable
13392	FRANCHISE TAX BOARD	27-Sep-19	IRWD Wire	66,361.41	Negotiable
13393	EMPLOYMENT DEVELOPMENT DEPARTMENT	27-Sep-19	IRWD Wire	13,713.18	Negotiable
13394	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	27-Sep-19	IRWD Wire	3,026.42	Negotiable
13395	GREAT-WEST LIFE & ANNUITY INSURANCE COMPANY	27-Sep-19	IRWD Wire	159,549.05	Negotiable
13396	ORANGE COUNTY WATER DISTRICT	27-Sep-19	IRWD Wire	1,617.00	Negotiable
13397	ORANGE COUNTY WATER DISTRICT	30-Sep-19	IRWD Wire	2,259,315.83	Negotiable
13398	BANK OF NEW YORK MELLON TRUST COMPANY NA	30-Sep-19	IRWD Wire	43,155.57	Negotiable
13399	CHARD SNYDER & ASSOCIATES, INC.	30-Sep-19	IRWD Wire	3,608.68	Negotiable
13400	CHARD SNYDER & ASSOCIATES, INC.	30-Sep-19	IRWD Wire	2,861.80	Negotiable
13401	BANK OF NEW YORK MELLON TRUST COMPANY NA	30-Sep-19	IRWD Wire	30,312.50	Negotiable
13402	CALPERS	30-Sep-19	IRWD Wire	230,897.31	Negotiable
13403	CHARD SNYDER & ASSOCIATES, INC.	30-Sep-19	IRWD Wire	10,504.34	Negotiable
13404	CHARD SNYDER & ASSOCIATES, INC.	30-Sep-19	IRWD Wire	3,038.18	Negotiable
SUB-TOTAL ELECTRONIC DISBURSEMENTS				6,312,149.12	
SUB-TOTAL AP CHECK AND ELECTRONIC DISBURSEMENTS				17,796,656.51	
402133	SOUTHERN CALIFORNIA EDISON COMPANY	12-Sep-19	IRWD Check	3,000.00	Voided
SUB-TOTAL CHECK ISSUED AND VOIDED IN SEPTEMBER 2019				3,000.00	
TOTAL AP DISBURSEMENTS AND VOIDS FOR SEPTEMBER 2019				17,799,656.51	

Exhibit "E"

MONTHLY SUMMARY OF PAYROLL ACH PAYMENTS

August
2019

	AMOUNT	VENDOR	PURPOSE
8/2/2019	1,030,971.83	BANK OF AMERICA	ACH Payments for Payroll
8/16/2019	1,048,999.35		
8/30/2019	1,044,462.16	BANK OF AMERICA	ACH Payments for Payroll
	<u>\$3,124,433.34</u>		

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Exhibit "F"


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-SEP-19 to 30-SEP-19

NAME	CHECK NO.	CHECK DATE	AMOUNT	ITEM DESCRIPTION	EXPENSE JUSTIFICATION
Alfaro, Alvaro	402400	26-Sep-19	105.00	Certification Renewal	SWRCB Water Distribution Operator Grade D4
Bill, Cody	402402	26-Sep-19	192.00	Membership Renewal	CWEA membership
Cano, Marco	402403	26-Sep-19	170.00	Certification Renewal	CWEA Collections Systems Grade I
Chaney, David	401774	5-Sep-19	286.00	Certification Renewal	CWEA Collections Systems Maintenance Grade II
Corral, Ed	401942	12-Sep-19	120.00	Certification Renewal	SWRCB Water Distribution Grade III
Garcia, Joe	402405	26-Sep-19	155.00	Certification Renewal	SWRCB Water Distribution Grade V
Koenig, Tim	401946	12-Sep-19	500.00	Certification Renewal	ACI Concrete Field Testing Tech Grade I
Magana, Husai	401948	12-Sep-19	607.50	Other(Misc)	Meeting supplies
Marcacci, Mark	401778	5-Sep-19	116.00	Certification Renewal	Professional Engineers license renewal
Monday, Jason	402407	26-Sep-19	120.55	Other(Misc)	CEU for Wastewater Treatment Plant Operation Specialist
Murphy, Alex	401949	12-Sep-19	115.00	Certification Renewal	Professional Engineers license renewal
Murphy, Alex	402183	19-Sep-19	300.00	Membership Renewal	ASCE membership
Mwe, Nang	402408	26-Sep-19	116.00	Certification Renewal	Professional Engineers license renewal
Phuong, Sophia	401951	12-Sep-19	150.00	Other(Misc)	CalPERS Training Webinar
Prewoznik, Frank	401952	12-Sep-19	120.00	Other(Misc)	CCEEB dinner event
Sanchez, Hector	402411	26-Sep-19	290.00	Certification Renewal	Smog Repair Technician & Smog Check Inspector
Swan, Peer	402413	26-Sep-19	583.96	Airfare	Watershed Stewardship in the Wildland Urban Interface, Auburn, CA - June 26-28, 2019
Swan, Peer	402413	26-Sep-19	156.87	Lodging	Watershed Stewardship in the Wildland Urban Interface, Auburn, CA - June 26, 2019
Swan, Peer	402413	26-Sep-19	156.87	Lodging	Watershed Stewardship in the Wildland Urban Interface, Auburn, CA - June 27, 2019
Swan, Peer	402413	26-Sep-19	431.74	Mileage	ACWA 2019 Spring Conf., Monterey, CA - May 5-10, 2019
Swan, Peer	402413	26-Sep-19	269.86	Lodging	ACWA 2019 Spring Conf., Monterey, CA - May 5, 2019
Swan, Peer	402413	26-Sep-19	304.11	Lodging	ACWA 2019 Spring Conf., Monterey, CA - May 6, 2019
Swan, Peer	402413	26-Sep-19	260.73	Lodging	ACWA 2019 Spring Conf., Monterey, CA - May 7, 2019
Swan, Peer	402413	26-Sep-19	260.73	Lodging	ACWA 2019 Spring Conf., Monterey, CA - May 8, 2019
Swan, Peer	402413	26-Sep-19	260.73	Lodging	ACWA 2019 Spring Conf., Monterey, CA - May 9, 2019
Total Amount:			\$6,148.65		

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October 28, 2019
Prepared by: D. Pardee / C. Smithson
Submitted by: C. Clary
Approved by: Paul A. Cook 

CONSENT CALENDAR

IRVINE RANCH WATER DISTRICT STRATEGIC MEASURES

SUMMARY:

Provided as Exhibit “A” are the IRWD Strategic Measures and informational items for the Board’s review. These measures are intended to reflect the critical performance measures that gauge the District’s key business objectives.

BACKGROUND:

The proposed strategic measures document summarizes a number of operating performance, financial, customer and other key measures important to the ongoing operation of the District. These measures were selected and designed to provide a “snapshot” view of the measures that would be of interest to the Board.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

RECOMMENDATION:

RECEIVE AND FILE.

LIST OF EXHIBITS:

Exhibit “A” – September 2019 Strategic Measures

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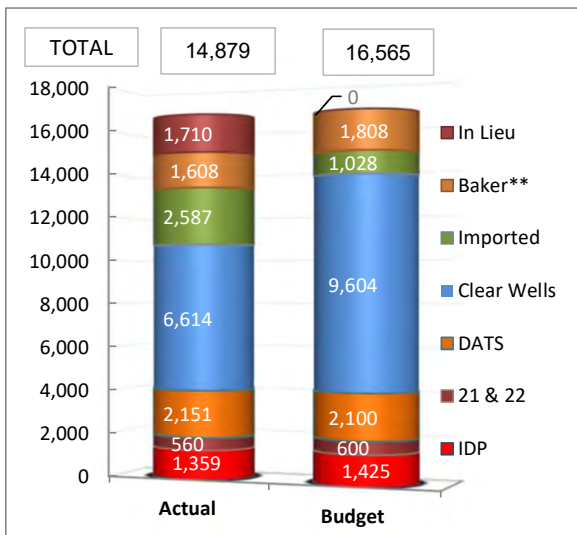
Exhibit "A"

IRVINE RANCH WATER DISTRICT

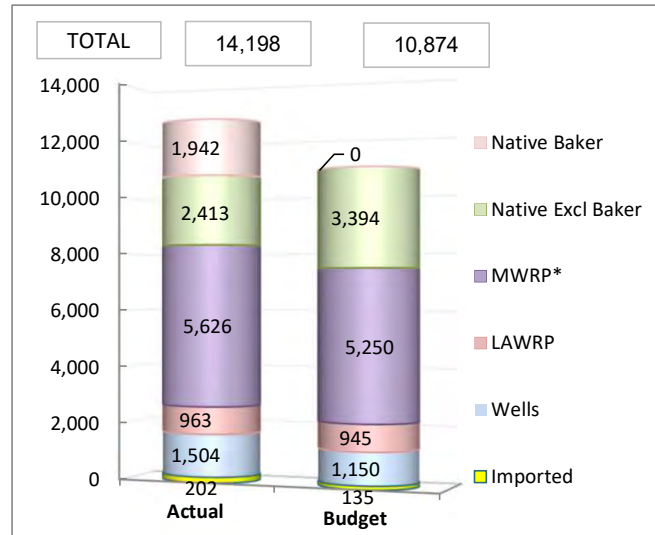
Operational Performance Measures

Data as of September 30, 2019

Potable Water Production FYTD
(AF)



Non-Potable Water Production FYTD
(AF)



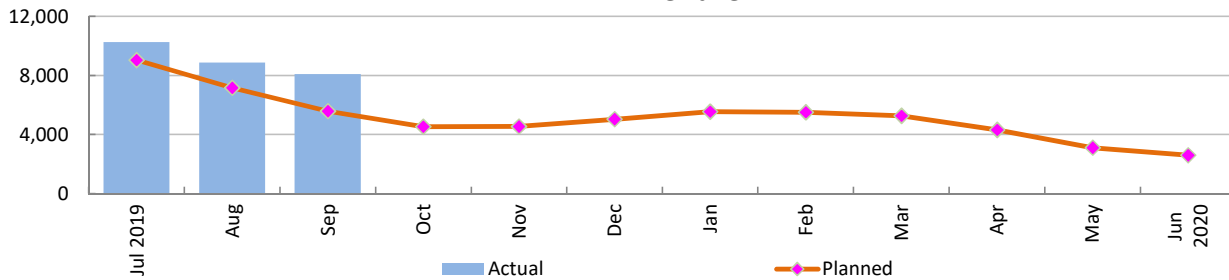
* Excess production moved to recycled reservoirs.

** Baker used 1,942 AF of native water (Non-Potable graph) and the District's allocation is 466 AF (Potable graph).

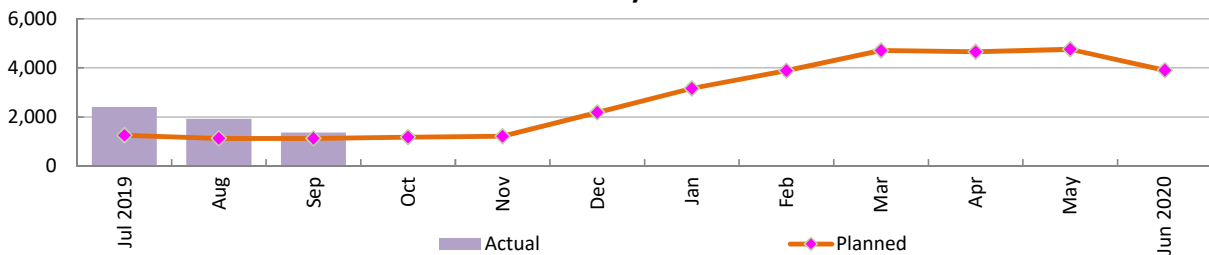
Non-Potable Reservoir Storage

(AF)

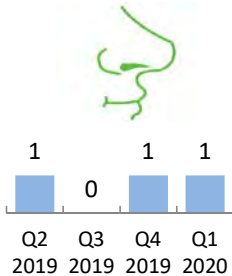
Irvine Lake



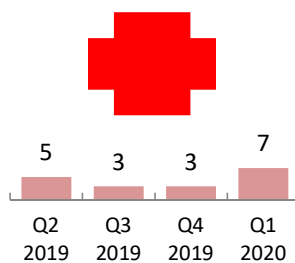
Recycled



Odor Complaints (FY by quarter)



OSHA Recordables Incidents



Regulatory Compliance Incidents

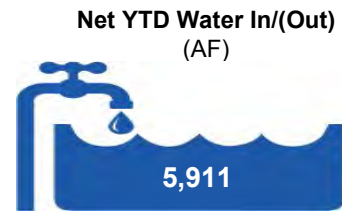
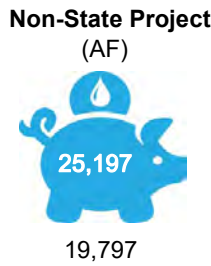
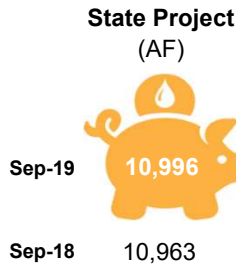
	Q2 2019	Q3 2019	Q4 2019	Q1 2020
AQMD	0	0	0	0
Plants	0	0	0	0
Sewer Spills	1	1	0	0

IRVINE RANCH WATER DISTRICT

Other Statistical Information

Data as of September 30, 2019

Banked Water



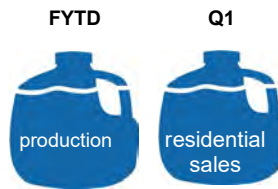
*Calendar Year including extraordinary supply received.

Certificates of Occupancies FYTD



	Apartment	Condominium	Single Family
FY 19-20	477	262	185
FY 18-19	267	392	453

Total Potable Water



	AF	GPCD
FY 19-20	16,420	71
FY 13-14	18,061	94
Reduction	9.1%	25%

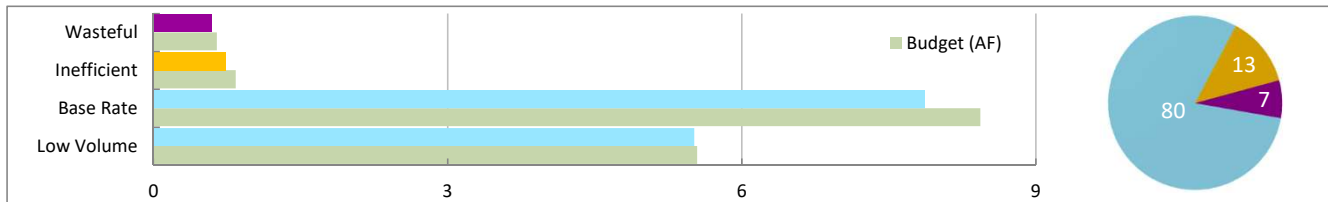
Acre-Feet Per Acre Irrigation



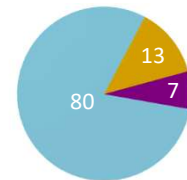
	AF	ET Based Allocation
FY 19-20 Q1	0.28	0.39
FY 13-14 Q1	0.31	0.40

Potable Sales by Tier FYTD

(in thousands)

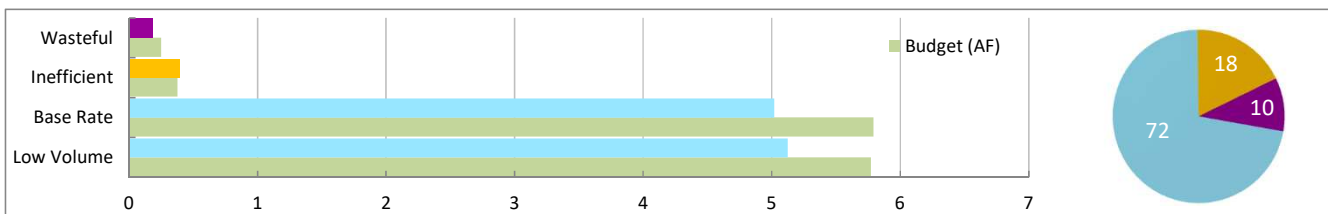


% of Customers by Tier

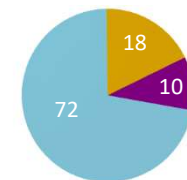


Non-Potable Sales by Tier FYTD

(in thousands)

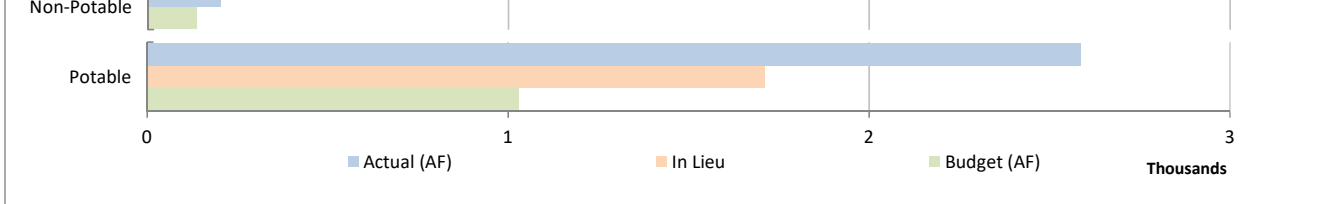


% of Customers by Tier



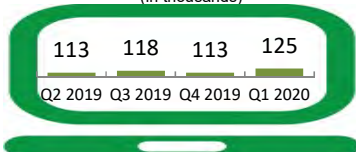
Imported Water Purchases FYTD

(in thousands)

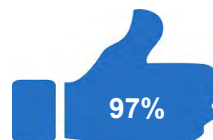


Website Hits

(in thousands)



Customer Satisfaction Index**



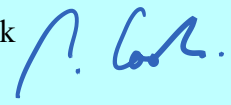
** 12 month rolling average

October 28, 2019

Prepared by: A. Murphy / M. Cortez

Submitted by: K. Burton

Approved by: Paul A. Cook



CONSENT CALENDAR

THREE-YEAR CATHODIC PROTECTION SYSTEM MONITORING PROGRAM
CONSULTANT SELECTION FOR FY 2019-20 THROUGH FY 2021-22

SUMMARY:

IRWD’s cathodic protection systems are designed to reduce corrosion of essential metallic pipelines and steel tank reservoirs that have a high rate of corrosion potential. These cathodic protection systems require monitoring, evaluation, and adjustments to ensure optimal protection of the pipelines and structures. The District routinely utilizes consultant services to perform these functions, and staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$343,901 with HDR for the Three-Year Cathodic Protection Monitoring Program for FY 2019-20 through FY 2021-22.

BACKGROUND:

IRWD owns and operates impressed current and galvanic cathodic protection (CP) systems to reduce the potential failure of its essential metallic pipelines and steel tank reservoirs identified as having a high rate of corrosion. CP systems utilize anode beds and impressed electric current requiring periodic monitoring, evaluation, and adjustments to ensure optimal protection of the metallic structure. The District has routinely utilized consultant services to monitor, evaluate and adjust the 54 metallic pipeline and 18 steel tank reservoir CP systems for a term of three years.

Existing IRWD Cathodic Protection Systems				
Pipelines	Systems	Rectifiers	Test Stations	Miles of Pipe
	54	67	586	79
Reservoirs	Reservoirs		Volume of Reservoirs (Millions of Gallons)	
	15		20.15	

Consultant Selection:

Staff prepared a Request for Proposal for the Three-Year Cathodic Protection Monitoring Program and received proposals from HDR, Universal Corrosion and V&A Consultants. Staff recommends HDR as the most qualified firm based on its thorough scope of work, experienced team, and cost effective proposal. The Consultant Selection Matrix is attached as Exhibit “A”. HDR successfully completed the FY 2016-17 through FY 2018-19 cathodic protection system monitoring for the District. HDR’s proposal, attached as Exhibit “B”, includes monitoring and reporting on the cathodic protection systems, updating the locations of the existing test stations in the District’s Geographic Information System, providing recommendations for improvements to the systems, and troubleshooting irregularities observed in the monitoring data.

