

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

April 28, 2014

PLEDGE OF ALLEGIANCE

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

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

NOTICE

If you wish to address the Board on any item, including Consent Calendar items, please file your name with the Secretary. Forms are provided on the lobby table. Remarks are limited to 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's assistant 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.

PRESENTATION

3. **CSUF LEADERSHIP DEVELOPMENT FOR PUBLIC AGENCIES
PRESENTATION AND RECOGNITION OF DISTRICT GRADUATES**

Kim Tang, Program Developer, and Shelly Wang, Manager of Program Development with the University Extended Education, California State University, Fullerton, will give a brief presentation about their series entitled "Leadership Development for Public Agencies" and hono IRWD's most recent graduates of the program: Christian Kessler, Assistant Engineer; Lindy Lewis, Regulatory, Compliance Manager; Barkev Meserlian, Engineer; and Jesse Perez, Operator III.

WORKSHOP

Next Resolution No. 2014-24

4. PROPOSED OPERATING BUDGET AND RATES AND CHARGES FOR FISCAL YEAR 2014-15

Recommendation: That the Board adopt a Resolution approving the District's Operating Budget for FY 2014-15 and Determining Compliance with Article XIII B of the California Constitution (with rates and charges for FY 2014-15 to be adopted on June 23, 2014); and approve the Proposition 218 Notices subject to non-substantive modifications.

Reso No. 2014-

CONSENT CALENDAR

Items 5-9

5. MINUTES OF REGULAR AND ADJOURNED REGULAR BOARD MEETING

Recommendation: That the minutes of the April 4, 2014 Adjourned Regular Board Meeting and the April 14, 2014 Regular Board Meeting be approved.

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, Douglas Reinhart, and John Withers.

7. MARCH 2014 TREASURY REPORTS

Recommendation: That the Board receive and file the Treasurer's Investment Summary Report, the Monthly Interest Rate Swap Summary for March 2014, and Disclosure Report of Reimbursements to board members and staff; approve the March 2014 Summary of Payroll Ach payments in the total amount of \$1,457,937 and approve the March 2014 Accounts Payable Disbursement Summary of Warrants 346630 through 347427, workers' compensation distributions, wire transfers, payroll withholding distributions and voided checks in the total amount of \$18,428,899.

8. CATHODIC PROTECTION FOR GREEN ACRES PROJECT PIPELINE SEGMENT CONSULTANT SELECTION

Recommendation: That the Board approve an Expenditure Authorization in the amount of \$121,000 and authorize the General Manager to execute a Professional Services Agreement with RBF Consulting in the amount of \$106,565 for the Cathodic Protection for Green Acres Project Pipeline Segment, project 30415 (4396).

CONSENT CALENDAR	Next Resolution No. 2014-24	Items 5-9
<p>9. <u>PLANNING AREA 40 CYPRESS VILLAGE CAPITAL SEWER IMPROVEMENTS</u></p> <p>Recommendation: That the Board authorize the addition of project 21204 (5337) in the amount of \$227,000 to the FY 2013-14 Capital Budget, and approve an Expenditure Authorization in the amount of \$227,000 for the Planning Area 40 Capital Sewer Improvements, project 21204 (5337).</p>		

ACTION CALENDAR		
<p>10. <u>IMPROVEMENT DISTRICT CONSOLIDATIONS LEGAL DESCRIPTION PREPARATION VARIANCE</u></p> <p>Recommendation: That the Board authorize budget increases for the Long Term Finance Plan Improvement District Consolidation, Projects 11742 (4710) and 21742 (4711), each in the amount of \$34,100, from \$77,000 to \$111,100, for a total budget of \$222,200; and approve Expenditure Authorizations in the amounts of \$34,100, for a total of \$68,200, for the Long Term Finance Plan Improvement District Consolidation, Projects 11742 (4710) and 21742 (4711).</p> <p>11. <u>MITIGATION CREDIT INVENTORY DEVELOPMENT</u></p> <p>Recommendation: That the Board authorize the addition of project 11797 (5338) to the FY 2013-14 Capital Budget in the amount of \$36,300 and approve the Expenditure Authorization in the amount of \$36,300 for the Mitigation Credit Inventory, project 11797 (5338).</p> <p>12. <u>EMBEDDED ENERGY PLAN CONSULTANT SELECTION</u></p> <p>Recommendation: That the Board authorize the addition of projects 11792 (5343) and projects 33499 (5344) to the FY 2013-14 Capital Budget in the amount of \$180,000 each, for a total of \$360,000 which includes \$40,000 for staff time and \$5,000 for legal assistance; approve Expenditure Authorizations for projects 11792 (5343) and 33499 (5344) in the amount of \$180,000 each, for a total of \$360,000; and authorize the General Manager to execute a Professional Services Agreement with Navigant Consulting Inc. in the amount of \$282,140 to develop the embedded energy plan.</p>		

ACTION CALENDAR - Continued

13. ENTERPRISE ASSET MANAGEMENT SOFTWARE CONTRACT AWARD FOR PRE-IMPLEMENTATION ASSISTANCE AND EXPENDITURE AUTHORIZATION

Recommendation: That the Board approve two Expenditure Authorizations in the total amount of \$957,800 for projects 11619 (3566) and 21619 (3567), and authorize the General Manager to execute a Professional Services Agreement with EMA, Inc. in the amount of \$638,000 for the Enterprise Asset Management Pre-implementation Activities project.

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.

14. A. General Manager's Report

B. Directors' Comments


C. 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.

April 28, 2014

Prepared by: Christopher Smithson 

Submitted by: Cheryl Clary 

Approved by: Paul Cook 

WORKSHOP

PROPOSED OPERATING BUDGET AND RATES AND CHARGES FOR FISCAL YEAR 2014-15

SUMMARY:

The proposed Fiscal Year (FY) 2014-15 Operating Budget for Irvine Ranch Water District is \$130.6 million, representing an increase of \$13.6 million, or 11.6%, over FY 2013-14. One substantive change since the April 14, 2014 Board presentation is that the Orange County Water District (OCWD) Board approved a Replenishment Assessment (RA) of \$294 per acre feet (af), down from staff's earlier assumption of \$304 per acre foot included in the April 14, 2014 Board package. The change has been updated under the "Summaries" tab and in Dept 410 under the "Water Operations" tab. The effect of the change decreases the cost of water and total operating expenses by \$0.5 million.

The goal of the District's budgeting process is to appropriately fund the resources required to provide excellent service to its customers as cost efficiently as possible. Over the past few years, increases to the District's operating budget have been kept to a minimum by aggressively pursuing reductions in expenses to offset uncontrollable expenses, such as pass-through rate increases from outside agencies. The primary drivers for increases in the FY 2014-15 Operating Budget include increased purchases of imported water due to higher water sales associated with District growth and the drought, along with substantial increases in the rates charged by the District's electric power provider. The FY 2014-15 Operating Budget also includes additional expenses associated with operating and maintaining substantial new capital facilities, some currently under construction and others recently completed.

Due to the proposed increases in the FY 2014-15 budget and the current drought, staff has incorporated several strategic changes in order to reduce overall water demands and control this year's rate increase. These include:

- A change in the reasonable use allocation, reducing the water usage allocation per resident from 55 gallons per day to 50 gallons per day;
- A change in the rate structure tiers, reducing the amount allowed in the inefficient, excessive, and wasteful tiers by 20%. Staff also recommends decreasing the commodity rate charged in the low volume tier from \$0.91 per hundred cubic feet (ccf) to \$0.88/ccf. The changes in the reasonable use allocations and tiered rate structure could initially increase some customers' water bills, but the cumulative effect of changes in the tiered rate structure and conservation messaging by the District and others is intended to change water use behaviors such that the amount of water purchased for IRWD customers will be reduced by 3,500 acre feet (AF) over the FY 2013-14 forecast in a drought year;
- Utilization of the over-allocation revenues to help fund the imported water costs purchased by the customers in the over-allocation tiers; and
- Utilization of the IRWD Replacement Fund to stabilize rate increases in a drought year.

Based on the recommended increases and assuming an average customer's allocation is 18 ccf per month, the average customer in the Irvine Ranch Rate Area will result in an expected rate increase of \$3.41 or 7.1%, from \$48.23 per month to \$ 51.64 per month. An average residential customer in the Los Alisos Rate Area will experience a rate increase of \$3.65 or 5.8% from \$62.73 to \$66.38 per month. An average customer in the Orange Park Acres Rate Area will see a rate increase of \$2.01 or 3.8% from \$53.29 to \$55.30 per month. More detailed rate information is described on page 4 of Exhibit "A" attached.

BACKGROUND:

The Proposed Operating Budget is attached as Exhibit "A" and includes the following:

- Projected revenues and expenses, along with the resulting net position in each rate area by system; and
- Changes to current rates and charges necessary to meet each operating systems' revenue requirements.

The proposed Operating Budget has been organized into seven major functional areas, plus separate sections for proposed general plant purchases and labor changes. The proposed budget for FY 2014-15 represents an increase of \$13.6 million over the FY 2013-14 Operating Budget. In addition, staff has budgeted non-operating sources and uses of which the primary drivers are property tax revenues, net income from real estate investments, connection fees paid by developers and interest expense on the District's debt. Total net sources and uses from non-operating sources are estimated to generate an additional net \$46.3 million. Quarterly reporting in FY 2014-15 will include a review of actual versus budget results for operating and non-operating revenue and expenses.

Page 4 of Exhibit "A" identifies the effects of the proposed rate increases for a typical residential customer within the Irvine Ranch, Los Alisos, and Orange Park Acres Rate Areas. In the Orange Park Acres Rate Area, the increase in the water rates and fixed service charges for these customers is indexed to the changes in the Irvine Ranch Rate Area, as stipulated in the Acquisition and Annexation Agreement. The details of the tiered rate structure cost allocations were reviewed at the April 14, 2014 Board Workshop.

Attached as Exhibit "B" are the proposed Proposition 218 notices for the Irvine, Los Alisos and Orange Park Acres Rate Areas. The Proposition 218 notices include a schedule for a possible stepped increase during the year of up to \$0.02/ccf in the commodity rate in addition to the recommended increase of \$0.07/ccf for the Irvine Ranch and Orange Park Acres rate areas if water purchases exceed target. The rate impacts to the Irvine Ranch and Orange Park Acres rate area is an increase of 0.4% and 0.6%, respectively, as shown on page 5 of Exhibit "A". The Los Alisos Rate Area would not include a step up provision because the melded cost of water does not increase with additional purchases. Staff is recommending that the Board approve the proposed Proposition 218 notices subject to non-substantive changes, whereupon staff will proceed with the mailing of these notices to the District's customer and landowners.

Exhibit "C" is the proposed resolution approving the Operating Budget for FY 2014-15. Staff recommends its approval. Exhibit "D" is the draft PowerPoint presentation that will be provided at the workshop.

Proposed Schedule for the Operating Budget and Rates Adoption:

- | | |
|----------------|---|
| April 28, 2014 | Second Board Workshop to adopt the Proposed Operating Budget; Approval of Proposition 218 Notices for Customers |
| May 2, 2014 | Mail the Proposition 218 Notices to Customers |
| June 20, 2014 | Tabulate Responses |
| June 23, 2014 | Board Meeting- Public hearing to review Proposition 218 responses and adopt Rates and Charges for FY 2014-15 |

FISCAL IMPACTS:

Planned operating expenses in the FY 2014-15 Proposed Operating Budget reflect an increase of \$13.6 million from the adopted Operating Budget for FY 2013-14.

The proposed rate increases will result in an estimated increase in revenues of \$3.8 million and \$5.9 million, respectively, for water and sewer during FY 2014-15. In addition, the District anticipates utilizing \$2.5 million of the Replacement Fund (Rate Stabilization Fund) to minimize the increase in rates. The proposed rate increases will also result in a contribution to the enhancement and replacement funds of approximately \$3.8 million and \$15.7 million for water and sewer, respectively.

COMMITTEE STATUS:

The Committee previously reviewed the Budget and assumptions at its Finance and Personnel Committee meetings on March 4, 2014 and April 1, 2014 and at a Special Finance and Personnel Committee meeting on March 19, 2014.

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.

RECOMMENDATION:

THAT THE BOARD ADOPT THE FOLLOWING RESOLUTION BY TITLE APPROVING THE OPERATING BUDGET FOR FISCAL YEAR 2014-15 (WITH RATES AND CHARGES FOR FISCAL YEAR 2014-15 TO BE ADOPTED ON JUNE 23, 2014); AND APPROVE THE PROPOSITION 218 NOTICES SUBJECT TO NON-SUBSTANTIVE MODIFICATIONS.

RESOLUTION NO. 2014 –

RESOLUTION OF THE BOARD OF DIRECTORS
OF IRVINE RANCH WATER DISTRICT,
ORANGE COUNTY, CALIFORNIA
APPROVING DISTRICT'S OPERATING BUDGET FOR
FISCAL YEAR 2014-15 AND DETERMINING COMPLIANCE WITH
ARTICLE XIII B OF THE CALIFORNIA CONSTITUTION

LIST OF EXHIBITS:

- Exhibit "A" – Proposed Operating Budget Draft for Fiscal Year 2014-15
- Exhibit "B" – Proposed Proposition 218 Notices
- Exhibit "C" – Resolution
- Exhibit "D" – Draft PowerPoint Presentation

Exhibit “A”

***IRVINE RANCH WATER DISTRICT
OPERATING BUDGET
FISCAL YEAR 2014-15***



“PROPOSED”

April 28, 2014



OPERATING BUDGET

*Assumptions as of April 28, 2014
Fiscal Year 2014-15*

The goal of the District's budgeting process remains to fund the resources required to provide services to the District's customers as cost efficiently as possible. Over the past two years, the District's operating budget has increased marginally by aggressively pursuing reductions in expenses to offset uncontrollable expenses such as pass-through rate increases from outside agencies on which the District depends for the purchase of water and the treatment of wastewater and biosolids. In FY 2014-15, pass through increases in the cost of water and electricity were significantly higher than in prior years in addition to increasing water needs from the prior year due to higher sales resulting from District growth and the drought. The additional demands are met by purchasing imported water from the Municipal Water District of Orange County (MWDOC) which is the District's most expensive alternative. Some of the increased costs were the result of pass-through increases, including a 6.5% increase from the Orange County Water District (OCWD) and a 3.7 % increase from MWDOC. Other pass-through costs increases include a 12% estimated increase from Southern California Edison (SCE), in addition to an 11% increase over budget from the prior year. The FY 2014-15 Operating Budget also includes additional expenses associated with operating and maintaining substantial new capital facilities, some currently under construction and others recently completed.

This document is a preliminary summary of the major assumptions driving the development of the operating budget for FY 2014-15 for input by the Board.

I. REVENUES

Growth Estimates:

Residential development growth included both apartments and single family homes for FY 2014-15. The unit estimate is based on the most current projections received from the major developers in the service area. Current estimates identify approximately 2,900 mixed units coming on line in FY 2014-15. As a result, the growth factor for residential development was estimated at 1.5% for FY 2014-15.

The District experienced an increase in commercial volume which is helping to meet a return of the base that was lost previously from the economy. Current development projections for the commercial/industrial sector identify nearly 30 acres of development occurring in FY 2014-15 as well as 45 acres developing in the current fiscal year. Staff included a 1% growth rate for commercial and industrial development for FY 2014-15. Revenue assumptions used to estimate sewer revenue match the assumptions included for potable water.

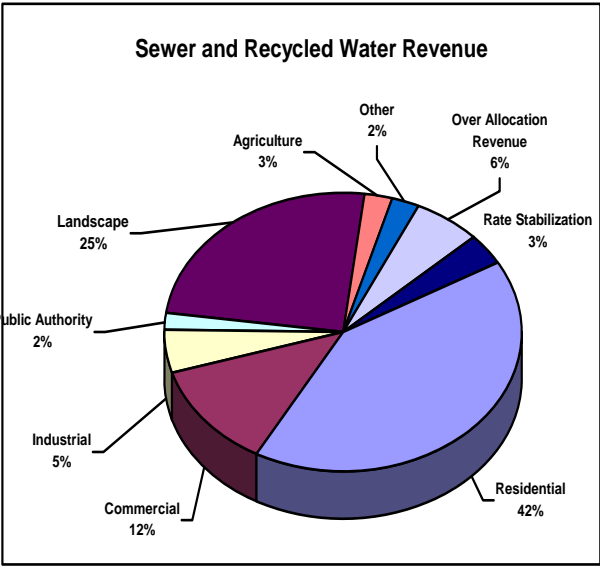
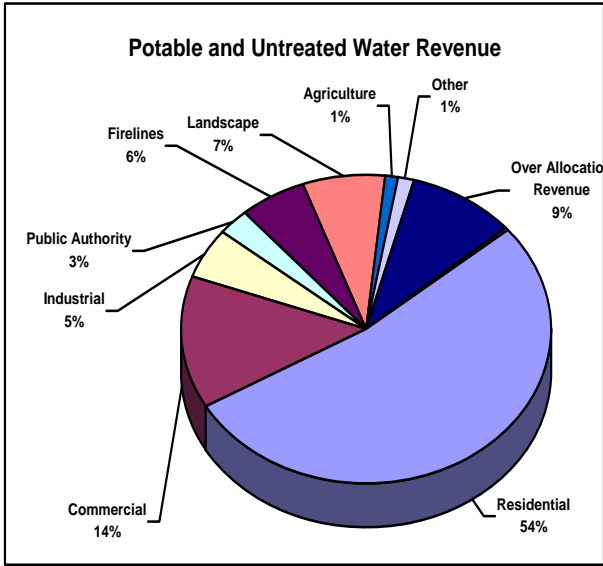


OPERATING BUDGET

*Assumptions as of April 28, 2014
Fiscal Year 2014-15*

FY 2014-15 Estimate for Operating Revenue Sources, by Customer Type (in thousands):

Customer Type	Water	Sewer/ Recycled Water	Total
Residential	\$ 35,911	\$ 26,930	\$62,841
Commercial	9,397	7,966	17,363
Industrial	3,601	3,122	6,723
Public Authority	2,016	1,258	3,274
Fire Protection	3,828	0	3,828
Landscape Irrigation	4,897	16,124	21,021
Agriculture Irrigation	814	1,657	2,471
Other	942	1,603	2,545
Over Allocation Revenue	6,389	3,993	10,382
Rate Stabilization	240	2,272	2,512
Total	\$ 68,035	\$ 64,925	\$ 132,960



The projected revenue sources and their respective percentage of the total are presented in the graph above. Total Residential, Landscape, Commercial, and Industrial revenue constitute approximately 80% of the total operating revenues.



OPERATING BUDGET

Assumptions as of April 28, 2014 Fiscal Year 2014-15

The “Other” category in the chart above includes revenue from the following sources in the order of total estimated receipts:

- Construction/Temporary accounts
- United States Department of the Navy contribution for the Shallow Ground Water Unit identified as Irvine Desalter Project (IDP) Reimbursements
- Recycled water sales to the Santa Margarita Water District
- Green Acres Project (GAP) recycled water sales
- Recycled Water Conversion Loan payments

Internal Cost of Service Study:

Each year, staff reviews the revenue generated from commodity and service charges and proposes rate increases that maintain the District’s approach of connecting the all-in cost of water to the commodity rate and providing for all other operating costs being funded from the fixed rate service charge.

District staff has prepared a cost of service analysis in order to ensure the rate setting practice is consistent with industry cost of service principles and state law requirements. This study provides for a review of District costs and comparison to industry standards. The analysis includes:

- Review the allocation of costs between commodity and service charge revenue; and
- Review of the allocation of costs between the meter sizes for proportionality.

An analysis of the results indicates that the allocation of costs between commodity and fixed service charge revenue is appropriate. It also identifies a need to re-establish the proportionality for certain meter charges. Specifically, certain residential meter charges between 3/4” and 2” require increases and certain larger meter charges will be reduced. Increasing the charges in one year would be significant for some of the smaller residential meters. Staff included 100% of the reductions identified in the study to existing rates and applied 50% of the increase to the 3/4”, 1”, 1.5”, and 2” residential meters with the remainder to be captured in the following year, prior to any rate increase identified for FY 2014-15.

Meter Size	Capacity (gpm)	Factor	Current Rate	Recommended		# of Meters
				Proposed	Change	
5/8"	20	1	9.85	9.85	0	0
5/8x3/4	20	1	9.85	9.85	0	69,446
3/4"	30	1.5	9.85	12.32	2.47	11,702
1" Residential	50	2.5	9.85	17.24	7.39	9,391
1" Commercial	50	2.5	19.45	24.63	5.18	1,817
1.5" Residential	100	5	23.2	36.23	13.03	2,082
1.5" Commercial	100	5	53.85	49.25	-4.60	3,544
2" Residential	160	8	31.75	55.28	23.53	1,750
2" Commercial	160	8	88.65	78.8	-9.85	4,956



OPERATING BUDGET

Assumptions as of April 28, 2014 Fiscal Year 2014-15

4" compound	500	25	342.2	246.25	-95.95	4
6" compound	1000	50	549.4	492.5	-56.90	10
8" compound	1600	80	1226.65	788	-438.65	4
2" turbo	190	9.5	118.85	93.58	-25.27	1,364
3" turbo	435	21.75	272.95	214.24	-58.71	532
4" turbo	750	37.5	811.15	369.38	-441.77	218
6" turbo	1600	80	1435.7	788	-647.70	44
8" turbo	2800	140	2099.7	1379	-720.70	22
10" turbo	4200	210	3268.35	2068.5	-1199.85	15
16' prop	5700	285	3301.85	2807.25	-494.60	3
Totals						106,910

The District plans to prepare a more detailed cost of service study on all aspects of the District's rates and charges prior to the rate setting process for FY 2015-16.

II. OPERATING EXPENSES

Notable expected changes in operating expenses are addressed below by system and function:

A. Treated Water

The state is facing a significant drought and District customers will be receiving this messaging from a variety of sources. In addition, the District will make efforts to do its part in encouraging its customers to conserve.

Staff considered approaches that will apply conservation efforts where possible and to include a price signal in the messaging rewarding those who are conserving.

In a drought year, the District intends to encourage conservation by making customers that use more water pay for it. The District utilized its Demand and Elasticity Model to forecast the impact of various scenarios on conservation and two changes in allocation were identified that are expected to reduce total demands:

- The Gallons Per Capita per Day (GPCD) was reduced from 55 to 50 because the average residential customer currently uses less than 55 GPCD; and
- Each of the Over Allocation tiers for residential customers were tightened by 20% to match the messaging being promoted. Landscape allocations were not changed because they are significantly tighter.



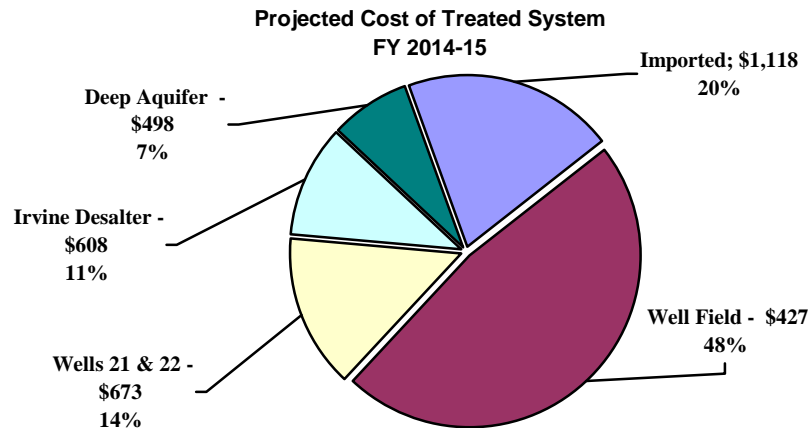
OPERATING BUDGET

Assumptions as of April 28, 2014 Fiscal Year 2014-15

Other factors that may influence demands within the District include the messaging from outside agencies and changes within rates and charges.

As a result, the District estimates the potable sales for FY 2014-15 to be 55,634 acre feet (AF).

The Sources used to meet potable demands, their respective cost per AF, inclusive of labor, electricity, chemicals, etc., and their respective share of the total water purchased are identified in the graph.



Groundwater Production

The major assumptions associated with the respective sources of water include the following:

- The current Replenishment Assessment (RA) is \$276 per AF and the rate used is \$294 per AF. The District's basin production percentage (BPP) is set at 70%.
- The Dyer Road Well Field (DRWF) pumping costs:
 - Actual energy usage will be factored with a rate increase of 12%.
 - Chemical expense is relatively flat.
- Primary changes in costs include a \$18 per AF estimated rate increase for RA and a 12% increase in energy for the Irvine Desalter Project (IDP), the Potable Treatment Plant (PTP), and the Deep Aquifer Treatment System (DATS).

Treated Water – Metropolitan Water District of Southern California (MWD)

- MWD is expected to increase its rates again on January 1, 2015 by 3.7% and other components will have a small net increase for the District.



OPERATING BUDGET

Assumptions as of April 28, 2014

Fiscal Year 2014-15

Readiness-to-Serve (RTS) will increase by 4.7%, the capacity charge (CC) will increase by 16.7%.

- RTS from \$1.29 million to 1.35 million;
- CC from \$0.30 million \$0.35 million; and
- Staff assumes no substantial change to the costs associated with the IRWD Reservoir Management Systems.
- Los Alisos rate area demands are met almost entirely from MWD/MWDOC imported water.

Untreated Water

The sources for untreated water for FY 2014-15 will include purchased water.

- MWDOC purchases, and Santiago Aqueduct Commission (SAC) water is expected to be used to meet all untreated demands.
- Any MWDOC increases discussed above also apply to purchases for the untreated system.

B. Sewer and Recycled Water

Sewer:

Production and storage generated from operations at the Michelson Water Recycling Plant (MWRP) and Los Alisos Water Recycling Plant (LAWRP) are expected to provide 22,300 AF of recycled water for FY 2014-15.

Recycled:

- Total recycled demand is estimated at 29,367 AF.
 - The Irvine Desalter will provide an additional 2,900 AF net of water lost through treatment.
 - SAC water will provide an additional 282 AF of water.
 - The recycled water system is expected to purchase 5,355 acre-feet of supplemental water from the untreated system.

C. Salaries and Benefits

- Each year, staff prepares a labor budget based upon the total positions in the organization chart, expected merit and cost of living increases, and promotional allowances.



OPERATING BUDGET

Assumptions as of April 28, 2014 Fiscal Year 2014-15

- Each salary is identified and included in January and then projected forward adding merit increases that are based on prior review ratings where necessary in order to reach a starting July salary base.
- New Positions and promotions are added and all salaries are projected forward on a month by month basis.
- In December, a COLA and promotional factor are applied to all salaries - Assumed at 2.0% and 0.9%, respectively.
- Although staffing is below the current budget, staff anticipates all positions being occupied by FY 2014-15.

Regular Salaries and Wages	
FY 2013-14 Labor	\$27,221
Additions	861
Promotions	154
COLA	557
Merit	304
Total	\$29,097

The following table identifies the current and proposed contribution of the District toward employee benefits.

Additional Contributions Provided by the District		
	FY 13-14	FY 14-15
PERS Employer Contribution	16.8%	17.7%
PERS in Excess of ARC	<u>8.2%</u>	<u>7.3%</u>
Combined Total	25.0%	25.0%
District Employee Contribution	1.6%	0.0% ¹
District's Senior Staff Contribution	0.0%	0.0%
401A Matching Contribution of 3%	2.8%	2.8%

III. USE OF OTHER FUNDS

A. Over Allocation Revenue

Over Allocation Revenue is used to offset the following expenses:

¹ The District's employee contribution is 1.6% and it will terminate in March 2015.



