

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

February 13, 2012

PLEDGE OF ALLEGIANCE

CALL TO ORDER

5:00 P.M., Board Room, District Office
15600 Sand Canyon Avenue, Irvine, California

ROLL CALL

Directors Reinhart, LaMar, Swan, Withers and President Matheis

NOTICE

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

COMMUNICATIONS TO THE BOARD

1. A. Written:

B. Oral: Mrs. Joan Irvine Smith relative to the Dyer Road Wellfield.

2. **ITEMS RECEIVED TOO LATE TO BE AGENDIZED**

Recommendation: Determine that the need to discuss and/or take immediate action on item(s) introduced come to the attention of the District subsequent to the agenda being posted.

PRESENTATIONS

Next Resolution No. 2012-5

3. **PARTNER COMMENDATION**

In celebration of the District's 50th anniversary, the IRWD Board of Directors will recognize key "Partners in Service". This evening the Board will present a Certificate of Commendation to Ms. Maureen O'Haren of O'Haren Government Relations.

4. **2012 STATE LEGISLATIVE BRIEFING**

The District's consultant, Ms. Maureen O'Haren, will provide the Board with an update on 2012 State legislative issues.

PRESENTATIONS

5. TUSTIN LEGACY WELL NO. 1 ALTERNATIVE (WELL 52) WATER QUALITY AND PRODUCTION UPDATE

Recommendation: That the Board receive and file the Water Quality and Production Update for Tustin Legacy Well No. 1 Alternative, Project 11419 (1356).

CONSENT CALENDAR

Items 6-11

6. MINUTES OF REGULAR AND ADJOURNED REGULAR BOARD MEETINGS

Recommendation: That the minutes of the January 23, 2012 Regular Board Meeting and the January 30, 2012 Adjourned Regular Board Meeting be approved as presented.

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

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

8. RESOLUTION COMMENDING ED ROYCE, SR. FOR HIS DEDICATED SERVICE TO THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

Recommendation: That the Board adopt a resolution commending Mr. Ed Royce, Sr. for his dedicated service to the Municipal Water District of Orange County.

Reso. No. 2012-

9. CULVER DRIVE/WALNUT AVENUE INTERSECTION CAPITAL IMPROVEMENT PROJECT FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the Culver Drive/Walnut Avenue Intersection Capital Improvement Project 11540 (1055); authorize filing of a Notice of Completion; and authorize the payment of the retention 35 days after the date of recording the Notice of Completion.

CONSENT CALENDAR - Continued	Items 6-11
<p>10. <u>WELLS 21 AND 22 DESALTER PROJECT REDUCTION OF RETENTION</u></p> <p>Recommendation: That the Board find that satisfactory progress is being made on the District's construction contract with Pascal & Ludwig Constructors; authorize the reduction of retention from 10% to 5% of the contract amount; and release funds in excess of 5% of the contract amount from retention currently held for the Wells 21 and 22 Desalter, project 10286 (1081).</p> <p>11. <u>ASSET OPTIMIZATION – LAKE FOREST PROPERTY SERRANO SUMMIT COMMUNITY FACILITIES DISTRICT FORMATION</u></p> <p>Recommendation: That the Board adopt a resolution authorizing the approval of documents related to formation of the Lake Forest Community Facilities District No. 2010-1 (Serrano Summit).</p>	<p>Reso. No. 2012-</p>
ACTION CALENDAR	
<p>12. <u>PROPOSED DECREASES TO CALPERS EMPLOYER-PAID MEMBER CONTRIBUTIONS</u></p> <p>Recommendation: That the Board adopt three resolutions authorizing the Employer-Paid Member Contributions to CalPERS: 1) modifying Employer-Paid Member Contributions for Executive Management, 2) modifying Employer-Paid Member Contributions for Senior Management staff, and 3) modifying Employer-Paid Member Contributions for Full-Time Regular Employees).</p> <p>13. <u>PROPOSED EARLY REDEMPTION OF THE ELECTION 1988 BONDS</u></p> <p>Recommendation: That the Board adopt a resolution calling bonds for redemption and authorizing certain actions in connection therewith (Waterworks Bonds, Election 1988, Series A, Improvement District No. 182; Sewer Bonds, Election 1988, Series A, Improvement District No. 282; and Sewer Bonds, Election 1988, Series A, Improvement District No. 284).</p>	<p>Reso. No. 2012- Reso. No. 2012- Reso. No. 2012- Reso. No. 2012-</p>

ACTION CALENDAR

14. ENERGY AND GREEN HOUSE GAS MASTER PLAN AND JACKSON RANCH SOLAR FEASIBILITY STUDY

Recommendation: That the Board authorize an increase to the FY 2011-12 Capital Budget for project 11482 (1620) in the amount of \$36,000, from \$378,900 to \$414,900; approve an Expenditure Authorization in the amount of \$51,000 for project 11482 (1620) for staff to assist in developing the Energy and Green House Gas Master Plan and to initiate additional investigations of the portfolio of recommended Energy and Green House Gas Master Plan projects; authorize the addition of the Jackson Ranch Solar Project 11637 (3667) to the FY 2011-12 Capital Budget in the amount of \$98,600; approve an Expenditure Authorization in the amount of \$98,600 for project 11637 (3667) to investigate the feasibility of developing a solar power generating facility at the Jackson Ranch; authorize the General Manager to execute Variance No.1 in the amount of \$13,577 for project 11637 (3667) with ZGlobal, Inc. to provide additional analysis of power grid interconnection issues; and authorize the General Manager to execute a Professional Services Agreement in the amount of \$36,000 for project 11637 (3667) with Provost and Pritchard Consulting Group to analyze land use conversion and entitlement issues, develop a property prospectus, perform a preliminary energy production analysis, review IRWD's Request for Proposal (RFP), and assist in identifying a pre-qualified list of solar power developers to receive the RFP.

OTHER BUSINESS

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

15. A. General Manager's Report

OTHER BUSINESS - Continued

15. B. Directors' Comments

1)

2)

3)

4)

5)

C. CLOSED SESSION with Legal Counsel relative to Initiation of Litigation - Government Code Section 54956.9(c) - involving one potential case (potential settlement with design consultants).

D. 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.

February 13, 2012
Prepared by: J. Moeder/C. Spangenberg
Submitted by: K. Burton *(K.B.)*
Approved by: Paul Cook */P.C.*

PRESENTATION

TUSTIN LEGACY WELL NO. 1 ALTERNATIVE (WELL 52) WATER QUALITY AND PRODUCTION UPDATE

SUMMARY:

At the December 12, 2011 Board meeting, the Board requested that staff provide an update on the water quality and production for the completed Tustin Legacy Well No. 1 Alternative, also known as Well 52. Staff will provide a PowerPoint presentation (draft provided as Exhibit "A") highlighting the water quality components and production at this well site.

BACKGROUND:

In October 2000, a Phase 1 Site Assessment was prepared that identified groundwater remedial sites around the Well 52 property located at 1061 Duryea Avenue in the City of Irvine. Prior to construction, the Phase 1 Site Assessment was updated in May 2011 and again identified groundwater remedial sites around the Well 52 site due to the presence of trichloroethylene (TCE) and perchloroethylene (PCE) in the shallow groundwater. After updating the Phase 1 Site Assessment in 2011 and receiving technical input from IRWD's consultants and Orange County Water District staff, the well construction documents were revised to a more conservative design that included a double conductor casing that was intended to provide additional protection against the potential migration of contaminants from the shallow groundwater into the well.

Water Quality Test Results:

A conductor casing hole was drilled prior to drilling the pilot hole and shallow groundwater was identified at 15 feet below the ground surface (bgs). A shallow groundwater sample was collected at 26 feet bgs and tested for Volatile Organic Compounds (VOC). Water quality analysis of the shallow groundwater sample indicated that 0.71 parts per billion (ppb) PCE, 6.1 ppb of 1,1-dichloroethene (1,1-DCE), and 25 ppb of TCE were present. The DCE and TCE concentrations are above the maximum contaminant levels (MCL), which are 6 ppb and 5 ppb, respectively, which was anticipated based on the Phase 1 Site Assessments. PCE was below the MCL of 5 ppb. All other VOCs were not detected.

After drilling the pilot hole, isolated aquifer zone testing was performed at five different depths. Water quality samples were collected at each of the five depths and tested for various constituents, including VOCs. VOCs were not detected at the various depths tested, but elevated levels of color and odor were identified. The test results are shown in the table below:

Water Quality Summary							
Constituent	Units	Zone 1 1,259- 1,281 (ft bgs)	Zone 2 1,142- 1,164 (ft bgs)	Zone 3 870-892 (ft bgs)	Zone 4 658-680 (ft bgs)	Zone 5 578-600 (ft bgs)	Drinking Water Regulatory Standards
Color	APHA Color Units	40	42	11	17	16	15 ^{1,2}
Odor	[TON]	1.0	55	<1.0	<1.0	<1.0	3 ¹
VOCs	Various	ND	ND	ND	ND	ND	Varies

¹ Color and odor are secondary MCLs

² IRWD goal for color is less than 5.0

Staff is confident that the double conductor casing incorporated into the design of this well will provide the required protection against the potential migration of contaminants from the shallow groundwater into this well.

Well Production and Treatment Requirements:

Well 52 is expected to produce over 5,000 gallons per minute and has a calculated specific capacity of 172 gallons per minute per foot of draw down (gpm/ft), which is significantly greater than the Dyer Road Well Field wells that had original specific capacities ranging from 25 to 100 gpm/ft. The estimated flow contribution from the different zones is shown in the table below:

Zone Flow Contributions*						
	Below 1,225 (ft bgs)	1,145-1,225 (ft bgs)	1,075-1,145 (ft bgs)	1,000-1,075 (ft bgs)	840-910 (ft bgs)	635-685 (ft bgs)
Flow (gpm)	318	571	1,271	1,176	794	381

*Screened sections include 635 through 685 feet bgs, 840 through 910 feet bgs, and 1,000 through 1,290 feet bgs.

Based on mass balance calculations that include flow and color concentrations at various depths throughout the entire well, water from the well is expected to have a color concentration of approximately 35 color units. Due to the color present in the water, treatment of the water will be required to reduce the color units to below 5 color units. Potential techniques for lowering the amount of color in this water to an acceptable level include blending or constructing a filtration treatment plant similar to the Deep Aquifer Treatment System (DATS).

Based on a preliminary evaluation of the blending alternative, staff determined that water produced by this well at 5,000 gpm with 35 color units would require approximately 75,000 gpm of non-colored water (less than three color units), which is not feasible based on the small diameter distribution pipelines and water demand near the well site. The blending alternative could become feasible if the specific section(s) of the casing through which the high-color water entered the well were isolated. By installing a “packer” to isolate the well casing section between 840 and 910 feet bgs, the well could produce approximately 800 gpm with a

concentration of 11 color units. The 800 gpm could then be blended with approximately 2,400 gpm of water with a concentration of three color units to bring the concentration down to five color units. Again, this blended flow of 3,200 gpm most likely could not be handled by the water demand in the surrounding area. Because there is not a blending source near the well, any blending option would require the installation of new pipelines to convey either blending water to the site, or to convey raw water to a new blending site closer to a blending source. Either a blending option or treatment option would likely require the installation of new pipelines to deliver the water to areas with higher water demands.

Staff will explore options for blending or treatment of the well water as part of the next update to the District's Groundwater Work Plan Update, which is currently planned for spring 2012.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

This project was subject to the California Environmental Quality Act (CEQA). In conformance with the California Code of Regulations Title 14, Chapter 3, Section 15004, a Mitigated Negative Declaration was prepared.

COMMITTEE STATUS:


This item was reviewed by the Engineering and Operations Committee on January 19, 2012.

RECOMMENDATION:

THAT THE BOARD RECEIVE AND FILE THE WATER QUALITY AND PRODUCTION UPDATE FOR TUSTIN LEGACY WELL NO. 1 ALTERNATIVE, PROJECT 11419 (1356).

LIST OF EXHIBITS:

Exhibit "A" – Draft PowerPoint Presentation



IRWD – Well 52

Water Quality and Production Update

Board Meeting
February 13, 2012



Agenda



Irvine Ranch Water District

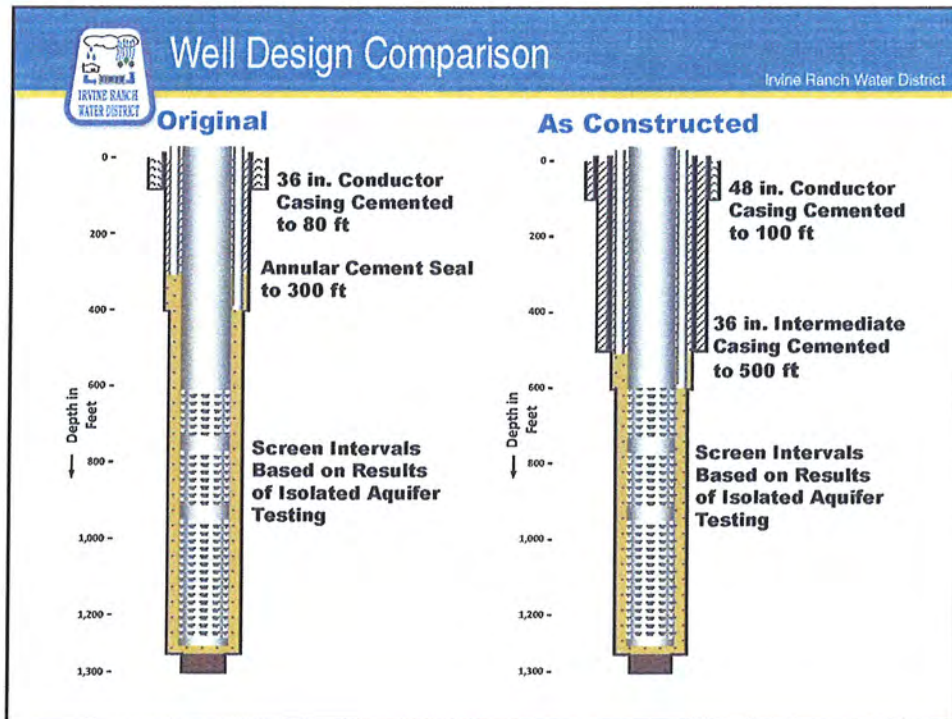
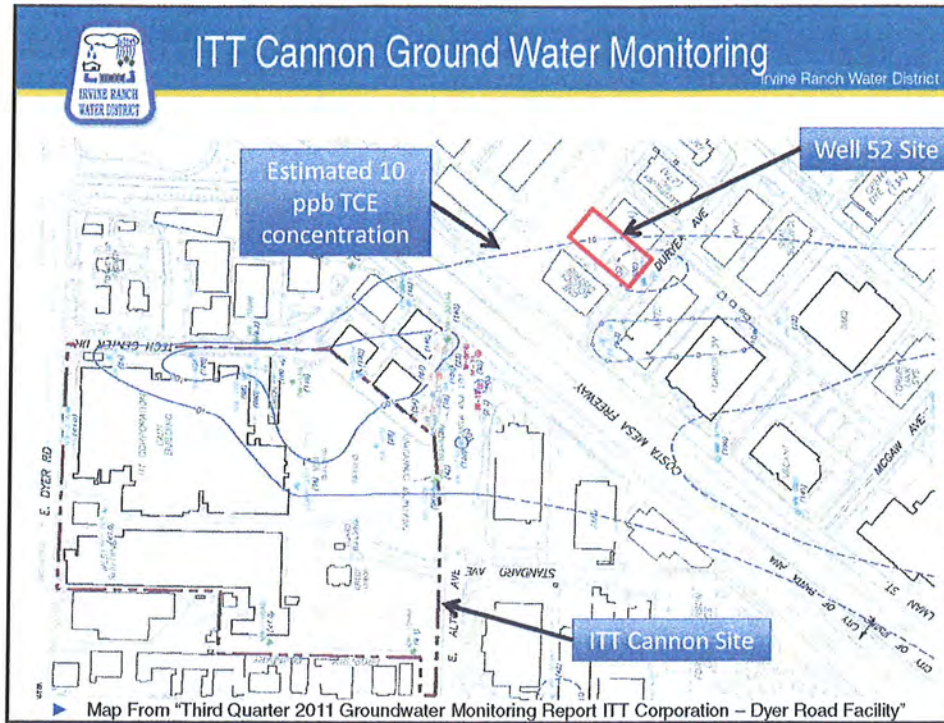
- ▶ Site Location Map
- ▶ Project Background
- ▶ ITT Cannon Ground Water Monitoring
- ▶ Well Design Comparison
- ▶ Water Quality
- ▶ Estimated Well Production
- ▶ Next Steps




Well 52 Project Background
Irvine Ranch Water District

- ▶ Phase 1 Site Assessment in October 2000
- ▶ Site purchased in January 2001
- ▶ Updated Phase 1 Site Assessment in May 2011
- ▶ Revised well design and awarded construction contract to Bakersfield Well and Pump
- ▶ Notice of Acceptance approved at December 12, 2011 Board Meeting








Well 52 Water Quality

Irvine Ranch Water District

Volatile Organic Compounds (VOC)

- ▶ Shallow Aquifer
 - ▶ Sample collected at 25' below ground surface (bgs)
 - ▶ Three VOC analytes present:
 - ▶ 0.71 parts per billion (ppb) perchloroethylene (PCE);
 - ▶ 6.1 ppb of 1,1-dichloroethene (1,1-DCE); and
 - ▶ 25 ppb of trichloroethylene (TCE) were present.
 - ▶ 1,1-DCE & TCE above their respective MCL (6 ppb & 5 ppb)
- ▶ VOCs not detected during isolated aquifer zone testing



Well 52 Water Quality


Irvine Ranch Water District

Color and Odor

- ▶ Secondary Maximum Containment Level (MCL) exceeded for Color and Odor

Water Quality Summary							
Constituent	Units	Zone 1 1,259-1,281 (ft bgs)	Zone 2 1,142-1,164 (ft bgs)	Zone 3 870-892 (ft bgs)	Zone 4 658-680 (ft bgs)	Zone 5 578-600 (ft bgs)	Drinking Water Regulatory Standards
Color	APHA Color Units	40	42	11	17	16	15*
Odor	[TON]	1.0	55	<1.0	<1.0	<1.0	3


*IRWD goal for color is less than 5.0




Well 52 Production & Water Quality

Irvine Ranch Water District

- ▶ Well expected to have over 5,000 gallons per minute (gpm) capacity
 - ▶ Color concentration of 35 color units is expected
- ▶ Treatment plant similar to DATS would be required to treat well water
- ▶ Blending options available





Well 52 Blending Scenarios

Irvine Ranch Water District

Scenarios to Achieve 5 color units

- ▶ Scenario #1: Blend entire 5,000 gpm
 - ▶ Requirement: Blend with 75,000 gpm at 3 color units
 - ▶ Not feasible due to water demand

- ▶ Scenario #2: Install dual packer and blend 800 gpm
 - ▶ Requirement: Isolate second set of screens with packers and blend with 2,400 gpm at 3 color units
 - ▶ Would require installation of new pipelines



Well 52 Next Steps

Irvine Ranch Water District



Future use and Interim Maintenance of Well

- ▶ Staff will explore options for blending or treatment in next Groundwater Work Plan Update
- ▶ Groundwater Work Plan Update planned for Spring 2012
- ▶ Staff will video the well annually and determine necessary maintenance



Well 52

Water Quality and Production Update
Board Meeting
February 13, 2012

February 13, 2012
Prepared and
Submitted by: L. Bonkowski 
Approved by: P. Cook 

CONSENT CALENDAR

MINUTES OF REGULAR AND ADJOURNED REGULAR BOARD MEETINGS

SUMMARY:

Provided are the minutes of the January 23, 2012 Regular Board Meeting and January 30, 2012 Adjourned Regular Board Meeting for approval.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE MINUTES OF THE JANUARY 23, 2012 REGULAR BOARD MEETING AND THE JANUARY 30, 2012 ADJOURNED REGULAR BOARD MEETING BE APPROVED AS PRESENTED.

LIST OF EXHIBITS:

Exhibit "A" – January 23, 2012 Regular Board Meeting
Exhibit "B" – January 30, 2012 Adjourned Regular Board Meeting

EXHIBIT "A"

MINUTES OF REGULAR MEETING – JANUARY 23, 2012

The regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 5:00 p.m. by President Matheis on January 23, 2012 in the District office, 15600 Sand Canyon Avenue, Irvine, California.

Directors Present: Reinhart, LaMar, Matheis, Swan and Withers (arrived at 5:10 p.m.).

Directors Absent: None.

Also Present: General Manager Cook, Executive Director of Operations Pedersen, Executive Director of Engineering and Planning Burton, Executive Director of Finance Cherney, Executive Director of Water Policy Heiertz, Treasurer/Assistant Director of Finance Jacobson, Secretary Bonkowski, Legal Counsel Arneson, Director of Public Affairs Beeman, Director of Human Resources Wells, Director of Water Resources Weghorst, Mr. Steve Malloy, Ms. Kirsten McLaughlin, Ms. Shannon Reed, Mr. Bruce Newell, Mr. Jacob Moeder, Mr. Jim Reed, Mr. Hal Furman, and Mrs. Sally Furman, and other members of the public and staff.

WRITTEN COMMUNICATION: None.

ORAL COMMUNICATION:

Mrs. Joan Irvine Smith's assistant addressed the Board of Directors with respect to the Dyer Road wellfield. She said it was her understanding that currently wells 1, 2, 4, 5, 6, 7, C-8, C-9, 10, 11, 12, 14, 16, 17 and 18 will operate in accordance with the District's annual pumping plan. Wells, 3 and 13 will be off. This was confirmed by Mr. Cook, General Manager of the District.

With respect to the Orange County Basin Groundwater Conjunctive Use Program being coordinated by Municipal Water District of Orange County (MWDOC) and Orange County Water District (OCWD), a Notice of Completion was approved by the OCWD Board of Directors on March 19, 2009. Metropolitan Water District has given notice to OCWD to extract 22,000 acre feet in fiscal year 2009/10. The extraction is being performed by agencies that constructed conjunctive use wells under this program. IRWD is not a participant. This was confirmed by Mr. Cook.

With respect to the OCWD annexation of certain IRWD lands, on June 5, 2009, IRWD received a letter from OCWD noting that OCWD has completed the formal responses to comments they previously received on the draft program Environmental Impact Report. The letter further noted that with this task completed, OCWD has exercised its right to terminate the 2004 Memorandum of Understanding (MOU) regarding annexation. OCWD also indicated that due to the lack of progress on the annexation issue, the draft program Environmental Impact Report will not be completed. On June 8, 2009, OCWD completed the Long-Term Facilities Plan which was received and filed by the OCWD

Board in July 2009. Staff has been coordinating with the City of Anaheim (Anaheim) and Yorba Linda Water District (YLWD) on their most recent annexation requests and has reinitiated the annexation process with OCWD. IRWD, YLWD and Anaheim have negotiated a joint MOU with OCWD to process and conduct environmental analysis of the annexation requests. The MOU was approved by the OCWD Board on July 21, 2010. This was confirmed by Mr. Cook.

With respect to the Groundwater Emergency Service Plan, IRWD has an agreement in place with various south Orange County water agencies, MWDOC and OCWD, to produce additional groundwater for use within IRWD and transfer imported water from IRWD to south Orange County in case of emergencies. IRWD has approved the operating agreement with certain south Orange County water agencies to fund the interconnection facilities needed to affect the emergency transfer of water. MWDOC and OCWD have also both approved the operating agreement. This was confirmed by Mr. Cook.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED: None.

PRESENTATIONS

PARTNER COMMENDATIONS

Mr. Paul Cook presented Certificates of Commendation to Mr. Hal Furman of The Furman Group, Inc., the District's consultant on Federal issues as well as Ms. Joan Arneson, of Bowie, Arneson, Wiles and Giannone, the District's legal counsel.

FEDERAL ISSUES UPDATE BY MR. HAL FURMAN

The District's consultant, Mr. Hal Furman, provided the Board with an update on Federal issues for 2012. Following discussion, staff was asked to schedule a workshop in August or September with Mr. Furman to discuss various scenarios for 2013.

CONSENT CALENDAR

On MOTION by Withers, seconded and unanimously carried, CONSENT CALENDAR ITEMS 5 THROUGH 16 WERE APPROVED AS FOLLOWS:

5. MINUTES OF REGULAR BOARD MEETING

Recommendation: That the minutes of the January 9, 2012 Regular Board Meeting be approved as presented.

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

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

CONSENT CALENDAR (CONTINUED)

7. STRATEGIC MEASURES DASHBOARD

Recommendation: That the Board receive and file the Strategic Measures Dashboard and information items.

8. DECEMBER 2011 FINANCIAL REPORTS

Recommendation: Receive and file the Treasurer's Investment Summary Report and the Monthly Interest Rate Swap Summary for December 2011; approve the December 2011 Disbursement Summary of Warrants Nos. 325443 through 326346, Workers' Compensation distributions, wire transfers, payroll direct deposit ACH payments, payroll withholding distributions and voided checks in the total amount of \$23,945,915.10.

9. RESOLUTION COMMENDING MR. IRV PICKLER

Recommendation: That the Board adopt the following resolution commending Mr. Irv Pickler for his dedicated service to the Orange County Water District.

RESOLUTION NO. 2012-3

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT, ORANGE COUNTY,
COMMENDING IRV PICKLER FOR DEDICATED SERVICE
TO ORANGE COUNTY WATER DISTRICT

10. 2012 STATE LEGISLATIVE UPDATE

Recommendation: Receive and file.

11. WATER SUPPLY ASSESSMENT FOR PLANNING AREA 33
(LOTS 105/107 AND 108) GENERAL PLAN AMENDMENT AND
ZONE CHANGE

Recommendation: That the Board approve the Water Supply Assessment for Planning Area 33 (Lots 105/107 and 108) General Plan Amendment and Zone Change.

12. VERIFICATION OF SUFFICIENT WATER SUPPLIES FOR SERRANO SUMMIT
(TENTATIVE TRACT MAP 17331)

Recommendation: That the Board approve the Verification of Sufficient Water Supplies for Serrano Summit (Tentative Tract Map 17331).

13. MICHELSON WATER RECYCLING PLANT PHASE 2 EXPANSION AND BIOSOLIDS AND ENERGY RECOVERY FACILITIES VARIANCES

Recommendation: That the Board authorize the General Manager to execute Variance No. 3, in the amount of \$30,000, with Environ for engineering services to complete the air permit application package for the Michelson Water Recycling Plant (MWRP) Biosolids and Energy Recovery Facilities, project 20847 (1617); authorize the General Manager to execute Variance No. 2, in the amount of \$71,810.40, with ARCADI-US/Malcolm Pirnie for construction management and inspection services for the MWRP Biosolids and Energy Recovery Facilities, project 20847 (1617); authorize the General Manager to execute Variance No. 10 in the amount of \$85,500 with Black & Veatch for engineering services for the MWRP Biosolids and Energy Recovery Facilities, project 20847 (1617); and authorize the General Manager to execute Variance No. 11 with VA Consulting for engineering services in the amount of \$74,000 for MWRP Flood Protection Improvement, projects 20542 (1150) and 30542 (1118).

14. BUREAU OF RECLAMATION WATERSMART GRANT APPLICATION FOR MICHELSON WATER RECYCLING PLANT MICROTURBINE SYSTEM PROJECT

Recommendation: That the Board authorize staff to apply for the Bureau of Reclamation WaterSMART grant with a maximum award of \$1.5 million in total funding to increase the use of renewable energy, energy use and efficiency water use, and commit to authorizing matching funds of at least 50 percent; agree to meet established deadlines for entering into a cooperative agreement; and adopt the following resolution by title authorizing submission of a grant application for Michelson Water Recycling Plant Microturbine System Project to the Department of Interior, Bureau of Reclamation, Policy and Administration.

RESOLUTION NO. 2012-4

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE RANCH WATER DISTRICT AUTHORIZING SUBMISSION OF A GRANT APPLICATION FOR MICHELSON WATER RECYCLING PLANT MICROTURBINE SYSTEM PROJECT TO THE DEPARTMENT OF INTERIOR, BUREAU OF RECLAMATION, POLICY AND ADMINISTRATION

15. PORTOLA ZONE 9 RESERVOIR ACCESS ROAD REPAIR – BUDGET ADDITION, EXPENDITURE AUTHORIZATION, AND CONSULTANT SELECTION

Recommendation: That the Board authorize the addition to the FY 2011-12 Capital Budget in the amount of \$94,600 for the Portola Zone 9 Reservoir Access Road Repair, project 11618 (3531); approve an Expenditure Authorization in the amount of \$94,600 for the Portola Zone 9 Reservoir Access Road Repair, project 11618 (3531); and authorize the General Manager to execute a consultant agreement in the amount of \$59,158 with NMG Geotechnical for the Portola Zone 9 Reservoir Access Road Repair, project 11618 (3531).

16. PLANNING AREA 40 CYPRESS VILLAGE PHASE 2 BUDGET, EXPENDITURE AUTHORIZATIONS, CONSTRUCTION CONTRACT, AND SUPPLEMENTAL REIMBURSEMENT AGREEMENT

Recommendation: That the Board authorize the addition of project 11605 (1346) for \$194,700 and project 31605 (1229) for \$216,700 to the FY 2011-12 Capital Budget; approve Expenditure Authorizations for project 11605 (1346) for \$194,700 and project 31605 (1229) for \$216,700; authorize the General Manager to execute a Supplemental Reimbursement Agreement with the Irvine Community Development Company (ICDC) for the design and construction of the IRWD facilities within Planning Area 40 Cypress Village; and approve a construction contract in the amount of \$232,900.55 to the Reimbursement Agreement with ICDC for Planning Area 40 Cypress Village to Construct Phase 2 IRWD Capital Facilities, projects 10605 (1346) and 31605 (1229).

ACTION CALENDAR

PLANNING AREA 18 ZONE 3-4 AND ZONE B-C BOOSTER PUMP STATIONS PRELIMINARY DESIGN REPORT CONSULTANT SELECTION

General Manager Cook reported that three booster pump stations are proposed to serve Planning Area 18 (PA 18): domestic water, emergency domestic water, and recycled water. The domestic water and emergency domestic water booster pump stations will deliver water from Zone 3 to Zone 4 while the recycled water booster pump station will deliver water from Zone B to Zone C.

Mr. Cook said that in early 2007, a Request for Proposals (RFP) for Professional Engineering Services for Capital Improvement Plans for PA 18 was awarded to R.W. Beck, Inc. for engineering services in the amount of \$421,972 to complete preliminary and final design of the domestic and recycled water pump stations. He further said that after completion of the PDR in early 2010, Irvine Community Development Company (ICDC) halted progress on the PA 18 development and final design was placed on hold. ICDC has since restarted new work on the development, and in September 2011, the PA 18 Sub-Area Master Plan (SAMP) was updated to reflect revised land uses and to assess the impacts the revised land uses have on the proposed domestic water, recycled water, and collections facilities serving the area.

Executive Director of Engineering and Planning Burton reported that the original agreement was issued to R.W. Beck, Inc. and that in November 2011, SAIC issued an Assignment of Agreement letter stating that they had acquired R.W. Beck. He said that since the execution of the original Professional Services Agreement, the terms and conditions of IRWD's Professional Services Agreement have been updated and staff recommends re-issuance of the Professional Services Agreement to SAIC.

Mr. Burton said that after the completion of the revised SAMP, staff requested a scope of work and fee from SAIC to update the PDR with the recent development changes, new pump station locations, and the inclusion of a new Zone 3 - 4 domestic water emergency booster pump station. Staff recommends authorizing SAIC to complete the preliminary design phase work and then anticipates placing the project on hold due to ICDC's intermittent progress on PA 18.

Director Reinhart said that this item was reviewed by the Engineering and Operations Committee on January 19, 2012. He said that at the meeting, it was decided that if the Board approved the item, that

staff would then send a letter to ICDC noting that if they cause changes in the District's PDR, the costs are to be borne by them. Following discussion, on MOTION by Reinhart, seconded and unanimously carried, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH SAIC ENERGY, ENVIRONMENTAL & INFRASTRUCTURES, LLC IN THE AMOUNT OF \$88,594 FOR ENGINEERING DESIGN SERVICES FOR THE PLANNING AREA 18 ZONE 3-4 AND THE ZONE B-C BOOSTER PUMP STATIONS PRELIMINARY DESIGN REPORT, PROJECTS 10446 (1648) AND 30446 (1063).

APPROVAL OF INDEX-BASED TENDER NOTE REMARKETING STATEMENTS

Executive Director of Finance Cherney reported that in April 2011, the District refunded its \$100.9 million 2008-B general obligation bond issue and reissued the debt as Index-based Tender Notes (ITNs). Ms. Cherney said that the ITNs are remarketed periodically and are priced at a spread to the SIFMA tax-exempt variable rate index. The initial interest rate set for the 2011 A-1 and 2011 A-2 issues was the SIFMA weekly index plus a four basis point spread. She said that remarketing agents responsible for remarketing the bonds include Goldman Sachs (2011 A-1) and Morgan Stanley (2011 A-2). The 2011 A-1 issue represents 60% of the ITNs and the 2011 A-2 represents the remaining 40%.

Mr. Cherney said that the Remarketing Statements have been prepared in consultation among staff, legal counsel and the remarketing agents, reflecting the District's most recent financial information, updated disclosure information and other pertinent updates. Legal counsel Arneson noted a date change for the unscheduled mandatory tender of the ITNs from February 2, 2012 to February 9, 2012 in the resolution as presented.

Director Swan reported that this item was reviewed by the Finance and Personnel Committee on January 12, 2012. He asked the Board to review their biographies in the bond disclosure document and to notify staff if there are any changes. On MOTION by Swan, seconded and unanimously carried, THE BOARD ADOPTED THE FOLLOWING RESOLUTION BY TITLE:

RESOLUTION NO. 2012-5

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE IRVINE RANCH WATER DISTRICT
APPROVING REMARKETING STATEMENTS RELATING TO
UNSCHEDULED MANDATORY TENDERS
(REFUNDING SERIES 2011A-1 AND REFUNDING SERIES 2011A-2)

GENERAL MANAGER'S REPORT

General Manager Cook reported that a check was received today in the amount of \$229,540 from the South Orange County Wastewater Authority for reimbursement of the design costs incurred on the Biosolids facility due to their decision not to partner with the District on this project as originally planned.

Mr. Cook reminded the Board of the January 30 Strategic Planning Workshop at 1:00 p.m. He said items to be discussed included the 2012 goals and objectives; a refresher on Form 700, Conflict of Interest; and District benefits focusing on the health component.

Mr. Cook said that on Thursday he will be speaking at the SARBS local branch relative to the District's collection system. Additionally, he said on Friday he will be participating on a panel at UCLA on the future of water relative to water banking.

Mr. Cook also reported that staff will be meeting with the Santiago Canyon Fire Department staff to update them on the District's water system.

DIRECTORS' COMMENTS

Director LaMar reported on his attendance at both the MWDOC's Public Affairs Committee meeting as well as its Board meeting. He said he will be attending this week's MWDOC/OCWD Joint Planning meeting, a Storm Water Task Force meeting, and the Future of Water conference at UCLA.

Director Reinhart said he attended various meetings representing the District.

Director Swan reported on his attendance at an OCBC Infrastructure Committee meeting, a San Joaquin Wildlife Sanctuary Board meeting with Director Matheis, and a three-day CASA conference. He said that on Thursday and Friday, he will be attending an ACWA Board meeting and planning session.

Director Withers reported that today he attended a Southern California group of LAFCO representatives relative to issues in the southern California region with Mr. Adam Probolsky speaking on social media. He said that this Wednesday he will be attending an OCSD Board meeting.

Director Matheis reported that she will be attending a Southern California Water Committee meeting this Friday, an ISDOC workshop this week, a Great Park groundbreaking ceremony, and that she is looking forward to attending a Legislative Day in Washington, DC in February.

Director Swan asked staff to include an item on Monday's Strategic Planning Workshop for an update on the recent meetings with TIC and developers on the District's Long-Term Financing Plan.

ADJOURNMENT

President Matheis adjourned the meeting to Monday, January 30, 2012 at 1:00 p.m. in the Multi-purpose Room to hold a Strategic Planning Workshop.

APPROVED and SIGNED this 13th day of February, 2012.

President, IRVINE RANCH WATER DISTRICT

Secretary, IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

Legal Counsel - Bowie, Arneson, Wiles & Giannone

EXHIBIT "B"

MINUTES OF ADJOURNED REGULAR MEETING – JANUARY 30, 2012

The adjourned regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 1:00 p.m. by President Matheis on January 30, 2012 in the District office, 15600 Sand Canyon Avenue, Irvine, California.

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

Directors Absent: None.

Also Present: General Manager Cook, Executive Director of Finance Cherney, Executive Director of Operations Pedersen, Executive Director of Engineering and Planning Burton, Executive Director of Water Policy Heiertz, Assistant Director of Finance/Treasurer Jacobson, Director of Human Resources Wells, Secretary Bonkowski, Legal Counsel Arneson, Director of Public Affairs Beeman, Mr. Paul Weghorst, Ms. Kirsten McLaughlin, Mr. Mark Tettemer, Ms. Shannon Reed, Mr. Wayne Clark, Mr. Brent Crane, Mr. Yannick Gagne, from Aon Hewitt, Mr. Marcus Wu from Hanson Bridgett, other staff and members of the public.

WRITTEN COMMUNICATION: None.

ORAL COMMUNICATION: None.

REVIEW AGENDA AND DESIRED OUTCOMES

General Manager Cook reviewed the agenda and desired outcomes.

WORKSHOP

RETIREMENT AND HEALTH BENEFITS STUDY

General Manager Cook reported that workshops have been held with the Finance and Personnel Committee and the Board, and that the health benefits aspects of the retirement and health benefits study will be held today, with a particular focus on establishing objectives for the District's health benefits program.

Using a PowerPoint presentation, Mr. Brent Crane of Aon Hewitt provided an evaluation of the options for a health benefits package. Using a chart, he reviewed a forecast of historical and projected medical costs from 2011 through 2015. In response to Director Withers comment, Mr. Crane said that benchmarking other agencies will be performed in the next phase of work to be performed.

Mr. Crane reviewed and received Board input on the health care strategy and objectives identified by the Finance and Personnel Committee as follows: 1) focus efforts on managing future cost increases rather than reducing its current costs for health care and also pursue opportunities to optimize delivery of its current benefits; 2) leverage purchasing of medical

benefits through a large purchasing coalition such as CalPERS, ACWA Health Plans, state or private exchanges; 3) offer at least one medical plan option that has minimal impact on the existing employee contribution levels; 4) provide a health and benefits program where cost sharing between employees and the District is fair to both groups and appropriate based on what is offered by employers against which the District competes for talent; 5) introduce features to promote and support health and wellness which will enhance employee performance and satisfaction, which in turn will provide a benefit to the District in terms of reduced sick time and improved productivity; and 6) develop a program that ensures easy compliance with Health Care Reform and allows the ability to take advantage of opportunities stemming from that reform.

Mr. Crane further reviewed wellness incentivized plans including: 1) each participant must be enrolled in an approved wellness program and would receive “credits or reduced co-pay” for engaging in certain wellness activities; 2) features to improve benefits of a wellness program, such as annual physicals and employee contribution credits; 3) stand-alone wellness management products available in the market; and 4) return on reduced sick time.

CLOSED SESSION

President Matheis said that a Closed Session would be held with legal counsel as follows: 1) Anticipated litigation – significant exposure to litigation pursuant to Government Code Section 54956.9(b) (one or more potential cases), and 2) Anticipated litigation – initiation of litigation pursuant to Government Code Section 54956.9(c) (one or more potential cases).

OPEN SESSION

Following the Closed Session, the meeting was reconvened with Directors Swan, LaMar, Reinhart, Withers, and Matheis present. No action was reported.

LONG-TERM CAPITAL FINANCING PLAN

Executive Director of Finance Cherney reported that each year an analysis of the District’s existing and future connection fees and property tax rates is prepared and presented to the Board for its consideration. Ms. Cherney said that over the course of the last few years, staff has identified several issues of emerging significance as the District approaches build-out. She said that the Irvine Company (TIC) has raised issues regarding the sustainability and fundamental fairness in the capital funding objectives and the application thereof. In the last two years, the Building Industry Association of Orange County (BIA) and the NAIOP Commercial Real Estate Development Association (NAIOP) have joined the discussion, expressing similar concerns. Ms. Cherney said that in March 2012, staff will submit an item to the Finance and Personnel Committee which will address a number of the items, including defining the current state and staff’s view of the sustainability of the current model without change, including key fiscal metrics such as capital fund balances, remaining general obligation bond authorization, annual debt service requirements and expected rate and fee changes needed in the future. She further said that staff will propose some changes to the capital definitions and provide an analysis of bringing the non-bond funded improvement districts into the regional capital split.

IRWD 2012 GOALS AND OBJECTIVES

General Manager Cook reviewed *IRWD's Mission, Vision and Values*. Following discussion, staff was asked to delete the Vision statement with a statement for Water Resources to be included under Values. Under the Strategic Objectives, edits were made on the new section entitled Water Policy. The draft Goals and Objectives were reviewed with comments received from the Board as follows: 1) IRWD Groundwater Development Program - Director Swan said that along with staff, he requested that discussions with OCWD regarding how IRWD's Total Water Demand is calculated be accelerated; 2) Employee training - Director Swan commented on the importance of the training courses as outlined; 3) Performance Management - Director Swan asked that that a demonstration of the proposed performance appraisal program be brought to the Finance and Personnel Committee for review; 4) Biosolids - General Manager Cook was asked to contact Moulton Niguel Water District as Director Swan said that SOCWA may now be reconsidering its position on partnering with the District on the biosolids dryer facility; 5) San Diego Creek Flood Protection for the Michelson Water Recycling Plant - Director Swan asked staff to send a letter to the County with a copy to the City of Irvine relative to its responsibility to perform maintenance in the San Diego Creek to maintain flow capacity for flood protection. Additionally, staff was asked to investigate the feasibility of a storm water demonstration project, such as the San Diego Creek watershed. Director Swan left the meeting at 5:03 p.m. Director Withers left at 5:08 p.m.

FPPC FORM 700 – STATEMENT OF ECONOMIC INTERESTS REFRESHER TRAINING

Legal Counsel Arneson reviewed the FPPC Form 700 with the Board including some frequently asked questions on how information should be presented correctly on the FPPC's Form 700. Director LaMar left at 5:23 p.m.

ADJOURNMENT

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

APPROVED and SIGNED this 13th day of February, 2012.

President, IRVINE RANCH WATER DISTRICT


Secretary IRVINE RANCH WATER DISTRICT


APPROVED AS TO FORM:

Legal Counsel - Bowie, Arneson, Wiles & Giannone

February 13, 2012

Prepared and

Submitted by: N. Savedra 

Approved by: P. Cook 

CONSENT CALENDAR

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

SUMMARY:

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

Events/Meetings

Steven LaMar

1/27/12 UCLA-The Future Water in Southern California Seminar
1/31/12 Great Park Neighborhood Groundbreaker
2/02/12 MWDOC Water Policy Forum

Mary Aileen Matheis

1/14/12 Annual Korean Cultural Festival Luncheon
1/27/12 Southern California Water Committee Quarterly Meeting
1/31/12 Great Park Neighborhood Groundbreaker
2/02/12 SAWPA Climate Change Workshop
2/17/11 ACWA Regional Informational Forum
2/27-28/12 ACWA 2012 Washington, D.C. Conference
2/29-3/2/12 Water Education Foundation – Sierra Water Tour

Douglas Reinhart

1/25/12 South County Group Meeting at Moulton Niguel Water District
2/02/12 MWDOC Water Policy Forum
2/17/12 ACWA Regional Informational Forum

Peer Swan

2/08/12 ACWA Water Management Committee Meeting
2/27-3/1/12 ACWA 2012 Washington, D.C. Conference

John Withers

1/25/12 Orange County Sanitation District Board Meeting
1/27/12 Southern California Water Committee Quarterly Meeting
1/31/12 Great Park Neighborhood Groundbreaker
2/02/12 MWDOC Water Policy Forum
2/09/12 OCBC Annual Installation of Directors

RECOMMENDATION:

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

LIST OF EXHIBITS:

None

February 13, 2012
Prepared and
Submitted by: K. McLaughlin
Approved by: Paul Cook

CONSENT CALENDAR

RESOLUTION COMMENDING ED ROYCE, SR. FOR HIS
DEDICATED SERVICE TO THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

SUMMARY:

Mr. Ed Royce, Sr. retired as Board member from the Municipal Water District of Orange County (MWDOC) on February 1, 2012. Irvine Ranch Water District wishes to express its sincere appreciation to Mr. Royce for his many years of exemplary leadership and outstanding service to his community during his tenure at MWDOC and has prepared a resolution (provided as Exhibit "A") for adoption.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE BOARD ADOPT THE FOLLOWING RESOLUTION BY TITLE:

RESOLUTION NO. 2012 –

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT,
ORANGE COUNTY, CALIFORNIA COMMENDING
ED ROYCE, SR. FOR HIS DEDICATED SERVICE TO
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

LIST OF EXHIBITS:

Exhibit "A" – Resolution

EXHIBIT "A"

RESOLUTION NO. 2012-

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT,
ORANGE COUNTY, CALIFORNIA COMMENDING
ED ROYCE, SR. FOR DEDICATED SERVICE TO
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

WHEREAS, effective February 1, 2012, Mr. Ed Royce, Sr. will retire from the Municipal Water District of Orange County (MWDOC) Board of Directors, of which the Irvine Ranch Water District is a member agency; and

WHEREAS, Mr. Royce served as an elected member of the MWDOC Board from 1998 to 2012 and during this time served terms as Board President and Vice President and chaired the Board's Planning and Operations and Public Affairs & Legislation Committees; and

WHEREAS, Mr. Royce's leadership and advocacy for efficient water use, budget based water rates and water education has helped pave the way for the implementation of a variety of innovative water resources projects; and

WHEREAS, Mr. Royce's long history of public service includes serving on: the Stanton City Council, including terms as Mayor and Mayor Pro-Tem; the Stanton Planning Commission; as Vice-Chair of the Water Advisory Committee of Orange County; as a member of the Metropolitan Water District of Southern California Board; and as a regional Board Member for the Association of California Water Agencies; and

WHEREAS, Mr. Royce's dedication to his community is exemplified by his service as a Commissioner on the Orange County Library Commission, a Board Member of the Veteran's Charities of Orange County, and through his service in the United State Army.

NOW, THEREFORE, BE IT RESOLVED: The Board of Directors of Irvine Ranch Water District wishes to commend and express its sincere appreciation to Mr. Royce for his exemplary leadership and outstanding service to his community during his tenure at MWDOC.

ADOPTED, SIGNED AND APPROVED this 13rd day of February, 2012.

President, Irvine Ranch Water District
and of the Board of Directors thereof

Secretary, Irvine Ranch Water District and
of the Board of Directors thereof

February 13, 2012

Prepared by: R. Sundberg/M. Cortez

Submitted by: K. Burton

Approved by: Paul Cook

CONSENT CALENDAR

CULVER DRIVE/WALNUT AVENUE INTERSECTION
CAPITAL IMPROVEMENT PROJECT
FINAL ACCEPTANCE

SUMMARY:

The Culver Drive widening project was completed by Sequel Contractors, Inc. This project has received final inspection and acceptance of the project by the Board is recommended.

BACKGROUND:

On September 13, 2010, the Board awarded a construction contract to Sequel Contractors, Inc. for the Culver Drive/Walnut Avenue Intersection Improvement Project. Under this project, miscellaneous existing IRWD facilities were relocated to accommodate the City of Irvine's project to widen Culver Drive from Walnut to Scottsdale, near Interstate 5.

Project Title:	Culver Drive/Walnut Avenue Intersection Capital Improvement Project
Project No.:	11540 (1055)
Design Engineer:	Civil Source/ VA Consulting
Contractor:	Sequel Contractors, Inc.
Original Contract Cost:	\$86,520
Final Contract Cost:	\$112,236.51
Original Contract Days:	N/A
Final Contract Days:	N/A
Total Budget:	\$244,200
Total Project Cost (Est.):	\$230,000
Final Change Order Approved On:	May 24, 2011

FISCAL IMPACTS:

Project 11540 (1055) is included in the FY 2011-12 Capital Budget. The existing budget and Expenditure Authorization are sufficient to complete this project.