Consent Calendar: Three-Year Cathodic Protection System Monitoring Program Consultant
Selection for FY 2019-20 through FY 2021-22

October 28, 2019

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FISCAL IMPACTS:

Funding for the Cathodic Protection Monitoring Program is included in the FY 2019-20 Operating Budget. Staff will include the required funding in the FY 2020-21 and FY 2021-22 Operating Budgets.

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15064 (b) (3). The activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on October 15, 2019.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT IN THE AMOUNT OF \$343,901 WITH HDR FOR THE THREE-YEAR CATHODIC PROTECTION MONITORING PROGRAM FOR FISCAL YEAR 2019-2020 THROUGH FISCAL YEAR 2021-2022.

LIST OF EXHIBITS:

Exhibit "A" – Consultant Selection Matrix

Exhibit "B" – HDR Proposal for Cathodic Protection Engineering Services

EXHIBIT "A"
3-Year Cathodic Protection Monitoring
FY2019/2020-2021/2022
Consultant Selection Matrix

	Weights	HDR		Universal Corrosion		V&A Consulting Engineers	
TECHNICAL APPROACH	60%						
*Project Approach	40%	2		3		1	
*Scope of Work	30%	1		3		2	
*Man Hour Estimates	30%	1		3		2	
Weighted Score (Technical Approach)		1.40		3.00		1.60	
EXPERIENCE	40%						
*Firm/Team	20%	1		3		2	
*Project Manager	40%	1		1		2	
*Project Engineer	20%	3		2		1	
*Project Engineer	20%	1		3		2	
Weighted Score (Experience)		1.40		2.00		1.80	
COMBINED WEIGHTED SCORE		2.80		5.00		3.40	
		Man-hours		Man-hours		Man-hours	
TOTAL Project HOURS		2070		9508		2238	
Total Meetigs		7		7		7	
FEE		\$343,901.00		\$1,029,847.00		\$405,901.00	
Professional Liability Insurance		yes		yes		yes	
General Liability Insurance		yes		yes		yes	
FORCED RANKINGS:							
1 - First		1-First		3 - Third		2 - Second	
2 - Second							
3 - Third							

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Proposal

Engineering Design Services for the
3-Year Cathodic Protection Systems
Monitoring Program

IRVINE RANCH WATER DISTRICT

Irvine, CA

September 12, 2019





September 12, 2019

Alex Murphy, PE
Project Manager
Irvine Ranch Water District
3512 Michelson Drive
Irvine, CA 92618

Subject: **Request for Proposal – Engineering Design Services for the
Three Year Cathodic Protection Systems Monitoring Program**

Dear Mr. Murphy,

HDR appreciates the opportunity to provide our proposal for this very important program. The District is taking the right approach by monitoring your asset cathodic protection systems and preserving the infrastructure you have instead of contending with failures and eventual capital investment replacements. We would very much like to continue to assist you in this endeavor.

Selecting HDR to support this corrosion protection program will provide the District with the following benefits:

- **Dedicated Project Manager** who has worked successfully with many municipalities and water districts for over 18 years and will remain committed to your corrosion monitoring program;
- **Local technical expertise** with relevant project experience with multiple other Southern California municipalities and districts with projects involving cathodic protection monitoring;
- **Solid understanding of the latest standards and guidelines** relating to corrosion engineering services;
- **Strong familiarity with local corrosion engineering related issues** and community concerns through previous and current involvement on similar projects with Southern Californian agencies including San Diego County Water Authority, City of Huntington Beach, City of Ontario, and Irvine Ranch Water District itself to name just a few;
- **In-house GIS experts** prepared and committed to transition the existing geodatabase to one that utilizes the District's TS ID unique identifiers during the first year of the contract; and
- **A highly experienced HDR team with in-house expertise** that is intimately familiar with the District's cathodic protection systems and ready to start on day one with no learning curve.



Please feel free to reach out to Brien Clark, who will be your primary point of contact at HDR. He can be reached at 909.962.5470, on his cell phone at 909.917.6820, or email at brien.clark@hdrinc.com. We are excited about this opportunity to continue our working relationship. We look forward to continuing to provide you with corrosion engineering support services.

Sincerely,
HDR Engineering, Inc.

A handwritten signature in blue ink, appearing to read 'A. Meilleur'.

Aaron Meilleur, PE
Vice President

A handwritten signature in blue ink, appearing to read 'Brien Clark'.

Brien Clark, PE
Project Manager



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Scope and Methodology

Task 1 – Project Management

Every project requires oversight and management to stay on task, on budget, and on schedule. HDR will work closely with the District in the most complete, cost-effective, and efficient manner to keep project tasks focused. Having worked on the previous 3-year contract will allow us to hit the ground running. Our understanding of the District’s procedures, staff, and public concerns will provide results that stay within budget and meet schedules. We acknowledge the FY2018-2019 final report schedule slipped as we had underestimated the amount of additional time it would take to incorporate the out-of-scope depolarized potentials into the database. Prior submittals were submitted timely. HDR will redouble efforts to ensure that schedules are met moving forward.

A. Project Status Reports

Regular communication throughout the program with the District’s Project Manager is essential. All correspondence will be directed through Brien Clark, HDR’s Project Manager, and he will be responsible for sharing information with team members. In addition to more informal communications he will provide quarterly status updates summarizing activities performed that quarter and those planned for the upcoming quarter.

B. Meetings

Internal team meetings will be held to plan program tasks, discuss and resolve program challenges, and verify schedule adherence. The results of these meetings will be shared with the District via progress reports, e-mails, and telephone conversations.

HDR will also organize and attend several meetings with the District to review and discuss the submitted report deliverables, or other reasons as deemed necessary by the District. Agendas and meeting summaries will be prepared before and after each meeting, respectively.

C. Quality Assurance/Quality Control

Your program calls for a high level of accountability, and you will find that our attention to detail and adherence to standards lead to successful outcomes. Our QMS provides an important framework for ensuring that we are reaching the highest levels of quality—for both you and for ourselves. We remain focused on continual opportunities for improvement throughout our daily activities to achieve client satisfaction and meet performance expectation. The QMS includes programs, policies, and business processes, and has four key elements:

Management Responsibility: Management actively promotes quality in our business activities and defines responsibilities for maintaining our focus on quality.

Resource Management: Resources are trained, available, and committed to providing quality services.

Professional Service Delivery: Processes and procedures are in place



that promote quality in the delivery of our products and services.

Measurement, Analysis, and Improvement: Continual improvement is achieved through performance measurement and identification of areas for improvement.

Unlike other consultants, HDR does more than promise to check the final deliverables.

Our processes strive to get things done right, from the beginning through to completion:

- **Project Approach and Resource Review (PARR).** At the beginning of the project, the national practice leader appoints experts to interview the PM and the project team and to review their technical approach.
- **Periodic Management Reviews.** A “zero-percent” review precedes all projects, to ensure that the PM has a plan and adequate resources to deliver. Progress reviews are held at other major milestones.
- **EBS/PRONTO and “Project Wise” Tracking.** An HDR database and document control system tracks and documents the QC process. Monthly reports show where reviews are required. Periodic system-wide QC audits ensure compliance and look for ways to improve the processes.
- **Earned Value Tracking** – HDR utilizes modern Earned Value software tools to effectively monitor, plan, and forecast project outcomes. This allows real-time accuracy when reviewing CPI, SPI, EAC and related indexes.

Task 2 – 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, District GIS database, and other available information.

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. HDR previously identified several pipeline segments that would benefit from this scrutinized review including Newport Coast Segment A Units 100/24/34/35, Newport Coast Segment C Unit 51, Dyer Road Unit 42, and Santiago Canyon, among others.

It is understood that it is HDR’s responsibility to ensure data is presented in a format acceptable to the District and consistent with District naming conventions. Test points will be collected by pipeline, station number, and District tagged Cathodic Protection ID number. HDR was as frustrated as the District in the inability to mesh the existing geodatabase with the District’s new TS ID unique identifier. While HDR was able to match 65 percent of the cathodically protected test stations with this number, without keeping the previously used number the remaining data would have perished. HDR’s extensive knowledge and experience in the District’s existing cathodic protection geodatabase will allow an easy transition to the geodatabase utilizing the new TS ID number during the first year of this contract.

Task 3 – One-Time Troubleshooting

The One-Time Troubleshooting task will finally allow the cathodic protection geodatabase to be fully integrated into the District's GIS database. HDR is committed to making this happen the first year of this contract.

HDR is excited by the prospect of the one-time troubleshooting task. Having previously worked on the existing database HDR understands what is required to transform the database that uses unit-labeled test stations—the District's previous CP ID nomenclature—and now-defunct AS400 data into one GIS database that utilizes the new TS ID unique identifiers.

conductive or inductive locating of test stations and compare them to the as-built drawings to confirm test station association with pipelines. Where test stations do not already have GPS coordinates with sub-foot accuracy they will be recorded.

Extensive time reviewing as-built drawings has already taken place. HDR is prepared to perform

This important task will allow the existing database to be transformed to one that is consistent with the District's new naming convention. This will occur during the first year of this contract.

Task 4 – Initial Data Collection

A. Pipeline Corrosion Monitoring 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 as balanced by the need to protect, yet not over protect or create sources of stray current.

As part of each survey, HDR will continue to employ an innovative approach to improve efficiency and reduce the cost for this contract and future contracts. 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.



Measurements of the pipeline pipe-to-soil potentials will be conducted at approximately 610 cathodic protection test station (CPTS) on approximately 52 impressed current segments protected by 67 rectifiers, and four (4) galvanic CP segments as outlined in the RFP's Program 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.



- A majority of the necessary depolarized, baseline pipe-to-soil potentials were measured last contract. 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 or SP0100 for cement-mortar coated piping. Where baseline data remains unavailable, such as at the galvanic systems, 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.
- All test stations, rectifiers and reservoirs will be photographed for updated imagery, and submitted to the District.
- All GPS coordinates will be collected using sub-foot accuracy.

At most 10 minutes will be spent locating each lost test station. Locating instruments may include metal detectors, probe bars (bar-holders), measuring distances from known tie-down features, and light shoveling. If not found after that duration, the test station will be classified as "could not locate" (CNL).

Flange Isolation and Casing Isolation Testing – Insulating flange and pipeline casing isolation testing will be conducted in accordance with NACE Standard SP0286 and documented within the reports.

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.

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.

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.

Traffic Control – Utilizing a subcontractor traffic control will be provided to access and test the 14 CPTS outlined in the RFP. The temporary traffic control will be performed by the WATCH manual.

B. Reservoir Survey

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 for impressed current cathodic protection systems and NACE SP0196 for galvanic cathodic protection systems. Measurements will be collected at the bottom of each reservoir and every one 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.



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 will continue 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. 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.

Task 5 – Impressed Current Cathodic Protection System Adjustments

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.

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.



Task 6 – Initial Report

A draft Initial Report of the baseline pipeline data will be submitted to IRWD within eight 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 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.

Task 7 – Quarterly Data

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, *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 5.

Task 8 – 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.

HDR will continue with the updated report format that was introduced last contract. This format succinctly presents the data for each pipeline and provides recommendations. The following is a sample report from the last contract:

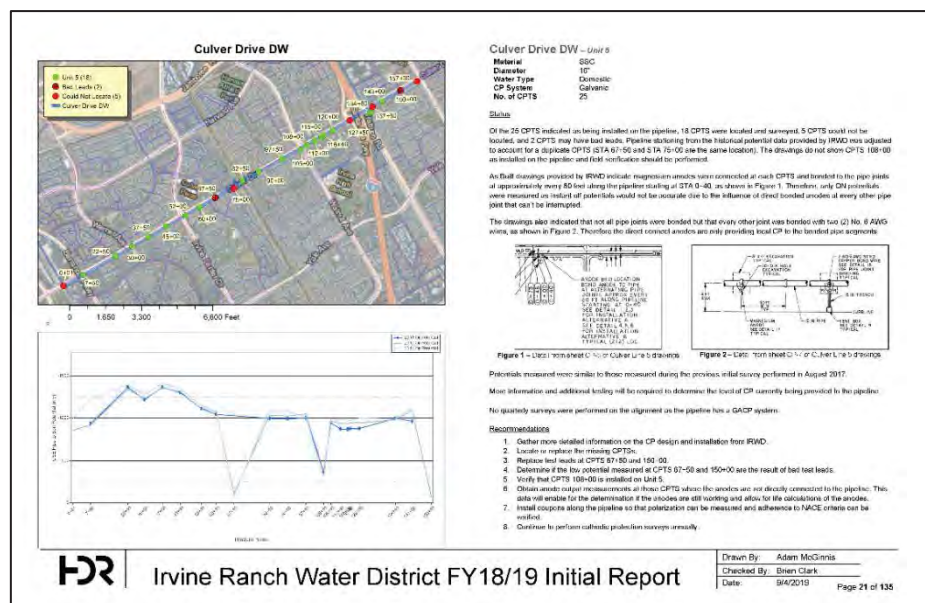


Figure 1. Sample Report

Task 9 – Troubleshooting

As part of this Scope of Work, 40 hours per year (total 120 hours for three years) is 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. Based on the 2019 Final Report identified possible issues that would fall under this task order include:

- a) Measuring depolarized potentials for the remaining pipelines where potentials are more electropositive than -850 instant off, and evaluated to determine if the 100mV criteria is applicable.
- b) Pipeline electrical continuity and IJ testing at Charter Apartments (Unit 219) to resolve cause of depressed potentials on one leg of piping.
- c) Pipelines exhibiting potential issues and selected for review.
 1. Unit 3 – Harvard Ave. 42"
 2. Unit 7 – University Drive
 3. Unit 30 – Michelson Intertie (University Drive)
 4. Unit 32 – Rattlesnake Outfall
 5. Unit 42 – Dyer Road
 6. Newport Coast Drive Segments A, B, and C

Task 10 – GIS Cathodic Protection Data

As part of each report deliverable will be the GIS cathodic protection data in a format that utilizes IRWD conventions. A shape file and data base file (dbf) will be included in the submittal that references both the District TS ID number and the cathodic protection survey data for each location.

Comprehensive Safety Program

Interwoven into all of our tasks outlined in this proposal is safety. As an employee-owned company, nothing is more important to us than health and safety of our employees and partners. This is reflected in how we live and work in offices and on projects across the globe. Safety is an embedded part of our culture and a consistent emphasis on every program and project. Our goal is always that everyone associated with our projects goes home safe.

We support and grow our safety culture through a comprehensive health and safety program that has received national recognition for excellence. This program includes extensive mandatory safety training for all employees and is supported by a team of certified safety professionals. Our safety professionals help project teams navigate the sometimes complex web of local and national health and safety regulations.

We understand that no program or project is the same and develop custom-fit safety plans to address each project's unique needs. Our safety approach focuses on client requirements, avoids accidents that could result in unplanned delays, and reduces client's overall project risk.

Our people-centered safety culture sets us apart from our competitors and has enabled us to maintain one of the best safety records in the industry. Our OSHA recordable incident and lost time injury rates are

consistently lower than the industry average for our NAICS code (5413 - Architectural, Engineering, and Related Services).

Safety Matters

We care about our people and are dedicated to keeping them safe. Our low safety rates and certification by third-party review programs show we are serious about safety:

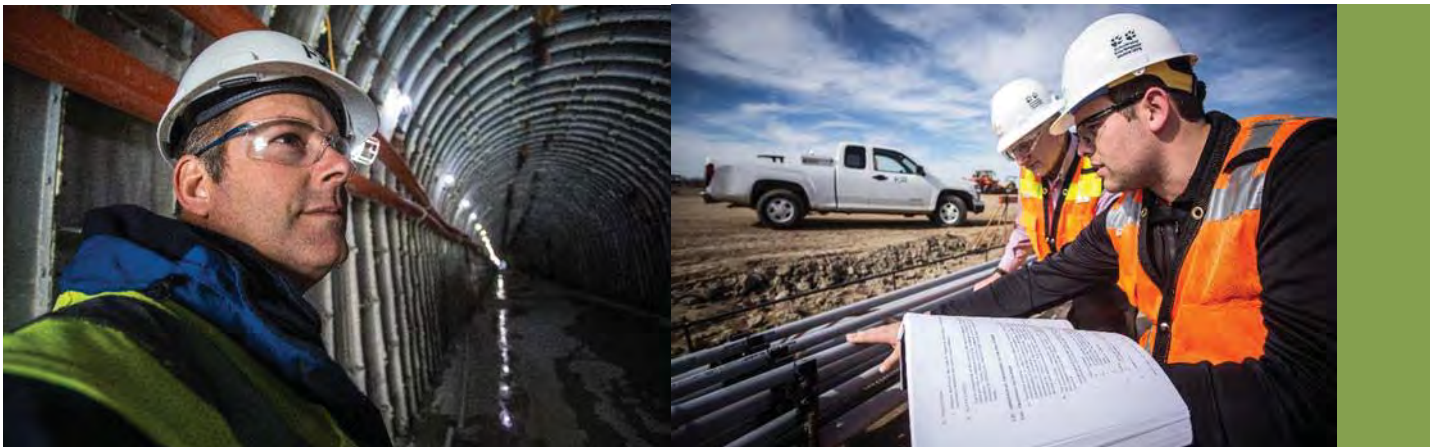


Program Team

Introduction

Our greatest asset is our people.

To meet the District's program goals, we have customized a team to leverage the knowledge and experience of our technical resources to effectively meet your goals. Most of our team members have a long history with our organization, creating a stable leadership core to guide long-term strategies and daily operations. We also have tremendous global resources available to assist local staff, as requested, to meet your needs. With our local knowledge and experience, combined with our national depth of resources, our team is focused on collaboration, quality, and developing innovative solutions that are practical and value oriented.





Our team is led by **Project Manager – Brien Clark, PE**, who brings 19 years of experience and is recognized as an expert on cathodic protection system design. Brien will be the District’s main point of contact, and will provide overall technical oversight for the program. He is already familiar with the District’s facilities and the geodatabase as the project manager of the previous contract.

Rick Veihl, PE – Quality Manager, will have overall responsibility for management of our quality program. Rick will work directly with Brien Clark to develop a comprehensive phasing plan and schedule. He will leverage over 30 years of corrosion experience to provide recommendations on pipeline conditions, as well as his previous experience on District pipelines as the Quality Manager on the previous contract.

Our project execution team consists of the following: **Lucy Jaramillo, Corrosion EIT** who will lead field service operations for cathodic protection monitoring and oversee our field engineers.

In addition, our program team will also include one subconsultant, **TPR Traffic Solutions**, who will provide traffic control services.





Located in Commerce, California, TPR Traffic Solutions is a licensed (CA 787313 / D42) traffic management company. They provide traffic control devices and services such as traffic plans, permits, pre-job inspections, etc. HDR recently worked with TPR for traffic control services on a project we completed for West Basin Municipal Water District.

Program Team Qualifications

Our key personnel qualifications and capabilities relevant to your program are listed on the following page. Our team members are comprised of industry experts with years of experience and selected based on the District’s goals and scope of services. With over 60 years of combined experience, an emphasis on condition assessment and pipeline experience, we hope to leverage our local experience to bring value added solutions to the District.