OPERATING BUDGET

Assumptions as of April 28, 2014

Fiscal Year 2014-15

- The low volume shortfall is the rate difference between the low volume rate and the base rate. Over allocation revenue is used to offset this differential.
- Budgeted conservation expenses are funded from over allocation revenue and conservation funds if expense exceeds actual revenue.
- Urban runoff (NTS) and San Joaquin Marsh maintenance expenses are the third component of expenses funded using over allocation revenue and conservation funds.
- For FY 2014-15, over allocation tiers will also be used to fund the MWDOC cost of water (approximately \$900 per AF).
- Total costs funded using over allocation revenue is expected to exceed over allocation revenue projected in FY 2014-15. The conservation fund (\$19.1M) will provide funding for those costs that exceed over allocation revenue.

B. Enhancement Fund User Rate Component

The current enhancement fund contribution for both the water and sewer system for FY 2013-14 was a combined \$1.40 per month (\$0.70 each for water and sewer) for the average residential customer. No increase was built into this rate for FY 2014-15.

C. Replacement Fund User Rate Component

The current sewer service charge of \$6.05 per month for the average residential customer in FY 2013-14 will increase by \$0.65 to \$6.70, to provide additional funding for the Biosolids project. No increase was assumed for the water service charge replacement component. The combined replacement contribution for FY 2014-15 will be \$7.50 per month for the average residential customer.

D. Rate Stabilization – Replacement Fund

The District has elected to use the Replacement Fund to minimize the impact of the rate increases for FY 2014-15. This is due to significant one time increases experienced in FY 2014-15. This use of the Replacement Fund will provide \$2.5 million to offset increases included in FY 2014-15 proposed budget.

IV. ALLOCATION OF COSTS BETWEEN IRWD & LOS ALISOS RATE AREAS

- A. Costs that are directly related to providing service or are clearly associated with the Irvine Ranch or Los Alisos rate areas for treated water are allocated to the respective system expenses of that rate area.



OPERATING BUDGET

Assumptions as of April 28, 2014

Fiscal Year 2014-15

- B. Those costs that are attributable to system operations but that are not unique to one rate area are allocated based upon the ratio of the budgeted acre-feet.
- C. All direct labor costs are allocated General & Administrative (G&A) charges based upon the budgeted G&A factor.

Irvine Ranch Water District
Consolidated Operating Budget for All Departments for FY 2014-15

<u>Expense Category / Name</u>		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop	Incr/(Decr)
Salaries & Benefits	Regular Labor	18,598,378	12,839,909	27,221,420	29,097,300	1,875,880
	Overtime Labor	1,095,682	725,540	1,131,560	1,448,615	317,055
	Employee Benefits	12,023,334	5,845,149	15,094,100	15,701,750	607,650
	Contract Labor	1,522,426	951,820	1,216,550	1,282,190	65,640
	Total	33,239,820	20,362,418	44,663,630	47,529,855	2,866,225
Purchased Water & Utilities	Water Purchases	31,285,119	16,852,468	26,352,300	31,528,450	5,176,150
	Electricity	9,750,931	6,720,106	11,686,240	16,033,150	4,346,910
	Fuel	745,365	353,512	730,500	733,800	3,300
	Telecommunication	334,900	192,060	394,300	418,700	24,400
	Other Utilities	66,921	72,961	110,500	137,320	26,820
	Total	42,183,236	24,191,107	39,273,840	48,851,420	9,577,580
Material & Supplies	Chemicals	3,068,152	1,747,665	2,867,190	2,133,340	(733,850)
	Operating Supplies	649,200	483,353	1,122,760	1,205,660	82,900
	Printing	230,964	80,829	362,150	337,550	(24,600)
	Postage	515,636	295,137	507,720	515,060	7,340
	Permits, Licenses and Fees	389,027	467,402	753,945	887,075	133,130
	Office Supplies	71,326	33,144	91,600	85,300	(6,300)
	Duplicating Equipment	193,496	84,991	189,000	174,000	(15,000)
	Equipment Rental	116,519	52,170	114,860	118,700	3,840
	Total	5,234,320	3,244,691	6,009,225	5,456,685	(552,540)
Professional Services	Rep & Maint Other Agencies	10,121,572	5,446,413	11,222,140	11,419,560	197,420
	Rep & Maint IRWD	6,666,542	3,343,836	6,595,580	6,967,620	372,040
	Insurance	1,065,841	577,843	702,500	984,500	282,000
	Legal Fees	417,016	170,034	417,500	485,000	67,500
	Engineering Fees	221,886	289,973	505,800	539,100	33,300
	Accounting Fees	60,983	33,943	84,500	74,500	(10,000)
	Data Processing	1,111,391	830,869	1,326,500	1,625,500	299,000
	Personnel Training	801,203	421,421	895,530	968,510	72,980
	Personnel Physicals	19,549	20,356	39,000	43,000	4,000
	Other Professional Fees	1,422,785	574,098	1,924,420	2,361,550	437,130
	Directors' Fees	141,134	58,421	142,200	142,000	(200)
Total	22,049,902	11,767,207	23,855,670	25,610,840	1,755,170	
Other	Mileage Reimbursement	123,065	48,822	117,000	117,000	0
	Collection Fees	30,954	1,054	20,000	20,500	500
	Election Expense	100,000	15,000	30,000	30,000	0
	Safety	82,518	43,471	100,180	96,800	(3,380)
	Alarm and Patrol Services	75,349	30,095	130,000	130,000	0
	Biosolids Disposal	186,386	176,352	291,000	402,300	111,300
	Commuter Program	88,751	81,474	142,000	142,000	0
	Computer Backup Storage	19,838	8,756	21,000	21,000	0
	Contract Meter Reading	1,109,142	615,902	1,230,980	1,272,000	41,020
	Other	28,178	(3,290)	18,100	21,600	3,500
	Conservation	924,381	269,627	1,157,000	942,000	(215,000)
	Total	2,768,562	1,287,263	3,257,260	3,195,200	(62,060)
GRAND TOTAL		105,475,840	60,852,686	117,059,625	130,644,000	13,584,375

SOURCES AND USES OF FUNDS

CONSOLIDATED OPERATING BUDGET

Fiscal Year Ending June 30, 2015

(in thousands)

Revenues:	Water	Sewer/ Recycled	Total
Residential	\$ 33,660	\$ 24,600	\$ 58,260
Commercial	8,840	7,290	16,130
Industrial	3,330	2,860	6,190
Public Authority	1,870	1,090	2,960
Construction/Temporary	920	990	1,910
Fire Protection	3,700		3,700
Landscape Irrigation	4,550	14,060	18,610
Agriculture Irrigation	770	1,380	2,150
IDP Reimbursements		520	520
Over Allocation Revenues	4,840	2,921	7,761
Over Allocation Funds	1,549	1,072	2,621
Funded by Proposed User Rate Increase	3,766	5,870	9,636
Rate Stabilization Fund	240	2,272	2,512
Total Revenues	\$ 68,035	\$ 64,925	\$ 132,960
Proposed Enhancement & Replacement Capital Project Contribution	(3,830)	(15,705)	(19,535)
Net Revenues	\$ 64,205	\$ 49,220	\$ 113,425
Expenses:			
Water	\$ 36,610	\$ 17,800	\$ 54,410
Labor	5,675	4,135	9,810
Materials & Supplies	8,225	7,330	15,555
OCSD - O & M		9,800	9,800
General Plant	460	420	880
General and Admin Expense	10,330	7,525	17,855
Marsh/NTS/Conservation	2,905	2,210	5,115
Total Expenses	\$ 64,205	\$ 49,220	\$ 113,425
Income (Loss) From Operations	\$ 0	\$ 0	\$ 0



NON-OPERATING

SUMMARY OF SOURCES AND USES

(in thousands)

Non-operating Sources:

	Total
Property Taxes	\$38,763
Investment Income	1,088
Connection Fees	16,615
Real Estate Income	12,086
Other Income	5,263
Total Sources	<u>\$73,815</u>

Non-operating Uses:

Interest Expense	\$20,972
Real Estate Expense	6,271
Other Expenses	257
Total Uses	<u>\$27,500</u>

Net Sources & Uses

\$46,315



Selected Comparison of Current and Proposed Residential Rates

	Irvine Ranch		Los Alisos		Orange Park Acres	
Current Residential Rates:	Water	Sewer/ Recycled Water	Water	Sewer/ Recycled Water	Water	Sewer/ Recycled Water
Commodity Rate	\$1.27	\$1.11	\$2.24	\$1.11	\$1.79	
Residential Service	\$9.85	\$18.40	\$9.85	\$18.40	\$18.35	
Commodity (18 ccf)	\$19.98		\$34.48		\$34.94	
Current Monthly	<u>\$48.23</u>		<u>\$62.73</u>		<u>\$53.29</u>	
Proposed Residential Rate Adjustment:						
Base Commodity Rate	\$1.34	\$1.18	\$2.31	\$1.18	\$1.86	
Operations	\$9.10	\$13.20	\$9.10	\$13.20	\$17.60	
Replacements	\$0.80	\$6.70	\$0.80	\$6.70	\$0.80	
Enhancements	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70	
Total Service Charge	<u>\$10.60</u>	<u>\$20.60</u>	<u>\$10.60</u>	<u>\$20.60</u>	<u>\$19.10</u>	
Commodity	<u>\$20.44</u>		<u>\$35.18</u>		<u>\$36.20</u>	
Proposed Monthly	\$51.64		\$66.38		\$55.30	
Current Monthly	\$48.23		\$62.73		\$53.29	
Difference	\$3.41		\$3.65		\$2.01	
Change %	<u>7.1%</u>		<u>5.8%</u>		<u>3.8%</u>	



Selected Comparison of Current and Proposed Residential Rates

	Irvine Ranch *		Los Alisos		Orange Park Acres *	
Current Residential Rates:	Water	Sewer/ Recycled Water	Water	Sewer/ Recycled Water	Water	Sewer/ Recycled Water
Commodity Rate	\$1.27	\$1.11	\$2.24	\$1.11	\$1.79	
Residential Service	\$9.85	\$18.40	\$9.85	\$18.40	\$18.35	
Commodity (18 ccf)	\$19.98		\$34.48		\$34.94	
Current Monthly	\$48.23		\$62.73		\$53.29	
Proposed Residential Rate Adjustment:						
Base Commodity Rate	\$1.36	\$1.20	\$2.31	\$1.20	\$1.88	
Operations	\$9.10	\$13.20	\$9.10	\$13.20	\$17.60	
Replacements	\$0.80	\$6.70	\$0.80	\$6.70	\$0.80	
Enhancements	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70	
Total Service Charge	\$10.60		\$10.60		\$19.10	
Commodity	\$20.64		\$35.18		\$36.56	
Proposed Monthly	\$51.84		\$66.38		\$55.66	
Current Monthly	\$48.23		\$62.73		\$53.29	
Difference	\$3.61		\$3.65		\$2.37	
Change %	7.5%		5.8%		4.4%	

* Includes an additional \$0.02 per ccf for a potential scheduled step-up during the year that will be identified in the Prop 218 notices.



REVENUE

BUDGETED REVENUE SUMMARY BY SYSTEM

(in thousands)

Water

	<u>FY 2013-14</u>	<u>Usage Change</u>	<u>Proposed Rate Inc.</u>	<u>FY 2014-15</u>
Service	\$ 21,481	\$ 44	\$ 2,024	\$ 23,548
Enhancement	1,787	1	-	1,788
Replacement	2,042	-	-	2,042
Commodity	31,922	(992)	1,697	32,627
Low Volume	1,969	443	-	2,412
Over Allocation Revenue	3,201	(335)	1,111	3,977
Pumping Surcharge	749	13	-	762
Miscellaneous	460	180	-	639
Rate Stabilization	-	-	240	240
	<u>\$ 63,611</u>	<u>\$ (647)</u>	<u>\$ 5,072</u>	<u>\$ 68,035</u>

AF Sales

55,837 (204) 55,634

User Type

Residential	\$ 32,729	\$ 992	\$ 2,191	\$ 35,911
Commercial	9,336	(497)	558	9,397
Industrial	3,741	(408)	268	3,601
Public Authority	1,974	(101)	143	2,016
Construction/Temp.	796	104	41	942
Fire Protection	3,918	(222)	132	3,828
Landscape Irrigation	5,083	(535)	349	4,897
Agriculture Irrigation	863	(89)	40	814
Over Allocation Revenue	5,170	108	1,111	6,389
Rate Stabilization	-	-	240	240
	<u>\$ 63,611</u>	<u>\$ (647)</u>	<u>\$ 5,072</u>	<u>\$ 68,035</u>



REVENUE

BUDGETED REVENUE SUMMARY BY SYSTEM

<i>(in thousands)</i>	<u>FY 2013-14</u>	<u>Usage Change</u>	<u>Proposed Rate Inc.</u>	<u>FY 2014-15</u>
Sewer and Recycled				
Service	\$ 24,541	\$ 64	\$ 3,512	\$ 28,117
Enhancement	1,485	0	-	1,486
Replacement	12,914	-	1,305	14,219
Commodity	11,343	986	1,023	13,352
Low Volume	1,133	165	-	1,298
Over Allocation Revenue	2,207	38	450	2,695
Pumping Surcharge	436	(20)	-	416
Miscellaneous	400	150	-	550
IDP Reimbursements	520	-	-	520
Rate Stabilization	-	-	2,272	2,272
	<u>\$ 54,980</u>	<u>\$ 1,382</u>	<u>\$ 8,563</u>	<u>\$ 64,925</u>
AF Sales	27,920	1,447		29,367
User Type				
Residential	\$ 23,769	\$ 864	\$ 2,297	\$ 26,930
Commercial	6,698	588	681	7,966
Industrial	2,791	66	264	3,122
Public Authority	1,383	(292)	167	1,258
Landscape Irrigation	14,310	(247)	2,061	16,124
Recycled Loans	6	(5)	0	1
Agriculture Irrigation	2,111	(734)	279	1,657
Construction/Temp.	53	938	91	1,083
IDP Reimbursements	520	-	-	520
Over Allocation Revenue	3,340	203	450	3,993
Rate Stabilization	-	-	2,272	2,272
	<u>\$ 54,980</u>	<u>\$ 1,382</u>	<u>\$ 8,563</u>	<u>\$ 64,925</u>

COST OF WATER

BUDGETED COST OF WATER

<i>(in thousands)</i>	FY 2013-14		FY 2014-15		Change	
	Acre Feet	Total	Acre Feet	Total	Acre Feet	Total
Irvine Ranch Rate Area						
<u>TREATED</u>						
Purchased from MWDOC	2,467	\$ 3,457	3,488	\$ 4,643	1,021	\$ 1,186
Dyer Road Well Field	28,000	10,848	28,000	11,968	0	1,120
Deep Aquifer Treatment System	8,400	3,747	8,400	4,185	(0)	438
Lost to Production	(840)		(168)		672	
Wells 21 & 22 Desalter	6,300	4,415	6,300	4,237	-	(178)
Lost to Production	(630)		(945)		(315)	
Irvine Desalter Project	4,200	2,190	4,365	2,654	165	464
Lost to Production	(420)		(655)		(235)	
Water Banking		288		646	-	358
DATS Capital Cost Refunding		597		-		(597)
Total Shrinkage	(963)		(2,323)		(1,360)	
<u>UNTREATED</u>						
Purchased from MWDOC	1,090	\$ 653	7,434	5,111	6,343	\$ 4,458
Native Water	1,367	144	0	0	(1,367)	(144)
Santiago Aqueduct Commission	180	134	180	111	-	(23)
Transfer to RW System	(258)	(123)	(5,355)	(3,682)	(5,097)	(3,559)
Total Shrinkage	(132)		(108)		24	
Total Irvine Ranch	48,761	\$ 26,350	48,614	\$ 29,874	(147)	\$ 3,524
Los Alisos Rate Area						
Purchased from MWDOC	6,945	7,100	6,939	7,018	(6)	(82)
Well Water	432	0	432	23	-	23
Total Shrinkage	(301)		(351)		(50)	-
Total Los Alisos	7,076	\$ 7,100	7,020	\$ 7,041	(56)	\$ (59)
Total Potable and Untreated Water	55,837	\$ 33,450	55,634	\$ 36,916	(203)	\$ 3,466

Assumptions:

OCWD - replenishment assessment estimate - \$294/acre foot.

MWDOC - Includes a 3.8% increase that will be effective January 1, 2015 from MWD.

COST OF WATER

BUDGETED COST OF RECYCLED WATER

<i>(in thousands)</i>	FY 2013-14		FY 2014-15		Change	
	Acre Feet	Total	Acre Feet	Total	Acre Feet	Total
Groundwater	0		-	0	-	-
Irvine Desalter Project	3,380	1,707	2,900	1,005	(480)	(702)
SAC Water	282	337	282	174	-	(163)
MWRP / LAWRP Production	25,734	8,804	22,299	8,228	(3,435)	(576)
Transfer from Untreated System	258	122	5,355	3,682	5,097	3,560
<i>Total Shrinkage</i>	(1,734)		(1,468)		266	
Total Recycled	<u>27,920</u>	<u>\$ 10,970</u>	<u>29,367</u>	<u>\$ 13,088</u>	<u>1,447</u>	<u>\$ 2,118</u>
Total Cost of Water for Billed Usage	<u>83,757</u>	<u>\$ 44,420</u>	<u>85,001</u>	<u>\$ 50,004</u>	<u>1,244</u>	<u>\$ 5,584</u>



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

Program Description

The General Manager's Office implements the policies established and direction provided by the Board of Directors and, in so doing, provides overall direction to staff to complete that effort.

The General Manager's office also:

- Provides direct services to and communications with the Board of Directors;
- Produces and distributes Board, Board Committee and Ad Hoc Committee meeting packets;
- Schedules all Board, Board Committee, Ad Hoc Committee and annual/special independent corporation meetings;
- Produces the minutes of all Board meetings;
- Maintains all Board resolutions;
- Schedules other meetings and functions on behalf of the Board members and makes travel arrangements, as needed;
- Maintains records of all inter-agency agreements, deeds and easements;
- Maintains records for the various independent corporations;
- Maintains necessary inter-governmental relations;
- Responds to, or directs response to, all media inquiries; and
- Responds to all public information requests.

The General Manager's Office works with the Board of Directors and staff to establish Goals and Objectives for all departments across the District. On January 10, 2014, staff reviewed the Goals and Objectives with the Board for the calendar year. They are summarized as follows:

Strategic Objectives: Water Reliability, Cost Effectiveness, Innovation, Water Policy

IRWD Groundwater Development Program:

- Complete the water quality testing, environmental permitting, design and construction of groundwater production facilities and well head treatment, as required, to produce water at or above IRWD's allowable Basin Production Percentage (BPP);
 - Well 115 and OPA Well 1 – Complete construction;
- Advocate for increased availability of replenishment water for local groundwater replenishment efforts and for IRWD water banking efforts;
- Complete the investigation of a joint well project with East Orange County Water District;
- Work with Orange County Water District (OCWD) to complete the annexation of additional IRWD territory through the LAFCO process;
- Work with OCWD to develop a policy clarifying the inclusion of recycled water demands in OCWD's calculation of the BPP; and
- Update the IRWD Groundwater Work Plan.



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

Potable Water Supply Reliability Study:

- Update IRWD's 2008 Potable Water Supply Reliability Study to include evaluations of system vulnerabilities and both local and import supply vulnerabilities associated with potential earthquakes, Delta levee failures, continued Delta flow restrictions, State Water Project (SWP) pumping plant failures, climate change events and other potential problems.

IRWD Water Banking Program:

- Identify, evaluate, and secure additional land to be incorporated into the District's water banking projects in Kern County;
- Deliver IRWD's 2013 and 2014 State Water Project Table A water allocated to the Jackson Ranch inside Dudley Ridge Water District (DRWD) to the Strand Ranch Integrated Banking Project (Strand Ranch) through the executed Multi-Year Unbalanced Exchange and Point of Delivery Agreement between DRWD, Metropolitan Water District of Southern California (MWD), Kern County Water Agency and the California Department of Water Resources (DWR);
- Negotiate an agreement with MWD for the delivery of MWD system water to IRWD's Strand and Stockdale Integrated Banking Projects for the benefit of IRWD and/or for the joint benefit of IRWD and others on an effective 2-for-1 basis;
- Assist MWD in the development and execution of Delivery Agreements with DWR that will allow MWD to deliver MWD system water to and from the Strand Ranch;
- Develop, execute, and obtain MWD's consent for developing long-term unbalanced exchange agreements with Carpinteria Valley Water District and/or Antelope Valley-East Kern Water Agency and initiate the development with DWR of Multi-Year Exchange and Point of Delivery Agreements for the programs;
- Complete a technical and legal review of the exportability the high-flow Kern River water that IRWD has in storage at the Strand Ranch;
- Execute the template IRWD/MWD Wheeling Agreement that has been developed for the recovery, exchange and delivery of non-SWP water from the Strand Ranch Project to IRWD's service area and successfully implement and gain necessary approvals for a pilot project for the exchange and wheeling of 1,000 AF of Kern River Water from the Strand Ranch to IRWD's service area;
- Work with MWD and Municipal Water District of Orange County to develop a standardized framework through which agencies can work through to expedite the approval process for water transfers, storage, and wheeling proposals;
- Complete and certify an Environmental Impact Report for the Stockdale Integrated Banking Project with Rosedale that also incorporates construction and operation of water banking facilities on the Stockdale West and East Properties as well as on additional lands to be secured by IRWD and/or Rosedale in the future;
- Finalize and execute a long-term exchange agreement with Rosedale for a Joint Integrated Stockdale Water Banking and Exchange Project;
- Award a construction contract for drilling and constructing of wells for the Stockdale Integrated Banking Project including additional project wells in the Rosedale service area;



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

- Initiate the design of recovery facilities pipelines and wellheads for the Stockdale Integrated Banking Project;
- Develop and obtain approval of a long-term exchange agreement with Buena Vista Water Storage Agreement for the delivery and storage of high flow Kern River Water to the proposed Stockdale Water Banking on a two-for-one basis;
- Develop a master plan for IRWD's water banking projects and programs; and
- Negotiate and execute long-term farm lease agreements for portions of the Jackson Ranch to make use of water to be returned from unbalanced exchanges at the Strand Ranch Project as well as water available to the leasee's from their own water supply portfolios.

Baker Water Treatment Plant:

- Initiate construction of the Baker Water Treatment Plant and Raw Water Pump Station;
- Coordinate construction with the development of the Serrano Summit project;
- Develop staffing and training plan for operations and maintenance of the Baker Water Treatment Plant; and
- Ensure facilities are constructed to address any potential issues with quagga mussels.

Management of Irvine Lake:

- Develop a capital improvements needs assessment and an operations plan to maximize the utilization of storage capacity in Irvine Lake, taking into account the use of this water as an alternate source of supply for the Baker Water Treatment Plant;
- Continue discussions with Serrano Water District (SWD) to update the methodology used to account for evaporative losses for water stored in Irvine Lake, execute an amended agreement with SWD to reflect and apply the new methodology prospectively;
- Update Santiago Aqueduct Commission agreements related to Irvine Lake spillage; and
- Complete the seismic analysis of Santiago Creek Dam to determine the extent of the seismic upgrades required for the outlet tower.

Second Lower Cross Feeder:

- Continue discussions with MWD, MWDOC, and other water agencies in Orange County to determine the benefits of constructing the Second Lower Cross Feeder.



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

Water Use Efficiency Programs:

- Implement enhanced outreach and cost-effective demand management programs, identified in Water Efficiency Plan (dated December 2013) including:
 - Focus on development and implementation of the CalScape outreach campaign and suite of implementation programs;
 - Expand outreach and assistance to homeowners associations and property managers;
 - Develop partnerships with private and public entities to leverage the effectiveness and reach of water efficiency programs;
 - Research and implement, as appropriate, new technologies and innovative programs to train and assist customers to improve their water use efficiency, with an emphasis on outdoor water use;
 - Continue to partner with commercial, industrial and institutional customers to implement cost-effective water use efficiency programs;
 - Expand the use of enhanced customer engagement and reporting such as WaterSmart as a tool to motivate additional water use efficiency;
 - Research and implement, as appropriate, the use of enhanced GIS data to improve customer allocation-setting, outreach and programs targeted toward outdoor water use;
- Actively participate in policy discussions addressing water-energy nexus, Demand management, and exploring concepts for establishing a conservation credit exchange program.

Recycled Water Customer Development:

- Complete development of the on-line site supervisor training for recycled water customers;
- Evaluate the feasibility of using satellite recycling plants in remote areas not served by the recycled water distribution system;
- Work with key customers to encourage them use recycled water, including UCI for use in its cooling towers and Royalty Carpet for carpet dying;
- Pursue partnerships with neighboring agencies to sell them recycled water;
- Work with upper Santa Ana River Watershed agencies to develop regional recycled water goals and revising policy position on Santa Ana River Watershed Grant Funding Prioritization as necessary;
- Determine whether recycled water can be cost-effectively served to the remaining Irvine Lake Pipeline customers;
- Pursue new Local Resources Program funding from MWD as well as grant funding for projects that use recycled water; and
- Identify opportunities for cost effective implementation of dual-plumbed condominiums and apartment properties.



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

Strategic Objectives: Sewer Reliability, Cost Effectiveness, Environmental Commitment, Innovation, Resource Recovery

Biosolids Dewatering and Energy Recovery Facilities:

- Continue construction of the MWRP Biosolids and Energy Recovery Facilities;
- Complete AQMD permitting process while staying within appropriate reporting thresholds;
- Develop odor monitoring and response plan;
- Develop a staffing and training needs plan, evaluate outsourcing options, and initiate phased recruitment for the MWRP Biosolids and Energy Recovery Facilities;
- Develop a marketing plan for the distribution / sale of pellets;
- Begin developing concepts and partnerships relative to implementing a foodwaste recycling program at the MWRP once the new solids handling facilities are completed;
- Collaborate with other agencies including Encina Wastewater Authority on lessons learned, O&M, product marketing and distribution, and resource sharing opportunities; and
- Discuss potential Orange County Sanitation District participation in MWRP Biosolids and Energy Recovery Facilities on an interim basis.

Sewage Treatment and Recycled Water Supply Optimization:

- Continue to implement a comprehensive long-term sewage management strategy to minimize treatment costs and maximize the use of recycled water including:
 - Michelson Water Recycling Plant*
 - Complete the improvements and required staffing changes to increase MWRP capacity to 28 MGD and initiate start-up and operations of the new facilities;
 - Evaluate alternatives for final effluent operational storage at MWRP;
 - Develop a plan to assess the replacement and rehabilitation needs of the existing MWRP facilities;
 - Evaluate the viability of supplementing the recycled water system with water treated by the San Joaquin Marsh and then diverted to the MWRP;
 - Los Alisos Water Recycling Plant*
 - Complete study to evaluate short-term options for solids handling at the LAWRP;
 - Update the LAWRP Master Plan to identify long term water recycling and solids handling options;
 - Recycled Water Storage and Distribution System*
 - Evaluate procurement of recycled water storage capacity at Santa Margarita Water District's Upper Oso Reservoir;
 - Assess on-going use of chlorine gas for disinfection and begin investigation for potential conversion to sodium hypochlorite District-wide;
 - Evaluate operational alternatives to enhance recycled water quality from open reservoirs;
 - Assess recycled water distribution system reliability along with the costs and benefits to ensure customer needs are met;



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

- Develop alternatives for long-term off-season storage/use options of recycled water including:
 - Continue investigating opportunities to expand IRWD's seasonal storage capacity at Syphon Reservoir, Peters Canyon, and other locations based on wet year/dry year supply and demand variations;
 - Initiate conceptual development of indirect potable reuse projects such as an advanced water treatment facility at Peters Canyon to serve replenishment water directly to OCWD's Santiago Pits recharge facility via Handy Creek and other groundwater recharge facilities in the Irvine Sub-basin.