ENVIRONMENTAL COMPLIANCE:

The City of Irvine is the lead agency for California Environmental Quality Act (CEQA) compliance, with IRWD as the responsible agency. The City of Irvine complied with CEQA by filing the following documents, Culver Drive/Walnut Avenue Intersection, CIP 315180 (PR11540) – Negative Declaration, March 23, 2007.

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD ACCEPT CONSTRUCTION OF THE CULVER DRIVE/WALNUT AVENUE INTERSECTION CAPITAL IMPROVEMENT PROJECT 11540 (1055); AUTHORIZE FILING OF A NOTICE OF COMPLETION; AND AUTHORIZE THE PAYMENT OF THE RETENTION 35 DAYS AFTER THE DATE OF RECORDING THE NOTICE OF COMPLETION.


LIST OF EXHIBITS:

None.

February 13, 2012

Prepared by: R. Shum/P. Uematsu

Submitted by: K. Burton

Approved by: Paul Cook 

CONSENT CALENDAR

WELLS 21 AND 22 DESALTER PROJECT REDUCTION OF RETENTION

SUMMARY:

In June 2010, Pascal & Ludwig Constructors was awarded a construction contract for \$14,152,587 to construct the Wells 21 and 22 Desalter. Work is 54% complete and the contractor has requested that the retention being withheld by IRWD be reduced from 10% to 5%. Staff recommends that the Board authorize the reduction in the contractor's retention for this project.

BACKGROUND:

The Wells 21 and 22 Project, located in the City of Tustin, is being constructed under three separate construction contracts: the treatment plant, the offsite pipelines, and the wellhead facilities. The plant will provide reverse osmosis treatment for seven million gallons per day of groundwater extracted from Wells 21 and 22. The project is receiving 25% matching funds, up to a maximum of \$11,700,000, in Title XVI funding through the United States Bureau of Reclamation (USBR) from the American Recovery and Reinvestment Act of 2009 (ARRA).

Board approval is required to reduce retention from 10% to 5%. The General Provisions state:

“At any time after 50% of the work has been satisfactorily completed and if the District determines that aggressive progress will continue to a timely completion of the work, the District may pay any of the remaining progress payments in full for actual work completed.”

Staff has reviewed the contractor's request and verified that it is currently working at a pace to complete the contract work prior to the contract completion date. Pascal & Ludwig Constructors has consistently maintained good construction progress throughout the project duration.

FISCAL IMPACTS:

No adjustments are required to the FY 2011-2012 Capital Budget and Expenditure Authorization for the Wells 21 and 22 Desalter Project, Project 10286 (1081).

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act. In conformance with the California Code of Regulations Title 14, Chapter 3, Section 15004, a Mitigated Negative Declaration was adopted February 8, 2010. To fulfill requirements of the American Recovery and Reinvestment Act of 2009, the project is also subject to compliance with the National

Environmental Policy Act (NEPA). An Environmental Assessment was prepared to achieve NEPA compliance for the project and the USBR has adopted a Categorical Exemption for the project.

COMMITTEE STATUS:

This item was not reviewed by Committee.

RECOMMENDATION:

THAT THE BOARD FIND THAT SATISFACTORY PROGRESS IS BEING MADE ON THE DISTRICT'S CONSTRUCTION CONTRACT WITH PASCAL & LUDWIG CONSTRUCTORS; AUTHORIZE THE REDUCTION OF RETENTION FROM 10% TO 5% OF THE CONTRACT AMOUNT; AND RELEASE FUNDS IN EXCESS OF 5% OF THE CONTRACT AMOUNT FROM RETENTION CURRENTLY HELD FOR THE WELLS 21 AND 22 DESALTER, PROJECT 10286 (1081).

LIST OF EXHIBITS:

None.

February 13, 2012

Prepared by: Rob Jacobson

Submitted by: Debby Cherney

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

CONSENT CALENDAR

ASSET OPTIMIZATION – LAKE FOREST PROPERTY SERRANO SUMMIT COMMUNITY FACILITIES DISTRICT FORMATION

SUMMARY:

The July 2008 Development Agreement (DA) between IRWD and the City of Lake Forest (City), which resulted in a zone change and general plan amendment (GPA) for a portion of the District's Lake Forest / Serrano Summit property, provides for the formation of a Community Facilities District (CFD) to finance future developer infrastructure costs and public facilities fees. Approval by the City and the District of certain CFD-related agreements is required to establish the Financing District. The primary agreements necessary to form the CFD are provided for review and staff recommends the Board adopt a resolution approving these and other related documents, as well as authorize execution of the agreements as stated.

BACKGROUND:

After more than five years of analyses, discussions and negotiations between certain landowners in the "Opportunity Study Area" (OSA) and the City of Lake Forest, the City approved an Environmental Impact Report (EIR), general plan amendment (GPA) and zoning changes for the OSA projects. In July 2008, the IRWD Board approved the related DA, which was subsequently approved by the City Council in August 2008.

Since then, District staff has retained various consultants (entitlement, architect, civil engineer, landscape architect, etc.) to plan and design a future residential development on the site that will include up to 608 units, neighborhood and passive parks, a city hall and civic center complex, and IRWD operating facilities. The tentative tract map (TTM) depicting the future neighborhood areas, the corresponding Area Plan and project-specific EIR were approved by the City Council on February 7, 2012. Formation of a CFD for the residential portion of the Serrano Summit property has been processed concurrently with the TTM package to provide a financing option for future infrastructure costs and development fees required for residential development. The City Council is scheduled to review the proposed Serrano Summit CFD formation at its February 21, 2012 meeting.

Community Facilities District Formation:

Included in the DA between the City and the District is a provision to form a Financing District to provide future CFD funding of certain developer improvements and related public facilities fees. As required in the DA, the District submitted its application to form the Financing District within 30 days of submitting its tentative map package to the City. Once formed, the CFD will be fully transferable, and the ability to finance future infrastructure costs will enhance the Serrano Summit project value for potential buyers of the site. The eventual sale of CFD bonds is

solely at the discretion of IRWD, or the future land owner/developer, and will likely take place at, or after, the time building permits are requested for the project.

Staff, the District's CFD legal counsel (O'Neil LLP) and general counsel (Bowie, Arneson), and the City's finance team have completed the draft agreements necessary for CFD formation. The formation process included a detailed price point study projecting future home sale prices to establish maximum funding amounts for the Serrano Summit CFD and completion of the Rate and Method of Apportionment outlining expected special tax rates and methods of taxation for the property. Priority of funds from a future CFD bond sale(s) will be first to the City for required public facilities fees, second to the City for required traffic improvements costs and third to Saddleback Valley Unified School District (SVUSD) for school fees negotiated with the OSA participants. Remaining CFD proceeds, if available, can then be allocated by the developer at their discretion for other allowable uses.

Draft copies of the primary formation documents including the Funding Agreement and Implementing Agreement between IRWD and the City are attached as Exhibits "B" and "C", respectively. Staff recommends the Board's approval and authorization to execute these and related CFD documents in substantially the form submitted as stated in the attached resolution. Copies of all CFD documents referenced in the resolution are on file with the District Secretary.

Joint Community Facilities Agreements:

The CFD formation also includes Joint Community Facilities Agreements (JCFAs) between SVUSD and the City, as well as IRWD and the City. The JCFAs are required to facilitate any payment of CFD proceeds to SVUSD for required school fees, and to IRWD for potential reimbursement of certain in-tract water and wastewater improvements if funds are available. The JCFA with IRWD prohibits use of CFD proceeds to finance connection fees or IRWD off-site capital costs. A draft copy of the JCFA with IRWD is attached as Exhibit "D".

FISCAL IMPACTS:

The current approved Capital Budget amount for Project No. 1264 (formerly #11116), Asset Optimization – Lake Forest Property, is \$4,564,020. Proceeds and property tax requirements of the planned CFD cannot be determined at this time.

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA) and in conformance with the California Code of Regulations Title 14, Chapter 3, Article 7, an Environmental Impact Report is being prepared by the City of Lake Forest.

COMMITTEE STATUS:

This item was reviewed by the Asset Management Committee on January 31, 2012.

RECOMMENDATION:

That the Board adopt the following resolution by title authorizing the approval of documents related to formation of the Lake Forest Community Facilities District No. 2010-1 (Serrano Summit):

RESOLUTION NO. __

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE IRVINE RANCH WATER
DISTRICT APPROVING THE JOINT COMMUNITY FACILITIES AGREEMENT,
IMPLEMENTING AGREEMENTS AND OTHER DOCUMENTS AND APPROVING
CERTAIN ACTIONS RELATING TO CITY OF LAKE FOREST COMMUNITY FACILITIES
DISTRICT NO. 2010-1 (SERRANO SUMMIT)**

LIST OF EXHIBITS:

- Exhibit “A” – Resolution
- Exhibit “B” – CFD Funding Agreement
- Exhibit “C” – CFD Implementing Agreement
- Exhibit “D” – Joint Community Facilities Agreement – IRWD/Lake Forest

Exhibit "A"

RESOLUTION NO. __

RESOLUTION OF THE BOARD OF DIRECTORS OF THE IRVINE RANCH WATER DISTRICT APPROVING JOINT COMMUNITY FACILITIES AGREEMENT, IMPLEMENTING AGREEMENTS AND OTHER DOCUMENTS AND APPROVING CERTAIN ACTIONS RELATING TO CITY OF LAKE FOREST COMMUNITY FACILITIES DISTRICT NO. 2010-1 (SERRANO SUMMIT)

WHEREAS, the Irvine Ranch Water District ("IRWD") owns that certain real property located on approximately 98.9 acres of land (the "Property") in the City of Lake Forest (the "City"); and

WHEREAS, the portion of the Property commonly known as "Serrano Summit" is subject to a Development Agreement by and between IRWD and the City, recorded in the Orange County Recorder's Office on October 22, 2008, as amended (the "Development Agreement"); and

WHEREAS, IRWD, as the owner of the Property, intends to obtain, or has obtained, the necessary development approvals to construct up to 833 residential units on the Serrano Summit portion of the Property and to provide the required infrastructure for such units, including certain in-tract facilities to be owned and operated by IRWD (in its capacity as the provider of water, sewer, recycled water and natural treatment system improvements), all or a portion of which may be financed through the CFD; and

WHEREAS, as contemplated in the Development Agreement, the City is in the process of establishing a community facilities district over and including the Property, to be known as the "City of Lake Forest Community Facilities District No. 2010-01 (Serrano Summit)" (the "CFD"), with three improvement areas (individually, an "Improvement Area" and, collectively, the "Improvement Areas"), pursuant to the provisions of the Mello-Roos Community Facilities Act of 1982, Chapter 2.5 (commencing with Section 53311) of Part 1 of Division 2 of Title 5 of the California Government Code (the "Act"), for the purpose of selling bonds, in one or more series, with respect to each Improvement Area (the "Bonds"), in an amount sufficient to finance the acquisition of land and improvements thereon for public use, including the design, planning, engineering, installation, and construction of certain public facilities and improvements, to be owned, operated or maintained by the City, Saddleback Valley Unified School District (the "School District"), IRWD (in its capacity as the provider of water, sewer, recycled water and natural treatment system improvements) and other local agencies, or certain fee obligations in respect of public facilities other than the IRWD facilities (collectively, the "Public Facilities"), necessary to the development of the Serrano Summit portion of the Property; and

WHEREAS, such CFD formation proceedings will include elections within each Improvement Area on (i) the question of the issuance of the Bonds to finance the installation and construction or acquisition of the Public Facilities, (ii) the question of the annual levy of the special taxes within each Improvement Area to pay the principal of and interest on the Bonds, annual administrative expenses in levying and collecting such special taxes, fees of fiscal agents and paying agents, and any necessary replenishment of reserve funds for such Bonds, and (iii) the question of the establishment of an appropriations limit for each Improvement Area; and

WHEREAS, Section 53316.2 of the Act authorizes IRWD (in its capacity as the provider of water, sewer, recycled water and natural treatment system improvements) to assist in the financing of the acquisition and/or construction of IRWD's portion of the Public Facilities, by entering into a joint community facilities agreement by and between IRWD and the City, pursuant to which the CFD, when formed, will be authorized to finance the construction and/or acquisition of IRWD Public Facilities and the responsibility for providing for and operating the IRWD Public Facilities will be delegated to IRWD; and

WHEREAS, under the same provisions of Section 53316.2, in a similar fashion the School District and the City will enter into a joint community facilities agreement, at the request of IRWD in its capacity as the owner of the Property, to provide for the CFD to finance the Serrano Summit portion of the Property's obligations with respect to school facilities mitigation fees; and

WHEREAS, the Development Agreement contemplates that implementing agreements may be entered into to assist in the implementation of IRWD's obligation to pay certain City and County fees for transportation and other community facilities and in the financing of such fees through the formation of the CFD, and to assist in implementing IRWD's assignment of its rights and obligations under the Development Agreement; and

WHEREAS, IRWD and the School District have entered into that certain School Facilities Funding and Mitigation Agreement dated as of May 13, 2008 (the "Mitigation Agreement") and desire to enter into an implementing agreement to implement the general terms of the Mitigation Agreement with respect to the financing of school facilities mitigation fee amounts with the proceeds of the Bonds issued for each Improvement Area; and

WHEREAS, Section 53313.5 of the Act provides that a community facilities district may finance the purchase of facilities completed after the adoption of the resolution of formation establishing the community facilities district if the facilities have been constructed as if they had been constructed under the direction and supervision, or under the authority of, the local agency whose governing body is conducting proceedings for the establishment of the district, and it is proposed that IRWD enter into a funding agreement with the City to provide for the CFD to finance the acquisition of public land and public improvements and the design, planning, engineering, financing, installation, and construction of the Public Facilities and expenses incidental thereto in accordance with such provisions of Section 53313.5; and

WHEREAS, it is intended that under the agreements and documents herein provided for, IRWD's rights and obligations as owner of the Serrano Summit portion of the Property (but not its rights and obligations in its capacity as the provider of water, sewer, recycled water and natural treatment system improvements) will be assignable by IRWD to a successor owner(s) of the Serrano Summit portion of the Property; and

WHEREAS, the form of a petition by IRWD to the City Council of City has been presented to this meeting, requesting that the City Council initiate proceedings for the formation of the CFD under the Act and for the issuance of the Bonds in an amount not to exceed \$40,000,000 for Improvement Area No. 1, \$60,000,000 for Improvement Area No. 2, and \$35,000,000 for Improvement Area No. 3, and consenting to the levy of special taxes on the

Serrano Summit portion of the Property in amounts sufficient to pay the aggregate amount of the principal of and interest coming due each year on the Bonds and the costs incidental thereto (the "Petition") and;

WHEREAS, pursuant to Section 53317(f) of the Act, an owner that is a public agency may state in the formation proceedings that its property within a proposed community facilities district is intended to be transferred to private ownership and will be subject to special taxes on the same basis as private property in the proposed district, and may affirmatively waive any defense that it may have, as a result of public ownership, to any action to foreclose on the property in the event of non-payment of special taxes; and

WHEREAS, the form of a representation has been presented to this meeting, to serve as IRWD's statement, within the meaning of Section 53317(f) of the Act, as to its intention to transfer the Property to private ownership (except (i) approximately 19.1 pad acres that is being improved and operated by IRWD as the Baker Water Treatment Plant, (ii) if and to the extent a portion of the Property is dedicated to and accepted by the City as a civic center site as contemplated in the Development Agreement, such civic center site, and (iii) any acreage within the Property that may be dedicated or conveyed as parks and/or other public use sites) (the "Ownership Statement"); and

WHEREAS, the form of a waiver of certain election procedures with respect to landowner voter elections within and for the CFD has been presented to this meeting, waiving statutory time limits and consenting to shortened times for the holding of elections; waiving requirements for mailing of notices and sample ballots; waiving impartial analysis, ballot arguments, rebuttals and Elections Code tax statements; waiving time limits and requirements for mailing of official ballots and ballot pamphlets and consenting to the delivery of the official ballots by the City Clerk; and representing that the waived procedural requirements are unnecessary because IRWD as the Property owner has received sufficient information to enable its representative to vote in said elections (the "Waiver"); and

WHEREAS, the forms of the official ballots with respect to the landowner voter elections within and for each Improvement Area of the CFD have been presented to this meeting (the "Official Ballots"); and

WHEREAS, the form of a joint community facilities agreement among IRWD (in its capacity as the provider of water, sewer, recycled water and natural treatment system improvements), the City and IRWD (in its capacity as the owner of the Property) (the "IRWD JCFA") has been presented to this meeting; and

WHEREAS, the forms of an implementing agreement between the City and IRWD, including therein the form of an assignment and assumption agreement (the "City Implementing Agreement") and an implementing agreement between the School District and IRWD, (the "School District Implementing Agreement") have been presented to this meeting;

WHEREAS, the form of a funding agreement between the City and IRWD (the "Funding Agreement") has been presented to this meeting;

WHEREAS, this Board desires to authorize the execution and delivery of any and all documents and instruments and the performance of any and all acts and things necessary or proper for carrying out the transactions contemplated by this resolution.

NOW, THEREFORE, the Board of Directors of IRWD DOES HEREBY RESOLVE, DETERMINE AND ORDER as follows:

Section 1. The IRWD JCFA, the City Implementing Agreement, the School District Implementing Agreement, and the Funding Agreement are hereby approved in the respective forms presented to this meeting, and the President and Secretary, or the General Manager of IRWD, as specified in each of such forms, are authorized and directed to execute them substantially in such form, with such changes, insertions and deletions as are approved by such persons signing and/or attesting.

Section 2. The General Manager is authorized and directed to execute the Petition, the Ownership Statement, the Waiver and the Official Ballots, substantially in the forms presented to this meeting, with such changes, insertions and deletions as he may approve.

Section 3. The President, the Treasurer, the Secretary, each other officer of IRWD, and the General Manager, each acting singly, be and each of them hereby is authorized and directed to execute and deliver any and all documents and instruments and to do and cause to be done any and all acts and things necessary or proper for carrying out the transactions contemplated by this resolution, the IRWD JCFA, the City Implementing Agreement, the School District Implementing Agreement and the Funding Agreement.

ADOPTED, SIGNED AND APPROVED this ____ day of _____, 2012.

President/Vice President
IRVINE RANCH WATER DISTRICT
and of the Board of Directors
thereof

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

APPROVED AS TO FORM:

BOWIE, ARNESON,
WILES & GIANNONE
Legal Counsel - IRWD

By _____

00162414/ 020712

Exhibit "B"

FUNDING AGREEMENT

Relating to

CITY OF LAKE FOREST

COMMUNITY FACILITIES DISTRICT NO. 2010-01

(SERRANO SUMMIT)

Between

THE CITY OF LAKE FOREST

and

IRVINE RANCH WATER DISTRICT

February 1, 2012

FUNDING AGREEMENT

COMMUNITY FACILITIES DISTRICT NO. 2010-01 (SERRANO SUMMIT)

This FUNDING AGREEMENT (the "Agreement") is entered into the 1st day of February, 2012 by and between the CITY OF LAKE FOREST, a municipal organization organized and operating under the laws of the State of California (the "City"), and Irvine Ranch Water District, a California water district, (in its capacity as the owner of the Property, "Owner").

RECITALS

A. Owner owns that certain real property located on approximately 98.9 acres of land (the "Property") located in the City of Lake Forest. Approximately 82 acres of the Property is commonly known as "Serrano Summit" and is subject to a Development Agreement recorded in the Orange County Recorder's Office on October 22, 2008, by and between the City and Owner, as supplemented by an Implementing Agreement, between the City and Owner, dated as of February 1, 2012 and that Agreement for Implementation to the Development Agreement dated April 25, 2011, (together, the "Development Agreement").

B. The City, is in the process of establishing a community facilities district with up to three or more improvement areas (individually, an "Improvement Area" and, collectively, the "Improvement Areas") pursuant to the provisions of Chapter 2.5 (commencing with § 53311) of Part 1 of Division 2 of Title 5 of the Government Code, commonly known as the "Mello-Roos Community Facilities Act of 1982" (the "Act"), over and including the Property for the purpose of selling bonds, in one or more series, with respect to each Improvement Area (the "Bonds), in an amount sufficient to finance the acquisition of land and improvements thereon for public use, and the design, planning, engineering, installation, and construction of certain public facilities and improvements, to be owned, operated or maintained by (i) the City (the "City Facilities"), and (ii) Saddleback Valley Unified School District (the "School District"), the Irvine Ranch Water District (in its capacity as the provider of water, sewer, recycled water and natural treatment system improvements, "IRWD") and such other local agencies, as reasonably approved by the City in accordance with the Act (the "JCFA Facilities" and together with the City Facilities, the "Public Facilities"). The Public Facilities are generally described in Exhibit A attached hereto, which Public Facilities are necessary to the development of the Serrano Summit portion of the Property. Said community facilities district shall be known as, and each Improvement Area shall be a part of, the "City of Lake Forest Community Facilities District No. 2010-01 (Serrano Summit)" (the "District").

C. Section 53313.5 of the Act provides that a community facilities district may finance the purchase of facilities completed after the adoption of the resolution of formation establishing the community facilities district if the facilities have been constructed as if they had been constructed under the direction and supervision, or under the authority of, the local agency whose governing body is conducting proceedings for the establishment of the District.

D. The purpose of this Agreement is to provide for the levy of special taxes of each Improvement Area (the "Special Taxes") and the issuance and sale of the Bonds of the District secured by the Special Taxes to finance the acquisition of public land and public improvements, and the design, planning, engineering, financing, installation, and construction of the Public Facilities and expenses incidental thereto.

E. Capitalized terms used herein and not otherwise defined shall have the meaning set forth in Exhibit E attached hereto and by this reference herein incorporated.

AGREEMENTS

NOW, THEREFORE, in consideration of the preceding recitals and the mutual covenants hereinafter contained, the parties agree as follows:

Section 1. Establishment of District. The City has initiated proceedings pursuant to the Act for the establishment of the District. Such proceedings include elections within each Improvement Area pursuant to Sections 53326, 53350 and 53353.5 of the Act on (i) the question of the issuance of the Bonds for each Improvement Area of the District to finance the acquisition of public land and public improvements, and the design, planning, engineering, construction management, and financing and the installation and construction or acquisition of the Public Facilities, (ii) the question of the annual levy of the Special Taxes within each Improvement Area on those portions of the Property subject to the Special Taxes to pay directly for the Public Facilities and to pay the principal of and interest on the Bonds of each Improvement Area and the annual administrative expenses of the City and the District in levying and collecting such Special Taxes, paying the principal and interest on such Bonds and providing for the registration, exchange and transfer of such Bonds, including the fees of fiscal agents and paying agents, and any necessary replenishment of the reserve fund for such Bonds, and (iii) the question of the establishment of an appropriations limit for each Improvement Area. All of the Public Facilities shall be authorized to be financed with the proceeds of Special Taxes and Bonds of any Improvement Area.

From time to time prior to the issuance of the Bonds for an Improvement Area, at the written request of Owner, and subject to Owner advancing funds as determined by the City as necessary to pay all costs related thereto in accordance with Section 2 below, the City shall use its best efforts to undertake proceedings which may be deemed necessary to amend the Rate and Method applicable to such Improvement Area or to amend the boundaries of such Improvement Area.

Section 2. Sale of Bonds. Upon Owner's written request, the City shall use its reasonable best efforts, as hereinafter provided, to sell Bonds, in one or more series, for each of the Improvement Areas in accordance with the provisions of this Agreement and the Financing District Policy. Each series of Bonds is expected to have an escalating debt service amortization schedule matching the annual escalation of the Special Taxes and for a term of not less than thirty (30) years nor more than thirty-five (35) years, for the purpose of raising an amount sufficient to pay for the acquisition of lands for public use and public improvements, and the design, planning, engineering, construction management, and financing, and the installation and construction or acquisition of the Public Facilities. In connection with the issuance of the first

series of Bonds for each Improvement Area, the City on behalf of itself and the District shall establish criteria for the issuance of Additional Bonds for such Improvement Area which meet the criteria of the Financing District Policy. The timing of the issuance and sale of each series of Bonds, the aggregate principal amount thereof, and the terms and conditions upon which they shall be sold shall be as set forth in this Agreement and otherwise as determined by the City in its reasonable discretion after consultation with Owner. Not by way of limitation of the foregoing, the timing of the issuance and sale of the first series of Bonds and any Additional Bonds shall be as soon as reasonably practicable, as determined by the City in consultation with its financial advisor, underwriter and other consultants and counsel after written request from Owner. Owner shall use its reasonable best efforts to cooperate with City in connection with any Bond sale.

Section 3. Advance of Certain Expenses. Pursuant to a Landowner Deposit Agreement, dated November 7, 2009 between the City and Owner (the "Deposit Agreement"), Owner shall pay and advance all of the costs reasonably associated with the establishment of the District. After the establishment of the District, Owner shall deposit funds with the City for the City's reasonable out-of-pocket expenses associated with a sale of each series of Bonds, including, but not limited to, (i) the fees and expenses of any consultants and legal counsel to the City employed in connection with the issuance of the Bonds, including an engineer, special tax consultant, financial advisor, bond counsel and any other consultant deemed necessary or advisable by the City, (ii) the costs of appraisals, market absorption and feasibility studies and other reports deemed necessary or advisable by the City in connection with the issuance of the Bonds, (iii) the costs of publication of notices and other costs related to any proceeding undertaken in connection with the issuance of the Bonds, (iv) reasonable charges for City staff time incurred in connection with the issuance of the Bonds, including a reasonable allocation of City overhead expense, as defined in the City Wide User Fee and Rate Study dated February 2008, or other current study of the City with respect thereto, and (v) any and all other actual costs and expenses incurred by the City in connection with the issuance of the Bonds ("Reimbursable Expenses"). If the Bonds are issued by the District, the City shall reimburse Owner from proceeds of the Bonds, without interest, for the portion of the Reimbursable Expenses deposits that have been expended or encumbered, said reimbursement to be made from the proceeds of the Bonds on the date of issuance of the Bonds or as soon as reasonably possible thereafter and only to the extent otherwise permitted under the Act, and refund any unexpended or encumbered deposited amounts. If the Special Taxes are levied and collected, the City shall reimburse Owner from the receipts of Special Taxes (net of amounts required to pay District administrative expenses), without interest, for the portion of the deposits paid by Owner pursuant to the Deposit Agreement that have been expended or encumbered, said reimbursement from receipts of Special Taxes to be made on or before the end of each fiscal year; provided, however, that the City may retain such collected Special Taxes in the amounts that it deems reasonably necessary to facilitate the issuance of the Bonds.

The City shall keep records of all Reimbursable Expenses advanced by the City pursuant to this Section 3, which records shall be available for inspection by Owner during regular business hours. The sole source of funds for reimbursement of any advance expenditure made by the City or Owner shall be the uncommitted and unexpended payments made by Owner to the City, proceeds of the Bonds, or Special Tax receipts as determined by the City.

Section 4. Tax Requirements. The timing of the sale of each series of Bonds, the nature of the investments in which the proceeds of the Bonds shall be invested, the duration of such investments, and the timing of the expenditure of such proceeds shall be as set forth in this Agreement and the applicable Indenture; provided, that in all such matters City shall comply with the requirements of and limitations prescribed by the provisions of Sections 103 and 141 through 150 of the Internal Revenue Code of 1986 (the "Code"), as amended, and the implementing regulations of the United States Department of the Treasury. The City shall not be required to take any such action which in the opinion of the City's bond counsel could result in the Bonds being classified by the United States Department of the Treasury as "arbitrage bonds" or which could otherwise result in the interest on the Bonds being included in gross income for purposes of Federal income taxation. Should any change in or regulatory interpretation of any such requirement or limitation which may occur after the date of this Agreement require or necessitate, in the reasonable opinion of such bond counsel, any action on the part of the City in order to avoid such a classification or loss of tax exemption, the City shall notwithstanding any provision of this Agreement, forthwith take such action. In the event the City fails to comply with requirements set forth above in this Section 4, the City's liability is limited to the Special Tax revenues generated by the applicable Improvement Area.

During the construction phase of the Project, the City and Owner shall meet on a regular basis, as agreed upon by both parties, to review the Public Facilities being constructed and ascertain the City's compliance with the Code.

Section 5. Priority and Allocation of Surplus Special Taxes and Bond Proceeds.

(a) Special Taxes Prior to the Issuance of Bonds.

Prior to the issuance of Bonds, Special Taxes shall be levied on each Assessor's Parcel of Developed Property within an Improvement Area pursuant to the Rate and Method at the Maximum Assigned Special Tax amount in and following the first fiscal year in which the Assessor's Parcel is classified as Developed Property until the issuance of the final series of Bonds of the Improvement Area.

Prior to the issuance of the first series of Bonds of the Improvement Area, the proceeds of the Special Taxes shall be allocated in the following priority:

(1) first, to pay all reasonable costs of administration of the Improvement Area;

(2) second, to pay eligible costs reasonably determined by the City to be necessary to facilitate the issuance of Bonds within the next six months; and

(3) third, the amount remaining after payment of the amounts for (1) and (2) shall be deposited in the Special Fund and disbursed according to the following priority:

(i) to reimburse prior deposits paid by Owner to City pursuant to the Deposit Agreement and Owner's third-party consultant costs incurred relating to formation of the CFD;

(ii) At Owner's request, to reimburse to Owner, or fund directly, the costs of City Facilities and City Transportation Improvements in accordance with the Implementing Agreement; and

(iii) At Owner's request, to reimburse to Owner or fund directly any Other Eligible CFD Costs.

(b) Special Taxes Following the Issuance of Bonds. Following the issuance of the first series of Bonds of an Improvement Area and continuing until the issuance of the final series of Bonds of the Improvement Area, City shall levy Special Taxes on all Assessor's Parcels classified as Developed Property at 100% of the Maximum Assigned Special Tax amount pursuant to the Rate and Method. In years in which there is no levy of Special Taxes on Undeveloped Property, the priority for allocation of the Special Taxes collected from Developed Property shall be as follows:

(1) first, to fund an amount up to the Priority Administrative Expense Requirement;

(2) second, to pay principal and interest on outstanding Bonds and to replenish the reserve fund to the applicable reserve fund requirement;

(3) third, to fund all actual Improvement Area administrative expenses in excess of the Priority Administrative Expense Requirement; and

(4) fourth, all remaining amounts shall be deposited in the Special Fund and disbursed according to the following priority:

(i) to reimburse prior deposits paid by Owner to City pursuant to the Deposit Agreement and Owner's third-party consultant costs incurred relating to formation of the District;

(ii) At Owner's request, to reimburse to Owner or fund directly the costs of the City Facilities and City Transportation Improvements in accordance with the Implementing Agreement; and

(iii) At Owner's request, to reimburse to Owner or fund directly any Other Eligible CFD Costs.

(c) Improvement Area Bond Proceeds. The proceeds of all Bonds of each Improvement Area shall be allocated and disbursed according to the following priorities:

(1) first, to fund all costs of issuance of the Bonds including (i) a reserve fund for the Bonds which does not exceed the amount permitted under the Code or the Act, (ii) capitalized interest for at least the period required to collect sufficient Special Taxes through the annual levy, or a longer period requested by Owner, not to exceed an amount equal to two years interest, or such lesser amount as the City shall determine pursuant to the Financing District Policy, (iii) the underwriter's discount, (iv) the Reimbursable Expenses, and (v) bond counsel fees, disclosure counsel fees, financial advisor, appraisal and market absorption

consultant fees, special tax consultant fees, fiscal agent or trustee fees and other typical and reasonable out-of-pocket expenses incurred by the City in connection with the issuance and sale of the Bonds;

(2) second, to reimburse, without interest, prior deposits paid by Owner to City pursuant to the Deposit Agreement and this Agreement and all other reasonable costs incurred by Owner with third party consultants related to formation of the District and issuance of the bonds;

(3) third, to reimburse the Owner and City the costs of the City Facilities and City Transportation Improvements paid previously with respect to the Improvement Area that have not previously been reimbursed;

(4) fourth, fund the amount of City Facilities and City Transportation Improvements not previously funded or reimbursed for the number of dwelling units used to determine the amount of Bonds issued, which amount shall be deposited in the City Facilities Account; and

(5) fifth, to fund Other Eligible CFD Costs, which amount shall be deposited in the Other Facilities Account.

Funds in the Other Facilities Account shall be disbursed by the City, at Owner's request, to pay any Other Eligible CFD Costs in whatever priority elected by Owner. Funds in the City Facilities Account may be disbursed by the City to fund eligible City Facilities and City Transportation Improvements in the City's sole discretion. Earnings on the investment of funds in the City Facilities Account and the Other Facilities Account shall remain in such accounts and disbursed for eligible costs.

Pursuant to Section A.2 of Exhibit F to the Development Agreement, Owner expects to fully satisfy its City Facilities Fee obligation for some number of dwelling units for which building permits are issued within the Property, in an amount described in the Implementing Agreement, as a result of the Civic Center dedication requirement and advance design fee payments. The fair market value of the Property in excess of the amount for which Owner receives City Facilities Fee Credit may be paid for from the Special Taxes or the proceeds of the Bonds as an Other Eligible CFD Costs.

If changes in the Code disqualify certain Public Facilities constructed by Owner from being funded by the District, Owner shall remain solely liable for the costs of construction or acquisition of such Public Facilities.

Section 6. Amounts to be Included in Bonds. The City Manager or his/her designee, shall have the right to approve all of Owner's costs and expenses to be paid or reimbursed from proceeds of the Bonds and Special Taxes subject to the following: (i) the City Manager or his/her designee shall approve or disapprove Owner's submittals for cost approvals within thirty (30) calendar days after receipt and, if any submitted costs are disapproved, he/she shall specify in writing the reasons therefor; and (ii) approval of Owner's submittals shall not be unreasonably withheld or conditioned. Owner shall be entitled to submit written requests to the City Manager or his/her designee for approval of costs to be paid or reimbursed with proceeds of the Bonds and

Special Taxes on a periodic basis, as costs are incurred, but not more frequently than monthly. Each such submittal shall be supported by adequate written documentation to justify the submittal, including as applicable, copies of relevant contracts, invoices, evidence of payment, and such other supporting information as the City Manager may reasonably require consistent with the terms of this Agreement.

Section 7. Design and Construction of City Construction Facilities.

The City shall cause those Public Facilities listed in Exhibit A hereto as City Construction Facilities (the “City Construction Facilities”) to be designed at such times as the City deems appropriate and the City shall cause plans and specifications for all such City Construction Facilities to be prepared. The City may retain other qualified professionals to design portions of the City Construction Facilities. The City may be reimbursed out of the proceeds of the sale of the Bonds for the City’s expenses incurred in designing and engineering the City Construction Facilities to the extent of funds deposited in the City Facilities Account. The City may award the construction contract for the City Construction Facilities if Bonds are issued and Bond proceeds on deposit in the City Facilities Account and other funds available to the City are sufficient to pay all costs associated with the construction of the City Construction Facilities. The City may be reimbursed pursuant to Section 1.150-2 of the Treasury Regulations from a subsequent series of Bonds of any Improvement Area of the CFD or other available funds.

Section 8. Construction of City Acquisition Facilities.

(a) Plans. Owner shall cause plans (the “Plans”) to be prepared for the City Acquisition Facilities which are listed as such in Exhibit A hereto (the “City Acquisition Facilities”). Owner shall obtain the written approval of the Plans in accordance with applicable ordinances and regulations of the City. Copies of all Plans shall be provided by Owner to the City Manager, or designee thereof, upon request therefore, and, in any event, as-built drawings and a written assignment of the Plans for any City Acquisition Facility shall be provided to the City prior to its formal acceptance of the City Acquisition Facility. Notwithstanding anything herein to the contrary, Owner shall not be required to prepare Plans or construct City Acquisition Facilities any earlier, or in any manner other than as required by the Conditions of Approval.

(b) Duty of Owner to Construct. All City Acquisition Facilities to be acquired hereunder, shall be constructed by or at the direction of Owner in accordance with the approved Plans. Owner shall perform all of its obligations hereunder and shall conduct all operations with respect to the construction of City Acquisition Facilities in a good, workmanlike and commercially reasonable manner, with the standard of diligence and care normally employed by duly qualified persons utilizing their best efforts in the performance of comparable work and in accordance with generally accepted practices appropriate to the activities undertaken. Owner shall employ at all times adequate staff or consultants with the requisite experience necessary to administer and coordinate all work related to the design, engineering, acquisition, construction and installation of the City Acquisition Facilities to be acquired by the City from Owner hereunder.

Owner shall be obligated, as and when required by the Conditions of Approval, (i) to construct and convey to the City (or other applicable governmental agency) all City Acquisition Facilities and (ii) to use its own funds to pay all costs thereof in excess of the Purchase Prices of the City Acquisition Facilities.

Owner shall not be relieved of its obligation to construct each City Acquisition Facility and convey each such City Acquisition Facility to the City in accordance with the terms hereof, even if, (i) because of the limitations imposed by Section 8(f) hereof, the Purchase Price for such City Acquisition Facility is less than the Actual Cost, or cost to Owner, of such City Acquisition Facility, or (ii) there are insufficient funds in the Other Facilities Account to pay the Purchase Price thereof, and, in any event, this Agreement shall not affect any obligation of Owner under the Conditions of Approval or any other agreement to which Owner is a party or any other governmental approval to which Owner or any land within the District is subject, with respect to the City Acquisition Facilities required in connection with the development of the land within the District.

(c) Relationship to Public Works. This Agreement is for the acquisition by the City of the City Acquisition Facilities, from moneys in the Other Facilities Account and is not intended to be a public works contract. The City and Owner agree that the City Acquisition Facilities are of local, and not state-wide concern, and that the provisions of the California Public Contract Code shall not apply to the construction of the City Acquisition Facilities except to the extent they may be applicable to Owner as a public agency. Nothing in this Agreement shall subject Owner to duplicative or additional requirements than it is otherwise subject to by applicable law as a public agency with respect to its bidding, contracting and construction of the City Acquisition Facilities. The City and Owner agree that Owner shall award all contracts for the construction of those City Acquisition Facilities, and that this Agreement is necessary to assure the timely and satisfactory completion of the City Acquisition Facilities and that, except to the extent otherwise specified above in this paragraph, compliance with the Public Contract Code with respect to the City Acquisition Facilities would work an incongruity and would not produce an advantage to the City or the District.

Notwithstanding the foregoing, Owner, or its designee, shall award all contracts for construction of the City Acquisition Facilities for which it subsequently submits Payment Request to the lowest responsible bidder, as determined by Owner. Owner, or its designee, shall solicit at least three bids for the construction of each such City Acquisition Facility and Owner, or its designee, shall open the bids actually received and read them aloud immediately following the submittal deadline. The bids for general contractors shall require that general contractors provide reasonable opportunity for local contractors to participate as subcontractors. Upon written request of the City Manager or his designee, Owner shall provide an analysis of bids for construction of such City Acquisition Facilities. Owner acknowledges and agrees that City Acquisition Facilities for which Owner submits Payment Requests shall be subject to the payment of prevailing wages by the applicable contractor(s) or subcontractor(s).

The costs of materials shall be part of the contractors' bids for constructing the City Acquisition Facilities. Nothing in this Agreement shall (i) require Owner to publicly or informally bid for materials, or (ii) prevent the supply or sale of materials by Owner to the contractors constructing the City Acquisition Facilities. If requested in writing by the City,

Owner shall demonstrate to the City that such materials were obtained at reasonable prices considering the terms of delivery and other factors and shall not charge the City a premium for supplying such materials (but shall be entitled to recover the costs of procuring such materials).

Owner shall develop or cause to be developed and shall maintain or cause to be maintained a cost-loaded project schedule, using the critical path method, providing for all major project elements included in the construction of any City Acquisition Facility to be acquired hereunder, so that the whole project is scheduled in the most efficient manner. Owner shall provide the City Manager with complete copies of the schedule and each update to the schedule for the City Manager or his designee to review.

From time to time (expected to be at least monthly) at the request of the City Manager or his designee, Owner shall meet and confer with City staff, consultants and contractors regarding matters arising hereunder with respect to the City Acquisition Facilities and the progress in constructing and acquiring the same, and as to any other matter related to the City Acquisition Facilities or this Agreement. Owner shall advise the City Manager or his designee in advance of any coordination and scheduling meetings to be held with contractors relating to the City Acquisition Facilities, in the ordinary course of performance of an individual contract. The City Manager or his designee shall have the right to be present at such meetings, and to meet and confer with individual contractors if deemed advisable by the City Manager or his designee to resolve disputes and/or ensure the proper completion of the City Acquisition Facilities.

(d) Independent Contractor. In performing this Agreement, Owner is an independent contractor and not the agent or employee of the City or the District. Neither the City nor the District shall be responsible for making any payments to any contractor, subcontractor, agent, consultant, employee or supplier of Owner.

(e) Performance and Payment Bonds. Owner agrees to comply with all applicable performance and payment bonding requirements of the City with respect to the construction of the City Acquisition Facilities. Performance and payment bonds shall not be required of Owner to the extent moneys are available in the Other Facilities Account to pay the Purchase Price, as defined in Section 9(c) below, of a City Acquisition Facility provided that all contractors and/or subcontractors employed by Owner in connection with the construction of the City Acquisition Facility shall provide a labor and materials and performance bonds which name the City as an additional insured.

(f) Contracts and Change Orders. Owner, or its designee, shall be responsible for entering into all contracts and any supplemental agreements (commonly referred to as "change orders") required for the construction of the City Acquisition Facilities, and all such contracts and supplemental agreements shall be submitted to the City Manager or his designee. Prior approval of supplemental agreements by the City Manager shall only be required for such change orders which in any way materially alter the quality or character of the subject City Acquisition Facility, or which involve an amount equal to the greater of ten percent (10%) of the amount of the applicable bid for the City Acquisition Facility. The City expects that such contracts and supplemental agreements needing prior approval by the City Manager will be reasonably approved or denied (any such denial to be in writing, stating the reasons for denial

and the actions, if any, that can be taken to obtain later approval) within ten (10) business days of receipt by the City Manager thereof. To the extent that a supplemental agreement, approved by the City Manager, or his designee, increases the Actual Cost of a City Acquisition Facility, such increased cost may be payable as part of the Purchase Price of the related City Acquisition Facility as provided in Section 9 hereof.

(g) Time for Completion. Owner reasonably expects, and agrees to use its good faith efforts to complete, all City Acquisition Facilities that are expected to be financed with the proceeds of a particular series of Bonds within thirty-six (36) calendar months from the date of closing of such Bonds.

Section 9. Acquisition and Payment of Facilities.

(a) Inspection. No payment hereunder shall be made by the City to Owner for a City Acquisition Facility or Discrete Component thereof until the City Acquisition Facility or Discrete Component has been inspected and found to be completed in accordance with the approved Plans by the City. Unless otherwise provided in a Supplement, the City shall make or cause to be made regular on-going site inspections of the City Acquisition Facilities to be acquired hereunder. Owner agrees to pay all inspection, permit and other similar fees of the City applicable to construction of the City Acquisition Facilities.

(b) Agreement to Sell and Purchase City Facilities. Owner hereby agrees to sell the City Acquisition Facilities to the City and the City hereby agrees to use amounts in the Other Facilities Account to pay the Purchase Price, as defined below, thereof to Owner, subject to the terms and conditions hereof. The City shall not be obligated to finance the purchase of any City Acquisition Facility until the City Acquisition Facility is completed and the acceptance date for such City Acquisition Facility has occurred; provided that the City has agreed to make periodic payments to Owner for costs and expenses in accordance with Section 5 of this Agreement and has agreed to make payments for Discrete Components prior to the acceptance date for the City Acquisition Facility of which a Discrete Component is a part. Owner acknowledges that the Discrete Components have been identified for payment purposes only, and that the City shall not accept a City Acquisition Facility of which a Discrete Component is a part until the entire City Acquisition Facility has been completed. The City acknowledges that the Discrete Components do not have to be accepted by the City as a condition precedent to the payment of the Purchase Price therefor, but any such payment shall not be made until a Discrete Component has been completed in accordance with the Plans therefor. The City shall not be obligated to pay the Purchase Price for any City Acquisition Facility except from the moneys in the Other Facilities Account.

(c) Purchase Price. The Purchase Price for each City Acquisition Facility and Discrete Component shall be equal to the Actual Cost of such City Acquisition Facility and Discrete Component, but subject to the limitations of this Section 9.

(d) Payment Requests. In order to receive the Purchase Price for a completed City Acquisition Facility or Discrete Component, inspection thereof under Section 9(a) shall have been made and Owner shall deliver to the City Manager or his designee a Payment Request in the form of Exhibit C hereto for such City Acquisition Facility or Discrete Component,

together with all attachments and exhibits required by this Section 9(d) to be included therewith. If payment is requested for a completed City Acquisition Facility, as opposed to a Discrete Component, and if the property on which the City Acquisition Facility is located is not owned by the City at the time of the request, Owner shall provide a copy of the recorded documents conveying to the City Acceptable Title to the real property on, in or over which such City Acquisition Facility is located, as described in Section 10(a) hereof. Owner shall also provide a copy of the recorded notice of completion of the City Acquisition Facility, an assignment to the District of any reimbursements that may be payable with respect to the City Acquisition Facility, such as City or private utility reimbursements, and an assignment of the warranties and guaranties for such City Acquisition Facility, as described in Section 10(f) hereof, in a form acceptable to the City. Any reimbursements received by the District with respect to a City Acquisition Facility shall be deposited in the Other Facilities Account.

(e) Processing Payment Requests. Upon receipt of a Payment Request (and all accompanying documents), the City Manager or his designee shall conduct a review in order to confirm that such request is complete, that such City Acquisition Facility or Discrete Component identified therein was constructed in accordance with the Plans therefore, and to verify and approve the Actual Cost of such City Acquisition Facility or Discrete Component specified in such Payment Request. The City Manager or his designee shall also conduct such review as is required in his/her discretion to confirm the matters certified in the Payment Request. Owner agrees to cooperate with the City Manager or his designee in conducting each such review and to provide the City Manager or his designee with such additional information and documentation as is reasonably necessary for the City Manager or his designee to conclude each such review. Within ten (10) business days of receipt of any Payment Request, the City Manager or his designee expects to review the request for completeness and notify Owner whether such Payment Request is complete, and, if not, what additional documentation must be provided. If such Payment Request is complete, the City Manager or his designee expects to provide a written approval or denial (specifying the reason for any denial) of the request within 30 days of its submittal. If a Payment Request seeking reimbursement for more than one City Acquisition Facility or Discrete Component is denied, the City Manager or his designee shall state whether the Payment Request is nevertheless approved and complete for any one or more City Acquisition Facilities or Discrete Component and any such City Acquisition Facilities or Discrete Component shall be processed for payment under Section 9(f) notwithstanding such partial denial.

(f) Payment. Upon approval of the Payment Request by the City Manager or his designee, the City Manager or his designee shall sign the Payment Request and forward the same to the Finance Director of the City. Upon receipt of the reviewed and fully signed Payment Request, the Finance Director of the City shall, within the then current City financial accounting payment cycle but in any event within fifteen (15) business days of receipt of the approved Payment Request, cause the same to be paid by the Fiscal Agent under the applicable provisions of the Fiscal Agent Agreement, to the extent of funds then on deposit in the Other Facilities Account.

The Purchase Price paid hereunder for any City Acquisition Facility or Discrete Component shall constitute payment in full for such City Acquisition Facility or Discrete Component, including, without limitation, payment for all labor, materials, equipment, tools and

services used or incorporated in the work, supervision, administration, overhead, expenses and any and all other things required, furnished or incurred for completion of such City Acquisition Facility or Discrete Component as specified in the Plans.

(g) Timing of Requisitions. The City and Owner acknowledge that (i) to the extent Owner has constructed and City or other Public Agency has accepted (for payment purposes) certain Public Facilities (including City Acquisition Facilities) Owner may submit Payment Requests and JCFA Facilities Payment Requests for such Public Facilities for reimbursement from amounts in the Special Fund and Other Facilities Account; (ii) Owner may be submitting Payment Requests and JCFA Facilities Payment Requests to the City in advance of when sufficient, if any, funds are available in the Special Fund or Other Facilities Account for reimbursement; (iii) the Payment Requests and the JCFA Facilities Payment Requests submitted when there are insufficient proceeds available will be reviewed by the City as set forth in this Agreement and, if appropriate, approved for payment from funds in the Special Fund and Other Facilities Account when such funds are deposited in the Special Fund or Other Facilities Account; and (iv) the payment for any Payment Requests and the JCFA Facilities Payment Requests approved in the preceding manner will be deferred until the date, if any, on which there are amounts in the Special Fund or Other Facilities Account to make all or part of such payment, at which time the City will pay from the Special Fund or direct the Fiscal Agent to wire transfer (or pay in another mutually acceptable manner) from the Other Facilities Account the funds available to the payee identified in such Payment Request or JCFA Facilities Payment Request.