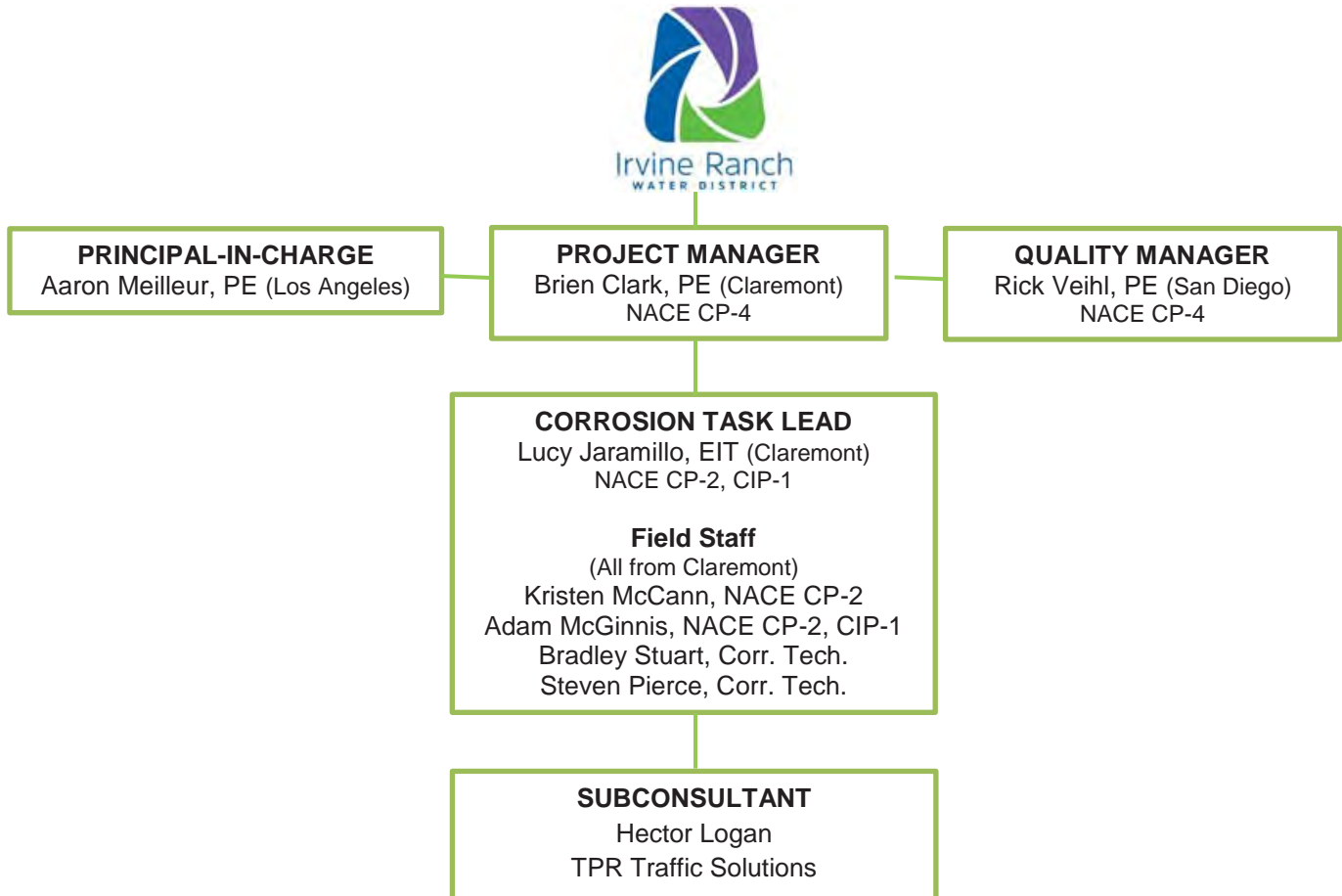
Key Personnel Bios

Key Staff	Education	Registrations	Relevant Experience
<p>Brien Clark, PE <i>Project Manager</i></p> 	<p>BS – Chemical Engineering, California State Polytechnic University, Pomona, CA</p>	<ul style="list-style-type: none"> • PE – Chemical, CA No. 6291 • NACE CP-4 No. 17978 	<ul style="list-style-type: none"> • 19 Years of Experience • Irvine Ranch Water District 3-Year Cathodic Protection Monitoring Program for Metallic Pipelines and Reservoir Tanks for FY2016-17 through FY2018-19, Irvine. CA, Project Manager • City of Huntington Beach 2018 Pipeline Cathodic Protection Annual Survey, Huntington Beach, CA, Project Manager • City of Ontario Pipeline Corrosion Annual Survey, Ontario, CA, Project Manager
<p>Aaron Meilleur, PE <i>Principal-In-Charge</i></p> 	<p>BS – Civil Engineering, US Military Academy</p>	<ul style="list-style-type: none"> • PE – Civil, CA No. C62473; • HI No. 15215; • WA No. 38518 	<ul style="list-style-type: none"> • 23 Years of Experience • City of San Diego Public Utilities Department Pure Water Program North City Conveyance System Civil Engineering Services, Principal-In-Charge • Rainbow Municipal Water District Distribution System Renewal Program, Fallbrook, CA, Principal-In-Charge • City and County of Honolulu Comprehensive Sewer System Assessment, Honolulu, HI, Project Manager
<p>Rick Veihl, PE <i>Quality Manager</i></p> 	<p>BS – Electrical Engineering, Penn State University</p>	<ul style="list-style-type: none"> • PE – Corrosion, CA No. CR1034 • NACE CP-4 No. 9230 	<ul style="list-style-type: none"> • 32+ Years of Experience • Irvine Ranch Water District 3-Year Cathodic Protection Monitoring Program for Metallic Pipelines and Reservoir Tanks for FY2016-17 through FY2018-19, Irvine. CA, QC Reviewer • San Diego County Water Authority Support Services for Corrosion Engineer & Corrosion Technician, San Diego County. CA, Corrosion Engineer, QC Reviewer. • City of Huntington Beach 2018 Pipeline Cathodic Protection Annual Survey, Huntington Beach, CA, QC Reviewer
<p>Lucy Jaramillo, EIT <i>Field Services Lead</i></p> 	<p>BS – Chemical Engineering, California State Polytechnic University, Pomona, CA</p>	<p>NACE CP-2, No. 66998</p>	<ul style="list-style-type: none"> • 4 Years of Experience • Irvine Ranch Water District 3-Year Cathodic Protection Monitoring Program for Metallic Pipelines and Reservoir Tanks for FY2016-17 through FY2018-19, Irvine. CA, Corrosion EIT • City of Huntington Beach 2018 Pipeline Cathodic Protection Annual Survey, Huntington Beach, CA, Corrosion EIT • City of Ontario Pipeline Corrosion Annual Survey, Ontario, CA, Field Services Manager



Organizational Chart

Our organizational chart below highlights our team's roles, responsibilities, and reporting structure. Staff shown below are available throughout the duration of the contract. **Our team consists of several licensed California-registered professional engineers** –Brien Clark, Aaron Meilleur and Rick Veihl.





Percentage of Time Staff will contribute to the Program:

Our team is available and ready to begin the *Three – Year Cathodic Protection Systems Monitoring Program* and see it through to completion.

PROJECT TEAM MEMBERS ROLE	LOCATION	PERCENTAGE of TIME CONTRIBUTED for the LIFE of the PROJECT
Brien Clark, PE Project Manager	Claremont	20
Rick Veihl, PE Quality Manager	San Diego	10
Aaron Meilleur, PE Principal-In-Charge	Los Angeles	2
Lucy Jaramillo, EIT Corrosion Task Lead	Claremont	30
Field Staff	Claremont	30

Project Experience

Our Project Manager and Team are Committed to Partnership Principles

Our team is focused on the District and helping you save money. Our Claremont-based Project Manager, Brien Clark, specializes in water utility condition assessment, renewal, and cathodic protection design. Because Brien and HDR have worked with utilities around the country (noted by the dots on the map) performing condition assessment and renewal, many lessons learned elsewhere will be applied to your project.



Supporting Brien is a solid team of California based corrosion staff who have practical experience performing cathodic protections surveys around the country.

HDR has been providing inspection and assessment of pipelines in California for nearly 30 years, and has been at the forefront of industry efforts to advance the application of appropriate technologies.



Fee Estimate

**3-Year Cathodic Protection Systems Monitoring Program
Irvine, CA
P19-0027ENG**

**Mr. Alex Murphy
Irvine Ranch Water District**

Task Description	Personnel Hours									Non-Labor				Budget				
	Principal Engineer-MGT420 (\$350 /Hr)	Project Manager-PJM310 (\$240 /Hr)	Associate Engineer-PJM300 (\$240 /Hr)	Corrosion Task Lead-ECO200 (\$160 /Hr)	Corrosion Technician-TEC020 (\$127 /Hr)	Corrosion Technician-TEC020 (\$127 /Hr)	GIS Technician-SGS10 (\$115 /Hr)	Project Controller-FIN230 (\$140 /Hr)	Project Support-FIN210 (\$95 /Hr)	Total Hours	Mileage (miles @ \$0.58/mile)	CONUS Per Diem M&IE (days @ \$66/day)	CONUS Per Diem Lodging (nights @ \$180/night)	Lodging Tax (nights @ \$21.6/night)	Labor	Subconsultants	Non-Labor	Total
Year 1: FY 2019/2020																		
Task 1: Project Management	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	
Task 1A: PM/Status Report	-	28	2	2	4	2	2	16	8	64				\$ 11,512	\$ -	\$ -	\$ 11,512	
Task 1B: Meetings	-	12	-	4	-	-	-	-	4	20	264			\$ 3,900	\$ -	\$ 153	\$ 4,053	
Task 1C: QA/QC	8	4	40	2	-	-	-	-	4	58				\$ 14,060	\$ -	\$ -	\$ 14,060	
Task 1D: Safety	-	2	-	2	4	2	-	-	4	14				\$ 1,942	\$ -	\$ -	\$ 1,942	
Task 2: Background Mtrl Collection & Review	-	-	-	12	12	-	-	-	-	24				\$ 3,444	\$ -	\$ -	\$ 3,444	
Task 3: One-Time Troubleshooting (200 hrs)	-	-	-	-	192	-	8	-	-	200	640	25	20	\$ 25,304	\$ -	\$ 6,053	\$ 31,357	
Task 4: Initial Data Collection	-	-	-	-	-	-	-	-	-	-				\$ -	\$ -	\$ -	\$ -	
Task 4A: Pipelines (610 CTS)	-	-	-	-	96	-	12	-	-	108	384	12	9	\$ 13,572	\$ 2,976	\$ 2,829	\$ 19,377	
Task 4B: Reservoirs (16 ICCP + Galvanic)	-	-	-	-	24	24	-	-	-	48	118	6	4	\$ 6,096	\$ -	\$ 1,271	\$ 7,367	
Task 5: Impressed Current CP Adjustments	-	-	-	-	8	-	-	-	-	8	176			\$ 1,016	\$ -	\$ 102	\$ 1,118	
Task 6: Initial Report / Data Reduction	-	4	-	24	40	-	12	-	-	80				\$ 11,260	\$ -	\$ -	\$ 11,260	
Task 7: Quarterly Data (58 PL/ICCP Reservoirs)	-	-	-	-	96	-	-	-	-	96	384	12	9	\$ 12,192	\$ -	\$ 2,829	\$ 15,021	
Task 8: Final Report	-	4	-	12	24	-	8	-	-	48				\$ 6,848	\$ -	\$ -	\$ 6,848	
Task 9: Troubleshooting (40 hours Combined)	-	4	4	12	20	-	-	-	-	40	264			\$ 6,380	\$ -	\$ 153	\$ 6,533	
Task 10: GIS Cathodic Protection Data	-	2	-	-	-	-	16	-	-	18				\$ 2,320	\$ -	\$ -	\$ 2,320	
Subtotal	8	60	46	70	520	28	58	16	20	826	2,230	55	42	42	\$ 119,846	\$ 2,976	\$ 13,391	\$ 136,213



Fee Estimate

**3-Year Cathodic Protection Systems Monitoring Program
Irvine, CA
P19-0027ENG**

**Mr. Alex Murphy
Irvine Ranch Water District**

Task Description	Personnel Hours									Non-Labor				Budget				
	Principal Engineer-MGT420 (\$350 /Hr)	Project Manager-PJM310 (\$240 /Hr)	Associate Engineer-PJM300 (\$240 /Hr)	Corrosion Task Lead-ECO200 (\$160 /Hr)	Corrosion Technician-TEC020 (\$127 /Hr)	Corrosion Technician-TEC020 (\$127 /Hr)	GIS Technician-SGS10 (\$115 /Hr)	Project Controller-FIN230 (\$140 /Hr)	Project Support-FIN210 (\$95 /Hr)	Total Hours	Mileage (miles @ \$0.58/mile)	CONUS Per Diem M&IE (days @ \$66/day)	CONUS Per Diem Lodging (nights @ \$180/night)	Lodging Tax (nights @ \$21.6/night)	Labor	Subconsultants	Non-Labor	Total
Year 2: FY 2020/2021																		
Task 1: Project Management	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	
Task 1A: PM/Status Report	-	28	2	2	4	2	2	16	8	64				\$ 11,512	\$ -	\$ -	\$ 11,512	
Task 1B: Meetings	-	8	-	4	-	-	-	-	4	16	176			\$ 2,940	\$ -	\$ 102	\$ 3,042	
Task 1C: QA/QC	8	4	40	2	-	-	-	-	4	58				\$ 14,060	\$ -	\$ -	\$ 14,060	
Task 1D: Safety	-	2	-	2	4	2	-	-	4	14				\$ 1,942	\$ -	\$ -	\$ 1,942	
Task 2: Background Mtrl Collection & Review	-	-	-	12	12	-	-	-	-	24				\$ 3,444	\$ -	\$ -	\$ 3,444	
Task 3: One-Time Troubleshooting	-	-	-	-	-	-	-	-	-	-				\$ -	\$ -	\$ -	\$ -	
Task 4: Initial Data Collection	-	-	-	-	-	-	-	-	-	-				\$ -	\$ -	\$ -	\$ -	
Task 4a: Pipelines (610 CTS)	-	-	-	-	96	-	12	-	-	108	384	12	9	\$ 13,572	\$ 2,976	\$ 2,829	\$ 19,377	
Task 4b: Reservoirs (16)	-	-	-	-	24	24	-	-	-	48	118	6	4	\$ 6,096	\$ -	\$ 1,271	\$ 7,367	
Task 5: Impressed Current CP Adjustments	-	-	-	-	8	-	-	-	-	8	176			\$ 1,016	\$ -	\$ 102	\$ 1,118	
Task 6: Initial Report / Data Reduction	-	4	-	24	40	-	12	-	-	80				\$ 11,260	\$ -	\$ -	\$ 11,260	
Task 7: Quarterly Data (58 PL/ICCP Reservoirs)	-	-	-	-	96	-	-	-	-	96	384	12	9	\$ 12,192	\$ -	\$ 2,829	\$ 15,021	
Task 8: Final Report	-	4	-	12	24	-	8	-	-	48				\$ 6,848	\$ -	\$ -	\$ 6,848	
Task 9: Troubleshooting (40 hours Combined)	-	4	4	12	20	-	-	-	-	40	264			\$ 6,380	\$ -	\$ 153	\$ 6,533	
Task 10: GIS Cathodic Protection Data	-	2	-	-	-	-	16	-	-	18				\$ 2,320	\$ -	\$ -	\$ 2,320	
Subtotal	8	56	46	70	328	28	50	16	20	622	1,502	30	22	22	\$ 93,582	\$ 2,976	\$ 7,286	\$ 103,844



Fee Estimate

**3-Year Cathodic Protection Systems Monitoring Program
Irvine, CA
P19-0027ENG**

**Mr. Alex Murphy
Irvine Ranch Water District**

Task Description	Personnel Hours									Non-Labor					Budget			
	Principal Engineer-MGT420 (\$350 /Hr)	Project Manager-PJM310 (\$240 /Hr)	Associate Engineer-PJM300 (\$240 /Hr)	Corrosion Task Lead-ECO200 (\$160 /Hr)	Corrosion Technician-TEC020 (\$127 /Hr)	Corrosion Technician-TEC020 (\$127 /Hr)	GIS Technician-SGS10 (\$115 /Hr)	Project Controller-FIN230 (\$140 /Hr)	Project Support-FIN210 (\$95 /Hr)	Total Hours	Mileage (miles @ \$0.58/mile)	CONUS Per Diem M&IE (days @ \$66/day)	CONUS Per Diem Lodging (nights @ \$180/night)	Lodging Tax (nights @ \$21.6/night)	Labor	Subconsultants	Non-Labor	Total
Year 3: FY 2021/2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Task 1: Project Management	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	
Task 1A: PM/Status Report	-	28	2	2	4	2	2	16	8	64				\$ 11,512	\$ -	\$ -	\$ 11,512	
Task 1B: Meetings	-	8	-	4	-	-	-	-	4	16	176			\$ 2,940	\$ -	\$ 102	\$ 3,042	
Task 1C: QA/QC	8	4	40	2	-	-	-	-	4	58				\$ 14,060	\$ -	\$ -	\$ 14,060	
Task 1D: Safety	-	2	-	2	4	2	-	-	4	14				\$ 1,942	\$ -	\$ -	\$ 1,942	
Task 2: Background Mtrl Collection & Review	-	-	-	12	12	-	-	-	-	24				\$ 3,444	\$ -	\$ -	\$ 3,444	
Task 3: One-Time Troubleshooting	-	-	-	-	-	-	-	-	-	-				\$ -	\$ -	\$ -	\$ -	
Task 4: Initial Data Collection	-	-	-	-	-	-	-	-	-	-				\$ -	\$ -	\$ -	\$ -	
Task 4a: Pipelines (610 CTS)	-	-	-	-	96	-	12	-	-	108	384	12	9	\$ 13,572	\$ 2,976	\$ 2,829	\$ 19,377	
Task 4b: Reservoirs (16)	-	-	-	-	24	24	-	-	-	48	118	6	4	\$ 6,096	\$ -	\$ 1,271	\$ 7,367	
Task 5: Impressed Current CP Adjustments	-	-	-	-	8	-	-	-	-	8	176			\$ 1,016	\$ -	\$ 102	\$ 1,118	
Task 6: Initial Report / Data Reduction	-	4	-	24	40	-	12	-	-	80				\$ 11,260	\$ -	\$ -	\$ 11,260	
Task 7: Quarterly Data (58 PL/ICCP Reservoirs)	-	-	-	-	96	-	-	-	-	96	384	12	9	\$ 12,192	\$ -	\$ 2,829	\$ 15,021	
Task 8: Final Report	-	4	-	12	24	-	8	-	-	48				\$ 6,848	\$ -	\$ -	\$ 6,848	
Task 9: Troubleshooting (40 hours Combined)	-	4	4	12	20	-	-	-	-	40	264			\$ 6,380	\$ -	\$ 153	\$ 6,533	
Task 10: GIS Cathodic Protection Data	-	2	-	-	-	-	16	-	-	18				\$ 2,320	\$ -	\$ -	\$ 2,320	
Subtotal	8	56	46	70	328	28	50	16	20	622	1,502	30	22	\$ 93,582	\$ 2,976	\$ 7,286	\$ 103,844	
Total	24	172	138	210	1,176	84	158	48	60	2,070	5,234	115	86	\$ 307,010	\$ 8,928	\$ 27,963	\$ 343,901	
Grand Total for Above Tasks																	\$343,901	

October 28, 2019

Prepared by: B. Rios / K. Lew

Submitted by: K. Burton

Approved by: Paul A. Cook



CONSENT CALENDAR

ON-CALL PLAN CHECK SERVICES

SUMMARY:

IRWD's current plan check workload for capital, development, re-development, and operational improvement projects continues to exceed a level that can be supported by staff. The previously approved contract funds for two of the three plan checking consultants are nearly depleted. Staff recommends that the Board authorize the General Manager to execute two Professional Services Agreements: one in the amount of \$100,000 with PacRim Engineering, Inc. and one in the amount of \$150,000 with Stantec Consulting Services, Inc. for on-call plan check services.

BACKGROUND:

IRWD utilizes three engineering consulting firms – Stantec, PacRim, and Hunsaker and Associates – to assist staff with plan checking when workloads exceed staff's capacity. At the current pace of plan reviews, Stantec's and PacRim's approved funds will be depleted within a few months. Funding remains available for Hunsaker, but on many projects Hunsaker is the design engineer so it cannot provide plan checking services. Staff also recommends maintaining the ability to select from multiple plan checking firms to allow for flexibility when addressing scheduling issues, avoid other conflicts of interest, and improve turnaround times on plan reviews during both the design and construction phases.