Sewage Collection System Planning:

- Complete Sewer Flow Factor Study / Flow Monitoring Study so sewer flow factors and sewer demand projections can be updated;
- Update Sewer Collection System Master Plan;
- Prepare for the first Sewer System Management Plan (SSMP) state audit in May 2014;
- Evaluate the need to conduct an Infiltration and Inflow (I&I) Study of the IRWD sewers; and
- Develop and implement enhanced sewage discharge source control (non-flushable materials, expired pharmaceuticals) outreach and enforcement programs to protect the sewage collection system and recovered resources (such as recycled water, biosolids pellets).

Operational Facilities – Asset Management:

- Initiate data collection and cataloging of assets for entry into the new Enterprise Asset Management (EAM) software;
- Conduct pre-implementation activities for the EAM system implementation that include developing business processes, identifying asset criticality protocols, and initiating procurement of a system implementation consultant;
- Evaluate staffing and resource needs for EAM system implementation and maintenance;
- Update the existing Replacement Planning Model; and
- Identify and evaluate tools, methods, and new technologies to improve the District's electrical and mechanical reliability efforts.

Strategic Objective: Water Quality, Innovation

Salt Management Plan:

- Complete the IRWD Recycled Water System Salt Management Plan; and
- Evaluate and implement opportunities, in conjunction with the necessary funding mechanisms, to manage salt loading within IRWD's service area.



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

Research Business Plan:

- Continue to support basic research, knowledge management, applied research, and pilot studies to IRWD's ability to provide services safely, reliably, and cost effectively;
- Ensure that resources dedicated to research and/or pilot studies provide a commensurate level of value to address current and/or future IRWD challenges; and
- Assess the value of Isle Utilities' Technology Approval Group (TAG) process to IRWD and recommend whether IRWD should continue to participate in Southern California TAGs for water treatment technologies.

Strategic Objective: Employee Satisfaction / Development, Cost Effectiveness

Employee Outreach:

- Further enhance the IRWD intranet and complete transition employee communications to web-based format;
- Develop an Employee Recognition Committee to review and revise the current service award program, develop other (non-monetary) methods to recognize and reward performance, and create a communication plan for the enhanced recognition opportunities;
- Implement a quarterly Managers Meeting program to enhance the sharing of ideas and intra-organization connections; and
- Work with employees to develop a plan for enhancements to the IRWD employee wellness program.

Safety Program Improvements:

- Continue with activities associated with the Safety Awareness Program, including:
 - Provide additional personal protective equipment customized to different tasks performed by employees;
 - Recognize employees who consistently work safely in different conditions;
 - Support Operations in specifying safety training requirements for job-specific tasks by developing meaningful operating procedures to address safety hazards associated with tasks performed by field staff;
- Develop return to work/temporary accommodation programs to facilitate employee recovery from injury and/or illness recovery; and
- Expand role of and participation in the IRWD Safety Committee.

Security Improvements:

- Develop a comprehensive security assessment plan for significant IRWD facilities including the Sand Canyon Headquarters Building, the MWRP / Operations Center, LAWRP, and other critical facilities.



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

Employee Training:

- Provide employee training which meets all regulatory requirements, results in continuous improvement, and maintains a productive and highly motivated work force including:
 - Project Management Training classes;
 - Management and Supervisory Training;
 - Training on District Policies (various topics) as needed;
 - Retirement Planning;
 - Business Technology (e.g., MS Office Suite)
 - Effective Communications Skills;
- Develop a plan to increase operator certification levels for both Recycling and Water System Operations;
- Conduct a survey of District staff regarding interest areas for optional Enrichment Program sessions and develop programs accordingly; and
- Complete current phase of the IRWD Leadership Development Initiative.

Performance Management:

- Redesign existing performance appraisal process to ensure employees receive constructive and effective feedback on both job performance and goals and expectations; and
- Conduct training sessions for managers, supervisors and employees on the new process.

District Operational and Administrative Process Efficiencies:

- Review District Policies and practices to maximize administrative efficiencies while still aligning with the Board's strategic objectives;
- Expand the development of knowledge sharing, staff development, contract services, and mutual aid opportunities with other agencies;
- Develop updated IRWD Key Performance Indicators (KPIs) to monitor and drive improved performance; and
- Evaluate the scope and advantages of a database management system for District Operations.

Succession Planning:

- Continue succession planning efforts to ensure appropriate staffing and skill levels for all District operations (e.g., Mentoring Program, staffing needs analyses for Baker and Biosolids projects, cross training and job rotation programs); and
- Continue partnerships with outside entities to promote careers in the water industry (e.g., Santiago Canyon College, Irvine Valley College) and to assist in growing IRWD's current employees for future promotional opportunities (e.g., Leadership Tomorrow and Leadership Development for Public Agencies sponsored by California State University, Fullerton).



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

Strategic Objective: Cost Effectiveness, Water Policy

Enterprise Resource Planning Software Optimization:

- Optimize Oracle eBusiness Suite Enterprise Resource Plan (ERP) implementation for financial and human resources applications, including training and additional reporting ;
- Identify and implement additional business intelligence capabilities;
- Evaluate and implement other business process efficiencies utilizing E Business Suite capabilities;
- Evaluate and implement solutions for improved capital budgeting, planning and reporting;
- Implement appropriate staffing levels resulting from the ERP implementation; and
- Implement changes relative to IRWD's new Improvement District Consolidation structure.

Utility Billing Software Implementation:

- Complete Phase 1 of the Oracle CC&B software system implementation;
- Evaluate proceeding with Phase 2 of the Oracle CC&B software system implementation; and
- Develop a high-level scope for providing outside water agencies with utility billing services.

State and Federal Funding:

- Secure federal funding authorization under the Water Resources and Reform Development Act (WRRDA) for Army Corps of Engineering funding of the Syphon Reservoir Recycled Water Storage project; and
- Continue to seek grants for renewable energy and other key projects through available sources, such as Cap-and-Trade revenues.

IRWD Rates and Charges:

- Update IRWD's Cost of Service Study to support current rate structure.

Debt and other Financial Instruments:

- As market conditions warrant, seek authorization from the Finance and Personnel Committee to execute a basis swap trade consistent with the parameters approved by the Board;
- Evaluate financing structures available for the replacement component of the Biosolids Facility capital requirement;
- Provide financing required to implement the Long-Term Financing Strategy; and
- Continue to evaluate opportunities to capture and lock-in historically low interest rates on the District's existing debt and new money needs.



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

Real Estate Asset Development:

- Lake Forest/Serrano Summit Property:
 - Complete the project's environmental permitting/mitigation requirements related to the City of Lake Forest's civic center site;
 - Complete the revised tentative tract map, Area Plan, EIR and final tract map;
 - Develop project marketing strategy, preferred sale structures and select necessary consultant(s) to manage the project sale process.
- Sand Canyon Office Development:
 - Seek primary build-to-suit tenant to develop a for-lease office building on the remaining vacant site;
- Wood Canyon Villa Apartment Property Partnership:
 - Evaluate partnership buyout opportunities utilizing the District's majority equity position in the property and, if appropriate, propose same to General Partner;
- Completion of the detailed reference guide for the District's real property inventory listing including current use, site description, title restrictions/constraints and property location.

Pension and Health Benefits:

- Ensure that IRWD is well positioned to comply with requirements associated with national health care legislation;
- Implement cost effective changes, when identified, to existing health benefits to maintain a competitive compensation structure;
- Review additional opportunities to optimize funding of pension and other post-employment obligation benefit liabilities; and
- Follow the policy principles established by the Board in June 2010 and continue to advocate for appropriate pension reform to eliminate practices that are financially detrimental to IRWD and the CalPERS system.

Strategic Objectives: Environmental Commitment, Innovation

Natural Treatment Systems (NTS) and Watershed Initiatives:

- Prepare final environmental documentation for and design of the Peters Canyon Wash Channel Water Capture and Reuse Pipeline Project facilities;
- Develop and implement an improved data tracking and management system for the NTS that will improve the ability to evaluate the effectiveness of the NTS facilities, as well as prepare necessary regulatory reporting;
- Prepare an Annual Report of NTS Operations including nutrient removal performance at each NTS facility, operational objectives, and recommendations for adaptive changes to the NTS program;
- Evaluate the performance and cost effectiveness of the existing pilot bioretention facility as part of the NTS Program;



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

- Continue to work with partners in Newport Bay Executive Committee to develop and implement the elements of the Nitrogen Selenium Management Plan; and
- Continue to participate in stakeholder development of TMDLs for the Newport-Bay Watershed for selenium, nutrients and toxics, and advocate for a maximum benefit approach to be applied.

Carbon Footprint Minimization:

- Further refine and complete an Embedded Energy Model for IRWD; and
- Investigate transitioning to alternative fuel vehicles in our fleet to ensure compliance with regulations, greenhouse gas reduction, and economic savings.

Strategic Objectives: Communication, Customer Satisfaction, Water Policy

IRWD Legislative Efforts:

- Implement the IRWD 2014 State Legislative Strategy. Conduct advocacy activities on legislation impacting IRWD, the water industry and special district interests, including but not limited to the following:
 - *Recycled Water:* Promote the expanded use of recycled water and its acceptance as a resource and not a waste by advocating for the removal of hindrances to recycled water projects. Advocacy would include promotion of the following:
 - Removing recycled water from being classified as a waste;
 - Updating Title 17 & 22 of the California Code of Regulations;
 - Changes to permitting processes so that recycled water is viewed as a resource and not a problem by State agencies;
 - Changes to permitting processes so that recycled water is viewed as a resource and not a problem by State agencies;
 - *Storm-Induced Overflows:* Seek a change to the State's policy which calls management of any ponds containing recycled water such that no discharge occurs unless the discharge is a result of a 25-year, 24-hour storm event or greater;
 - *Energy and Water Efficiency Partnerships:* Work with industry colleagues (through CMUA, ACWA, and others) to ensure that new laws and regulations related to energy and water efficiency remove barriers to and encourage more partnerships;
 - *Water Supply and Infrastructure Financing*
 - *Water Bond:* Work with water industry colleagues to determine and advocate for the most feasible approach to effectively passing a statewide water bond;
 - *Public Goods Charge for Water:* Continue to oppose imposition of a Public Goods Charge for water. If legislation related to a public goods charge on water moves forward, work with key legislators and industry associations to ensure that the charge is levied and administered fairly. Proceeds of a Public Goods Charge must be allocated within the region from which they originate;



GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

- *San Joaquin Delta*: Continue to support legislation and efforts related to the Bay Delta Conservation Plan consistent with IRWD's BDCP Policy Principles which will provide a long-term solution to California's water crisis, will ensure reliable high-quality water supply to residents, agriculture and businesses across the state, and will protect and improve the Delta ecosystem;
- *Water Governance*: Advocate for sensible statewide water governance proposals such as those detailed in the 2010 Little Hoover Commission report "Managing for Change: Modernizing California's Water Governance."
 - *California Budget*: Monitor the California budget process and proposals that impact special districts and the water industry, particularly those that would shift revenues away from special districts;
 - *Pension Reform*: Monitor statewide activities related to pension reform including legislation introduced, initiatives filed, and proposals considered as part of the budget;
 - *Government Reform*: Work with the California Special Districts Association to monitor and respond to proposed government reform legislation to protect special district autonomy and finances and local control.

Government Relations:

- Continue to build relationships with federal, state and local elected and appointed officials and their staff members, as well as community leaders to gain support for IRWD policy efforts and initiatives; and
- Monitor and participate in discussions regarding local governance issues, including potential consolidation of wholesale water service agencies in Orange County.

Enhanced Internal and External Communication and Education Programs:

- Community Outreach and Education Program:
 - Implement a coordinated IRWD outreach program for customers, business partners, elected officials, and other government agencies that includes traditional as well as multi-pronged social media and internet programs and is based on measurement tools, metrics and customer feedback;
 - Enhance the IRWD customer tour and education programs;
 - Design and install new community education signage throughout public spaces at IRWD facilities, including District offices, facilities, community rooms, the Joaquin Marsh and Wildlife Sanctuary and the Marsh Campus;
 - Design and install Customer Service wall displays;
 - Install water bottle filling stations at the San Joaquin Marsh and Wildlife Sanctuary to educate customers about water quality and promote environmental stewardship;
 - Develop and implement expanded outreach program with traditional, online and industry media outlets to provide information on IRWD projects and programs.

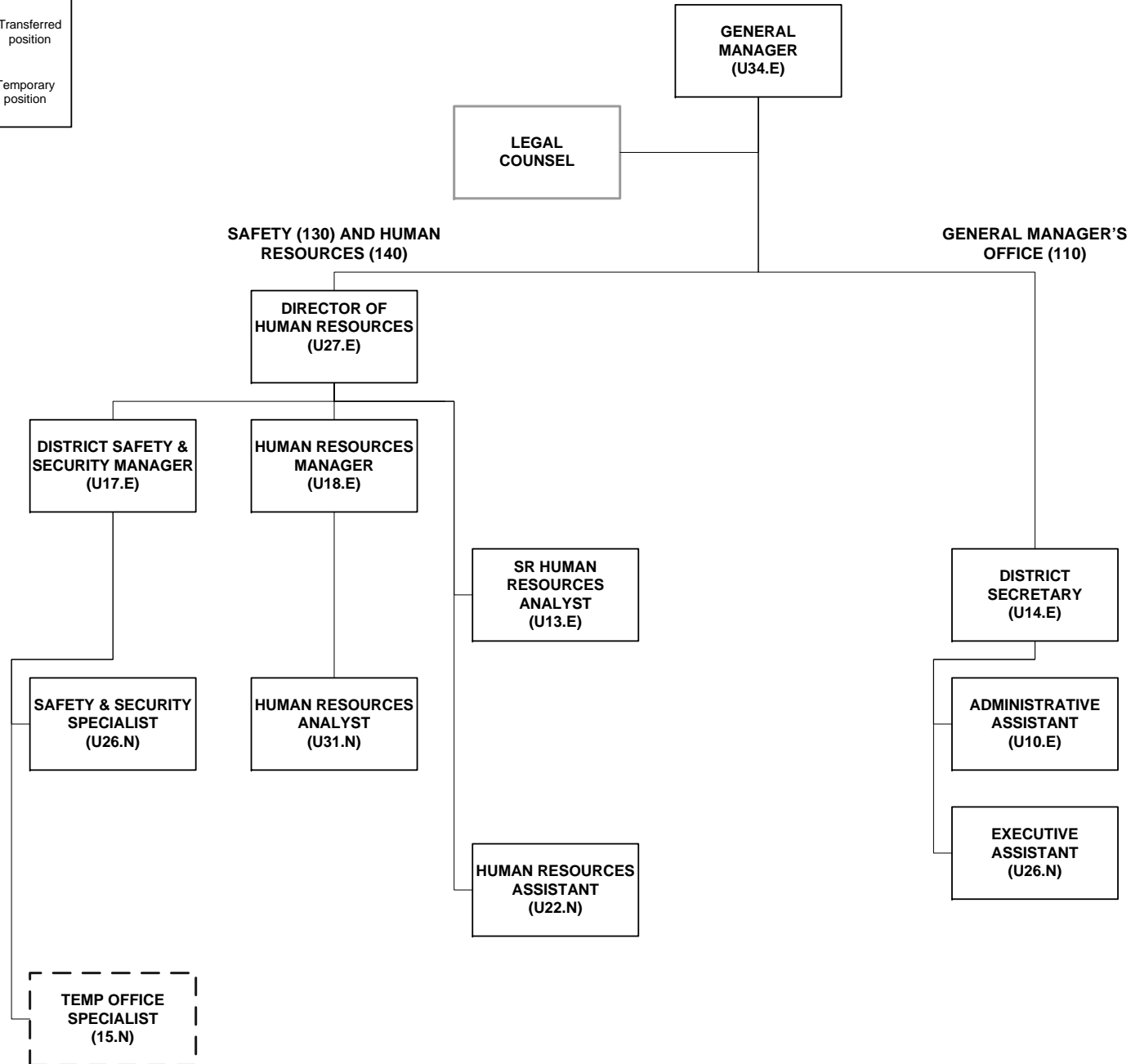
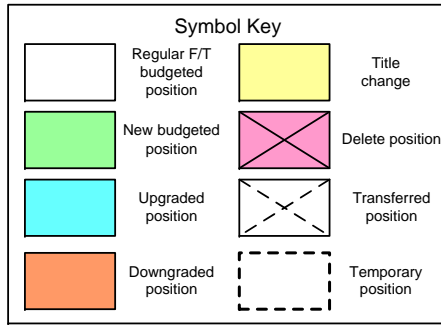


GENERAL MANAGER'S OFFICE

OPERATING BUDGET SUMMARY

- Construction Project Community Relations:
 - Implement an outreach program for the completion of the MWRP expansion program including dedication event, media outreach, and videos as well as technical and community tours;
 - Conduct active outreach programs for the Biosolids and Energy Recovery Project and Baker Water Treatment Plant including regular community update meetings.
- Transparency Enhancements:
 - Maintain the online Transparency Center with regular updates and refinements.
- Water Use Efficiency Outreach Programs:
 - Develop and implement an annual outreach plan based on customer feedback, metrics and measurement tools. This plan will include specific outreach campaigns that will be linked to results of measurement tools, and results will drive future outreach and collateral materials.

**IRVINE RANCH WATER DISTRICT
ADMINISTRATION
PROPOSED FISCAL YEAR 2014-15**



Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Administration		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>General Managers Office</u>						
110	Regular Labor	516,235	260,323	518,310	542,390	24,080
110	Overtime Labor	528	560	1,000	1,000	0
110	Employee Benefits	113,402	0	0	0	0
110	Operating Supplies	53	12	0	0	0
110	Postage	51	36	200	100	(100)
110	Permits, Licenses and Fees	84,999	84,495	93,000	94,000	1,000
110	Office Supplies	3,467	1,221	4,000	4,000	0
110	Legal Fees	291,436	138,808	317,500	390,000	72,500
110	Personnel Training	184,632	179,736	185,500	195,500	10,000
110	Other Professional Fees	282,777	161,461	280,400	260,000	(20,400)
110	Directors' Fees	141,134	58,421	142,200	142,000	(200)
110	Election Expense	100,000	15,000	30,000	30,000	0
Total General Managers Office		1,718,714	900,073	1,572,110	1,658,990	86,880



SAFETY AND SECURITY

OPERATING BUDGET SUMMARY

Program Description

The Safety and Security Department provides necessary resources to promote a safe and healthful work environment for District employees through required safety training as mandated in Cal-OSHA Regulations. The Department is committed to ensuring, to the extent possible, that all employees are provided adequate training to safely perform their jobs, both on-site and in the field. The Safety and Security Department continually monitors current and pending legislation affecting the District. Appropriate policies are developed or revised to ensure the constant pursuit and maintenance of a safe and healthful workplace that is in compliance with regulations. The primary goal for the Safety Program is to ensure compliance to HR Policy 33, Illness & Injury Prevention Program.

The Safety “Awareness” program continues to encourage employees to constantly think about safety. The Safety & Security Department works to increase employee involvement throughout at all levels of the District utilizing All Hands Meetings, Tailgate Safety Meetings and safety training sessions, workplace evaluations, industrial hygiene evaluations and the General Safety Committee Meetings. A major component of the Safety Awareness Program is maintenance of electronic message and bulletin boards. Through all of these messaging devices and programs, the intent is to promote safety awareness at all levels within the district toward the common goal of occupational injury and illness prevention.

The Safety & Security Office maintains all required Cal-OSHA record keeping and ensures the annual posting of the Cal-OSHA 300A Form- Summary of Work-Related Illness & Injuries. The department submits required annual reporting to Bureau of Labor and Statistics when requested. The department is responsible for Hazardous Material Disclosures and annual fire prevention inspections.

The Safety & Security office administers the district Commuter Trip Reduction (Ridesharing) Plan under HR Policy 37 including oversight of the vanpool program insuring compliance with Air Quality Management Control District and securing monthly subsidy dollars from Orange County Transit Authority.

The Safety & Security office administers, oversees and coordinates operations and services of IRWD Emergency Operations Center (primary and secondary locations). The office represents IRWD to cities within the service area, Water Emergency Response Orange County (WEROC), the County Operational Area (OA), State Emergency Management and Federal Emergency Management Agencies for emergency management coordination and declarations.

The Safety and Security Department is also tasked with managing the security program for the District. This responsibility includes development and maintenance of security polices in concert



SAFETY AND SECURITY

OPERATING BUDGET SUMMARY

with district staff requirements and federal Threat Level Alerts developed by the U.S. Department of Homeland Security and establishing video surveillance where required for assurance of safety of potable water system and IRWD staff. Additionally, the Safety & Security Department has the responsibility of coordinating security responses as needed to the Vulnerability Assessment under a requirement of the Bioterrorism Act of 2002 and Homeland Security Directive of 2008. The Safety & Security Department chairs the District Security Process Team comprised of several members of Senior Staff. This team is tasked with review and developing district policy changes affecting the security of district assets and its employees.

Major Goals

- Ensure that all employees continue to receive training as required by appropriate regulatory requirements, i.e., CPR/First Aid/Blood Borne Pathogens, Respiratory Protection, Confined Space Entry, Lockout/Tagout, HazMat, Fire/Evacuation, Hazard Communication, Hazardous Materials, Hearing Conservation, Mobile Crane training, Traffic Control etc;
- Submit Hazardous Material Disclosures and update as necessary;
- Update Electronic Message Boards & Bulletin Boards;
- Ensure proper training for HAZMAT team – conducting two Hazmat exercises annually;
- Maintain HAZMAT trailer for “READY” status at all times;
- Edit and distribute Emergency Call Out Directory to all IRWD employees;
- Updates and distribution of IRWD Emergency Plan (red binder);
- Maintain accurate and updated SDS’s (as required by law) and continue to make electronically available;
- Conduct evacuation drills as required for all District facilities;
- Develop and implement required security procedures/policies based on Security Process Team;
- Maintain security training programs tailored to specific audiences;
- Maintain and oversee installation of security monitoring at District facilities (alarms, video surveillance);
- Continue review of Energy Control Procedures with appropriate departments and continue have them available electronically;
- Support Operations in specifying safety training requirements for job-specific tasks by developing meaningful operating procedures to address safety hazards associated with tasks performed by field staff;
- Facilitate emergency exercises and continue compliance activities with National Incident Management System (NIMS) and Standardized Emergency Management System (SEMS);
- Maintain EOC facilities and equipment; standardize and maintain supplies for primary and secondary locations for IRWD’s Emergency Operations Center (EOC);
- Coordinate with the OA Emergency Preparedness for plan specific response; example work with Orange County Fire Authority, the Inter-Canyon League and IRWD Operations to review the Wild Land Interface Response within the IRWD fire and flood plans;



SAFETY AND SECURITY

OPERATING BUDGET SUMMARY

- Conduct Employee New Hire Orientations that includes orientation to NIMS and SEMS Training and familiarization to the Emergency Operations Center (EOC);
- Investigate incidents and provide recommendations as appropriate;
- Maintain rider participation to ensure OCTA subsidy within vanpool program; coordinate with Fleet (for fuel use), Toll Roads (for transponder usage) and IRWD van riders (for participation logs);
- Maintain current agreements of employee participation in the rideshare program;
- (both written record and database);
- Maintain compliance with California Accidental Release Program (Cal-ARP);
- Maintain compliance with Department of Water Resources, Division of Safety of Dams;
- Provide opportunities for employees to obtain vaccinations for potential exposures;
- Ensure IRWD stocks the appropriate Personal Protective Equipment for employees (per SWP 5);
- Maintain and update SWP manual and all included procedures to ensure compliance to CAL OSHA regulations; and
- Record and recognize employee Safety Performance in conjunction with Safety "Awareness" Program.

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Administration		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Safety and Security</u>						
130	Regular Labor	194,486	97,243	248,420	201,180	(47,240)
130	Overtime Labor	2,564	967	0	2,500	2,500
130	Employee Benefits	55,508	0	0	0	0
130	Contract Labor	76,351	10,402	13,000	54,000	41,000
130	Operating Supplies	75,038	18,566	86,400	89,800	3,400
130	Printing	4,844	886	10,000	9,400	(600)
130	Postage	62	51	400	400	0
130	Permits, Licenses and Fees	18,462	(4,725)	20,000	40,000	20,000
130	Office Supplies	1,161	183	2,200	2,200	0
130	Rep & Maint IRWD	2,508	0	5,000	5,000	0
130	Personnel Training	54,600	9,739	81,700	87,650	5,950
130	Personnel Physicals	11,791	14,774	24,000	28,000	4,000
130	Other Professional Fees	24,246	2,705	41,000	31,000	(10,000)
130	Safety	62,096	25,270	50,000	50,000	0
130	Alarm and Patrol Services	75,349	30,095	130,000	130,000	0
130	Commuter Program	88,751	81,474	142,000	142,000	0
130	Other	11,070	5,144	9,600	9,600	0
Total Safety and Security		758,887	292,774	863,720	882,730	19,010



HUMAN RESOURCES

OPERATING BUDGET SUMMARY

Program Description

Human Resources provides comprehensive organizational development and personnel management services District wide to maximize the potential of the District's human resources and overall employee efficiency, effectiveness and satisfaction. Human Resources is responsible for attracting and recruiting a highly qualified work force and working in concert with all management to develop and sustain motivated productive staff. Human Resources ensures that the District provides a competitive compensation and benefits package; continuous improvement through employee training; fair and consistent policies, procedures and guidelines; and a program that rewards and recognizes employees for their contribution to District goals. Human Resources is responsible for both the employee relations and the labor relations processes through the promotion of an open exchange of information and communication to build trust, enhance understanding and provide resolution of issues.

Major Goals

- Recruit and attract high-performance, high-skill candidates to fill the District's staffing needs;
- Continue stabilization and optimization activities related to new Oracle software;
- Continue succession planning efforts to ensure appropriate staffing and skill levels for all District operations (e.g. Mentoring Program, staffing needs and analyses for Baker Water Treatment and Biosolids projects, cross training and job rotation programs);
- Develop improvements to the existing performance evaluation system. Conduct performance evaluation process training for staff;
- Continue staff development training programs such as supervisory skills training, District Personnel Policy and Procedure training, career planning training and Employee Enrichment programs;
- Continue to develop and enhance partnerships with external educational organizations to promote Water Industry career development, training and education;
- Conduct benchmark salary survey and present recommendations in FY 2014-15 operating budget;
- Continue Safety and Security programs and expand in areas such as employee return-to-work program, expansion of the IRWD Safety Committee role and development of security plan assessment for significant IRWD facilities;
- Continue to monitor cost effectiveness of self-funded Workers' Compensation program;
- Develop an employee involvement committee to review, improve and expand such programs as employee wellness, service recognition and other employee performance acknowledgement programs; and
- Continue to review and monitor all District Personnel Policies and Procedures for appropriateness and ensure compliance with constantly changing laws and regulations.

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Administration		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
Human Resources						
140	Regular Labor	532,479	239,262	558,740	565,770	7,030
140	Overtime Labor	12,173	4,457	5,000	5,000	0
140	Employee Benefits	6,790,472	5,845,149	15,094,100	15,701,750	607,650
140	Contract Labor	5,752	0	2,500	2,500	0
140	Operating Supplies	12	0	0	0	0
140	Printing	3,436	2,319	4,000	2,500	(1,500)
140	Office Supplies	1,980	3,889	2,500	2,500	0
140	Rep & Maint IRWD	0	0	100	100	0
140	Legal Fees	68,205	31,226	100,000	95,000	(5,000)
140	Personnel Training	367,469	153,152	325,750	389,700	63,950
140	Personnel Physicals	7,758	5,582	15,000	15,000	0
140	Other Professional Fees	92,613	27,440	100,500	105,500	5,000
Total Human Resources		7,882,349	6,312,476	16,208,190	16,885,320	677,130
<hr style="border-top: 1px dashed black;"/>						
Total Administration		10,359,950	7,505,323	18,644,020	19,427,040	783,020



FINANCE, TREASURY AND PROCUREMENT

OPERATING BUDGET SUMMARY

Program Description

The Finance Department is responsible for the official accounting records of the Irvine Ranch Water District, and for providing all financial management of the District's fixed-income and real estate investments, new and existing debt issues, and deferred compensation programs. In addition, the department provides a wide range of accounting and financial services including payroll, accounts payable, accounts receivable, project accounting, financial analysis, financial reporting and coordination of the District's annual Board-approved operating budget and preparation of the Comprehensive Annual Financial Report. The Finance Department oversees risk management and insurance issues.