(h) Restrictions on Payments. Notwithstanding any other provisions of this Agreement, the following restrictions shall apply to any payments made to Owner under Sections 9(b) and 9(f) hereof:

A. Amounts of Payments. Subject to the following paragraphs of this Section 9(h), payments for each City Acquisition Facility or Discrete Component will be made only in the amount of the Purchase Price for the respective City Acquisition Facility or Discrete Component.

Nothing herein shall require the City in any event (i) to pay more than the Actual Cost of a City Acquisition Facility or Discrete Component, or (ii) to make any payment beyond the available funds in the Special Fund and Other Facilities Account. The parties hereto acknowledge and agree that all payments to Owner for the Purchase Price of City Acquisition Facilities or Discrete Component are intended to be reimbursements to Owner for monies already expended or for immediate payment by Owner (or directly by the City) to third parties in respect of such City Acquisition Facilities or Discrete Component.

B. Joint or Third Party Payments. The City may make any payment jointly to Owner and any mortgagee or trust deed beneficiary, contractor or supplier of materials, as their interests may appear, or solely to any such third party, if Owner so requests the same in writing or as the City otherwise determines such joint or third party payment is necessary to obtain lien releases.

C. Withholding Payments. The City shall be entitled, but shall not be required, to withhold any payment hereunder for a City Acquisition Facility or Discrete

Component if Owner or any Affiliate is delinquent in the payment of ad valorem real property taxes, special assessments or taxes, or Special Taxes levied in the District. In the event of any such delinquency, the City shall only make payments hereunder directly to contractors or other third parties employed in connection with the construction of the City Acquisition Facilities or Final Discrete Component or to any assignee of Owner's interests in this Agreement (and not to Owner or any Affiliate), until such time as Owner provides the City Manager with evidence that all such delinquent taxes and assessments have been paid.

The City shall withhold final payment for any City Acquisition Facility or Final Discrete Component constructed on land until Acceptable Title to such land is conveyed to the City, as described in Section 10 hereof.

The City shall be entitled to withhold payment for any City Acquisition Facility or Discrete Component hereunder to be owned by the City until: (i) the City Manager or his designee determines that the City Acquisition Facility or Discrete Component is ready for its intended use, (ii) the Acceptance Date for the City Acquisition Facility has occurred or, with respect to a Discrete Component the requirements of Section 10, if applicable to such City Acquisition Facility or Discrete Component, have been satisfied, and (iii) with respect to a City Acquisition Facility, but not a Discrete Component, a Notice of Completion executed by Owner, in a form acceptable to the City Manager or his designee, has been recorded for the City Acquisition Facility and general lien releases conditioned solely upon payment from the proceeds of the Special Taxes or Bonds to be used to acquire such City Acquisition Facility have been submitted to the City Manager for the City Acquisition Facility. The City hereby agrees that Owner shall have the right to post or cause the appropriate contractor or subcontractor to post a bond with the City to indemnify it for any losses sustained by the City because of any liens that may exist at the time of acceptance of such City Acquisition Facility, so long as such bond is drawn on an obligor and is otherwise in a form acceptable to the City Manager or his designee. The City shall be entitled to withhold payment of a Public Facility (or the Final Discrete Component of such Public Facility) to be owned by other governmental entities, until Owner provides the City Manager with evidence that the governmental entity has accepted dedication and/or title to the Public Facility, provided, however that any payment to Owner for a Public Facility shall be governed by the JCFA between Owner and the governmental entity. If the City Manager or his designee determines that a City Acquisition Facility is not ready for intended use under (i) above, the City Manager or his designee shall so notify Owner as soon as reasonably practicable in writing specifying the reason(s) therefor.

Nothing in this Agreement shall be deemed to prohibit Owner from contesting in good faith the validity or amount of any mechanics or materialmans lien nor limit the remedies available to Owner with respect thereto so long as such delay in performance shall not subject the City Acquisition Facilities or Discrete Component to foreclosure, forfeiture or sale. In the event that any such lien is contested, Owner shall only be required to post or cause the delivery of a bond in an amount equal to the amount in dispute with respect to any such contested lien, so long as such bond is drawn on an obligor and is otherwise in a form acceptable to the City Manager or his designee.

Nothing in this Section 9(h) shall prevent payments pursuant to Section 5 or the payment for Discrete Components as described in Section 9(b).

D. Retention. The City shall withhold in the Other Facilities Account an amount equal to twenty percent (20%) of the Purchase Price of each Discrete Component to be paid hereunder until such time as one-half of the respective work has been completed and progress on the City Acquisition Facility is satisfactory to the City Manager or his designee, at which time no further retention will be made (so that it is expected that, upon completion of any City Acquisition Facility, a total of ten percent (10%) will have been retained). Any such retention will be released to Owner upon final completion and acceptance of the related City Acquisition Facility.

Payment of any retention shall also be contingent upon the availability of monies in the Other Facilities Account therefore. No retention shall apply if Owner proves to the City Manager or his designee's satisfaction that Owner's contracts for the City Acquisition Facilities or Discrete Component provide for the same retention as herein provided, so that the Purchase Price paid for the City Acquisition Facility or Discrete Component is at all times net of the required retention.

E. Frequency. Unless otherwise agreed to by the City Manager, no more than one Payment Request shall be submitted by Owner in any calendar month.

(i) Defective or Non-conforming Work. If any of the work done or materials furnished for a City Acquisition Facility are found by the City Manager or his designee to have a significant defect or to not be constructed in accordance with the applicable Plans: (i) and such finding is made prior to payment for the Purchase Price of such City Acquisition Facility hereunder, the City may withhold payment therefore until such defect or nonconformance is corrected to the satisfaction of the City Manager or his designee, or (ii) and such finding is made after payment of the Purchase Price of such City Acquisition Facility, the City and Owner shall act in accordance with the City's standard specification for City works construction, which are available in the City's Public Works Department.

(j) Modification of Public Facilities and Discrete Components. The descriptions of the Public Facilities and Discrete Components in Exhibits A and B may be modified, or new Public Facilities and Discrete Components may be added to Exhibits A and B, through a Supplement executed by the City Manager and Owner provided the modifications or new Public Facilities or Discrete Components are consistent with the facilities and costs authorized to be funded by the CFD pursuant to the formation proceedings and the Act.

Section 10. Ownership and Transfer of Facilities.

(a) Facilities to be Owned by the City – Conveyance of Land and Easements to City. Acceptable Title to all property on, in or over which each City Acquisition Facility to be acquired by the City will be located, shall be deeded over to the City by way of grant deed, quitclaim, or dedication of such property, or easement thereon, if such conveyance of interest is approved by the City as being a sufficient interest therein to permit the City to properly own, operate and maintain such City Acquisition Facility located therein, thereon or thereover, and to permit Owner to perform its obligations as set forth in this Agreement. Owner agrees to assist the City in obtaining such documents as are required to obtain Acceptable Title. Completion of the transfer of title to land shall be accomplished prior to the payment of the Purchase Price for a

City Acquisition Facility (or the Final Discrete Component thereof) and shall be evidenced by an irrevocable offer of dedication or recordation of the acceptance thereof by the City Council.

(b) Facilities to be Owned by the City – Title Evidence. Upon the request of the City, Owner shall furnish to the City a preliminary title report for land with respect to City Acquisition Facilities to be acquired by the City and not previously dedicated or otherwise conveyed to the City, for review and approval at least fifteen (15) calendar days prior to the transfer of Acceptable Title of a City Acquisition Facility to the City. The City shall approve the preliminary title report unless it reveals a matter which, in the judgment of the City, could materially affect the City’s use and enjoyment of any part of the property or easement covered by the preliminary title report. In the event the City does not approve the preliminary title report, the City shall not be obligated to accept title to such City Acquisition Facility or pay the Purchase Price for such City Acquisition Facility (or the Final Discrete Component thereof) until Owner has cured such objections to title to the satisfaction of the City.

(c) Facilities Constructed on Private Lands. If any City Acquisition Facility to be acquired is located on privately-owned land, the owner thereof shall retain title to the land and the completed City Acquisition Facility until the City Acquisition Facility is accepted by City and transferred to City pursuant to this Section 10. Pending the completion of such transfer, Owner shall not be entitled to receive any payment for any such City Acquisition Facility or the Final Discrete Component thereof. Owner shall, however, be entitled to receive payments pursuant to Section 5 and payments for the Discrete Components (other than the Final Discrete Component) of the City Acquisition Facility upon making an irrevocable offer of dedication of such land in form and substance acceptable to the City Manager. Notwithstanding the foregoing, upon written request of the City before payment for any Final Discrete Component of such City Acquisition Facility, Owner shall convey or cause to be conveyed Acceptable Title thereto in the manner described in Section 10(a) and 10(b) hereof.

(d) Facilities Constructed on City Land. If a City Acquisition Facility to be acquired is on land owned by the City, the City hereby grants to Owner a license to enter upon such land for purposes related to the construction (and maintenance pending acquisition) of the City Acquisition Facility. The provisions for inspection and acceptance of such City Acquisition Facility otherwise provided herein shall apply.

(e) Public Facilities to be Acquired or Constructed by Other Public Agencies. The City has, or will, execute Joint Community Facilities Agreements with the School District and IRWD (collectively the “JCFAs,” each individually a “JCFA”). The School District JCFA shall allow the financing of the acquisition or construction of SVUSD Facilities, as described in and pursuant to the School District JCFA. The IRWD JCFA shall allow financing of the acquisition of Public Facilities of IRWD, constructed by or on behalf of Owner, as described in and pursuant to the IRWD JCFA. Accordingly, the proceeds of the Special Taxes and Bonds for any Improvement Area may be used to construct or acquire such SVUSD Facilities or IRWD Facilities at any time following Owner’s execution and submission of a payment request in the requisite form required by the JCFA (the “JCFA Facilities Payment Request”). Upon receipt of such JCFA Facilities Payment Request, the City shall review the request and if determined to be an item eligible to be paid from the proceeds of the Bonds direct the Fiscal Agent to wire transfer (or pay in another mutually acceptable manner) to the payee identified in such JCFA Facilities

Payment Request such requested funds to the extent of funds on deposit in the Other Facilities Account or Special Fund designated by Owner. The provisions of Section 9(g) apply to the Public Facilities to be acquired pursuant to the IRWD JCFA. Nothing in this Agreement shall be construed as a promise or representation by IRWD regarding the provisions to be contained in the IRWD JCFA. Any facility eligible to be financed under each JCFA, or obligation to provide funds for the construction of any Public Facility, remains an obligation of the Owner and is not an obligation of the City or the District.

(f) Maintenance and Warranties. Owner shall maintain each City Acquisition Facility and Discrete Components thereof in good and safe condition until the Acceptance Date. Prior to the Acceptance Date, Owner shall be responsible for performing any required maintenance on any completed City Acquisition Facility and Discrete Components thereof. On or before the Acceptance Date of the City Acquisition Facility, Owner shall assign to the City, as applicable, all of Owner's rights in any warranties, guarantees, maintenance obligations or other evidence of contingent obligations of third persons with respect to such City Acquisition Facility. Owner shall provide a warranty bond reasonably acceptable in form and substance to the City Manager to insure for one-year after the Acceptance Date that defects, which appear within said period, will be repaired, replaced, or corrected by Owner, at its own cost and expense, to the satisfaction of the City Manager. Owner shall not be responsible for normal wear and tear and/or defects caused by use of the City Acquisition Facility by the City or public. Owner shall commence to repair, replace or correct any defects to a City Acquisition Facility, other than those caused by public use of the City Acquisition Facility, within thirty (30) days after written notice thereof by the City to Owner, and shall complete such repairs, replacement or correction as soon as practicable. After such one-year period, the warranty bond shall be released. From and after the Acceptance Date, the City shall be responsible for maintaining all City Acquisition Facilities. Any warranties, guarantees or other evidences of contingent obligations of third persons with respect to the City Acquisition Facilities to be acquired by the City shall be delivered to the City Manager as part of the transfer of title. Owner shall maintain or cause to be maintained each IRWD Public Facility and Discrete Components thereof to be owned by IRWD (including the repair and replacement thereof) prior to the Acceptance Date thereof and for the period of time and in the form specified in the IRWD JCFA, if any, or as otherwise required by the applicable regulations of IRWD.

(g) Discrete Components. Nothing in this Section 10 shall prevent payments pursuant to Section 5 or payment for Discrete Components as described in Section 9(b).

Section 11. Surplus Bond Proceeds. In the event that any surplus proceeds of the Bonds remain in the Other Facilities Account after all of the Public Facilities have been financed pursuant to this Agreement, which shall be evidenced by a written notice from Owner that no additional requisitions for payment will be submitted, or that an amount specified by Owner should be sufficient to pay any additional requisition, said surplus shall be applied to redeem outstanding Bonds and/or pay debt service on the Bonds in the manner provided in the Fiscal Agent Agreement.

Section 12. Indemnification; Insurance. Owner shall indemnify and hold harmless the City and the District from any and all claims, actions, liability, damages and costs arising out of Owner's performance of its duties and responsibilities as construction manager with respect to

the City Acquisition Facilities. To secure its indemnification obligation, Owner shall obtain and maintain throughout the period of its construction management services a broad form comprehensive liability policy of insurance in a form and with coverages acceptable to the City, having a single aggregate limit of liability as to all coverages provided thereby in the amount of \$4,000,000, and naming the City, the District and their officers, and employees as additional insureds. Owner shall provide to the City a certified copy of the policy for such insurance or a certificate of such insurance coverage in a form satisfactory to the City. Any such certificate of insurance shall include an endorsement providing that the City, the District, their officers and employees, and to the extent insurance coverage for such purpose is commercially available, their agents, are additional insureds under the comprehensive general liability policy, and shall provide that the policy may only be canceled upon 30 days advance written notice to the City.

Owner shall also maintain throughout the period of its construction management services workers' compensation insurance as required by the laws of the State of California.

Section 13. Representations, Covenants and Warranties of Owner. Owner represents and warrants for the benefit of the City as follows:

A. Organization. Owner is a California water district duly organized and validly existing under the laws of the State of California, is in good standing in the State, and has the power and authority to own its properties and assets and to carry on its business as now being conducted and as now contemplated.

B. Authority. Owner has the power and authority to enter into this Agreement, and has taken all action necessary to cause this Agreement to be executed and delivered, and this Agreement has been duly and validly executed and delivered by Owner.

C. Binding Obligation. This Agreement is a legal, valid and binding obligation of Owner, enforceable against Owner in accordance with its terms, subject to bankruptcy and other equitable principles.

D. Compliance with Laws. Owner shall not with knowledge commit, suffer or permit any act to be done in, upon or to the lands of Owner in the District or the City Acquisition Facilities in violation of any law, ordinance, rule, regulation or order of any governmental authority or any covenant, condition or restriction now or hereafter affecting the lands in the District or the City Acquisition Facilities.

E. Requests for Payment. Owner represents and warrants that (i) it will not request payment from the City for the acquisition of any improvements that are not part of the Public Facilities, and (ii) it will diligently follow all procedures set forth in this Agreement with respect to the Payment Requests and the JCFA Facilities Payment Requests.

F. Financial Records. Until the final acceptance of the City Acquisition Facilities, Owner covenants to maintain proper books of record and account for the construction of the City Acquisition Facilities and all costs related thereto. Such accounting books shall be maintained in accordance with generally accepted accounting principles, and shall be available for inspection by the City or its agents at any reasonable time during regular business hours on reasonable notice.

G. Prevailing Wages. Owner covenants that, with respect to any contracts or subcontracts for the construction of the City Acquisition Facilities to be acquired from Owner hereunder, it will assume complete compliance with any applicable law or regulation for the payment of prevailing wages for such construction. Owner shall be solely responsible for determining whether payment of prevailing wages and other federal and California laws, rules and regulations are applicable for any Public Facility. Nothing herein shall confer any legal responsibility on Owner for such matters that is not otherwise conferred on IRWD as a public agency owner or awarding party by law and Owner may pass such responsibility to its contractors or subcontractors consistent with the standard provisions of IRWD's public works contracts.

H. Plans. Owner represents that it has obtained or will obtain approval of the Plans for the City Acquisition Facilities to be acquired from Owner hereunder from all appropriate departments of the City and from any other City entity or City utility from which such approval must be obtained. Owner further agrees that the City Acquisition Facilities to be acquired from Owner hereunder have been or will be constructed in full compliance with such approved Plans and any supplemental agreements (change orders) thereto, as approved in the same manner.

I. Land Sales. Owner agrees that in the event that it sells any land owned by it within the boundaries of the District, Owner will (i) notify the purchaser in writing prior to the closing of any such sale of the existence of this Agreement and Owner's rights and obligations hereunder with respect to the construction of and payment for the City Acquisition Facilities, (ii) notify the purchaser in writing of the existence of the District and the special tax lien in connection therewith, and otherwise comply with any applicable provision of Section 53341.5 of the Act, and (iii) notify the City in writing of the sale, indicating the legal description (or County Assessor's parcel number) of the property sold and the purchaser of the property.

J. Additional Information. Owner agrees to cooperate with all reasonable written requests for nonproprietary information by the original purchasers of the Bonds or the City related to the status of construction of improvements within the District, the anticipated completion dates for future improvements, and any other matter material to the investment quality of the Bonds.

K. Continuing Disclosure. Owner agrees to comply with all of its obligations under any continuing disclosure agreement executed by it in connection with the offering and sale of any of the Bonds.

Section 14. Independent Contractor. In performing its construction management services, Owner shall be an independent contractor, and this Agreement shall not and does not create a joint venture or partnership between the City and Owner. The City shall have no responsibility or liability for the payment of any amount to any employee or subcontractor of Owner.

Section 15. Special Taxes. The parties are entering into this Agreement and establishing the District for the purpose of creating a stream of special tax revenues that will be

available to the District to pay directly the costs of acquisition, construction and/or equipping the Public Facilities and to pay debt service on the Bonds, the proceeds of which will be used to pay the costs of acquisition, construction and/or equipping of the Public Facilities. Owner and District hereby acknowledge and agree (i) that any reduction or termination of the Special Taxes by exercise of the initiative power or other action would constitute a substantial impairment of the Special Tax revenue stream that Owner and District intend to create for the purpose of providing an assured source of funding for construction, acquisition and/or equipping of the Public Facilities, and (ii) that this Agreement is being entered into, and the Special Taxes are being imposed upon the Property pursuant to the Rate and Method, in accordance with existing laws relating to the imposition of fees and charges as a condition of property development and such Special Taxes are being incurred as an incident of the voluntary act of development of the Property. To the fullest extent permitted by law, Owner, for itself and for each of its successors and assigns as owners or lessees of all or any portion of the Property included in the District hereby waives any right to exercise the initiative power that may be authorized in California Constitution Article XIII C, Section 3, to reduce or appeal the Special Taxes. Notwithstanding the foregoing, Owner acknowledges that each Rate and Method includes provisions that permit, prior to the issuance of Bonds of an Improvement Area, the City to administratively reduce the maximum Special Tax amounts within the corresponding Improvement Area as necessary to comply with the total effective tax rate provisions of the Financing District Policy. In addition, prior to the issuance of Bonds of an Improvement Area, Owner may request that the Special Tax amounts in the Rate and Method be reduced or cancelled in their entirety; provided, however, that Owner may request that the City reduce the Special Taxes to be levied under the Rate and Method no more than twice for each Improvement Area.

Section 16. Disclosure of Special Taxes.

(a) From and after the date of this Agreement, Owner and its successors and assigns shall give a "Notice of Special Tax" (as defined in Section 15(b) below) to each prospective purchaser of a parcel in the District and shall deliver a fully executed copy of each notice to District. Owner and its successors and assigns shall (i) maintain records of each Notice of Special Tax for a period of five (5) years, and (ii) shall provide copies of each notice to District promptly following the giving of such notice. Owner and its successors and assigns shall include the Notice of Special Tax in all Owner's and its successors' and assigns' applications for Final Subdivision Reports required by the Department of Real Estate ("DRE") which are filed after the effective date of this Agreement.

Owner and its successors and assigns shall require, as a condition precedent to close an escrow for the sale of real property to a builder acquiring lots (a "Residential Builder"), that such Residential Builder shall (i) maintain records of each Notice of Special Tax for a period of five (5) years, (ii) provide copies of each notice to District promptly following the giving of such notice, and (iii) include the Notice of Special Tax in all of such Residential Builder's applications for Final Subdivision Reports required by DRE.

(b) With respect to any parcel, the term "Notice of Special Tax" means a notice in the form prescribed by California Government Code Section 53341.5 which is calculated to disclose to the purchaser thereof (i) that the property being purchased is subject to the Special Tax of the Improvement Area in which it is included; (ii) the classification of such

property; (iii) the maximum annual amount of the Special Tax and the number of years for which it is authorized to be levied; and (iv) the types of facilities to be paid or with the proceeds of the Special Tax.

(c) District will file with the Orange County Recorder a notice of special tax lien that gives notice of the existence of the District and the levy of the Special Tax on property within each Improvement Area of the District for the benefit of subsequent property owners, pursuant to requirements of Section 3114.5 of the Streets and Highways Code.

(d) Information Sheet and Sample Property Tax Bill. Owner and its successors and assigns shall prepare, in a form reasonably acceptable for the City, and place in its sales office a sample property tax bill which shows the special tax to be levied subject to an annual escalator of 2% in a form approved by City. Owner and its successors and assigns shall provide prospective purchasers of homes an information sheet in the sales office in the form set forth in Exhibit F, which is available for such purchasers to take with them. In addition, Owner shall prominently display a notification of Special Tax.

Section 17. Termination and Dissolution. Prior to the issuance of Bonds of an Improvement Area, Owner may elect to terminate this Agreement with respect to the Improvement Area and cancel the Special Taxes of the Improvement Area by providing written notice to the City. Within thirty (30) days of such written notice, City shall record a notice of cancellation of special taxes with respect to each parcel within the Improvement Area. Owner shall be responsible for reasonable City costs incurred relating to the cancellation of the Special Taxes and recordation of such notice. Such termination of this Agreement and cancellation of Special Taxes with respect to an Improvement Area shall have no effect on Owner's obligations under the Development Agreement.

Section 18. Binding on Community Facilities District. The District shall automatically become a party to this Agreement, and all provisions hereof which apply to the City shall also apply to the District. The City Council of the City, acting as the legislative body of the District, shall perform all parts of this Agreement which require performance on the part of the District.

Section 19. Assignment. Owner may assign this Agreement or any right or obligations hereunder without the express prior written approval of the City; provided, however, that such assignment shall not become effective until there shall have been delivered to the City a written assignment and assumption agreement between Owner and the assignee whereby such rights assigned are specified and such assignee agrees, except as may be otherwise specifically provided therein, to assume the obligations of Owner under this Agreement and to be bound thereby.

Section 20. Prompt Action. All consents, approvals and determinations required of either the City or Owner pursuant to this Agreement shall be promptly given or made, and shall not be unreasonably withheld or conditioned.

Section 21. General. This Agreement and the Deposit Agreement contain the entire agreement between the parties with respect to the matters herein provided for. This Agreement may only be amended by a subsequent written agreement signed on behalf of both parties. This

Agreement shall inure to the benefit of and be binding upon the successors and assigns of the parties. This Agreement shall be construed and governed by the Constitution and laws of the State of California. Should either party to this Agreement commence a court action or proceeding against the other party with respect to this Agreement or the design and acquisition or construction of the Public Facilities, the party prevailing in such action or proceeding shall be entitled to receive from the losing party its attorney's fees, expert witness fees, court costs and other costs incurred by it in prosecuting or defending such action or proceeding. The captions of the sections of this Agreement are provided for convenience only, and shall not have any bearing on the interpretation of any section hereof. This Agreement may be executed in several counterparts, each of which shall be an original of the same agreement.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have caused this agreement to be signed as of the date first above written.

Dated: _____

IRVINE RANCH WATER DISTRICT,
a California water district

By: _____

Name: _____

Title: _____

Dated: _____

CITY OF LAKE FOREST

By: _____

Name: _____

City Manager

ATTEST:

By: _____

City Clerk

EXHIBIT A

DESCRIPTION OF PUBLIC FACILITIES

1. City Construction Facilities
 - A. Sports Park Acquisition and Development
 - B. Civic Center Complex, including City Hall
 - C. Recreation Center
 - D. Auxiliary Building (Civic Center Site)
 - E. LFTM Improvements

2. City Acquisition Facilities
 - A. Street A Right-of-Way Improvements
 - B. Street B Right-of-Way Improvements
 - C. Indian Ocean Right-of-Way Improvements
 - D. Neighborhood Public Parks (2)
 - E. Passive Park
 - F. Civic Center Site Land Fair Market Value
 - G. Storm Drain and Water Quality Basins and Appurtenances
 - H. Underground conduit for existing Power, Telephone and Cable TV Improvements

3. Other Public Facilities
 - A. IRWD Sewer, Water and Reclaimed Water Improvements within Street A, Street B and Indian Ocean rights-of-way and off-site
 - B. Street Lights
 - C. SVUSD School Improvements

EXHIBIT B

DISCRETE COMPONENTS

<u>Type of Facility</u>	<u>Discrete Components</u>
1. Streets	(a) design, engineering and other soft costs incurred prior to award of construction contract (b) grading, paving (excluding final asphalt cap), curb, gutter, sidewalk and all essential items (c) street lights (d) final asphalt cap, striping and completion of non-essential items ^{1>}
2. Drainage Improvements	(a) design, engineering and other soft costs incurred prior to award of construction contract (b) trenching and installation of pipe, basins and other structures and essential items (c) completion of non-essential items ^{1>}
3. Sewer Improvements	(a) design, engineering and other soft costs incurred prior to award of construction contract (b) trenching and installation of pipe and other structures and essential items (c) completion of non-essential items ^{1>}
4. Water Improvements	(a) design, engineering and other soft costs incurred prior to award of construction contract (b) installation of pipe and other structures and essential items (c) completion of non-essential items ^{1>}
5. Recycled Water Improvements	(a) design, engineering and other soft costs incurred prior to award of construction contract (b) installation of pipe and other structures and essential items (c) completion of non-essential items ^{1>}

6. Natural Treatment
System Improvements

(a) design, engineering and other soft costs incurred prior to award of construction contract

(b) installation of pipe and other structures and essential items

(c) completion of non-essential items^{1>}

^{1>} The term “non-essential items” in this Exhibit B shall mean final punch list items of work that are not required for the use and operation of a Public Facility for its intended purposes and shall include all remaining soft costs not included in prior Discrete Components.

EXHIBIT C

FORM OF PAYMENT REQUEST

**City of Lake Forest
Community Facilities District No. 2010-01
(Serrano Summit)**

The undersigned, _____, a duly authorized representative of Owner, hereby requests payment of the Purchase Price of the City Acquisition Facility(y)(ies) or Discrete Component(s) described in Attachment A attached hereto. Capitalized undefined terms shall have the meanings ascribed thereto in the Funding Agreement, dated as of February 1, 2012 (the "Agreement"), by and between the City of Lake Forest ("City") for the City of Lake Forest Community Facilities District No. 2010-01 (Serrano Summit) (the "CFD"), and Irvine Ranch Water District ("Owner"). In connection with this Payment Request, the undersigned hereby represents and warrants to the CFD and the City as follows:

1. He (she) is a duly authorized representative of Owner, qualified to execute this request for payment on behalf of Owner and knowledgeable as to the matters set forth herein.
2. Each of the City Acquisition Facilities or Discrete Components described in Attachment A has been completed in accordance with the Agreement.
3. The true and correct Actual Cost of the City Acquisition Facilities or Discrete Components for which payment is requested is set forth in Attachment A.
4. Attached hereto are invoices, receipts, worksheets and other evidence of costs which are in sufficient detail to allow the City to verify the Actual Cost of the City Acquisition Facilities or Discrete Components for which payment is requested.
5. There has not been filed with or served upon Owner notice of any lien, right to lien or attachment upon, or claim affecting the right to receive the payment requested herein which has not been released or will not be released simultaneously with the payment of such obligation, other than materialmen's or mechanics' liens accruing by operation of law. Copies of lien releases for all work for which payment is requested hereunder are attached hereto.
6. Owner is in compliance with the terms and provisions of the Agreement.

The Purchase Price for the City Acquisition Facilities or Discrete Components described in Attachment A shall be payable from the Other Facilities Account created pursuant to the Fiscal Agent Agreement or the Special Fund established pursuant to the Agreement.

I hereby certify that the above representations and warranties are true and correct.

Dated: _____

[OWNER SIGNATURE]

By: _____

Name: _____

Title: _____

By execution of this Payment Request, the City does hereby approve of the payment as described in this Payment Request and directs the Fiscal Agent to pay such amounts, first, from the Other Facilities Account and, second from the Surplus Taxes Fund as applicable, to the payee listed above and/or the City shall pay all or a portion from the Special Fund.

CITY OF LAKE FOREST
for the City of Lake Forest Community
Facilities District No. 2010-01
(Serrano Summit)

By: _____

Name: _____

City Manager

EXHIBIT D

[Intentionally Omitted]

EXHIBIT E

DEFINITIONS

The following terms shall have the meanings ascribed to them for purposes of this Agreement. Unless otherwise indicated, any other terms, capitalized or not, when used herein shall have the meanings ascribed to them in the Fiscal Agent Agreement (as hereinafter defined).

“Acceptable Title” means title to land or interest therein, in form acceptable to the Public Works Director, free and clear of all liens, taxes, assessments, leases, easements and encumbrances, whether or not recorded, but subject to any exceptions determined by the Public Works Director as not interfering with the actual or intended use of the land or interest therein or which are required for other public facilities. Notwithstanding the foregoing, an irrevocable offer of dedication may constitute land with an “Acceptable Title” if: (i) such offer is necessary to satisfy a condition to a tentative or final parcel map, (ii) such offer is in a form acceptable to the Public Works Director, (iii) the Public Works Director has no reason to believe that such offer of dedication will not be accepted by the applicable public agency, and (iv) Owner commits in writing not to allow any liens to be imposed on such property prior to its acceptance.

“Acceptance Date” means the date the City Council takes final action to accept dedication of or transfer of title to a Public Facility.

“Additional Bonds” means any series of Bonds issued by or on behalf of the District after the first series of Bonds, in each case in compliance with and under supplements to the Fiscal Agent Agreement, which Additional Bonds shall be secured on a parity lien or subordinate lien position with other Bonds previously issued within any Improvement Area.

“Agreement” means this Agreement, together with any Supplement hereto.

“Act” means the Mello-Roos Community Facilities Act of 1982, Sections 53311 et seq. of the California Government Code, as amended.

“Actual Cost” means the substantiated cost of a City Acquisition Facility, which costs may include: (i) the costs incurred by Owner for the construction of such City Acquisition Facility, (ii) the costs incurred by Owner in preparing the Plans for such City Acquisition Facility and the related costs of environmental evaluations of the City Acquisition Facility, (iii) the fees paid to governmental agencies and costs incurred by Owner in obtaining permits, licenses or other governmental approvals for such City Acquisition Facility, (iv) a construction and project management fee of five percent (5%) of the costs described in clause (i) above incurred for the construction of such City Acquisition Facility, (v) professional costs incurred by Owner or the City associated with such City Acquisition Facility, such as engineering, legal, accounting, inspection, construction staking, materials testing and similar professional services; and (vi) costs directly related to the construction and/or acquisition of a City Acquisition Facility, such as costs of payment, performance and/or maintenance bonds, and insurance costs (including costs of any title insurance required hereunder). Actual Cost shall not include any cost of carry or interest expense with respect to any construction loan obtained by Owner with respect to the City Acquisition Facilities.

“Affiliate” means any person or entity owning an interest of five percent (5%) or more in Owner.

“City Facilities Account” means an account of the Improvement Fund established and administered pursuant to Fiscal Agent Agreement for issuance of the first series of Bonds of an Improvement Area by the Fiscal Agent for such Bonds from which funds may be disbursed at the City’s request for City Construction Facilities.

“City Construction Facilities” means those public improvements authorized to be funded as City Facilities and the City Transportation Improvements.

“City Acquisition Facilities” means the facilities described as such in Exhibit A.

“City Facilities” means the “Sports Park, City Hall and Community Center”, as defined in Exhibit “F” to the Development Agreement funded with “City Facilities Fees,” as defined in the Implementing Agreement.

“City Transportation Improvements” means the LFTM improvements funded with “LFTM Fees”, as defined in the Implementing Agreement, and the facilities relating to the “FCPP Fees,” as defined in the Implementing Agreement.

“Conditions of Approval” means the mitigation measures and conditions of approval of or applicable to all land use entitlements approved by the City for the development of the Property including, without limitation, tentative subdivision maps, The Development Agreement, and subdivision improvement agreements.

“Deposits” means payments made by Owner to City for City costs relating to formation of the District and issuance of Bonds.

“Developed Property” shall have the meaning ascribed to it in the applicable Rate and Method.

“Discrete Component” means a component of a City Acquisition Facility described in Exhibit B and any other component that the City Manager has agreed can be separately identified, inspected and completed, as identified in a Supplement.

“Final Discrete Component” means the last Discrete Component of a City Acquisition Facility to be financed after all other Discrete Components of that City Acquisition Facility have been paid for from the proceeds of the Bonds.

“Financing District Policy” means the City of Lake Forest Long-Term Financing Policy in the form attached as Exhibit D to the Development Agreement.

“Fiscal Agent” means the financial institution or other entity that enters into a Fiscal Agent Agreement with the City with respect to the Bonds.

“Fiscal Agent Agreement” means, collectively, any agreement or agreements by that or similar name to be executed by the City, for and on behalf of any one or more of the

Improvement Areas of the District, and the fiscal agent, which will provide for, among other matters, the issuance of the Bonds and the establishment of an Improvement Fund as originally executed by the City and the fiscal agent and as it may be amended from time to time.

“Implementing Agreement” means that certain Implementing Agreement dated as of February 1, 2012, by and between the City and Owner.

“Improvement Fund” means the Improvement Fund established by the Fiscal Agent Agreement for any series of Bonds issued on behalf of the District.

“IRWD” means the Irvine Ranch Water District, in its capacity as the provider of water, sewer, recycled water and natural treatment system facilities and service to the Property.

“IRWD Facilities” means facilities owned and operated by IRWD in its capacity as a California water district for the storage, treatment and distribution of water, and the collection, treatment and disposal of wastewater and natural treatment systems.

“Land Fair Market Value” means the Fair Market Value of the Civic Center Site (as those terms are defined in the Development Agreement) as determined pursuant to the Development Agreement.

“Other Eligible CFD Costs” means the Land Fair Market Value and any costs relating to any fees or facilities authorized to be financed through the District other than costs relating to City Construction Facilities.

“Other Facilities Account” means an account of the Improvement Fund established and administered pursuant to the Fiscal Agent Agreement for issuance of the first series of Bonds of an Improvement Area by the Fiscal Agent for such Bonds from which funds may be disbursed at Owner’s request for any Other Eligible CFD Costs.

“Owner” means the Irvine Ranch Water District, in its capacity as the owner of the Property, and its successors and assigns.

“Parity Bonds” means additional series of Bonds issued by the City for the District in compliance with and under supplements to the Fiscal Agent Agreement, which Bonds shall be secured on a parity lien position with other Bonds previously issued.

“Payment Request” means a document, substantially in the form of Exhibit C attached hereto, to be used by Owner in requesting payment of a Purchase Price for a City Acquisition Facility.

“Plans” means the plans, specifications, schedules and related construction contracts for the City Facilities approved pursuant to the applicable standards of the City when completed and acquired. As of the date of this Agreement, the City standards for construction incorporate those set forth in the Green Book, Standard Specifications for Public Works Construction (SSPWC), of the Southern California Chapter of the American Public Works Association.

“Priority Administrative Expense Requirement” means, per Improvement Area, \$20,000 per year commencing in the first year of issuance of Bonds of the Improvement Area, escalating by 2% per year.

“Public Works Director” means The City Public Works Director, or his designee.

“Purchase Price” means the amount paid by the City for a City Acquisition Facility determined in accordance with Section 9 hereof, being an amount equal to the Actual Cost of such City Acquisition Facility, but subject to the limitations and reductions provided for in Section 9.

“Rate and Method” means the rate and method of apportionment of special taxes approved for, and applicable to, an Improvement Area in accordance with the Act.

“Special Fund” means a discrete, interest-bearing special fund of the City to be established and administered pursuant to this Agreement.

“Supplement” means a written document executed by the City and Owner amending, supplementing or otherwise modifying the Agreement and any exhibit thereto, including any amendments to the list of Discrete Components in Exhibit B, and/or the addition to Exhibit B of additional Public Facilities (and Discrete Components) to be financed with proceeds of any Additional Bonds.

“SVUSD Facilities” means facilities to be funded with fee mitigation payments applicable to the development of the Property pursuant to that certain “School Facilities Funding and Mitigation Agreement” by and between Saddleback Valley Unified School District and Owner dated May 13, 2008, as it may be amended, supplemented or superseded.

EXHIBIT F
CITY OF LAKE FOREST NOTICE OF SPECIAL TAX
Community Facilities District No. 2010-01
(Serrano Summit)

1. WHAT IS COMMUNITY FACILITIES DISTRICT (CFD) NO. 2010-01?

CFD No. 2010-01 (Serrano Summit) was formed pursuant to the “Mello-Roos Community Facilities Act of 1982” to finance certain public facilities.

2. WHO IS RESPONSIBLE TO PAY THE SPECIAL TAX AND HOW IS IT BILLED?

The property owner is responsible for paying the CFD No. 2010-01 (Serrano Summit) special tax, which will appear as a separate line item on your property tax bill along with your regular property taxes.

3. HOW MUCH WILL MY SPECIAL TAX BE?

The special tax is based upon the size of the home. The assigned and maximum special taxes for CFD No. 2010-01 (Serrano Summit) for the 2013-14 Fiscal Year are summarized below.

Special Taxes:

Classification	Home Size	Assigned Special Tax	Maximum Special Tax
1.	Residential Property Greater than _____ sq. ft.	\$_____/dwelling unit	\$_____/dwelling unit
2.	Residential Property _____ sq. ft. – _____ sq. ft.	\$_____/dwelling unit	\$_____/dwelling unit
3.	Residential Property _____ sq. ft. – _____ sq. ft.	\$_____/dwelling unit	\$_____/dwelling unit
4.	Residential Property Less than or equal to _____ sq. ft.	\$_____/dwelling unit	\$_____/dwelling unit

The Special Tax is subject to a 2% annual escalator.

4. HOW LONG WILL I HAVE TO PAY THE CFD NO. 2010-01 SPECIAL TAX?

The CFD No. 2010-01 special tax will not be collected after calendar year 20____.

5. CAN THE SPECIAL TAXES BE PREPAID?

Homeowners have the option of prepaying their CFD No. 2010-01 (Serrano Summit) Special Tax anytime. For prepayment information please contact the City of Lake Forest’s CFD No. 2010-01 (Serrano Summit) administrator, [TO COME].

6. WHERE CAN I GET MORE INFORMATION?

For more information in regards to CFD No. 2010-01, contact the City of Lake Forest’s CFD No. 2010-01 (Serrano Summit) administrator, [TO COME].

IMPLEMENTING AGREEMENT

This Implementing Agreement ("Agreement"), dated as of February 1, 2012 ("Effective Date"), is entered into by and between the CITY OF LAKE FOREST, a California municipal corporation ("City"), and the Irvine Ranch Water District, a California water district ("IRWD"). City and IRWD are sometimes referred to in this Agreement as "Party" and "Parties."

RECITALS

A. City and IRWD have entered into that certain Development Agreement, recorded in the Orange County Clerk-Recorder's Office on October 22, 2008, as document No. 2008000486878 ("DA"), for the development of residential, government, park, and recreational uses on approximately 82 acres ("Project") of certain property ("Property") identified in the Development Agreement.

B. Section 5.30 of the DA anticipates the use of implementing agreements entered into by IRWD and the City for the implementation of obligations established in the DA.

C. This Agreement relates to and helps to implement IRWD's obligation to pay the Sports Park, City Hall and Community Center Facilities Fee ("City Facilities Fee") (as those obligations are outlined in Paragraphs A.1 and A.2 of Exhibit F of the DA), IRWD's obligation to pay the "LFTM Fee" (as defined in the DA), IRWD's obligation to pay the Foothill Circulation Phasing Program fee ("FCPP Fee") pursuant to the County of Orange ordinance adopting the same and the City's Articles of Incorporation (collectively, "FCPP Ordinance"), the Parties' obligations related to the formation of a Financing District (as that term and those obligations are defined and outlined in Recital D), and IRWD's ability to assign its rights and obligations under the DA (as those obligations are outlined in Sections 13.3 through 13.5 and Exhibit I of the DA). (The City Facilities Fee, LFTM Fee, and FCPP Fee shall be referred to collectively as the "Improvement Fees.")

D. IRWD is obligated to pay the Improvement Fees at building permit issuance for each Unit in the Project. Pursuant to Section 9.4 of the DA, the Improvement Fees may be financed through the use of a financing district ("Financing District"), if formed, and used for the purpose of constructing public facilities to be owned by the City. While the City and IRWD intend to form a Financing District and IRWD intends to satisfy its City Facilities Fee, LFTM Fee and FCPP Fee obligations from the proceeds of special taxes of the Financing District ("Special Tax Proceeds") and the proceeds of bonds issued by the Financing District secured by such special taxes ("Bond Proceeds" and, together with Special Tax Proceeds, the "CFD Proceeds"), the Parties recognize that CFD Proceeds may not be available in a sufficient amount at the time the Improvement Fees are due.

E. To ensure that the Improvement Fees are paid with CFD Proceeds when the CFD Proceeds become available, the Parties desire to create a mechanism for the payment of the Improvement Fees that will enable IRWD to timely meet its City Facilities Fee, LFTM Fee and FCPP Fee obligations while receiving the advantage of the CFD Proceeds.

F. The parties also desire to create a mechanism for tracking IRWD's assignment of City Facilities Fee credits earned pursuant to Section 9.3 and Paragraph A.2 of Exhibit F of the

DA and City Facilities Fee, LFTM Fee and FCPP Fee credits earned pursuant to this Agreement and the DA (“Fee Credits”) and the use of Fee Credits by IRWD and its assigns.

AGREEMENT

NOW, THEREFORE, based upon the foregoing facts, in reliance on the foregoing recitals which are true and correct, in consideration of the mutual covenants and agreements contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, City and IRWD hereby agree as follows:

ARTICLE I

USE OF CFD PROCEEDS TO SATISFY FEE CREDIT RESPONSIBILITIES

1.1 Use of CFD Proceeds to Satisfy IRWD’s Fee Obligations. Paragraph A.1 of Exhibit F of the DA requires IRWD to pay the City Facilities Fee, the LFTM Ordinance (as defined in the DA) requires IRWD to pay the LFTM Fee, and the FCPP Ordinance requires IRWD to pay the FCPP Fee concurrently with the issuance of the building permit for each Unit (as that term is defined in Section 5.59 of the DA) in the Project. The City Facilities Fee will be used by the City for the purpose of constructing certain sports complex and City Civic Center facilities as outlined in Exhibit F of the DA (“City Facilities”). The LFTM Fee will be used for the purpose of constructing LFTM improvements in accordance with the LFTM Ordinance (“LFTM Improvements”). The FCPP Fee will be used for the purpose of constructing FCPP improvements in accordance with the FCPP Ordinance (“FCPP Improvements”). Acquisition and construction of the City Facilities, LFTM Improvements, and FCPP Improvements is listed as the top priority for use of net Special Tax Proceeds and net Bond Proceeds pursuant to Section 5 of the Funding Agreement dated as of February 1, 2012, by and between the City and IRWD (the “Funding Agreement”). However, the Improvement Fees for certain Units are expected to be due prior to the issuance of the Bonds or the receipt of sufficient Special Tax Proceeds. In that event, the Parties shall employ the steps described below in this Section 1.1.

1.1.1 Payment of Improvement Fees as Deposit. IRWD shall timely pay and pay in full all Improvement Fees, or otherwise satisfy its fee obligation with available Fee Credits. Any payment of Improvement Fees by IRWD before Bond Proceeds become available shall be held on deposit by the City in separate accounts used exclusively for City Facilities Fees, LFTM Fees, and FCPP Fees, respectively (each, a “Deposit Account”), and shall not be expended by the City, provided, however, earnings on the investment of funds in each Deposit Account in excess of the aggregate amount of the deposits may be used by the City for construction of the City Facilities, LFTM Improvements, and FCPP Improvements, as applicable. IRWD may also pay Improvement Fees with a disbursement from the Special Fund (as defined in and established pursuant to the Funding Agreement). Any payment of City Facilities Fees, LFTM Fees, or FCPP Fees through disbursement from the Special Fund shall not be deposited in the applicable Deposit Account and may be used by the City for construction of the City Facilities, LFTM Improvements, and FCPP Improvements, as applicable.

1.1.2 Payment of Improvement Fees with Bond Proceeds. At the time that Bond Proceeds become available, the Bond Proceeds shall be made available to the City to fund capital facilities in an amount equal to (i) the amount of City Facilities Fees, LFTM Fees, and FCPP Fees then on deposit in each Deposit Account plus (ii) the amount of the City Facilities

Fees, LFTM Fees, and FCPP Fees for the number of Units used to size the amount of Bonds issued that are in excess of the total of (x) the number of Units for which deposits had been made and, (y) the number of Units of City Facilities Fees, LFTM Fees or FCPP Fees that had been paid previously through disbursements from the Special Fund and that had been satisfied previously through use of a Fee Credit. The City shall use the Bond Proceeds for construction of the City Facilities, LFTM Improvements, and FCPP Improvements.

1.1.3 Deposit Reimbursement. Immediately upon receiving Bond Proceeds in accordance with Section 1.1.2 above, the City shall return to IRWD, or IRWD's designee, all funds held in the Deposit Accounts.

1.1.4 Satisfaction of Improvement Fee Obligations. IRWD's City Facilities Fee, LFTM Fee, and FCPP Fee obligation for each Unit shall be satisfied upon the occurrence of (1) payment of the applicable Improvement Fee as a deposit or through a disbursement from the Special Fund, (2) the receipt of Bond Proceeds in an amount equal to the applicable Improvement Fee or (3) the use of Fee Credits earned pursuant to the DA or as calculated below.

ARTICLE II ASSIGNMENT OF FEE CREDITS

2.1 IRWD Assignment Rights. Pursuant to Sections 13.3 through 13.5 of the DA, IRWD has the ability to sell, transfer, or assign its rights and obligations under the DA in connection with a transfer of IRWD's interest in all, any portion of, or any interest in the Property. Although IRWD's assignment rights are broad enough to cover the assignment of the Fee Credits earned pursuant to the DA and this Agreement, the specific parameters for such an assignment are not outlined in the DA. Any assignment of Fee Credits shall be performed in accordance with this Article II.

2.1.1 Application and Assignment of Fee Credits. Fee Credits against the City Facilities Fees earned pursuant to Section 9.3 and Paragraph A.2 of Exhibit F of the DA shall be applied at the time that building permits are issued for Units which are obligated to pay the City Facilities Fee and shall continue to be so applied until exhausted. As of the date of this Agreement, IRWD has earned Fee Credits against the City Facilities Fee, based on advances made pursuant to Section 9.3 of the DA. Fee Credits earned pursuant to the DA or as the result of City's receipt of Bond Proceeds shall be reflected in a "Fee Credit Statement." Each Fee Credit Statement shall be substantially in the form of Exhibit A attached hereto. Nothing herein shall preclude the reimbursement to IRWD from CFD Proceeds for advances made to City pursuant to Section 9.3 of the DA.

2.1.2 Fee Credit Statement. Each Fee Credit Statement shall specify the current amount of Fee Credits earned by, and available to IRWD. All Fee Credit Statements issued pursuant to this Agreement will convert the total dollar amount of Fee Credits earned to date into a discrete number of Units based on the amount of the applicable Improvement Fee per Unit in effect at the time the Fee Credit is earned.