Although the number of new residential development projects has decreased recently, staff is aware of several pending projects that will likely increase plan checking activity. Staff has coordinated with developers on upcoming large residential projects, including Orchard Hills Neighborhood 4 (approximately 679 dwelling units) and Nakase Farms in Lake Forest (approximately 675 dwelling units), that have major capital facilities as well as non-capital in-tract and builder areas. These projects appear to be moving forward over the next couple of years. Additionally, there has been no discernable slowdown in commercial projects, re-development projects, and other non-residential projects. The Irvine Company is proceeding with commercial office developments at the former Travel Land site as well as the second phase of Spectrum Terrace offices located at the 405 freeway and Laguna Canyon Road.

Consultant Selection:

Both Stantec and PacRim have provided excellent service and responsiveness with on-call plan checking. Both firms thoroughly understand IRWD design guidelines and construction specifications. IRWD staff has reviewed the proposals from PacRim and Stantec (attached as Exhibits "A" and "B", respectively) and finds them satisfactory. Both Stantec and PacRim proposed a rate increase to \$150 per hour. The total proposed funds for each consultant should provide approximately two more years of plan check services.

Staff recommends executing Professional Service Agreements for on-call plan checking with PacRim Engineering, Inc. in the amount of \$100,000, and with Stantec Consulting Services, Inc. in the amount of \$150,000. The recommendation for Stantec's higher funding amount reflects the firm's larger resources capacity.

FISCAL IMPACTS:

Funding for plan check services will be provided from the various developer and capital projects being constructed as part of each project's budget.

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15061 (b) (3). The activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on October 15, 2019.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE TWO PROFESSIONAL SERVICES AGREEMENTS: ONE IN THE AMOUNT OF \$100,000 WITH PACRIM ENGINEERING, INC. AND ONE IN THE AMOUNT OF \$150,000 WITH STANTEC CONSULTING SERVICES, INC. FOR ON-CALL PLAN CHECK SERVICES.

LIST OF EXHIBITS:

Exhibit "A" – PacRim Engineering, Inc. Proposal

Exhibit "B" – Stantec Consulting Services, Inc. Proposal

August 4, 2019

Belisario Rios, P.E.
Senior Engineer, Development Services
Irvine Ranch Water District
15600 Sand Canyon Avenue, Irvine, CA 92618
(949) 453-5394 office; rios@irwd.com

Subject: ON-CALL ENGINEERING SERVICES FOR PLAN CHECKING

Dear Mr. Rios,

PacRim Engineering Inc. (PacRim) is pleased to present this proposal for providing On-call Engineering Services for Plan Checking Services to Irvine Ranch Water District (IRWD). For the past several years, PacRim has been working closely with the IRWD staff in supplementing your capacity to plan-check various development projects through IRWD. We will continue providing high quality services that meet your needs during times of high work load.

SCOPE OF SERVICES

It is our understanding that we will provide on-call plan checking services to assist the District staff with reviewing and checking development improvement plans submitted to IRWD for approval. The general scope of work includes the following:

1. Perform plan review of development improvement plans submitted for both initial IRWD approval and delta plan revisions.
2. Attend coordination meetings with District Development Services staff to review comments made on plan submittals.
3. Assist with development improvement plan receipts, log-in and returns.

This assignment will be staffed by Ms. Amy Kok of PacRim who has been the lead person in previous plan check work provided to IRWD . Amy is knowledgeable and familiar with IRWD's Procedural Guideline, Construction Manual and the processing of development improvement plans. She has over 23 years of experience in the field of civil engineering. She is available to fulfill the assignment upon your authorization.

The proposed billing rate for Ms. Kok is \$150.00 per hour. The services provided by her will be billed monthly. The initial contract amount will be a not-to-exceed of \$100,000.

We appreciate this opportunity and look forward to working with you on this important contract. Should you have any questions, please contact me at (714) 683-0471 or Pliu@PacRimEngineering.com.

Sincerely,



Peter Liu, P.E.
Principal

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EXHIBIT "B"



Stantec Consulting Services Inc.
38 Technology Drive, Irvine CA 92618-5312

October 1, 2019
File: 184081166

Attention: Belisario Rios, P.E.
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Dear Belisario,

Reference: Stantec Professional Services Agreement – On Call Plan Checking

Stantec Consulting Services Inc. (Stantec) is pleased to submit this proposal to provide On-Call Plan Check Services to assist with technical review and approval of engineering document submittals for the implementation of Irvine Ranch Water District (IRWD, District) infrastructure projects.

Understanding of the Work

IRWD seeks the services of an engineering firm to assist you with the plan checking of submittals received from consultants in various phases of design. These projects may involve potable water, recycled water, sewer and/or storm runoff facility improvements. Plan check services will be provided as requested by IRWD for all technical submittals including, but not limited to, technical memoranda, basis of design calculations and reports, preliminary design reports, design plans, and Project Manuals.

Stantec will conduct plan check services at the IRWD offices; although, in certain cases as directed by the District, Stantec may conduct plan checks at our Irvine regional office.

Plan Check Team

For this work Stantec has assigned Jeff Dunn, P.E. as Project Manager, and Nahid Heidarbaghi, P.E. as the Primary Plan Checker. The Stantec team will be supported by our engineering staff as needed to address specialty disciplines such as storm drainage or structural designs.

Proposed Fees

We have provided Stantec's 2019 Standard Schedule of Billing Rates as an attachment to this proposal. The proposed special hourly rate for Ms. Heidarbaghi, as a Plan Checker, is \$150/hr. This hourly rate will be annually escalated at a rate of 2.5%, or the CPI, whichever is lower. Stantec's services will be conducted as requested, by the District, and be billed on a time-and-materials basis, per assignment, throughout the duration of this contract. The proposed contract limit is \$150,000.

October 1, 2019
Belisario Rios, P.E.
Page 2 of 2

Reference: Stantec Professional Services Agreement – On Call Plan Checking

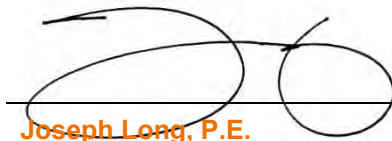
We look forward to the opportunity to continue to provide plan check services to IRWD. Should you have questions, please feel free to contact me at (949) 923-6974.

Best regards,

Stantec Consulting Services Inc.



Jeff Dunn, P.E.
Senior Project Manager
Phone: 949 923 6974
Fax: 949 923 6121
Jeff.dunn@stantec.com



Joseph Long, P.E.
Senior Principal
Phone: 949 923 6011
Fax: 949 923 6121
Joseph.long@stantec.com

Attachment: billing rates

c. Vera Klaich

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Design with community in mind

SCHEDULE OF BILLING RATES – 2019

Billing Level	Hourly Rate	Description												
3	\$102	Junior Level position <input type="checkbox"/> Independently carries out assignments of limited scope using standard procedures, methods and techniques <input type="checkbox"/> Assists senior staff in carrying out more advanced procedures <input type="checkbox"/> Completed work is reviewed for feasibility and soundness of judgment <input type="checkbox"/> Graduate from an appropriate post-secondary program or equivalent <input type="checkbox"/> Generally, one to three years' experience												
4	\$107													
5	\$121													
6	\$126	Fully Qualified Professional Position <input type="checkbox"/> Carries out assignments requiring general familiarity within a broad field of the respective profession <input type="checkbox"/> Makes decisions by using a combination of standard methods and techniques <input type="checkbox"/> Actively participates in planning to ensure the achievement of objectives <input type="checkbox"/> Works independently to interpret information and resolve difficulties <input type="checkbox"/> Graduate from an appropriate post-secondary program, with credentials or equivalent <input type="checkbox"/> Generally, three to six years' experience												
7	\$137													
8	\$142													
9	\$152	First Level Supervisor or first complete Level of Specialization <input type="checkbox"/> Provides applied professional knowledge and initiative in planning and coordinating work programs <input type="checkbox"/> Adapts established guidelines as necessary to address unusual issues <input type="checkbox"/> Decisions accepted as technically accurate, however may on occasion be reviewed for soundness of judgment <input type="checkbox"/> Graduate from an appropriate post-secondary program, with credentials or equivalent <input type="checkbox"/> Generally, five to nine years' experience												
10	\$158													
11	\$168													
12	\$177	Highly Specialized Technical Professional or Supervisor of groups of professionals <input type="checkbox"/> Provides multi-discipline knowledge to deliver innovative solutions in related field of expertise <input type="checkbox"/> Participates in short and long range planning to ensure the achievement of objectives <input type="checkbox"/> Makes responsible decisions on all matters, including policy recommendations, work methods, and financial controls associated with large expenditures <input type="checkbox"/> Reviews and evaluates technical work <input type="checkbox"/> Graduate from an appropriate post-secondary program, with credentials or equivalent <input type="checkbox"/> Generally, ten to fifteen years' experience with extensive, broad experience												
13	\$185													
14	\$201													
15	\$211	Senior Level Consultant or Management <input type="checkbox"/> Recognized as an authority in a specific field with qualifications of significant value <input type="checkbox"/> Provides multi-discipline knowledge to deliver innovative solutions in related field of expertise <input type="checkbox"/> Independently conceives programs and problems for investigation <input type="checkbox"/> Participates in discussions to ensure the achievement of program and/or project objectives <input type="checkbox"/> Makes responsible decisions on expenditures, including large sums or implementation of major programs and/or projects <input type="checkbox"/> Graduate from an appropriate post-secondary program, with credentials or equivalent <input type="checkbox"/> Generally, more than twelve years' experience with extensive experience												
16	\$225													
17	\$234													
18	\$237	Senior Level Management under review by Vice President or higher <input type="checkbox"/> Recognized as an authority in a specific field with qualifications of significant value <input type="checkbox"/> Responsible for long range planning within a specific area of practice or region <input type="checkbox"/> Makes decisions which are far reaching and limited only by objectives and policies of the organization <input type="checkbox"/> Plans/approves projects requiring significant human resources or capital investment <input type="checkbox"/> Graduate from an appropriate post-secondary program, with credentials or equivalent <input type="checkbox"/> Generally, fifteen years' experience with extensive professional and management experience												
19	\$245													
20	\$255													
21	\$270													
Survey Crews		<table border="1"> <thead> <tr> <th>Crew Size</th> <th>Regular Rate</th> <th>Overtime Rate</th> </tr> </thead> <tbody> <tr> <td>1-Person</td> <td>\$190</td> <td>\$220</td> </tr> <tr> <td>2-Person</td> <td>\$285</td> <td>\$375</td> </tr> <tr> <td>3-Person</td> <td>\$375</td> <td>\$500</td> </tr> </tbody> </table>	Crew Size	Regular Rate	Overtime Rate	1-Person	\$190	\$220	2-Person	\$285	\$375	3-Person	\$375	\$500
Crew Size	Regular Rate	Overtime Rate												
1-Person	\$190	\$220												
2-Person	\$285	\$375												
3-Person	\$375	\$500												

T-3 2019

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October 28, 2019

Prepared by: H. Cho / M. Cortez

Submitted by: K. Burton

Approved by: Paul A. Cook



CONSENT CALENDAR

NEWPORT COAST ZONE 4 TO 2 PRESSURE REGULATING VALVE MODIFICATION FINAL ACCEPTANCE

SUMMARY:

The Newport Coast Zone 4-2 Pressure Regulating Valve (PRV) Modification is complete. The contractor, LEED Electric, Inc., completed the required work and all punch list items. The project has received final inspection and acceptance of construction is recommended.

BACKGROUND:

The Coastal Zone 2 Reservoir was built in 1990 but was removed from service because the development and demand in the area were not sufficient to cycle the reservoir and maintain water quality. With the reservoir off line, Coastal Zone 2 was supplied by the Zone 3R-2 PRV located on Pelican Hill Road South and the Zone 4-2 PRV in Newport Coast Drive. By June 2012, demand driven by ongoing development of the area was sufficient to return the reservoir into operation, and the Zone 3R-2 PRV on Pelican Hill Road South was modified to fill the reservoir. This project modified the Zone 4-2 PRV located on Newport Coast Drive to fill the reservoir as a second source of supply.

Psomas completed the design in August 2018, and LEED Electric was awarded the construction contract on October 8, 2018. LEED Electric mobilized in April 2019 and completed construction of all improvements on October 3, 2019. The PRV provides three functions: 1) flow control of a set flow rate; 2) pressure reduction from Zone 4 to Zone 2; and 3) pressure relief to prevent over-pressurization of Zone 4 when the adjacent Zone 2-4 Pump Station is operating.

Construction was delayed substantially due to two issues: 1) confirmation of the valve functionality required the contractor to submit multiple iteration of the product submittal for approval, thereby delaying the contractor's mobilization; and 2) LEED Electric encountered broken electrical conduits between the PRV vault and the adjacent pump station, which supplies electric power and the SCADA signal. Repair of the electric conduits required an encroachment permit from the City of Newport Beach.

Project Title:	Newport Coast Zone 4-2 Pressure Regulating Valve Modification
Project No.:	05410
Design Engineer:	Psomas
Construction Management:	IRWD Staff
Contractor:	LEED Electric, Inc.

Original Contract Cost:	\$129,208
Final Contract Cost:	\$180,210
Original Contract Days:	150
Final Contract Days:	310
Final Change Order Approval:	September 27, 2019

FISCAL IMPACTS:

Project 05410 is included in the FY 2019-20 Capital Budget. The existing budget is sufficient to fund the final payment for the project.

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA) and in conformance with California Code of Regulations Title 14, Chapter 3, Article 7, Section 15301, which provides exemption for the operation, repair, maintenance, or minor alteration of existing public or private 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. A Notice of Exemption was filed with the Orange County Clerk Recorder on June 12, 2018.

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD ACCEPT CONSTRUCTION OF THE NEWPORT COAST ZONE 4 TO 2 PRESSURE REGULATING VALVE MODIFICATION, PROJECT 05410; AUTHORIZE THE GENERAL MANAGER TO FILE 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

October 28, 2019
Prepared by: J. McGehee / R. Mori
Submitted by: K. Burton
Approved by: Paul A. Cook



CONSENT CALENDAR

IRVINE INDUSTRIAL COMPLEX EAST ZONE A TO B RECYCLED WATER
PUMP STATION UPGRADES FINAL ACCEPTANCE

SUMMARY:

The Irvine Industrial Complex (IIC) East Zone A to B Recycled Water Pump Station Upgrades project is complete. IRWD's contractor, R.C. Foster Corporation, completed the required work and all punchlist items. The project has received final inspection and acceptance of construction is recommended.

BACKGROUND:

The IIC East Zone A to B Recycled Water Pump Station, which was originally constructed in 1990, supplies water the East Irvine and Quail Hill Zone B areas. As neighborhood development construction progresses, the pump station will also supply the Great Park Neighborhoods and Northwood Zone B areas. To accommodate the additional system demands, the pump station capacity was increased by adding a fifth pump. The project also replaced the existing four pump motors, SCE transformer, switchgear, motor control center including two variable frequency drives, control panel, radios, electrical room air conditioning unit, pump room circulation fan, magnetic flow meter, and pressure reducing valve. The site was also repaved, and all the mechanical equipment in the pump room was repainted.

Staff completed the design in December 2018. R.C. Foster Corporation was awarded the construction contract on October 8, 2018, mobilized in May 2019, and completed construction of all improvements on October 18, 2019.

Project Title:	IIC East Zone A to B Recycled Water Pump Station Upgrades
Project No.:	06198
Design Engineer:	Lee & Ro
Construction Management:	IRWD Staff
Contractor:	R.C. Foster Corporation
Original Contract Cost:	\$1,471,500.00
Final Contract Cost:	\$1,545,990.17
Original Contract Days:	360
Final Contract Days:	384
Final Change Order Approval:	October 11, 2019

FISCAL IMPACTS:

The IIC East Zone A to B Recycled Water Pump Station Upgrades project is included in the FY 2019-20 Capital Budget and is funded 90% through replacement funds and 10% through regional recycled water funds. The existing budget is sufficient to fund the final payment for the project.

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15301 which provides exemption for minor alterations of existing public or private 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, and Section 15303 which provides exclusion for new, small facilities or structures with new small equipment within the facility. A Notice of Exemption for the project was filed with the County of Orange on August 4, 2017.

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD ACCEPT CONSTRUCTION OF THE IRVINE INDUSTRIAL COMPLEX EAST ZONE A TO B RECYCLED WATER PUMP STATION UPGRADES, PROJECT 06198; AUTHORIZE THE GENERAL MANAGER TO FILE 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.

October 28, 2019
Prepared by: C. Kessler / M. Cortez
Submitted by: K. Burton
Approved by: Paul A. Cook

CONSENT CALENDAR

**BONITA CANYON RECYCLED WATER ZONE D TO B PRESSURE
REDUCING STATION SUPPLY LINE REPLACEMENT
BUDGET INCREASE AND CONSTRUCTION AWARD**

SUMMARY:

A 12-inch recycled water pipeline within a steel casing that supplies recycled water to the Bonita Canyon Zone D to B Pressure Reducing Station is currently out of service due to a pipe leak, and requires replacement. Staff recommends that the Board authorize a budget increase in the amount of \$86,400, from \$325,000 to \$411,400, and authorize the General Manager to execute a construction contract with T.E. Roberts, Inc. in the amount of \$186,400 for the Bonita Canyon Recycled Water Zone D to B Pressure Reducing Station Supply Line Replacement.

BACKGROUND:

A 125 foot section of 12-inch recycled water pipeline within a steel casing that supplies recycled water to the Bonita Canyon Zone D to B Pressure Reducing Station is currently out of service and requires replacement. The section of 12-inch recycled water pipeline that is to be replaced is located in front of the Bonita Canyon Pump Station crossing perpendicular to traffic lanes in both directions on Bonita Canyon Drive. A location map is attached as Exhibit "A".

Construction Award:

IRWD retained Michael Baker International to design an alternate alignment for the pipeline which would eliminate the need for a deep casing and also expedite construction. Staff approved the plans in August 2019 and advertised the project for construction bidding to a select list of 18 pipeline contractors. The bid opening occurred on October 14, 2019 and seven contractors submitted bids. T.E. Roberts was the apparent low bidder with a bid of \$186,400; the engineer's estimate was \$180,100.

T.E. Roberts' bid information is attached as Exhibit "B" and a summary of the seven bids is provided below:

Bidder	Bid Amount
T.E. Roberts, Inc.	\$186,400
Ferreira Construction	\$186,788
Paulus Engineering, Inc.	\$197,153
Gwinco Corporation	\$207,450
GCI Construction	\$247,750
E.J. Meyer Company	\$288,888
Mladen Buntich	\$305,400

FISCAL IMPACTS:

Project 10999 is included in the FY 2019-20 Capital Budget and will be funded by recycled water system replacement funds (Improvement District 2100). A budget increase is required to fund construction of the project as shown in the table below.

Project No.	Current Budget	Addition <Reduction>	Total Budget
10999	\$325,000	\$86,400	\$411,400

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15301, which provides categorical exemption for the operation, repair, maintenance, or minor alteration of existing public or private 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 and Section 15282, which provides statutory exemption for installation of new pipeline that does not exceed one mile (more than 5,210 feet) in length. A Notice of Exemption was filed with the Orange County Clerk's office on April 12, 2019.

COMMITTEE STATUS:

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

RECOMMENDATION:

THAT THE BOARD AUTHORIZE A BUDGET INCREASE IN THE AMOUNT OF \$86,400, FROM \$325,000 TO \$411,400, FOR PROJECT 10999; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH T.E. ROBERTS, INC. IN THE AMOUNT OF \$186,400 FOR THE BONITA CANYON RECYCLED WATER ZONE D TO B PRESSURE REDUCING STATION SUPPLY LINE REPLACEMENT, PROJECT 10999.