The mission of the Finance Department is to safeguard assets and to provide financial and accounting services in a timely, reliable, and cost-effective manner that meets the requirements of the District's customers.

Major Goals

ACCOUNTING AND BUDGETING

- Prepare and submit accurate financial reports and relevant tax returns to federal, state, county and district agencies within established legal deadlines and requirements;
- Prepare and submit accurate and timely financial reports to the Finance and Personnel Committee and the District's Board of Directors;
- Coordinate the District's annual financial statement audit;
- Prepare the Comprehensive Annual Financial Report (CAFR) and submit to the Government Finance Officer's Association (GFOA) for a certificate of award;
- Prepare the Operating Budget for the Board of Directors approval including setting adequate rate levels to ensure financial strength and stability;
- Update the Cost of Service Study to ensure user rates are proportional with costs and support the current rate structure;
- Lead customer noticing effort for Proposition 218 compliance (operating budget, rates and charges);
- Prepare accounts payable and payroll checks and process remittances on a timely basis;
- Simplify the District-wide Financial System, including incorporating the recent improvement district consolidations and improved project reporting capabilities; and
- Identify and implement business intelligence capabilities including District wide key performance indicators and timely reporting to the District's Board of Directors.



FINANCE, TREASURY AND PROCUREMENT

OPERATING BUDGET SUMMARY

LONG-TERM FINANCING STRATEGY

- Continue to refine and update the cash flow strategic model to ensure sufficient funding for future capital needs.

INVESTMENTS AND CASH MANAGEMENT

- Invest District funds in a prudent and professional manner that will provide maximum security of principal, an optimal rate of return and sufficient liquidity to meet working capital requirements;
- Prepare and submit accurate investment reports and the annual investment policy to the Board of Directors and other interested parties within established time frames;
- Improve short and long-term cash flow models and cash management practices;
- Execute, monitor and report on interest rate swap transactions as appropriate;

REAL ESTATE

- Monitor and report on the performance of all real estate assets;
- Manage leasing and related property management activities for all District commercial and residential real estate investments;
- Complete final map approval process for property located in Lake Forest; and
- Continue development of the Sand Canyon office project in Irvine, when market conditions warrant.

DEBT ISSUANCE AND ADMINISTRATION

- Issue long-term debt to fund capital facilities as needed;
- Prepare and submit continuing disclosure materials on debt issues to appropriate parties; and
- Monitor variable interest rates set by remarketing agents on District debt and make adjustments as appropriate.

INSURANCE

- Ensure the District has adequate insurance to appropriately safeguard assets; and
- Handle claims and coordinate legal matters in a timely manner.

PENSION

- Review additional opportunities to optimize funding of pension and other post-employment benefit obligations.

PROCESS EFFICIENCIES AND CONTROLS

- Review District policies and practices to maximize efficiencies while aligning the Board's strategic objectives and maintaining appropriate internal controls to safeguard assets.

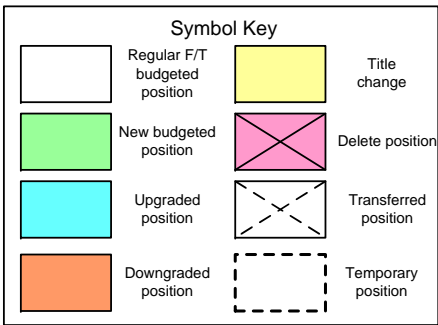


FINANCE, TREASURY AND PROCUREMENT

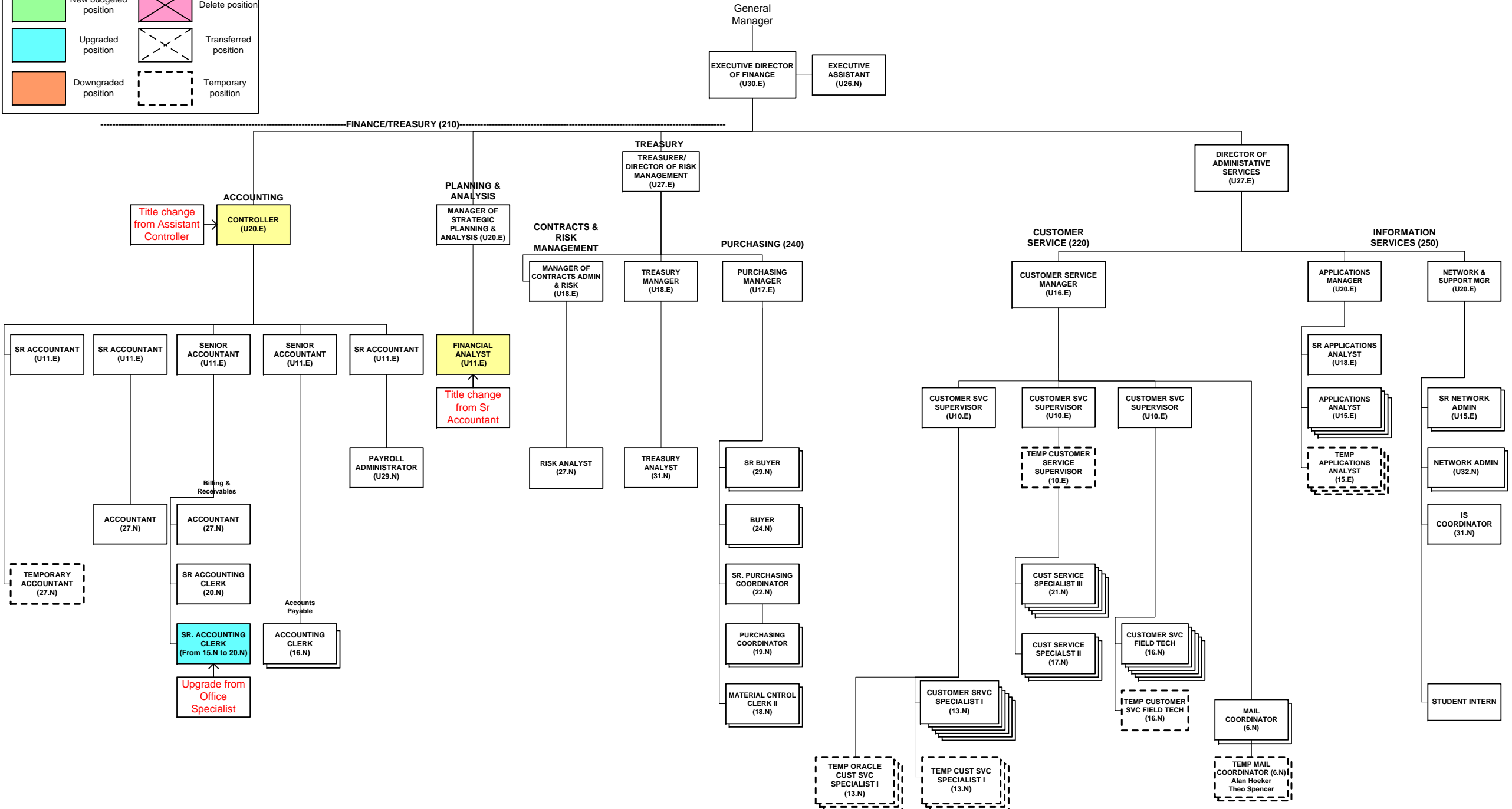
OPERATING BUDGET SUMMARY

PROCUREMENT

- Purchase materials, supplies and services in a timely manner with respect to quality and best pricing;
- Process all material/service requests timely and efficiently;
- Maintain warehouse inventory fill rate at 100% and review/adjust slow moving inventory;
- Continue to update and expand the District website for procurement;
- Provide bi-annual procurement process training for customers;
- Streamline business procurement processes and documentation while ensuring appropriate controls;
- Provide ongoing customer support of Oracle applications for procurement and inventory management;
- Attain the achievement of excellence in purchasing award from the National Purchasing Institute;
- Monitor purchase order status to support the accounting department;
- Continue ongoing evaluation of potential suppliers for IRWD; and
- Review and expand participation in cooperative purchasing agreements.



**IRVINE RANCH WATER DISTRICT
FINANCE AND ADMINISTRATION
PROPOSED FISCAL YEAR 2014-15**



Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Finance & Administrative Services		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Finance and Treasury</u>						
210	Regular Labor	1,887,463	1,029,977	2,123,460	2,221,290	97,830
210	Overtime Labor	26,426	12,327	32,000	30,000	(2,000)
210	Employee Benefits	461,123	0	0	0	0
210	Contract Labor	290,906	103,047	70,000	170,000	100,000
210	Operating Supplies	256	213	0	400	400
210	Printing	48,686	0	67,000	60,000	(7,000)
210	Postage	7,163	3,920	7,500	8,000	500
210	Permits, Licenses and Fees	4,016	0	10,000	10,000	0
210	Office Supplies	3,865	2,620	2,500	5,000	2,500
210	Insurance	1,065,841	577,671	702,500	984,500	282,000
210	Legal Fees	57,375	0	0	0	0
210	Accounting Fees	60,983	33,943	84,500	74,500	(10,000)
210	Data Processing	59,964	29,985	42,000	48,000	6,000
210	Personnel Training	28,776	9,211	46,000	45,000	(1,000)
210	Other Professional Fees	266,216	131,932	304,000	315,500	11,500
210	Collection Fees	30,434	803	20,000	20,000	0
Total Finance and Treasury		4,299,493	1,935,649	3,511,460	3,992,190	480,730

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Finance & Administrative Services		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
Purchasing						
240	Regular Labor	519,336	319,632	652,480	700,120	47,640
240	Overtime Labor	6,734	3,605	4,000	4,000	0
240	Employee Benefits	148,874	0	0	0	0
240	Contract Labor	27,846	791	4,000	4,000	0
240	Operating Supplies	66,573	47,054	94,000	111,500	17,500
240	Printing	5,849	2,831	10,000	10,000	0
240	Postage	3,183	1,529	3,500	3,500	0
240	Office Supplies	19,779	9,652	24,000	24,000	0
240	Duplicating Equipment	193,496	84,991	189,000	174,000	(15,000)
240	Equipment Rental	8,978	9,263	16,000	20,000	4,000
240	Personnel Training	5,578	563	6,500	6,500	0
240	Other Professional Fees	1,943	1,030	2,000	2,000	0
Total Purchasing		1,008,169	480,941	1,005,480	1,059,620	54,140



ADMINISTRATIVE SERVICES

OPERATING BUDGET SUMMARY

Program Description

The Administrative Services group provides a wide range of support services that include Customer Service and Information Services.

The mission of the Customer Service Department is to provide the highest level of customer satisfaction by providing reliable, courteous and efficient service. The Customer Service Department provides utility billing, account support and mail distribution services.

The mission of the Information Services Department is to research, develop, integrate and support reliable, cost effective information systems that meet the current and future business requirements of customers and provide a high level of customer satisfaction. The Information Services Department provides implementation, management and support for the District's information systems, voice and data communications systems.

Major Goals

CUSTOMER SERVICE

- Deliver exceptional customer service both internally and externally;
- Review and resolve billing inquiries and adjustments in a timely manner;
- Receive and process all orders for new service and discontinuation of service;
- Flow test and verify new meter sets;
- Process payments for processing temporary construction meters, applications for fire flow tests, and customer water bills;
- Coordinate and process all meter reads to ensure accurate billing;
- Process variance requests for additional water allocation;
- Respond to field problems (leaks, no water complaints, high/low pressure, water quality, sewer problems, line breaks, etc.) in a timely manner;
- Manage delinquent customer accounts and perform shut-offs as required;
- Distribute customer satisfaction surveys and maintain 90% customer satisfaction;
- Improve and enhance customer web access, and electronic billing and presentment to ensure ease of use;
- Complete implementation of the Customer Care and Billing (CC&B) system;
- Coordinate with Engineering on the GPS project; and
- Receive, route and deliver all District mail, and process all outgoing mail.



ADMINISTRATIVE SERVICES

OPERATING BUDGET SUMMARY

INFORMATION SERVICES

- Provide helpful, courteous and timely support to all District staff;
- Provide internal and external software training that meets the needs of District staff
- Provide a reliable network of servers, personal computers, printers and software applications that meet the needs of District staff;
- Provide reliable voice, data and wireless communications services;
- Develop new and improved existing software applications to meet the requirements of District staff;
- Complete scheduled hardware and software upgrades to District servers, personal computers, tablets, printers, network equipment and software applications;
- Complete implementation of the Identity and Access Management software system;
- Complete Phase 1 of the Oracle CC&B software system implementation;
- Begin Phase 2 of the Oracle CC&B software implementation – Oracle Utilities Customer Self Service (OUCSS) customer web portal;
- Begin pre-implementation activities for the Enterprise Asset Management Software system (EAMS);
- Begin implementation of the Oracle Improvement District Consolidation; and
- Begin implementation of the Oracle Business Intelligence Dashboard.

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Finance & Administrative Services		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Customer Service</u>						
220	Regular Labor	1,373,304	721,020	1,437,010	1,588,230	151,220
220	Overtime Labor	62,903	39,264	30,000	64,500	34,500
220	Employee Benefits	338,221	0	0	0	0
220	Contract Labor	345,098	164,161	109,500	309,000	199,500
220	Operating Supplies	2,885	353	2,000	1,000	(1,000)
220	Printing	38,830	18,602	42,000	73,500	31,500
220	Postage	502,651	286,678	486,000	491,560	5,560
220	Office Supplies	7,604	2,870	6,000	6,400	400
220	Equipment Rental	33,010	29,131	40,000	40,000	0
220	Rep & Maint IRWD	801	0	0	0	0
220	Personnel Training	2,797	1,283	5,000	5,000	0
220	Other Professional Fees	2,025	399	1,000	1,900	900
220	Collection Fees	520	251	0	500	500
220	Contract Meter Reading	1,109,142	615,902	1,230,980	1,272,000	41,020
Total Customer Service		3,819,791	1,879,914	3,389,490	3,853,590	464,100

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Finance & Administrative Services		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Information Services</u>						
250	Regular Labor	864,240	676,343	1,358,130	1,440,650	82,520
250	Overtime Labor	12,105	3,660	15,000	10,000	(5,000)
250	Employee Benefits	226,108	0	0	0	0
250	Contract Labor	510,282	498,654	368,000	368,000	0
250	Telecommunication	279,895	159,132	332,900	360,900	28,000
250	Other Utilities	7,561	2,931	8,000	8,000	0
250	Operating Supplies	110	111	0	0	0
250	Printing	45,424	27,909	52,000	20,000	(32,000)
250	Postage	401	0	500	500	0
250	Office Supplies	0	4	1,000	1,000	0
250	Rep & Maint IRWD	269,637	220,076	250,700	249,700	(1,000)
250	Insurance	0	172	0	0	0
250	Data Processing	1,039,367	800,884	1,284,500	1,577,500	293,000
250	Personnel Training	7,595	2,497	37,500	35,800	(1,700)
250	Other Professional Fees	29,527	835	31,000	2,000	(29,000)
250	Computer Backup Storage	19,838	8,756	21,000	21,000	0
Total Information Services		3,312,090	2,401,964	3,760,230	4,095,050	334,820
Total Finance & Administrative Services		12,439,543	6,698,468	11,666,660	13,000,450	1,333,790



ENGINEERING

OPERATING BUDGET SUMMARY

Program Description

The Engineering Department provides planning, design and construction coordination to produce the water, sewage and recycled water facilities necessary to provide the highest level of service to the customers of the District. In addition, the Department provides technical support to all other departments including Water Resources, Operations, Water Quality and Finance.

Planning: The Planning and Technical Services group of the Department is responsible for all master planning, water and sewer demand projections, water supply planning, preliminary facility planning studies for new facilities, and preparation of the District's annual and long-term Capital Programs. The Planning group provides GIS services to the other groups of the District, which includes the development and support of GIS based applications, facility and atlas maps, and GIS based analysis and the maintenance of the District's digital record drawings plan system. In addition the Planning group is responsible for managing District property and rights of way.

Capital Projects: The Capital Projects group designs and constructs major water, sewage and recycled water treatment and transmission facilities necessary to improve the quality and reliability of service to existing and future customers of the District. This group is responsible for the expansion and improvement of water and sewage treatment projects; design and construction of wells, pipelines, storage facilities, pump stations, and sewage lift stations; and design and construction of projects to integrate service areas acquired through agency consolidations.

Development Services: The Development Services group facilitates the land development process within the District by designing and bidding the water and sewage facilities necessary to support that development. These facilities are coordinated with development schedules so that projects are not impeded by a lack of water and sewage facilities. Temporary and interim facilities, when necessary, are coordinated through this group. The group also reviews developer submittals for quality and conformance with District specifications and assesses and collects appropriate fees.

Operations Support: The Operations Support group is responsible for providing technical support to the Operations and Water Quality Departments in their projects to expand and rehabilitate existing facilities. This group is also responsible for the design and construction of small to medium size water, sewage and recycled water facilities.

Inspection Services: The Inspection Services group provides construction inspection services to other groups of the Department to insure the highest level of constructed quality. These services include constructability review, pre-construction paperwork, progress payment processing, field inspection, change order evaluation and processing, and final acceptance coordination. The group is responsible for coordinating specialized construction support services such as surveying and geotechnical testing and inspection.



ENGINEERING

OPERATING BUDGET SUMMARY

Michelson Water Recycling Plant (MWRP) Construction: The MWRP Construction group is responsible for the construction of the MWRP Phase II Expansion and the MWRP Biosolids and Energy Recovery Facilities. The group ensures that sewage and biosolids treatment facilities are properly designed and constructed to meet the requirements of the Operations Department. They also work with the Water Quality Department to acquire air permits for the constructed facilities.

Major Goals

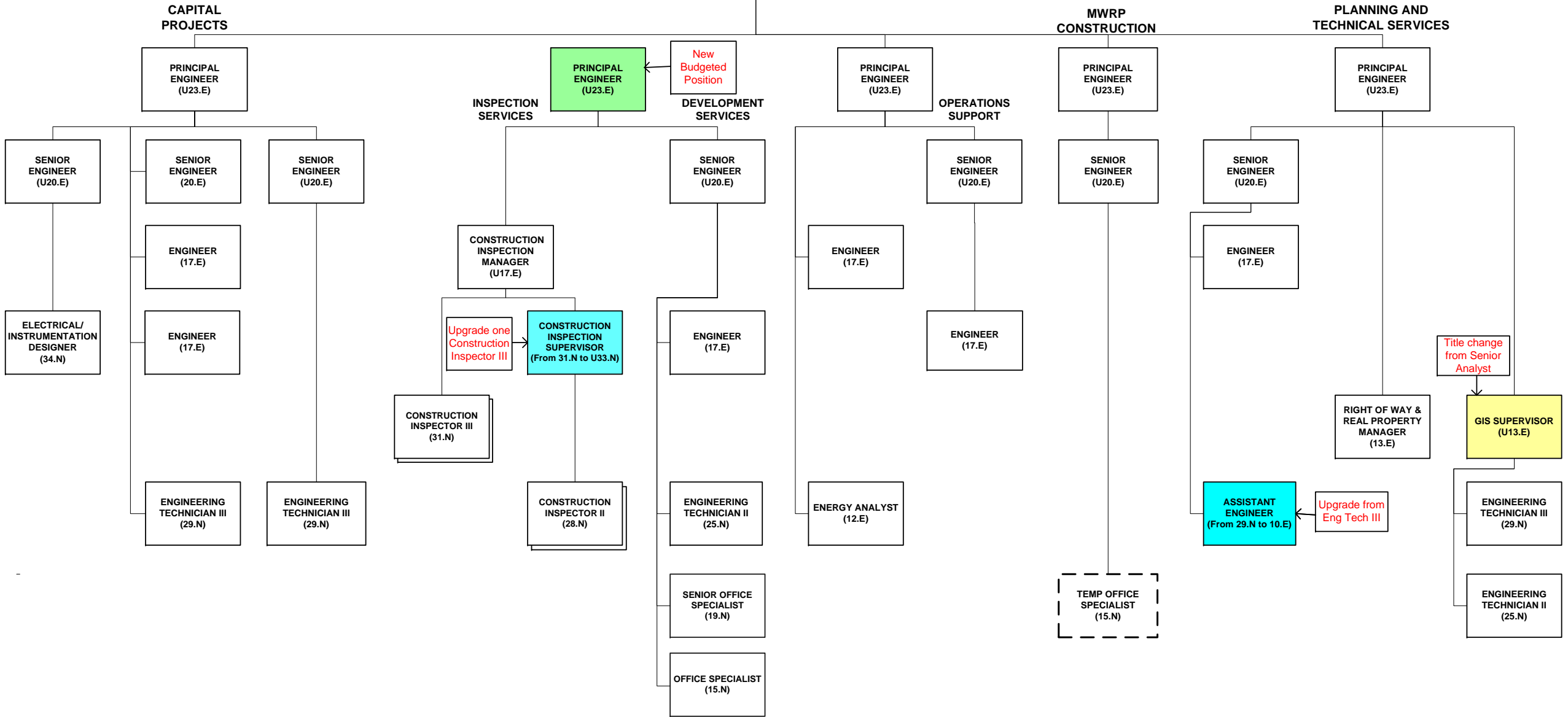
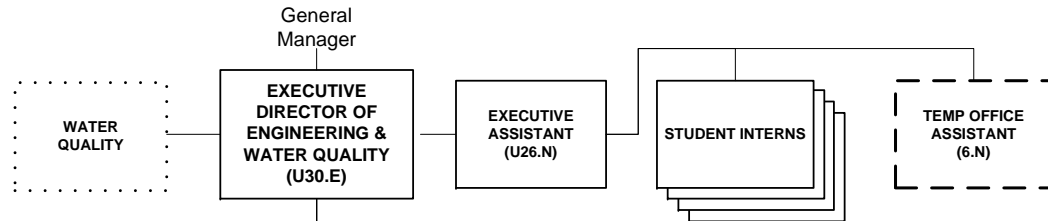
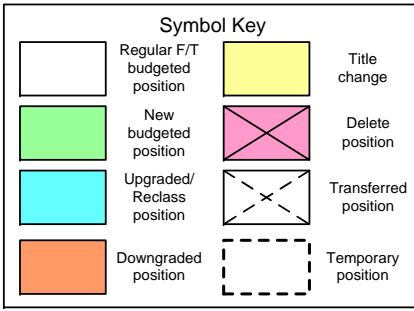
PLANNING

- Domestic and Recycled Water Systems Hydraulic Modeling;
- Irvine Lake Pipeline North Conversion to Recycled Water;
- Water Resources Master Plan update;
- Sewer Collection System Master Plan update;
- Sewage Treatment Facility Master Plan update;
- Provide Inter-agency technical support;
- Continue Great Park planning and coordination; and
- Develop alternative water supplies.

ENGINEERING

- MWRP Biosolids and Energy Recovery Facilities construction;
- Baker Water Treatment Plant and Pump Station construction;
- Well 115 Replacement construction;
- Orange Park Acres Well OPA-1 construction;
- Michelson Lift Station Relocation construction;
- Rattlesnake Reservoir Chlorine Gas Removal design and construction;
- Hidden Canyon Domestic and Recycled Water Pump Stations construction;
- LAWRP Biosolids Facilities planning;
- Planning Area 5 Pump Stations design; and
- Wells 51, 52 and 53 Feasibility Study.

**IRVINE RANCH WATER DISTRICT
ENGINEERING
PROPOSED FISCAL YEAR 2014-15**



Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Engineering		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
Engineering						
300	Regular Labor	1,253,537	2,012,786	4,145,990	4,112,640	(33,350)
300	Overtime Labor	9,248	67,759	125,000	118,000	(7,000)
300	Employee Benefits	941,832	0	0	0	0
300	Contract Labor	68,533	52,240	147,500	152,100	4,600
300	Operating Supplies	17,718	5,546	16,840	5,840	(11,000)
300	Printing	27,496	1,343	48,500	34,500	(14,000)
300	Postage	1,150	378	120	1,000	880
300	Permits, Licenses and Fees	3,065	5,400	2,000	2,000	0
300	Office Supplies	10,701	3,452	17,000	14,000	(3,000)
300	Rep & Maint IRWD	27,001	8,666	40,200	0	(40,200)
300	Engineering Fees	0	0	3,200	6,000	2,800
300	Personnel Training	20,047	8,480	30,000	29,000	(1,000)
300	Other Professional Fees	2,277	241	4,000	4,000	0
Total Engineering		2,382,605	2,166,291	4,580,350	4,479,080	(101,270)
Total Engineering		2,382,605	2,166,291	4,580,350	4,479,080	(101,270)



WATER QUALITY

OPERATING BUDGET SUMMARY

Program Description

The Water Quality Department provides a wide range of support services that include Water Quality Analysis, Regulatory Compliance, and Water Quality Administration and Projects.

Water Quality Analysis: The Water Quality Analysis group provides our internal and external customers with high quality data in a professional and timely manner. The Water Quality Analysis group utilizes state-of-the-art, United States Environmental Protection Agency (EPA) and California Department of Public Health (CDPH) approved analytical methods to provide data for regulatory monitoring and reporting, process control, research projects and capital projects.

Regulatory Compliance: The Regulatory Compliance group plans and manages District-wide programs to ensure the District complies with all environmental regulations governing water, sewage and groundwater discharges. Staff collects all required samples of water, sewage and recycled water from distribution systems, treatment facilities, storage reservoirs, wetland operations and customer facilities to assure quality services and products are served to our customers. This group also responds to customer service issues and concerns regarding water quality. In addition to water-related programs, Regulatory Compliance staff manages other regulatory compliance programs such as Hazardous Waste, Underground Storage Tanks, Aboveground Petroleum Storage Tanks, Universal Waste and Industrial Waste. The Air Quality Program is also managed by Regulatory Compliance and includes all routine reporting, current and draft rule evaluation and permit application coordination and compliance. Regulatory Compliance also participates with the Orange County Sanitation District and South Orange County Wastewater Authority to address watershed and permit issues including environmental evaluation and permitting. Regulatory Compliance is also an active participant in representing IRWD at SCAP and Tri-TAC Committee meetings for Air and Water.

Water Quality Projects: The Water Quality Projects group conducts research, develops projects and provides process control support and problem solving to enhance the performance of the District's domestic and recycled water supply, treatment, distribution, storage and compliance objectives. It provides similar support to the District's sewage collection/treatment, recycled water and urban runoff treatment systems.

Water Quality Administration: The Water Quality Administration group assists all Water Quality and Environmental group in carrying out their missions; provides Water Quality related support to the operations and maintenance of all water and sewer collections systems; and ensures that all District operations are conducted in a safe, reliable, cost-effective, environmentally sensitive manner to achieve a high level of customer satisfaction.