2.1.3 IRWD Election. IRWD or its assigns may elect, at any time, to pay the City Facilities Fee, LFTM Fee, or FCPP Fee for a Unit as a deposit pursuant to Section 1.1.1,

and to reserve available Fee Credits for application to future City Facilities Fee, LFTM Fee or FCPP Fee obligations pursuant to the process outlined below.

2.1.4 Fee Credit Statements. Fee Credit Statements shall be maintained and updated as follows:

2.1.4.1 Each time Fee Credits are earned, the City shall issue to IRWD a Fee Credit Statement documenting the number of Units for which Fee Credits have been earned at that time.

2.1.5 Fee Credit Assignment. IRWD may assign Fee Credits if and to the extent documented in an Assignment and Assumption Agreement in a form substantially similar to Exhibit B attached hereto. In the event Fee Credits are assigned, the process outlined in this Article II shall apply to an assignee's application of Fee Credits in the same manner as it applies to IRWD.

2.1.6 Satisfaction of City Facilities Fee, LFTM Fee, and FCPP Fee Obligations. Prior to issuance of a building permit for a Unit, City will accept either: (1) A "Fee Credit Letter" in substantially the form of Exhibit C attached hereto; or (2) payment in cash of the City Facilities Fee, LFTM Fee, or FCPP Fee due for that Unit as a deposit pursuant to Section 1.1.1 or through a disbursement from the Special Fund. If IRWD, or its assigns, presents a valid Fee Credit Letter, City shall immediately apply the applicable Fee Credits and sign the Fee Credit Letter which will reflect the amount of Fee Credits applied at that time and the remaining Fee Credits.

ARTICLE III MISCELLANEOUS

3.1 Termination/Expiration/Cancellation of Agreement. Upon the formation of the Financing District, this Agreement shall not be subject to termination, expiration or cancellation even if the DA is terminated, cancelled, or expires.

3.2 Notices. All notices, requests, demands, and other communications which are required or may be given under this Agreement shall be in writing and shall be deemed to have been duly given when received if personally delivered; the day after it is sent, if sent for next day delivery to a domestic address by recognized overnight delivery service (e.g., Federal Express); and upon receipt, if sent by certified or registered mail, return receipt requested. In each case notice shall be sent to the Parties at the following addresses:

If to IRWD:	Irvine Ranch Water District 15600 Sand Canyon Avenue Irvine, CA 92618 Attention: General Manager Telephone No.: (949) 453-5300 Facsimile No.: (949) 453-1228
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With a copy to: O'Neil LLP
19900 MacArthur Blvd., Suite 1050
Irvine, CA 92612
Attention: John P. Yeager, Esq.
Telephone No.: (949) 798-0722
Facsimile No.: (949) 798-0511

If to City: City of Lake Forest
25550 Commercentre Drive
Lake Forest, CA 92630
Attention: City Manager
Telephone No.: (949) 461-3410
Facsimile No.: (949) 461-3511

With a copy to: Best Best & Krieger LLP
5 Park Plaza, Suite 1500
Irvine, CA 92614
Attention: Scott Smith, Esq.
Telephone No.: (949) 263-2600
Facsimile No.: (949) 260-0972

3.3 Choice of Law. This Agreement shall be construed, interpreted, and the rights of the Parties determined in accordance with the laws of the State of California (without giving effect to its conflicts of law principles).

3.4 Multiple Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

3.5 Severability. In the event that any one or more of the provisions contained in this Agreement or in any other instrument referred to herein shall, for any reason, be held to be invalid, illegal, or unenforceable in any respect, then to the maximum extent permitted by law, such invalidity, illegality, or unenforceability shall not affect any other provisions of this Agreement or any other such instrument.

3.6 Cumulative Remedies. All rights and remedies of any Party hereto are cumulative of each other and every other right or remedy such Party may otherwise have at law or in equity, and the exercise of one or more rights or remedies shall not prejudice or impair the concurrent exercise of other rights or remedies.

3.7 Representation by Counsel; Equal Construction. Each Party hereto represents and agrees with each other Party that it has been represented by or had the opportunity to be represented by, independent counsel of its own choosing, and that it has had the full right and opportunity to consult with its respective attorney(s), that to the extent, if any, it desired, it availed itself of this right and opportunity, that it has carefully read and fully understood this Agreement in its entirety and have had it fully explained to them by such Party's respective counsel, that it is fully aware of the contents thereof and its meaning, intent and legal effect, and

that it is competent to execute this Agreement and has executed this Agreement free from coercion, duress or undue influence. The Parties agree that each Party has reviewed and revised this Agreement and that any rule of construction to the effect that ambiguities are to be resolved against the drafting Party shall not apply in the interpretation of this Agreement or any amendment hereto or thereto or exhibits herein or therein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the day and year first above written.

IRWD:

IRVINE RANCH WATER DISTRICT,
a California water district

By: _____
Name: _____
Title: _____

Attest:

By: _____
Name: _____
Title: _____

Approved as to form:

By: _____
Name: _____
Title: _____

CITY:

CITY OF LAKE FOREST,
a California municipal corporation

By: _____
Name: Kathryn McCullough, Mayor

Attest:

By: _____
Stephanie Smith, City Clerk

Approved as to form:

By: _____
Best Best & Krieger LLP,
City Attorney

EXHIBIT A

FEE CREDIT STATEMENT

Dated: _____

Owner: _____ (“Owner”)

Current City Facilities Fee Credit Balance: _____ Units

Current LFTM Fee Credit Balance: _____ Units

Current FCPP Fee Credit Balance: _____ Units

Applicable Development Agreement (the “DA”) and Implementing Agreement:

The Development Agreement between the City of Lake Forest and Irvine Ranch Water District, dated October 22, 2008 and Implementing Agreement between the City of Lake Forest and Irvine Ranch Water District dated _____, 2012.

This statement acknowledges that, pursuant to the DA and Implementing Agreement Owner has earned _____ residential Units of City Facilities Fee Credits, ____ residential Units of LFTM Fee Credits, and _____ residential Units of FCPP Fee Credits. Each Fee Credit may be redeemed as payment in full (in lieu of cash payment) for the applicable fee otherwise due and payable upon the issuance of a residential building permit for a Unit.

To date building permits for _____ residential Units have been issued.

The future redemption of Fee Credits will be acknowledged through the issuance of a Fee Credit Letter signed by Owner and the City. The Fee Credit Letter will be in the form required by the Implementing Agreement.

Future changes in the balance of Owner's Fee Credits shall be reflected in a new Fee Credit Letter and a new Fee Credit Statement reflecting any additions or subtractions from the credit balance reflected in this statement.

Dated: _____

Acknowledged:

City

Dated: _____

Acknowledged:

Owner

EXHIBIT B

ASSIGNMENT AND ASSUMPTION AGREEMENT ASSIGNMENT AND ASSUMPTION OF SPECIFIED RIGHTS AND OBLIGATIONS UNDER THE DEVELOPMENT AGREEMENT BETWEEN THE CITY OF LAKE FOREST AND IRVINE RANCH WATER DISTRICT

This Assignment and Assumption of Specified Rights and Obligations under the Development Agreement between the City of Lake Forest and Irvine Ranch Water District (“Assignment and Assumption Agreement”) is entered into as of __, 20__ (“Effective Date”), by Irvine Ranch Water District (“IRWD”), a California water district, and _____ (“Assignee”).

RECITALS

A. IRWD has entered into that certain Development Agreement, dated _____, 2010 by and between the City of Lake Forest (“City”), on the one hand, and IRWD, on the other hand (the “Development Agreement”) for certain real property located in the City, more particularly described in Exhibit “A” (“Property”).

B. IRWD and City have also entered into that certain Implementing Agreement dated as of _____, 2012 (the “Implementing Agreement”).

C. This Assignment and Assumption Agreement is entered into pursuant to Section 13.3 of the Development Agreement and pursuant to Section 2.1.5 of the Implementing Agreement.

D. IRWD hereby conveys to Assignee that portion of its interest in the Property which is set forth in Paragraph 1 below (the “Assignment of Property”).

E. In connection with the Assignment of Property, IRWD hereby conveys to Assignee certain rights (set forth in Paragraph 2 below) under the Development Agreement and the Implementing Agreement (the “Assignment of Rights”).

F. In connection with the Assignment of Property, IRWD hereby delegates to Assignee certain obligations (set forth in Paragraph 3 below) under the Development Agreement (the “Delegation of Obligations”).

G. This Assignment and Assumption Agreement is intended to fulfill the requirements of Section 13.3 of the Development Agreement and Section 2.1.5 of the Implementing Agreement and to serve as notice to the City of Lake Forest of the Assignment of Property, the Assignment of Rights, and the Delegation of Obligations.

H. As of the Effective Date of this Assignment and Assumption Agreement, Owner is not in Major Default under the Development Agreement.

***[Note: This Recital is only applicable if the Development Agreement is still in effect.
If Owner is in Major Default, the consent of the City is required]***

AGREEMENT

IRWD and Assignee agree as follows:

1. Assignment of Property. The Assignment of Property pertains to and is limited to that portion of the Property described as follows (the "Transferred Property"):

[Insert description of Transferred Property by tract, parcel, and/or lot number]

2. Assignment of Rights. In connection with the conveyance of the Transferred Property, IRWD hereby assigns to Assignee the following rights under the Development Agreement and Implementing Agreement:

- a. The right to build _____ residential units.
- b. IRWD's vested right to complete the development of the Transferred Property pursuant to the "Development Plan" defined in the Development Agreement.
- c. The right to Fee Credits, as that term is defined in the Implementing Agreement, with respect to the City Facilities Fee for _____ Units, the LFTM Fee for _____ Units, and the FCPP Fee for _____ Units.
- d. The following right to reimbursement as provided in the Development Agreement:

[Insert the basis for and the amount of (or applicable formula) the reimbursement.]

3. Assumption of Obligations. IRWD hereby conveys to Assignee and Assignee expressly and unconditionally agrees to assume all duties and obligations of IRWD under the Development Agreement remaining to be performed with respect to the Transferred Property on the effective date of this Assignment and Assumption Agreement. **[Note: Only applicable if DA is in effect.]**

4. Execution. IRWD and the Assignee have signed this Assignment and Assumption Agreement on the dates indicated below next to their respective signatures.

Assignee:

By: _____
Name: _____
Title: _____

IRWD:

IRVINE RANCH WATER DISTRICT, a
California Water District

By: _____
Name: _____
Title: _____

EXHIBIT C

FEE CREDIT LETTER

Dated: _____

Director of Development Services City of Lake Forest
[Address]
Lake Forest, CA

City Facilities Fee Credit Letter # _____

Summary Statement

Owner: _____ (“Owner”)

Original City Facilities Fee Credit Statement dated: _____

Original City Facilities Fee Credit Balance: _____ Units

Total of City Facilities Fee Credits Earned Since Original Statement (Inclusive of City Facilities Fee Credit Letters _____ through _____): _____ Units

Number of City Facilities Fee Credits Applied with this Letter: _____ Units

Remaining City Facilities Fee Credits: _____ Units

Original LFTM Fee Credit Statement dated: _____

Original LFTM Fee Credit Balance: _____ Units

Total of LFTM Fee Credits Earned Since Original Statement (Inclusive of LFTM Fee Credit Letters _____ through _____): _____ Units

Number of LFTM Fee Credits Applied with this Letter: _____ Units

Remaining LFTM Fee Credits: _____ Units

Original FCPP Fee Credit Statement dated: _____

Original FCPP Fee Credit Balance: _____ Units

Total of FCPP Fee Credits Earned Since Original Statement (Inclusive of FCPP Fee Credit Letters _____ through _____): _____ Units

Number of FCPP Fee Credits Applied with this Letter: _____ Units

Remaining FCPP Fee Credits: _____ Units

Dear Director of Development Services:

Please apply City Facilities Fee Credits in the amount of _____ Units, which shall be in full satisfaction of the City Facilities Fee obligation for Lots/Units: _____ of Tract: _____.

Please apply LFTM Fee Credits in the amount of _____ Units, which shall be in full satisfaction of the LFTM Fee obligation for Lots/Units: _____ of Tract: _____.

Please apply FCPP Fee Credits in the amount of _____ Units, which shall be in full satisfaction of the FCPP Fee obligation for Lots/Units: _____ of Tract: _____.

By signing this letter, both the City and Owner acknowledge the application of these City Facilities Fees Credits, LFTM Fee Credits and FCPP Fee Credits and agree to the accuracy of this Fee Credit Letter. Owner also acknowledges receiving a City Facilities Fee, LFTM Fee and FCPP Fee Credit Statement from the City on this same date which reflects this current application of City Facilities Fee Credits, LFTM Fee Credits and FCPP Fee Credits.

Dated: _____

Acknowledged:

City

Dated: _____

Acknowledged:

Owner

Exhibit "D"

JOINT COMMUNITY FACILITIES AGREEMENT

between

**CITY OF LAKE FOREST
and
IRVINE RANCH WATER DISTRICT**

relating to

**COMMUNITY FACILITIES DISTRICT NO. 2010-01
OF CITY OF LAKE FOREST**

JOINT COMMUNITY FACILITIES AGREEMENT

THIS JOINT COMMUNITY FACILITIES AGREEMENT (the "Agreement") is entered into effective as of the 1st day of February, 2012, by and between the City of Lake Forest, a municipal corporation organized and existing under the laws of the State of California (the "City"), and the IRVINE RANCH WATER DISTRICT, a California water district organized and existing under Section 34000 *et seq.* of the California Water Code (in its capacity as the provider of water, sewer, recycled water and natural treatment system services referred to herein as "IRWD", and in its capacity as the current owner and master developer of the land described in Exhibit A hereto referred to herein as the "Company"). This Agreement relates to the proposed formation by the City of Community Facilities District No. 2010-01 of the City (the "District") for the purpose of financing certain facilities to be owned and operated by IRWD that are more particularly described on Exhibit B hereto (the "Facilities").

RECITALS

A. The Company is the owner of the land described in Exhibit A hereto (the "Property"), which is located in the City.

B. The Company, as the owner and master developer of the Property, intends to obtain, or has obtained, the necessary development approvals to construct up to 833 residential units on a portion of the Property and to provide the required infrastructure for such units. The required infrastructure includes the Facilities.

C. The City will have primary responsibility for the formation and administration of the District.

D. The Company has requested that the City Council of the City form and establish the District on the Property pursuant to the provisions of the Mello-Roos Community Facilities Act of 1982, Chapter 2.5 (commencing with Section 53311) of Part I of Division 2 of Title 5 of the California Government Code (the "Act").

E. The provision of the Facilities is necessitated by the development of a portion of the Property and the parties hereto find and determine that the residents residing within the boundaries of the District will be benefited by the construction and/or acquisition of the Facilities and that this Agreement is beneficial to the interests of such residents and users.

F. IRWD is authorized by Section 53313.5 of the Act to assist in the financing of the acquisition and/or construction of the Facilities. This Agreement constitutes a joint community facilities agreement, within the meaning of Section 53316.2 of the Act, by and between IRWD and the City, pursuant to which the District, when formed, will be authorized to finance the construction and/or acquisition of the Facilities. As authorized by Section 53316.6 of the Act, responsibility for providing for and operating the Facilities is delegated to IRWD to the extent set forth herein.

G. The parties hereto intend to have the District assist in financing the Facilities by transferring to IRWD (by means of direct payment to the Company) a portion of the bond proceeds of the District, in accordance with the terms of this Agreement and pursuant to the Act.

AGREEMENT

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

1. Recitals. Each of the above recitals is incorporated herein and is true and correct.

2. Use of Special Tax and Bond Proceeds. The purpose of this Agreement is to provide a mechanism by which the Company may request the District to provide funds to finance all or a portion of the Facilities. In the event that the District is formed, the District may finance the design, construction and acquisition of the Facilities by levying special taxes of the District (the "Special Taxes") and issuing bonds, in one or more series, for each improvement area ("Improvement Area") designated within the District (the "Bonds"). Pursuant to the Funding Agreement related to City of Lake Forest Community Facilities District No. 2010-02 (Serrano Summit) between the City and IRWD dated as of February 1, 2012 (the "Funding Agreement") the proceeds of Special Taxes may be deposited in a "Special Fund" and be available to finance all or a portion of the Facilities. In addition, a portion of the proceeds of the Bonds, as determined in accordance with the Funding Agreement, shall be deposited in an "Other Facilities Account" within the "Improvement Fund" established pursuant to the fiscal agent agreement ("Fiscal Agent Agreement") executed between the City with the fiscal agent ("Fiscal Agent") with respect to the Bonds.

3. Disbursements.

(a) The City shall make disbursements from the Special Fund and Other Facilities Account with respect to the Facilities in accordance with the terms of the Funding Agreement. Such disbursements shall not include any IRWD capacity or connection fees owed by the Company with respect to the Property.

(b) IRWD and the Company agree that they will request a disbursement only for costs related to the Facilities that are eligible for financing under the Act. IRWD agrees that prior to requesting disbursement from the District it shall review and approve all costs included in its request and it will have received written confirmation from the Company that the Company has already paid such costs of Facilities from its own funds or will use the disbursement amount to pay costs of the Facilities within five banking days of receipt of funds from the District. Any such disbursement for costs related to the Facilities shall be made directly to the Company. IRWD and the Company agree that in processing disbursements from the Other Facilities Account they will comply with all legal requirements for the expenditure of Bond proceeds under the Act and the Internal Revenue Code of 1986 and any amendments thereto.

(c) The Company and IRWD shall submit a request for payment, along with adequate supporting documentation to the District, in the form attached hereto as Exhibit C, which form shall be signed by an authorized signatory of the Company and by the IRWD Director of Engineering and Planning, or his written designee, and which shall be for the exact amount to be paid to the Company. Any disbursement from the Special Fund shall be approved and made by the City. Upon receipt of an approved payment request completed in

accordance with the terms of this Agreement, the Fiscal Agent shall wire transfer such portion of requested funds (or, in the Fiscal Agent's discretion, issue a check if the transfer is less than \$50,000) as are then available in the Other Facilities Account for release pursuant to the documents pursuant to which the Bonds are issued to the Company's bank account, or as otherwise directed by the Company.

4. Construction and Ownership of Facilities. The Company will complete the design of the Facilities and the plans and specifications for construction of the Facilities and will be responsible for constructing the Facilities. The Company covenants and agrees that with respect to the Facilities it will comply with all statutory provisions applicable to the design and construction of public works projects. The Facilities shall be acquired by IRWD and shall remain the property of IRWD. In addition to the foregoing, the design and construction of the Facilities shall be performed in a manner consistent with a Service Agreement to be entered into between IRWD and the Company pursuant to IRWD's Rules and Regulations. In order to receive service from IRWD, the Company must, in addition to providing the Facilities, meet all of the other applicable requirements of IRWD's Rules and Regulations.

5. Indemnification. The District shall assume the defense of, indemnify and save harmless, IRWD, the Company and their officers, employees and agents, and each and every one of them, from and against all actions, damages, claims, losses or expenses of every type and description to which they may be subjected or put, by reason of, or resulting from, any act or omission of the District with respect to this Agreement; provided, however, that the District shall not be required to indemnify any person or entity as to damages resulting from active negligence or willful misconduct of such person or entity or their agents or employees. The Company shall assume the defense of, indemnify and save harmless, the District, its officers, employees and agents, and each and every one of them, from and against all actions, damages, claims, losses or expenses of every type and description to which they may be subjected or put, by reason of, or resulting from, any act or omission of IRWD or of the Company with respect to this Agreement, and the design, engineering and construction of the Facilities by the Company; provided, however, that the Company shall not be required to indemnify any person or entity as to damages resulting from active negligence or willful misconduct of such person or entity or their agents or employees.

6. Responsibility for Debt Service or Special Taxes. IRWD's obligations under this Agreement shall be limited to its obligations with respect to the design, construction, ownership, operation and maintenance of the Facilities and the express terms hereof, and IRWD shall have no obligation, responsibility, or authority with respect to the issuance and sale of the Bonds, or the payment of the principal and interest thereon, or for the levy of the Special Taxes to provide for the payment of principal and interest thereon, and the District shall have the sole authority and responsibility for all such matters. The Parties hereto specifically agree that the liabilities of the District pursuant to the documents providing for the issuance of Bonds, including any Fiscal Agent Agreement, shall not be or become liabilities of IRWD.

7. Administration of the District. The City shall have the power and duty to provide for the administration of the District once it is formed, including employing and compensating all consultants and providing for the various other administrative duties set forth in this Agreement. It is understood and agreed by the Parties hereto that IRWD will not be

considered a participant in the proceedings relative to formation of the District or the issuance of the Bonds, other than as a Party to this Agreement.

8. Amendment. This Agreement may be amended at any time but only in writing signed by each party hereto.

9. Entire Agreement. This Agreement contains the entire agreement between the parties with respect to the matters provided for herein and supersedes all prior agreements and negotiations between the parties with respect to the subject matter of this Agreement.

10. Successors and Assigns. This Agreement is for the sole benefit of the City, IRWD, and Company and their successors and assigns (excluding property owners of residential lots within the District who are end users, who shall not be considered to be the successors or assigns of the Company and shall have no rights hereunder), and no other person or entity shall be deemed to be a beneficiary hereof or have an interest herein. Company may assign this Agreement or any right or obligations hereunder without the express prior written approval of the City or IRWD; provided, however, that such assignment shall not become effective until there shall have been delivered to the City and IRWD a written assignment and assumption agreement between Company and the assignee whereby such rights assigned are specified and such assignee agrees, except as may be otherwise specifically provided therein, to assume the obligations of Company under this Agreement and to be bound thereby.

11. Notices. Any notice, payment or instrument required or permitted by this Agreement to be given or delivered to any party shall be deemed to have been received when personally delivered or seventy-two hours following deposit of the same in any United States Post Office in California, registered or certified, postage prepaid, addressed as follows:

City and District: City of Lake Forest
 25550 Commerce Center Drive
 Lake Forest, CA 92630
 Attn: City Manager

IRWD: Irvine Ranch Water District
 15600 Sand Canyon Avenue
 Irvine, CA 92718
 Attn: Treasurer

Each party may change its address for delivery of notice by delivering written notice of such change of address to the other parties hereto.

12. Exhibits. All exhibits attached hereto are incorporated into this Agreement by reference.

13. Severability. If any part of this Agreement is held to be illegal or unenforceable by a court of competent jurisdiction, the remainder of this Agreement shall be given effect to the fullest extent reasonably possible.

14. Governing Law and Venue. This Agreement and any dispute arising hereunder shall be governed by and interpreted in accordance with the laws of the State of California. In the event of any legal action to enforce or interpret this Agreement, the sole and exclusive venue shall be a court of competent jurisdiction located in Orange County, California, and the parties hereto agree to and do hereby submit to the jurisdiction of such court, notwithstanding Code of Civil Procedure Section 394. Furthermore, the parties specifically agree to waive any and all rights to request that an action be transferred for trial to another County.

15. Waiver. Failure by a party to insist upon the strict performance of any of the provisions of this Agreement by the other parties hereto, or the failure by a party to exercise its rights upon the default of another party, shall not constitute a waiver of such party's right to insist and demand strict compliance by such other parties with the terms of this Agreement thereafter.

16. No Third Party Beneficiaries. No person or entity other than the District when and if formed shall be deemed to be a third party beneficiary hereof, and nothing in this Agreement (either express or implied) is intended to confer upon any person or entity, other than IRWD, the City, the District and the Company (and their respective successors and assigns), any rights, remedies, obligations or liabilities under or by reason of this Agreement.

17. Singular and Plural; Gender. As used herein, the singular of any word includes the plural, and terms in the masculine gender shall include the feminine.

18. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which shall constitute but one instrument.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and first year written above.

CITY

By: _____
Its: _____

IRWD

By: _____
Its: General Manager

IRVINE RANCH WATER DISTRICT,
in its capacity as Company

By: _____
Its: General Manager

EXHIBIT A

DESCRIPTION OF PROPERTY

[ATTACHED]

EXHIBIT C

PAYMENT REQUEST FORM

1. Community Facilities District No. ____-__ of the City of Lake Forest (“CFD No. ____-__”) is hereby requested to pay from the Special Fund established pursuant to the Funding Agreement or the Other Facilities Account of the Improvement Fund established by the City in connection with its CFD No. ____-__ Special Tax Bonds (the “Bonds”), to _____ (the “Company”), as Payee, the sum set forth below in payment of project costs described below.

2. The Company certifies that the amount requested has been expended or encumbered for the purposes of constructing and completing Facilities, and that the attached supporting documentation is correct and complete. The amount requested is due and payable under, or is encumbered for the purpose of funding, a purchase order, contract or other authorization with respect to the project costs described below and has not formed the basis of a prior request or payment.

3. Description of Facilities costs:

4. Amount requested: \$_____.

5. The amount set forth is authorized and payable pursuant to the terms of the Joint Community Facilities Agreement among the City, the Company and Irvine Ranch Water District (“IRWD”) dated as of _____, 2012 (the “Agreement”). Capitalized terms not defined herein shall have the meaning set forth in the Agreement. The Company confirms that the amount set forth constitutes costs of design and construction of the Facilities that are eligible for financing under the Act. The Company confirms that the Company has already paid such costs of Facilities from its own funds or will use the disbursement amount to pay costs of the Facilities within five banking days of receipt of funds from the District and that this disbursement complies with all legal requirements for the expenditure of Bond proceeds under the Act and the Internal Revenue Code of 1986 and any amendments thereto.

Signatures continued

Executed by an authorized representative of the Company.

By: _____

Name: _____

Title: _____

Date: _____

Request No. _____

Agreed to:

IRVINE RANCH WATER DISTRICT

By: _____

Name: _____

Title: _____

Date: _____

February 13, 2012

Prepared and

Submitted by: Janet Wells

Approved by: Paul Cook */j.wells*

ACTION CALENDAR

PROPOSED DECREASES TO CALPERS EMPLOYER-PAID MEMBER CONTRIBUTIONS

SUMMARY:

As part of the multi-year process to transition employees to paying the full 8% of the CalPERS employee contribution, increases in the employee contribution rates were proposed to the Finance and Personnel Committee on February 7, 2012 as follows:

- Effective March 1, 2012, the General Manager and the Assistant General Manager (defined as Executive Management) will pay an additional 2% into CalPERS increasing their employee contributions from 6% to the full 8%;
- Effective March 1, 2012, all Department Directors and Executive Directors (Senior Management) will pay an additional 2% into CalPERS increasing their employee contributions from 5% to 7%; and
- Effective March 1, 2012, all other full-time regular employees (Full-Time Regular Employees) will pay an additional 2% into CalPERS; increasing their employee contributions from 3% to 5%.

A schedule for completing this transition process was also prepared and discussed at the Finance and Personnel Committee meeting.

Two alternative proposals for transitioning employees to paying the full 8% of the CalPERS employee contribution were introduced at the February 7, 2012 Finance and Personnel Committee meeting. These alternatives are summarized in the "Committee Status" section of this write-up.

Staff recommends that the Board adopt the required resolutions indicating the amount and timing of the next incremental percentage shift for the CalPERS employee contribution and to develop an intended schedule for completing the shift in payment of the 8% CalPERS employee contribution to the employees.

BACKGROUND:

During the review of the Operating Budget for Fiscal Year 2011-12, opportunities to manage costs associated with the current IRWD employee pension program were identified. On April 25, 2011, the Board approved a multi-year process that would eventually transition the District's employees to paying the full 8% of the CalPERS employee contribution. Effective July 1, 2011, the following initial adjustments of employer-paid contributions were approved:

- Executive Management CalPERS employee contributions increased from 1% to 6%;
- Senior Management CalPERS employee contributions increased from 1% to 5%; and
- All other Full-Time Regular Employee CalPERS employee contributions increased from 1% to 3%.

At that time, all Full-Time Regular Employee positions and the Senior Management positions also received a 2% increase in salary (effective July 1, 2011).

Shifts in Employee-Paid Contributions Effective March 1, 2012:

At its meeting on November 14, 2011, the Board took the following actions: 1) approved a 2.47% cost of living adjustment (COLA) for all eligible employees; 2) adopted a resolution to reflect this adjustment; and 3) directed staff to notify employees that in February 2012, the Board would consider an increase of at least 2% of the employee-paid contribution to CalPERS, effective March 1, 2012. Notification of the Board's intent, as expressed at this meeting, was communicated to all employees through an all-employee e-mail sent on November 15, 2011 and verbally at the various departmental all-hands / safety meetings conducted during the subsequent weeks.

For the Board to make the adjustments to the employee-paid contributions to CalPERS, it needs to adopt resolutions stipulating the specific amount of each adjustment. Staff is recommending, for the Board's consideration, adjustments to the employee-paid contributions as follows:

- Effective March 1 the General Manager and the Assistant General Manager positions (Executive Management) will pay an additional 2% into CalPERS, increasing the employee contributions from 6% to the full 8%;
- Effective March 1 all Department Director and Executive Director positions (Senior Management) will pay an additional 2% into CalPERS, increasing their employee contributions from 5% to 7%; and
- Effective March 1 all other Full-Time Regular Employees will pay an additional 2% into CalPERS, increasing their employee contributions from 3% to 5%.

The resolutions associated with these adjustments are attached as Exhibit "A".

Future Shifts in Employee-Paid Contributions:

As suggested at the November 14, 2011 Board meeting, staff has developed recommendations regarding the schedule for transitioning all employees to paying the full 8% of the CalPERS employee contribution. Staff is proposing, for the Board's consideration, the following steps:

- All Full-Time Regular Employees will pay an additional 3% into CalPERS; increasing their employee contributions from 5% to the full 8% effective March 1, 2013.
- Senior Management will pay an additional 1% into CalPERS increasing their employee contribution from 7% to 8% effective March 1, 2013; and
- The General Manager and the Assistant General Manager will already be paying the full 8% contribution; therefore, no action will be taken at March 1, 2013.

Staff is recommending these adjustments become effective March 1, 2013 so they occur after the 2012 holiday season. Additional resolutions would need to be adopted for the adjustments described above.

FISCAL IMPACTS:

The recommended adjustments to decrease the Employer-Paid Member Contributions, effective March 1, 2012, represent an approximate annual savings to the District of \$500,000.

ENVIRONMENTAL COMPLIANCE:

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

COMMITTEE STATUS:

This item was reviewed by the Finance and Personnel Committee on February 7, 2012. The Committee did not reach a consensus regarding this item.

Director Swan recommended that the District's contributions for full-time regular employees be decreased by 2.5% effective March 1, 2012 and another 2.5% effective March 1, 2013. Under this scenario, all District employees would be paying their full 8% employee contribution by March 1, 2013.

Director LaMar recommended that the District's contribution for full-time regular employees be decreased by 2.0% effective March 1, 2012, then 1% on March 1, 2013, 1% on March 1, 2014, and 1% on March 1, 2015 for full-time regular employees. Under this scenario, all District employees would be paying their full 8% employee contribution by March 1, 2015.

RECOMMENDATION:

That the Board adopt the following three resolutions by title authorizing the Employer-Paid Member Contributions to CalPERS:

RESOLUTION 2012-

RESOLUTION OF THE BOARD OF
DIRECTORS OF THE IRVINE RANCH WATER DISTRICT,
ORANGE COUNTY, CALIFORNIA MODIFYING
EMPLOYER-PAID MEMBER CONTRIBUTIONS
(FOR EXECUTIVE MANAGEMENT)

RESOLUTION 2012-

RESOLUTION OF THE BOARD OF
DIRECTORS OF THE IRVINE RANCH WATER DISTRICT,
ORANGE COUNTY, CALIFORNIA MODIFYING
EMPLOYER-PAID MEMBER CONTRIBUTIONS
(FOR SENIOR MANAGEMENT STAFF)

RECOMMENDATION (Continued):

RESOLUTION 2012-

RESOLUTION OF THE BOARD OF
DIRECTORS OF THE IRVINE RANCH WATER DISTRICT,
ORANGE COUNTY, CALIFORNIA MODIFYING
EMPLOYER-PAID MEMBER CONTRIBUTIONS
(FOR FULL-TIME REGULAR EMPLOYEES)

LIST OF EXHIBITS:

Exhibit “A” – Resolutions to adopt Employer-Paid Member Contributions for Executive Management, Senior Management, and Full-Time Regular Employees

Exhibit "A"

RESOLUTION 2012-

RESOLUTION OF THE BOARD OF
DIRECTORS OF THE IRVINE RANCH WATER DISTRICT,
ORANGE COUNTY, CALIFORNIA MODIFYING
EMPLOYER-PAID MEMBER CONTRIBUTIONS
(FOR EXECUTIVE MANAGEMENT)

WHEREAS, the governing body of the Irvine Ranch Water District (District) has the authority to implement Government Code Section 20691; and

WHEREAS, the governing body of the District has a written policy which specifically provides for the normal member contributions to be paid by the employer; and

WHEREAS, one of the steps in the procedures to implement Section 20691 is the adoption by the governing body of the District of a resolution to commence said Employer-Paid Member Contributions (EPMC); and

WHEREAS, the governing body of the District has identified conditions for the purpose of its election to pay EPMC.

NOW, THEREFORE, the governing body of the Board of Directors of Irvine Ranch Water District modifies its prior election to pay EPMC as set forth below:

Section 1. The modified EPMC benefit adopted and set forth below in this Resolution shall apply to all employees of Executive Management staff.

Section 2. This benefit shall consist of paying none of the normal member contributions as EPMC.

Section 3. The effective date of this Resolution shall be March 1, 2012.

ADOPTED, SIGNED and APPROVED this 13th day of February, 2012.

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

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

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

RESOLUTION 2012-

RESOLUTION OF THE BOARD OF
DIRECTORS OF THE IRVINE RANCH WATER DISTRICT,
ORANGE COUNTY, CALIFORNIA MODIFYING
EMPLOYER-PAID MEMBER CONTRIBUTIONS
(FOR SENIOR MANAGEMENT STAFF)

WHEREAS, the governing body of the Irvine Ranch Water District (District) has the authority to implement Government Code Section 20691; and

WHEREAS, the governing body of the District has a written policy which specifically provides for the normal member contributions to be paid by the employer; and

WHEREAS, one of the steps in the procedures to implement Section 20691 is the adoption by the governing body of the District of a resolution to commence said Employer-Paid Member Contributions (EPMC); and

WHEREAS, the governing body of the District has identified conditions for the purpose of its election to pay EPMC.

NOW, THEREFORE, the governing body of the Board of Directors of Irvine Ranch Water District modifies its prior election to pay EPMC as set forth below:

Section 1. The modified EPMC benefit adopted and set forth below in this Resolution shall apply to all employees of Senior Management staff.

Section 2. This benefit shall consist of paying 1% (one percent) of the normal member contributions as EPMC.

Section 3. The effective date of this Resolution shall be March 1, 2012.

ADOPTED, SIGNED and APPROVED this 13th day of February, 2012.

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

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

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

RESOLUTION 2012-

RESOLUTION OF THE BOARD OF
DIRECTORS OF THE IRVINE RANCH WATER DISTRICT,
ORANGE COUNTY, CALIFORNIA MODIFYING
EMPLOYER-PAID MEMBER CONTRIBUTIONS
(FOR FULL-TIME REGULAR EMPLOYEES)

WHEREAS, the governing body of the Irvine Ranch Water District (District) has the authority to implement Government Code Section 20691; and

WHEREAS, the governing body of the District has a written policy which specifically provides for the normal member contributions to be paid by the employer; and

WHEREAS, one of the steps in the procedures to implement Section 20691 is the adoption by the governing body of the District of a resolution to commence said Employer-Paid Member Contributions (EPMC); and

WHEREAS, the governing body of the District has identified conditions for the purpose of its election to pay EPMC.

NOW, THEREFORE, the governing body of the Board of Directors of Irvine Ranch Water District modifies its prior election to pay EPMC as set forth below:

Section 1. The modified EPMC benefit adopted and set forth below in this Resolution shall apply to all Full-time Regular Employees.

Section 2. This benefit shall consist of paying 3% (three percent) of the normal member contributions as EPMC.





Section 3. The effective date of this Resolution shall be March 1, 2012.

ADOPTED, SIGNED and APPROVED this 13th day of February, 2012.

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

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

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


February 13, 2012
Prepared by: Tanja Fournier/ Rob Jacobson 
Submitted by: Debby Cherney 
Approved by: Paul Cook 

ACTION CALENDAR

**PROPOSED EARLY REDEMPTION
OF THE ELECTION 1988 BONDS**

SUMMARY:

The District currently has three Election 1988 bond issues with a total par amount of \$3.1 million. The bonds are backed by letters of credit issued by Landesbank Hessen-Thuringen Girozentrale (Helaba). Last spring, Helaba exercised its right to opt-out of the letter of credit effective May 2, 2012. Staff is recommending that the Committee approve redeeming the bonds on April 2, 2012, rather than incurring significant expense to substitute the Helaba letter of credit for 18 months through final maturity of November 2013.

BACKGROUND:

The District currently has three Election 1988 bond issues backed by letters of credit issued by Helaba with a letter of credit fee of 0.21%:

Bond Issues	Current Par Amount
1988-182	\$1,200,000
1988-282	900,000
1988-284	1,000,000
Total Bonds Outstanding	\$3,100,000

In May 2011, Helaba contacted staff to exercise their option allowed under the reimbursement agreement to “opt-out” prior to the final expiration of the letter of credit on November 15, 2013. Therefore, the Helaba letter of credit will terminate on May 2, 2012.

The 1988 bonds have a \$1.7 million principal payment due in November 2012, which will bring the par amount to \$1.4 million until final maturity in November 2013. Staff recommends the Committee approve redeeming the bonds on April 2, 2012, rather than substitute the Helaba letter of credit, which would cause the District to incur significant expenses including legal fees, costs in connection with development of new remarketing documents, and rating agency fees, estimated at \$85,000 (43 basis points) and increased letter of credit fees estimated at \$13,000 (0.65% vs. 0.21%) over the remaining eighteen months to maturity.

FISCAL IMPACTS:

Redeeming the 1988 bonds 18 months earlier than the scheduled maturity will result in a onetime payment of \$3.1 million on April 2, 2012.

ENVIRONMENTAL COMPLIANCE:

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

COMMITTEE STATUS:

This item was reviewed by the Finance and Personnel Committee on February 7, 2012.

RECOMMENDATION:

That the Board adopt the following resolution by title:

RESOLUTION OF THE BOARD OF DIRECTORS OF THE
IRVINE RANCH WATER DISTRICT CALLING BONDS
OF SAID DISTRICT FOR REDEMPTION AND AUTHORIZING
CERTAIN ACTIONS IN CONNECTION THEREWITH
(WATERWORKS BONDS, ELECTION 1988, SERIES A, IMPROVEMENT DISTRICT NO. 182;
SEWER BONDS, ELECTION 1988, SERIES A, IMPROVEMENT DISTRICT NO. 282; AND
SEWER BONDS, ELECTION 1988, SERIES A, IMPROVEMENT DISTRICT NO. 284)

LIST OF EXHIBITS:

Exhibit "A" - Resolution

Exhibit "A"

RESOLUTION NO. __

RESOLUTION OF THE BOARD OF DIRECTORS OF THE
IRVINE RANCH WATER DISTRICT CALLING BONDS
OF SAID DISTRICT FOR REDEMPTION AND AUTHORIZING
CERTAIN ACTIONS IN CONNECTION THEREWITH

(WATERWORKS BONDS, ELECTION 1988, SERIES A, IMPROVEMENT DISTRICT NO. 182;
SEWER BONDS, ELECTION 1988, SERIES A, IMPROVEMENT DISTRICT NO. 282;
SEWER BONDS, ELECTION 1988, SERIES A, IMPROVEMENT DISTRICT NO. 284)

WHEREAS, the Irvine Ranch Water District ("IRWD") has issued the series of bonds designated Waterworks Bonds, Election 1988, Series A, of the Irvine Ranch Water District for Improvement District No. 182; Sewer Bonds, Election 1988, Series A, of the Irvine Ranch Water District for Improvement District No. 282; and Sewer Bonds, Election 1988, Series A, of the Irvine Ranch Water District for Improvement District No. 284 (collectively, the "1988 Bonds"), each series of which was issued pursuant to an Indenture of Trust by and between IRWD and the Bank of New York Mellon Trust Company, N.A., as successor trustee (the "Trustee"), dated as of June 1, 1988, as supplemented by a First Supplemental Indenture of Trust, also dated as of June 1, 1988 (collectively, the "Indentures"); and

WHEREAS, Landesbank Hessen-Thüringen Girozentrale, acting through its New York Branch (the "Bank"), has issued irrevocable letters of credit relating to each of the above-listed series of the 1988 Bonds (collectively, the "Letters of Credit"); and

WHEREAS, pursuant to the reimbursement agreements entered into between IRWD and the Bank relating to the respective Letters of Credit, the Bank has elected to terminate the Letters of Credit on May 1, 2012; and

WHEREAS, in consideration of the remaining principal amounts outstanding, the time remaining to final maturity and other factors associated with the 1988 Bonds, the Board of Directors of IRWD has determined that it is in the interest of IRWD to call for redemption and redeem all of the outstanding 1988 Bonds prior to May 1, 2012; and

WHEREAS, the Board has identified funds of each of Improvement District Nos. 182, 282 and 284 that are available and sufficient for the purpose of reimbursing the Bank pursuant to the draws to be made in connection with the redemption of the respective series of the 1988 Bonds in accordance with the related Letters of Credit; and

WHEREAS, this Board desires to authorize the execution and delivery of any and all documents and instruments and the performance of any and all acts and things necessary or proper for carrying out the transactions contemplated by this resolution and the Indentures relating to the redemption of the 1988 Bonds.

NOW, THEREFORE, the Board of Directors of IRWD DOES HEREBY RESOLVE, DETERMINE AND ORDER as follows:

Section 1. Pursuant to the applicable Indenture, the Treasurer of IRWD (the "Treasurer") is authorized and directed to cause all outstanding bonds of each series of the 1988 Bonds to be called for redemption and redeemed on April 1, 2012. The Treasurer is hereby authorized and directed to give instructions to the Trustee to cause a notice of redemption for each series of the 1988 Bonds to be to be given in accordance with the related Indenture.

Section 2. The Treasurer is authorized and directed to cause available funds of Improvement District Nos. 182, 282 and 284 to be applied to the reimbursement of draws on the Letters of Credit in connection with the redemptions and to take any other actions as may be required by the Letters of Credit or reimbursement agreements in such connection.

Section 3. The President, the Treasurer, the Secretary and each other officer of IRWD, acting singly, be and each of them hereby is authorized and directed to execute and deliver any and all documents and instruments, and to do and cause to be done any and all acts and things necessary or proper for carrying out the transactions contemplated by this resolution and as required by the Indentures and the other documents and instruments relating to the 1988 Bonds.

Section 4. This resolution shall take effect immediately upon its adoption.

ADOPTED, SIGNED AND APPROVED this ____ day of _____, 2012.

President/Vice President
IRVINE RANCH WATER DISTRICT
and of the Board of Directors
thereof

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

APPROVED AS TO FORM:

BOWIE, ARNESON,
WILES & GIANNONE
Legal Counsel - IRWD

By _____

00162478/ 020612

February 13, 2012

Prepared by: R. Bennett

Submitted by: P. Weghorst / G. Heiertz

Approved by: Paul Cook

ACTION CALENDAR

ENERGY AND GREEN HOUSE GAS MASTER PLAN AND JACKSON RANCH SOLAR FEASIBILITY STUDY

SUMMARY:

Staff will provide an overview of the results and recommendations from the District's Draft Energy and Green House Gas (GHG) Master Plan that was prepared by Kennedy/Jenks Consultants (KJC) and a plan to investigate the feasibility of developing a solar power generating facility at the Jackson Ranch. Staff recommends the Board:

- Authorize an increase to the FY 2011-12 Capital Budget for Project 11482 (1620) in the amount of \$36,000, from \$378,900 to \$414,900;
- Approve an Expenditure Authorization in the amount of \$51,000 for Project 11482 (1620) for staff to assist in developing the Energy and Green House Gas Master Plan and to initiate additional investigations of the portfolio of recommended Energy and GHG Master Plan projects;
- Authorize the addition of the Jackson Ranch Solar Project 11637 (3667) to the FY 2011-12 Capital Budget in the amount of \$98,600;
- Approve an Expenditure Authorization in the amount of \$98,600 for Project 11637 (3667) to investigate the feasibility of developing a solar power generating facility at the Jackson Ranch;
- Authorize the General Manager to execute Variance No. 1 in the amount of \$13,577 for Project 11637 (3667) with ZGlobal, Inc. to provide additional analysis of power grid interconnection issues; and
- Authorize the General Manager to execute a Professional Services Agreement in the amount of \$36,000 for Project 11637 (3667) with Provost and Pritchard Consulting Group to analyze land use conversion and entitlement issues, develop a property prospectus, perform a preliminary energy production analysis, review IRWD's request for proposal (RFP), and assist in identifying a pre-qualified list of solar power developers to receive the RFP.

BACKGROUND:

The California Air Resources Board (ARB) is the lead agency for implementing the California Global Warming Solutions Act of 2006 (Assembly Bill 32, AB 32). ARB has established mandatory reporting for all facilities that emit 25,000 metric tons or more of carbon dioxide equivalents (CO₂e) per year. None of IRWD's facilities exceed the mandatory reporting limit. Nevertheless, future actions by ARB and/or the US Environmental Protection Agency (EPA) may result in IRWD having to reduce GHG emissions.

At the December 2009 Strategic Planning Workshop, the Board directed staff to develop an Energy and GHG Master Plan (Master Plan) that would allow the District to set goals and to strategically approach the reduction of District energy use and GHG emissions. The Master Plan would also identify cost effective methods for establishing renewable energy programs. On October 25, 2010, the Board authorized the execution of a Professional Services Agreement with KJC for the development of a Master Plan.

Energy and GHG Master Plan:

KJC has provided a draft Master Plan that recommends a portfolio of cost-effective projects that would reduce the District’s existing and future energy usage and costs with corresponding reductions in GHG emissions. The Master Plan also recommends low-cost projects that can further reduce GHG emissions in response to future regulatory conditions. KJC’s draft executive summary report is attached as Exhibit “A”. A detailed draft Master Plan report is currently being reviewed by staff. Key results of the Master Plan are outlined below.

Future Energy Use and GHG Emissions: IRWD’s energy uses for existing and planned future projects are estimated to increase substantially through the year 2030. The future projects that are expected to increase IRWD’s energy usage include the Michelson Phase 2 upgrade, the Baker Treatment Plant, the MWRP Biosolids Dewater Project, Wells 21 and 22 Desalter Project, and several other well projects. The following table presents a summary of the District’s existing and future energy use, energy costs, and GHG emissions from 2009 to 2030:

IRWD’s Existing and Estimated Future
 Energy Use and GHG Emissions

Year	Total Annual Electricity Use (KWh/Yr)	Total Annual Natural Gas Use (Therms/Yr)	Total Annual Fleet Fuel Consumption (gallons/Yr)	Total Energy Costs (\$)	Total Annual GHG Emissions (MT CO ₂ e/Yr)
Baseline (2009)	93,316,049	820,857	164,912	\$10,006,005	62,565
2015	143,961,805	1,985,771	179,415	\$18,739,950	75,465
2020	141,666,259	2,038,286	195,736	\$20,583,146	86,253
2025	148,864,726	2,065,185	208,121	\$23,907,109	90,635
2030	150,190,040	2,074,454	209,704	\$26,739,548	91,566

Energy and GHG Saving Projects: Workshops were held between IRWD staff and KJC to develop a list of 20 potential projects that could conserve energy, save money, and reduce the District’s GHG emissions. Each project was evaluated using a common report format and cost estimating procedure. Each project was scored using an evaluation and weighting method developed by staff and KJC. Project scores were ranked and graphed from highest to lowest. A natural grouping of projects with relatively high and low scores occurred, which lead to the selection of 12 recommended projects for further analysis. The following table describes the

recommended projects and estimates their net present value (NPV) including the project's full costs and benefits.