LIST OF EXHIBITS:

Exhibit "A" – Location Map
Exhibit "B" – Bid Results



EXHIBIT "A" - LOCATION MAP

1 inch = 200 feet

Note: This page is intentionally left blank.

Bid Results**Bidder Details**

Vendor Name T. E. Roberts, Inc.
Address 306 W. Katella Avenue, Unit B
Orange, CA 92867
United States

Respondee Brian Wagner
Respondee Title Estimator
Phone 714-669-0072 Ext.
Email estimating@teroberts.com

Vendor Type CADIR
License #
CADIR 1000000280

Bid Detail

Bid Format Electronic
Submitted October 14, 2019 1:11:06 PM (Pacific)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 192838
Ranking 0

Respondee Comment**Buyer Comment****Attachments**

File Title	File Name	File Type
TE Roberts Bonita Cyn bid docs	SKM_C30819101412100.pdf	Bid Form

Line Items

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
	BASE BID ITEMS					
1	Mobilization and Demobilization (Not to Exceed 5% of Total Amount of Bid)	LS	1	\$8,900.00	\$8,900.00	
2	Trench Safety Measures	LS	1	\$4,500.00	\$4,500.00	
3	Traffic Control	LS	1	\$4,500.00	\$4,500.00	
4	Construction of 12-inch CML&C Pipeline and Abandonment of Existing Line	LS	1	\$101,800.00	\$101,800.00	
5	Remove and Replace CP Test Station	LS	1	\$3,000.00	\$3,000.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
6	Restore All Damaged Landscaping; Curb and Gutter, and Sidewalk	LS	1	\$17,900.00	\$17,900.00	
7	AC Pavement	SF	400	\$50.00	\$20,000.00	
8	Slurry Seal	SF	3100	\$5.00	\$15,500.00	
9	Provide and Install 12-inch Butterfly Valve	EA	1	\$8,300.00	\$8,300.00	
10	Final Record Drawings	LS	1	\$2,000.00	\$2,000.00	
				Subtotal	\$186,400.00	
	ADDITION OR DEDUCTION LINE ITEM					
11	ADDITION (+) OR DEDUCTION (-)	LS	1	0	0	
				Subtotal	0	
				Total	\$186,400.00	

Subcontractors

Name & Address	Description	License Num	CADIR	Amount	Type
Superior Pa ement Markings 5312 Cypress Street Cypress, CA 90630 United States	Striping	776306	1000001476	\$3,812.00	CADIR
All American Asphalt 400 E. Sixth Street Corona, CA 91718 United States	slurry seal	267073	1000001051	\$7,719.00	CADIR
CMB Structures Inc. 7211 Haven Aveue, E-287 Alta Loma, CA 91701 United States	concrete work	613977	1000001531	\$8,580.00	CADIR

October 28, 2019

Prepared by: C. Spangenberg / M. Cortez

Submitted by: K. Burton

Approved by: Paul A. Cook



CONSENT CALENDAR

MICHELSON WATER RECYCLING PLANT PAVING AT NORTH ODOR SCRUBBER AND DIVERTER CHUTES BUDGET INCREASE AND CONSTRUCTION AWARD

SUMMARY:

This project will construct a concrete driveway to access the north odor scrubber and storage supply building to allow staff to safely deliver chemicals and equipment during routine maintenance and repair work, and construct improvements at the existing headworks diverter chutes to create a safer method of capturing and distributing the screened materials and grit into the solids collection bins. Staff recommends that the Board authorize budget increases in the amount of \$182,900, from \$195,000 to \$377,900, for project 07890 and \$41,700, from \$180,500 to \$222,200 for project 07891, and authorize the General Manager to execute a construction contract with SS Mechanical Corporation in the amount of \$289,553 for the Michelson Water Recycling Plant Paving at North Odor Scrubber and Diverter Chutes.

BACKGROUND:

The driveway improvements portion of the project entails the removal of the existing decomposed granite in the area of the odor scrubber and storage building and construction of concrete paving and a retaining wall to allow staff to safely deliver chemicals to the north odor scrubber during routine maintenance activities and material to the storage building via forklift.

For the diverter chute improvements, staff worked with Cho Design Associates in evaluating methods to improve the chutes to deliver and distribute grit material screened from the Michelson Water Recycling Plant headworks into the solids collection bins. The goal was to eliminate the need for staff to enter the bins and manually distribute the screened materials by constructing platforms adjacent to each bin for access and chute improvements, i.e., diverter chutes with adjustable slopes to aid the distribution of grit material and a chute rail system to move chutes out of the way when bins are removed and replaced. The chute design was optimized by trial and error testing using different chute materials and angles.

Construction Award:

IRWD retained Cho Design Consultants to design the required pavement, retaining wall, and diverter chute improvements. Staff approved the plans in September 2019 and advertised the project for construction bidding to a select list of 18 mechanical contractors. The bid opening occurred on October 9, 2019 and two contractors submitted bids: Pacific Hydrotech Corporation and SS Mechanical Corporation. SS Mechanical is the apparent low bidder with a bid of \$289,553; the engineer's estimate was \$129,900. Since the difference between the two bids is less than 3%, staff believes the bids represent the true cost of construction. The difference between the bids and the engineer's estimate may be directly attributed to the engineer's inability to obtain an accurate cost for the specialized diverter chutes and platforms.

Consent Calendar: Michelson Water Recycling Plant Paving at North Odor Scrubber and Diverter Chutes Budget Increase and Construction Award

October 28, 2019

Page 2

SS Mechanical's bid results are attached as Exhibit "A" and a summary of the two bids is provided below:

Bidder	Bid Amount
SS Mechanical	\$289,553
Pacific Hydrotech	\$297,590

FISCAL IMPACTS:

Projects 07890 and 07891 are included in the FY 2019-20 Capital Budget. A budget increase is required to fund construction of the project as shown in the table below.

Project No.	Current Budget	Addition <Reduction>	Total Budget
07890	\$195,000	\$182,900	\$377,900
07891	\$180,500	\$41,700	\$222,200
Total	\$375,500	\$224,600	\$600,100

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15301 which provides exemption for minor alterations of existing public or private 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, and Section 15302 which provides exemption for the replacement or reconstruction of existing 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 Orange County Clerk Recorder on August 31, 2018.

COMMITTEE STATUS:

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

RECOMMENDATION:

THAT THE BOARD AUTHORIZE BUDGET INCREASES IN THE AMOUNT OF \$182,900, FROM \$195,000 TO \$377,900, FOR PROJECT 07890 AND \$41,700, FROM \$180,500 TO \$222,200, FOR PROJECT 07891; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH SS MECHANICAL CORPORATION IN THE AMOUNT OF \$289,553 FOR THE MICHELSON WATER RECYCLING PLANT PAVING AT NORTH ODOR SCRUBBER AND DIVERTER CHUTES, PROJECTS 07890 AND 07891.

LIST OF EXHIBITS:

Exhibit "A" – SS Mechanical Bid Results

Bid Results

Bidder Details

Vendor Name SS Mechanical Construction Corp.
Address 26561 Jacinto Drive
 Mission Viejo, CA 92692
 United States
Respondee John Whelan
Respondee Title President
Phone 714-847-1317 Ext.
Email john@ssmechanical.com
Vendor Type CADIR
License # 1027264
CADIR 1000049566

Bid Detail

Bid Format Electronic
Submitted October 9, 2019 12:49:20 PM (Pacific)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 191536
Ranking 0

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
BID DOCS	IRWD - MWRP Paving @ North Odor Scrubber & Diverter Chutes.pdf	Bid Form

Line Items

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
BASE BID ITEMS						
1	Mobilization/Demobilization	LS	1	\$11,500.00	\$11,500.00	
2	Construction Concrete Paving	SF	2700	\$36.00	\$97,200.00	
3	Construct Retaining Wall	LF	60	\$1,036.00	\$62,160.00	
4	Construct Driveway	SF	150	\$87.40	\$13,110.00	
5	Furnish and Install Diverter Chutes	LS	1	\$40,833.00	\$40,833.00	

Bid Results

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
6	Furnish and Install Work Platforms	LS	1	\$55,980.00	\$55,980.00	
7	Project Safety Measures	LS	1	\$5,770.00	\$5,770.00	
8	Prepare As-built Drawings	LS	1	\$3,000.00	\$3,000.00	
				Subtotal	\$289,553.00	
ADDITION OR DEDUCTION LINE ITEM						
9	ADDITION (+) OR DEDUCTION (-)	LS	1	0	0	
				Subtotal	0	
				Total	\$289,553.00	

Subcontractors

Name & Address	Description	License Num	CADIR	Amount	Type
Amber Steel Co. 312 S. Willow Ave Rialto, CA 92376 United States	reinforcing Steel	268566	1000000630	\$11,982.00	CADIR

October 28, 2019

Prepared by: J. McGehee / R. Mori

Submitted by: K. Burton

Approved by: Paul A. Cook



ACTION CALENDAR

LAKE FOREST ZONE B TO C RECYCLED WATER PUMP STATION CONSULTANT SELECTION

SUMMARY:

IRWD is proceeding with the design of the Lake Forest Zone B to C Recycled Water Pump Station to improve water quality in the recycled water system. Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$735,378 with Stantec Consulting Services, Inc. for engineering design services for the Lake Forest Zone B to C Recycled Water Pump Station.

BACKGROUND:

IRWD's Lake Forest Zone C recycled water system receives its water supply from the Los Alisos Water Recycling Plant (LAWRP) and Santa Margarita Water District's (SMWD) Upper Oso Reservoir. IRWD staff recently completed an evaluation to identify ways to increase operational flexibility and improve water quality in the Lake Forest Zone C recycled water system. This evaluation resulted in a recommendation to cover the existing Zone B East Reservoir, establish a closed-loop Zone C distribution system with water supplied primarily from LAWRP, and construct a bi-directional metered interconnection with SMWD that can be used to transfer recycled water between IRWD and SMWD as needed. The installation of the cover is complete, and staff is now proceeding with the design of a new interconnection with SMWD and a new pump station to establish the closed-loop Zone C system.

The proposed pump station will be located at the site of the existing (non-operational) Lake Forest Well No. 5, with the proposed interconnection to be located near the intersection of Portola Parkway and El Toro Road as shown on Exhibit "A". The existing Lake Forest Zone B to C recycled water pump station, an outdoor pump station constructed in 1998, will be demolished as part of the project utilizing replacement funds. The proposed pump station will be enclosed within a building designed to be aesthetically compatible with the surrounding commercial buildings and designed to mitigate sounds from operating equipment as required by the City of Lake Forest's noise ordinance. In addition to the proposed pump station and demolition of the existing outdoor pump station, the project includes the following:

- Destruction of the existing Lake Forest Well No. 5;
- Conceptual siting and reservation of space for a potential future well and well building located on the proposed pump station site; and
- Construction of a metered interconnection between IRWD and SMWD to allow the transfer of recycled water between IRWD and SMWD as needed.

Consultant Selection:

Staff received proposals for engineering design services from Dudek, Lee & Ro, and Stantec. Woodard & Curran declined to submit a proposal due to schedule conflicts with its primary pump station design staff. While each firm provided proposals which generally met the project objectives, Stantec's approach to the project exceeded that presented by the other firms, which included an original design concept that maximized the use of the limited available site space. In addition, Stantec's proposed project manager has successfully managed several recent IRWD projects including the Orange Park Acres Well No. 1 Wellhead Facilities, Stockdale West Wellhead Equipping and Conveyance Facilities, and the Eastwood Recycled Water Pump Stations. The consultant selection matrix is attached as Exhibit "B", and Stantec's scope of work and fee proposal are attached as Exhibit "C".

The design phase will be completed in accordance with the following schedule milestones:

Kick-off Meeting	October 2019
Final Preliminary Design Report	May 2020
Final Plans Approved	January 2021
Construction Notice of Award	March 2021

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$735,378 with Stantec Consulting Services, Inc. since its design approach, schedule, and staff hours are consistent with the project goals and objectives and scored the highest among the proposals received.

FISCAL IMPACTS:

The Lake Forest Zone B to C Recycled Water Pump Station, Project 11168 is included in the FY 2019-20 Capital Budget and will be funded through 40% Lake Forest development areas funds (Improvement District 2850) and 60% replacement funds (Improvement District 2100). The existing budget is sufficient to fund this design effort.

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.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on October 15, 2019.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH STANTEC CONSULTING SERVICES, INC. IN THE AMOUNT OF \$735,378 FOR ENGINEERING DESIGN SERVICES FOR THE LAKE FOREST ZONE B TO C RECYCLED WATER PUMP STATION, PROJECT 11168.

LIST OF EXHIBITS:

Exhibit "A" – Location Map

Exhibit "B" – Consultant Selection Matrix

Exhibit "C" – Stantec Consulting Services Scope of Work and Fee Proposal

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EXHIBIT "A"
LOCATION MAP



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EXHIBIT "B"

CONSULTANT SELECTION MATRIX

Lake Forest Zone B to C Pump Station									
Item	Description	Weights	Stantec	Dudek	Lee & Ro	Woodard & Curran			
A	<u>TECHNICAL APPROACH</u>								
1	Project Understanding	30%	1	2	3		Declined to submit		
2	Project Approach	40%	1	2	3				
3	Project Team	30%	1	3	2				
	<u>Weighted Score</u>		1.0	2.3	2.7				
	Ranking of Consultants		1	2	3				
B	<u>SCOPE OF WORK</u>								
TASK		Task Hours	Fee	Task Hours	Fee	Task Hours		Fee	
1	Project Management	296	\$63,220	270	\$62,194	142		\$33,548	
2	Preliminary Design	1,006	\$196,904	1,154	\$224,506	1,881		\$375,832	
3	Final Design	3,200	\$475,254	2,720	\$483,269	1,594		\$290,611	
	Total Engineering Services Fee	4,502	\$735,378	4,144	\$769,969	3,617	\$699,991		
C	<u>OTHER</u>								
	Number of Drawings		90	98	117				
	Average Hourly Billing Rate (including subconsultants)		\$163	\$186	\$194				
	<u>Sub Consultants</u>								
	Electrical		Moraes Pham & Associates	Moraes Pham & Associates					
	Civil								
	Structural			Kelsey Structural					
	Architectural		Gillis + Panichapan Architects, Inc.		Sift Lee Office				
	Geotech		Kleinfelder, Inc.	Converse Consultants	Associated Soils Engineering				
	HVAC			ATC, Inc..					
	Survey			Guida Surveying	The Prism Group				
	Surge		Northwest Hydraulics Consultants	ZZ Technologies	Flowscience				
	Traffic Control			Traffic Management, Inc.	Traffic Control Engineering				
	Exceptions taken to IRWD Std. Contract		None	None	None				
	DIR Numbers Provided		Yes	Yes	Yes				
	Insurance (Professional & General Liability)		Yes	Yes	Yes				

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EXHIBIT "C"

Scope of Work

The following scope of work is based on the information presented in the original request for proposal dated 8/1/19. The scope of work presented herein is for the planning, evaluation, design, and implementing the Lake Forest Zone B to C Pump Station Project. All work will be completed in accordance with the requirements identified in IRWD's Design Process Manual. The scope of work will be stand-alone documents that will become the Agreement Exhibits.

The scope of work will consist of the following tasks. Changes will be based on the specific needs of the project based on actual field conditions encountered during the project development. Should changes to the scope of work be warranted, all changes will be submitted to you for review and approval. No change will be executed prior to your written approval.

Task 1: Project Management

We will conduct project management activities to verify adherence to scope, schedule, and budget; promote efficient communication between the Stantec, IRWD, and others as required; and implement an effective quality assurance/quality control (QA/QC) program.

A. PROJECT STATUS REPORT PREPARATION: We will prepare weekly and monthly status reports. Each weekly status report will be submitted on Monday and include a brief (one to two paragraphs) e-mail summarizing the activities completed the previous week, the activities planned for the upcoming week, and critical decisions that need to be made. Each monthly status report will be submitted along with the billing invoice for that month and provide more detail, summarizing the work completed and reviewing work status relative to budget and schedule. The schedule will be updated monthly for inclusion in the monthly status report.

Approach to Weekly Status Preparation: We will provide your project manager a weekly status report to be delivered on the first working day of each week. Generally, status reports will be delivered on Mondays, unless the day is considered as a designated holiday, then the status report will be delivered on the day following the designated holiday. The status report will be in the form of a short email memorandum, identifying accomplished tasks from the prior week and anticipated tasks to be accomplished during the upcoming week.

Approach to Monthly Status Report Preparation: We will prepare a monthly status report providing detailed review of all tasks being executed by this scope of work. We will maintain a Microsoft Project Schedule that will be updated monthly and provided for your review. We will also maintain a decision log, documenting all decisions and resolutions associated with the development and implementation of the project. The decision log will be incorporated into the

monthly status report for your review. We will prepare a monthly budget update based on efforts expended for all project tasks. The budget update will identify fees expended and remaining budget balances.

Monthly Invoicing – We will prepare monthly invoicing. All invoicing will be forwarded to both your project manager and your accounts payable for review and approval. Your project manager shall make efforts to review and approve our invoices within five working days upon receipt of said invoice.

Deliverables for Project Reporting and Invoicing:

- Weekly project status report via an email summary to your project manager
- Monthly status report
- Monthly invoicing

B. MEETINGS AND WORKSHOPS: We will prepare and submit meeting agendas for your review and concurrence at least five days prior to the meeting. We will prepare draft and final minutes for all meetings and workshops and submit them to you within one week of the meeting.

Approach to Meeting and Workshops: We will schedule and lead meetings with you to discuss all design, operational, and maintenance issues through the design development. We will provide meeting agendas and meeting materials to you five working days prior to the subject meeting. We will prepare meeting minutes, action items, and decision logs within five working day subsequent to the meeting date. These efforts are intended to address technical issues, keep the project team informed to the project's progress, and verify decisions are made in a timely manner.

Meeting/ Workshop	Description
Preliminary Design Kick-off	One two-hour meeting: Prior to the Preliminary Design Kick-off Meeting, We will research and present an overview of the approach and develop initial information requests of materials to be provided by IRWD. We will present an overview of the project approach, early work tasks, identification of workshops and stakeholder outreach efforts and the overall project schedule.