WATER QUALITY

OPERATING BUDGET SUMMARY

Major Goals

WATER QUALITY ANALYSIS

- Perform necessary analyses to determine compliance with all applicable federal, state and local environmental and water quality laws and regulations;
- Provide process control data to assist operating groups in meeting their regulatory requirements;
- Complete and submit all regulatory monitoring data by the specified due dates;
- Complete analyses within specified hold times and meet quality control specifications;
- Research and implement new testing methods where justified, specifically methods routinely sent out to contract laboratories and screening methods for system security and general water quality concerns;
- Maintain the laboratory's Environmental Laboratory Accreditation Program (ELAP) certification by submitting the renewal application by the prescribed due date and successfully completing the site audit and proficiency testing;
- Successfully complete all required water, sewage, hazardous waste and DMR proficiency testing samples and submit the data by the prescribed due date;
- Research and implement, where appropriate, improved means to communicate water quality data to internal and external customers;
- Be environmentally responsible in the selection, procurement and disposal of reagents utilized in the laboratory; and
- Seek to improve established contacts with regulatory agencies.

REGULATORY COMPLIANCE

- Ensure the District operates in full compliance with all applicable federal, state and local environmental, water and air quality laws and regulations;
- Respond to Water Quality Customer Service Requests and investigate the customer's concern;
- Determine required monitoring programs to address all regulatory requirements for potable, sewage and recycled water;
- Coordinate with other agencies with respect to Industrial Waste Programs and other projects;
- Plan, organize and supervise the work of the Compliance Monitoring Group;
- Collect potable system distribution and storage samples to comply with the CDPH monitoring plan and to proactively identify any developing quality issues in the system;
- Collect MWRP and LAWRP samples to assure proper operation of the treatment facilities and compliance with each facilities' NPDES permit;
- Assist and provide resources to other departments with environmental, water and air permitting issues;
- Ensure compliance with all air permit requirements for testing and reporting;
- Participate in industry stakeholder groups for air, water and biosolids regulatory issues;
- Prepare and submit environmental permit applications for routine activities and projects;



WATER QUALITY

OPERATING BUDGET SUMMARY

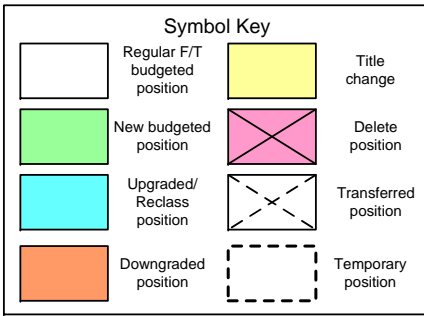
- Administer the environmental reporting on the District's wetlands development and operations; and
- Assist in the development of environmental quality projects and coordinate research and development activities.

WATER QUALITY PROJECTS

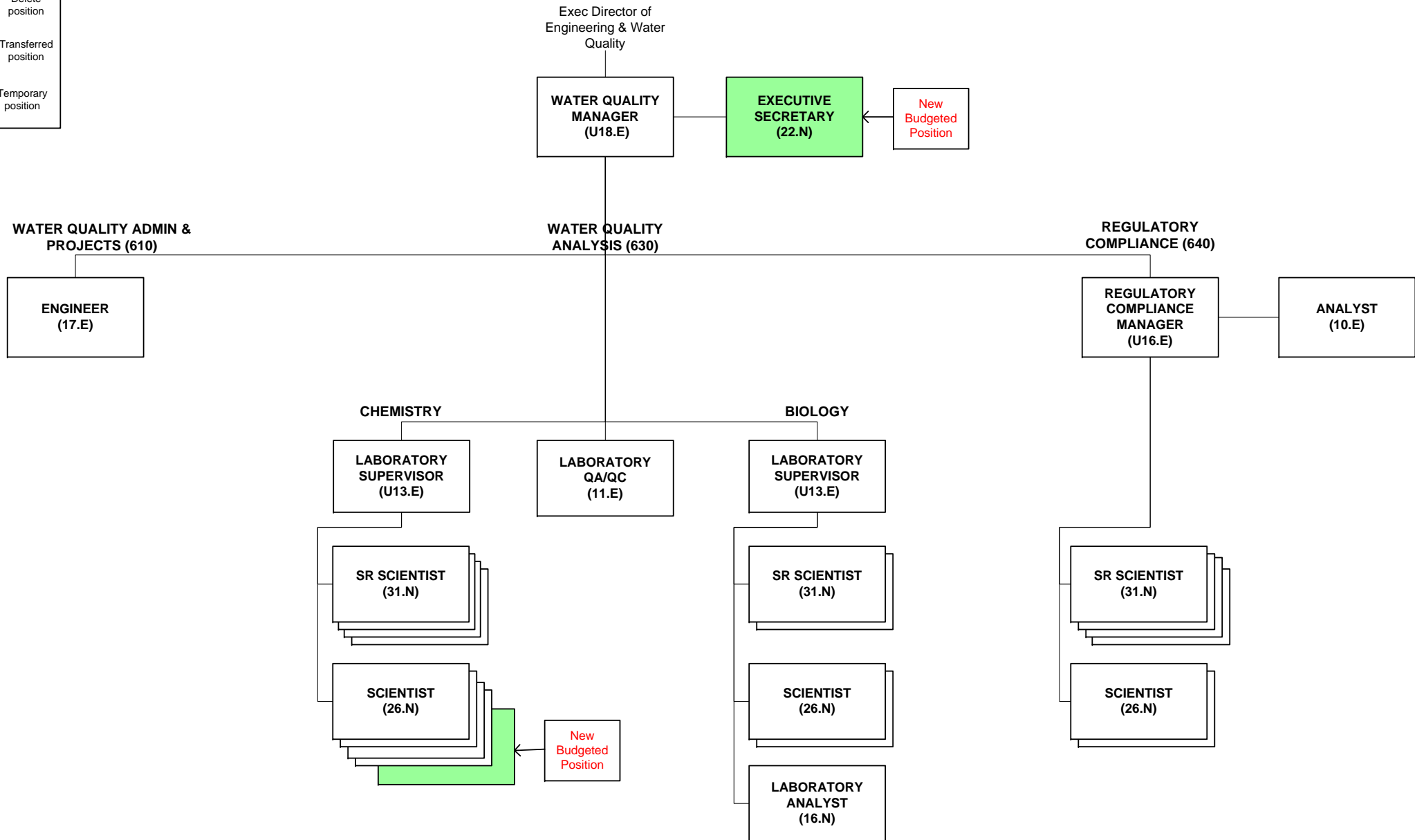
- Evaluate process control and water quality monitoring data to assess, correct or recommend performance improvement of the IRWD membrane treatment facilities, including IDP-SGU, IDP-PAP, IDP-PTP, DATS, CATS and the Wells 21/22 Desalter Plant;
- Develop test protocols, standard operating protocols and procedures, operate, perform sample collection and monitoring of bench, pilot and full-scale process facilities, including the Cienega demonstration subsurface filtration project and other applicable IRWD pilot and demonstration research projects;
- Actively monitor operation and perform troubleshooting of full scale and partial RMS installed at 19 IRWD domestic water reservoirs;
- Act as a liaison and administer reporting IRWD groundwater extraction and treatment operations for removal of the TCE plume from the Irvine sub-basin groundwater at the IDP Principal Aquifer wells, IDP-PAP and IDP-SGU to the Department of the Navy (DON), local and state regulatory agencies;
- Train Plant and Systems Operations staff on process control procedures, monitoring and troubleshooting in the various water treatment and monitoring applications;
- Provide engineering assistance to IRWD staff in the administration, planning, design, construction and operation of water, sewage and irrigation facilities;
- Develop and analyze alternative approaches for meeting water quality regulations; and
- Assist in the development and coordinate district wide research, pilot and demonstration projects.

WATER QUALITY ADMINISTRATION

- Ensure the District operates in full compliance with all applicable federal, state and local environmental and water quality laws and regulations;
- Monitor the development of potential future regulations that may impact District activities;
- Ensure all compliance monitoring and reporting is completed and submitted by required due dates;
- Review new technologies that may be applicable to operations; and
- Prepare water quality data for internal and external customers.



**IRVINE RANCH WATER DISTRICT
WATER QUALITY
PROPOSED FISCAL YEAR 2014-15**



Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Water Quality		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Water Quality Administration and Projects</u>						
610	Regular Labor	0	166,953	324,910	308,800	(16,110)
610	Operating Supplies	0	1,045	1,500	3,000	1,500
610	Postage	0	1,414	2,000	2,800	800
610	Permits, Licenses and Fees	0	1,677	0	0	0
610	Office Supplies	0	1,263	2,500	3,000	500
610	Rep & Maint IRWD	0	1,064	10,000	10,000	0
610	Engineering Fees	0	41,675	52,000	52,000	0
610	Personnel Training	0	7,018	23,800	25,200	1,400
610	Other Professional Fees	0	13,214	97,850	98,500	650
610	Safety	0	0	100	100	0
Total Water Quality Administration and Projects		0	235,323	514,660	503,400	(11,260)

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Water Quality		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Water Quality Analysis</u>						
630	Regular Labor	0	590,233	1,259,500	1,351,520	92,020
630	Overtime Labor	0	13,613	12,880	13,940	1,060
630	Contract Labor	0	9,965	115,350	57,690	(57,660)
630	Operating Supplies	0	120,077	336,360	343,300	6,940
630	Postage	0	383	6,900	6,000	(900)
630	Permits, Licenses and Fees	0	5,975	5,975	5,975	0
630	Equipment Rental	0	3,729	5,000	6,400	1,400
630	Rep & Maint IRWD	0	141,473	190,560	204,180	13,620
630	Engineering Fees	0	65,000	149,000	152,100	3,100
630	Personnel Training	0	310	2,200	2,200	0
630	Other Professional Fees	0	0	1,200	1,200	0
630	Safety	0	2,208	5,880	4,000	(1,880)
<u>Total Water Quality Analysis</u>		0	952,966	2,090,805	2,148,505	57,700

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Water Quality		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Regulatory Compliance</u>						
640	Regular Labor	0	292,752	601,160	721,170	120,010
640	Overtime Labor	0	17,559	55,000	51,975	(3,025)
640	Contract Labor	0	0	54,000	18,000	(36,000)
640	Operating Supplies	0	15,008	52,020	52,020	0
640	Permits, Licenses and Fees	0	236,890	369,600	388,700	19,100
640	Rep & Maint Other Agencies	0	0	2,000	2,000	0
640	Rep & Maint IRWD	0	38,050	83,500	86,500	3,000
640	Engineering Fees	0	17,757	39,100	71,000	31,900
640	Personnel Training	0	288	4,700	3,500	(1,200)
640	Other Professional Fees	0	290	1,500	1,500	0
640	Safety	0	0	2,000	2,000	0
Total Regulatory Compliance		0	618,594	1,264,580	1,398,365	133,785
<hr style="border-top: 1px dashed black;"/>						
Total Water Quality		0	1,806,883	3,870,045	4,050,270	180,225



WATER OPERATIONS

OPERATING BUDGET SUMMARY

Program Description

The mission of the Water Operations Department is to operate and maintain the District's potable, recycled and untreated systems in an efficient, cost effective and environmentally safe manner that provides a high level of customer satisfaction. The Water Operations Department provides operation, maintenance and repair of the District's domestic water, recycled water and untreated water systems. These systems include the Dyer Road Wellfield, Deep Aquifer Treatment System, The Wells 21/22 Treatment Plant, Irvine Desalter Project (Potable Treatment Plant, Principal Aquifer Plant and Shallow Groundwater Unit) and Manning Water Treatment Plant.

Major Goals

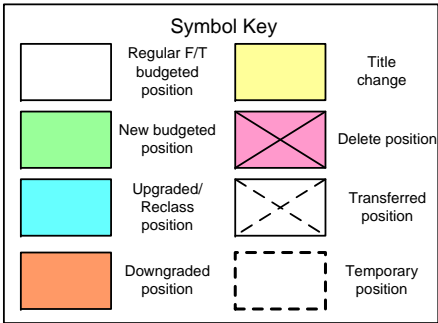
- Maintain 100% compliance with all regulatory permits;
- Meet the Department's adopted Operations and Maintenance budget;
- Develop staffing and training plan for the Operations and Maintenance (O&M) of the Baker Water Treatment Plant;
- Coordinate with the Finance, Engineering and Planning Departments on water supply and water banking opportunities to optimize cost effective operations;
- Achieve zero lost time accidents;
- Establish and track operational Key Performance Indicators (KPI) to optimize operational efficiency and cost effectiveness;
- Maintain and develop staff competency through a combination of internal and external training;
- Operate and maintain the system to minimize energy consumption;
- Assist with the completion Supervisory Control and Data Acquisition (SCADA) upgrade implementation;
- Maintain the Dyer Road Well Field and Deep Aquifer Treatment System domestic water flows in accordance with the Ground Water Pumping Plan;
- Assist the Engineering Department with the design and startup of domestic and recycled water system facilities;
- Operate the Irvine Desalter Project (Potable Treatment Plant, Principal Aquifer Plant and Shallow Groundwater Unit) in accordance with the joint agency agreement and submit required reports;
- Complete all Cross-Connection Control Program annual inspections and back-flow device maintenance in accordance with the California Administrative Code, Title 17, Public Health Department Requirements;
- Ensure efficient operation of all District pumping and reservoir facilities;
- Evaluate recycled water distribution system pressures and reliability issues;
- Ensure safe dam operation through the monitoring and surveillance program;
- Provide construction and repair services to internal and external customers in a prompt, safe, efficient, cost effective and environmentally sensitive manner;



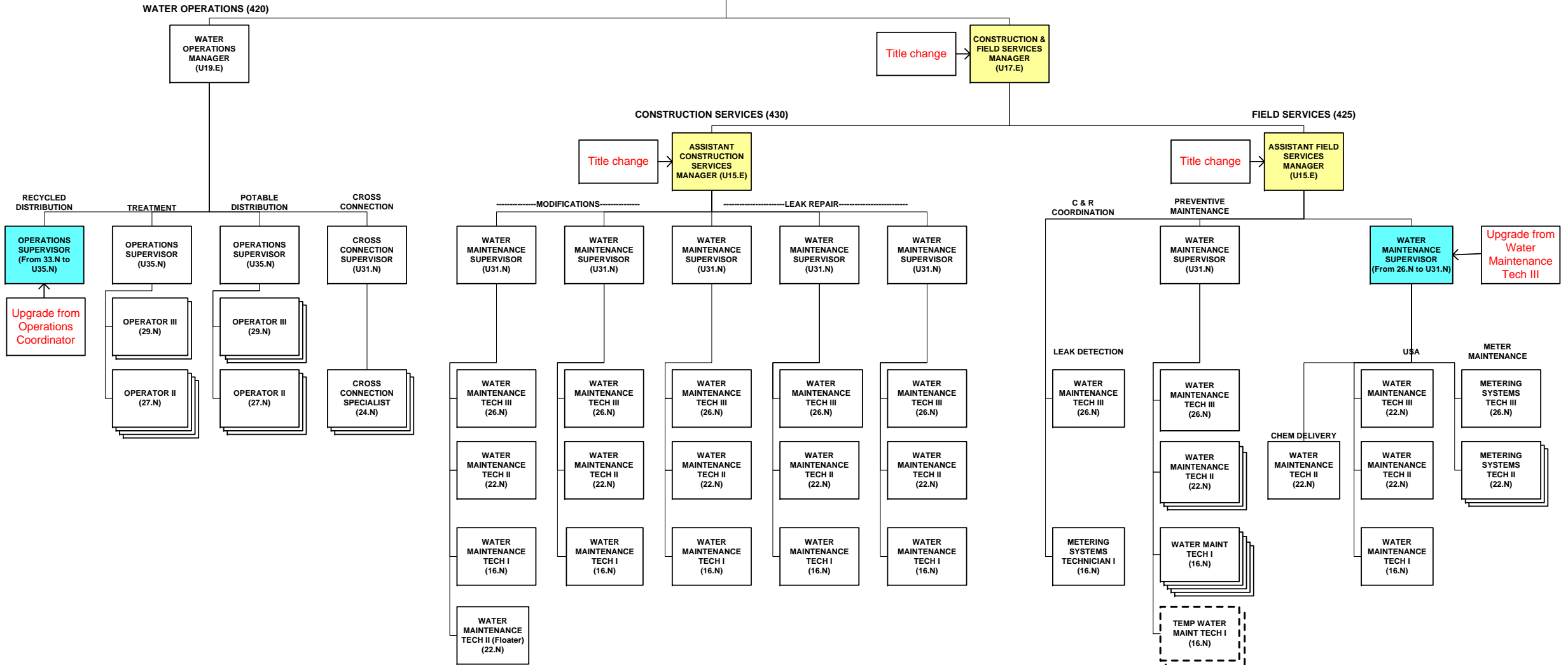
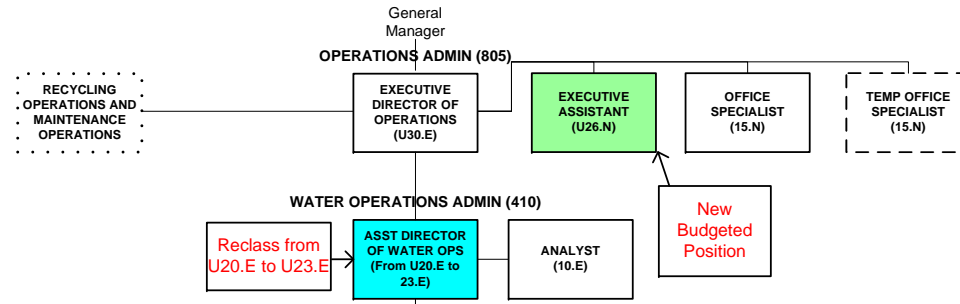
WATER OPERATIONS

OPERATING BUDGET SUMMARY

- Maintain a high level of customer satisfaction by responding promptly to and repairing water leaks with minimal impact to customers;
- Implement the sewer repair program to maintain system reliability;
- Meet all preventive maintenance programs for the distribution system;
- Replace residential and commercial meters on the recommended cycle;
- Mark the District's underground facilities in response to Underground Service Alert (USA) tickets to prevent potential damages to the facilities from construction activities;
- Set and complete annual service goals in accordance with AWWA and industry standards; and
- Respond promptly to all customer service requests (CSR).



**IRVINE RANCH WATER DISTRICT
OPERATIONS ADMINISTRATION AND WATER OPERATIONS
PROPOSED FISCAL YEAR 2014-15**



Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Operations Administration		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Operations Administration</u>						
805	Office Supplies				4,000	4,000
805	Personnel Training				5,480	5,480
805	Other Professional Fees				12,800	12,800
805	Regular Labor				408,640	408,640
Total Operations Administration					430,920	430,920
Total Operations Administration					430,920	430,920

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Water Operations		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Water Operations Administration</u>						
410	Water Purchases	6,855	0	0	0	0
410	Regular Labor	324,637	128,449	408,940	141,750	(267,190)
410	Employee Benefits	92,417	0	0	0	0
410	Other Utilities	6,403	10,507	5,800	21,020	15,220
410	Operating Supplies	2,586	175	4,500	3,000	(1,500)
410	Printing	675	0	300	300	0
410	Postage	0	183	0	400	400
410	Permits, Licenses and Fees	83,813	23,434	87,550	87,560	10
410	Office Supplies	5,234	4,270	8,000	4,000	(4,000)
410	Equipment Rental	10,625	6,353	0	0	0
410	Rep & Maint Other Agencies	689,211	408,937	1,060,100	1,059,600	(500)
410	Engineering Fees	83,371	88,114	92,000	92,000	0
410	Personnel Training	27,162	3,379	19,890	19,720	(170)
410	Other Professional Fees	13,667	4,613	9,600	0	(9,600)
Total Water Operations Administration		1,346,656	678,414	1,696,680	1,429,350	(267,330)

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Water Operations		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Water Operations</u>						
420	Water Purchases	31,278,264	16,852,468	26,352,300	31,528,450	5,176,150
420	Regular Labor	1,490,051	737,722	1,594,140	1,683,550	89,410
420	Overtime Labor	280,877	156,552	200,000	299,000	99,000
420	Employee Benefits	360,605	0	0	0	0
420	Electricity	6,479,936	4,578,294	8,077,180	10,252,850	2,175,670
420	Fuel	25,547	10,152	25,500	24,000	(1,500)
420	Telecommunication	39,531	22,760	41,000	41,000	0
420	Other Utilities	9,335	0	9,600	9,600	0
420	Chemicals	700,582	492,447	1,123,450	1,059,600	(63,850)
420	Operating Supplies	46,541	33,137	31,490	61,600	30,110
420	Permits, Licenses and Fees	11,082	6,153	6,220	12,000	5,780
420	Equipment Rental	0	0	9,000	9,000	0
420	Rep & Maint Other Agencies	(35,044)	(16,457)	0	0	0
420	Rep & Maint IRWD	118,784	48,237	290,000	262,000	(28,000)
420	Engineering Fees	11,272	8,452	23,000	11,000	(12,000)
420	Data Processing	12,060	0	0	0	0
420	Personnel Training	1,158	459	0	0	0
420	Other Professional Fees	1,746	203	0	0	0
420	Safety	593	721	3,000	3,000	0
Total Water Operations		40,832,920	22,931,300	37,785,880	45,256,650	7,470,770

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Water Operations		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Field Services</u>						
425	Regular Labor	1,252,468	688,012	1,497,570	1,494,140	(3,430)
425	Overtime Labor	130,423	62,363	112,000	127,500	15,500
425	Employee Benefits	299,488	0	0	0	0
425	Contract Labor	56,404	17,296	100,000	0	(100,000)
425	Chemicals	1,813	910	4,000	4,000	0
425	Operating Supplies	64,066	47,266	88,700	89,200	500
425	Permits, Licenses and Fees	8,338	5,001	11,000	11,000	0
425	Equipment Rental	0	0	2,000	0	(2,000)
425	Rep & Maint IRWD	257,668	218,035	230,000	258,000	28,000
425	Personnel Training	175	205	0	0	0
425	Other Professional Fees	0	157	0	0	0
425	Safety	53	0	0	0	0
Total Field Services		2,070,896	1,039,245	2,045,270	1,983,840	(61,430)

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Water Operations		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Construction Services</u>						
430	Regular Labor	772,925	747,025	1,658,570	1,695,830	37,260
430	Overtime Labor	86,797	83,089	152,000	228,000	76,000
430	Employee Benefits	341,366	0	0	0	0
430	Contract Labor	13,555	621	0	0	0
430	Chemicals	238	0	740	740	0
430	Operating Supplies	122,527	69,989	118,500	144,800	26,300
430	Permits, Licenses and Fees	45,615	18,016	50,000	67,000	17,000
430	Equipment Rental	22,730	942	20,000	21,000	1,000
430	Rep & Maint IRWD	892,842	416,748	500,000	667,800	167,800
430	Personnel Training	1,692	100	0	0	0
430	Other Professional Fees	0	293	0	0	0
Total Construction Services		2,300,287	1,336,823	2,499,810	2,825,170	325,360
Total Water Operations		46,550,759	25,985,782	44,027,640	51,495,010	7,467,370



RECYCLING OPERATIONS

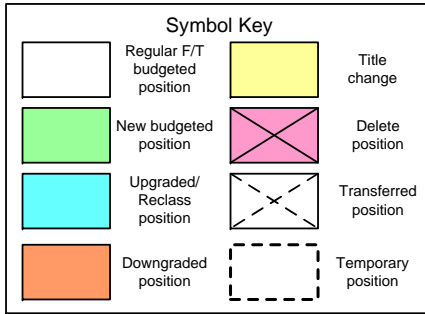
OPERATING BUDGET SUMMARY

Program Description

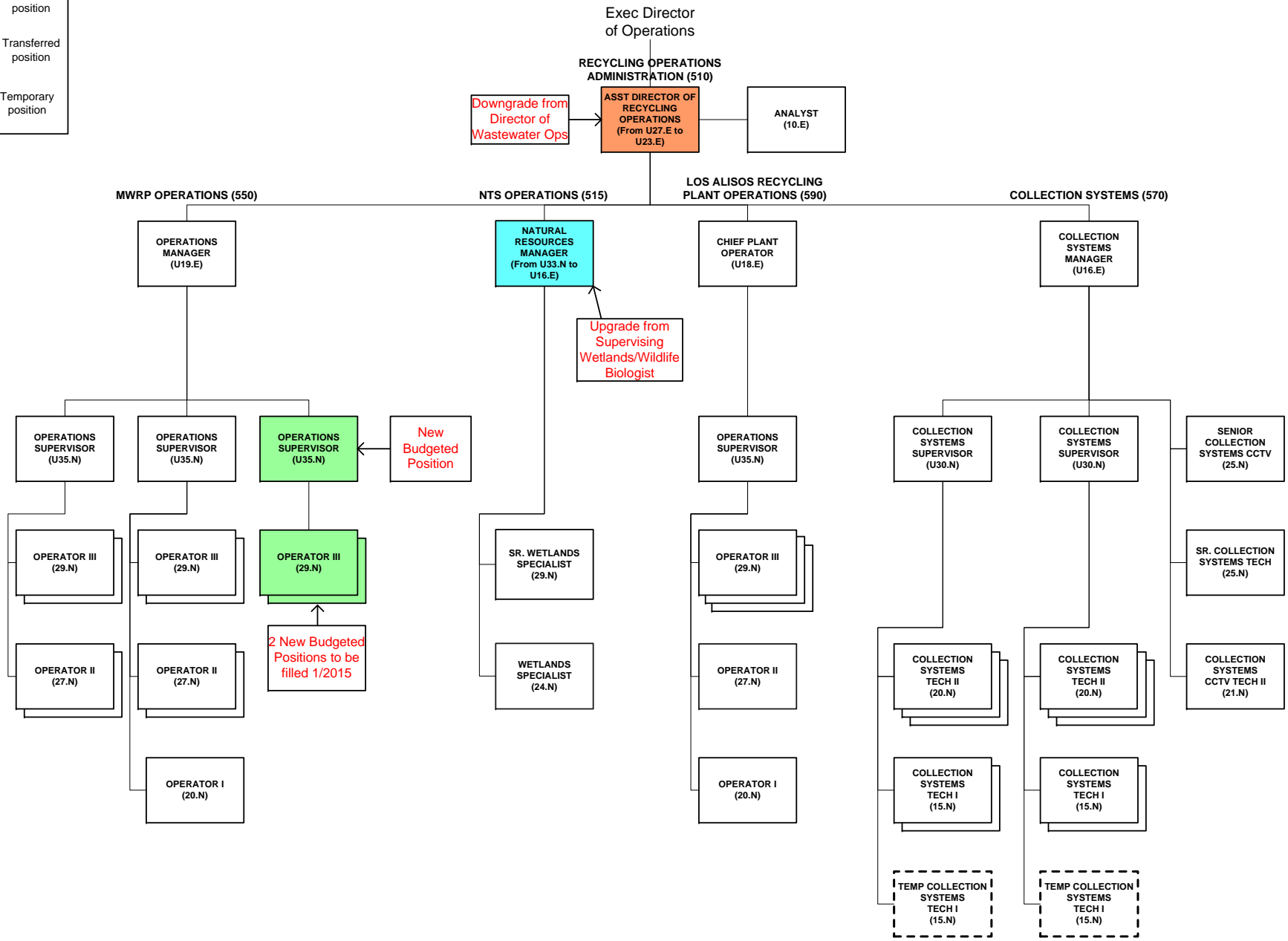
The mission of the Recycling Operations Department is to operate the District's resource recovery systems in a regulatory compliant, efficient, and environmentally safe manner that provides the highest level of customer satisfaction. The Recycling Operations Department provides cost-effective, reliable and compliant operation of the District's Collection Systems, Michelson Water Recycling Plant (MWRP), Los Alisos Water Recycling Plant (LAWRP), and Natural Treatment System (NTS).