**Energy and GHG Master Plan
 Recommended Projects**

Rank	Project	Title	Description	NPV of Annual Net Costs and Benefits (\$)*
1	9	Pump Efficiency Improvement Program	Expand the existing program to evaluate pumps and motors and install cost-effective retrofits.	(\$1,361,837)
2	20	Additional Water Conservation Activities	New water conservation activities including: joint energy and water auditing, commercial industrial and institutional water use, and UC Irvine water use incentives.	(\$3,503,850)
3	10	Energy Efficiency Measures	Implement energy efficiency measures from the 2001 office building energy audits, the 2009 energy audit, and implement an energy management system at Michelson Water Reclamation Plant (MWRP).	(\$684,526)
4	17b	Purchase of Renewable Energy Credits	Purchase renewable energy credits to offset GHG emissions if mandatory reporting limits are required.	\$293,069
5	15	Process Energy Audit Measures	Implement the 2011 processes audit recommendations at MWRP and LAWRP.	(\$557,966)
6	12b	Solar Photovoltaic (PV) Projects	Land lease for a solar PV development at Jackson Ranch.	(\$763,230)
7	14b	Michelson Phase 2 Operations	Make use of both the membrane bio-reactor (MBR) and activated sludge (AS) processes to reduce energy use of Michelson Phase 2 Project.	(\$791,465)
8	6	San Joaquin Marsh Pumping	Do not pump in the winter from noon to 6:00 p.m. to save energy.	(\$219,814)
9	4	Dissolved Oxygen Control at LAWRP	Add an automated dissolved oxygen (DO) control system at Los Alisos Water Recycling Plant (LAWRP)	(\$58,054)
10	18	Fleet Fuel Consumption	Change the composition of IRWD's vehicle and equipment fleet using alternative fuels and implement a fuel savings.	(\$3,439,276)
11	3	Accelerate Local Groundwater Supply Project	Accelerate local groundwater supply projects (as groundwater basin management allows) to reduce imported water purchases.	(\$141,474,198)
12	8	Food-Waste-to-Energy	Add pre-processed food waste to the Biosolids Project to increase digester gas production and energy generation.	(\$768,803)

* A project with a negative NPV, shown in parenthesis, is estimated to be a net savings to IRWD

The Accelerated Local Groundwater Supplies Project represents the largest benefit to the District from any single project. It alone represents over 90% of the total benefit to IRWD. The acceleration of the District's use of groundwater supplies would require a change from current

groundwater basin management policies. The Master Plan analyzes the benefits of the Accelerated Groundwater Supplies Project separately from the other 11 recommended projects. The Purchase of Renewable Energy Credits (RECs) is the only project that has both a positive NPV, representing a cost to IRWD, and no electricity savings. It is one of the recommended projects because it provides a cost-effective method to reduce GHG emissions if IRWD is regulated in the future.

Master Plan Benefits: The District's existing and future energy use and GHG emissions were compared to future conditions assuming the implementation of the Accelerated Local Groundwater Supplies Project and the 11 recommended projects. As presented in the following table, the 11 recommended projects are estimated to have an average annual savings of \$0.9 million dollars and a net present value savings of \$11.9 million dollars over the life of the projects. The Accelerated Local Groundwater Supplies Project is estimated to have an average annual savings of \$10.9 million/year and an NPV savings of \$141.5 million over the life of the project. Capital costs less incentives were estimated to be approximately \$8.1 for the 11 recommended projects and \$24.8 million for Accelerated Local Groundwater Supplies Project. Electrical use was estimated to decrease by 11.1 million kWh/year for the 11 recommended projects and increase by 10.6 million kWh/year for the Accelerated Local Groundwater Supplies Project. The Accelerated Local Groundwater Supplies Project saves money while increasing energy use because the cost of imported water is more than the additional cost of pumping local groundwater. The District's GHG emissions were estimated to decrease by 5,052 metric tons/year and 4,049 metric tons/year for the 11 recommended projects and the Accelerated Local Groundwater Supplies Project, respectively. The Accelerated Local Groundwater Supplies Project saves GHG emissions because importing water creates more GHG emissions than pumping local groundwater.

Energy & GHG Master Plan
Financial Benefits, Energy Savings and GHG Emission Reductions

Prj.	Title	Avg. Cost or Benefit (\$/Yr)	NPV of Annual Net Cost and Benefits (\$)	Capital Cost less Incentives (\$)	Avg. Electricity Saved (kWh/Yr)	Avg. Natural Gas Saved (Kscf/Yr)	Avg. Fuel Saved (gal/Yr)	Avg. CO2e Reduced (MT/Yr)
9	Pump Efficiency Improvement Program	(117,202)	(\$1,361,837)	1,127,120	2,188,798	0	0	637
20	Additional Water Conservation Activities	(243,516)	(3,503,850)	1,132,100	2,610,618	0	0	768
10	Energy Efficiency Measures	(44,068)	(684,526)	241,211	513,259	0	0	149
17b	Purchase of Renewable Energy Credits	20,385	293,069	0	0	0	0	1,274
15	Process Energy Audit Measures	(38,610)	(557,966)	5500	315,856	0	0	92
12b	Solar PV Projects	(51,386)	(763,230)	0	0	0	0	0
14b	MWRP Phase 2 Operation	(125,911)	(791,465)	0	1,148,718	0	0	465
6	San Joaquin Marsh Pumping	(26,025)	(219,814)	0	405,537	0	0	118
4	Dissolved Oxygen Control at LAWRP	(12,809)	(58,054)	309,791	835,658	0	0	243
18	Fleet Fuel Consumption	(251,541)	(3,439,276)	0	(10,939)	(53,600)	(70,900)	389
8	Food Waste-to-Energy	(45,801)	(768,803)	5,320,358	3,153,600	0	0	917
	Subtotal Other 11 Projects	(936,484)	(11,855,752)	8,136,080	11,161,105	(53,600)	(70,900)	5,052
3	Accelerated Local Groundwater Supplies	(10,921,467)	(141,474,198)	24,822,159	(10,637,581)	0	0	4,049
	Total 12 Projects	(11,857,951)	(\$153,329,950)	\$32,958,238	523,524	(53,600)	(70,900)	9,101

Future Regulatory Changes: In order to evaluate the performance of the recommended projects and to provide guidance for responding to potential future regulatory changes the Master Plan analyzed three regulatory scenarios. These scenarios included potential regulatory changes associated with air quality constraints, GHG emissions and water quality standards. With more stringent air quality constraints, IRWD could be required to reduce the number of micro-turbines in use at the Biosolids Project by removing the Food Waste to Energy Project. With more stringent GHG regulation, IRWD could respond by implementing the Renewable Energy Credit Purchase Project to cost-effectively meet future regulatory levels or IRWD could market excess GHG savings. With more stringent water quality standards, IRWD could respond by making maximum use of the new MBR treatment process at Michelson.

Sensitivity Analysis: In order to evaluate the uncertainty associated with the parameters used to evaluate the recommended projects the Master Plan analyzed three sensitivity scenarios. These scenarios included future electricity prices, future imported water prices and continuation of the Orange County groundwater basin management rules. If the rate of future electricity prices increases change from 2% to 5% per year, the 11 projects and the Accelerated Local Groundwater Supply Project would continue to provide a significant benefit to IRWD. If the rate of increase in future imported water costs changes from 6% to 3% per year, then the benefits of the Accelerated Local Groundwater Supply Project would be reduced. Even under this more conservative assumption, the project would still provide a significant benefit to IRWD. If the Orange County groundwater basin management rules continue without change the entire benefit of the Accelerated Local Groundwater Supply Project would be eliminated. A partial change in the groundwater basin management rules would result in a proportional decrease in the benefits of the project to IRWD.

Jackson Ranch Solar Feasibility Study:

The Energy and GHG Master Plan identified a solar generating facility at the Jackson Ranch as one of the recommended projects that could be financially beneficial to the District. A work plan to study the feasibility of a Jackson Ranch Solar Project has been developed to characterize the solar development potential of the property, perform additional investigations associated with connecting to the regional electric grid, and develop a prospectus that can be used in an RFP. to be circulated to a pre-qualified list of solar power project developers. Proposals could be compared to identify the most financially beneficial opportunity for the District to participate in the development of a solar project at the Jackson Ranch. This work plan was presented to the Water Banking Ad Hoc Committee on January 11, 2012 and is attached as Exhibit "B". Following is a summary of the additional work that is described in more detail in the work plan.

Additional Interconnection Analysis: ZGlobal Inc. completed a preliminary interconnection study for IRWD that estimated the cost of connecting a solar generating facility at the Jackson Ranch to the regional electrical grid operated by the California Independent System Operator Corporation (CAISO) in November 2011. A variance and scope of work for ZGlobal to

accomplish additional work associated with connecting to the regional electrical grid operated by CAISO is attached as Exhibit "C". ZGlobal's revised scope of work would require that it describe scheduling issues associated with connecting a solar generating facility at the Jackson Ranch to the CAISO network. In addition, ZGlobal will analyze partnership opportunities, wholesale purchases alternatives for IRWD and the financial implications associated with IRWD's potential participation in CAISO. ZGlobal will also investigate the potential for wheeling power from the Jackson Ranch located in the PG&E service area to IRWD which is located in Southern California Edison's service area. ZGlobal proposes to accomplish the additional interconnection analysis work for \$13,577.

Preliminary Environmental Evaluation: In order to characterize whether or not the Jackson Ranch is suitable for solar development, a preliminary environmental evaluation of the property is required. Staff requested on-call environmental consultants at Dudek to develop a scope of work and associated estimates to perform a low level biological survey and to prepare a preliminary environmental evaluation of the Jackson Ranch relative to developing a solar power project. A copy of the Dudek proposal to perform the evaluation under an existing on-call environmental services contract with IRWD is provided as Exhibit "D". Dudek would complete the scope of work for \$10,000.

Land Use Evaluation and Prospectus Development: At staff's request, proposals have been provided by Provost and Pritchard Consulting (PPC) and RGP Planning and Development Services (RGP) to analyze land use conversion and entitlement issues associated with developing a solar power facility on the Jackson Ranch. The scope of work entails conducting research and analysis of land use and entitlement issues, development of a property prospectus that will describe the key features of the Jackson Ranch site and all elements of the solar power feasibility study, the review of IRWD's RFP that will be sent to solar power developers interested in the construction and operation of a solar power generating facility on the property, and providing assistance in identifying a pre-qualified list of solar power project developers to receive the RFP. In addition, the scope of work includes a preliminary production analysis to quantify the solar power potential of the site for a range of facility sizes.

After completing an evaluation of the written proposals, staff recommends awarding a Professional Services Agreement to PPC to complete the work. Key strengths of the PPC proposal are described in Exhibit "B". The Consultant Rating Sheet is attached as Exhibit "E". PPC's detailed scope of work, project schedule and project budget are provided as Exhibit "F". The PPC scope of work would be completed for \$36,000.

FISCAL IMPACTS:

Project 11482 (1620) is included in the FY 2011-12 Capital Budget. Staff is requesting an increase of \$36,000 to the FY 2011-12 Capital Budget and an Expenditure Authorization (EA) in the amount of \$51,000 as shown in the table below and as attached in Exhibit "G" for staff to

assist in the development of the master plan and perform additional analysis of the portfolio of recommended Energy and GHG Projects.

Project 11637 (3667) is not included in the FY 2011-12 Capital Budget. The total cost for the Jackson Ranch Solar Feasibility Study work is \$98,600. This includes \$13,577 for ZGlobal to provide additional analysis of the interconnection issues, \$10,000 for Dudek as an on-call environmental consultant to provide a preliminary evaluation of environmental issues, and \$36,000 for PPC to evaluate land use conversions and entitlement issues, develop a property prospectus, review IRWD's RFP, assist in identifying a pre-qualified list of solar power project developers and perform a preliminary production analysis for various sized projects. Staff time and legal assistance in the amounts of \$5,000 and \$25,000 respectively are required. Staff requests a FY 2011-12 budget addition of \$98,600 to perform the Jackson Ranch Solar Feasibility Study. Staff also requests an Expenditure Authorization in the amount of \$98,600 as shown below and in Exhibit "H".

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
11482(1620)	\$378,900	\$36,000	\$414,490	\$363,900	\$51,000	\$414,900
11637(3667)	\$0	\$98,600	\$98,600	\$0	\$98,600	\$98,600

ENVIRONMENTAL COMPLIANCE:

This study is not subject to the California Environmental Quality Act (CEQA).

COMMITTEE STATUS:

The Jackson Ranch Solar Feasibility portion of this item was reviewed by the Water Banking Ad Hoc Committee on January 11, 2012.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE AN INCREASE TO THE FY 2011-12 CAPITAL BUDGET FOR PROJECT 11482 (1620) IN THE AMOUNT OF \$36,000, FROM \$378,900 TO \$414,900; APPROVE AN EXPENDITURE AUTHORIZATION IN THE AMOUNT OF \$51,000 FOR PROJECT 11482 (1620) FOR STAFF TO ASSIST IN DEVELOPING THE ENERGY AND GREEN HOUSE GAS MASTER PLAN AND TO INITIATE ADDITIONAL INVESTIGATIONS OF THE PORTFOLIO OF RECOMMENDED ENERGY AND GREEN HOUSE GAS MASTER PLAN PROJECTS; AUTHORIZE THE ADDITION OF THE JACKSON RANCH SOLAR PROJECT 11637 (3667) TO THE FY 2011-12 CAPITAL BUDGET IN THE AMOUNT OF \$98,600; APPROVE AN EXPENDITURE AUTHORIZATION IN THE AMOUNT OF \$98,600 FOR PROJECT 11637 (3667) TO INVESTIGATE THE FEASIBILITY OF DEVELOPING A SOLAR POWER GENERATING FACILITY AT THE JACKSON RANCH; AUTHORIZE THE GENERAL MANAGER TO

EXECUTE VARIANCE NO.1 IN THE AMOUNT OF \$13,577 FOR PROJECT 11637 (3667) WITH ZGLOBAL, INC. TO PROVIDE ADDITIONAL ANALYSIS OF POWER GRID INTERCONNECTION ISSUES; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT IN THE AMOUNT OF \$36,000 FOR PROJECT 11637 (3667) WITH PROVOST AND PRITCHARD CONSULTING GROUP TO ANALYZE LAND USE CONVERSION AND ENTITLEMENT ISSUES, DEVELOP A PROPERTY PROSPECTUS, PERFORM A PRELIMINARY ENERGY PRODUCTION ANALYSIS, REVIEW IRWD'S REQUEST FOR PROPOSAL (RFP), AND ASSIST IN IDENTIFYING A PRE-QUALIFIED LIST OF SOLAR POWER DEVELOPERS TO RECEIVE THE RFP.

LIST OF EXHIBITS:

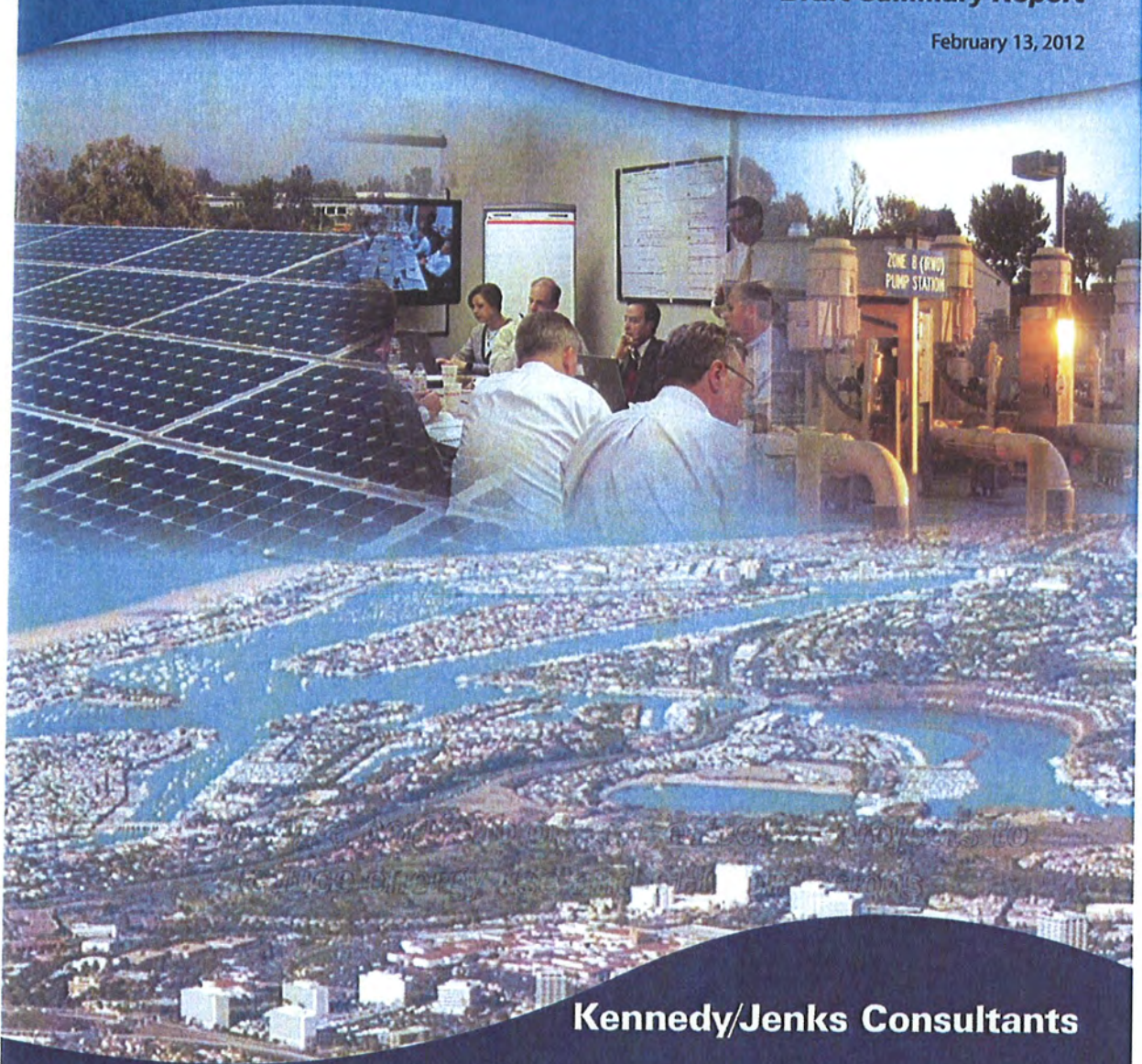
- Exhibit "A" – Draft Energy & GHG Master Plan Executive Summary
- Exhibit "B" – Jackson Ranch Solar Feasibility Study Plan
- Exhibit "C" – ZGlobal Variance No. 1
- Exhibit "D" – Dudek Proposal
- Exhibit "E" – Consultant Ranking Sheet
- Exhibit "F" – Provost and Pritchard – Jackson Ranch Solar Project Scope of Work
- Exhibit "G" – Expenditure Authorization for the Energy and Green House Gas Master Plan
- Exhibit "H" – Expenditure Authorization for the Jackson Ranch Solar Feasibility Study

Irvine Ranch Water District

Energy and GHG Master Plan

Draft Summary Report

February 13, 2012



Kennedy/Jenks Consultants

**Irvine Ranch Water District
Energy and GHG Master Plan
Draft Summary Report
13 February 2012**

Section 1. Master Plan Goal

As a recognized industry leader with a history of implementing innovative and cutting-edge practices and cost-effective programs; the Irvine Ranch Water District (IRWD or District) sought to further improve, optimize and reduce its energy consumption and greenhouse gas (GHG) emissions by developing an Energy and GHG Master Plan. The planning effort was initiated in November 2010, with the direct involvement of IRWD's management team, with the goal of identifying a portfolio of cost-effective projects to reduce the District's existing and future energy costs, and as required under future regulatory conditions reduce GHG emissions.

Section 2. Process Description

Five sequential steps were followed to develop the Master Plan. They were:

1. Develop Supporting Materials
2. Perform Project Assessments
3. Evaluate and Rank the Projects
4. Perform Portfolio and Scenario Analyses
5. Create the Master Plan Report



Each step is summarized in the following sections.

Section 3. Develop Supporting Materials



3.1 Baseline & Forecast

The key supporting document that was prepared for this Plan was the baseline and 20-year forecast of IRWD's electricity, natural gas, and fleet fuel usage; and associated GHG emissions. Baseline data was developed using operating and billing data for the time period of January through December 2009.

Data for 14 existing facilities was analyzed to ascertain the current energy use by IRWD's facilities. Energy data for 11 planned and authorized projects that are currently under construction, contract, or pre-construction was also collected. The total energy use data from these 14 facilities and 11 projects were used to create the baseline of current facilities. So the baseline represents the amount of energy used now, and acts as a "snap-shot" or starting point for the forecast. The forecasted energy use over a 20 year period was estimated by starting with the baseline energy use and increasing annual energy use by acceptable escalation rates. This forecast is referred to as the Baseline Forecast.

IRWD also identified another 8 future projects that are currently being planned or considered. Expected energy use from these projects was also collected to model their impact on future energy use and future GHG emissions. This second forecast is referred to as the Baseline Plus Planned Projects (BPPP) Forecast, and represents IRWD's total energy use through 2030 if these 8 projects are completed. Table 1 provides a list of the facilities and projects used in the Baseline and BPPP Forecasts.

Table 1: IRWD Facilities List Used in the Baseline and BPPP Forecasts

Facility Number	Facility Name	Year Planned to be On-Line	Baseline		
			Electricity Use (KWh/Yr)	Natural Gas Use (Therms/Yr)	GHG Emissions (MT CO ₂ e/Yr)
Existing Facilities Included in the Baseline Forecast					
1	IRWD HQ	--	1,170,195	24,629	850
2	IRWD Ops	--	1,990,902	29,168	1,113
3	Dyer Road Well Field	--	19,696,444	0	6,769
4	DATS	--	9,330,862	0	5,429
5	Irvine Desalter Plant	--	13,757,566	0	4,927
6	MWD Imports	--	0	0	20,723
7	Recycled	--	2,829,539	18,328	1,201
8	Other Water Supply	--	16,033,291	5,588	5,747
9	Michelson WRP	--	17,696,908	72,066	7,742
10	Los Alisos WRP	--	7,605,361	552	5,584
11	Other Waste Water	--	670,526	0	246
12	Vehicles	--	0	0	1,348
13	San Joaquin Marsh	--	2,433,325	0	886
14	Manning Treatment Plant	--	101,130	0	30
TOTAL for Baseline			93,316,049	150,331	62,595

Facility Number	Facility Name	Year Planned to be On-Line	Baseline		
			Electricity Use (KWh/Yr)	Natural Gas Use (Therms/Yr)	GHG Emissions (MT CO ₂ e/Yr)
Planned/Authorized Facilities included in the Baseline Forecast					
15	Dept. 50 Storage Building	2012	36,570	0	11
16	Strand Ranch	2012	0	0	0
17	Baker Treatment Plant	2013	5,805,000	0	1,714
18	Michelson Phase 2 Upgrade	2012	32,060,000	79,800	10,209
19	Class B Biosolids Handling - with FOG	2015	19,219,200	20,600	5,834
20	Syphon Reservoir (500 AF)	2012	76,000	0	22
21	East Reservoir #3 Photovoltaic	2011	-340,000	0	-99
22	Jackson Ranch	2011	0	0	0
23	Wells 21 and 22	2012	5,154,600	0	1,523
24	Tustin Legacy Well 1A (aka Well 52)	2013	2,105,400	0	622
25	Lake Forest Well #2	2014	306,000	0	105
TOTAL for Baseline Forecast			64,422,770	100,400	19,941
Future Planned Facilities included in the Baseline Plus Planned Project Forecast					
26	Michelson Phase 3 Upgrade	2020	4,127,000	7,375	1,284
27	Syphon Reservoir (5,000 AF)	2018	8,750,000	0	2,558
28	Class A Biosolids Handling – Dryer	2015	21,515,750	964,800	16,425
29	Class A Biosolids Handling - Microturbine	2015	-7,683,300	0	-2,246
30	Well 106	2012	1,980,785	0	709
31	Well 53	2012	2,042,100	0	702
32	Future OPA Wells	2016	3,369,500	0	1,158
33	Well 51	2015	2,739,500	0	1,594
TOTAL for BPPP Forecast			36,841,335	972,175	22,184

Tables 2 and 3 present IRWDs energy use, energy cost, and GHG emissions summarized in 5 year increments through 2030 under the BPPP Forecast. For purposes of this Plan, it is the BPPP Forecast that represents the most likely future energy use by IRWD. Potential future projects identified in this Plan will either add to or subtract from this BPPP Forecast.

The tables below show a significant jump in the projected use and cost of electricity and natural gas between the baseline year and 2015. This is due to numerous new IRWD projects coming on-line in this period, including: the Michelson Plant Phase 2 Upgrade, Biosolids Handling Projects, Baker Treatment Plant and several local groundwater well projects. The drop in cost

and use of electricity in 2020 is due to the Irvine Desalter losing its groundwater pumping exemption. The data below also shows that energy use and GHG emissions are fairly flat from 2015 until 2030.

The forecast of electricity use is shown in Figure 1, and the forecast of IRWD’s electricity cost is shown in Figure 2. These figures also show the increase in expected electricity use and cost from the Baseline Forecast (the use by existing and authorized facilities) to the BPPP Forecast (including the planned facilities).

Table 2: Total Annual Energy Use and GHG Emissions – BPPP Forecast

Year	Total Annual Electricity Use (KWh/Yr)	Total Annual Natural Gas Use (Therms/Yr)	Total Annual Fleet Fuel Consumption (gallons/Yr)	Total Annual GHG Emissions (MT CO ₂ e/Yr)
Baseline Year	93,316,049	820,857	164,912	62,565
2015	143,961,805	1,985,771	179,415	75,465
2020	141,666,259	2,038,286	195,736	86,253
2025	148,864,726	2,065,185	208,121	90,635
2030	150,190,040	2,074,454	209,704	91,566

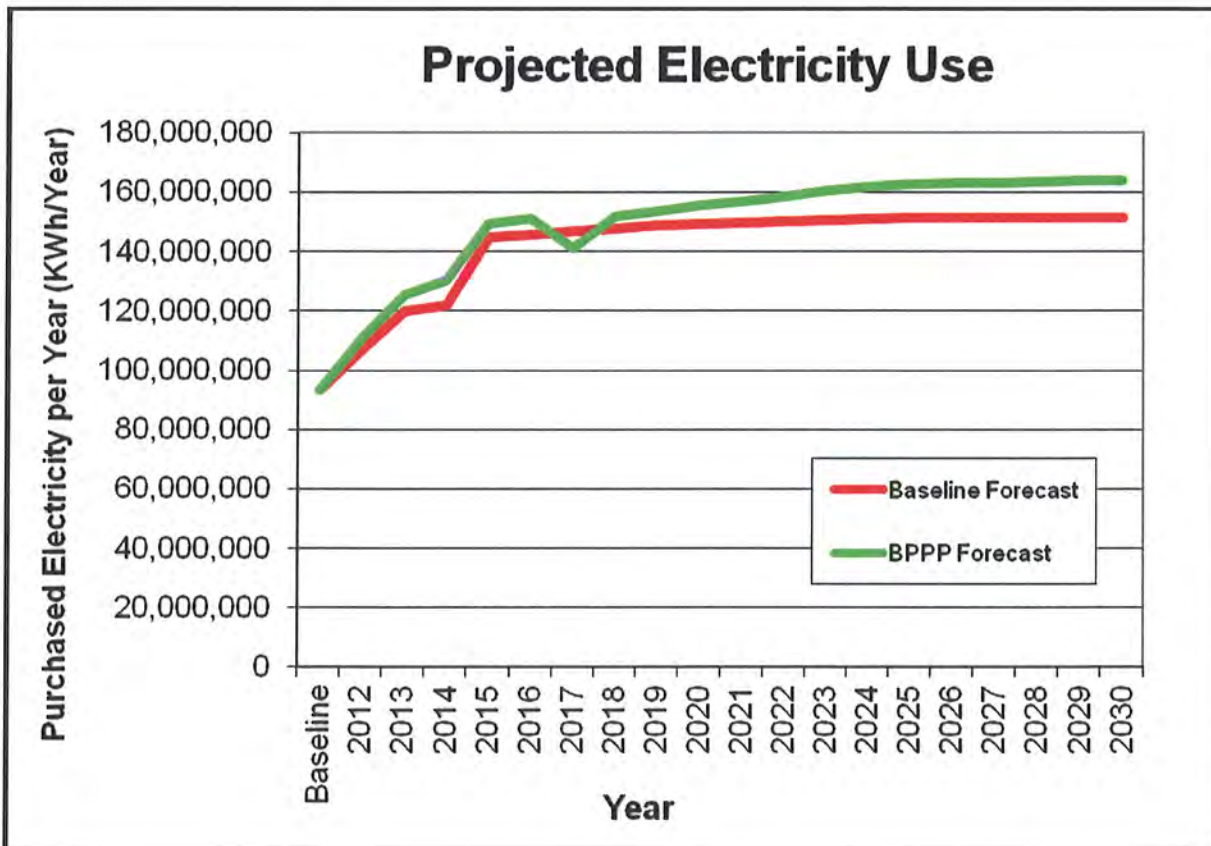


Figure 1: IRWD Electricity Use Forecast

Electricity, natural gas and fleet fuel costs escalate at the annual utility escalation rates noted in the Table 3. It is the shifting from MWD imports to pumping of local ground water supplies that requires more direct electricity use by IRWD, and is the reason for the increase in electricity costs. Natural gas purchases increase because the sludge dryers in the Biosolids Project come on-line in 2015. Total annual energy costs nearly double in the period from the baseline year up to 2015 (e.g. - from \$10 million to \$18.7 million), and rises to nearly \$27 million per year by 2030. These expected increases in cost are however largely offset by the savings from no longer having to send biosolids to OCS D and avoiding purchases of imported water from MWD.

Table 3: Total Annual Energy Cost – BPPP Forecast

Year	Total Annual Electricity Costs (\$)	Total Annual Natural Gas Costs (\$)	Total Annual Fleet Fuel Consumption Costs (\$)	Total Costs (\$)
Annual Utility Escalation Rates (%)	1.97%	3.00%	2.60%	-
Baseline Year	\$9,517,023	\$112,266	\$376,716	\$10,006,005
2015	\$16,559,948	\$1,712,947	\$467,055	\$18,739,950
2020	\$17,965,537	\$2,038,291	\$579,318	\$20,583,146
2025	\$20,812,665	\$2,394,120	\$700,324	\$23,907,109
2030	\$23,149,367	\$2,787,899	\$802,283	\$26,739,548

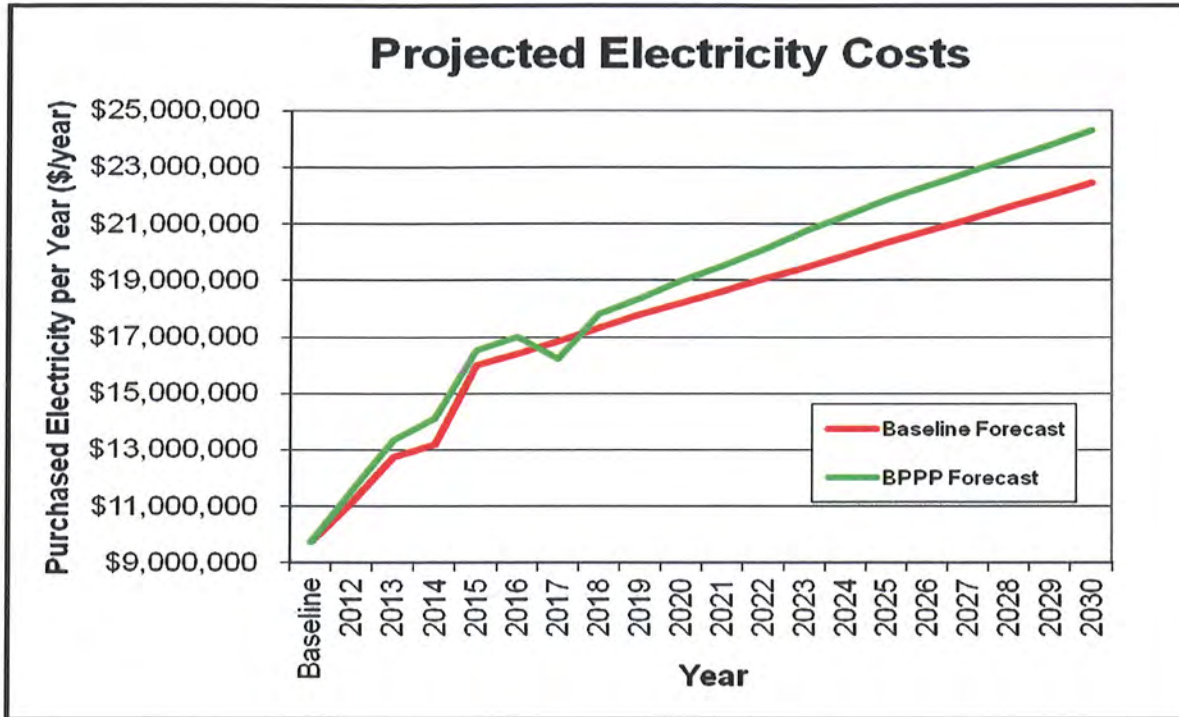


Figure 2: IRWD Electricity Cost Forecast

Other supporting documents, beside the Baseline and Forecast, developed for this Master Plan include summaries of: regulatory constraints, potential project funding sources, energy equipment audits, the process energy audit, and a review of the OCSD GHG Inventory assumptions (refer to the full report).

Section 4. Project Assessments



4.1 Initial Screening of Projects

Once the supporting documents were completed potential energy and GHG saving projects were identified. Both IRWD management staff and Kennedy/Jenks experts brainstormed potential projects prior to Workshop #1. The initial list came to 64 potential projects.



In Workshop #1 attended by IRWD management staff and Kennedy/Jenks experts; the 64 project ideas were pared down to 20 projects using a voting and ranking process. These 20 projects moved on to be more fully assessed in the next phase of the process, and they are summarized in Table 4 below.

Table 4: Top 20 Potential Projects

Project Number	Project Title	Project Description
1	Water Supply Pump Optimization Program	Evaluate energy optimization software, such as Derceto's AQUADAPT, that would optimize water supply pumps to save energy, minimize cost, and maximize reliability.
2	GHG Reductions from Biosolids	Evaluate the potential GHG reductions caused by the District's Class A biosolids project.
3	Accelerate Local Groundwater Supply Projects	Evaluate the acceleration of planned local groundwater supply projects, thereby reducing imported water purchases from MWD if current groundwater basin management rules are changed.
Project Number	Project Title	Project Description
4	Automate Dissolved Oxygen Control at LAWRP	Evaluate changing existing Dissolved Oxygen (DO) controls at LAWRP from a manual system to an automated system.
5	Microhydro	Screen sites (based on head and flow characteristics) between water supply pressure zones to evaluate the feasibility of installing microhydro systems (<100 kW) in place of pressure relief valves.
6	San Joaquin Marsh Pumping Optimization	Evaluate not pumping in the winter during peak hours (noon-6 pm); to reduce energy use.
7	Reservoir Pumped Storage	Evaluate building a pumped storage small hydro project between the upper Irvine Lake Reservoir and the lower Peters Canyon Reservoir. Water would be pumped up during the lower cost off-peak hours and released to generate electricity during the higher cost on-peak hours.
8	Food-Waste-to-Energy	Evaluate the collection and use of pre-processed and liquefied food waste to increase digester gas production to be used to generate electricity. Equipment would include a food waste receiving station and microturbine generators.

9	Pump Efficiency Improvement Program	Evaluate accelerating and expanding the existing program to evaluate all pumps, install all cost-effective pump retrofits within 3 years, and develop an IRWD pump specification requiring premium efficiency pumps.
10	Energy Efficiency Measures (EEMs)	Evaluate the EEMs from: 1) the new energy audits of the Sand Canyon Headquarters Building and the MWRP Operations Building, 2) the EEMs that were not implemented from the October 2009 energy audit, and 3) an a Energy Management System (EMS) for the MWRP. An EMS is a standalone software system that is used to monitor and control the operations and maintenance of the MWRP in order to optimization energy use and thereby minimize GHG emissions.
11	Motor Replacement Program	Evaluate an accelerated 3-year program to install cost-effective motor retrofits, and develop an IRWD motor specification requiring premium efficiency motors.
12	Solar PV Projects	Evaluate the potential for solar PV projects; and various purchase structures including: IRWD own & operate, power purchase agreement (PPA), and a land lease to a solar PV developer at Jackson Ranch.
Project Number	Project Title	Project Description
13	Well Efficiency Testing & Rehabilitation (WETR)	Evaluate the WETR program including: testing to identify wells that have seen a drop in specific capacity, rehabilitation of those wells with subpar performance through mechanical or chemical means, and installation of right-sized pumps/motors for new hydraulic conditions.
14	Michelson Phase 2 Process Optimization	Evaluate optimizing energy use at the MWRP by diverting some of the flow away from the new energy intensive Membrane Bio Reactor (MBR) to the existing less energy intensive Activated Sludge (AS) system.
15	Process Energy Audit	Evaluate plant equipment and processes at MWRP and LAW RP to determine if control measures could be added in order to reduce energy use.
16	Syphon Reservoir Small Hydro	Evaluate the potential electricity generation from the planned outfall at the Syphon Reservoir through the existing 16-inch pipeline during the summer months.
17	Renewables Purchase	Evaluate the purchase of renewable energy through three purchase structures: equity purchase, Power Purchase Agreement (PPA), and Renewable Energy Credits (RECs).

18	Fleet Fuel Consumption & GHG Policy	Evaluate opportunities to change the composition of IRWD's vehicle and equipment fleet, the use of alternative fuels, and other fuel savings strategies.
19	Forestry Offset Program	Evaluate the potential GHG reductions caused by carbon sequestration from an expansion of IRWD's Shadetree Partnership Nursery Project.
20	Additional Water Conservation Activities	Evaluate additional water conservation activities above and beyond existing IRWD programs, including: Joint Energy and Water Commercial Audit Pilot Program, Commercial Industrial and Institutional Water Use Efficiency Incentive Program, and UC Irvine Water Use Efficiency Incentive Program.

6.2 Project Assessments and Cost Templates

A concept-level Project Assessment and Cost Template analysis was prepared for each of the Top 20 Projects. The purpose of the Project Assessments was to create sufficient understanding about each project in order to score and rank all the projects. These Project Assessments and Cost Templates are not intended to be a "Go/No Go" level analysis, and their accuracy is typical of a planning study. Most of the projects included in the final short-list of projects will need additional in-depth analysis before final approval and implementation.

The Project Assessments used a common template approach for all 20 projects to promote an equitable comparison of the projects in the evaluation, scoring and ranking phases of this process. Each Project Assessment included the following elements:

- Project Description
- History
- Vendors
- Technical Maturity
- Energy Production, Energy Savings and GHG Reductions
- Environmental Impacts
- Operational Impacts
- Summary of the Advantages and Disadvantages

Project costs were also calculated using a common template approach. The Cost Template used for each project included the following elements:

- Size (KW per unit)
- Equipment Life
- Annual KWh Saved or Generated
- Total Capital Cost and Annual Debt Service
- O&M Costs
- Incentives and Benefits (including rebates and the value of avoided electricity costs)

- Annual Net Cost
- Net Present Value (NPV) of Annual Net Costs
- Energy and GHG Lifecycle Costs (\$/KWh and \$/MTCO₂ respectively)

During the conceptual-level evaluations it became apparent that several of the Top 20 Projects had multiple implementation options, and therefore 32 projects options were identified. For example, there were eight different options identified for Project #5 – Microhydro.

Each Project Assessment and Cost Template is included in the full report, as well as a section on how to read the assessments and templates.

4.3 Projects Removed from Further Consideration

Two of the Top 20 Projects were removed from further consideration in the process.

Project #2 - GHG Reductions from Biosolids: was removed because this project ended up being included in the BPPP.

Project #11- Motor Replacement Program: was removed because the energy savings and GHG reductions associated with this program were included in Project #9 – Pump Efficiency Improvements Program and Project #13 – Well Efficiency Testing Program; and this project was deemed redundant.

Section 5. Project Evaluation and Ranking



5.1 Project Evaluation Criteria and Weighting

In order to score and rank the projects, evaluation criteria and a weighting system were developed during Workshop #2. The workshop was attended by IRWD management staff and facilitated by Kennedy/Jenks. The evaluation criteria were based on decision factors commonly used by IRWD. The consensus evaluation criteria and weighting are described in Table 5, and they were applied to the 32 projects by Kennedy/Jenks.

Table 5: Consensus Evaluation Criteria and Weighting

Evaluation Criteria	Description	Weighting
Cost/Cost-Effectiveness	How does this project cost compare to the other projects?	40
Operational Impacts	How does the adverse or beneficial impacts of the project on the operations of the plant compare to the other projects and to continued purchases of electricity? Impacts include: the general operations & maintenance complexity and risk, and the amount of additional staff required.	20
Risk & Uncertainty	What is the financial risk that the capital cost or O&M costs of the project will be higher than the estimated costs in the project assessment? What is the regulatory risk of additional required permits or approvals? What is the need for additional political action by IRWD to implement the project? Will the local community support or accept the project? Decision Autonomy To what degree can IRWD act on its own rather than needing to have additional agencies or regulators also approve the project?	20
GHG Impacts	How well do the reductions in GHG compare to the other projects and to continued purchases of electricity?	10
Environmental Impacts	How do the air, land, water, noise, visual and waste by-products impacts of the project compare to the other projects?	10

A more detailed description of the evaluation criteria, and their sub-criteria, is found in the full report.

5.2 Scoring and Ranking

The goal of the scoring and ranking process was to differentiate the 32 projects based on the weighted evaluation criteria. The scored projects can then be ranked and a short-list of projects can be developed. The short-list of projects will be used to develop several portfolios of projects that are analyzed in the next step of the planning process – Step 4: Portfolio Analysis. To implement the scoring process the evaluation criteria in Table 5 were applied separately to each project to calculate its score. However, there were both quantitative and qualitative criteria each of which was handled in a slightly different fashion. Quantitative criteria (“Cost/Cost-Effectiveness” and “GHG Impacts”) had calculated costs or reduction amounts in the Cost Template that could be compared. Applying the quantitative criteria involved a statistical sorting from best to worst of the projects based on costs or GHG emission reduction amounts. The best project is given a score of 10 and the worst project is given a score of 1. However, qualitative criteria (“Operational Impacts”, “Risk and Uncertainty” and “Environmental Impacts”) do not have numbers to be compared, but have written evaluations from the Project Assessments. To apply the qualitative evaluation criteria to the projects, a “low-moderate-high” scale was used to assign scores from 1 to 10. A spreadsheet was used to calculate the final cumulative score of each project. Table 6 and Figure 3 show the results of the scoring process.

Table 6: Project Scoring and Ranking

Rank	Project No.	Project Name	Score
1	9	Pump Efficiency Improvement Program	77

Kennedy/Jenks Consultants

2	20	Additional Water Conservation - Combined Program	75
3	10	Energy Efficiency Measures	75
4	17b	Renewables Purchase - REC	74
5	15	Process Energy Audit	74
6	12b	Solar PV Program - Land Lease Jackson Ranch	73
7	14b	MWRP Phase 2 Optimization - 38% Flow Diversion	71
7	14a	MWRP Phase 2 Optimization - 25% Flow Diversion	71
9	6	San Joaquin Marsh Pumping Optimization	71
10	4	LAWRP Automated DO Control	70
11	18	Fleet Fuel Reduction - Alternative Vehicles	66
12	3	Accelerated Local GW Supplies	66
13	8	Food Waste-to-Energy	64
14	12c	Solar PV Program - PPA	60
15	1b	Pump Optimization (4% savings)	54
16	13	Well Efficiency Testing and Rehabilitation	52
17	7c	Reservoir Water Pumped Storage: Hydro Only	52
18	17a	Renewables Purchase - Direct Access PPA	51
19	12a	Solar PV Program - Own & Operate	51
20	5a	Microhydro - Sand Canyon & Oak Canyon 3-2 PRV	48
20	5c	Microhydro - Portola Springs Zn 4-4R PRV (P1)	48
20	5d	Microhydro - Portola Springs Zn 4-4R PRV (P2)	48
20	5e	Microhydro - PA6 Zn 6-5 PRV (P3)	48
20	5f	Microhydro - PA6 Zn 6-5 PRV (P4)	48
20	5g	Microhydro - Spectrum 8 Zn 3-3R PRV(P3)	48
20	5h	Microhydro - Trabaco Zn 3-3R PRV (P7)	48
27	5b	Microhydro - Sand Canyon & Alton Pkwy 3-2 PRV	47
28	1a	Pump Optimization (2% savings)	46
29	16	Syphon Reservoir Small Hydro	46
29	7a	Reservoir Water Pumped Storage: Net Metering	46
29	7b	Reservoir Water Pumped Storage: Feed in Tariff	46
32	19	Forestry Offset	45

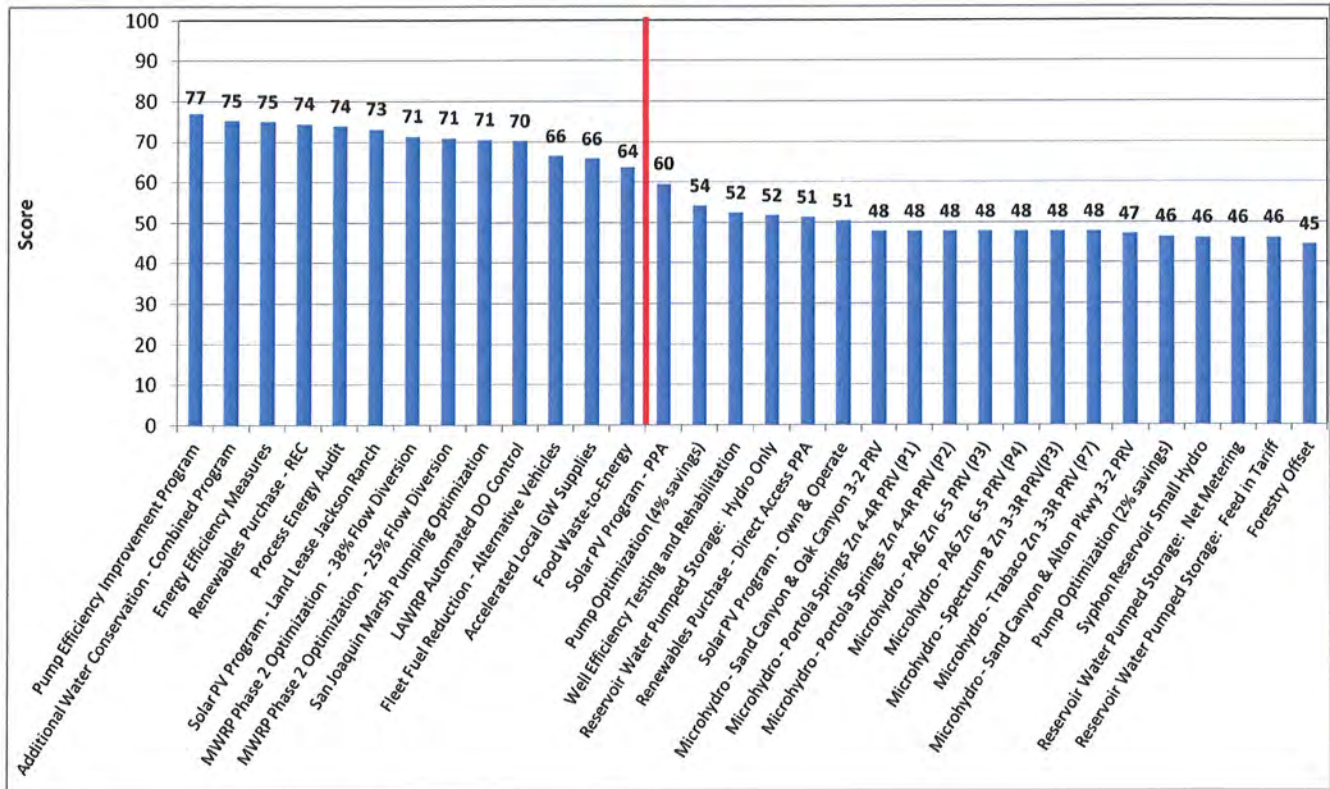


Figure 3: Project Scoring and Ranking

T\$1,132,100able 7: Short-List of Preferred Projects

Rank	Project Number	Project Name	Capital Cost Less Incentives (\$)	NPV of Annual Net Costs (\$)	Average Annual Net Cost (\$/Year)	Average Annual Electricity Saved (kWh)	Average Annual GHG Reduction (MT/yr)	Average Annual Natural Gas Saved	Average Annual Fleet Fuel Saved (Gal/Year)
1	9	Pump Efficiency Improvement Program	\$1,127,120	(\$1,361,837)	(\$117,202)	2,188,798	637	0	0
2	20	Additional Water Conservation - Combined Program	\$1,132,100	(\$3,503,850)	(\$243,516)	2,610,618	768	0	0
3	10	Energy Efficiency Measures	\$241,211	(\$684,526)	(\$44,068)	513,259	149	0	0
4	17b	Renewables Purchase - REC	\$0	\$293,069	\$20,385	0	1,274	0	0
5	15	Process Energy Audit	\$5,500	(\$557,966)	(\$38,610)	315,856	92	0	0
6	12b	Solar PV Program - Land Lease Jackson Ranch	\$0	(\$763,230)	(\$51,386)	0	0	0	0
7	14b	MWRP Phase 2 Optimization - 38% Flow Diversion	\$0	(\$791,465)	(\$125,911)	1,148,718	465	0	0
8	6	San Joaquin Marsh Pumping Optimization	\$0	(\$219,814)	(\$26,025)	405,537	118	0	0
9	4	LAWRP Automated DO Control	\$309,791	(\$58,054)	(\$12,809)	835,658	243	0	0
10	18	Fleet Fuel Reduction - Alternative Vehicles	\$0	(\$3,439,276)	(\$251,541)	(10,939)	389	(53,600) ¹	(70,900) ²
11	3	Accelerated Local GW Supplies	\$24,822,159	(\$141,474,198)	(\$10,921,467)	(10,637,581)	4,049	0	0
12	8	Food Waste-to-Energy	\$5,320,358	(\$768,803)	(\$45,801)	3,153,600	917	0	0

¹ Measured in 1,000 scf

² Combined gallons of gasoline and diesel

6.3 Short-List of Projects

The red line in Figure 3 reveals a natural break-point in the project scoring between 64 and 60 points. This break-point also roughly demarks the cost-effective from the non-cost-effective projects. Cost-effective projects yield a savings to IRWD, and are shown by a negative Net Present Value (NPV) of Net Annual Costs. Projects 1 to 13 on the previous Project Scoring and Ranking Table 6, and the projects to the left of the red line in Figure 3, represent the short-list of projects. It is these projects that are used in the next phase of the process to create portfolios of projects for final evaluation. While there are 13 projects identified in the table and figure above; two of the projects (14a and 14b) are variations of the same project, and are thus mutually exclusive. Only one of these projects can be included on the short-list; therefore Project 14b which has a higher NPV and value to IRWD was included. The 12 projects included in the short-list of projects are listed in Table 7 above.