Meeting/ Workshop	Description
General project management and design development meetings	<p>Five two-hour meetings: The general project meetings will be used to coordinate and develop the project with IRWD Engineering and Operations staff members.</p> <p>Meeting – 1 Hydraulic Modeling, Pump Selection and Site Development</p> <p>Meeting – 2 Intertie Connection with IRWD/SMWD and adjacent property owners.</p> <p>Meeting – 3 Architectural Review and Technical Workshop. Stantec and IRWD will review with GPA regarding architectural concepts, approval requirements with the City of Lake Forest and presentation of landscaping concepts.</p> <p>Meeting – 4 Demolish the existing Lake Forest B to C Pump Station including reconfiguration of existing electrical system at Reservoir B.</p> <p>Meeting – 5 Draft review of the PDR with IRWD Staff.</p>
Stakeholder Coordination Meetings	<p>Three two-hours meetings: We will coordinate with project stakeholders and conduct project meetings. The anticipated stakeholder meetings consist of the following:</p> <ul style="list-style-type: none"> • Southern California Edison – Permit pre-submittal and application preparation. • City of Lake Forest – Traffic Control and Architectural Approvals • County of Orange – Adjacent open land coordination
Site visits	<p>Two two-hour meetings: Two site/field visits will be coordinated with IRWD. Although we will have formal field meetings, Stantec will coordinate field visits as necessary to complete the project.</p>
Present Draft Preliminary Design Report	<p>One three-hour meeting: We will present all design features associated with each project site, including pump facilities layout, power requirements, reconfigure the life cycle analyses will be presented to further provide a final basis of the design concept along with 30% plans and control strategies</p>

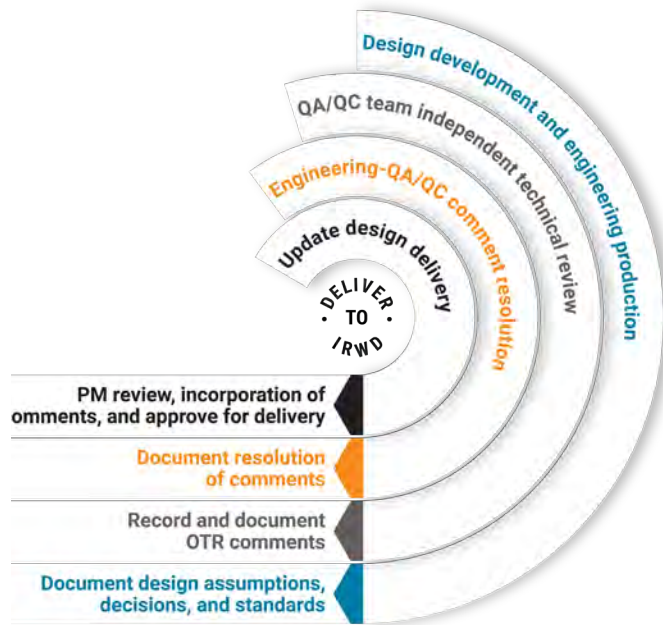
Meeting/ Workshop	Description
Present the 60% design and discuss IRWD's comments and outstanding item resolution	<p>One two-hour meeting: Upon receipt of IRWD 60% submittal comments, we will prepare and present methods to address comments.</p> <p>We will update the anticipated Opinion of Probable Construction Costs to the project team along with a schedule update and next steps.</p>
Present the 90% design submittal and record IRWD comments	<p>One two-hour meeting: Upon receipt of IRWD 90% submittal comments, we will prepare and present methods to address comments.</p> <p>We will update the anticipated Opinion of Probable Construction Costs to the project team along with a schedule update and next steps.</p>
Present the 100% design submittal and record IRWD comments	<p>One two-hour meeting: Upon receipt of IRWD 100% submittal comments, we will prepare and present methods to address comments.</p> <p>We will update the anticipated Opinion of Probable Construction Costs to the project team along with a schedule update and next steps.</p>
Final Plan Signing	<p>One one-hour meeting</p>

C. QUALITY ASSURANCE AND QUALITY CONTROL:

Risk Management: Without early identification, monitoring, and control, risks have the potential to lead to projects being delivered over budget, behind schedule, or without critical stakeholder support. As part of his regular project management duties, Joe will lead the risk management process that includes risk planning (identification, analysis, and mitigation) and risk monitoring and control. The risk register—a database in which potential risks are identified and qualitatively or quantitatively ranked by the likelihood that they may occur and their likely impact on the project—is one feature of our project management approach. Once risks have been identified and ranked, mitigation measures are developed to address high and medium risks.

Quality Management/Quality Control: We have a proven procedure for establishing and maintaining the quality of our professional work products. The QA/QC procedure is founded on selecting an experienced team using proven procedures consistently, following strict standards for engineering, checking to help ensure compliance, and adapting rapidly to unusual events.

Stantec’s QA/QC management is based on a prescriptive methodology that is documented through our Project Management Systems. The QA/QC method includes using senior staff members to review all aspects of the work, review work products for inter-disciplinary coordination and conflicts. Work with the design team to resolve review and conflict issues to be incorporated into the contract plans. Joe as the Project Manager will have the last say as to readiness of our work products to be sent to IRWD.



Task 2 – Preliminary Design

The Preliminary Design Phase will provide Stantec and IRWD with the ability to collaboratively develop and identify the project needs. Ultimately, the Preliminary Design Report will serve as the basis of design for the project identifying project needs and requirements along with preliminary opinions of probable costs, identify stakeholder requirements leading to a successful project. We will, as part of the Preliminary Design Phase, define (1) facility design criteria, (2) provide site and equipment layouts defining the overall project footprint, (3) identify operational requirements including pump sizing and configuration, surge mitigation requirements, electrical requirements, control philosophies, aesthetic requirements and provide an overall project definition.

A. BACKGROUND INFORMATION: We will review available background materials associated with this project, including but not limited to, record drawings, existing system processes and operations of the existing Zone B and Zone C pressures zones, hydraulic information from Santa Margarita Water District associated with the distribution area for Upper Oso Reservoir. We will work with operations staff to identify operational preferences and preferred equipment layout. Site visits will be conducted at the existing Lake Forest Recycled Water Pump Station, proposed Lake Forest

Zone B to C Recycled Water Pump Station and Portola Parkway at the SMWD intertie site to gather additional information necessary to prepare the preliminary design report and final design documents. All site visits will be photo-logged to be used as a design reference of the existing conditions at the project sites.

In addition, we will research existing easements and/or property information to identify existing conditions or restrictions associated with the existing property(ies) that may constrain project development. Our research of materials will include the following entities:

- Irvine Ranch Water District
- Santa Margarita Water District
- City of Lake Forest
- County of Orange

Deliverable:

We will provide an electronic copy of all research materials including a photo/data log that defines the relationship to the project and potential constraints.

B. UTILITY RESEARCH: We will research 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, and horizontal and vertical locations shall be identified.

Our utility efforts will consist of the following steps:

Utility Research Matrix	
1.	Initial Underground Service Alert (USA) facility ownership with 500 feet of the project sites. Facility ownership will be used to identify potential utility providers that may be affected by either construction activities and/or require relocation due to potential utility conflicts. Although we do fully understand that the majority of this project, with the exception of the SMWD intertie connection will be outside the public rights of way.
2.	Based on the information obtained from the initial USA utility ownership search, Stantec will prepare request letters to obtain As-built information regarding utilities in the project area.

Utility Research Matrix	
3.	As-built utility information will be mapped to serve as the utility base map for the project. We will identify potential impacts and prepare a listing of locations of which field investigations are warranted. For the purposes of this project, we have anticipated that ten pothole locations (10 total all locations) will be implemented upon the early development of the project site layout, including sanitary sewer, potable water, electric and communications.
4.	Validation of existing utilities will be completed upon the final completion of the surveying mapping. Conflicts will be brought to the attention of IRWD staff and coordination for relocation of the utilities will be accomplished during the final design efforts.

C. DESTRUCTION OF EXISTING LAKE FOREST WELL

NO. 5: The existing location of the Lake Forest Well No. 5 is anticipated to be in conflict with the proposed improvement for the Lake Forest Zone B to C Pump Station and, as such, will need to be destroyed as part of the project efforts. Stantec suggests that destructing the existing well be an early work item along the removal of the existing appurtenances prior to the start of construction for the new pump station. As such, we will prepare a Design Memorandum outside the efforts of the preliminary design services. Our efforts will be to develop a Well Destruction Specification in accordance with DWR Health and Safety, Well Ordinance Bulletin 74. We will fast-track the development of the Demolition Plans, Specifications and Estimate on a parallel track of the preliminary design efforts. Our efforts will include a downhole video survey of the existing well to ascertain the existing facilities condition. Stantec’s hydrogeology staff will provide final recommendations as to the requirements of the existing well destruction methods, sealing materials and depth of the final closure cap (mushroom cap).

Deliverable: Bid Ready Demolition Plans, Well Destruction Plans, Specifications and Estimates. We will provide to IRWD final plans including 8- 11”x17” copies, one full size signed mylar plan set, and 5 copies color coded copies of the Project Manual.

D. DEMOLITION OF EXISTING LAKE FOREST ZONE B TO C PUMP STATION:

The existing Lake Forest Zone B to C Pump Station is located adjacent to the Zone B East Reservoir. Following startup and commissioning of the new Lake Forest Zone B to C Pump Station, the existing Zone B to C Pump Station will need to be demolished. We will review as-builts for the existing Lake Forest Zone B to C Pump Station and make recommendations for demolition. Our electrical and I&C subconsultant, Moraes, Pham and Associates (MPA) designed electrical and controls for the existing Zone B to C pump station and the recent addition of the floating cover on the Zone B East Reservoir. MPA will make recommendations

for relocation and/or replacement of the electrical and communication equipment that serves the Zone B East Reservoir and other facilities at the reservoir site that are required to keep the system operational. These facilities include rainwater removal pumps, service switchboard, PLC, site lighting, mission telemetry unit, communication equipment and level instruments.

E. HYDRAULICS ANALYSIS: The proposed Lake Forest Zone B to C Recycled Water Pump Station is necessary to meet peak-hour demands. Utilizing InfoWater, our hydraulic modeling lead, Jeff Dunn, who is familiar with IRWD’s recycled water distribution model, will review IRWD’s model and confirm the current findings or make recommendations on revising the capacity of the Lake Forest Recycled Water Pump Station, as well as the pipeline sizes. Minor losses will be accounted for in the model and the total dynamic head (TDH) for the pump station will be determined. Results of the hydraulic analysis will be discussed with IRWD prior to pump selection.

F. PUMP SELECTIONS: Zone C will be hydraulically isolated from the Upper Oso Reservoir and therefore operate in a closed loop condition. The new pump station will also operate through a wide range of flow rates from nearly 0 to 1,650 gpm. Based on our preliminary analysis Stantec has established that two duty pumps will be required to meet the high demands, a single duty pump will handle flows from 100 gpm to 900 gpm. A low flow pump will maintain water pressure in the system during low demand periods. We will refine our initial analysis based on the overall Zone C hydraulics during the preliminary design phase. A minimum of three alternative pump arrangements will be evaluated that shall include an evaluation of using constant speed drives, variable frequency drives or a combination of the two in addition to a pressure relief valve for return flow to Zone B . To meet low flow demands and maintain system pressure and prevent the pumps from constantly cycling on and off, a low flow pump will be necessary. Following the selection of the preferred pumping arrangement, we will identify three pump models that will meet the hydraulic requirements at four separate design points. Pump models from Flowserve, Goulds and Sulzer will be selected that meet the hydraulic requirements and included in the technical specifications. We will meet with IRWD Operations Staff to discuss any preferred methods of operating the new recycled water pump station.

G. PUMP STATION CONFIGURATION: We will develop at least three alternative building configurations for the new recycled water pump station taking into consideration accessibility for day to day operations staff, as well as pulling pumps, motors and appurtenances. The pump station building shall be constructed of tilt-up concrete or masonry block covered with stucco with a parapet roof and be architecturally compatible with the surrounding

buildings. Our subconsultant, GPA will develop alternative architectural schemes to identify building styling to match the surrounding community. Alternative building layouts shall include provisions for a separate pump room and electrical room. The electrical room shall be equipped with a dedicated air conditioning system and the pump room shall be equipped with ventilation only. The HVAC equipment shall be evaluated based on the availability of space, noise and aesthetics and may be located inside, outside or on the building roof. The pump room shall house the pumps determined under item 6 above, as well as a high-pressure bypass pressure reducing valve (PRV), and a magnetic flowmeter.

H. SITE MASTER PLAN: Stantec shall, in collaboration with IRWD, prepare three alternative site layouts. The detailed site plans shall identify, as a minimum:

- Existing facilities
- Pump station building
- Backup generator
- Surge tank (if needed)
- Yard piping, valves and appurtenances
- Storm drains
- Catch basins
- Electrical transformer and panels
- Future well, associated piping and appurtenances for well operation

Site layouts shall be evaluated for access, routine operation and maintenance and costs. The site plan shall allow adequate space to accommodate the proposed new well housed in a similar style building described in the Pump Station Configuration and the facilities location shall meet the Division of Drinking Water separation standards from the existing well, the proposed recycled water facilities, and will allow sufficient space for drill rig equipment, drilling mud tank, casing and screen, and column pipe laydown. The site shall include a 6-foot high screening wall around the site perimeter. In addition, if a surge tank is required, it shall not exceed six feet in height above finished grade, below the perimeter wall.

Similar to the Orange Park Acres Well No 1, the surge tank will be depressed into an open vault to further hide the intrusive height of the tank. Drainage and water quality improvements will be incorporated into the project site and may include active BMP's to meet Orange County Watershed WQMP Section 7 requirements.

I. PRELIMINARY GRADING PLAN: Based on the facilities discussed in item 8 above, Stantec shall prepare a grading plan for the Lake Forest pump station site. IRWD prefers a minimum slope of 1.5 percent for asphalt drainage.

J. SURGE ANALYSIS:

Transient Analysis of Lake Forest Zone B to C Pump Station, Zone B and Zone C: Coordinate with Stantec to obtain data necessary for the pressure surge analysis work. Extract Zones B and C from IRWD's recycled water distribution system (i.e., steady state) model and import into the TransAM transient analysis software. Develop a surge computer model of the proposed Lake Forest Zone B to C Pump Station, Zone B, Zone C and the existing Zone B East and West Reservoirs.

Establish hydraulic grade line (HGL) elevations for the pipelines in the pressure zones under steady state operation (high and low demand conditions) and static conditions.

Using the above initial HGLs, perform transient analysis simulations for operation of the proposed Lake Forest Zone B to C Pump Station. Simulations will include pump power failure and pump startup at the proposed Lake Forest Zone B to C Pump Station for the critical operating scenarios.

Evaluate the results of the simulations and determine whether surge control measures are required to protect the pressure zone pipelines and proposed LFZB-C from adverse pressure transients (e.g., vapor pressure, large magnitude negative pressures, over-pressure) created by loss of power and startup of the pumps at the proposed Lake Forest Zone B to C Pump Station.

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 proposed Lake Forest Zone B to C Pump Station and Zones B and C. The surge control measures anticipated to be a pressurized surge tank system, will be designed to help 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.

Summarize the physical facilities, component data (including a schematic showing the hydraulic transient analysis model), findings of the pressure surge simulations, and surge control recommendations (if necessary) in a technical memorandum. Movies of relevant transient analysis simulations may be included in the memo. Draft and final (three bound and one electronic copy) technical memoranda will be provided.

K. PUMP STATION SITE ELECTRICAL SERVICE:

Electrical service at the existing Lake Forest Well No. 5 site is provided by Southern California Edison (SCE) and will not support the new electrical loads from the Lake Forest Zone B to C Recycled Water Pump Station. Stantec and our subconsultant MPA will evaluate the existing and new loads and determine the size of the new electrical service. Stantec and MPA shall coordinate with SCE to begin preparation of the SCE preliminary service plan and shall support SCE, as needed to develop the final SCE approved service plan during the final design phase.

L. ELECTRICAL AND CONTROLS: Stantec and MPA shall identify the electrical and controls required for the proposed improvements at the Lake Forest Zone B to C Recycled Water Pump Station site. The electrical and controls shall include the new recycled water pump station and potential future new groundwater well. A new service switchboard, triple-switch, and an automatic transfer switch shall be provided. In addition, an evaluation and recommendation shall be made to provide permanent emergency backup power for the pump station electrical loads only. Recommendation shall include size and costs of the backup generator and associated ancillary equipment. Permanent backup power generator shall be located in its own walk-in, acoustic enclosure.

M. GEOTECHNICAL INVESTIGATION:

Setup, Permitting, and HASP: Kleinfelder will review available geology information, as well as the site plan for the proposed project to select representative locations for the field investigation. Prior to executing the field work, Kleinfelder will obtain a well permit in accordance with the requirements of the Orange County Health Care Agency (OCHCA) for the proposed borings. We have assumed that the permit will be procured in IRWD's name and that the IRWD project manager will sign the permit application in order to obtain a "no fee" permit.

In addition, Kleinfelder will prepare a site-specific health and safety plan (HASP) addressing site-specific conditions. The HASP will discuss general safe-work practices and address work hazards, site-specific conditions, and the proposed scope of services. The HASP will include typical industry standard content for projects of similar scope.

Site Reconnaissance, Geophysical Investigation, and Utility Clearance: Prior to our field investigation, Kleinfelder will perform a site reconnaissance, verify site access, verify and mark the locations of our proposed field explorations, and notify Underground Service Alert of our intent to dig in accordance with State law. We request that all available information identifying the type and location of utility lines and other human-made objects beneath the proposed improvement areas be provided to us at least one

week prior to marking our field explorations.

In addition, Kleinfelder will retain a private utility locating service to perform a geophysical survey to aid in identifying underground utilities in the area immediately surrounding the proposed field exploration locations. Although performing a geophysical survey does not guarantee that the locations are clear of underground utilities, it decreases the risk associated with drilling in the subsurface.

Field Exploration: Kleinfelder proposes to drill two (2) borings to depths of approximately 50 feet below ground surface (bgs) or refusal using truck-mounted, hollow-stem-auger drilling techniques. An engineer or geologist from Kleinfelder will oversee the drilling and obtain samples for visual observation, classification, and laboratory testing. Soil samples will be collected from the borings at 5-foot depth intervals alternating between a Standard Penetration Test (SPT) sampler and a California sampler. At least one bulk sample will be collected in the upper five feet at each boring location. The depth to groundwater will be measured during drilling and at the completion of drilling, if encountered. Upon completion of drilling, the borings will be grouted with cement bentonite grout.

It is assumed that Investigation-derived waste (IDW) (soil cuttings from the borings) will be drummed and offsite disposal is required. Kleinfelder's budget includes the cost for profiling of the cuttings, pickup and disposal of non-hazardous soil cuttings. It is assumed that IRWD (or its agent) will sign the bill of lading or hazardous waste manifest required for disposal of the drill cuttings.

Laboratory Testing: Representative samples of the underlying soils obtained from the borings will be returned to our laboratory for visual examination. Selected samples will be tested to evaluate pertinent geotechnical characteristics. Moisture content, density, grain size distribution, hydrometer analysis, corrosivity, Atterberg limits, expansion, compaction, consolidation, direct shear and R-value will be performed as appropriate on selected soil samples to assess the physical characteristics of the subsurface soils encountered at the site. Actual testing program will be designed based on subsurface soil conditions encountered during drilling, and not all tests mentioned may be needed.

Geotechnical Evaluation: Kleinfelder will perform geotechnical engineering analyses based on data obtained from the literature review, proposed field and laboratory testing to evaluate potential geologic and seismic hazards; to provide geotechnical recommendations for the foundation support of the pump station, earthwork and subgrade preparation requirements, and suitability of the on-site soils for use as backfill. Geologic and liquefaction hazards will be evaluated. Seismic design parameters

in accordance with California Building Code 2019 (CBC 2019) will be evaluated for structural design and other miscellaneous structures.

Draft and Final Report: The geotechnical engineering report will summarize the subsurface conditions and contain conclusions and foundation recommendations for support of the structures. We anticipate the report will include the following:

- Our understanding of the proposed construction
- Geologic setting, faulting and seismicity
- Discussion of the subsurface exploration program and laboratory testing program
- Description of soils encountered, subsurface conditions, and soil classification in accordance with the Unified Soil Classification System, and groundwater encountered
- Laboratory test results
- Conclusions and recommendations regarding:
 - Geologic and seismic hazards
 - Temporary slope and shoring requirements for the below grade construction and mitigation measures as appropriate
 - Construction dewatering requirements as appropriate
 - CBC seismic design parameters
 - Earthwork, excavation, subgrade preparation, backfill and compaction requirements, pipe bedding, and suitability of site soil for use as fill
 - Foundation type, allowable bearing, settlement, pavement thickness, lateral pressures for below grade walls, and friction factor recommendations for foundation design

Kleinfelder will submit a draft report for review, and comments will be addressed in our final report. We have assumed responding to one round of review comments will be required.

N. NOISE CONSIDERATIONS: Stantec will catalog all equipment noise levels provided by the manufacture that will include the following operating equipment:

- Pumps
- Air compressor
- Surge tank exhaust
- Backup power generator
- Air Conditioning Compressor
- Air Handling Equipment

Stantec will use the manufacture's information to identify potential noise sources and incorporate into the design noise reduction measures to mitigate

fugitive noise from the site. Wall assemblies, louvers and the roof assemblies will be design to specifications providing a minimum STC rating of 55.