Major Goals

- Meet the Department's adopted Operations budget;
- Achieve zero lost time accidents;
- Maintain 100% compliance with all regulatory requirements;
- Establish and track operational key performance indicators (KPIs) to optimize efficiency and cost effectiveness;
- Complete transition of all operational responsibilities for the MWRP Phase II expansion and upgrade project from construction management to Recycling Operations;
- Initiate implementation of the phased staffing and training plan for the MWRP Biosolids and Energy Recovery Facilities, and evaluate all outsourcing options;
- Maintain and develop staff competency through a combination of internal and external training;
- Evaluate and optimize chemical usage for the collection and recycling facilities systems;
- Perform initial evaluation of options for the marketing and distribution of pellets from the MWRP Biosolids Project;
- Begin developing concepts and partnerships relative to implementing a food waste recycling program at the MWRP once the new solids handling facilities are completed;
- Collaborate with other agencies including Encina Wastewater Authority on lessons learned, O&M, product marketing and distribution, and resource sharing opportunities;
- Discuss potential Orange County Sanitation District (OCSD) participation in MWRP Biosolids facilities on an interim basis;
- Prepare for the first Sewer System Management Plan (SSMP) state audit in May 2014;
- Evaluate the development of an enhanced sewage discharge source control (non-flushable materials, expired pharmaceuticals) outreach and enforcement programs to protect the District's recovered resources;
- Evaluate an improved data tracking and management system for the NTS;
- Prepare an Annual Report of NTS Operations including nutrient removal performance at each NTS facility, operational objectives, and recommendations for adaptive changes to the NTS program;
- Evaluate the performance and cost effectiveness of the existing pilot bioretention facility as part of the NTS Program;
- Continue to work with partners in Newport Bay Executive Committee to develop and implement the elements of the Nitrogen Selenium Management Plan.



IRVINE RANCH WATER DISTRICT RECYCLING OPERATIONS PROPOSED FISCAL YEAR 2014-15



Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Recycling Operations		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Recycling Operations Administration</u>						
510	Regular Labor	248,179	108,184	263,500	242,240	(21,260)
510	Employee Benefits	16,402	0	0	0	0
510	Contract Labor	0	5,911	2,000	14,700	12,700
510	Electricity	2,138,579	1,255,883	2,476,600	0	(2,476,600)
510	Fuel	3,936	4,570	10,000	0	(10,000)
510	Telecommunication	1,209	604	1,400	1,400	0
510	Operating Supplies	0	98	500	500	0
510	Printing	0	0	2,000	1,000	(1,000)
510	Postage	242	179	0	0	0
510	Office Supplies	8,195	678	7,200	4,000	(3,200)
510	Rep & Maint Other Agencies	9,166,738	4,916,010	9,831,200	2,786,000	(7,045,200)
510	Personnel Training	5,687	1,148	2,000	0	(2,000)
510	Other Professional Fees	28,652	640	2,200	0	(2,200)
Total Recycling Operations Administration		11,617,819	6,293,905	12,598,600	3,049,840	(9,548,760)

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Recycling Operations		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
NTS Operations						
515	Regular Labor	237,459	119,821	257,750	250,080	(7,670)
515	Overtime Labor	3,304	2,159	4,000	4,000	0
515	Employee Benefits	49,608	0	0	0	0
515	Contract Labor	0	0	0	30,000	30,000
515	Electricity	4,398	2,125	19,700	259,300	239,600
515	Operating Supplies	6,359	1,059	6,520	17,500	10,980
515	Permits, Licenses and Fees	183	0	0	1,000	1,000
515	Equipment Rental	6,279	2,752	6,660	7,000	340
515	Rep & Maint Other Agencies	8,869	6,215	14,000	19,500	5,500
515	Rep & Maint IRWD	630,234	276,989	778,700	1,007,160	228,460
515	Engineering Fees	56,468	8,975	27,500	35,000	7,500
515	Personnel Training	0	(218)	0	1,500	1,500
515	Safety	1,934	0	5,000	6,000	1,000
515	Other	17,108	(8,434)	8,500	12,000	3,500
Total NTS Operations		1,022,203	411,443	1,128,330	1,650,040	521,710

Previously in department 415

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Recycling Operations		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
MWRP Operations						
550	Regular Labor	914,289	463,581	1,000,780	1,207,540	206,760
550	Overtime Labor	107,995	73,890	97,900	108,380	10,480
550	Employee Benefits	219,399	0	0	0	0
550	Electricity	0	0	0	3,609,200	3,609,200
550	Fuel	46,145	21,459	27,000	51,800	24,800
550	Chemicals	1,746,688	901,698	1,135,000	489,600	(645,400)
550	Operating Supplies	13,925	12,624	19,200	18,000	(1,200)
550	Office Supplies	364	0	0	0	0
550	Equipment Rental	0	0	7,200	6,300	(900)
550	Rep & Maint Other Agencies	0	0	0	7,237,700	7,237,700
550	Rep & Maint IRWD	265,668	19,493	170,360	30,360	(140,000)
550	Personnel Training	6,125	935	12,840	12,840	0
550	Other Professional Fees	1,956	2,053	2,000	2,500	500
550	Safety	3,193	9,500	5,500	5,500	0
550	Biosolids Disposal	400	51,101	63,000	100,000	37,000
Total MWRP Operations		3,326,147	1,556,334	2,540,780	12,879,720	10,338,940

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Recycling Operations		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
Collection Systems						
570	Regular Labor	1,030,932	541,208	1,078,810	1,124,480	45,670
570	Overtime Labor	117,792	60,979	103,960	112,300	8,340
570	Employee Benefits	227,102	0	0	0	0
570	Contract Labor	7,920	2,417	41,600	41,600	0
570	Electricity	94,343	23,537	86,000	109,000	23,000
570	Telecommunication	14,077	9,486	18,600	15,000	(3,600)
570	Chemicals	393,735	212,074	375,000	400,000	25,000
570	Operating Supplies	63,175	23,292	50,800	50,800	0
570	Permits, Licenses and Fees	1,094	0	0	0	0
570	Rep & Maint IRWD	551,488	173,808	529,000	515,000	(14,000)
570	Personnel Training	2,319	5,350	7,500	7,800	300
570	Other Professional Fees	1,407	561	1,500	1,500	0
570	Safety	882	1,284	5,000	5,000	0
Total Collection Systems		2,506,266	1,053,996	2,297,770	2,382,480	84,710

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Recycling Operations		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
LAWRP Operations						
590	Regular Labor	560,767	284,964	573,700	598,040	24,340
590	Overtime Labor	77,960	34,749	46,820	49,620	2,800
590	Employee Benefits	132,589	0	0	0	0
590	Electricity	758,698	467,519	815,200	916,500	101,300
590	Fuel	1,255	243	1,000	1,000	0
590	Telecommunication	0	0	400	400	0
590	Chemicals	225,096	140,536	229,000	179,400	(49,600)
590	Operating Supplies	13,354	5,835	32,000	8,200	(23,800)
590	Permits, Licenses and Fees	3,000	0	0	0	0
590	Office Supplies	91	88	0	0	0
590	Rep & Maint Other Agencies	291,798	131,708	295,440	314,760	19,320
590	Rep & Maint IRWD	130,008	98,743	130,000	142,000	12,000
590	Personnel Training	1,427	0	4,300	800	(3,500)
590	Other Professional Fees	925	118	1,500	1,240	(260)
590	Safety	631	108	8,100	4,600	(3,500)
590	Biosolids Disposal	185,986	125,251	228,000	302,300	74,300
Total LAWRP Operations		2,383,585	1,289,862	2,365,460	2,518,860	153,400
Total Recycling Operations		20,856,020	10,605,540	20,930,940	22,480,940	1,550,000



MAINTENANCE

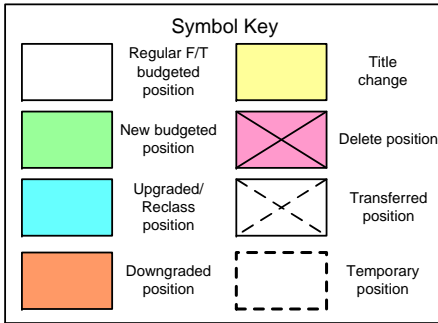
OPERATING BUDGET SUMMARY

Program Description

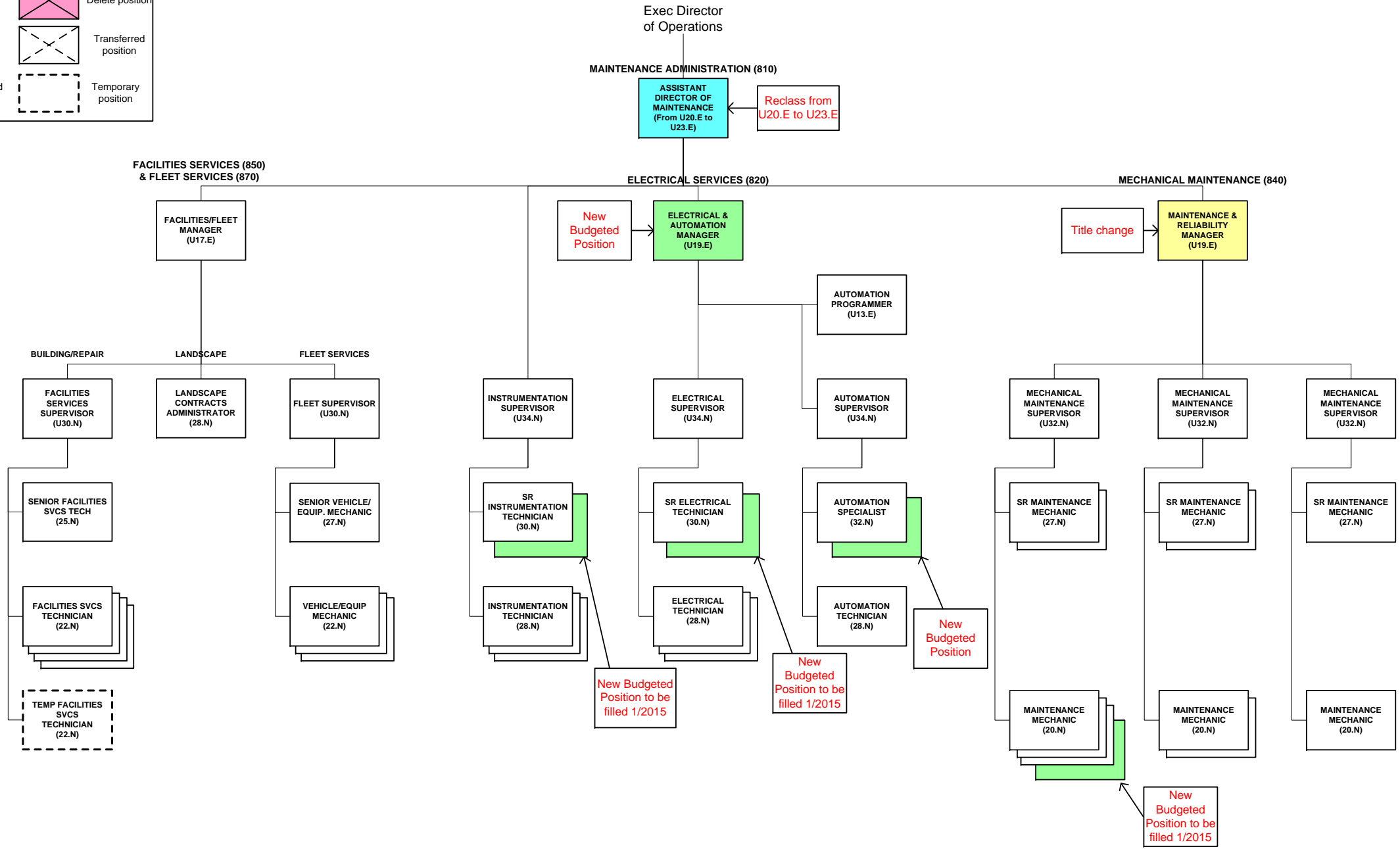
The mission of Maintenance Department is to manage the District's assets to ensure optimal life expectancy, reliability, efficiency and safety that provides the highest level of customer satisfaction. The Maintenance Department provides asset management of the District's electrical, mechanical, instrumentation, automation, supervisory control and data acquisition (SCADA) system, fleet and facility assets to ensure safe, reliable, and cost effective operation.

Major Goals

- Meet the Department's adopted Maintenance and General Plant budgets;
- Achieve zero lost time accidents;
- Maintain 100% compliance with all regulatory requirements;
- Conduct the pre-implementation activities for the Enterprise Asset Management (EAM) system including data collection, cataloging of assets, developing business processes, and identifying asset criticality protocols;
- Establish and track operational key performance indicators (KPIs) to optimize efficiency and cost effectiveness;
- Complete transition of all maintenance responsibilities for the MWRP Phase II expansion and upgrade project from construction management to maintenance;
- Initiate implementation of the phased staffing and training plan for the MWRP Biosolids and Energy Recovery Facilities, and evaluate all outsourcing options;
- Maintain and develop staff competency through a combination of internal and external training;
- Investigate and expand the use of new technology to enhance and increase equipment reliability and staff productivity;
- Initiate the evaluation for the conversion of the District fleet to alternative fuel;
- Complete the assimilation of the Automation Group and SCADA group into Electrical Services Department;
- Complete SCADA upgrades such as the completion of the Water Operations Transdyn Replacement (WOTR) project;
- Provide Engineering support for projects including the Biosolids and Energy Recovery Facilities, Baker Water Treatment Facility, Michelson Lift Station relocation and Orange Park Acres Well 1;
- Improve predictive maintenance measures through pump efficiency testing, lube oil analysis, vibration analysis, ultrasound detection, and infrared thermography program;
- Provide support regarding evaluation of a short and long term plan for LAWRP; and
- Perform all required maintenance on schedule to ensure safe and dependable cost effective fleet operation.



IRVINE RANCH WATER DISTRICT MAINTENANCE OPERATIONS PROPOSED FISCAL YEAR 2014-15



Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Maintenance		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
<u>Dept No</u>	<u>Expense Name</u>					
<u>Maintenance Administration</u>						
810	Regular Labor				138,720	138,720
810	Personnel Training				5,000	5,000
<u>Total Maintenance Administration</u>					143,720	143,720

Previously in department 510

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Maintenance		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Electrical Services</u>						
820	Regular Labor	776,981	437,948	914,660	1,477,680	563,020
820	Overtime Labor	70,093	38,884	71,300	117,000	45,700
820	Employee Benefits	189,278	0	0	0	0
820	Operating Supplies	41,482	29,281	41,800	60,400	18,600
820	Rep & Maint IRWD	684,870	344,419	466,500	633,400	166,900
820	Personnel Training	10,433	9,245	11,250	10,000	(1,250)
820	Other Professional Fees	737	780	1,900	2,400	500
820	Safety	8,121	3,755	8,000	8,600	600
Total Electrical Services		1,781,995	864,312	1,515,410	2,309,480	794,070

Previously in department 520

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Maintenance		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Mechanical Services</u>						
840	Regular Labor	957,828	530,199	1,145,880	1,208,340	62,460
840	Overtime Labor	26,379	17,374	22,100	55,100	33,000
840	Employee Benefits	226,270	0	0	0	0
840	Contract Labor	75,757	5,668	0	0	0
840	Operating Supplies	31,641	9,533	59,380	50,000	(9,380)
840	Equipment Rental	5,807	0	4,000	4,000	0
840	Rep & Maint IRWD	548,266	315,449	691,700	716,600	24,900
840	Personnel Training	5,563	6,314	12,400	12,400	0
840	Other Professional Fees	1,266	901	3,120	3,120	0
840	Mileage Reimbursement	0	39	0	0	0
840	Safety	5,015	625	7,600	8,000	400
Total Mechanical Services		1,883,792	886,102	1,946,180	2,057,560	111,380

Previously in department 540

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Maintenance		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Facilities Services</u>						
850	Regular Labor	369,560	167,072	608,800	621,980	13,180
850	Overtime Labor	9,725	4,332	11,200	10,400	(800)
850	Employee Benefits	136,600	0	0	0	0
850	Contract Labor	28,890	39,972	25,000	25,000	0
850	Fuel	136	74	0	0	0
850	Telecommunication	188	78	0	0	0
850	Other Utilities	22,257	15,371	17,100	22,200	5,100
850	Operating Supplies	15,110	11,082	24,000	21,500	(2,500)
850	Rep & Maint IRWD	1,012,772	450,432	938,920	873,020	(65,900)
850	Personnel Training	5,735	763	0	0	0
850	Other Professional Fees	0	70	0	0	0
Total Facilities Services		1,600,973	689,246	1,625,020	1,574,100	(50,920)

Previously in department 435

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Maintenance		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Head Quarters Property Services</u>						
855	Regular Labor	71,902	19,131	0	0	0
855	Overtime Labor	10,924	1,559	6,000	6,000	0
855	Contract Labor	1,527	388	0	0	0
855	Electricity	143,255	73,349	132,700	172,000	39,300
855	Fuel	8,848	3,571	10,000	10,000	0
855	Other Utilities	5,450	3,038	5,000	5,000	0
855	Operating Supplies	17,464	8,768	22,000	20,400	(1,600)
855	Rep & Maint IRWD	320,699	94,897	285,200	292,600	7,400
Total Head Quarters Property Services		580,069	204,701	460,900	506,000	45,100

Previously in department 440

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Maintenance		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Operations Center Property Services</u>						
860	Regular Labor	150,195	80,850	0	0	0
860	Overtime Labor	5,309	3,672	4,000	7,000	3,000
860	Contract Labor	2,875	1,234	0	0	0
860	Electricity	0	0	0	222,900	222,900
860	Fuel	14,670	2,982	30,000	20,000	(10,000)
860	Other Utilities	15,915	14,352	20,000	20,000	0
860	Operating Supplies	37,882	20,194	20,000	40,000	20,000
860	Rep & Maint IRWD	284,428	198,330	244,700	271,500	26,800
Total Operations Center Property Services		511,274	321,614	318,700	581,400	262,700

Previously in department 445

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Maintenance		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Fleet Services</u>						
870	Regular Labor	338,119	166,421	337,900	356,900	19,000
870	Overtime Labor	15,213	6,478	4,000	7,000	3,000
870	Employee Benefits	79,292	0	0	0	0
870	Contract Labor	3,002	0	0	0	0
870	Fuel	644,828	310,461	627,000	627,000	0
870	Other Utilities	0	26,762	45,000	51,500	6,500
870	Operating Supplies	7,204	2,876	8,550	7,750	(800)
870	Permits, Licenses and Fees	6,650	1,920	6,700	5,340	(1,360)
870	Equipment Rental	29,090	0	5,000	5,000	0
870	Rep & Maint IRWD	519,811	227,049	490,100	459,400	(30,700)
870	Personnel Training	96	148	0	0	0
870	Other Professional Fees	63	77	0	0	0
870	Mileage Reimbursement	122,854	48,783	117,000	117,000	0
Total Fleet Services		1,766,222	790,975	1,641,250	1,636,890	(4,360)
Total Maintenance		8,124,325	3,756,950	7,507,460	8,809,150	1,301,690

Previously in department 450



WATER POLICY AND RESOURCES

OPERATING BUDGET SUMMARY

Program Description

The Water Policy and Resources Department is responsible for developing and implementing water resource supply and demand management programs to enhance the reliability of water supplies for District customers. The department is also responsible for managing the District's environmental compliance programs and regulatory requirements.

Water Use Efficiency: Demand management programs directly offset the need for developing additional water supplies and are critical elements in meeting the District's water resources/reliability objectives. IRWD has provided industry leadership through the development of innovative and aggressive demand management programs focusing on water use efficiency and wastewater recycling. An updated Water Use Efficiency Plan was adopted in December 2013, and staff began implementation efforts in the current fiscal year. Staff anticipates those efforts will continue to be ramped up in fiscal year 2014-15, particularly as IRWD assists its customers in responding to the Governor's call for 20% voluntary conservation in response to the statewide drought. Budget requests associated with the Plan are included in various sections of the budget. Conservation programs including the outdoor efficiency CALscape program, WaterSmart reports, tactical and participation in innovative pilots and research that maintain IRWD's leadership position are also incorporated into the 2013-14 fiscal year budget. IRWD will continue to be engaged in the development and implementation of local, regional, state-wide and national water efficiency and demand management policies.

Recycled Water: IRWD is recognized as a national leader in recycled water based in large part on the many years IRWD of experience with recycled water and the number of meters served. IRWD currently serves over 5,000 recycled water meters including over 50 commercial dual-plumbed buildings where recycled water is used for flushing toilets and urinals and over 580 single-family lots where recycled water is used for irrigating both the front and back yards. The Recycled Water Group continues to pursue additional uses for recycled water in the service area and is actively pursuing several additional industrial customers which represent large scale customers for IRWD as well as the conversion several untreated customers to recycled water. IRWD is also recognized for its support of recycled water through organizations such as WaterReuse, a national recycled water advocacy group. IRWD, in concert with WaterReuse, is active in state-wide policy, legislation, regulation and support for other agencies which face challenges as their programs are initiated or are being expanded. In 2014, the Recycled Water Group will be contracting for recycled water use site inspection and testing services and for the development and hosting of a learning management system for recycled water site supervisor training.

Government Relations: IRWD strives to develop and advocate for policies at the federal, state and local levels that promote a reliable high quality and cost effective water supply for IRWD customers, and demonstrate the efficient use of resources. These efforts enhance IRWD services through federal, state and local government relations and initiatives. The Government Relations staff provides policy leadership and technical expertise to the legislative process, particularly on



WATER POLICY AND RESOURCES

OPERATING BUDGET SUMMARY

issue of water recycling, water use efficiency, water supply reliability, and governance, among others.

Strategic Initiatives for 2014-15

RECYCLED WATER/NON-POTABLE WATER

- Complete development of the on-line Site Supervisor training for recycled water customers;
- Apply for new *Local Resources Program* funding from MWD which provides a “per-acre foot” financial incentive to increase the use of recycled water;
- Assess the feasibility of serving recycled water to UCI for use in their cooling towers;
- Pursue partnerships with neighboring agencies to sell them non-potable water (e.g. City of Orange);
- Assist WaterReuse California with its legislative agenda which includes allowing discharge of recycled water from impoundments during storm events;
- Fully develop the Recycled Water Use Site Inspection and Testing Program;
- Determine whether recycled water can be cost-effectively served to the remaining Irvine Lake Pipeline customers; and
- Obtain approvals for dual-plumbing of condominiums and apartment properties.

WATER USE EFFICIENCY

- Assist IRWD customers in meeting a voluntary 20% conservation goal through ongoing implementation of enhanced outreach and cost-effective demand management programs;
- Develop partnerships with private and public entities to leverage the effectiveness and reach of water efficiency programs;
- Research and implement, as appropriate, new technologies and innovative programs to assist customers with improving their water use efficiency, with a special emphasis on the CALscape outdoor conservation program;
- Continue to partner with commercial, industrial and institutional customers to implement cost-effective water use efficiency programs;
- Continue to support and expand enhanced customer engagement and reporting as a tool to motivate additional water use efficiency;
- Research and implement, as appropriate, the use of enhanced GIS data to improve customer allocation-setting, outreach and programs targeted toward outdoor water use; Actively participate in statewide policy discussions addressing the water-energy nexus;
- Actively engage in statewide policy discussions regarding implementation of SBx7-7 (20 x 2020) and implementation of Demand Management Measures required by the Urban Water Management Planning Act;
- Work with the California Urban Water Conservation Council (CUWCC) on statewide conservation issues, refinements to the Best Management Practices (BMP), including the rates BMP, and potential alignment of the CUWCC with state mandated water efficiency targets;



WATER POLICY AND RESOURCES

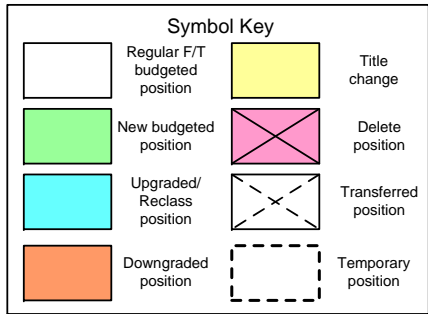
OPERATING BUDGET SUMMARY

- Evaluate the design, configuration, and maintenance costs of a pilot low-impact development bioretention facility as part of the NTS Program;
- Continue to work with partners in Newport Bay Executive Committee to develop and implement the elements of the San Diego Creek Watershed Selenium BMP Strategic Plan; and
- Prepare an Annual Report of NTS Operations including nutrient removal performance at each NTS facility, operational objectives, and recommendations for adaptive changes to the NTS program.

GOVERNMENTAL RELATIONS

- Implement the state legislative strategy as developed by staff and discussed with the Water Resource Policy and Communications Committee;
- Conduct advocacy activities on legislation impacting IRWD, the water industry and special district interests;
- Secure federal funding authorization under a re-authorized Water Resources Development Act (WRDA) for Army Corps of Engineering funding for the Syphon Reservoir Recycled Water Storage project; and
- Continue to build relationships with federal, state and local elected and appointed officials and their staff members, as well as community leaders to support IRWD initiatives.