The fifth column from the left in Table 7 shows the Net Present Value (NPV) of the Annual Net Costs of the short-listed projects. The NPV calculation includes all of the project costs (i.e. – capital cost, debt service, O&M cost, and fuel costs), less any benefits and incentives over the life of the project. It is an estimate of the project's full costs and benefits. Therefore, the calculated NPV best represents the value of the project to IRWD. The NPV calculation eliminates the time-value of money and shows the cost or benefit of a project in current dollars (2012\$) so they can be more readily compared. A project with a positive NPV (black numbers) is a cost to IRWD, and a project with a negative NPV (**red numbers**) is a benefit or savings to IRWD.

Two of the 12 projects merit further discussion. **Project #3 - Accelerated Local GW Supplies:** the NPV of Project #3, at negative \$141 million, represents the largest benefit or savings to the District from any single project. It alone represents over 90% of the total benefit to IRWD, and it is 40 times larger than the benefits from the next largest project. The sheer size of Project #3 makes it difficult to analyze it concurrent with the rest of the short-listed projects. In addition, Project #3 requires a change from the current basin groundwater management policy that merits careful and serious consideration by IRWD. These two factors lead to a conclusion that Project #3 should be analyzed separately from the other 11 projects on the short-list of projects. Therefore, the portfolio and scenario analysis below is performed first on the short-list of 11 projects, and then separately on Project #3.

Project #17b – Renewables Purchase from Renewable Energy Credits (RECs): Project #17b is the only project on the short-list that has a cost to IRWD (represented by a positive NPV) and no electricity savings. The reason it is on the short-list of projects is to provide a cost-effective method to reduce GHG emissions under potential future regulatory conditions, and because it scored very highly with respect to the evaluation criteria. Should IRWD fall under future GHG regulations and need to reduce its GHG emissions beyond the reductions identified in the Plan; RECs are a cost-effective no capital cost option to achieve those reductions. Regarding Project #17b's relatively high score and ranking, while it scored low on the NPV criterion, it does not have any capital costs and thus scored fairly high on the overall Cost/Cost-Effectiveness criterion. As for the other criteria, since a REC is a contractual relationship it has very little operational risk, complexity or staffing requirement; and therefore scored at the top of the Operational Impacts criterion. Since the transaction is contractual in nature its financial risk and regulatory risk are also very low. Its political/local acceptability is high, and it does not require any other body to approve the project, meaning decision autonomy ranks high; therefore it scored at the top of the Risk and Uncertainty criterion. Since the project is renewable energy-based it also scored high for the GHG impacts and the Environmental Impacts criteria. Overall it ranked fourth in scoring.

Section 6. Portfolio and Scenario Analysis



6.1 Portfolio Analysis without Project #3

The Plan's goal is to identifying a portfolio of cost-effect projects to reduce the District's existing and future energy costs, and as required under future regulatory conditions reduce GHG emissions. The portfolio that best meets this goal is the most appropriate portfolio for IRWD.

Eight portfolios were identified for analysis, and the 8 portfolios were compared against each other to determine the best portfolio. Since a separate analysis is being done on Project #3; Portfolio 1 was comprised of the remainder of the 11 short-listed projects. The next three portfolios each removed a project that stimulated discussion among IRWD staff at the workshop as to whether or not it should be included in the short-list. The RECs project was removed because of its positive NPV; the Fleet Changes project was removed because of its uncertain capital cost, and the Food-Waste-To-Energy project was removed because of the uncertainty about the type and amount of food waste that would be available to IRWD. The fifth portfolio removed all three of these projects from the portfolio. Portfolio 6 focused on just energy efficiency projects, and included only projects in the portfolio that save electricity. Portfolio 7 included only those projects that could be done without any up-front capital cost. Finally, Portfolio 8 did not delete any projects, but added the project just after the short-list cut-off - Project #12c Solar PV project using a Power Purchase Agreement (PPA). In summary, the 8 portfolios are:

- Portfolio 1** - Short-Listed Projects minus Project #3: Accelerated Local GW Supplies
- Portfolio 2** - Portfolio 1 projects minus Project #17b: RECs
- Portfolio 3** - Portfolio 1 projects minus Project #18: Fleet Changes
- Portfolio 4** - Portfolio 1 projects minus Project #8: Food-Waste-To-Energy
- Portfolio 5** - Portfolio 1 projects minus Project #17b, #18 and #8
- Portfolio 6** - Only Energy Efficiency projects (projects #9, #20, #10, #15, #14b, #6 and #4)
- Portfolio 7** - Only projects without Capital Costs (projects #6, #12b, #14b, #17b, #18 & #15)
- Portfolio 8** - Portfolio 1 projects plus Project #12c – Solar PPA

Five types of analysis were performed on the 8 portfolios in order to compare them and select the best portfolio. The data was used directly from the project Cost Templates to create a net annual total portfolio cost for each of the 8 portfolios. The portfolio cost enables the calculation of the NPV of Net Annual Costs for the portfolio, the portfolio's Capital Cost, and the Average Annual Electricity Cost of the portfolio.

The bars on the charts below represent the difference in cost from the BPPP Forecast. In other words, the x-axis (at zero) represents IRWD's cost, energy use or GHG emissions under the BPPP Forecast. Bars below the zero x-axis represent savings to IRWD, and bars above the x-axis represent a cost to IRWD. None of the portfolios create a cost to IRWD; all of them create financial savings for IRWD. For instance, in Figure 4 Portfolio 1 has a NPV savings to IRWD of over \$11 million over 20 years. The five types of analysis performed to compare the portfolios are:

1. Net Present Value (NPV) of the Net Annual Costs (\$)

2. Cumulative Capital Costs (\$)
3. Average Annual Electricity Cost (\$/Year)
4. Average Annual Electricity Purchases (KWh/Year)
5. Average Annual GHG Emissions Reductions (Metric Tons of CO₂/Year)

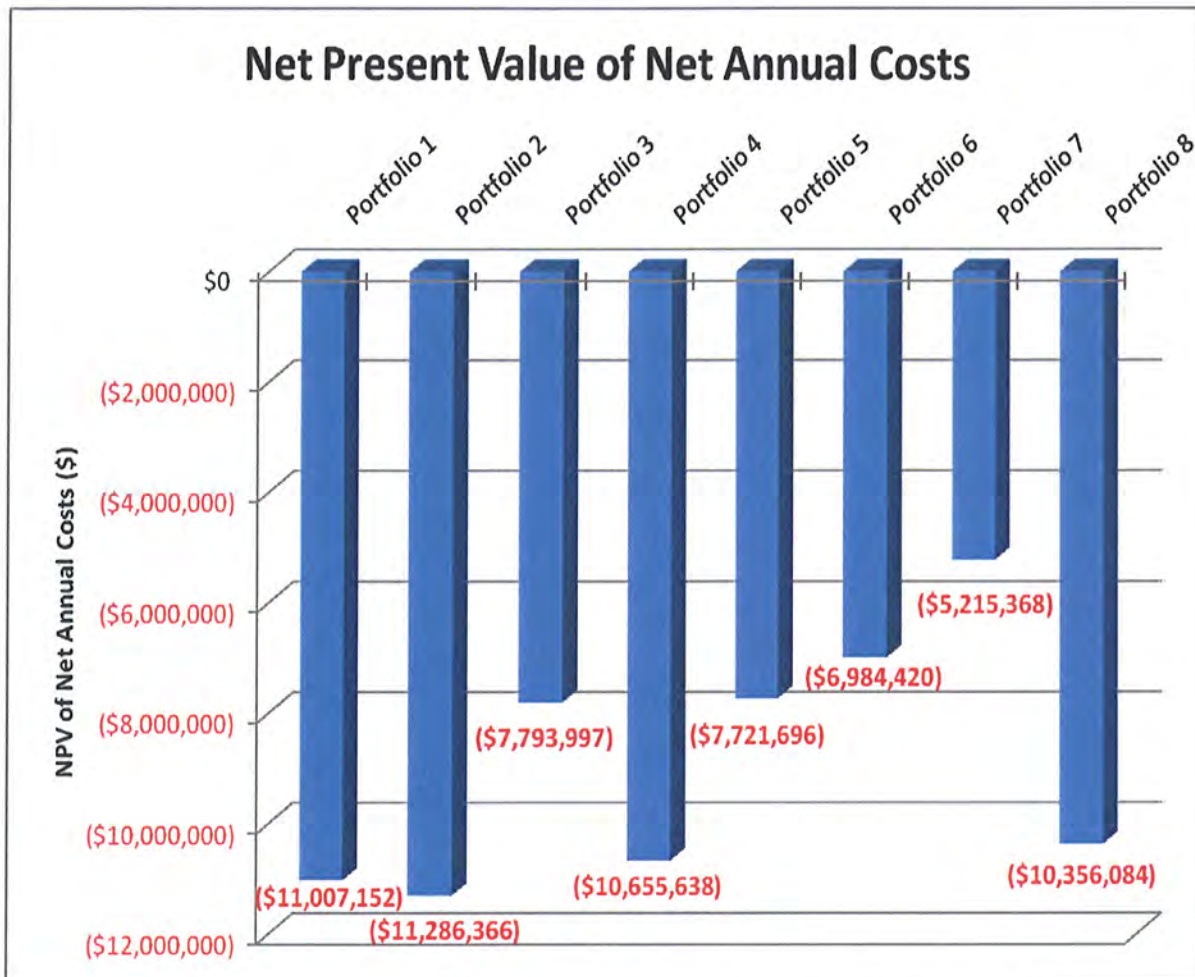


Figure 4: NPV of Net Annual Cost Comparison of Portfolios

The above figure compares the NPV of Net Annual Cost for each portfolio. The NPV shows the value of the savings associate with the portfolio compared to the cost of the BPPP Forecast. Portfolios 1 & 2 create the largest savings to the District.

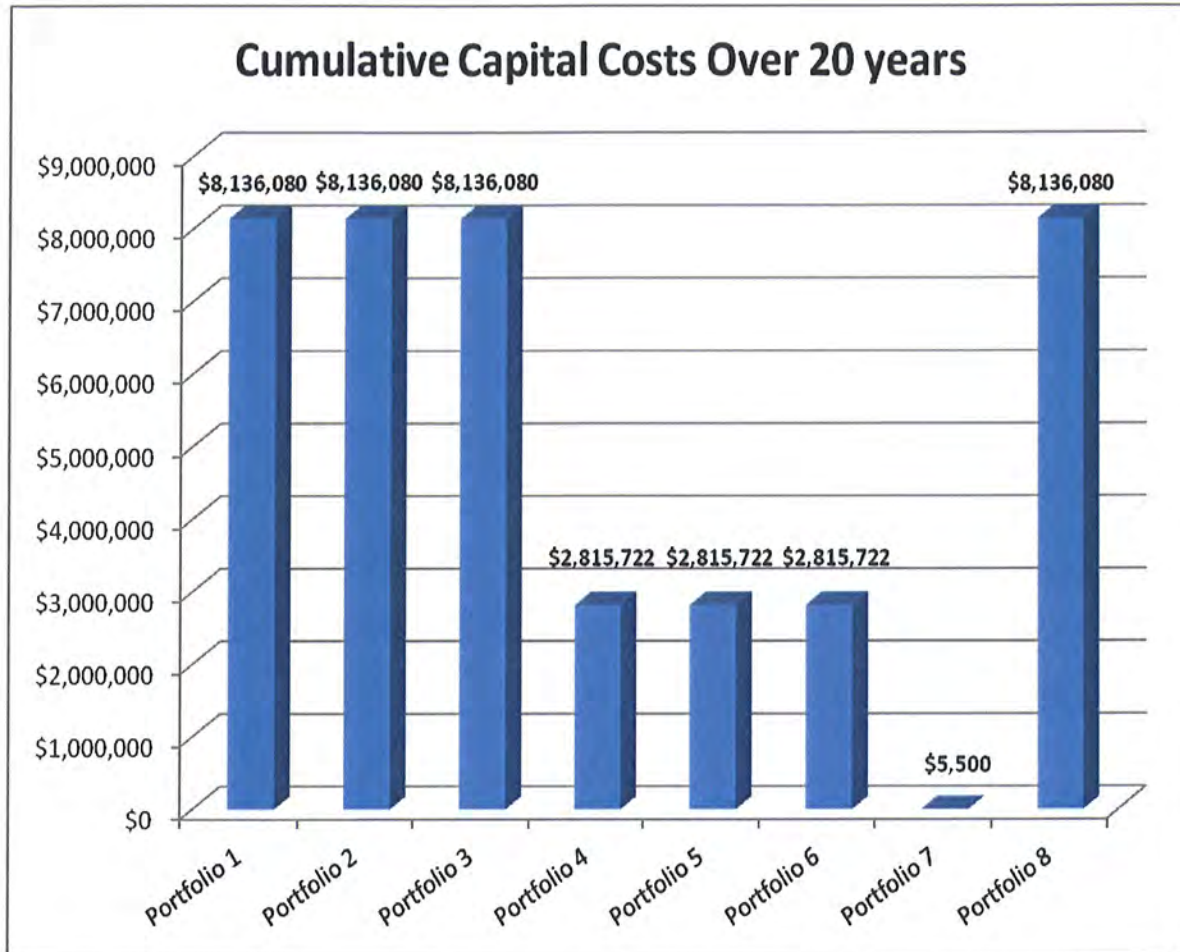


Figure 5: Cumulative Capital Cost Comparison of Portfolios

The figure above compares the total amount of cumulative capital cost required over 20 years for each of the 8 portfolios. Obviously, Portfolio 7 which is comprised only of projects without up-front capital costs has the lowest cumulative capital costs. Portfolios 4, 5 & 6 remove Project #8 the Food-Waste-To-Energy project which has a capital cost of \$5.3 million. Portfolios 1, 2, 3 and 8 have the same capital cost.

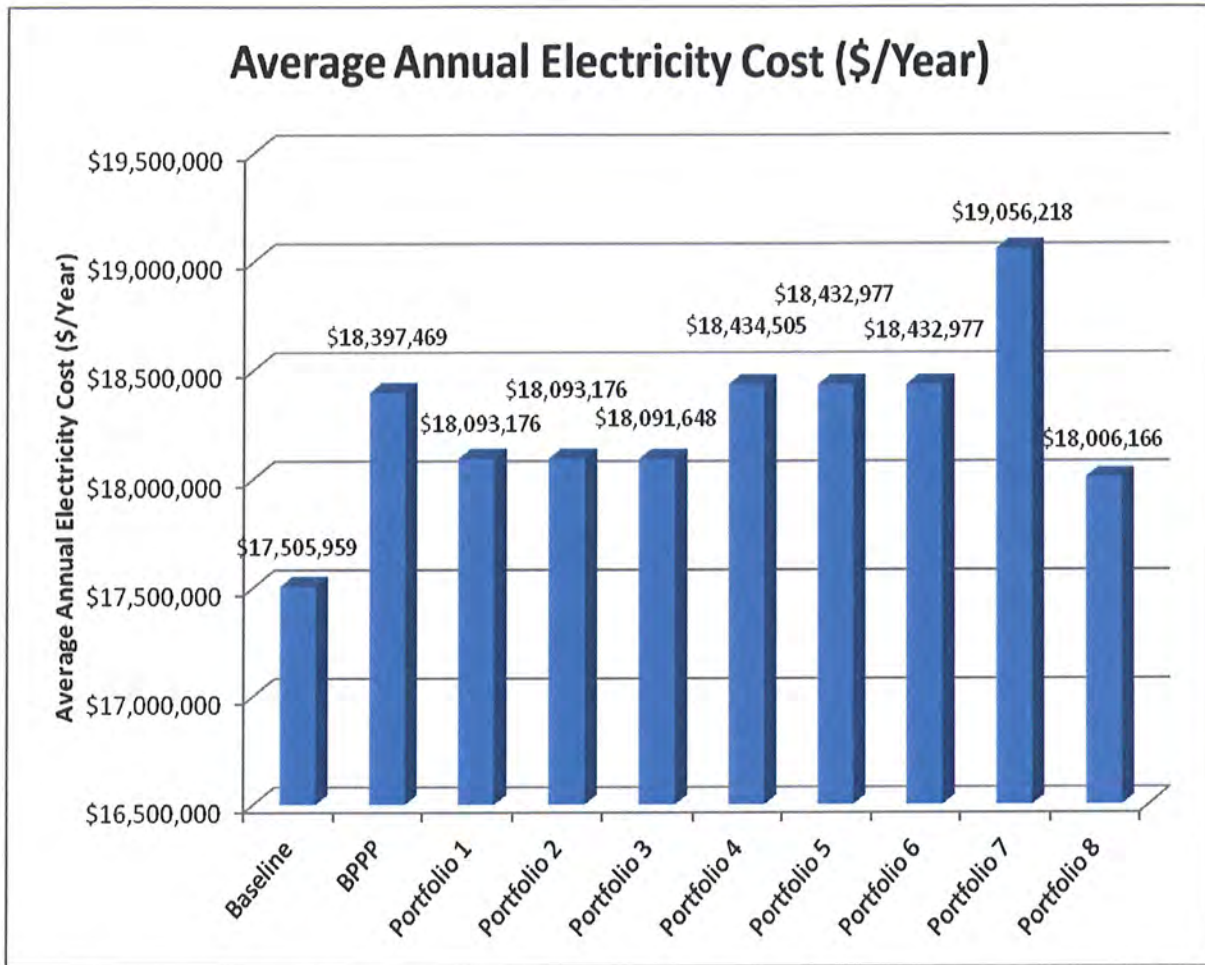


Figure 6: Average Annual Electricity Cost Comparison of Portfolios (\$/Year)

The figure above compares the annual average cost IRWD would pay for electricity for each of the 8 portfolios and the BPPP, through the year 2030. Portfolios 1, 2, 3, and 8 have the lowest average annual costs; and they are about 2% lower than the BPPP average annual cost.

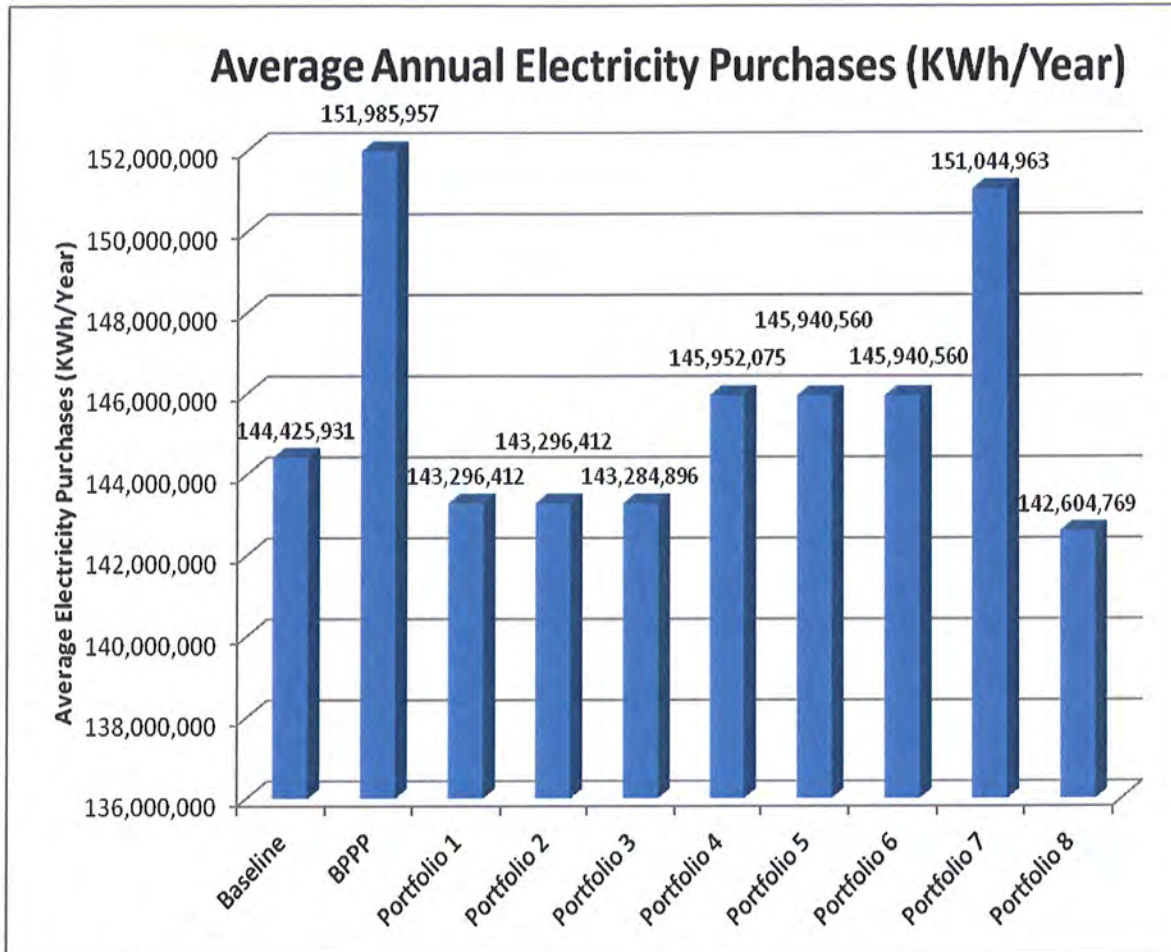


Figure 7: Average Annual Electricity Usage Comparison of Portfolios (KWh/Year)

All of the portfolios reduce IRWD's electric consumption compared to the BPPP electricity use. Portfolio 8 has the lowest average annual electricity use; and portfolio's 1, 2 & 3 also have substantially lower levels of average annual electricity purchases than the BPPP.

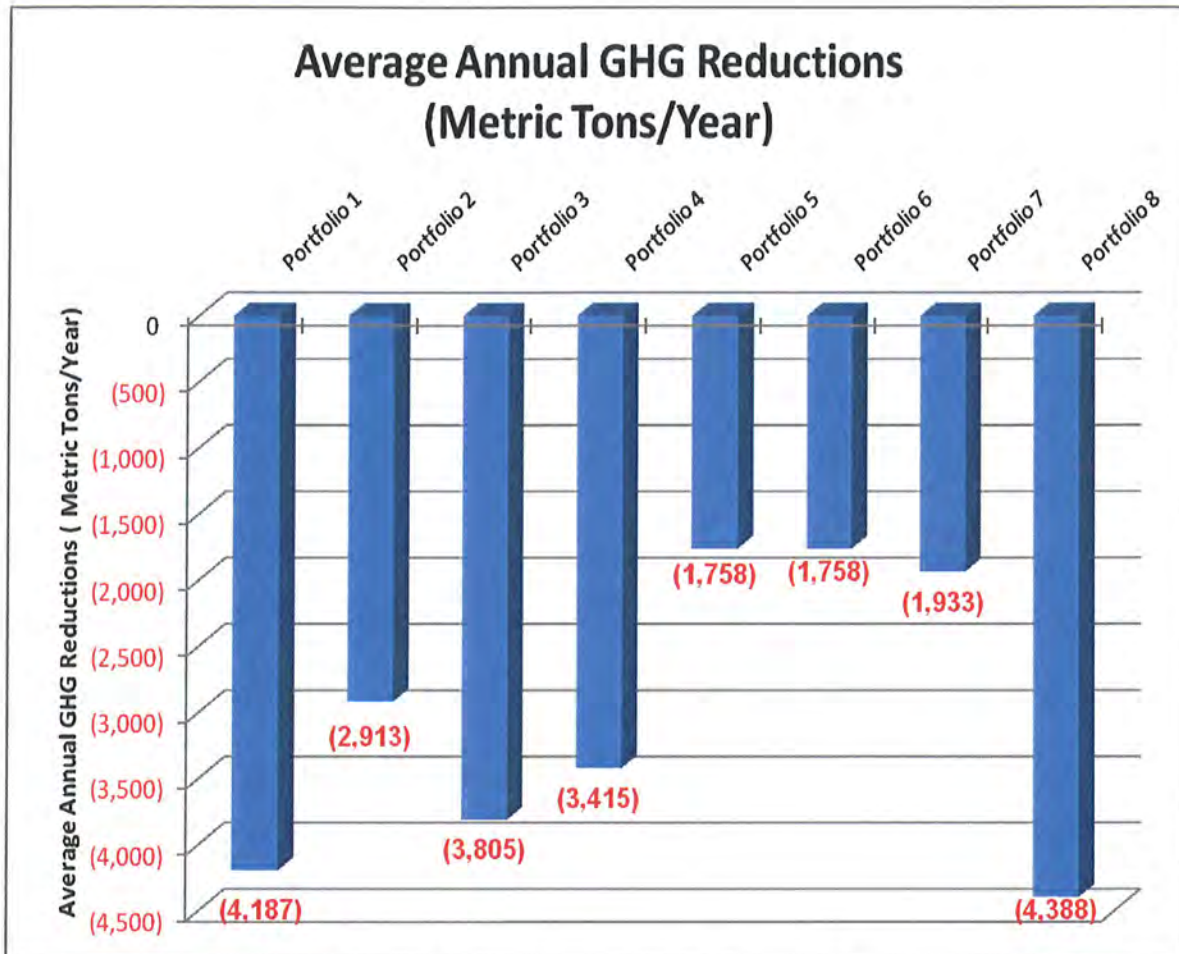


Figure 8: Average Annual GHG Emission Reduction Comparison of Portfolios (Metric Tons CO₂/Year)

The figure above compares the GHG emission reductions of each portfolio compared to the BPPP level of GHG emissions (x-axis). Portfolios 1 & 8 have the highest amount of GHG emission reductions.

6.2 Portfolio Comparison

Looking at all the analysis and figures above; the two overall consistently best performing portfolios are Portfolio 1 and Portfolio 2. The two portfolios are equal with respect to cumulative capital cost, average annual electricity cost, and average annual electricity purchases. Portfolio 1 reduces significantly more GHG emissions than Portfolio 2 (4,187 MT/Year versus 2,913 MT/Year, or 44% more), and the lifecycle cost of those GHG emission reductions is significant lower (\$147/MT versus \$216/MT, or 32% less expensive). However, Portfolio 2 saves IRWD slightly more money over the 20 year study period (NPV of \$11.3 million versus \$11.0 million or about 2% more savings). The trade-off between the two portfolios is that while Portfolio 2 saves an average of about \$20,000 per year more than Portfolio 1; Portfolio 1 achieves substantially

more GHG emission reductions at a much lower lifecycle cost per metric ton of CO₂. Because this Plan seeks to cost-effectively lower both energy and GHG emissions Portfolio 1 is selected as the best portfolio for IRWD.

6.3 Benefits of Portfolio 1

Over the study period of this Plan (through 2030) Portfolio 1 would have the following benefits to IRWD:

- *Average Annual Net Savings = \$794,000*
- *Cumulative Total Net Savings by 2030 = \$15.1 million*
- *Net Present Value (NPV) of Annual Net Savings = \$11 million*
- *Annual Electricity Purchase Savings = 8.7 million KWh/Year*
- *Total Electricity Purchase Savings = 165 million KWh by 2030*
- *Annual Reduction in GHG Emissions = 4,187 metric tons of CO₂/Year*
- *Total Reductions in GHG Emissions = 79,550 metric tons of CO₂ by 2030*

6.4 Project #3 - Accelerated Local Groundwater Supplies

During 2009 IRWD imported 28% (16,000 acre-feet) of their total potable water demand (57,400 acre-feet). According to the IRWD's 2009 Greenhouse Gas Inventory, roughly one-third of IRWD's GHG emissions are related to the imported water from the Metropolitan Water District (MWD).

The IRWD planning and engineering staff has developed a Groundwater (GW) Work Plan spreadsheet to model the expansion of IRWD's groundwater supply capacity to meet future demands and reduce the dependence on imported water supply. The GW Work Plan takes into account numerous factors and constraints, such as the water demand forecast, the Orange County Water District's (OCWD) Basin Protection Plan, and potential annexations. The GW Work Plan identified a number of potential future groundwater projects and prioritized them based on cost-effectiveness, schedule, and operational impacts. The GW Work Plan also created a schedule for implementing the priority groundwater projects.

Project #3 - Accelerated Local Groundwater Supplies can only occur if the current basin groundwater management policy is changed. Project #3 assumes the District would develop a little over half of the planned Joint Anaheim Well Field project capacity by 2015, and fast-track the completion of Well 51 from 2015 to 2012. As well, there will be a more aggressive use of four existing wells: expanded OPA well pumping, Well 106, Well 53, and Well 52. The completion of these operational changes and additional projects results in a reduction of needed imported water from MWD to meet projected water demands. However, the District will still need to rely on imported water, especially following the loss of the Basin Protection Plan exemption status of the DATS and Wells 21 & 22 to meet water demands. The table below lists the differences in operations, as well as the timing of the development of additional wells, between what is currently planned by the District and the Accelerated Local Groundwater Supply alternative envisioned in Project #3.

Table 8: Comparison of Changes to Operations and On-line Dates for BPPP vs. Accelerated Local Groundwater Supply Alternative

Well	BPPP (currently planned)	Accelerated Local Groundwater Supply
Expanded OPA Well Pumping		<ul style="list-style-type: none"> No change in on-line year More aggressive use in years 2017 to 2022
Well 106	<ul style="list-style-type: none"> In 2017 use drops from full capacity to only 27% and ramps up to full capacity in 2024 	<ul style="list-style-type: none"> No change in on-line year More aggressive use in years 2017 to 2023 at full capacity
Well 53	<ul style="list-style-type: none"> Use is only 88% in 2012 Use drops to zero in 2017 to 2024 where it is used at roughly 20% capacity ramping up to roughly 50% capacity by 2030 	<ul style="list-style-type: none"> No change in on-line year More aggressive use in years 2012 to 2023 at full capacity
Well TL-1a (52)	<ul style="list-style-type: none"> Use is only 36% in 2012 Use drops to zero in 2017 to 2030 	<ul style="list-style-type: none"> No change in on-line year More aggressive use in years 2013 to 2023 at full capacity
Well 51	<ul style="list-style-type: none"> Use is only 10% in 2015 and 22% in 2016 No use from 2017 to 2030 	<ul style="list-style-type: none"> On-line year accelerates from 2015 to 2012 More aggressive use in years 2012 to 2023 mostly at full capacity
Joint Anaheim Well Field	<ul style="list-style-type: none"> Project <u>not</u> brought on-line or used from 2012 to 2030 	<ul style="list-style-type: none"> On-line year is accelerated to 2015, but only 50% of the project is built More aggressive use in years 2015 and 2016 No use from 2017 to 2021 Use in 2021 starts at 1% and ramps up to roughly 25% by 2025 and stays there until 2030

6.5 Benefits of Project #3

By 2030 under the Accelerated Local Groundwater Supply alternative, compared to what is currently planned, MWD imports would decrease about 36% by 2030 and imported water cost would decrease about 38%. Conversely, electricity purchases would increase by 15% by 2030 to operate the new wells, and electricity costs would also increase by about 12%. Since the

electricity needed to provide imported water from MWD does not show-up as part of IRWD's electricity purchases, adding new IRWD wells and pumps will increase the amount of electricity consumed by the District by the following amounts:

- **Annual Increased Electricity Purchases = 10.6 million KWh/Year**
- **Total Increased Electricity Purchases = 202 million KWh by 2030**

However, since the GHG intensity of an acre-foot of imported water (i.e. – the amount of GHG associated with the delivery of an acre-foot of imported water from MWD) is much higher than the GHG intensity of an acre-foot of locally produced groundwater by IRWD, the overall GHG emissions for IRWD for the same amount of water supplied would decrease. By 2030 GHG emissions are reduced by 9% and by the following amounts:

- **Annual Reduction in GHG Emissions = 4,049 metric tons of CO₂/Year**
- **Total Reductions in GHG Emissions = 76,928 metric tons of CO₂ by 2030**

Capital cost for the development of Project #3 - Accelerated Local Groundwater Supplies would be approximately \$24.8 million. However this investment could have up to the following financial benefits to the District:

- **Average Annual Net Savings = \$10.9 million**
- **Cumulative Total Savings by 2030 = \$207.5 million**
- **Net Present Value (NPV) of Annual Net Savings = \$141.5 million**

6.6 Benefits of the Short-List of Projects

The benefits of the full short-list of 12 projects (the 11 projects in Portfolio 1 and Project #3) over the 20 year study period through 2030 are:

- **Average Annual Net Savings = \$11.7 million**
- **Cumulative Total Net Savings by 2030 = \$222.6 million**
- **Net Present Value (NPV) of Annual Net Savings = \$152.5 million**
- **Annual Increase Electricity Purchases = 1.9 million KWh/Year**
- **Total Increase Electricity Purchases = 37 million KWh by 2030**
- **Annual Reduction in GHG Emissions = 8,236 metric tons of CO₂/Year**
- **Total Reductions in GHG Emissions = 156,478 metric tons of CO₂ by 2030**

6.7 Scenario Analysis on Portfolio 1

In order to anticipate and plan for future changes a scenario analysis was performed to illuminate potential impacts on the Plan, and to provide guidance to IRWD in dealing with potential future changes. The definition of a future scenario is a change in the regulatory, economic or political environment that would precipitate a modification in the projects in Portfolio 1. For instance, if a future scenario were to become a reality it would require the addition or

deletion of a specific project in Portfolio 1. In essence, this is a sensitivity analysis based on potential future scenarios. In Workshop #2 IRWD management staff discussed and approved the following set of future scenarios to be analyzed:

1. More stringent air quality constraints.
2. More stringent GHG regulations and a price on GHG emissions (\$/MT).
3. More stringent water quality constraints.
4. Higher electricity prices.
5. Lower imported water prices.
6. Orange County Groundwater Basin rules continue.
7. Revised Evaluation Criteria that eliminates GHG Impacts and Environmental Impacts.

Each scenario is described in the following sections, and the financial impacts on the portfolio (i.e. – the change in NPV of Net Annual Costs) are also discussed. In addition, specific guidance is suggested on how IRWD could deal with this potential impact. The scenario analysis is first applied to Portfolio 1 and then to Project #3. Since scenarios 5 and 6 only apply to Project #3 they are not applied to Portfolio 1.

6.7.1 Air Quality Scenario

Project Impact: Under the more stringent air quality constraints scenario IRWD could be prohibited from creating additional air pollution from generating resources such as a microturbine. Therefore Project #8 which uses a microturbine, along with its food waste receiving station to convert pre-processed and liquid food waste to biogas which is used by the microturbine, would be deleted and not implemented.

Financial Impact: The NPV of Portfolio 1 would decrease about \$350,000 or -3% because the District would lose the value added from Project #8 Food-Waste-To-Energy (see Figure 9).



Figure 9: NPV Impact of the Air Quality Scenario

Guidance: IRWD should work with regulators to ensure microturbines continue to be permitted. The risk of this scenario happening is quite low. However, should the microturbine permitting be questioned, it might be helpful to argue that since this project uses biogas from the digesters, and actually decreases GHGs, it should be treated differently than other fossil fuel-fired generators.

6.7.2 GHG Regulation & Price

Project Impact: Under more stringent GHG regulations, such as a lowering of the mandatory GHG reporting threshold or the lowering of Cap & Trade emissions participation threshold; IRWD may be required to reduce its overall GHG emissions. In addition, should a future regulatory environment create a market price for GHG emissions (\$/MT) it could have a positive financial impact on Portfolio 1.

Financial Impact: As the market price of GHG emissions increases so does the NPV of Portfolio 1. The figure below shows the increase in the NPV of Portfolio 1 at different GHG prices ranging from \$10 to \$25 per MT CO₂. The increase in the value of Portfolio 1 goes from 5% at \$10/MT to 13% at \$25/MT.

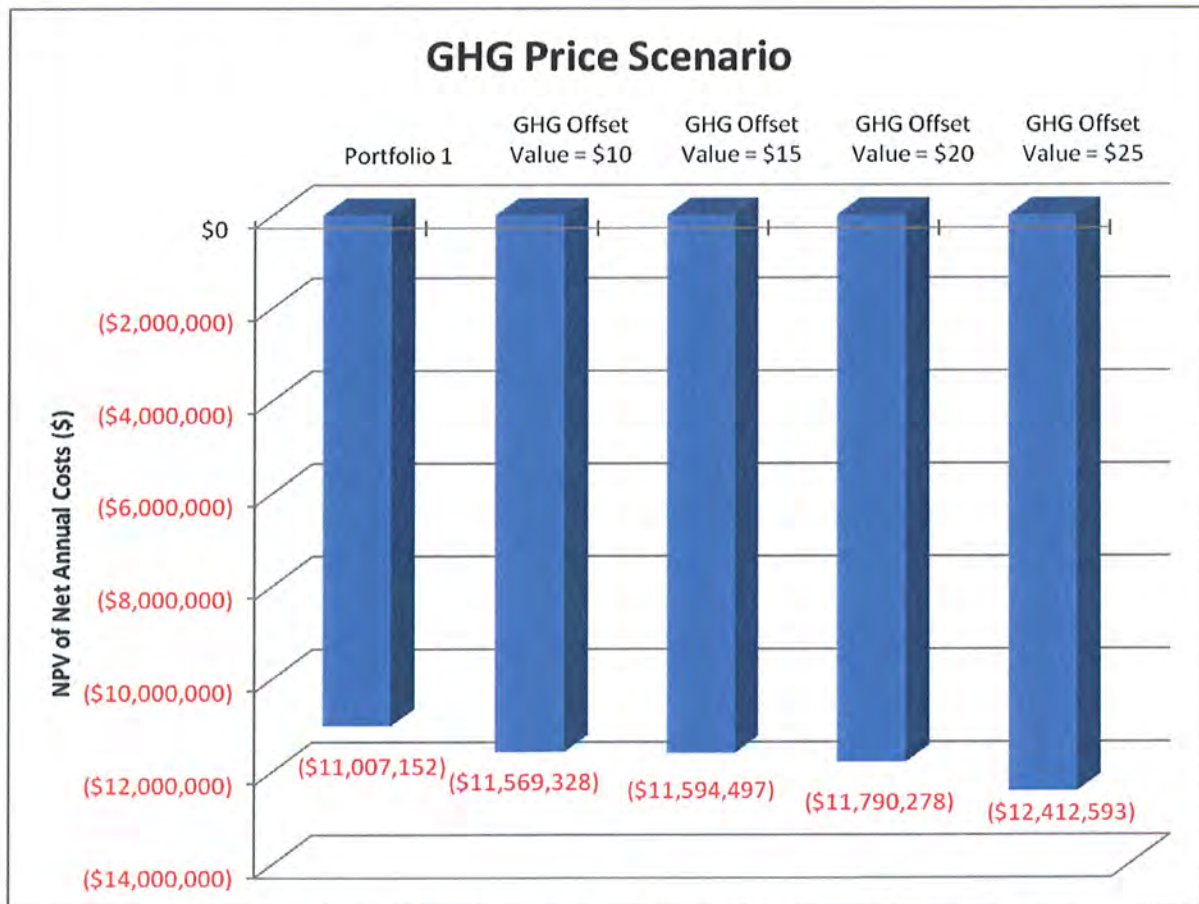


Figure 10: NPV Impact of the GHG Price Scenario

Guidance: IRWD should monitor the GHG market prices and position itself to be able to potentially sell some of its GHG emission offsets into a future market, thereby creating a revenue stream for the District. If IRWD should have to reduce its GHG emissions the market price would allow the District to quantify the value of those reductions.

6.7.3 Water Quality Scenario

Project Impact: More stringent water quality constraints may require IRWD to maximize the quality of the effluent from the MWRP. Since diverting flows from the membrane plant to the activated sludge plant could decrease the overall effluent quality from MWRP this may not be allowed. This would mean Project #14 Michelson 38% Flow Diversion Project could not be implemented and the project would be deleted.

Financial Impact: Not implementing Project #14 would decrease the NPV of Portfolio 1 by about \$790,000 or 7% (see Figure 11).

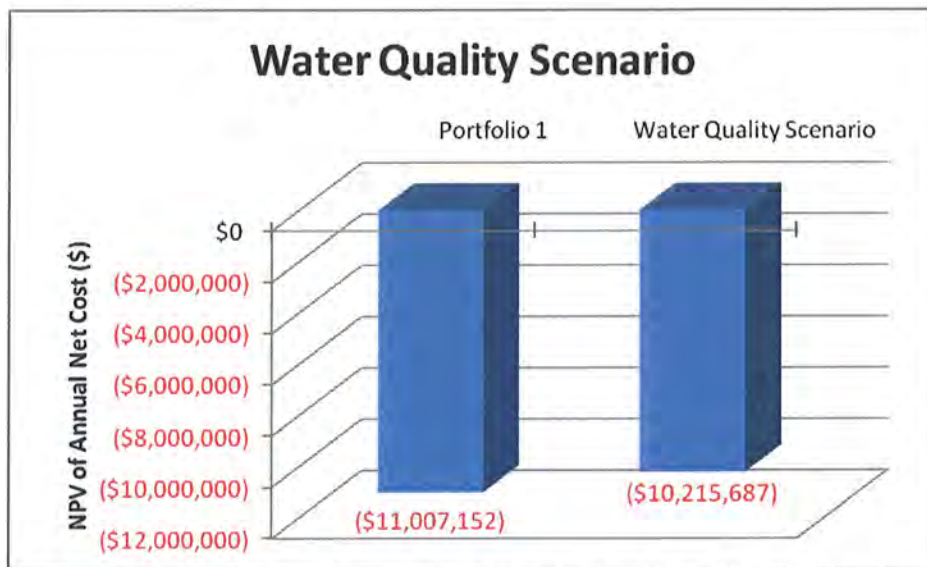


Figure 11: NPV Impact of the Water Quality Scenario

Guidance: IRWD should work with regulators over the next 7 years, while this project is viable, to ensure IRWD can operate the MWRP system by balancing flows between the membrane plant and the activated sludge plant, while still meeting water quality standards for outflows from MWRP.

6.7.4 Electricity Prices Scenario

Project Impact: The anticipated annual escalation rate for electricity prices from Southern California Edison (SCE) in this Plan is about 2%. It is possible that SCE prices could escalate at a faster rate than anticipated. Fortunately all of the projects in Portfolio 1 are less expensive than continuing purchases from SCE. Should SCE rates increase faster than expected the value of Portfolio 1 would increase, and therefore, none of the projects would be deleted from the portfolio. In addition, the solar PV program with a Power Purchase Agreement (Project

#12c) which was the first project not to make the short-list of projects could be added, but only if the price escalation rates in the PPA were higher than currently expected.

Financial Impact: The amount of savings associated with Portfolio 1 is dependent on the rate of annual escalation of electricity prices. The figure below shows the additional value or savings associated with higher annual SCE escalation rates of 3%, 4%, and 5%. At 3%, instead of the anticipated 2% rate of escalation, the NPV value of Portfolio 1 would increase about \$800,000 or 7%; at a 4% escalation rate it would increase about \$1.7 million or 15%; and at 5% it would increase about \$2.6 million or 24%.

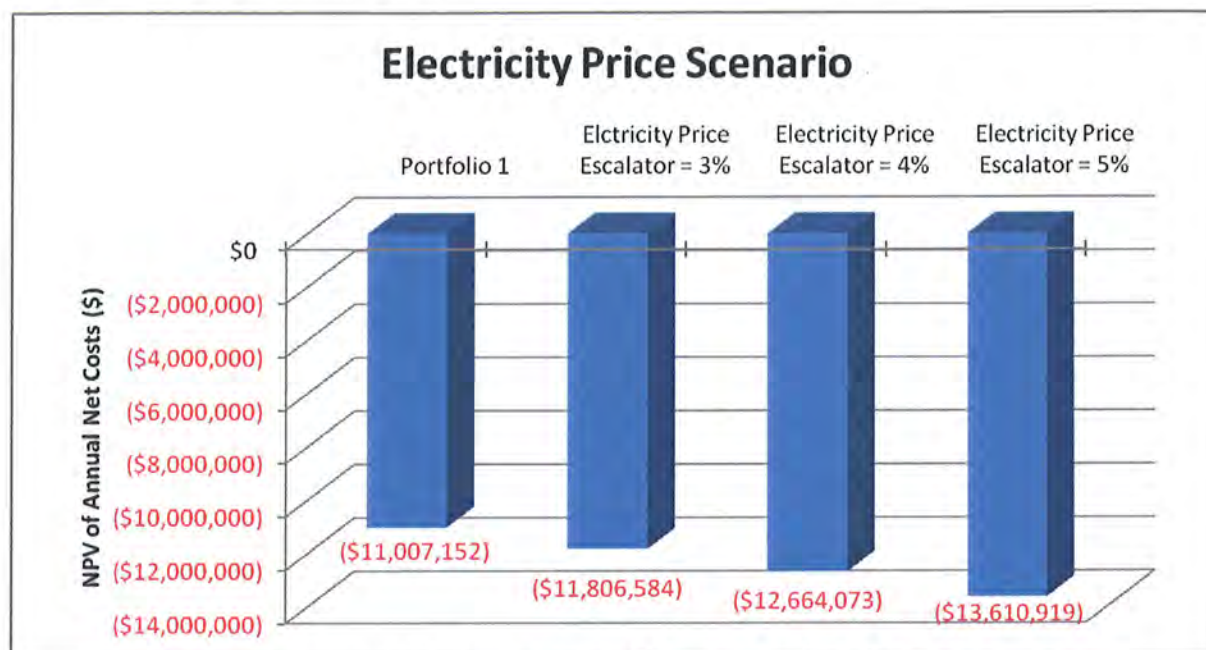


Figure 12: NPV Impact of the Electricity Price Scenario

Guidance: IRWD should monitor the escalation rate of SCE prices for electricity, and should they rise more than the anticipated 2% per year, the District should recalculate the benefit of Portfolio 1.

6.7.5 Revised Evaluation Criteria Scenario

Project Impact: This scenario would eliminate the GHG Impacts and Environmental Impacts evaluation criteria from the scoring analysis. The 20 total points allocated to these two criteria would be proportionally redistributed among the remaining evaluation criteria: Cost/Cost-Effectiveness, Operational Impacts, and Risk and Uncertainty. The elimination of these two criteria does not cause the removal of any of the projects on the short-list of projects; nor does it force any other marginal projects to jump onto the short-list. It does however cause the rank order of the short-listed projects to change.

Financial Impact: None.