O. SURVEYING SERVICES: Stantec shall conduct a survey of the new Lake Forest Zone B to C Recycled Water Pump Station site, as well as the location of the proposed interconnection between IRWD and SMWD's recycled water system along Portola Parkway. The configuration and location of the proposed meter vault shall be agreed upon with IRWD prior to proceeding with surveying.

As a minimum, the survey completed by Stantec shall include:

- Establish survey ground control for mapping using NAD83 coordinates and NAVD88 County benchmark elevations
- Provide contour mapping at 10 scale, one-foot contour intervals
- Field locate and add obscured surface features for all areas of the proposed work
- Preparation of topographic maps to be used for preparation of the design drawings for the Project as defined herein

P. INTERCONNECTION WITH SMWD: Stantec shall evaluate options and provide recommendations for adding a motor operated butterfly valve and two-way flow meter between the IRWD and SMWD recycled water systems located on Portola Parkway near El Toro Road. Up to three alternative locations will be identified and evaluated taking into consideration piping configurations, power availability, operations and maintenance, and accessibility. The vaults will be configured to allow entrance from the sidewalk and not obstruct traffic. The flow meter, butterfly valve(s) and appurtenances shall be located within a vault(s) and shall be incorporated into IRWD's SCADA system such that remote control and data acquisition can be obtained. Stantec shall coordinate with SCE to begin preparation of the SCE preliminary service plan and shall provide exhibits and information to SCE as needed to develop the final SCE approved service plan during final design.

Q. PERMITS: We will identify and prepare all permit applications and secure all permits with the necessary controlling agencies. We will prepare and furnish the required copies of all plans and exhibits needed to support the permit applications. The permits anticipated as part of this Project include An encroachment permit from the City of Lake Forest for the construction of the new interconnection between the IRWD and SMWD recycled water systems.

A copy of all permits will be included in the Appendix of the Project Manual to be completed

during the final design phase. As requested per the RFP, Stantec has included a \$5,000 allowance for permits in the fee schedule submitted under separate cover. IRWD shall reimburse Stantec for actual permit fees without surcharge.

R. WATER QUALITY MANAGEMENT PLAN

REQUIREMENTS: Stantec shall define project features and best management practices that will mitigate the Project's impact on water quality and the environment in accordance with the IRWD's North Orange County NPDES permit. Stantec shall perform a site assessment, document site conditions, identify hydrologic conditions of concern and pollutants of concern, determine performance criteria, and provide recommendations for low impact development (LID) best management practices for treatment and capture of discharges on the new Project site. Stantec shall review improvements with IRWD staff and determine which improvements are suitable for incorporation into the final design. The preparation of a Water Quality Management Plan is not included in this effort.

S. CEQA DOCUMENTATION: Stantec shall provide information, prepare exhibits, attend meetings and review portions of the environmental documents necessary to support the CEQA efforts as requested by IRWD. As indicated in the RFP, a budget of \$5,000 has been included in our fee estimate submitted under separate cover for this effort.

T. PROJECT SCHEDULE: Stantec shall prepare a detailed project schedule for design and construction of the Project components discussed herein. The schedule shall identify the critical path items, coordination items, permits, submittal milestones, and IRWD review times.

U. OPINION OF PROBABLE CONSTRUCTION COSTS:

We will provide IRWD with detailed and itemized engineer's estimate of probable construction costs for the alternatives that are developed.

V. PRELIMINARY DESIGN REPORT: Stantec shall summarize the findings, concerns and recommendations in items A-U listed above in a preliminary design report (PDR). The PDR shall include findings, concerns, recommendations and development of design criteria that is identified during the preliminary design phase. An anticipated outline of the PDR is as follows:

EXECUTIVE SUMMARY

1.0 INTRODUCTION

1.1 BACKGROUND AND PURPOSE

1.2 PROJECT COMPONENTS

1.2.1 Existing Lake Forest Well No. 5

1.2.2 Existing Lake Forest Zone B to C Pump Station

1.2.3 New Lake Forest Zone B to C Pump Station

1.2.4 SMWD Interconnection

2.0 EXISTING LAKE FOREST WELL NO. 5

2.1 INTRODUCTION

2.2 WELL DESTRUCTION

2.2.1 California DWR Requirements

2.2.2 Pre-Destruction Video Survey

2.2.3 Final Sealing

2.2.4 Mushroom Cap

3.0 EXISTING LAKE FOREST ZONE B TO C PUMP STATION

3.1 INTRODUCTION

3.2 DEMOLITION

3.3 ELECTRICAL, INSTRUMENTATION AND CONTROLS

4.0 NEW LAKE FOREST ZONE B TO C PUMP STATION

4.1 INTRODUCTION

4.2 HYDRAULICS AND PUMP SELECTION

4.2.1 Data Gathering and Review

4.2.2 Hydraulic Design Criteria

4.2.3 Minor Losses

4.2.4 System Head Curves

4.2.5 Booster Pump Selection

4.2.4.1 Booster Pump Selection

4.2.4.2 Summary of Pump Selections

4.2.6 SURGE ANALYSIS

4.2.7 YARD PIPING

4.3 SITE/CIVIL

4.3.1 Layout Criteria

4.3.2 Low Impact Development and Best Management Practices

4.3.3 Yard Piping

4.3.4 Alternative Site Configurations

4.4 BOOSTER PUMP BUILDING CONSIDERATIONS

4.4.1 Comparative Analysis

4.4.2 Architectural Styling Approach

4.5 NOISE REQUIREMENTS

4.5.1 County of Orange Noise Ordinance Requirements

4.5.2 Design Considerations

4.6 GEOTECHNICAL INVESTIGATION

4.6.1 Geotechnical Findings and Design Impact

4.7 ELECTRICAL

4.7.1 Requirements

4.7.2 Power

4.8 OPERATION AND CONTROLS

4.8.1 Instrumentation

4.8.2 Process and Control

4.9 UTILITIES

4.9.1 Required Utilities

4.10 REGULATORY

4.10.1 Water Quality Management Plan Requirements

4.10.2 Encroachment Permits

5.0 SMWD INTERCONNECTION

5.1 INTRODUCTION AND DESIGN CONSIDERATIONS

5.2 ALTERNATIVES EVALUATION

5.3 ELECTRICAL, INSTRUMENTATION AND CONTROLS

5.3.1 Requirements

5.3.2 Power Supply

5.3.3 Operation and Controls

APPENDIX:

Appendix A - Sample Well Completion Report

Appendix B - Transient Analysis

Appendix C - System Hydraulics Pump Selection

Appendix D - Geotechnical Report

Appendix E - New Lake Forest Zone B to C Site Configuration Alternatives

Appendix F – SMWD Interconnection Alternatives

Preliminary Design Deliverables: We will submit eight hard copies of the draft PDR and one electronic copy in PDF format for IRWD's review and comment. Upon resolution and incorporation of IRWD's comments, eight hard copies and one electronic copy in PDF format on a CD of the final PDR. The PDR shall include thirty percent (30 percent) design drawings and a Table of Contents of the anticipated specifications to be developed during the final design.

Task 3 – Final Design

Following IRWD's approval of the final PDR, Stantec shall prepare complete reproducible sets of construction drawings and Project Manuals as well as the SCE final service plans. Stantec shall maintain the project design schedule as well as prepare a schedule for construction activities. As indicated in the RFP, three construction packages inclusive of separate project manuals will be prepared that will include:

- Destruction of the existing Lake Forest Well No. 5
- Construction of a new Zone B to C recycled water pump station/Demolition of existing Zone B to C recycled water pump station and modifications to electrical and instrumentation and controls at Zone B East Reservoir Site.
- Construction of a flow meter and motor operated valve on Portola Parkway to allow the transfer of recycled water between IRWD and SMWD

The details of items to be completed during the final design phase are as follows:

A. PROJECT MANUALS: Stantec shall prepare the Project Manuals in standard IRWD format and, using IRWD templates, complete the front end documents and bidding and contract sections of the project manual. IRWD's general standard technical specifications will be used and supplemental sections will be prepared as needed for the construction of complete Project(s). The allowable shutdown durations and sequencing associated with making all connections and tie-ins to the existing IRWD and SMWD facilities will be included.

Stantec will prepare three separate Project Manual packages for the following:

- Destruction of the existing Lake Forest Well No. 5
- Lake Forest Zone B to C Pump Station and Demolition of the existing Zone B to C Pump station and Reconfiguration of the Existing Electrical/Controls System. Specifications for the development of the Santa Margarita Municipal Water District Intertie shall be incorporated into the Lake Forest Zone B to C Pump Station Project Manual.

Stantec will provide an original set of bidding documents in 8 ½ x 11-inch format for each package. Computer files of the Project Manuals 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 reproducible ready. The staff that will be preparing the Project Manuals for IRWD have worked on multiple projects for IRWD alleviating the learning curve.

B. CONSTRUCTION PLANS: As discussed above, Stantec shall prepare three sets of construction documents as part of this Project. For all construction plans, Stantec will prepare detailed construction drawings for each set of Contract documents in the latest version of AutoCAD and using NCS V4.0 layering standards, on 22-inch x 34-inch sheets using IRWD's standard title block. Stantec and its subconsultants will prepare all required drawings. This plan set will include general, civil, demolition and mechanical, structural, electrical, instrumentation and control drawings, and associated details necessary for constructible Project(s). Separate sheets with index maps that will include sheet legend, final alignment, valve locations, surrounding streets and significant project site locations, general notes, construction notes, and phasing will be included. Construction notes shall be used (callouts on the plans are not allowed) on all construction drawings. Existing IRWD utilities shall be identified on the plan view by as-built plan set number with the pipeline material and IRWD pressure zone labeled. Construction plans shall be prepared using the NAVD 88 and NAD 83 survey standards. Stantec will comply with the requirements of the preparation of the construction drawings outlined in the RFP.

LAKE FOREST ZONE B TO C PUMP STATION AND DEMOLITION OF THE EXISTING ZONE B TO C PUMP STATION AND RECONFIGURATION OF THE EXISTING ELECTRICAL/CONTROLS SYSTEM:

Stantec shall prepare a separate set of construction documents for the construction of the Lake Forest Zone B to C Recycled Water Pump Station, demolition of the existing recycled water pump station and improvements to the electrical and instrumentation and controls that will be needed at the Zone 2 East Reservoir site when the existing recycled water pump station is decommissioned. The anticipated sheet list for the Lake Forest Zone B to C Recycled Water Pump Station, demolition of the existing recycled water pump station and improvements to the electrical and instrumentation at the Zone 2 East Reservoir site is shown below:

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	D-1	Demolition Plan
4	C-1	Overall Site Plan

Sheet No.	Drawing No.	Sheet Title
5	C-2	Horizontal Control Plan
6	C-3	Site Grading and Paving Plan
7	C-4	Yard Piping Plan
8	C-5	Site Details
9	C-6	Civil Details 1
10	C-7	Civil Details 2
11	M-1	Mechanical Legend, Symbols, and Abbreviations
12	M-2	Booster Pump Station Plan
13	M-3	Booster Pump Station Sections
14	M-4	Booster Pump Station Sections & Details
15	M-5	Booster Pump Station Details
16	M-9	Surge Tank Plan, Sections, and Details
17	M-10	Surge Tank Air Compressor Plan, Sections, and Details
18	M-11	Mechanical Details 1
19	M-12	Mechanical Details 2
20	A-1	Booster Pump/Electrical Building Plan, Codes, and Notes
21	A-2	Booster Pump/Electrical Building Roof Plan and Details
22	A-3	Booster Pump/Electrical Building Exterior Elevations
23	A-4	Booster Pump/Electrical Building Sections and Wall Details
24	A-5	Architectural Details
25	S-1	Structural Notes and Design Criteria
26	S-2	Structural Foundation/Floor Plan – Pump Station Building
27	S-3	Roof Framing Plans /Pump Station Building
28	S-4	Wall Sections and Details
29	S-5	Structural Details
30	P-1	Plumbing Legend, Schedule, and Notes
31	P-2	Booster Pump Station Plumbing Plan
32	HVAC-1	HVAC Legend, Schedules, Notes, and Specifications
33	HVAC-2	Pump Station/Electrical Buildings HVAC Plan
34	HVAC-3	HVAC Details

Sheet No.	Drawing No.	Sheet Title
35	E-1	Electrical Standard Symbols and Abbreviations
36	E-2	Electrical Site Plan Zone B to C Demolition
37	E-3	Electrical Site Plan – Zone B Reservoir Modifications/Schedules
38	E-4	Electrical Site Plan – Well 5 Demolition
39	E-5	Electrical Site Plan – New Zone B to C
40	E-6	Zone B to C Pump Station Electrical and Signal Plan
41	E-7	Zone B to C Pump Station Lighting and Receptacle Plan
42	E-8	Zone B to C Pump Station Single Line Diagram/Elevations
43	E-9	Zone B to C Pump Station Controls 1
44	E-10	Zone B to C Pump Station Controls 2
45	E-11	Zone B to C Pump Station Controls 3
46	E-12	Zone B to C Pump Station Schedules 1
47	E-13	Zone B to C Pump Station Schedules 2
48	E-14	Electrical Details 1
49	E-15	Electrical Details 2
50	E-16	Zone B to C Pump Station RTU Diagrams 1
51	E-17	Zone B to C Pump Station RTU Diagrams 2
52	E-18	Zone B to C Pump Station RTU Diagrams 3
53	E-19	Zone B to C Pump Station RTU Diagrams 4
54	E-20	Zone B to C Pump Station RTU Diagrams 5
55	E-16	Zone B to C Pump Station RTU Layout
56	E-16	Zone B to C Pump Station RTU System Architecture
57	I-1	P&ID Standard Symbols and Abbreviations
58	I-2	Zone B to C Pump Station P&ID 1
59	I-3	Zone B to C Pump Station P&ID 2

CONSTRUCTION PLANS FOR INTERCONNECTION

WITH SMWD: Stantec shall prepare a separate set of construction drawings for the interconnection facility located on Portola Parkway for submittal to the City of Lake Forest. Detailed traffic control plans shall be prepared in accordance with the City of Lake Forest requirements. The anticipated sheet list is shown below:

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*	D-1	Demolition Plan
4*	C-1	Overall Site Plan
5*	C-2	Horizontal Control Plan
6*	C-3	Site Grading and Paving Plan
7*	C-4	Civil Details 1
8*	M-1	Mechanical Legend, Symbols, and Abbreviations
9*	M-2	Flow Meter/Butterfly Valve Vault Plan
10*	M-3	Flow Meter/Butterfly Valve Vault Section
11*	M-1	Flow Meter/Butterfly Valve Vault Sections & Details
12*	M-2	Mechanical Details
13*	S-1	Structural Notes and Design Criteria
14*	S-2	Structural Details
15*	T-1	Traffic Control General Notes
16*	T-2	Traffic Control Plan
17	E-1	Electrical Standard Symbols and Abbreviations
18	E-2	SMWD Interconnection Plan
19	E-3	SMWD Interconnect RTU Diagrams 1
20	E-4	SMWD Interconnect RTU Diagrams 2
21	E-5	SMWD Interconnect RTU Diagrams 3
22	E-6	SMWD Interconnect RTU Layout
23	I-1	SMWD Interconnect P&ID

* Denotes Plans to be submitted to the City of Lake Forest as a separate package for obtaining an Encroachment Permit from the City.

CONSTRUCTION PLANS AND PROJECT MANUAL FOR DESTRUCTION OF EXISTING LAKE FOREST WELL NO. 5:

IRWD shall advertise the destruction of the existing Lake Forest Well No. 5 in advance of the advertisement of the proposed Lake Forest Zone B to C Recycled Water Pump Station project and, as such, a separate set of construction drawings shall be prepared. The contract documents shall be prepared in accordance with IRWD Standards. The anticipated sheet list for the destruction of the existing Lake Forest Well No. 5 is shown below:

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	D-1	Demolition Plan
6	D-2	Demolition Plan
7	D-3	Demolition Plan
8	C-1	Site Plan

C. ELECTRICAL/INSTRUMENTATION: Stantec and its subconsultant MPA shall meet with IRWD’s electrical and automation staff to understand standard operations, programming and tagging requirements for incorporation into the design documents. MPA shall prepare an operational scheme including P&ID’s, single line diagrams, control equipment list, control loop descriptions, and method of integrating the proposed facilities into IRWD’s existing SCADA system. The operational scheme and functional descriptions shall be provided in plain English for IRWD’s review and approval. Power and telemetry to the new pump station site and at the interconnection with SMWD’s recycled water system shall be coordinated by Stantec and MPA.

D. SCE FINAL SERVICE PLANS: Stantec and its subconsultant, MPA, shall coordinate with SCE during the preliminary design process to obtain the Final Service Plans for both the new Lake Forest Zone B to C Recycled Water Pump Station and the interconnection to SMWD’s recycled water system. All coordination with SCE, exhibits and plans to obtain the Final Service Plans are included under this task. The Final Service Plans shall be included in the appendix to the Project Manuals for the respective Projects.

E. PROJECT SCHEDULE: Stantec shall maintain and update the project design schedule, to be prepared in Microsoft Project, and submit with project status

reports on a monthly basis or more frequently should there be a critical change in project schedule. The schedule shall identify the critical path items, coordination items, permits, submittal milestones, and IRWD review times. Stantec shall also prepare a detailed construction schedule of activities and factors impacting the schedule such as permitting, and coordination activities shall be included.

F. OPINION OF PROBABLE CONSTRUCTION COSTS: Stantec will provide IRWD with detailed and itemized engineer’s estimates of probable construction costs for each of the construction packages. The estimates will be updated with each subsequent design submittal.

G. DESIGN DELIVERABLES: Stantec shall provide final design deliverables pursuant to the RFP. The final design deliverables for each construction package will be as follows:

- **60% Submittal:** Stantec will submit eight, 11”x17” bound copies of the sixty percent (60 percent) submittal and one CD containing a single PDF file of the entire plan set. The 60 percent submittal shall include, at a minimum, civil/site, mechanical and P&ID’s. Basic mechanical equipment, structural and architectural layouts, pipeline alignments, preliminary profiles, and existing utilities. A complete table of contents shall be provided for the Project Manual. In addition, an engineer’s estimate of probable construction costs shall be provided.
- **90% Submittal:** Stantec will submit eight, 11”x17” bound copies of the sixty percent (90 percent) submittal and one CD containing a single PDF file of the entire plan set for IRWD’s review. The 90 percent submittal shall include, at a minimum each component of the design such as civil, structural, mechanical, architectural, electrical, and instrumentation and controls. Electrical plans and comments received from IRWD on the 60 percent submittal will be addressed and incorporated. Each component of the design shall be developed to high levels of detail and pipeline alignments, plan, profile, connection details and location of appurtenances shall be included. Five color coded copies of the Project Manual shall be submitted and all sections including contract documents, general provisions, special provisions, general requirements, technical specifications and appendices. In addition, an updated engineer’s estimate of probable construction costs shall be submitted.
- **100% Submittal:** Stantec will submit eight, 11”x17” bound copies of the one-hundred percent (100 percent) submittal and one CD containing a single PDF file of the entire plan set, and one CD containing AutoCAD files for the entire plan set for IRWD’s review. The 100 percent submittal shall include complete plans and three color coded copies of the Project Manual in its entirety that have addressed IRWD’s comments

received on the 90 percent submittal and one CD of the Microsoft Word files used in the preparation of the Project Manual. In addition, a notebook with the design calculations (including mechanical, civil, structural, HVAC, electrical, pipe thickness and restraint) shall be submitted. An updated engineer's estimate of probable construction costs shall also be submitted with the 100 percent design submittal. One full size stamped and signed reproducible plan set on mylars and one original signed Project Manual for District's signature shall be submitted.