IRVINE RANCH WATER DISTRICT
 WATER RESOURCES AND POLICY
 PROPOSED FISCAL YEAR 2014-15

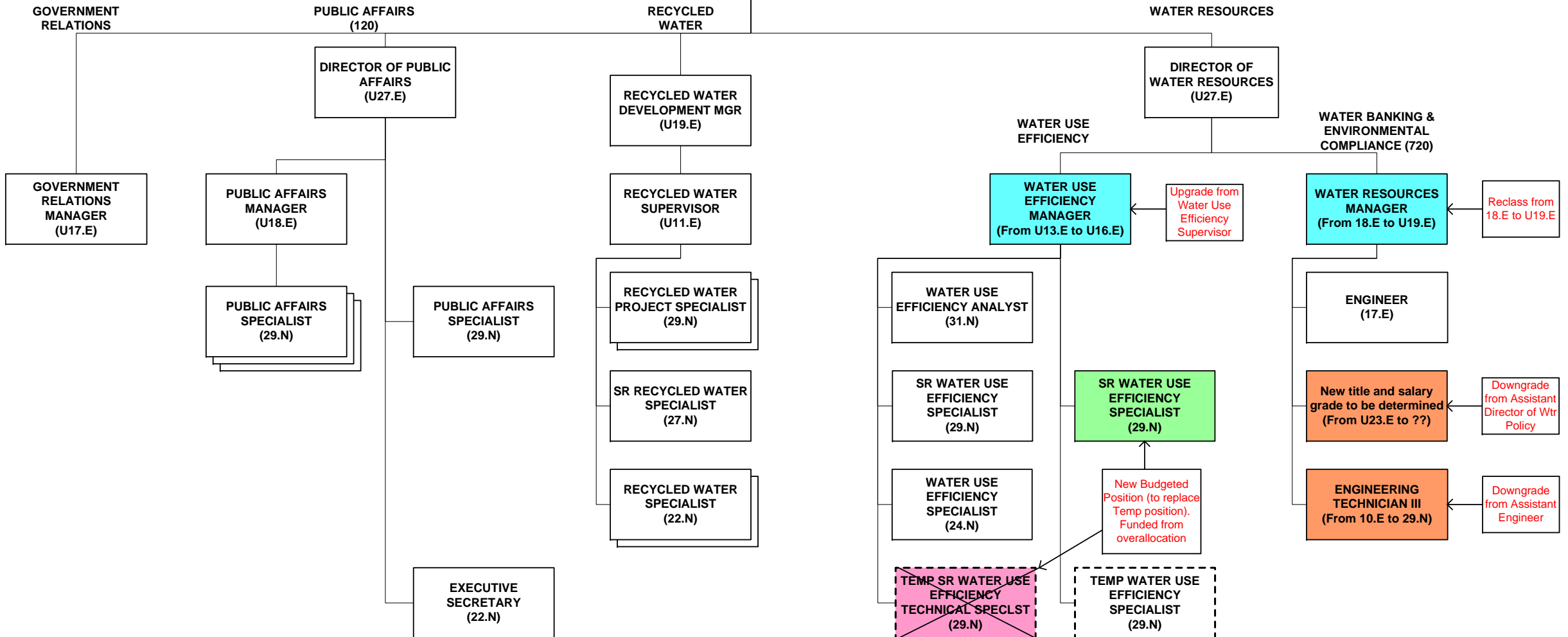


General Manager

EXECUTIVE DIRECTOR OF WATER POLICY (U30.E)

EXECUTIVE ASSISTANT (U26.N)

Downgrade from Administrative Assistant



Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Water Resources and Policy		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Water Resources and Policy</u>						
710	Regular Labor	1,158,685	654,891	1,477,370	1,416,660	(60,710)
710	Overtime Labor	2,343	3,272	6,400	6,400	0
710	Employee Benefits	322,208	0	0	0	0
710	Contract Labor	7,728	39,053	79,100	35,600	(43,500)
710	Operating Supplies	2,291	52	3,600	3,050	(550)
710	Printing	700	0	5,500	5,500	0
710	Postage	702	386	400	600	200
710	Permits, Licenses and Fees	(5,585)	0	0	65,000	65,000
710	Office Supplies	4,556	2,085	8,500	5,000	(3,500)
710	Rep & Maint IRWD	22,263	8,922	21,500	57,900	36,400
710	Engineering Fees	70,775	60,000	120,000	120,000	0
710	Personnel Training	46,210	16,375	47,250	47,400	150
710	Other Professional Fees	268,784	33,136	478,900	845,120	366,220
710	Mileage Reimbursement	49	0	0	0	0
710	Conservation	924,381	269,627	1,157,000	942,000	(215,000)
Total Water Resources and Policy		2,826,090	1,087,799	3,405,520	3,550,230	144,710



PUBLIC AFFAIRS

OPERATING BUDGET SUMMARY

Program Description

The Public Affairs Department is responsible for communicating accurate and timely information about Irvine Ranch Water District services, projects, activities and programs. The department uses multiple media platforms, including print, personal contact, education programs, publications, tours, as well as electronic and social media outlets. The IRWD communication program serves the District and our customers by:

- Creating and maintaining credibility and public trust;
- Increasing customer awareness of the services we provide ;
- Promoting the District's value, activities and events of significance;
- Ensuring that accurate and timely information is conveyed to the public regarding incidents; and issues of a controversial and/or sensitive nature; and
- Promoting transparency and easy to access information

Strategic Initiatives for 2014-15

WATER EFFICIENCY OUTREACH

- Educate customers on efficient water use practices using multiple outreach platforms including resident tours of IRWD facilities, open houses, print and the internet;
- Educate customers about reducing outdoor water use with the CALSCAPE program; and
- Provide students in the IRWD service area with learning opportunities regarding water supply, water reliability and water use efficiency programs. Promote water education programs to schools in the IRWD service area

COMMUNITY OUTREACH AND MEDIA PROGRAMS

- Refine, update and create effective multi-pronged social media outreach programs aimed at providing extended information channels for IRWD customers, the media, business partners, IRWD employees and other government entities;
- Enhance communications with customers through a targeted media outreach and public communications program including consistent and timely updates for construction and maintenance projects; and
- Provide enhanced customer outreach initiatives based on customer feedback programs.

BUSINESS OUTREACH PROGRAM

- Develop strong working relationships with the business community by hosting a series of meetings for area businesses and those who are interested in working with IRWD. Meetings will feature IRWD facilities and projects, procurement/contract program and partnership opportunities as well as information on smart water practices.

EMPLOYEE COMMUNICATION PROGRAM

- Develop and maintain active employee communication programs; and
- Further develop and implement the District's Intranet.

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Water Resources and Policy		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Public Affairs</u>						
120	Regular Labor	624,074	303,645	675,030	687,770	12,740
120	Overtime Labor	16,676	12,142	10,000	10,000	0
120	Employee Benefits	145,819	0	0	0	0
120	Contract Labor	0	0	85,000	0	(85,000)
120	Operating Supplies	948	107	2,100	2,100	0
120	Printing	55,024	26,939	120,850	120,850	0
120	Postage	31	0	200	200	0
120	Office Supplies	4,155	869	6,000	6,000	0
120	Personnel Training	12,509	3,676	20,750	12,520	(8,230)
120	Other Professional Fees	397,928	189,921	528,530	653,550	125,020
120	Mileage Reimbursement	148	0	0	0	0
Total Public Affairs		1,257,312	537,299	1,448,460	1,492,990	44,530



WATER RESOURCES AND ENVIRONMENTAL COMPLIANCE

OPERATING BUDGET SUMMARY

Program Description

The Water Resources and Environmental Compliance Department is responsible for the development of water supply programs and banking projects outside of the local Orange County area. These programs and projects are increasing the diversity and reliability of the District's water supplies by securing water supplies from sources outside of Orange County during wet periods and storing them for future use in groundwater banking projects in Kern County. The District's efforts in the development of these non-local programs and projects are needed in response to risks of water supply interruptions and continued pressure on water supplies from an expanding statewide population as well as legislative requirements tying water supply with new development.

This department is responsible for the design and construction of the District's water banking projects. In addition, this department is responsible for the the negotiation and development of agreements with other agencies and entities throughout the State of California for water transfer and exchanges that facilitate the recharge, storage and recovery of water at the water banking projects. The department is also responsible for the negotiation and the development of agreements that facilitate the delivery of water recovered from the water banking projects to IRWD's service area through facilities owned by the California Department of Water Resources and Metropolitan Water District of Southern California.

Other responsibilities of the Water Resources and Environmental Compliance department include the management of the District's environmental and regulatory compliance programs and managing the District's salt management, energy efficiency and renewable energy planning activities. The environmental and regulatory compliance programs focus on the operation of potable water and wastewater systems operations, facility replacements and the construction of new facilities.

Strategic Initiatives for 2013-14

WATER RESOURCES:

- Identify, evaluate, and secure additional land to be incorporated into the District's water banking projects in Kern County;
- Successfully deliver water from the District's Jackson Ranch into the Strand Ranch as part of the executed long-term unbalanced exchange program;
- Negotiate a Policy MWD for the delivery of MWD system water to IRWD's Strand and Stockdale Integrated Banking Projects;
- Implement long-term unbalanced exchange agreements with Carpinteria Valley Water District and/or Antelope Valley-East Kern Water Agency;
- Complete a technical and legal review of the exportability the high-flow Kern River water that IRWD has in storage at the Strand Ranch;
- Execute an IRWD/MWD/MWDOC Wheeling Agreement for the delivery of 1,000 AF of non-SWP water from the Strand Ranch Project to IRWD's service area;



WATER RESOURCES AND ENVIRONMENTAL COMPLIANCE

OPERATING BUDGET SUMMARY

- Finalize and execute a long-term exchange agreement with Rosedale for a Joint Integrated Stockdale Water Banking and Exchange Project;
- Award a construction contract for drilling and constructing of wells for the Stockdale Integrated Banking Project;
- Initiate the design of recovery facilities pipelines and wellheads for the Stockdale Integrated Banking Project;
- Develop and execute a long-term exchange agreement with Buena Vista Water Storage Agreement for pre-1914 Kern River water to be delivered to the Stockdale Integrated Banking Project;
- Develop a master plan for IRWD's water banking projects and programs; and
- Negotiate and execute long-term farm lease agreements for portions of the Jackson Ranch.

ENVIRONMENTAL COMPLIANCE

- Complete and certify an Environmental Impact Report for a Joint Integrated Stockdale Water Banking and Exchange Project with Rosedale; and
- Fulfill the District's environmental and regulatory compliance requirements for capital projects, replacements and operations including the development and approval of Mitigated Negative Declarations, Environmental Impact Reports and Notices of Exemption.

ENERGY AND OTHER PLANNING

- Complete the IRWD Recycled Water System Salt Management Plan; and
- Complete an Embedded Energy Plan for the District.

Irvine Ranch Water District
Consolidated Operating Expense Budget for FY 2014-15

Water Resources and Policy		2012-13 Actual	2013-14 Actual thru 12/31/13	2013-14 Orig Budget	2014-15 Prop Budget	Incr/(Decr)
Dept No	Expense Name					
<u>Water Resources and Environmental Compliance</u>						
720	Regular Labor	178,247	254,262	499,910	589,200	89,290
720	Overtime Labor	1,191	275	0	0	0
720	Employee Benefits	109,351	0	0	0	0
720	Electricity	131,722	319,399	78,860	491,400	412,540
720	Permits, Licenses and Fees	124,295	83,166	91,900	97,500	5,600
720	Office Supplies	174	0	200	200	0
720	Rep & Maint Other Agencies	0	0	19,400	0	(19,400)
720	Rep & Maint IRWD	126,794	42,956	248,840	225,400	(23,440)
720	Personnel Training	3,418	1,265	8,700	8,000	(700)
720	Other Professional Fees	4,030	1,028	30,720	16,220	(14,500)
720	Mileage Reimbursement	14	0	0	0	0
Total Water Resources and Environmental Compliance		679,236	702,351	978,530	1,427,920	449,390
Total Water Resources and Policy		4,762,638	2,327,449	5,832,510	6,471,140	638,630
GRAND TOTAL		105,475,840	60,852,686	117,059,625	130,644,000	13,584,375



GENERAL PLANT

SUMMARY

	Fiscal Year 2013-14	Fiscal Year 2014-15	Increase (Decrease)	% Inc/(Dec)
Information Systems	\$ 573,500	\$ 502,400	\$ (71,100)	-12.40%
Transportation Equipment	750,500	320,200	(430,300)	-57.34%
Tools, Shop and Work Equipment	-	-	-	-
Other General Plant Including Safety Equipment	40,272	86,500	46,228	114.79%
Laboratory, Stores and Communication Equipment	258,835	385,835	127,000	49.07%
Office Furniture and Equipment	-	-	-	
Structures/Improvements - Sand Canyon/MWRP	17,500	55,900	38,400	-
Work Equipment/Class IV, V, VI	510,900	213,433	(297,467)	-58.22%
Sub-Total	2,151,507	1,564,268	(587,239)	-27.29%
Less: Vehicle Salvage Value	(48,000)	(22,000)	26,000	-54.17%
Total General Plant	\$ 2,103,507	\$ 1,542,268	\$ (561,239)	-26.68%

Fiscal Year 2014-15

Funded by Replacement Funds	\$873,327	56.63%
Funded by Capital Funds	668,941	43.37%

Total Fiscal Year 2014-15 **\$ 1,542,268**

Fiscal Year 2013-14

Funded by Replacement Funds	\$ 1,253,535	59.59%
Funded by Capital Funds	849,972	40.41%

Total Fiscal Year 2013-14 **\$ 2,103,507**



GENERAL PLANT

ANALYSIS

Description	Administration	Finance & Administrative Services	Engineering, Planning, & Water Quality	Operations	Water Policy	Total
Information Systems	\$ -	\$ 486,000	\$ -	\$ 16,400	\$ -	\$ 502,400
Laboratory Equipment	-	-	297,835	88,000	-	385,835
Other General Plant	68,000	-	-	18,500	-	86,500
Office Furniture & Equipment	-	-	-	-	-	-
Work Equipment/Class IV, V, VI	-	-	-	213,433	-	213,433
Transportation Equipment	-	-	-	320,200	-	320,200
Structures/Improvements - Sand Canyon/MWRP	-	-	-	55,900	-	55,900
Subtotal	\$ 68,000	\$ 486,000	\$ 297,835	\$ 712,433	\$ -	\$ 1,564,268
Less Vehicle Salvage Value	-	-	-	(22,000)	-	(22,000)
Total Fiscal Year 2014-15	\$ 68,000	\$ 486,000	\$ 297,835	\$ 690,433	\$ -	\$ 1,542,268
Total Fiscal Year 2013-14	-	573,500	-	1,530,007	-	2,103,507
Increase/(Decrease)	\$ 68,000	\$ (87,500)	\$ 297,835	\$ (839,574)	\$ -	\$ (561,239)



CONSOLIDATED

GENERAL PLANT BUDGET

	<u>TASK</u>	<u>Item Description</u>	<u>Quantity</u>	<u>Price</u>	<u>Proposed 2014-15</u>
Department: HUMAN RESOURCES					
140	8036.140.1	Vertical Carousel Filing System	1	\$ 68,000	\$ 68,000
					\$ 68,000
Department: INFORMATION SERVICES					
250	8031.250.1	Field Mapplet Software	1	\$ 20,000	\$ 20,000
250	8031.250.2	Oracle Configuration Setup Management Software	1	\$ 45,000	\$ 45,000
250	8031.250.3	Network Disk Storage Expansion	1	\$ 45,000	\$ 45,000
250	8031.250.4	Enterprise Server Replacement	1	\$ 27,000	\$ 27,000
250	8031.250.5	Network Performance Monitoring Software	1	\$ 16,000	\$ 16,000
250	8031.250.6	Document Scanner Replacement	1	\$ 6,000	\$ 6,000
250	8031.250.7	Contract and Insurance Certificate Mangement Software	1	\$ 30,000	\$ 30,000
250	8031.250.8	Video Editing Work Station and Software Replacement	1	\$ 7,000	\$ 7,000
250	8036.250.1	Operations Center Multi-purpose Room Audio-Visual System Replacement	1	\$ 35,000	\$ 35,000
250	8038.250.1	Operations Center Computer Room HVAC Replacement	1	\$ 80,000	\$ 80,000
250	8041.250.1	PC Replacement	98	\$ 1,224	\$ 120,000
250	8041.250.2	Laptop Computer Replacement	8	\$ 2,000	\$ 16,000
250	8041.250.3	Tablet Computers	8	\$ 3,000	\$ 24,000
250	8041.250.4	GIS Work Station PC Replacement	5	\$ 3,000	\$ 15,000
Sub-Total					\$ 486,000
Department: WATER OPERATIONS ADMINISTRATION					
410	8030.410.1	Tablets	10	\$ 940	\$ 9,400
Sub-Total					\$ 9,400
Department: NTS OPERATIONS					
415	8031.415.1	Refrigerated Water Quality Sampling Unit	2	\$ 14,000	\$ 28,000
415	8031.415.2	Area velocity meter	10	\$ 6,000	\$ 60,000
Sub-Total					\$ 88,000



CONSOLIDATED

GENERAL PLANT BUDGET

TASK	Item Description	Quantity	Price	Proposed 2014-15
Department: WATER OPERATIONS				
420	8031.420.3 Self Contained Breathing Apparatus	2	\$ 6,000	\$ 12,000
420	8031.420.4 Electric Drive Handheld Valve Exerciser	1	\$ 6,500	\$ 6,500
Sub-Total				\$ 18,500
Department: FACILITIES SERVICES				
435	8011.435.1 Gate Operator for PTP	1	\$ 18,400	\$ 18,400
Sub-Total				\$ 18,400
Department: SAND CANYON PROPERTY MAINTENANCE				
440	8011.440.2 Solar Guard Window Film	1	\$ 13,500	\$ 13,500
440	8011.440.4 Restroom Partitions	4	\$ 6,000	\$ 24,000
Sub-Total				\$ 37,500
Department: FLEET SERVICES				
450	8055.450.1 5350 LB GVW SRW Light Pickup Truck 4X2	1	\$ 29,500	\$ 29,500
450	8055.450.2 12,000 LB GVW SRW Pickup Truck with Service Bed and Ladder Rack 4X2.	1	\$ 55,000	\$ 55,000
450	8055.450.3 5350 LB GVW SRW Light Pickup Truck 4X2	1	\$ 29,500	\$ 29,500
450	8055.450.4 9,700 LB GVW SRW Pickup Truck 4X4 With Utility Bed.	1	\$ 36,200	\$ 36,200
450	8055.450.5 9,700 LB GVW SRW Pickup Truck 4X4.	1	\$ 28,400	\$ 28,400
450	8055.450.6 9,700 LB GVW SRW Pickup Truck 4X2.	1	\$ 28,400	\$ 28,400
450	8055.450.7 9,700 LB GVW SRW Pickup Truck 4X2.	1	\$ 27,100	\$ 27,100
450	8055.450.8 9,700 LB GVW SRW Pickup Truck 4X2.	1	\$ 27,100	\$ 27,100
450	8055.450.9 5350 LB GVW SRW Light Pickup Truck 4X2	1	\$ 29,500	\$ 29,500
450	8055.450.10 5350 LB GVW SRW Light Pickup Truck 4X2	1	\$ 29,500	\$ 29,500
Sub-Total				\$ 320,200



CONSOLIDATED

GENERAL PLANT BUDGET

	<u>TASK</u>	<u>Item Description</u>	<u>Quantity</u>	<u>Price</u>	<u>Proposed 2014-15</u>
Department:	ELECTRICAL MAINTENANCE				
520	8031.520.1	2 each. Additel Pneumatic Test pump with Digital Pressure Calibrator and Carrying	2	\$ 4,300	\$ 8,600
Sub-Total					<u>\$ 8,600</u>
Department:	MECHANICAL MAINTENANCE				
540	8031.540.1	Vibration Data Collector	1	\$ 31,350	\$ 31,350
540	8031.540.2	Well Micro-Camera	1	\$ 18,000	\$ 18,000
540	8031.540.3	Ultrasound Data Collector	1	\$ 15,000	\$ 15,000
540	8034.540.1	Tube/Pipe Bending Equipment	1	\$ 22,583	\$ 22,583
540	8034.540.2	Plasma Cutting Table	1	\$ 28,000	\$ 28,000
Sub-Total					<u>\$ 114,933</u>
Department:	MWRP OPERATIONS				
550	8030.550.1	Tablet software	1	\$ 7,000	\$ 7,000
Sub-Total					<u>\$ 7,000</u>
Department:	COLLECTION SYSTEMS				
570	8031.570.1	Portable H2S Gas Monitor	1	\$ 4,900	\$ 4,900
570	8055.570.1	CCTV Portable Sewer Camera and Vehicle	1	\$ 85,000	\$ 85,000
Sub-Total					<u>\$ 89,900</u>
Department:	WATER QUALITY ADMINISTRATION				
610	8031.610.1	Misc. Laboratory and Field Monitoring Equipment for Unplanned Projects and	1	\$ 42,500	\$ 42,500
Sub-Total					<u>\$ 42,500</u>



CONSOLIDATED

GENERAL PLANT BUDGET

TASK	Item Description	Quantity	Price	Proposed 2014-15
Department:	WATER QUALITY ANALYSIS			
630	8031.630.1 Laboratory Equipment for Biosolids and Energy Recovery Project.	1	\$ 40,000	\$ 40,000
630	8036.630.1 Laboratory Instrumentation for Future Biosolids and Energy Recovery Project.	1	\$ 75,000	\$ 75,000
630	8036.630.2 Existing Laboratory Equipment Replacement	1	\$ 125,000	\$ 125,000
Sub-Total				\$ 240,000
Department:	REGULATORY COMPLIANCE			
640	8031.640.1 Two (2) Portable discrete samplers with pH and conductivity sensor options.	2	\$ 7,668	\$ 15,335
Sub-Total				\$ 15,335
Salvage Value				\$ (22,000)
Total General Plant				\$ 1,542,268

**General Plant Description and Justification
FY 2014-15 Operating Budget**

General Plant Asset	Updated Task	Life (Years)	Dept	Cost	Allocation				Asset Description	Justification
					Fund Source		System			
					New	Replace	% Water	%Sewer/ Recycle		
1 Machinery & Equipment	8036.140.1	10	140	\$68,000	50%	50%	50%	50%	Vertical Carousel Filing System	The Human Resources Department wishes to upgrade and modernize the filing system for all District personnel related district files and documents in conjunction with the update to the District wide record retention system. Personnel files and documents are currently stored in multiple locations and cabinets throughout the department work area as well as offsite in District storage buildings. Ugrading and modernizing the filing system equipment will allow the files to be consolidated and stored more efficiently; maintain all Personnel files and documents in a single location and will consume less than 50% of the floor space of the existing file system. The new system will be more ergonomic and feature a more advanced filing system security. Staff is working with a vendor to evaluate several modes and methods of secure consolidated state of the art record and document storage systems. Although a specific system has not yet been selected, it is anticipated the cost will be in the range of \$40k - \$68k and have a useful life in excess of 15 years. It is anticipated that this project will be the flagship file storage and record retention system for improved and enhanced record and document storage solutions throughout the organization.
2 Machinery and Equipment	8031.250.1	5	250	\$20,000	100%		50%	50%	Field Mapplet Software	Eight licenses are requested to support a GIS based application requested by System Operations staff.
3 Machinery and Equipment	8031.250.2	5	250	\$45,000	100%		50%	50%	Oracle Configuration Setup Management Software	Software is requested that will allow efficient management of the District's Oracle Financial system configuration setup. This software will automate the process of generating the documentation required for installation of patches and version upgrades.

**General Plant Description and Justification
FY 2014-15 Operating Budget**

General Plant Asset	Updated Task	Life (Years)	Dept	Cost	Allocation				Asset Description	Justification
					Fund Source		System			
					New	Replace	% Water	%Sewer/ Recycle		
4 Machinery and Equipment	8031.250.3	5	250	\$45,000	100%		50%	50%	Network Disk Storage Expansion	Additional storage is needed to on the District's storage area network (SAN) system. The SAN supports the majority of the District's Enterprise applications, including Oracle, E-Mail, shared network files, Laboratory Information Management (LIMS), Tabware Work Orders, Geographical Information Systems (GIS), and Fleet Management. As the Oracle system is expanded and transactions are accumulated, additional storage is needed. Expanded E-mail and shared files also require additional storage. The storage requirement for these systems is doubled due to the High Availability system that stores a mirrored copy of the production data at a second location. This provides the District with a swift recovery from a server or storage failure.
5 Machinery and Equipment	8031.250.4	5	250	\$27,000		100%	50%	50%	Enterprise Server Replacement	Replacements are needed for the District's Enterprise Network Server systems purchased between 2009 and 2010 This meets the District's replacement criteria of five years for Network Server systems. These servers are used to support Virtualized Servers System, Security Management System, Password Synchronization System, Patch Management System, and Computer Inventory Management System. The replacement systems will utilize blade based servers, a Storage Area Network (SAN) system, and Server Virtualization that will consolidate multiple servers onto a single server blade.
6 Machinery and Equipment	8031.250.5	5	250	\$16,000	50%	50%	50%	50%	Network Performance Monitoring Software	An upgrade is requested for the Networking Software used to monitor the servers and other critical devices connected to the District's network infrastructure. The upgrade will allow up to 2000 network connections.
7 Machinery and Equipment	8031.250.6	5	250	\$6,000		100%	50%	50%	Document Scanner Replacement	A document scanner is requested to replace the existing unit purchased in 2007. This scanner is used by staff to scan accounts payable invoice images to the document image management system (WebDocs).

**General Plant Description and Justification
FY 2014-15 Operating Budget**

General Plant Asset	Updated Task	Life (Years)	Dept	Cost	Allocation				Asset Description	Justification
					Fund Source		System			
					New	Replace	% Water	%Sewer/ Recycle		
8 Machinery and Equipment	8031.250.7	5	250	\$30,000	100%		50%	50%	Contract and Insurance Certificate Mangement Software	Contract and Insurance Certificate Management Software is requested to track recurring District contracts and insurance certificates. This software is an additional module provided by lonwave, the provider of the District's On-Line Bidding software. Currently, tracking contract and insurance certificate renewal is a manual process. This software will automate the process and provide timely notifications in advance of the contract or insurance certificate expiration date.
9 Machinery and Equipment	8031.250.8	5	250	\$7,000		100%	50%	50%	Video Editing Work Station and Software Replacement	A Video editing station and software is requested to replace the existing unit purchased in 2001. This station is used by staff to edit on-line video clips for the District's website and social media pages.
10 Machinery and Equipment	8036.250.1	10	250	\$35,000		100%	50%	50%	Operations Center Multi-purpose Room Audio-Visual System Replacement	A replacement Audio Visual System for the Operations Center Multi-purpose is requested. The current system, installed in 1994, no longer meets the presentation needs for work shops, training sessions, and all hands meetings. The replacement system will provide for a more effective delivery of presentations for all possible room configurations. The system will include an 80" LCD display for the main room, two 60" displays for the lunch, and an replacement interface and control system for computer and digital media.
11 Machinery and Equipment	8038.250.1	20	250	\$80,000		100%	50%	50%	Operations Center Computer Room HVAC Replacement	A replacement HVAC system is requested for the Operations Center Computer Room. The existing system, installed a a stand alone unit in the room in 1994, does not provide enough cooling capacity for current and future computer equipment, The replacement unit, with a larger cooling capacity, will require rooftop installation.
12 Machinery and Equipment	8041.250.1	4	250	\$120,000		100%	50%	50%	PC Replacement	Ninety-eight personal computers are needed to replace systems purchased between 2010-2011. This meets the District's replacement criteria of four years for personal computer systems. The systems are used for accessing District applications.

**General Plant Description and Justification
FY 2014-15 Operating Budget**

General Plant Asset	Updated Task	Life (Years)	Dept	Cost	Allocation				Asset Description	Justification
					Fund Source		System			
					New	Replace	% Water	%Sewer/ Recycle		
13 Machinery and Equipment	8041.250.2	4	250	\$16,000		100%	50%	50%	Laptop Computer Replacement	Eight laptop computers are needed to replace systems purchased between 2010-2011. This meets the District's replacement criteria of four years for personal computer systems. The laptop computer systems are used in the field by Administration, Water Operations, Wastewater Operations, Water Quality, and Water Resources. The systems are used in the office for accessing District applications. In the field, the systems are used to collect data and access the District's SCADA Systems.
14 Machinery and Equipment	8041.250.3	4	250	\$24,000		100%	50%	50%	Tablet Computers	Eight tablet computers are requested to support a GIS based application requested by System Operations staff.
15 Machinery and Equipment	8041.250.4	4	250	\$15,000		100%	50%	50%	GIS Work Station PC Replacement	Five GIS PC Work Station computers are needed to replace systems purchased between 2010-2011. This meets the District's replacement criteria of four years. The systems are used for for hydraulic modeling and GIS analysis activities.
16 Machinery and Equipment	8030.410.1	3	410	\$9,400	100%		50%	50%	Tablets	The Operations department is requesting funds for the purchase of ten tablets for Operations Staff. These will be used to equip personnel in the Systems Operations, Plant Operations, and Natural Treatment Systems sub-departments. These tablets will enable staff to remotely access all Supervisory Control and Data Acquisition (SCADA) systems, instrument calibration data collection applications, and enhance on-call staff response capability.
17 Machinery and Equipment	8031.415.1	5	415	\$28,000	50%	50%	100%		Refrigerated Water Quality Sampling Unit	The NTS section is requesting funds to purchase two composite samplers for the Orchard meadows NTS site. There are currently no samplers at the site, and they are required by regulatory guidelines to be used in water quality samples.
18 Machinery and Equipment	8031.415.2	5	415	\$60,000	50%	50%	100%		Area velocity meter	Currently, flow at NTS sites is measured by hand 1x week. These meters will allow flow to be measured continuously and accurately, increasing the amounts of pollutant removal. The following sites will be included: Forge Meadow, Lower Eastfoot, Orchard Meadow, Old Laguna, Los Olivos Meadow. 10 flow meters will be purchased (5 influent and 5 effluent meters).
19 Machinery and Equipment	8031.420.3	5	420	\$12,000		100%	50%	50%	Self Contained Breathing Apparatus	The Systems Operations Department is requesting funds to purchase two self contained breathing units. The SCBU's are required to support one additional staff members and two replace one unserviceable unit.