Guidance: None.

6.8 Scenario Analysis on the Project #3

The scenarios that would be applied to Project #3 are:

1. Higher electricity prices.
2. Lower imported water prices.
3. Orange County Groundwater Basin rules continue.
4. Higher capital cost for the accelerated local groundwater supply projects (This scenario was added to this analysis after the discussion in Workshop #3).

6.8.1 Electricity Prices Scenario

Project Impact: With the implementation of Project #3 IRWD’s cost of electricity to run the new wells and pumps would increase.

Financial Impact: As the price of SCE electricity increases, more than the anticipated 2% per year, the value of this project decreases. Should SCE prices increase at 3% per year the NPV of Project #3 would decrease approximately \$2.5 million or 2%, at 4% annual rate of increase the NPV would decrease \$5.2 million or 4%, and at a 5% escalation rate the NPV would decrease \$8.3 million or 6%. However, in all scenarios Project #3 is still extremely cost-effective.

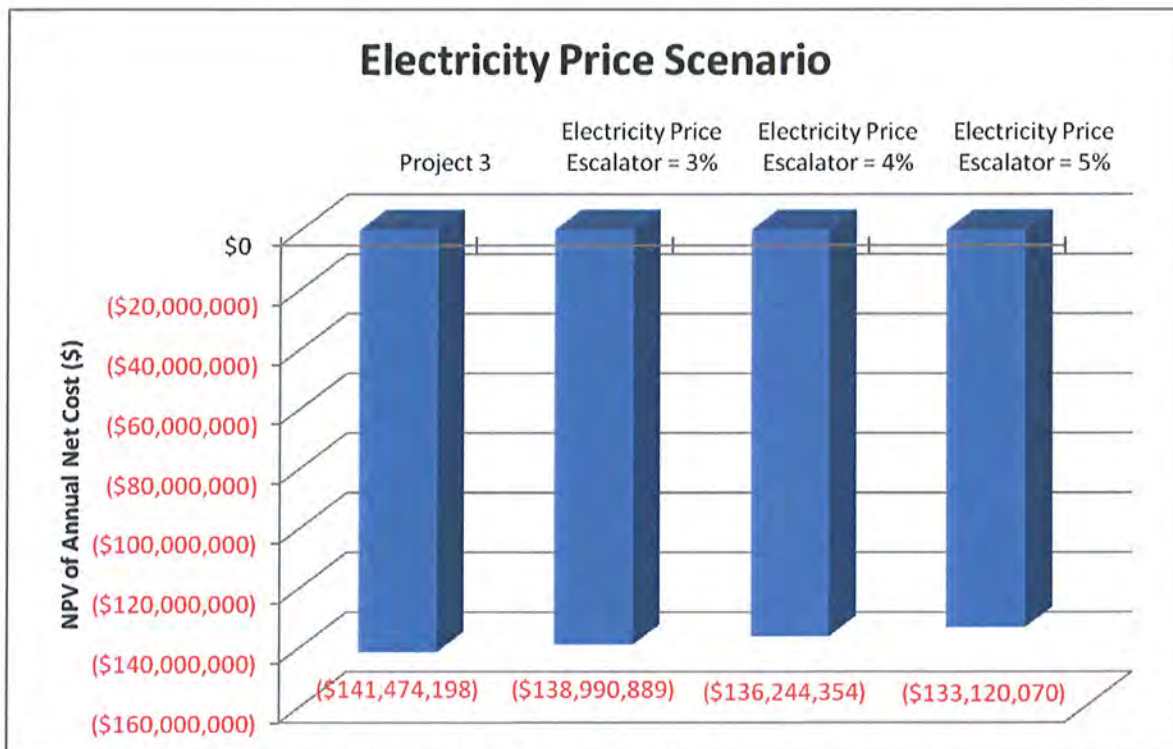


Figure 13: NPV Impact of the Electricity Price Scenario on Project #3

Guidance: The impacts of higher than anticipated electricity costs are relatively modest, and even at the highest escalation rate of 5% per year Project #3 is still cost-effective. IRWD should monitor the SCE rate increases and adjust the value of Project #3 accordingly.

6.8.2 Lower Imported Water Prices Scenario

Project Impact: The change in the price of imported water from MWD would have no physical impact on Project #3, but it would have a financial impact.

Financial Impact: The anticipated rate of escalation of the price of imported water from MWD is 6% per year in this Plan. Should the actual annual rate of increase for MWD imported water be lower than anticipated it would decrease the value of the project. If the annual rate of increase for MWD imported water were only 5.6% the NPV Project #3 would decline \$8.1 million or 6%, if it were 5% it would decline \$19.5 million or 14%, if it were 4% it would decline \$36.7 million or 26%, and if it were 3% it would decline about \$52 million of 37%. However, in every scenario Project #3 is still extremely cost-effective.

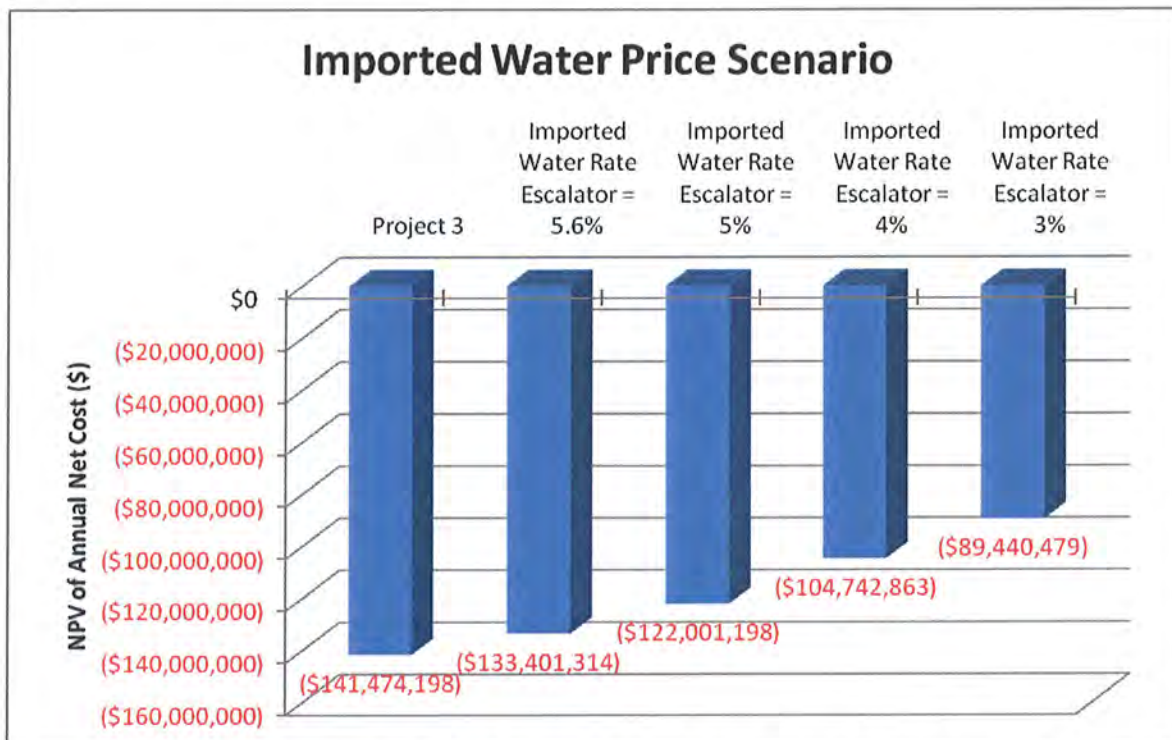


Figure 14: NPV Impact of the Imported Water Price Scenario on Project #3

Guidance: The rate of increase of MWD prices can have a dramatic impact on the value of Project #3. However, even at the lowest rate of increase the project is still cost-effective. IRWD should closely monitor the increases in MWD imported water and adjust the value of the project accordingly.

6.8.3 Orange County Basin Rules Continue Scenario

Project Impact: Should the current groundwater basin rules continue IRWD would not be able to implement Project #3.

Financial Impact: The inability to implement Project #3 would eliminate the entire value of the project. Partial implementation would result in a proportional decrease in the benefits or value of the project in the District.

Guidance: IRWD should continue to work toward expanding the use of local GW supplies.

6.8.4 Higher Project Capital Cost Scenario

Project Impact: IRWD staff estimates the capital cost necessary for the construction of the entire Anaheim Well Field is approximately \$41 million, but this estimate has a degree of uncertainty. Project #3 envisions only building about half of the Anaheim Well Field requiring only about \$24.8 million for construction.

Financial Impact: If the capital cost should increase the value of the project would decrease. Should the actual capital cost be 125% of the estimated \$24.8 million the NPV of Project #3 would decrease \$5.2 million or 4%, if the capital cost was 150% of the estimate it would decrease \$10.5 million or 7%, and if the capital cost were 200% of the estimate the NPV would decrease by \$21 million of 15%. However, in all scenarios Project #3 remains cost-effective.

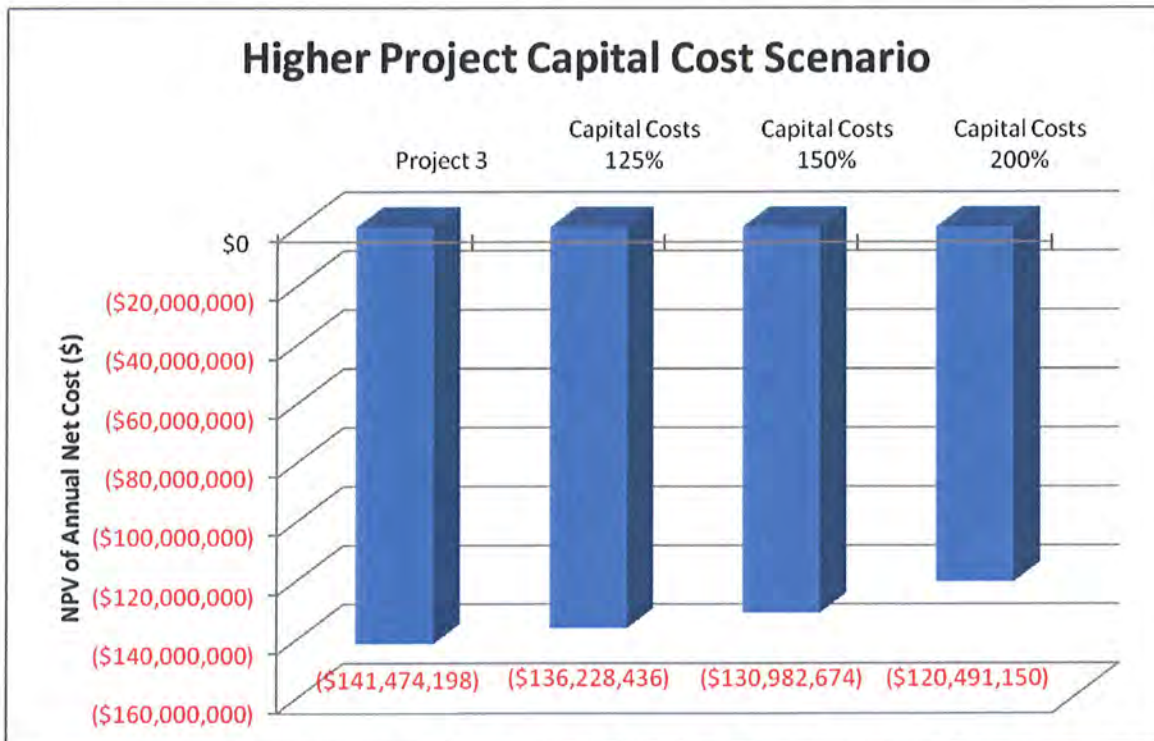


Figure 15: NPV Impact of the Higher Capital Cost Scenario on Project #3

Guidance: The value of Project #3 is only somewhat sensitive to the capital cost of the Anaheim Well Field. Should the actual capital cost be higher than anticipated the value of the project would decrease; but the project would still be very cost-effective. IRWD should develop a more detailed estimate of the capital cost of the Anaheim Well Field before pursuing this project.

Section 7. Items for Further Action

There are specific items recommended for further study in the short and long-term for each of the projects in the short-list of projects listed in the full report.

Section 8. Conclusions

There are several conclusions that can be drawn from the analysis done for this Master Plan:

- The most important conclusion is that the implementation of the short-list of projects can significantly reduce IRWD's overall cost and GHG emissions. The cumulative total net savings by 2030 from the short-listed projects is estimated at \$222.6 million, and the NPV of these savings is \$152.5 million. The average annual GHG emission reduction is 8,236 metric tons of CO₂ per year, and a total of 156,478 metric tons by 2030.
- The cumulative total net savings by 2030 from Portfolio 1 is estimated at \$15.1 million, and the NPV of these savings is \$11 million. The average annual GHG emission reduction is 4,187 metric tons of CO₂ per year, and a total of 79,500 metric tons by 2030.
- Project #3 - Accelerated Local Groundwater Supplies can reduce IRWD's cost of water and reduce its GHG emissions. The cumulative total net savings from Project #3 is up to an additional \$207.5 million, with a NPV of these savings of approximately \$141 million. The average annual GHG emission reduction would be up to 4,049 metric tons of CO₂ per year, and a total of up to 76,928 metric tons by 2030.
- It could be very cost-effective for IRWD to continue to work toward expanding the use of local groundwater supplies.
- Overall IRWD GHG emissions are reduced from the BPPP Forecast as the result of implementing Portfolio 1 and the Short-List of Projects (see Figure 16 below).

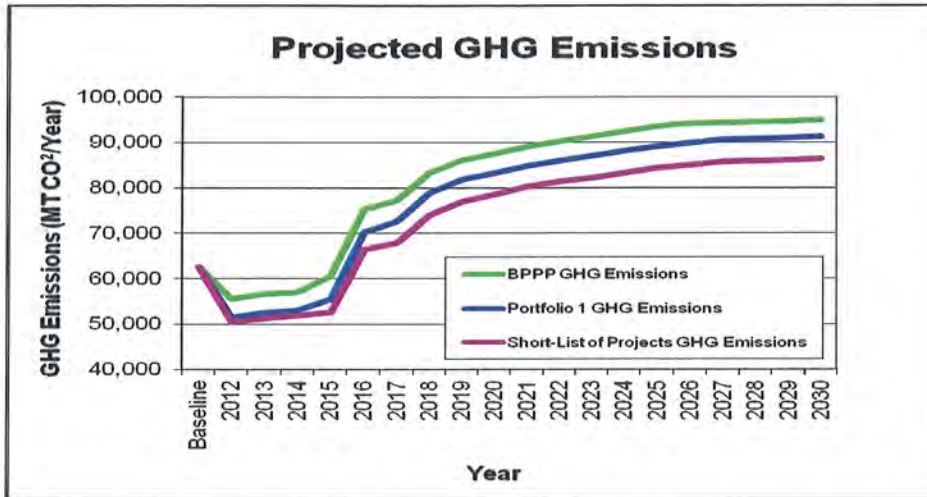


Figure 16: Comparison of GHG Emissions per Year

- While overall IRWD electricity costs are reduced from the implementation of Portfolio 1; the short-list of projects increases electricity costs because of additional local groundwater well pumping associated with Project #3 (see Figure 17 below).

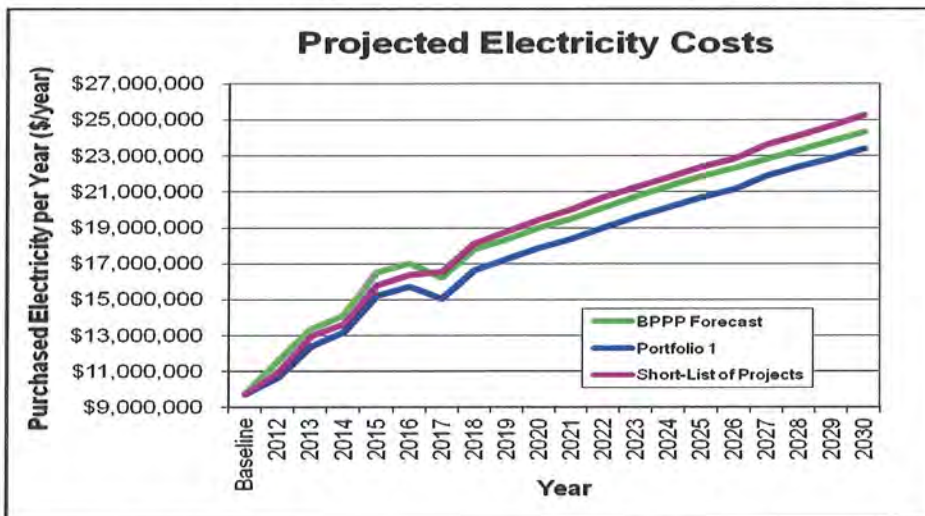


Figure 17: Comparison of Electricity Cost

- The short-list of projects remains cost-effective under all of the scenarios analyzed, indicating this is a robust Plan.
- The 12 short-listed projects create a road map for follow-up detailed analyses that should be pursued by the District.
- As the results of the follow-up studies become available; cost-effective projects should be fed into IRWD's annual budget process.

- IRWD should consider short-term implementation of the energy-efficiency projects that do not require up-front capital costs (i.e. – Projects #20 Additional Water Conservation, Project #15 Process Energy Audit, and Project #14b MWRP Phase 2 Optimization). As well, Project #9 Pump Efficiency Improvement Program, while having a capital cost of \$1.1 million, is the most cost-effective project identified in the Master Plan and should be considered for short-term implementation.
- Project #12b Solar PV Program Land-Lease at Jackson Ranch will help maximize the use of Jackson Ranch with a feasible and appropriate type of development. This project has the potential for additional revenue for the District, without any capital investment by the District, and with only minor risks. However, the necessary third-party negotiations will require more development time and will add some complexity to the negotiations. It is likely that IRWD will have only a limited window of opportunity to pursue this project due to the changing incentives for solar PV projects and fluctuations in the marketplace.
- The Master Plan should be updated every 3 to 5 years, or as conditions change.

EXHIBIT "B"

JACKSON RANCH SOLAR FEASIBILITY STUDY PLAN

January 27, 2012

Summary

Irvine Ranch Water District is currently developing an Energy and Greenhouse Gas Master Plan. Preliminary results indicate that the development of a solar energy generating facility at IRWD's Jackson Ranch in Kings County will be a financially beneficial project for the District to pursue. Completion of an investigation into the feasibility of developing a solar power facility at the Jackson Ranch will help characterize the property for a prospectus for the property and a Request for Proposals (RFP) to be circulated to a pre-qualified list of solar power project developers interested in the project.

Background

In 2010, IRWD purchased 883.26 acres of agricultural land known as the Jackson Ranch within the Dudley Ridge Water District (DRWD). A location map of the property is attached as Attachment "A". The Jackson Ranch has associated rights to use of 1,757 AF of State Water Project Table A water that is allocated to the land in accordance with the DRWD's Rules and Regulations. The District will be conveying a portion of the supplies to the Strand Ranch Integrated Banking Project for later recovery and delivery to IRWD's service area. Through a lease with the prior owner, the Jackson Ranch has continued as an agricultural property using a portion of its associated water supply. Approximately 590 acres of land within the Jackson Ranch are currently fallowed.

IRWD has been developing, with the assistance of Kennedy/Jenks Consultants (KJC), an Energy and Green House Gas (GHG) Master Plan. The purpose of this Plan is 1) to evaluate future energy use and to identify strategies for making energy efficiency improvements and reducing GHG emissions, and 2) to make recommendations for investing in cost effective renewable energy programs. Preliminary results indicate that a solar generating facility at the Jackson Ranch could be a financially beneficial project.

A study of the potential feasibility of developing a solar power generating facility on the Jackson Ranch has already been undertaken. The Jackson Ranch is located within one mile of existing 230 kV and 500 kV regional electrical transmission lines operated by the California Independent System Operator (CAISO) Corporation inside Pacific Gas and Electric's (PG&E) service area. The demand for new solar energy generating facilities in PG&E's service area is likely to remain high due to California's Renewable Portfolio Standard (RPS) Program that was recently codified with the signing of Senate Bill X1-2 in April 2011. This Bill requires all electricity retailers in the state to obtain 20 percent of their retail sales from renewable energy sources by the end of 2013, 25 percent by the end of 2016 and 33 percent by the end of 2020.

Approach to Feasibility Study

In order to evaluate the potential feasibility of developing a solar energy generating facility at Jackson Ranch, a six step process has been identified as follow:

1. Verify the site's potential for solar development. This work has been completed by more than one solar power developer interested in the property;
2. Perform a preliminary interconnection study relative to CAISO's network. This study has been completed by ZGlobal, Inc.;
3. Conduct a low-level environmental evaluation and a preliminary study of land use conversion and entitlement issues;
4. Develop a prospectus that will reflect the feasibility and benefits of the property relative to solar facility development;
5. Submit a Request for Proposals to qualified firms potentially interested in a long term lease for the property and development of a solar generating facility and/or developing a potential partnership with IRWD to develop a solar facility at the site; and
6. Select an experienced solar power development firm to develop a solar generation facility on the property.

The following is a description of additional work that is needed to augment the interconnection study and work necessary relative to environmental, land use conversion and entitlement issues as well as the development of a prospectus for the property.

Additional Interconnection Analysis

ZGlobal has already completed a preliminary interconnection study for IRWD that estimated the cost of connecting a solar generating facility at the Jackson Ranch to the regional electrical grid operated by the CAISO. Results identified a connection to the 230 kV line that is located less than one mile from the Jackson Ranch would cost between \$14 and \$18 million dollars. In addition, the study determined a facility with up to 100 mW of capacity would require no network upgrades to accommodate normal and contingency overloads, but could require significant upgrades to accommodate emergency overloads. The determination of final upgrade costs will require a formal interconnection assessment to be paid for by the solar power developer.

Additional work is required to augment the preliminary interconnection study. A variance and associated scope of work for ZGlobal to accomplish this additional work has been prepared as attached as Exhibit "C". ZGlobal's revised scope of work would require that they describe scheduling issues associated with connecting a solar generating facility at the Jackson Ranch to the CAISO network. In addition, ZGlobal will analyze partnership opportunities, wholesale purchases alternatives for IRWD and the financial implications associated with IRWD's potential participation in CAISO. ZGlobal will also investigate the potential for wheeling power from the Jackson Ranch located in the PG&E service area to IRWD which is located in Southern California Edison's service area. ZGlobal proposes to accomplish the additional interconnection analysis work for \$13,577.

Preliminary Environmental Evaluation

In order to characterize whether or not the Jackson Ranch is suitable for solar development, a preliminary environmental evaluation of the property is required. Staff requested on-call environmental consultants at Dudek to develop a scope work and associated estimates to perform

a low level biological survey and to prepare a preliminary environmental evaluation of the Jackson Ranch relative to developing a solar power project. The preliminary evaluation will contain substantially less information than a formal CEQA document and will determine if there are any major environmental issues that might be associated with the Jackson Ranch that could be of concern to solar power developers. A copy of the Dudek proposal to perform the evaluation under an existing, on-call environmental services contract with IRWD is provided as Exhibit "D". Dudek would complete the scope of work for \$10,000.

Land Use Evaluation and Prospectus Development

At staff's request, proposals have been provided by Provost and Pritchard Consulting (PPC) and RGP Planning and Development Services (RGP) to analyze land use conversion and entitlement issues associated with developing a solar power facility on the Jackson Ranch. The scope of work entails conducting research and analysis of land use and entitlement issues, development of a property prospectus that will describe the key features of Jackson Ranch site and all elements of the solar power feasibility study, the review of IRWD's RFP that will be sent to solar power developers interested in the construction and operation of a solar power generating facility on the property and providing assistance in identifying a pre-qualified list of solar power project developers to receive the RFP. In addition, the scope of work includes a preliminary production analysis to quantify the solar power potential of the site for a range of facility sizes.

After completing an evaluation of the written proposals, staff recommends awarding a professional services agreement to PPC to complete work. Key strengths of its proposal include:

- PPC has extensive experience in developing utility scale solar power facilities throughout California's San Joaquin Valley including Kings, Fresno, Tulare and Sacramento Counties. PPC has over 20 staff members actively working on dozens of utility scale solar power projects for seven different solar power developers.
- The PPC team includes a small, focused team of specialists in solar power development, land entitlement assessment, and planning and regulatory issues. PPC also provides a full range of technical services to the Westside and Dudley Ridge Water Districts.
- The PPC project manager, Mr. Donald Ikemiya, has over 25 years of experience in solar power development, land entitlement assessment and regulatory issues including Williamson Act and Prime Farmland regulations. He has been responsible for the oversight of over 30 solar power projects for four different solar power developers in the San Joaquin Valley.
- PPC's costs are competitive when compared to the other proposal received.

The Consultant Rating Sheet is attached as Exhibit "E". PPC's detailed scope of work, project schedule and project budget are provided as Exhibit "F". The PPC scope of work would be completed for \$36,000.

Fiscal Impact

Project 11637 (3667) is not included in the FY 2011-12 Capital Budget. The total cost for the Jackson Ranch Solar Feasibility Study work is \$98,600. This includes \$13,577 for ZGlobal to provide additional analysis of the interconnection issues, \$10,000 for Dudek as an on-call environmental consultant to provide a preliminary evaluation of environmental issues, and

\$36,000 for PPC to evaluate land use conversions and entitlement issues, develop a property prospectus, review IRWD's request for proposal, assist in identifying a pre-qualified list of solar power project developers and to perform a preliminary production analysis for various sized projects. Staff time and legal assistance in the amount of \$5,000 and \$25,000 respectively are required. Therefore a FY 2011-12 budget addition of \$98,600 and Expenditure Authorization of \$98,600 will be required to perform the Jackson Ranch Solar Feasibility Study.

Environmental Compliance

This study is not subject to the California Environmental Quality Act (CEQA).

List of Attachments

Attachment "A" – Location Map Jackson Ranch

Attachment "A"
Location Map Jackson Ranch

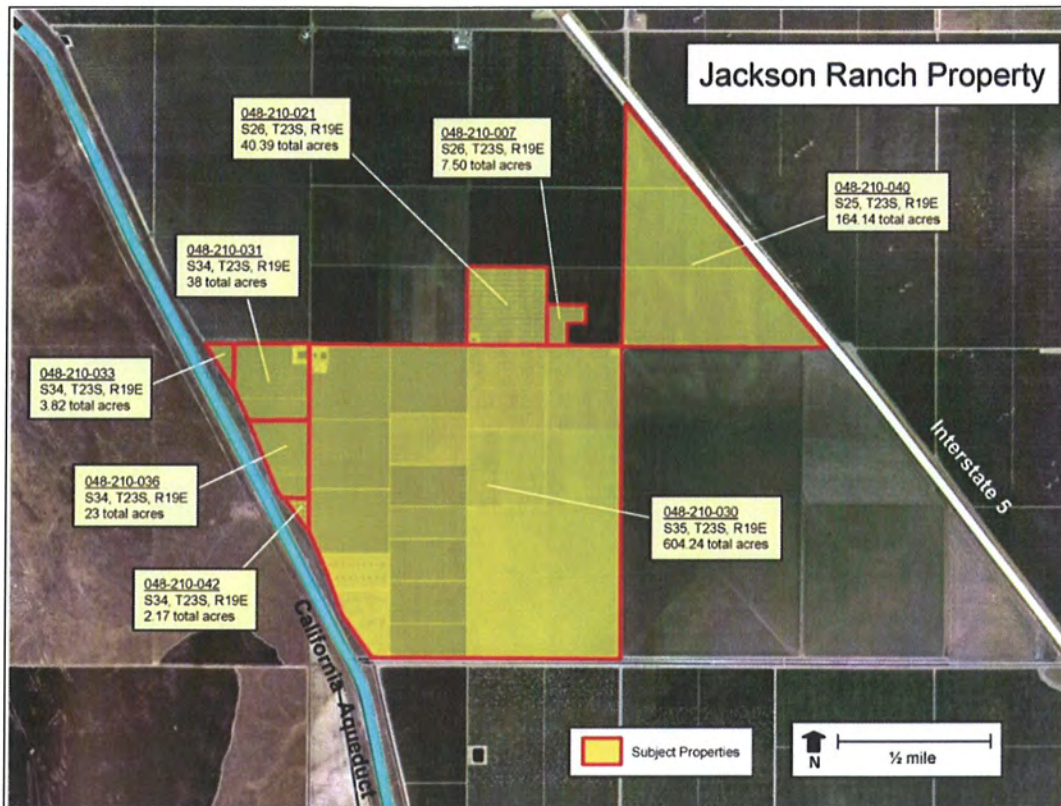


Exhibit "C"

IRVINE RANCH WATER DISTRICT PROFESSIONAL SERVICES VARIANCE

Project Title: Jackson Ranch Solar Project _____

Project No.: 11482 - 1620 _____ Date: December 2, 2011 Purchase Order No.: _____
 _____ Variance No.: 1

Originator: IRWD ENGINEER/CONSULTANT Other (Explain) _____

Description of Variance (attach any back-up material):
 See Attachment 1, Jackson Ranch Solar Project Variance No 1 Scope of Work

Engineering & Management Cost Impact: See Attachment 1, Jackson Ranch Solar Project Variance No 1 Scope of Work

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
Total \$ =						

Schedule Impact: See Attachment 1, Jackson Ranch Solar Project Variance No 1 Scope of Work

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule

Required Approval Determination:

Total Original Contract \$ 11,040.00 _____ Previous Variances \$ 0.00 _____ This Variance \$ 13,577.00 _____ Total Sum of Variances \$13,577.00 _____ New Contract Amount \$24,617.00 _____ Percentage of Total Variances to Original Contract 123 _____ %	<input type="checkbox"/> General Manager: Single Variance less than or equal to \$30,000. <input type="checkbox"/> Committee: Single Variance greater than \$30,000, and less than or equal to \$60,000. <input type="checkbox"/> Board: Single Variance greater than \$60,000. <input type="checkbox"/> Board: Cumulative total of Variances greater than \$60,000, or 30% of the original contract, whichever is higher.
--	---

ENGINEER/CONSULTANT: Z Global, Inc.

 Company Name


 Project Engineer/Manager 12-14-11

 Date


 Engineer's/Consultant's Management 12-14-11

 Date

IRVINE RANCH WATER DISTRICT

 Department Director Date

 General Manager/Comm./Board Date

IRVINE RANCH WATER DISTRICT

PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: Jackson Ranch Solar Project _____

Project No.: 11482 - 1620 _____ Project Manager: Ray R. Bennett _____

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	Scheduling, Settlement & Renewable Credits and New Purchase Alternatives	Dec 2, 2011		13,577.00

**Attachment 1
Jackson Ranch Solar Project
Variance No 1 Scope of Work**

Following are new activities requested by IRWD to evaluate the feasibility of developing a solar generating facility at the Jackson Ranch.

Scope of Work

Task 1 Scheduling, Settlement and Renewable Credits

There are scheduling, settlements and renewable credit issues associated connecting a solar generating facility to the regional electrical transmission system. In this task, ZGlobal will describe the scheduling issues associated with connecting a solar generating facility at the Jackson Ranch to CAISO. In addition, the financial implications associated with participation in the CAISO, including delivery and administrative costs, will be presented. Further, the potential for transmission upgrades within the CAISO associated with proposed generation projects will be described as they relate to both costs and timing. Finally this task will describe the renewable credits associated with a solar development and how they may or may not be used by the District.

Task 2 New Purchase Alternatives

IRWD currently obtains all its energy at a retail rate from Southern California Edison. In this task ZGlobal will evaluate additional energy alternatives that were not included in a November 21, 2011 Kennedy Jenks Consulting assessment of solar generating projects. These new alternatives will include but are not limited to partnerships, wholesale purchases, and wheeling power from the Jackson Ranch located in the PG&E service area to IRWD located in the SCE service area.

Task 3 Alternative Summary of Jackson Ranch Site Assessment

ZGlobal shall draft an alternate site assessment report for Jackson Ranch such that it does not include any specific reference or associated data that may be considered confidential due to CAISO interpretation of "critical infrastructure". The alternate draft will primarily be an overview of the existing Executive Summary and Conclusions and will reference the "confidential" report. Draft report will be provided to IRWD for comment and final "alternate" report will be provided by ZGlobal inclusive of IRWD comments and edits.

Costs

The following time estimate reflects the effort to perform the scope of work described above. The following ZGlobal Professionals will perform the above scope of work (Task 1 through 3):

Kevin Coffee – VP Energy Markets and Procurement (24 hours, \$267.75/hour)

Brian Rahman – Executive Director of Engineering (14 hours, \$267.75/hour)

Christine Vangelatos – Director of Analytics (8 hours, \$267.75/hour)

Jenny Mueller – Senior Engineer (6 hours, \$210/hour)

These hours are budgeted to Tasks 1 through 3 as shown in the following table.

Task #	Task Description	Director/ Principal Engineer	Sr. Trans/Ops Engineer	Total Hours	Total Labor Cost
1	Scheduling Settlement and Renewable Credits	24	6	30	\$ 7,686
2	New Purchase Alternatives	16		16	\$ 4,284
3	Redraft of Jackson Ranch Report	6		6	\$ 1,607
	Totals	46	6	52	\$ 13,577

ZGlobal shall perform the above scope of work on a Time and Material basis within the estimated budget.

Task Order Schedule

Task 1 through 3 shall be provided to IRWD for review and comment no later than four (4) weeks after a signed variance is provided.

DUDEK

MAIN OFFICE
405 THIRD STREET
SACRAMENTO, CALIFORNIA 95817
T 750 942 5147 T 800 450 1818 F 750 633 0166

January 5, 2012

Christian Kessler
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, California 92619-7000

Subject: Revised Proposal for Environmental Services for the Jackson Ranch Environmental Constraints Memorandum

Dear Chris,

Dudek appreciates your solicitation of our services for the Irvine Ranch Water District (IRWD) for the proposed Jackson Ranch Preliminary Environmental Feasibility Study. We have reviewed the materials you provided, including the following:

- 1) Notice of Intent (NOI) dated November 30, 2009
- 2) Jackson Ranch Baseline Property Assessment dated December 2009
- 3) Land Use Map dated September 12, 2011
- 4) Jackson Ranch Solar Project – Overview Memo dated November 16, 2011

Based on the materials you provided, and our discussions via conference call, we believe we have the right team and approach to provide you with the feasibility study you require within the budget you have allotted.

This proposal includes 1) a brief statement of qualifications, with reference to key staff that will handle the project; 2) our specific understanding of the project, including key assumptions relevant to our scope of work; and 3) a scope of work. This proposal also incorporates revisions provided by IRWD on January 4, 2012.

Statement of Qualifications

Dudek is a recognized expert in environmental documentation and environmental issues related to renewable energy and agriculture in particular. Dudek's project team will be led by Shawn Shamlou, AICP, a senior environmental project manager with 18 years of experience. Shawn has worked on a number of projects affected by farmland conversion and is a certified preparer of agricultural technical reports. Sherri Miller, a principal and leader of our natural resources management services, will lead the biology component. Sherri is based in Sacramento and is currently working on environmental documentation for a 36,000-acre ranch in nearby Tulare County. She has over 17 years' experience evaluating the feasibility and constraints associated with development of public and private projects.

Sherri and Shawn are supported by an array of technical experts at Dudek with dozens of years of experience each in the areas of agricultural land use, CEQA/NEPA, biological resources, water quality, and hydrogeology, to name a few. In addition, Dudek's technical editorial and publications department uses

efficient, accurate styles and agency templates, when applicable, to produce high quality documents done right the first time. Dudek's geographic information systems (GIS) staff helps our team quickly evaluate complex project issues with topological modeling, infrastructure mapping and modeling, and spatial analyses. When hiring Dudek, you get a depth of staff that has the experience, expertise, and commitment to quality that will guide your project to successful completion.

Understanding of the Project

Based on the Jackson Ranch Solar Project – Overview Memo dated November 16, 2011, Dudek understands that the Jackson Ranch is located in Kings County approximately 220 miles north of the IRWD service area. The ranch is located within the electrical service area of Pacific Gas and Electric (PG&E) while IRWD is located within the electrical service area of Southern California Edison (SCE). The regional electrical transmission grid that serves Jackson Ranch is operated by the California Independent System Operator (CAISO) Corporation. In 2010, IRWD purchased 883.26 acres of Jackson Ranch in order to enhance reliability and redundancy to IRWD's water supply. Jackson Ranch is well suited for solar development with average high summer temperatures of about 100 degrees Fahrenheit in the summer and about 55 degrees Fahrenheit in the winter. Average low temperatures are about 69 and 39 degrees Fahrenheit in the summer and winter respectively. The property is located approximately 1.5 miles from a 69 kV transmission line operated by the CAISO. An electrical substation is located approximately 5 miles north of Jackson Ranch in Kettleman City.

Preliminary investigations indicate up to a 100 MW solar facility at Jackson Ranch could be constructed. IRWD is currently evaluating if power can be wheeled from the Jackson Ranch in PG&E's service area to IRWD in SCE's service area. Therefore a cooperative agreement or a long-term lease of the Jackson Ranch property to a qualified developer that will design, permit, construct and operate a utility-scale (20 to 100 MW) solar facility with a potential capital partnership with IRWD is currently envisioned.

IRWD staff has developed a five-step process to evaluate the potential to develop a solar generating facility at Jackson Ranch. Step 1 is to verify the site's potential for such a project, which has been completed. Step 2 is to perform an interconnection study which is the subject of the ZGlobal proposal, and Step 3 is to identify any environmental or land use constraints. Step 4 is to solicit Request for Qualifications from firms interested in negotiating a long term lease for the property and a potential partnership with IRWD to develop a solar facility at the site, and Step 5 is to solicit requests for proposals from qualified development firms. Dudek understands that IRWD has determined that Steps 1 and 2 are complete and Dudek is proposing to complete Step 3 under this scope of work. Steps 4 and 5 will only be performed if the environmental and land use investigation (Step 3) indicates the project is viable and Board approval is obtained.

The Dudek scope of work to complete Step 3 involves three main tasks: a biological reconnaissance of the site, preparation of a biological constraints report, and identification of the greatest environmental constraints in a constraints memorandum.

Scope of Work

TASK I GENERAL BIOLOGICAL RECONNAISSANCE

Dudek will update the biological resources data provided in the Jackson Ranch Baseline Property Assessment dated December 2009. Dudek will complete a literature review prior to conducting the site visit in order to

assess the potential for sensitive biological resources to occur. The literature review will include the U.S. Geological Survey topographic quadrangle, U.S. Department of Agriculture soil survey, and the California Natural Diversity Database (CNDDDB) in order to identify the potential for jurisdictional waters, sensitive soil series, or sensitive species that are known to occur or may potentially occur in the vicinity of the site.

Following completion of the literature review, Dudek will conduct a general biological reconnaissance survey of the site in order to assess the presence or potential of occurrence for sensitive resources that could pose a constraint for the development of a solar project on site. The field survey will include brief investigations on up to 7 sites on the 883-acre property. The results of the field survey will be used to create a biological resources map with vegetation communities/land covers and conspicuous sensitive species. During the field survey, vegetation communities/land covers will be mapped on a 200-scale topographic map or aerial photograph of the site. If potential jurisdictional waters are present on the site, the location will also be mapped in the field and later digitized as line features; however, this scope does not include a formal delineation of jurisdictional waters and wetlands. The habitat on the site will be assessed for the potential to support other sensitive resources that are not apparent at the time of the survey. Once a specific development footprint is determined by IRWD, more specific site investigations would be required in order to comply with CEQA.

A general inventory of plant and animal species detected by sight, calls, tracks, scat, or other signs will be compiled. Observable sensitive resources including perennial plants and conspicuous wildlife (i.e., birds and some reptiles) commonly accepted as regionally sensitive by the California Native Plant Society (CNPS), California Department of Fish and Game (CDFG), and United States Fish and Wildlife Service (USFWS) will be mapped and later digitized into a geographic information system (GIS) format and included on the biological resources map.

Total Estimated Cost for Task 1 \$1,680.00

TASK 2 BIOLOGICAL CONSTRAINTS LETTER REPORT

The results of the general biological reconnaissance survey will be presented in a biological resources constraints letter report. The report will include a discussion of the survey methods, an assessment of existing vegetation communities/land covers, sensitive biological resources, and potential jurisdictional waters present or likely to occur, and constraints these resources may pose to development of the site. This task includes one field map and one set of revisions. Additional necessary focused biological surveys or wetlands delineation will be identified as well as regulatory mechanisms necessary for approval of development of the site.

Total Estimated Cost for Task 2 \$700.00

TASK 3 CONSTRAINTS MEMORANDUM

Upon receipt of a notice to proceed, Dudek project manager Shawn Shamlou, with the assistance of Sherri Miller and other environmental staff, will draft a constraints memorandum relying primarily on four sources: the biological constraints letter report; an agricultural constraints evaluation to be prepared by another firm; the November 30, 2009 Notice of Intent (NOI) for Jackson Ranch; and the December 2009 Jackson Ranch Baseline Property Assessment.

Christian Kessler

Subject: Revised Proposal for Environmental Services for the Jackson Ranch Feasibility Study

Dudek understands that IRWD is separately contracting with another firm to analyze agricultural conversion issues, including Williamson Act contract cancellation. We understand that this firm will provide their study to Dudek for summarization in the constraints memo.

The 2009 NOI focused on the environmental impacts related to the acquisition of the Jackson Ranch property, the assignment of Kern Water Bank (KWB) rights, and agreements between IRWD and Dudley Ridge Water District (DRWD) regarding the exchange and/or transfer of water. The baseline property assessment evaluates the suitability of Jackson Ranch for purchase as a farming operation, and provides substantial background on the property.

Using the CEQA Appendix G checklist as an outline, Dudek will use the information provided in these four sources to create a constraints memorandum for the implementation of a 20 to 100 MW solar facility. The four or five greatest environmental constraints will be identified, which we anticipate will be land use, agricultural resources, biology, hazardous materials, minerals. Other CEQA topics will be described minimally. The constraints memo will also recommend the likely level of CEQA documentation (e.g., MND vs EIR). An electronic submittal of the memo will be provided to IRWD.

Total Estimated Cost for Task 3 \$7,320.00

Dudek proposes to complete the outlined scope of work for a labor total not to exceed \$9,700.00. All direct costs are billed in accordance with our 2012 Standard Schedule of Charges, a copy of which is attached. For estimation purposes, a total of \$300.00 in direct costs (including report production, postage, etc.) is anticipated for a total contract fee of \$10,000.00. All work will be billed monthly on a time-and-materials, not-to-exceed basis.

Dudek greatly appreciates the opportunity to provide services to IRWD to successfully accomplish this project. Please let us know if you have any questions or additional needs related to this proposal. You may contact me via phone at 760.479.4228 or email at sshamlou@dudek.com.

Sincerely,


Shawn Shamlou, AICP
Senior Project Manager

Att: 2012 Dudek Standard Schedule of Charges

DUDEK
2012 STANDARD SCHEDULE OF CHARGES

ENGINEERING SERVICES

Project Director	\$235.00/hr
Principal Engineer III.....	\$220.00/hr
Principal Engineer II.....	\$205.00/hr
Principal Engineer I.....	\$195.00/hr
Program Manager.....	\$200.00/hr
Senior Project Manager.....	\$185.00/hr
Project Manager.....	\$175.00/hr
Senior Engineer III.....	\$165.00/hr
Senior Engineer II.....	\$160.00/hr
Senior Engineer I.....	\$150.00/hr
Project Engineer IV/Technician IV.....	\$140.00/hr
Project Engineer III/Technician III.....	\$130.00/hr
Project Engineer II/Technician II.....	\$120.00/hr
Project Engineer I/Technician I.....	\$105.00/hr
Project Coordinator.....	\$85.00/hr
Engineering Assistant.....	\$75.00/hr

ENVIRONMENTAL SERVICES

Principal	\$225.00/hr
Senior Project Manager/Specialist II.....	\$210.00/hr
Senior Project Manager/Specialist I.....	\$200.00/hr
Environmental Specialist/Planner VI.....	\$180.00/hr
Environmental Specialist/Planner V.....	\$160.00/hr
Environmental Specialist/Planner IV.....	\$150.00/hr
Environmental Specialist/Planner III.....	\$140.00/hr
Environmental Specialist/Planner II.....	\$130.00/hr
Environmental Specialist/Planner I.....	\$120.00/hr
Analyst.....	\$100.00/hr
Planning Research Assistant.....	\$80.00/hr

COASTAL PLANNING/POLICY SERVICES

Senior Project Manager/Coastal Planner I.....	\$200.00/hr
Environmental Specialist/Coastal Planner VI.....	\$190.00/hr
Environmental Specialist/Coastal Planner V.....	\$170.00/hr
Environmental Specialist/Coastal Planner IV.....	\$160.00/hr
Environmental Specialist/Coastal Planner III.....	\$150.00/hr
Environmental Specialist/Coastal Planner II.....	\$140.00/hr
Environmental Specialist/Coastal Planner I.....	\$130.00/hr

ARCHAEOLOGICAL SERVICES

Senior Project Manager/Archaeologist II.....	\$210.00/hr
Senior Project Manager/Archaeologist I.....	\$200.00/hr
Environmental Specialist/Archaeologist VI.....	\$180.00/hr
Environmental Specialist/Archaeologist V.....	\$160.00/hr
Environmental Specialist/Archaeologist IV.....	\$150.00/hr
Environmental Specialist/Archaeologist III.....	\$140.00/hr
Environmental Specialist/Archaeologist II.....	\$130.00/hr
Environmental Specialist/Archaeologist I.....	\$120.00/hr
Archaeologist Technician II.....	\$70.00/hr
Archaeologist Technician I.....	\$50.00/hr

CONSTRUCTION MANAGEMENT SERVICES

Principal/Manager.....	\$195.00/hr
Senior Construction Manager.....	\$180.00/hr
Senior Project Manager.....	\$160.00/hr
Construction Manager.....	\$150.00/hr
Project Manager.....	\$140.00/hr
Resident Engineer.....	\$140.00/hr
Construction Engineer.....	\$135.00/hr
On-site Owner's Representative.....	\$130.00/hr
Construction Inspector III.....	\$125.00/hr
Construction Inspector II.....	\$115.00/hr
Construction Inspector I.....	\$105.00/hr
Prevailing Wage Inspector.....	\$135.00/hr

HYDROGEOLOGICAL SERVICES

Principal	\$220.00/hr
Sr. Environmental Engineer.....	\$190.00/hr
Sr. Hydrogeologist/Sr. Proj Mgr.....	\$170.00/hr
Project Manager.....	\$155.00/hr
Associate Hydrogeologist/Engineer.....	\$140.00/hr
Hydrogeologist IV/Engineer IV.....	\$125.00/hr
Hydrogeologist III/Engineer III.....	\$115.00/hr
Hydrogeologist II/Engineer II.....	\$105.00/hr
Hydrogeologist I/Engineer I.....	\$95.00/hr
Technician.....	\$95.00/hr

DISTRICT MANAGEMENT & OPERATIONS

District General Manager.....	\$175.00/hr
District Engineer.....	\$160.00/hr
Operations Manager.....	\$150.00/hr
District Secretary/Accountant.....	\$85.00/hr
Collections System Manager.....	\$95.00/hr
Grade V Operator.....	\$100.00/hr
Grade IV Operator.....	\$85.00/hr
Grade III Operator.....	\$80.00/hr
Grade II Operator.....	\$63.00/hr
Grade I Operator.....	\$55.00/hr
Operator in Training.....	\$40.00/hr
Collection Maintenance Worker II.....	\$55.00/hr
Collection Maintenance Worker I.....	\$40.00/hr

OFFICE SERVICES

Technical/Drafting/CADD Services

3D Graphic Artist.....	\$150.00/hr
Senior Designer.....	\$135.00/hr
Designer.....	\$125.00/hr
Assistant Designer.....	\$120.00/hr
GIS Specialist IV.....	\$150.00/hr
GIS Specialist III.....	\$140.00/hr
GIS Specialist II.....	\$130.00/hr
GIS Specialist I.....	\$120.00/hr
CADD Operator III.....	\$115.00/hr
CADD Operator II.....	\$110.00/hr
CADD Operator I.....	\$95.00/hr
CADD Drafter.....	\$85.00/hr
CADD Technician.....	\$75.00/hr

SUPPORT SERVICES

Technical Editor III.....	\$140.00/hr
Technical Editor II.....	\$125.00/hr
Technical Editor I.....	\$110.00/hr
Publications Assistant III.....	\$100.00/hr
Publications Assistant II.....	\$90.00/hr
Publications Assistant I.....	\$80.00/hr
Clerical Administration II.....	\$80.00/hr
Clerical Administration I.....	\$75.00/hr

Forensic Engineering – Court appearances, depositions, and interrogatories as expert witness will be billed at 2.00 times normal rates.