H. ADDENDA PREPARATION AND PRE-BID MEETING:

During the bidding period, Stantec shall provide bidding support and assistance as it pertains to the contract documents and construction drawings for each of the construction packages discussed herein. Stantec will provide information and clarification to prospective bidders and shall prepare up to three addenda including revisions to the design plans and specifications. For budgetary purposes, Stantec has assumed the following:

- **Plan Revisions:** 40 hours of appropriate staff time for revisions to the construction drawings for each of the construction packages.
- **Specification Revisions:** 25 hours of appropriate staff time for revisions and/or additions to each of the Project Manuals.
- **Bidder Questions:** 40 of appropriate staff time to address and respond to bidder questions on each of the construction packages.
- **Pre-Bid Meeting:** Stantec shall attend one two-hour pre-bid meeting for each construction project. The pre-bid meeting shall be conducted by IRWD and shall include a site visit with potential bidding contractors.

Organization Chart

The key to a successful project is compiling an experienced and cohesive team. We've assembled a team of professionals with a high level of commitment, enthusiasm, and experience. Our team members bring diverse water resources background and experience. It is this experience and technical knowledge that will help us achieve your goals.

Our organization chart demonstrates how our team members are organized and managed to help ensure tasks are delivered smoothly and efficiently.

Our key personnel assigned to the project will not be reassigned without your prior written approval.



SUPPORT SERVICES		
HYDRAULIC ANALYSIS/MODELING <ul style="list-style-type: none"> ■ Jeff Dunn, PE IRVINE, CA ■ Ruoren Yu, PE PASADENA, CA 	LANDSCAPE ARCHITECT <ul style="list-style-type: none"> ■ Steve Cook, PLA IRVINE, CA 	TRAFFIC CONTROL <ul style="list-style-type: none"> ■ Keith Rutherford, TE IRVINE, CA
SURVEYING <ul style="list-style-type: none"> ■ Greg Sebourn, PLS IRVINE, CA 	MECHANICAL/HVAC <ul style="list-style-type: none"> ■ Ed Pascua, PE, LEED AP PASADENA, CA ■ Savvas Savvas, PE, LEED AP CLEVELAND, OH 	SURGE ANALYSIS <ul style="list-style-type: none"> ■ Dave Axworthy, Ph.D, PE <i>(Northwest Hydraulic Consultants)</i> PASADENA, CA
WELL ABANDONMENT <ul style="list-style-type: none"> ■ Tom Regan, PG, CEG, CHG PASADENA, CA 	GEOTECHNICAL <ul style="list-style-type: none"> ■ Brian Crystal, PE, GE <i>(Kleinfelder, Inc.)</i> IRVINE, CA 	ELECTRICAL/I&C <ul style="list-style-type: none"> ■ Joe Moraes, PE <i>(Moraes-Pham and Associates)</i> CARLSBAD, CA
ARCHITECTURE/STRUCTURAL <ul style="list-style-type: none"> ■ Vic Nguyen, AIA, LEED AP <i>(Gillis + Panichapan Architects, Inc.)</i> COSTA MESA, CA ■ Jack Panichapan, AIA, NCARB, LEED AP <i>(Gillis + Panichapan Architects, Inc.)</i> COSTA MESA, CA ■ John Tehaney, PE, SE SACRAMENTO, CA 	CIVIL DESIGN <ul style="list-style-type: none"> ■ Ruoren Yu, PE PASADENA, CA 	

LEGEND

- Stantec
- Subconsultants



**Hours and Fee Summary
Lake Forest Zone B to C Pump Station**

Task No.	Task Description	Stantec		Morales Pham Associates		GPA Architects		Kleinfelder Project Hours		Northwest Hydraulic Consultants		Other Direct Costs	Total Project Hours	Total Project Fees
		Hours	Fee	Hours	Fee	Hours	Fee	Hours	Fee	Hours	Fee			
TASK 1: Project Management														
1.	Preparation of Project Status Reports (45 weekly, 15 monthly)	50	\$ 13,250.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ 500.00	50	\$ 13,750.00
2.	Meetings and Workshops	130	\$ 27,610.00	8	\$ 1,600.00	64	\$ 8,085.00	0	\$ -	0	\$ -	\$ 1,500.00	202	\$ 38,795.00
3.	QA/QC (Coordination and Sub Review - Other Labor Assigned Per Task)	44	\$ 11,160.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	44	\$ 11,160.00
		0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	0	\$ -
		0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	0	\$ -
SUBTOTAL TASK 1		224	\$ 52,020.00	8	\$ 1,600.00	64	\$ 8,085.00	0	\$ -	0	\$ -	\$ 2,000.00	296	\$ 63,705.00
TASK 2: Preliminary Design														
1.	Background Information	20	\$ 3,578.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	20	\$ 3,578.00
2.	Utility Research	20	\$ 3,332.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	20	\$ 3,332.00
3.	Destruction of Lake Forest Well No. 5	50	\$ 7,514.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	50	\$ 7,514.00
4.	Demolition of Existing Zone B to C Pump Station	34	\$ 4,882.00	6	\$ 1,200.00	0	\$ -	0	\$ -	0	\$ -	\$ -	40	\$ 6,082.00
5.	Hydraulic Analysis	54	\$ 8,726.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	54	\$ 8,726.00
6.	Pump Selection	28	\$ 4,580.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	28	\$ 4,580.00
7.	Pump Station Building Configuration	68	\$ 10,452.00	0	\$ -	74	\$ 8,910.00	0	\$ -	0	\$ -	\$ -	142	\$ 19,362.00
8.	Site Master Plan	56	\$ 8,744.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	56	\$ 8,744.00
9.	Preliminary Grading Plan	14	\$ 2,138.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	14	\$ 2,138.00
10.	Surge Analysis	8	\$ 2,120.00	0	\$ -	0	\$ -	0	\$ -	137	\$ 21,670.00	\$ -	145	\$ 23,790.00
11.	Pump Station Site Electrical Service	4	\$ 1,060.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	4	\$ 1,060.00
12.	Electrical and Controls	0	\$ -	38	\$ 7,000.00	0	\$ -	0	\$ -	0	\$ -	\$ -	38	\$ 7,000.00
13.	Geotechnical Investigation (2 Borings)	8	\$ 1,760.00	0	\$ -	0	\$ -	107	\$ 27,804.00	0	\$ -	\$ -	115	\$ 29,564.00
14.	Noise Control	4	\$ 1,060.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	4	\$ 1,060.00
15.	Surveying (2 person crew, 3 days)	74	\$ 15,458.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ 7,000.00	74	\$ 22,458.00
16.	SMWD Interconnection	34	\$ 5,992.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	34	\$ 5,992.00
17.	Permits	20	\$ 4,380.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ 5,000.00	20	\$ 9,380.00
18.	Water Quality Management Plan Requirements	16	\$ 3,320.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	16	\$ 3,320.00
19.	CEQA Support	46	\$ 8,190.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	46	\$ 8,190.00
20.	Project Schedule	6	\$ 1,590.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	6	\$ 1,590.00
21.	Opinion of Probable Construction Costs	4	\$ 1,060.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	4	\$ 1,060.00
22.	Preliminary Design Report	76	\$ 18,384.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	76	\$ 18,384.00
SUBTOTAL TASK 2		644	\$ 118,320.00	44	\$ 8,200.00	74	\$ 8,910.00	107	\$ 27,804.00	137	\$ 21,670.00	\$ 12,000.00	1,006	\$ 196,904.00
TASK 3: Final Design														
1.	Project Manuals (2)	216	\$ 42,752.00	4	\$ 800.00	0	\$ -	0	\$ -	0	\$ -	\$ -	220	\$ 43,552.00
2.	Construction Plans	1,716	\$ 229,952.00	0	\$ -	362	\$ 41,505.00	0	\$ -	0	\$ -	\$ -	2,078	\$ 271,457.00
3.	Electrical/Instrumentation	8	\$ 2,120.00	507	\$ 69,300.00	0	\$ -	0	\$ -	0	\$ -	\$ -	515	\$ 71,420.00
4.	SCE Final Service Plans (2)	32	\$ 6,640.00	18	\$ 2,400.00	0	\$ -	0	\$ -	0	\$ -	\$ -	50	\$ 9,040.00
5.	Project Schedule	16	\$ 4,240.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	16	\$ 4,240.00
6.	Opinion of Probable Construction Costs	32	\$ 6,640.00	9	\$ 1,400.00	0	\$ -	0	\$ -	0	\$ -	\$ -	41	\$ 8,040.00
7.	Final Design Deliverables (60%, 90%, 100%)	156	\$ 36,860.00	12	\$ 2,400.00	0	\$ -	0	\$ -	0	\$ -	\$ 8,000.00	168	\$ 47,260.00
8.	Addenda Preparation and Pre-Bid Meeting (3 Addenda, 1 Meeting)	112	\$ 17,760.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ 2,000.00	112	\$ 19,760.00
		0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	0	\$ -
		0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	\$ -	0	\$ -
SUBTOTAL TASK 3		2,288	\$ 346,964.00	550	\$ 76,300.00	362	\$ 41,505.00	0	\$ -	0	\$ -	\$ 10,000.00	3,200	\$ 474,769.00
TOTAL (TASKS 1 THRU 3)		3,156	\$ 517,304.00	602	\$ 86,100.00	500	\$ 58,500.00	107	\$ 27,804.00	137	\$ 21,670.00	\$ 24,000.00	4,502	\$ 735,378.00

Notes & Assumptions:

- 1) Two (2) borings at the new Lake Forest Zone B to C Recycled Water Pump Station
- 2) Investigation-derived waste (IDW) soil cuttings from borings will be drummed and offsite disposal required
- 3) Direct Costs / Materials include costs such as mileage to meetings/site, courier fees, and document reproduction costs.
- 4) Does not include Surge Analysis for SMWD Interconnection. Optional Task to include \$6715
- 5) Does not include presenting surge analysis to IRWD; Optional task \$6200

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October 28, 2019

Prepared by: M. Robinson / E. Akiyoshi

Submitted by: K. Burton

Approved by: Paul A. Cook



ACTION CALENDAR

2019 POTABLE WATER, SEWER, AND RECYCLED WATER REGIONAL CAPITAL COST ALLOCATIONS

SUMMARY:

IRWD's Regional Capital Cost Allocations have been updated to reflect changes since 2013 – the last time the Regional Allocations were set based on the consolidation of improvement districts (IDs) at that time. The 2019 update incorporates build-out information from the most recent Sub-Area Master Plans (SAMP), General Plan Amendments, developer projections, and Water Supply Assessments (WSA). Staff recommends that the Board approve the updated Regional Allocations.

BACKGROUND:

The 2013 ID consolidation was a strategic initiative to optimize the IDs and update the sources of funding to reflect the most current information and equitable allocation of capital expenditures. This update was extensive and included working closely with developers to gain consensus on all aspects including development and demand projections. Concurrent with the ID consolidation, the Regional Allocations for Potable Water, Sewer, and Recycled Water were updated and approved. These Regional Allocations split capital expenditures for regional projects (e.g., water treatment plants and water supply projects) to the various IDs based on the build-out for potable water, sewer, and recycled water demand projections. IRWD periodically updates the developments projections and calibrates the water demand projections upon which the Regional Allocations are calculated. The 2019 update is focused on the development projections; a subsequent phase will calibrate the water demand factors.

Between 2013 and 2019, entitlement and planning projections have changed in multiple areas throughout IRWD's service area. Staff has reviewed current General Plan land use information, WSAs, developer projections, and SAMPs. Updated developer information was obtained by coordinating with the Irvine Company, which provided updated land use maps. Staff incorporated information from the developer into the Regional Allocations and confirmed final residential and non-residential information with them to ensure the accuracy of the Regional Allocations.

While multiple areas were updated throughout the IRWD service area, the major changes are identified as follows:

- East Orange Area I / East Orange Lake Village / Santiago Hills II – These developments were planned for approximately 3,700 residential dwelling units (DUs). The Irvine Company significantly reduced the footprint of these developments and designated the remainder to permanent open space, changing future development to only include Santiago Hills II with 1,180 DUs resulting in a net reduction of approximately 2,500 DUs;
- Portola Springs – This area increased residential units from 4,650 DUs to 6,180 DUs. Non-residential development has remained relatively the same;

- Great Park Area – This area increased residential units from 10,700 DUs to 14,000 DUs, and increased non-residential development from 7,830 thousand square feet (ksf) to 12,920 ksf;
- Spectrum Area – This area increased residential development from approximately 850 DUs to approximately 1,300 DUs which is primarily comprised of apartment buildings; and
- Tustin Legacy Area – The City of Tustin increased residential development from 4,820 DUs to 7,190 DUs. The net change in development results in a minor increase in overall demands for the Tustin Legacy Area.

The ID maps for potable water and sewer are shown in Exhibits “A” and “B”, respectively, with the combined changes reflected in the updated Regional Allocations for Potable Water, Sewer, and Recycled Water as shown in Exhibits “C”, “D”, and “E”, respectively.

FISCAL IMPACTS:

The net fiscal impacts to IRWD will be minimal as a whole and will vary by ID. All projects with Regional Allocations will be adjusted on a moving forward basis subsequent to Board adoption of the proposed Regional Allocations.

ENVIRONMENTAL COMPLIANCE:

These studies are 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 Engineering and Operations Committee on October 15, 2019.

RECOMMENDATION:

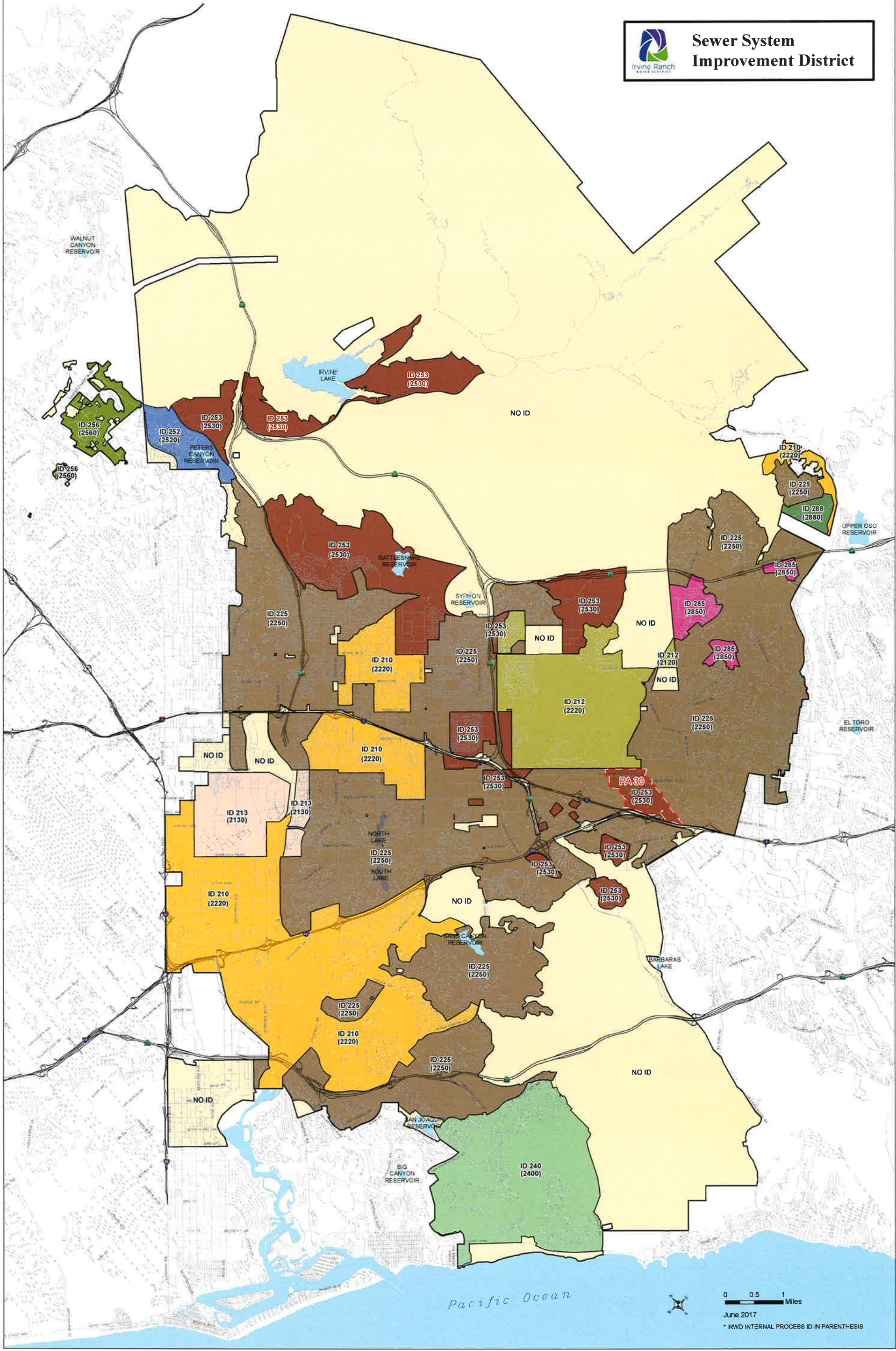
THAT THE BOARD APPROVE THE PROPOSED REGIONAL CAPITAL COST ALLOCATIONS AND THEIR APPLICATION TO CAPITAL PROJECTS, EFFECTIVE DECEMBER 1, 2019.

LIST OF EXHIBITS:

- Exhibit “A” – Potable System Improvement District Map
- Exhibit “B” – Sewer System Improvement District Map
- Exhibit “C” – Regional Potable Water ID Allocations
- Exhibit “D” – Regional Sewer ID Allocations
- Exhibit “E” – Regional Recycled Water ID Allocations

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Exhibit "B"



Pacific Ocean

0 0.5 1 Miles

June 2017
* IRWD INTERNAL PROCESS ID IN PARENTHESIS

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Exhibit "C"

Potable Water

Regional Improvement District Allocations

	New Allocations		Old Allocations	
	Demand (cfs)	Splits	Demand (cfs)	Splits
Improvement District 1110	39.93	35.1%	37.51	32.6%
Improvement District 1120	5.51	4.8%	3.83	3.3%
Improvement District 1130	3.92	3.4%	3.45	3.0%
Improvement District 1250	52.80	46.4%	54.56	47.5%
Improvement District 1530	8.89	7.8%	12.72	11.1%
Improvement District 1540	0.47	0.4%	0.51	0.4%
Improvement District 1850	1.78	1.6%	1.85	1.6%
Improvement District 1880	0.53	0.5%	0.53	0.5%
Grand Total	113.82	100%	114.98	100%

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Exhibit "D"

Sewer

Regional Improvement District Allocations

	New Allocations		Old Allocations	
	Demand (mgd)	Splits	Demand (mgd)	Splits
Improvement District 2120	2.42	5.4%	1.55	3.4%
Improvement District 2130	1.66	3.7%	1.55	3.4%
Improvement District 2220	15.76	35.3%	15.08	33.1%
Improvement District 2250	20.09	45.0%	22.08	48.5%
Improvement District 2400	0.00	0.0%	0.00	0.0%
Improvement District 2530	3.53	7.9%	4.38	9.6%
Improvement District 2560	0.17	0.4%	0.15	0.3%
Improvement District 2850	0.80	1.8%	0.60	1.3%
Improvement District 2880	0.18	0.4%	0.15	0.3%
Grand Total	44.61	100%	45.55	100%

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Exhibit "E"

Recycled Water

Regional Improvement District Allocations

	New Allocations		Old Allocations	
	Demand (cfs)	Splits	Demand (cfs)	Splits
Improvement District 2120	3.49	8.8%	4.38	10.7%
Improvement District 2130	1.65	4.2%	1.67	4.1%
Improvement District 2220	6.04	15.2%	5.95	14.6%
Improvement District 2250	19.50	49.2%	20.77	51.0%
Improvement District 2400	3.14	7.9%	3.14	7.7%
Improvement District 2530	5.20	13.1%	4.22	10.3%
Improvement District 2560	0.00	0.0%	0.00	0.0%
Improvement District 2850	0.60	1.5%	0.62	1.5%
Improvement District 2880	0.00	0.0%	0.00	0.0%
Grand Total	39.63	100%	40.76	100%