Emergency and Holidays – Minimum charge of two hours will be billed at 1.75 times the normal rate.

Material and Outside Services – Subcontractors, rental of special equipment, special reproductions and blueprinting, outside data processing and computer services, etc., are charged at 1.15 times the direct cost.

Travel Expenses – Mileage at current IRS allowable rates. Per diem where overnight stay is involved is charged at cost.

Invoices, Late Charges. - All fees will be billed to Client monthly and shall be due and payable upon receipt. Invoices are delinquent if not paid within thirty (30) days from the date of the invoice. Client agrees to pay a monthly late charge equal to one percent (1%) per month of the outstanding balance until paid in full.

EXHIBIT "E"

Jackson Ranch Solar Feasibility Study Consultant Selection Matrix Ranking⁽¹⁾ (1/2)

		Provost and Pritchard	RGP Planning and Development
TECHNICAL APPROACH	60%		
Project Understanding	60%	1	2
Scope of Work	30%	1	2
Other	10%	1	2
Total	100%		
Weighted Score - Technical Approach		1.00	2.00
EXPERIENCE	40%		
Firm	25%	1	2
Principal	10%	2	1
Project Manager	40%	1	2
Other Team Members	25%	2	1
Total	100%		
Weighted Score - Experience		1.35	1.65
COMBINED WEIGHTED SCORE		1.14	1.86

(1) A Score of 1 is best and 2 is second best.

Jackson Ranch Solar Feasibility Study
Supporting Information for Consultant Selection (2/2)

KEY STAFF SUMMARY (yrs of experience)			
		Provost and Pritchard	RGP Planning and Development
Principal-in-Charge		Donald Ikemiya (25 yrs)	Richard Goacher (40 yrs)
Project Manager		(see above)	Keremy Krout (13 yrs)
Planner		Dawn Marple (8 yrs)	Mike DeVore (17 yrs) and Rafik Albert (na yrs)
Specialist (Project) or Engineers (RGP)		Jeremiah Seng (2 yrs)	Sam Ali (20 yrs) and Steve Baine (20 yrs)
Subconsultants		Spectrum Energy Solutions	Brunzell Cultural Resource and Glenn Lukos Associates
COST SUMMARY (\$) ⁽¹⁾			
1. Project Management (P&P) and 1-Project Initiation (RGP) & 8-Meetings etc.		\$4,360	\$20,630
2. Research & Analysis (P&P) and 5-Entitlement Assistance (RGP) & 7-Willimason Act/Farmland Security Zone, etc.		\$13,916	\$54,480
3. Property Prospectus Development (P&P) and 3-RFP Project Prospectus (RGP)		\$9,304	\$15,945
4. Review RFP (P&P) and 4-Assessment of Bids (RGP)		\$4,420	\$9,780
5. Preliminary Production Analysis (P&P) and Site Assessment for Solar Facility (RGP)		\$4,000	\$5,670
TOTAL FEE		\$36,000	\$106,505
TOTAL HOURS		304	NA
AVERAGE HOURLY RATE		\$118	NA

⁽¹⁾ Similar tasks are presented in the same row by consultant (P&P or RGP)

EXHIBIT "F"

Irvine Ranch Water District
**JACKSON RANCH
SOLAR PROJECT**

SUBMITTED BY:

EST. 1968

**PROVOST &
PRITCHARD**

CONSULTING GROUP

An Employee Owned Company

Proposal
JANUARY 3, 2012

F-1

January 3, 2012

Paul Weghorst
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92619-7000

**RE: Proposal – Jackson Ranch - Solar Project, Kings County California
Preparation of Solar Developer Prospectus and RFP**

Dear Mr. Weghorst:

We understand how important navigating through the financing, permitting, design, construction and operation of a utility scale solar power generation facility is to the success of the Irvine Ranch Water District's (**IRWD**) Jackson Ranch Solar Project. Our proposal presents a scope of work with project deliverables that will enable IRWD to solicit and contract with a solar developer who will meet the high standards and needs of the District.

The benefits Provost & Pritchard brings to this project include:

- **Local Solar Knowledge and Experience.** Over 20 Provost & Pritchard staff have and are actively working on dozens of utility scale solar projects for seven solar developers in California's San Joaquin Valley, including current projects in Kings County. Note that none of these solar projects are near the Jackson Ranch project and therefore should not be in conflict with it. Our experience providing technical services on solar projects and our knowledge of the Westside and the Dudley Ridge Water District is unsurpassed.
- **Staff Relationships.** Our project team consists of San Joaquin Valley talent with relationships with Kings County staff and officials. This connection brings a familiarity with the entitlement process and a smoother path towards approval. Additionally, because we live and work here, we hold ourselves to a higher level of accountability and desire to provide superior service.
- **Full Service Firm.** Provost & Pritchard has additional professional and technical staff with diversified skills that can also take the next step to work with the developer to complete the solar project. From design engineering, surveying, GIS, hydrogeology, environmental services, planning and permitting assistance, construction management and more, Provost & Pritchard can help bring this solar project from concept to operation.

If you have any questions or need any additional information, please call me at (559) 636-1166 or email dikemiya@ppeng.com. Thank you for considering us to be a part of your team.

Respectfully,



Donald Ikemiya, PE
Vice President, Principal-in-Charge

Irvine Ranch Water District
**JACKSON RANCH
SOLAR PROJECT**

**SUBMITTED BY
PROVOST & PRITCHARD CONSULTING GROUP**

Provost & Pritchard Consulting Group
130 N. Garden Street
Visalia, CA 93291
Telephone: (559) 636-1166
Fax: (559) 636-1177

Prepared for:
Irvine Ranch Water District
Paul Weghorst
15600 Sand Canyon Avenue
Irvine, CA 92619-7000
Telephone: (949) 453-5608

Proposal
JANUARY 3, 2012

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Irvine Ranch Water District JACKSON RANCH SOLAR PROJECT

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SCOPE OF WORK

Irvine Ranch Water District JACKSON RANCH SOLAR PROJECT

Project Understanding

Irvine Ranch Water District (IRWD) is in the process of soliciting solar developers on the Jackson Ranch property, for purposes of securing a long term lease for financing, permitting, constructing, and operating a utility scale solar power generation facility. The three primary goals of this proposal are:

1. Research, analyze, and summarize solar entitlement issues such as Williamson Act, Prime Farmland, water supply, flood zone, topography, etc. Other firms have completed the environmental (Phase I, biological), survey (ALTA) and CAISO requirements (ZGlobal).
2. Preparation of a Property Prospectus describing the site to potential solar developers.
3. Review the Request for Proposal (RFP) to solar developers prepared by IRWD, and provide recommendations on a "Select Bid List".

Scope of Work

The following tasks are proposed:

Task 1: Project Management

- a. Performance of project management activities such as, quality control and assurance, coordination and scheduling of tasks, staff coordination, and miscellaneous communication with IRWD staff.
- b. Agency and consultant communications.

Task 2: Research & Analysis

- a. Provost & Pritchard will research solar entitlement issues (listed below) that specifically impact the Jackson Ranch property. The following reports from other consultants will be reviewed: The Baseline Property Assessment by Dee Jasper and Associates, the Preliminary Environmental Assessment by Dudek, and the Interconnection Transmission by ZGlobal.

- b. This information will be analyzed to identify reconnaissance level site conditions and professional opinions by Provost & Pritchard which would be of interest to a solar developer.
- c. A concise report with associated attachments (maps, tables and figures) will be produced, summarizing the activities performed in this task.
 - **Site Visit** – A site visit will be conducted for photo documentation and gathering general information. Pertinent photos are to be included in the report.
 - **Williamson Act and Farmland Security Zone Contracts** – Review and summarize if the property parcels are under contract or not. Produce map.
 - **Prime Farmland** – Review and summarize prime farmland designation. Produce map.
 - **Agricultural** – Complete the agricultural section of a CEQA checklist for use by Dudek, the environmental consultant.
 - **Parcel Information** – Produce map.
 - **Water Supply (Wells and Surface Water)** – Locate water supply sources. Could be possible sources for construction water and panel cleaning water. Produce map.
 - **Water Quality (Wells and Surface Water)** – Available information to be used to determine water quality concerns for washing panels.
 - **Flood Zone** – A designation within a flood zone could alter solar layout and use of the land. Produce map.
 - **Topography** – Determine slopes and drainage patterns. Produce map.
 - **Soils** – UDSA NRCS soil survey data will be used to determine any generalized concerns. Produce map.
 - **On-site Improvements** – Determination of existing structures, irrigation systems and improvements on the parcels. Produce map.
 - **Crops** – Determination of historic cropping patterns, existence of permanent plantings (tree removal). Produce map.

- **County Roads** – Provide information on setbacks, access and fencing needs. Produce map.
- **Biological (completed by others)** – Determination of endangered or threatened species on site, potential limitations or mitigation measures may be required.
- **Phase I Environmental Site Assessment (completed by Dudek)** – Review and summarize the preliminary environmental assessment provided by Dudek.
- **Indirect Source Review** – Air impact analysis required from the San Joaquin Valley Air Pollution Control District.
- **ALTA Survey (completed by others)** – Determination of easements and possible restrictions for solar panel construction.
- **Utilities** – General determination of utilities within the property. Produce map.
- **CAISO Requirements (by ZGlobal)** – Provides information on connections and transmission.
- **Mineral Rights** – Findings by other consultants are to be noted and identified.
- **Kings County** – After IRWD prior approval, the County will be contacted for a determination on zoning, CEQA and Conditional Use Permit requirements.
- **Labor Unions** – Identify and recommend best approach towards labor unions to avoid public opposition.
- **Seismic Information** – Review of seismic information that may be of interest to a solar developer.
- **Other**
- e. The originals of the prospectus will be provided to IRWD, as well as in electronic Adobe PDF format. Final hardcopy printing is the responsibility of IRWD.

Task 4 – Review Preparation of Request for Proposals

- a. Review the preparation of the background information and requested scope of work for purposes of IRWD incorporating this information into IRWD’s boilerplate RFP. IRWD is responsible to produce, advertise and solicit bids for the RFP.
- b. Assist with providing recommendations of a “selected bid list” of solar developers for IRWD to offer the RFP.

Optional Task 5: Preliminary Production Analysis

- a. Evaluate the solar potential of the site for three facility sizes ranging from 20 MW to 100 MW.
- b. Determine results in kW, kWh/year and the acres required for the development.
- c. Produce site maps of the three scenarios.
- d. Incorporate findings and results into Task 2 Report.

Deliverables

1. Report summarizing findings from research and analysis activities, and Provost & Pritchard’s opinion of findings which would be of interest to a solar developer, and Agricultural section of a CEQA checklist, along with any attachments. Provided in electronic and five (5) hard copies.
2. Electronic versions of the draft prospectus for IRWD review and comments, and submittal of the final prospectus.
3. Provost & Pritchard will provide comments on the Draft RFP prepared by IRWD.
4. Provost & Pritchard’s “Select Bid List” of solar developers.
5. Optional - Memorandum and three site maps for the Preliminary Production Analysis.

Task 3: Property Prospectus

- a. A property prospectus will be prepared for purposes of marketing and showcasing the Jackson Ranch property to solar developers. The prospectus will address the pertinent information developed from Task 2. Incorporate environmental findings from Dudek and interconnection findings by ZGlobal.
- b. The prospectus is to be graphically pleasing (photos, maps, color) and formatted to IRWD requirements.
- c. The prospectus is proposed to be no more than eight pages in length. It will be written to be clear and concise more so than technical.
- d. Produce multiple drafts of the prospectus throughout the development process.

Assumptions

This proposal includes the following assumption.

- IRWD will be available to answer questions during the information gathering investigations, and will review and comment on draft reports in a timely manner.
- IRWD will provide electronic working documents (MS Word, AutoCAD, ArcView), if available, of pertinent maps and documents.

DETAILED COST

Irvine Ranch Water District JACKSON RANCH SOLAR PROJECT

Provost & Pritchard Consulting Group will perform the services as a “not to exceed” time and materials contract, in accordance with our Standard Fee Schedule (as requested, current fee schedule is included for reference) in effect at the time services are rendered. These fees will be invoiced monthly as they are accrued. Reimbursable expenses will be invoiced in addition to professional fees and are included in the estimate. See attached Fee Budget Estimate.

The time and materials budget proposed for this scope of work is \$32,000. Optional Task 5 (Preliminary Production Analysis) is an additional time and materials budget of \$36,000.

If it appears that we will need to exceed the fee estimate shown, we will notify you in writing before we do so, and will provide a revised estimate. We will not continue work beyond the initial budget without additional authorization. We recognize IRWD’s standard contract includes a variance form, which may be used if unanticipated or un-scoped activities are identified and mutually agreed upon between Provost & Pritchard and IRWD.

Table 1. Detailed Cost

Task	Principal Project Manager	Associate Planner	Energy Specialist	Associate Engineer	GIS Specialist	Project Admin	Mileage	Expenses	Total Hours	Total Fee
	\$170	\$110	\$145	\$95	\$105	\$70	\$0.58			
Task 1 Project Management	24					4			28	\$4,360
Task 2 Research & Analysis	16	44	8	48	26	10	200	\$120	124	\$16,926
Task 3 Property Prospectus	10	24	4	32	4	12		\$84	86	\$9,304
Task 4 Review Preparation of RFP	8							\$50	36	\$1,410
Total Hours:	58	68	12	80	30	26	200		274	
Total Fee – Tasks 1-4:	\$9,860	\$7,480	\$1,740	\$7,600	\$3,150	\$1,820	\$116	\$284		\$32,000
Optional Task 5 Preliminary Production Analysis	2	4	16	8				\$140	30	\$4,000
Total Fee – Optional Task 5:	\$340	\$440	\$2,320	\$760	\$0	\$0	\$0	\$140		\$4,000
Total Hours– All Tasks:	60	72	28	88	30	26	200		304	
Total Fee – All Tasks:	\$10,200	\$7,920	\$4,060	\$8,360	\$3,150	\$1,820	\$116	\$374		\$36,000

SCHEDULE

Irvine Ranch Water District JACKSON RANCH SOLAR PROJECT

Work (authorized on a task by task basis) will begin immediately upon approval to proceed as indicated by the execution of this proposal, IRWD's standard contract and receipt of IRWD's Notice to Proceed.

Completion of the tasks is estimated to take approximately twelve (12) weeks after execution of the contract and Notice to Proceed. Optional Task 5 would take approximately 4 weeks to complete, but can be completed concurrently with the other tasks, if authorized with the first Notice to Proceed.

Table 2. Project Schedule

Task	Week											
	1	2	3	4	5	6	7	8	9	10	11	12
Task 1 Project Management	Start											End
Task 2 Research & Analysis	Start							End				
Task 3 Property Prospectus					Start			End				
Task 4 Review Preparation of RFP									Start			End
Optional Task 5 Preliminary Production Analysis	Start							End				

2012 STANDARD FEE SCHEDULE

This schedule supersedes previously published fee schedules. Multi-year contracts are subject to any subsequent changes in these rates.

Staff Type	Fee Range		
Engineering Staff			
EIT Engineer	\$85.00 – \$95.00		
Assistant Engineer	\$95.00 – \$105.00		
Associate Engineer	\$105.00 – \$115.00		
Senior Engineer	\$120.00 – \$140.00		
Principal Engineer	\$150.00 – \$170.00		
Specialists			
Energy Specialist	\$110.00 – \$140.00		
Associate Environmental Specialist	\$100.00 – \$120.00		
Senior Environmental Specialist	\$135.00 – \$155.00		
Principal Environmental Specialist	\$165.00 – \$185.00		
GIS Specialist	\$95.00 – \$115.00		
Associate Geologist/Hydrogeologist	\$100.00 – \$120.00		
Senior Geologist/Hydrogeologist	\$130.00 – \$150.00		
Water Resources Specialist	\$90.00 – \$110.00		
Planning Staff			
Assistant Planner	\$60.00 – \$80.00		
Associate Planner	\$90.00 – \$110.00		
Senior Planner	\$120.00 – \$140.00		
Principal Planner	\$160.00 – \$170.00		
Technical Staff			
Assistant Technician	\$60.00 – \$80.00		
Associate Technician	\$85.00 – \$95.00		
Senior Technician	\$100.00 – \$110.00		
Construction Services			
Field Representative	\$100.00 – \$110.00		
Senior Field Representative	\$115.00 – \$130.00		
Field Representative Prevailing Wage (1)	\$120.00 – \$140.00		
Support Staff			
Administrative Assistant	\$50.00 – \$60.00		
Project Administrator	\$60.00 – \$70.00		
Surveying Services			
LSIT Surveyor	\$80.00 – \$90.00		
Licensed Surveyor	\$110.00 – \$130.00		
1 Man Survey Crew	\$140.00	Prev. Wage (2) \$140.00	Prev. Wage (3) \$165.00
2 Man Survey Crew	\$185.00	\$185.00	\$230.00
2 Man Survey Crew including LS	\$210.00	\$245.00	
1 Man CORS Survey Crew	\$170.00		
2 Man CORS Survey Crew	\$220.00		

(Field work not including survey equipment billed at individual standard rate plus vehicle as appropriate.)

Expert Witness/GIS Training: As quoted.

Travel Time (for greater than 1 hour from employee's base office): 1/2 regular hourly rate, with \$50/hr minimum

Project Costs

Mileage: IRS value + 15% Outside Consultants: Cost + 15% Direct Costs: Cost + 15%

(1) Prevailing wage rates shown for San Joaquin, Stanislaus, Merced, Madera, Fresno, Tulare, Kings, & Kern Counties

(2) Prevailing wage rates shown for Fresno and Tulare Counties

(3) Prevailing wage rates shown for San Joaquin, Stanislaus, Merced, Madera, Kings and Kern Counties

RESUMES

Irvine Ranch Water District JACKSON RANCH SOLAR PROJECT

Donald Ikemiya, PE

Principal-in-Charge

Education

B.S. Agricultural Engineering,
California Polytechnic State University,
San Luis Obispo

License/Registration/Certifications

Civil Engineer, California #56630

Agricultural Engineer, California #490

Affiliations

American Society of Agricultural Engineers
California Water Environment Association

Areas of Expertise:

- ✓ Renewable Energy
(Solar, Digesters, Biomass)
- ✓ Entitlement & Regulatory Permitting
- ✓ Agricultural Engineering
- ✓ Wastewater Reclamation & Reuse

Professional Summary: Donald Ikemiya is a vice president and a principal engineer with 25 years of experience in engineering and planning throughout California. Mr. Ikemiya has extensive experience in local governments and businesses. Born and raised on a farm, he has a vested interest and commitment to the San Joaquin Valley.

Relevant Experience

Confidential Central Valley Solar Projects, Principal-in-Charge – Mr. Ikemiya has been responsible for the oversight of multiple utility scale solar projects (30+ sites) for several (4+) solar developers in Kings, Fresno, Tulare, and Sacramento Counties. These sites range from 10 acres to 1,200 acres. Services provided include County Conditional Use Permit applications (negotiations, initial study, operational statements, public hearings), Williamson Act and Prime Farmland issues, Indirect Source Review, CEQA compliance, decommissioning cost estimates, Water Supply Assessments, site plans, traffic impact studies, Phase I environmental assessments, preliminary geotech and engineering, flood zone analysis, contract and project management. After considerable effort (undetermined policies by the Counties), many solar projects have now been approved.

Kings County Conditional Use Permits – Mr. Ikemiya was responsible for securing over 10 separate Conditional Use Permits with Kings County Planning Staff for new large dairies and feedlots. The process and effort needed was very similar to the current process for solar projects in Kings County.

Site Surveys and Energy Savings Documentation, PG&E, Project Manager – Responsible for managing the contract with PG&E to provide agricultural engineering support. Project team prepared 18 “Exhibit M” documents of energy savings and demand reduction resulting from various agricultural projects under the customized incentives program. During this project three site surveys were performed for PG&E customer facilities. These surveys recommended implementation of various energy conservation and demand reduction measures.

California Aqueduct Turnout, Dudley Ridge Water District, Kings County, California, Design Engineer/Construction Manager – Mr. Ikemiya was responsible for the design and construction management of a large new California Aqueduct Turnout servicing Jackson Farms. Ongoing

Donald Ikemiya, PE *(continued)**Principal-in-Charge*

coordination and approvals with Department of Water Resources, Dudley Ridge Water District, and water users added to the complexity of the project.

Former City Council Member City of Reedley, California, Mayor Pro Tempore – This experience involved in depth knowledge of City and County land use documents (General Plan, Specific Plans, Master Plans, Housing Element, project applications, etc.), and policy decisions involving those documents, with a thorough understanding of the need to create a high quality of life for the entire community. His responsibilities included building and maintaining peer level relationships with local communities, County staff, Board of Supervisors, and the general public. He served as the Five Cities Economic Development Authority chair and also served on the San Joaquin Valley Air Pollution Control District's Citizen's Advisory Committee.

Dawn Marple

Planner

Education

B.S. City & Regional Planning,
Emphasis in Sustainable Environments,
California Polytechnic State University,
San Luis Obispo

Affiliations

American Planning Association (APA)

Areas of Expertise:

- ✓ California Environmental Quality Act
- ✓ Entitlement Processing
- ✓ General Plan Updates

Professional Summary: Dawn Marple has over eight years of planning experience, during which she has worked for and with a number of public agencies throughout the San Joaquin Valley. Her experience includes preparing and reviewing all levels of environmental documents in accordance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). In addition, she has extensive experience with General Plan Updates and entitlement processing. Ms. Marple has a consistent history of providing quality service for her clients, and completing projects on time and within budget.

Relevant Experience

Solar Project Solutions, LLC, Kings Counties, California, Project Planner – Ms. Marple processed an Initial Study/Mitigated Negative Declaration and Conditional Use Permit applications for the Corcoran and Corcoran West solar generation facilities. The 320 acre solar generation facilities and PG&E Switching Station are located on land owned by Corcoran Irrigation District. Major project responsibilities included assessment and mitigation of the 28.5 megawatt solar generation facility located on agriculturally zoned land within an irrigation district.

Solar Project Solutions, LLC, Tulare Counties, California, Project Planner – Initial Study/Mitigated Negative Declarations and Conditional Use Permit applications for six separate solar facilities ranging in size from 145 acres to 390 acres to allow the development of solar photovoltaic facilities of between 20 and 160 megawatts in Tulare County. Provost & Pritchard staff was integral in aiding Tulare County in creating new policies to accommodate solar generation facilities on agriculturally-zoned lands.

Parlier Water Tower, City of Reedley, California, CEQA Project Manager – Ms. Marple assessed the environmental impacts from the construction of a 1.5-million-gallon elevated water storage tank. Major project responsibilities included assessment and mitigation of impacts that the 208-foot-tall and 60-foot-wide elevated tower would have on the adjacent residential and agricultural properties.

Well No. 6, Riverdale Public Utilities District, Fresno County, California, Environmental Project Manager – This project involved completion and coordination of CEQA and NEPA compliance documents for the Riverdale Public Utilities District and the U.S. Department of Agriculture. Well No. 6 was located within Flood Zone A as identified by the Federal Emergency Management Act (FEMA). Ms. Marple also completed the 8-Step Process required for development within the floodplain as described by Executive Order 11988 and FEMA guidelines.

Dawn Marple *(continued)*

Planner

Nielsen Avenue Recharge Basin, Water Division, City of Fresno, California, CEQA Project Manager – This project involved working with the City of Fresno Water Division towards the completion of an Initial Study/Mitigated Negative Declaration for the construction of a 35-acre water recharge basin located on Nielsen Avenue. Challenges included the proximity to the Chandler Executive Airport and addressing concerns of potential site and groundwater contamination due to an adjacent abandoned Chevron pipeline.

Water Transfer, City of Tracy, California, Environmental Project Manager – Ms. Marple completed the Initial Study/Negative Declaration for the City of Tracy. The project involved the potential for environmental impacts related to the iterative transfers, exchanges, and related actions allowing the delivery of water from the City of Tracy to the Semitropic Water Storage District for banking, along with impacts related to the return of banked water to Tracy. These actions required the cooperation of the California Department of Water Resources and the United States Bureau of Reclamation.

Riverland Resort, Tulare County, California, Project Manager – This project involved the processing of a Conditional Use Permit and associated Initial Study/Negative Declaration for the re-establishment of a bar and restaurant at the Riverland Resort along the Kings River in Tulare County, California. These actions required coordination with Tulare County Resource Management Agency and the Tulare County Sheriff's Department. A major project challenge involved overcoming a history of conflict between previous ownership and nearby landowners and Tulare County.

City of Visalia, Housing and Economic Development Department, Project Manager – As an extension of City staff, Ms. Marple completed Level of Environmental Review Determinations (LERDs) including flood maps and hazardous waste verification statements to facilitate acquisition of various properties by the City of Visalia's Housing and Economic Development Department.

Community Development Department, City of Wasco, California, Project Manager – Ms. Marple acted as an extension of City staff for the City of Wasco, Community Development Department, including the processing of entitlements and related environmental documents. This project included being on-site to assist the public with planning-related questions and processes a minimum of three days a week.

Planner, City of Fresno, California – While employed as a planner for the City of Fresno, Ms. Marple processed numerous entitlement applications including Conditional Use Permits, Site Plan Reviews, Tentative Tract Maps, and Lot Line Adjustments. Ms. Marple prepared and reviewed environmental documents in accordance with CEQA. Other responsibilities included assisting the public through the planning entitlement process and providing appropriate direction, support, and training to subordinate staff in an effort to stimulate professional growth. Ms. Marple provided planning staff support, and prepared resolutions, ordinances, and staff reports on a variety of subjects for delivery and presentation to the Planning Commission and City Council. Ms. Marple also participated on a team that drafted and implemented the Single Family Residential In-fill Design Guidelines. Ms. Marple acted as the staff liaison to the Council District 4 Citizen Advisory Committee including the preparation of agendas for bi-weekly meetings and providing guidance to the appointed committee members during the review of proposed projects.

Planner, City of Visalia, California – While employed as a planner for the City of Visalia, Ms. Marple processed entitlement applications, including General Plan Amendments, Conditional Use Permits, Lot Line Adjustments, and Site Plan Review, along with related environmental documents. Other responsibilities included the preparation of staff reports and presentations before the Planning Commission. Ms. Marple assisted the public with day-to-day planning-related questions at the public front counter.

Dawn Marple *(continued)**Planner*

Planner, PMC, San Joaquin Valley, California –As a planner with PMC, Ms. Marple provided contract staff support to various city planning agencies including the City of Fresno, the City of Wildomar, and the City of Livingston. Ms. Marple was also responsible for supervising various tasks to ensure consistent quality of products presented to clients, coordination of internal staff to ensure projects and tasks were completed on time and within budget, and preparation of multiple responses to various Requests for Proposals. Ms. Marple assisted in facilitating General Plan Update public workshops for the City of Taft and the City of Madera.

Zoning Ordinance Update, City of Manteca, California, Planner – Helped facilitate a comprehensive reorganization and update of the City of Manteca’s Zoning Ordinance, including the Subdivision Ordinance. Ms. Marple translated regulations into a concise, user-friendly format incorporating contemporary planning practices.

Oildale Visioning Workshop, Kern County, California, Planner – Facilitated a two-day visioning workshop for the community of Oildale in Kern County. Ms. Marple developed an implementation plan for the Kern County planning staff catering to the community’s ideas extracted from the visioning workshop.

General Plan Update, City of Taft, California, Planner – Drafted numerous elements of the City of Taft’s General Plan Update including the development of goals, policies, and implementing actions. Ms. Marple drafted responses to the public comments received following a 45-day public comment period on the associated General Plan Environmental Impact Report.

General Plan Update, City of Madera, California, Planner – Drafted the Community Design Element of the City of Madera’s General Plan Update. Ms. Marple developed goals and policies to ensure that the City of Madera would meet its goal of remaining a contemporary small city. Following a 45-day public comment period on the associated General Plan Environmental Impact Report, prepared responses to public comments received.

General Plan Update, Metropolitan Bakersfield, California, Planner – Contributed to the Existing Setting Report for the Metropolitan Bakersfield General Plan Update, a joint effort by the City of Bakersfield and the County of Kern. Ms. Marple summarized major issues potentially impacting the preparation of the updated General Plan and the associated Environmental Impact Report. In addition, Ms. Marple drafted the Land Use, Conservation, and Parks and Open Space Elements of the updated plan.

Jeremiah Seng

Energy Specialist

Education

B.S. Mechanical Engineering,
Lyes College of Engineering,
California State University, Fresno

Liberal Arts Studies,
University of California, Santa Clara

License/Registration/Certifications

Licensed Building Contractor since 2000

Affiliations

Tau Beta Pi Engineering Honors Society

Phi Kappa Phi Honors Society

American Society of Mechanical Engineers

Areas of Expertise:

✓ Energy Generation

Relevant Experience

Vice President – Engineering, Spectrum Energy Solutions, Fresno, California, August 2010-Present – Manage and oversee the development of all engineering and financial feasibility consulting projects. Develop utility tariff and CAISO market price models and software to optimize financial return on energy generation projects. The work performed at Spectrum has led to an industry-leading understanding of market forces, utility tariffs, and regulations that determine electric pricing in the California market.

Project Engineer, Advanced Energy Systems, Fresno, California, January 2009-August 2010 – Provided analysis and verification of energy generation projects in Northern and Central California. Projects included cogeneration, solar PV, waste heat generation, and biogas (dairy digester, wastewater digester, and landfill) to electricity. Modeled expected generation, taking into consideration fuel constraints, solar irradiation, O&M schedules, system efficiencies, etc. Responsibilities included working to establish the feasibility and evaluate the best technology for projects, as well as working with outside engineering resources to develop final project specifications.

Owner, Jeremiah Day Seng General Contractor, Fresno, California, December 2000-January 2009 – Owned, operated and managed company focusing on high-end residential remodels and additions. Responsibilities included: Project management, scheduling, financial analysis, customer relations, etc.

HISTORY OF RELATED PROJECTS

Irvine Ranch Water District JACKSON RANCH SOLAR PROJECT

Firm Overview

In 1968, Provost & Pritchard Consulting Group began a tradition of engineering excellence in the San Joaquin Valley. Over the course of 43 years, Provost & Pritchard has grown in size, services offered, and geography with office locations in Fresno, Clovis, Visalia, Bakersfield, and Oakdale. With over 110 employees, our staff is diverse in their specialties, including environmental specialists, planners, land surveyors, civil and agricultural engineers, hydrogeologists, construction managers and field representatives, and support personnel.

Our diverse range of services includes:

- Renewable Energy Projects
- County Conditional Use Permit entitlements
- CEQA/NEPA Documentation
- Civil Engineering
- Water Resources Management and Engineering
- Agricultural and Urban Water Planning
- Hydrogeology
- Regulatory Compliance and Permitting
- Land Surveying
- Geographic Information Systems (GIS)
- Construction Management Services



Our staff understands that solar-related projects are often sensitive and confidential in nature. We've counseled clients, in confidence, on the options available within the permitting challenges of their sites. In addition, Provost & Pritchard staff are experienced at presenting to councils and boards, conducting public workshops, and consensus building among stakeholders to bring intricate projects to fruition. Furthermore, Provost & Pritchard has worked with local public agencies to write development codes for solar facilities.

Subconsultant: Spectrum Energy Solutions

Spectrum Energy Solutions has been providing energy consulting services for over 15 years. Based in Fresno, California, Spectrum Energy Solutions serves a wide variety of customers including commercial, agricultural, industrial, and government. Clients include Zacky Farms, Raley's, Harris Ranch, Tesla Motors, City of Fresno, Foster Farms, and Shell Energy.

Spectrum Energy Solutions provides a wide variety of economic and engineering feasibility consulting. Projects include photovoltaic, CHP, fuel cell, anaerobic digestion, and energy storage.



Spectrum Energy Solutions also manages a large supply portfolio of gas and power customers in California.

With a multi-disciplinary approach, Spectrum Energy Solutions currently fields a team of 15 specialists that bring seasoned talent and innovative thinking to the business of competent energy management. They apply education and experience from relevant fields: utility management, information technology, energy trading, engineering, accounting, and advocacy.

Solar Development Services Overview

Provost & Pritchard offers specific solar services including entitlement processing, environmental compliance, surveying, and civil engineering to assist solar clients from project inception through to completion.

- Entitlement Processing
 - Conditional Use Permits
 - Zoning and Land Use Compatibility
 - Williamson Act evaluation
 - Water Supply Assessments
 - Agency coordination
- Environmental Compliance
 - CEQA/NEPA Documentation
 - Reconnaissance Level Biological Survey
 - Cultural Resource Evaluation
 - Indirect Source Review analysis
- Civil Engineering
 - Site Plan Development
 - Assistance in array layouts
 - Land Surveying & GIS
 - Grading and drainage plans
 - Flood zone assessments
 - Onsite and offsite utilities
 - Public roads and access roads
 - Construction management and review
 - Decommissioning Cost Estimates
 - Reclamation Plans
- Additional Services
 - Facilitation of informational/educational meetings and workshops
 - Funding assistance

Project Experience

Solar Development Experience

Solar Project Solutions, LLC, Kings Counties, California – Provost & Pritchard processed an Initial Study/Mitigated Negative Declaration and Conditional Use Permit applications for the Corcoran and Corcoran West solar generation facilities. The 320 acre solar generation facilities and PG&E Switching Station are located on land owned by Corcoran Irrigation District. Major project responsibilities included assessment and mitigation of the 28.5 megawatt solar generation facility located on agriculturally zoned land within an irrigation district.

Provost & Pritchard Consulting Group

CalRENEW-1 Solar Plant, Cleantech America, Mendota, California – In 2008, Cleantech America proposed to be the first commercial-scale solar generation facility in California. To facilitate the proposal, Provost & Pritchard (as City Planner for the City of Mendota) prepared a zoning text amendment to include renewable energy facilities as permitted uses within the City's P-F (Public Facilities) zoning district. Provost & Pritchard reviewed and suggested changes to the proposed site plan, and



reviewed the initial study and proposed negative declaration prepared by Cleantech's counsel. Once the documents were edited per our comments, Provost & Pritchard prepared the notice of intent and circulated the Initial Study/Negative Declaration through the State Clearinghouse. Following the close of the CEQA comment period, Provost & Pritchard prepared a staff report and resolution for consideration of the CalRENEW-1 site plan by the Planning Commission. Following approval by the Planning Commission, Provost & Pritchard prepared documents for consideration by the City Council, which authorized creation of a lease parcel and entrance into a land lease for the subject property. Subsequent to these approvals, Provost & Pritchard continued dialogue with the applicant, and approved minor changes to the site plan consistent with the conditions of approval contained in the Planning Commission resolution. Provost & Pritchard provided assistance to the City's building department during the construction phase of the project.

Confidential Solar Client, Kings County, California – Provost & Pritchard is obtaining approval for conditional use permits (CUP) applications for two 20 MW solar generation facilities in Kings County. The project, which

includes multiple agency actions and approvals, requires preparation of a Mitigated Negative Declaration, and the environmental document is currently in public review for both solar facilities.

Confidential Solar Client, Special Use Permits, Tulare County, California – Provost & Pritchard is completing six special use permits (SUP) applications for solar facilities on three parcels. Five of the applications are for 20 MW solar generation facilities, and one 50 MW solar generation facility. Three project sites required Mitigated Negative Declarations.

Confidential Solar Client, Special Use Permits, Tulare County, California – Provost & Pritchard is currently working on six SUPs for sites ranging from 80 acres to 320 acres. Each of the six project sites are for a 20 MW solar generation facility and associated above-ground transmission lines. We are in the process of completing an environmental document for each of the six sites.

Confidential Solar Client, Conditional Use Permits, Fresno County, California – Provost & Pritchard is currently working on obtaining three CUPs for three 20 MW solar generation facilities.

Professional Ag Resources, Inc. Solar Energy Feasibility Study, Visalia, California – Provost & Pritchard staff performed a solar energy feasibility study for booster pumping stations.

New Solar Facility, City of Firebaugh, California – Provost & Pritchard was responsible for project management, permitting assistance, design engineering and surveying services for the proposed solar array site at the Firebaugh wastewater treatment plant. Surveying services included a topographic survey and mapping of proposed solar facility site.

Multiple Counties Solar Development, Williamson Act Mapping, San Joaquin Valley, California – Using Geographic Information Systems (GIS) capabilities, Provost & Pritchard created maps for six central California counties: Merced, Madera, Fresno, Kings, Tulare, and Kern. The purpose of each map is to depict prime farmland with an overlay of Williamson Act parcels for potential solar development projects.

Surveying Services for Solar Sites, San Joaquin Valley, California – Provost & Pritchard provided land surveying services and entitlement assistance for various solar projects in the San Joaquin Valley. Project tasks included providing boundary and topographic surveying and mapping, preparation of ALTA/ACSM Land Title Survey Maps of the proposed property sites, and providing CAD base map drawings.

Water Supply Assessments

Confidential Solar Clients, Fresno and Kings Counties, California – Provost & Pritchard recently completed the first solar WSA to be approved by Kings County. Which has since become the model WSA for the County. Groundwater, surface water and municipal sources were evaluated. Eight additional WSAs are nearing completion for solar projects in Fresno and Kings Counties.

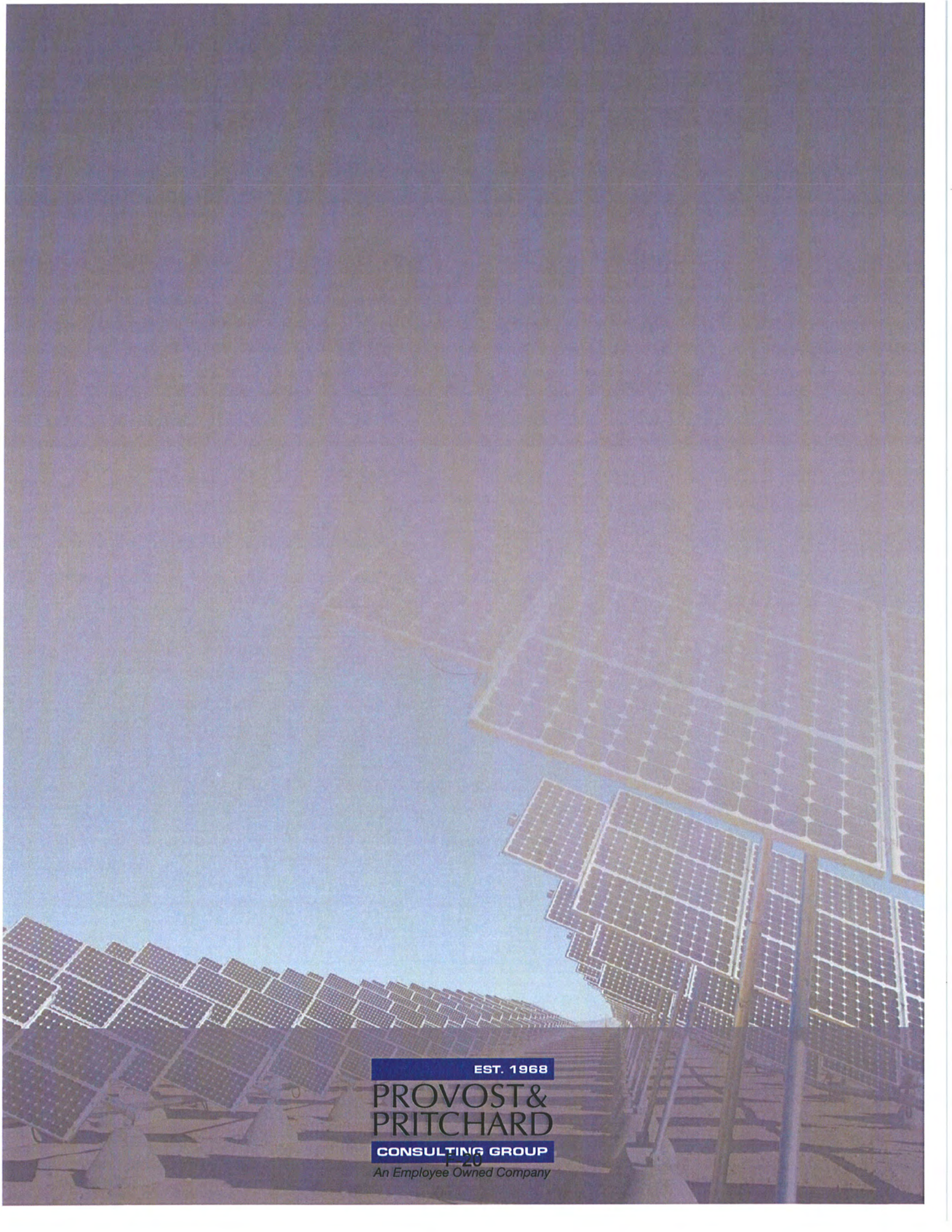
Flood Studies/Watershed Assessments

Confidential Solar Client, Kern County, California – Provost & Pritchard recently completed five flood studies for large solar energy projects located within a flood zone in Kern County. All studies have been completed to the satisfaction of the client and County.

Costa Pride Farms Flood Hazard Mitigation Program, Madera County, California – Provost & Pritchard developed a floodwater management plan for two watersheds on a 5,000-acre project development site in Madera County. Analysis included a TR-55 analysis for runoff from the Berenda Creek watershed, as well as research on operating procedures for the Eastside Bypass. Analysis indicated non-concurrent peak flows from the watersheds. A passive system with minimally sized components was designed, which will lead to minimal infrastructure costs for the developer and operating costs for the levee operator.

Spectrum Energy Solutions Experience

Photovoltaic Feasibility Study, Shell Energy North America – Spectrum Energy Solutions was hired by Shell Energy to perform a photovoltaic feasibility study for a 23-site school district where the school district was purchasing electricity directly from Shell. The study modeled projected economic returns against utility bundled rates and CAISO market pricing as well as an evaluation of site selection and sizing. Spectrum Energy was also asked to evaluate and optimize the proposed power purchase agreement.



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**PROVOST &
PRITCHARD**

CONSULTING GROUP

An Employee Owned Company

HISTORY OF RELATED PROJECTS

Bio-Refinery Feasibility Study and Energy Commodity Management, Confidential Client, Fresno County, California – Spectrum Energy Solutions was hired to perform a feasibility study, sensitivity analysis, and modeling for a \$150-million bio-refinery sited in Fresno County. The study evaluated multiple technologies and modeled various scenarios to identify optimal production of ethanol, bio-gas, and the on-site generation of electricity. Spectrum developed dynamic financial modeling that allowed variables to be altered in real-time. Additionally, Spectrum was hired to manage procurement of energy supply (natural gas and electricity) to the refinery as well as optimize and negotiate off-take agreements for green energy commodities (ethanol, bio-gas, and electricity).

Advanced Battery Storage Feasibility Study, Confidential Client, California – Spectrum Energy Solutions was hired to evaluate the optimal market deployment for proprietary advanced battery storage technology. The study evaluated the commercial viability of using storage technology to enable commercial end users to execute demand management strategies (peak shaving, Demand Response, TOU shifting, price arbitrage, etc) particularly where an electric end user is enrolled in Direct Access. The study evaluated specific markets and programs, general bidding/participation strategies, resultant optimal duty cycles, battery degradation and maintenance, and project economics. The study also included a distinct module that analyzed the optimal interplay of photovoltaic generation and on-site storage.

IRVINE RANCH WATER DIS'

Expenditure Authorization

Project Name: ENERGY AND CLIMATE ACTION PLAN DEVELOPMENT
 EPMS Project No: 11482 EA No: 3 ID Split: Regional Water Split with LAWD (11/08)
 Oracle Project No: 1620 Improvement District (ID) Allocations
 Project Manager: WEGHORST, PAUL
 Project Engineer: BENNETT, RAY
 Request Date: January 18, 2012

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$363,900
This Request:	\$51,000
Total EA Requests:	\$414,900
Previously Approved Budget:	\$378,900
Budget Adjustment Requested this EA:	\$36,000
Updated Budget:	\$414,900
Budget Remaining After This EA	\$0

ID No.	Allocation %	Source of Funds
112	3.6	BONDS YET TO BE SOLD**
113	4.4	BONDS YET TO BE SOLD**
115	6.2	CAPITAL FUND
121	12.8	BONDS YET TO BE SOLD**
130	10.0	BONDS YET TO BE SOLD**
135	16.2	PREVIOUSLY SOLD BONDS
140	3.5	BONDS YET TO BE SOLD**
150	26.1	BONDS YET TO BE SOLD**
153	2.9	BONDS YET TO BE SOLD**
154	1.2	BONDS YET TO BE SOLD**
161	6.7	BONDS YET TO BE SOLD**
182	2.5	BONDS YET TO BE SOLD**
184	2.3	BONDS YET TO BE SOLD**
186	.8	BONDS YET TO BE SOLD**
188	.8	BONDS YET TO BE SOLD**
Total	100.0%	

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	51,000	25,000	76,000	36,000	40,000	76,000	4/10	6/12
ENGINEERING - PLANNING OUTSIDE	0	336,900	336,900	0	336,900	336,900	4/10	6/12
ENGINEERING DESIGN - IRWD	0	0	0	0	0	0	12/10	6/12
LEGAL	0	2,000	2,000	0	2,000	2,000	4/10	6/12
CONTINGENCY	0	0	0	0	0	0	4/10	6/12
Contingency - % Subtotal	\$0	\$0	\$0	\$0	\$0	\$0		
Subtotal (Direct Costs)	\$51,000	\$363,900	\$414,900	\$36,000	\$378,900	\$414,900		
Estimated G/A - 180.00% of direct labor*	\$88,000	\$48,800	\$136,800	\$64,800	\$72,000	\$136,800		
Total	\$139,000	\$412,700	\$551,700	\$100,800	\$450,900	\$551,700		
Direct Labor	\$51,000	\$25,000	\$76,000	\$36,000	\$40,000	\$76,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____ 2/18/12

Department Director: _____ 2/18/12

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$563,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. This declaration of official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DIST

EXHIBIT "H"

Expenditure Authorization

Project Name: JACKSON RANCH SOLAR PROJECT
 EPMS Project No: 11637 EA No: 1
 Oracle Project No: 3667
 Project Manager: WEGHORST, PAUL
 Project Engineer: BENNETT, RAY
 Request Date: January 4, 2012

ID Split: Regional Potable Water Splits (11/08)

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
112	4.3	BONDS YET TO BE SOLD**
113	5.2	BONDS YET TO BE SOLD**
115	7.3	CAPITAL FUND
121	15.3	BONDS YET TO BE SOLD**
130	11.8	BONDS YET TO BE SOLD**
140	4.2	BONDS YET TO BE SOLD**
150	31.2	BONDS YET TO BE SOLD**
153	3.4	BONDS YET TO BE SOLD**
154	1.5	BONDS YET TO BE SOLD**
161	8.0	BONDS YET TO BE SOLD**
182	3.0	BONDS YET TO BE SOLD**
184	2.8	BONDS YET TO BE SOLD**
186	1.0	BONDS YET TO BE SOLD**
188	1.0	BONDS YET TO BE SOLD**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$98,600
Total EA Requests:	\$98,600
Previously Approved Budget:	\$0
Budget Adjustment Requested this EA:	\$98,600
Updated Budget:	\$98,600
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	25,000	0	25,000	25,000	0	25,000	1/12	6/13
ENGINEERING - PLANNING OUTSIDE	49,600	0	49,600	49,600	0	49,600	1/12	6/13
LEGAL	5,000	0	5,000	5,000	0	5,000	1/12	6/13
ENGINEERING ENVIRONMENTAL-OUTS	10,000	0	10,000	10,000	0	10,000	1/12	6/13
Contingency - 10.00% Subtotal	\$9,000	\$0	\$9,000	\$9,000	\$0	\$9,000		
Subtotal (Direct Costs)	\$98,600	\$0	\$98,600	\$98,600	\$0	\$98,600		
Estimated G/A - 180.00% of direct labor*	\$45,000	\$0	\$45,000	\$45,000	\$0	\$45,000		
Total	\$143,600	\$0	\$143,600	\$143,600	\$0	\$143,600		
Direct Labor	\$25,000	\$0	\$25,000	\$25,000	\$0	\$25,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$147,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. This declaration of official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.