**General Plant Description and Justification
FY 2014-15 Operating Budget**

General Plant Asset	Updated Task	Life (Years)	Dept	Cost	Allocation				Asset Description	Justification	
					Fund Source		System				
					New	Replace	% Water	%Sewer/ Recycle			
20	Machinery and Equipment	8031.420.4	5	420	\$6,500		100%	50%	50%	Electric Drive Handheld Valve Exerciser	The Systems Operations Department is requesting funds to purchase one electric drive hand held valve operator. The valve operator will increase operator efficiency while reducing the possibility of strain and fatigue.
21	Structures and Improvements	8011.435.1	10	435	\$18,400		100%	100%		Gate Operator for PTP	The Facilities Services is requesting funds to retrofit the East gate at PTP with a conventional electric gate operator. The current operator is an hydraulic over electric system that has required constant repair. It is currently inoperable with needed repairs exceeding \$9,000. A conventional operator will reduce maintenance costs and improve reliability.
22	Structures and Improvements	8011.440.2	10	440	\$13,500		100%	50%	50%	Solar Guard Window Film	The Facilities Services Department is requesting funds to replace the window film in the atrium of the headquarters building. The original film is scratched, peeling, and delaminated in several areas. The proposed replacement film is rated to block 99% of UV light and up to 80% of solar energy.
24	Structures and Improvements	8011.440.4	10	440	\$24,000		100%	50%	50%	Restroom Partitions	The Facilities Services Department is requesting funds to replace the restroom partitions in the four headquarters building restrooms. The existing partions are original to the building and require replacement due to wear and appearance.
25	Vehicles	8055.450.1	10	450	\$29,500	50%	50%	50%	50%	5350 LB GVW SRW Light Pickup Truck 4X2	The Fleet Services Department is requesting funds to replace and downsize unit 2062, a 2000 Ford F150 with approximately 180,000 miles. Unit 2062 is in use by a Water Use Efficiency Analyst and requires replacement due to age and condition.
26	Vehicles	8055.450.2	10	450	\$55,000	50%	50%	50%	50%	12,000 LB GVW SRW Pickup Truck with Service Bed and Ladder Rack 4X2.	(New staff member)A new 12,000 GVW full size truck with utility bed is required by the Electrical Maintenance Dept. for field work. The truck will be utilized by the Electrician whose position was authorized in the FY 13/14 budget year. The electrician has been carrying out independent field assignments through the use of a "loaner" truck from the Fleet Dept. Surplus pool.
27	Vehicles	8055.450.3	10	450	\$29,500	50%	50%	50%	50%	5350 LB GVW SRW Light Pickup Truck 4X2	(New staff member)A new 5,350 GVW light pickup truck is required by a Water Maintenance Technician I in the Preventative Maintenance Department for field work. The truck will be utilized by the Water Maintenance Technician I whose position was authorized in the FY 13/14 budget year. The technician has been carrying out independent field assignments through the use of a "loaner" truck from the Fleet Dept. surplus pool.

**General Plant Description and Justification
FY 2014-15 Operating Budget**

General Plant Asset	Updated Task	Life (Years)	Dept	Cost	Allocation				Asset Description	Justification	
					Fund Source		System				
					New	Replace	% Water	%Sewer/ Recycle			
28	Vehicles	8055.450.4	10	450	\$36,200	50%	50%	50%	50%	9,700 LB GVW SRW Pickup Truck 4X4 With Utility Bed.	The Fleet Services Department is requesting funds to replace unit 2165, a 2008 Ford F250 with approximately 130,000 miles. Unit 2165 is the standby program first responder truck and requires replacement due to age and condition.
29	Vehicles	8055.450.5	10	450	\$28,400	50%	50%	50%	50%	9,700 LB GVW SRW Pickup Truck 4X4.	The Fleet Services Department is requesting funds to replace unit 2104, a 2004 Ford F150 with approximately 126,000 miles. Unit 2104 is in use by a Senior Scientist in the Regulatory Compliance Dept. and requires replacement due to age and condition.
30	Vehicles	8055.450.6	10	450	\$28,400	50%	50%	50%	50%	9,700 LB GVW SRW Pickup Truck 4X2.	The Fleet Services Department is requesting funds to replace and downsize unit 2105, a 2004 Ford F150 with approximately 128,000 miles. Unit 2062 is used by the Water Maintenance Supervisor in the Preventative Maintenance Department and requires replacement due to age and condition.
31	Vehicles	8055.450.7	10	450	\$27,100	50%	50%	50%	50%	9,700 LB GVW SRW Pickup Truck 4X2.	The Fleet Services Department is requesting funds to replace and downsize unit 2097, a 2004 Ford F250 with approximately 117,000 miles. Unit 2062, which is used for meter maintenance, requires replacement due to age and condition.
32	Vehicles	8055.450.8	10	450	\$27,100	50%	50%	50%	50%	9,700 LB GVW SRW Pickup Truck 4X2.	The Fleet Services Department is requesting funds to replace and downsize unit 2122, a 2006 Ford F250 with approximately 122,000 miles. Unit 2122 which is used in Construction and Repair Coordination, requires replacement due to age and condition.
33	Vehicles	8055.450.9	10	450	\$29,500	50%	50%	50%	50%	5350 LB GVW SRW Light Pickup Truck 4X2	(New staff member)A new 5,350 GVW light pickup truck is required by a Customer Service Specialist I for field work. The truck will be utilized by the Customer Service Specialist I, whose position was authorized in the FY 13/14 budget year. This specialist has been carrying out independent field assignments through the use of a "loaner" truck from the Fleet Dept. Surplus pool.
34	Vehicles	8055.450.10	10	450	\$29,500	50%	50%	50%	50%	5350 LB GVW SRW Light Pickup Truck 4X2	(New staff member)A new 5,350 GVW light pickup truck is required for a Water Maintenance Supervisor. The truck will be utilized by the Water Maintenance Supervisor. whose position is being requested in the FY 14/15 budget. This Supervisor will be responsible for field supervision of preventative maintenance personnel.

**General Plant Description and Justification
FY 2014-15 Operating Budget**

General Plant Asset	Updated Task	Life (Years)	Dept	Cost	Allocation				Asset Description	Justification
					Fund Source		System			
					New	Replace	% Water	%Sewer/ Recycle		
35 Machinery and Equipment	8031.520.1	5	520	\$8,600		100%	50%	50%	2 each. Additel Pneumatic Test pump with Digital Pressure Calibrator and Carrying Case	There are an increasing number of facilities where the ability to accurately calibrate pressure transmitters and transducers in excess of 300 psi is required. These sites include our treatment facilities (DATS, IDP PTP, Tustin Wells 21 & 22) and certain pump stations (Foothill Zone 6-8 and Coastal OC-63 for example). The requested pneumatic calibrator and pump would allow instrumentation technicians to perform these calibrations quickly and safely without the need to carry a compressed air cylinder.
36 Machinery and Equipment	8031.540.1	5	540	\$31,350		100%	50%	50%	Vibration Data Collector	Existing vibration data collection tool software is no longer supported by the manufacturer. The replacement unit requires no special software support or annual service contract.
37 Machinery and Equipment	8031.540.2	5	540	\$18,000		100%	50%	50%	Well Micro-Camera	Well video technology has greatly improved over the past 10 years. Today micro-cameras are less than one inch in diameter and are used to assess well condition without equipment removal. This purchase will provide staff the tools needed to evaluate well conditions in-house saving time and money.
38 Machinery and Equipment	8031.540.3	5	540	\$15,000	100%		50%	50%	Ultrasound Data Collector	Noise is the first condition indicator to identify when performing predictive maintenance. This purchase will provide the tools and training needed to work beyond existing rudimentary acoustic testing practices.
39 Machinery and Equipment	8034.540.1	8	540	\$22,583	50%	50%	50%	50%	Tube/Pipe Bending Equipment	This product will improve the safety and efficiency when fabricating curved conveyance piping, guards, hand railing, ladders and gates. Today radius bends are made manually through brute force and leverage. This machine will remove the potential for injury while bending metals and is recommended by the safety office.
40 Machinery and Equipment	8034.540.2	8	540	\$28,000	50%	50%	50%	50%	Plasma Cutting Table	The need for parts fabrication of unique or obsolete applications has doubled over the last five years. This tool will improve plasma cutting safety, efficiency, and effectiveness in the fabrication shop. Once programmed, this machine can cut both ferrous and non-ferrous metals of any shape with surgical precision while optimizing energy use. This purchase is recommended by the safety office as it will allow the operator to remove themselves from the cutting process, effectively engineering out the potential for fume exposure.

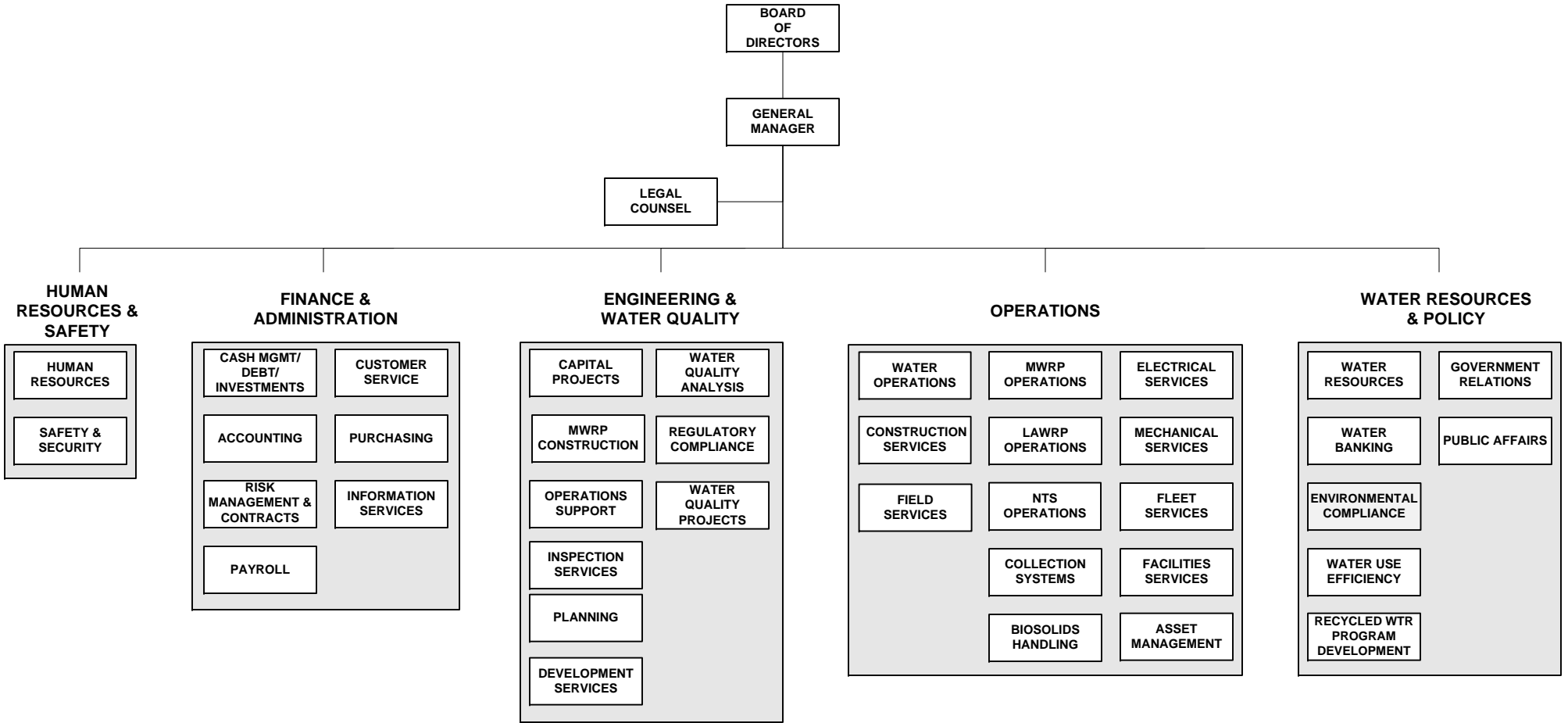
**General Plant Description and Justification
FY 2014-15 Operating Budget**

General Plant Asset	Updated Task	Life (Years)	Dept	Cost	Allocation				Asset Description	Justification
					Fund Source		System			
					New	Replace	% Water	%Sewer/ Recycle		
41 Machinery and Equipment	8030.550.1	3	550	\$7,000	100%			100%	Tablet software	Software needed for tablets to enable them to log on to facility SCADA system.
42 Machinery and Equipment	8031.570.1	5	570	\$4,900	100%			100%	Portable H2S Gas Monitor	Utilized to quantify H2S levels and odor compliants within the collection system
43 Vehicles	8055.570.1	5	570	\$85,000	100%			100%	CCTV Portable Sewer Camera and Vehicle	Camera used to locate and identify sewer system failures
44 Machinery and Equipment	8031.610.1	5	610	\$42,500	50%	50%	33%	67%	Misc. Laboratory and Field Monitoring Equipment for Unplanned Projects and Regulatory Requirements	Laboratory planning and method development associated with new contaminants, more stringent discharge limits, developing new recycled water users, and supporting treatment and supply related projects. Field monitoring equipment for unplanned projects or regulatory requirements. Funds budgeted last fiscal years as seperate GPC line items for Dept. 630 and 640 are consolidated this year into a single line item in department 610.
45 Machinery and Equipment	8031.630.1	5	630	\$40,000	100%			100%	Laboratory Equipment for Biosolids and Energy Recovery Project.	A portion of the funds necessary to acquire equipment to implement the proposed process control monitoring program for the future biosolids and energy recovery facilities. Funds accrued in fiscal years ending 2015 and 2016 will be carried forward to purchase general plant capital equipments as needed to meet analytical needs at various project milestones.
46 Machinery and Equipment	8036.630.1	10	630	\$75,000	100%			100%	Laboratory Instrumentation for Future Biosolids and Energy Recovery Project.	A portion of the funds necessary to acquire equipment and instrumentation to implement the proposed monitoring program for the future biosolids and energy recovery facilities. Funds accrued in fiscal years ending 2013, 2014 and 2015, and carried forward to future fiscal years for expenditure prior to the beginning of facility operations so the laboratory will have method development completed in time to provide process control data when the facility is active. ACCRUED FUNDS THROUGH FY ENDING 2014 = \$150,000, NEW FUNDS FY ENDING 2015 = \$75,000, TOTAL ACCRUED FUNDS FY ENDING 2015 = \$225,000

**General Plant Description and Justification
FY 2014-15 Operating Budget**

General Plant Asset	Updated Task	Life (Years)	Dept	Cost	Allocation				Asset Description	Justification	
					Fund Source		System				
					New	Replace	% Water	%Sewer/Recycle			
47	Machinery and Equipment	8036.630.2	5 to 20	630	\$125,000		100%	50%	50%	Existing Laboratory Equipment Replacement	Existing laboratory instrumentation (such as GC/MSs, LC/ICP/MS, etc.) purchased in prior years with General Plant Capital funds have certain useful life and will ultimately need replacement. The budgeted dollars accrued in this fiscal year will carry forward with funds accrued since FY ending 2013 into future fiscal years with additional funds budgeted each fiscal year to build a pool of funds to purchase replacement equipment as needed, funds to be expended on a first-in-first-out basis. The on-going accumulation of funds over multiple fiscal years will eliminate peaks and valleys in the Department 463 General Plant Capital budget. The amount requested this FY is based on the amount allocated last FY adjusted to current dollars. ACCRUED FUNDS THROUGH FY ENDING 2014 = \$219,800, EXPENDED FUNDS THROUGH FY ENDING 2014 = \$30,141.37, NEW FUNDS FY ENDING 2015 = \$125,000, FUND BALANCE THROUGH FY ENDING 2015 = \$314,658.63
48	Machinery and Equipment	8031.640.1	5	640	\$15,335		100%		100%	Two (2) Portable discrete samplers with pH and conductivity sensor options.	All four (4) of the District's Portable samplers utilized for the Industrial Waste Program are more than five years old, with one being 12 years old, and the manufacturer date of the other three being unknown. It has been determined that at least two new samplers will be needed to replace two of the oldest samplers that are nearest to failure. These items were not purchased in FY13/14 as we were informed of a new change over in technology by various manufacturers and did not want to purchase technology that would be outdated within a year.
Sub-total					\$1,564,268						
Salvage Value					(\$22,000)						
Total General Plant					<u>\$1,542,268</u>						

**Irvine Ranch Water District
Organizational Chart
(By Function)
Fiscal Year 2014-15**





LABOR

THREE YEAR PERSONNEL COMPARISON

Department	Authorized Positions		
	2012-13	2013-14	2014-15
Administration			
Number of Positions	13.0	12.0	11.0
% change from prior year	(38.1) %	(7.7) %	(8.3) %
Finance and Administrative Services			
Number of Positions	69.0	71.0	71.0
% change from prior year	7.8 %	2.9 %	0.0 %
Engineering			
Number of Positions	40.0	41.0	38.0
% change from prior year	21.2 %	2.5 %	(7.3) %
Water Quality			
Number of Positions	26.0	26.0	28.0
% change from prior year	4.0 %	0.0 %	7.7 %
Maintenance			
Number of Positions	36.0	38.0	48.0 *
% change from prior year	0.0 %	5.6 %	26.3 %
Water Operations			
Number of Positions	66.0	69.0	70.0 * **
% change from prior year	0.0 %	4.5 %	1.4 %
Recycling Operations			
Number of Positions	39.0	40.0	43.0 *
% change from prior year	0.0 %	2.6 %	7.5 %
Water Policy			
Number of Positions	26.0	26.0	27.0
% change from prior year	0.0 %	0.0 %	3.8 %
Total Number of Positions	316.0	323.0	336.0
Number of Changed Positions	9.0	7.0	13.0
% Change From Prior Year	2.9 %	2.2 %	4.0 %

*The budgeted labor dollars anticipates 1/2 year of salaries for five positions; the position count identifies the additional bodies.

** Operations Administration is included in Water Operations.



LABOR

SUMMARY OF SALARIES AND WAGES

<i>(in thousands)</i>	Total	Administration	Finance & Administrative Services	Engineering	Water Quality	Water Operations	Recycling Operations	Maintenance	Water Policy
Current Authorized:									
Gross Pay	\$27,500	\$1,252	\$5,701	\$3,943	\$2,247	\$5,339	\$3,165	\$3,270	\$2,584
Annual Increase	737	58	250	43	17	146	87	101	35
Sub-Total Regular Salaries & Wages	25,617	1,309	5,950	3,986	2,264	5,485	3,252	3,371	2,619
New Positions:									
Gross Pay	861	0	0	127	117	69	164	309	75
Total Regular Salaries & Wages	26,478	1,309	5,950	4,113	2,381	5,554	3,416	3,680	2,694
Health Insurance and Workers Comp	6,420	300	1,400	1,000	600	1,300	800	900	700
Employment Tax & PERS Contributions	8,899	400	2,000	1,400	800	1,900	1,100	1,200	900
Total Regular Salaries & Wages, health Insurance and employment taxes	\$41,798	\$2,009	\$9,350	\$6,513	\$3,781	\$8,754	\$5,316	\$5,780	\$4,294
Employee Count:	336	11	71	38	28	70	43	48	27

Regular Salaries and Wages Labor	
FY 2013-14 Labor	\$27,221
Additions	861
Promotions	154
COLA	557
Merit	304
Total	\$29,097



BENEFITS AND EMPLOYMENT TAX

HEALTH INSURANCE AND EMPLOYER CONTRIBUTIONS

	<u>FY 2013-14</u>	<u>FY 2014-15</u>	<u>Change</u>
Insurance and Benefits			
Health Ins Actives	\$4,514,000	\$4,574,700	\$60,700
Dental Premiums	455,000	440,500	(14,500)
Wrkrs Comp Premiums	405,000	564,000	159,000
Wrkrs Comp Paid Claims	350,000	291,800	(58,200)
Life Ins Actives	192,000	201,500	9,500
LT Disability Premiums	117,500	134,500	17,000
Medical Premiums - Retirees	103,000	121,500	18,500
Vision Benefit Premiums	79,000	77,500	(1,500)
Life Ins Retirees	13,000	14,000	1,000
	<u>\$6,228,500</u>	<u>\$6,420,000</u>	<u>\$191,500</u>
Employment Tax and PERS			
PERS Employer Portion	\$4,582,900	\$5,161,000	\$578,100
PERS In Excess Of ARC	2,236,900	2,113,400	(123,500)
401A Employer Portion	750,200	800,200	50,000
PERS Employee Portion	409,200	398,600	(10,600)
Medicare Tax	367,200	406,200	39,000
St Unemployment Tax	43,600	20,000	(23,600)
	<u>\$8,390,000</u>	<u>\$8,899,400</u>	<u>\$509,400</u>
Benefits			
Health, Dental, and Vision	\$5,151,000	\$5,214,200	\$63,200
Due to staff additions.			
Life Insurance & LTD	\$322,500	\$350,000	\$27,500
Due to staff additions.			
Workers Compensation	\$755,000	\$855,800	\$100,800
Premium Increase based on early estimate and is expected to decrease.			
Total variance			<u>\$191,500</u>
Employment Taxes			
District 25% Contribution Based on Labor			454,600
District's Employee Contribution			(10,600)
401A Contribution Based on 2.75% of Salaries			50,000
Medicare Tax 1.45% of most employees Salaries			39,000
State Unemployment tax reduced based on outstanding accounts.			(23,600)
Total variance			<u>\$509,400</u>

**FY 2014/15 Budget
Summary of Proposed Budgeted Personnel Changes**

Proposed Changes to Existing Budgeted Positions						
Dept	Job Title	Current Sal Grade	Proposed Action	Proposed Job Title	Proposed Sal Grade	Salary Costs
210	Sr Accountant	U11.E	Title Change only	Financial Analyst	U11.E	\$0
210	Office Specialist	15.N	Upgrade 1 Position	Sr. Accounting Clerk	20.N	\$4,920
210	Assistant Controller	U20.E	Title Change only	Controller	U20.E	\$0
300	Construction Inspector III	31.N	Upgrade 1 Position	Construction Inspection Supervisor	U33.N	\$3,864
300	Engineering Technician III	29.N	Upgrade 1 Position	Assistant Engineer	10.E	\$3,684
300	Senior Analyst	U13.E	Title Change only	GIS Supervisor	U13.E	\$0
410	Asst Director of Water Ops	U20.E	Reclass 1 Position		U23.E	\$6,108
420	Operations Coordinator	U33.N	Upgrade 1 Position	Operations Supervisor	U35.N	\$3,840
425	Water Maintenance Technician III	26.N	Upgrade 1 Position	Water Maintenance Supervisor	U31.N	\$5,220
510	Director of Wastewater Operations	U27.E	Downgrade 1 Position	Assistant Director of Recycling Ops	U23.E	\$0
515	Supervising Wetlands Biologist	U33.N	Upgrade 1 Position	Natural Resources Manager	U16.E	\$6,924
710	Administrative Assistant	U10.E	Downgrade 1 Position	Executive Assistant	U26.N	-\$9,600
710	Water Use Efficiency Supervisor	U13.E	Upgrade 1 Position	Water Use Efficiency Manager	U16.E	\$2,916
720	Water Resources Manager	U18.E	Reclass 1 Position		U19.E	\$1,200
720	Assistant Director of Water Policy	U23.E	Downgrade 1 Position	Title & salary grade to be determined		-\$30,000
720	Assistant Engineer	10.E	Downgrade 1 Position	Engineering Technician III	29.N	-\$3,600
810	Asst Director of Maintenance	U20.E	Reclass 1 Position		U23.E	\$5,760
Subtotal						\$1,236

Proposed New Positions			
Dept	Job Title	Sal Grade	Salary Costs
300	Principal Engineer	U23.E	\$122,844
610	Executive Secretary	U22.N	\$59,244
630	Scientist	26.N	\$66,540
410	Executive Assistant	U26.N	\$66,540
550	Operations Supervisor	U35.N	\$86,376
550	Operator III	29.N	\$36,288
550	Operator III	29.N	\$36,288
710	Sr. Water Use Efficiency Specialist	29.N	\$0
820	Electrical & Automation Manager	U19.E	\$107,280
820	Automation Technician	32.N	\$79,236
820	Sr Electrical Technician	30.N	\$37,374
820	Sr Instrumentation Technician	30.N	\$37,374
840	Maintenance Mechanic	20.N	\$27,942
Subtotal			\$763,326

Hire 1/1/2015
Hire 1/1/2015
Funded from overallocation funds

Hire 1/1/2015
Hire 1/1/2015
Hire 1/1/2015



LABOR

PROPOSED LABOR CHANGES

Proposed Personnel Budget Changes Reflected in the FY 2014/15 Operating Budget

Title and Salary Grade Changes for Existing Positions/Job Titles:

Finance (210):

Office Specialist (Salary Grade 15.N) ➔ Sr. Accounting Clerk (Salary Grade 20.N)

This position upgrade is being requested to more properly reflect the duties and responsibilities of the position.

Sr. Accountant (Salary Grade U11.E) ➔ Financial Analyst (Salary Grade U11.E)

This title change is being requested to more properly reflect the duties and responsibilities of this position.

Assistant Controller (Salary Grade U20.E) ➔ Controller (Salary Grade U20.E)

This title change is being requested to more properly reflect the duties and responsibilities of this position.

Engineering (300):

Construction Inspector III (Salary Grade 31.N) ➔ Construction Inspection Supervisor (Salary Grade U33.N)

This position upgrade is being requested due to the increase in the use of consultants and the high number of construction projects currently underway. This upgrade will provide a promotional opportunity for one Construction Inspector which will provide needed support in the field, especially in overseeing the consultant inspectors.

Engineering Technician III (Salary Grade 29.N) ➔ Assistant Engineer (Salary Grade 10.E)

This position upgrade is being requested to more properly reflect the advanced analysis and modeling duties and responsibilities of the position.

Sr. Analyst (Salary Grade U13.E) ➔ GIS Supervisor (Salary Grade U13.E)

This title change is being requested to more properly reflect the duties and responsibilities of this position.



LABOR

PROPOSED LABOR CHANGES

Water Operations Administration (410):

Assistant Director of Water Operations (Salary Grade U20.E) ➔ Assistant Director of Water Operations (Salary Grade U23.E)

This salary grade reclassification is being requested to more consistently align the Assistant Director positions throughout the organization.

Water Operations (420):

Operations Coordinator (Salary Grade U33.N) ➔ Operations Supervisor (Salary Grade U35.N)

This position upgrade is being requested in order to redistribute current workload and begin the realignment needed in preparation for the Baker Treatment Plant.

Field Services (425):

Water Maintenance Technician III (Salary Grade 26.N) ➔ Water Maintenance Supervisor (Salary Grade U31.N)

This position upgrade is being requested in order to redistribute current workload in PM group and realign number of direct reports to Assistant Manager for more effective and efficient supervision.

Recycling Administration (510):

Director of Wastewater Operations (Salary Grade U27.E) ➔ Assistant Director of Recycling Operations (Salary Grade U23.E)

This downgrade is being requested to more consistently align the Assistant Director positions throughout the organization.

Natural Treatment System (515):

Supervising Wetlands/Wildlife Biologist (Salary Grade U33.N) ➔ Natural Resources Manager (Salary Grade U16.E)

This position upgrade is being requested due to the increased responsibilities and high visibility for the District. Additional responsibilities include expansion of the Natural Treatment System, high level interaction with internal and external stakeholders and providing support to several District departments.

Water Resources and Policy (710):

Administrative Assistant (Salary Grade 10.E) ➔ Executive Assistant (Salary Grade 26.N)

This position downgrade is being requested to more properly reflect the duties and responsibilities of the position and to align administrative support position throughout the organization.



LABOR

PROPOSED LABOR CHANGES

Water Use Efficiency Supervisor (Salary Grade U13.E) ➔ Water Use Efficiency Manager (Salary Grade U16.E)

This position upgrade is being requested to more properly reflect the duties and responsibilities of the position due to the downgrade and reorganization of the Assistant Director of Water Policy that previously acted as manager of the Water Use Efficiency group.

Water Resources and Environmental Compliance (720):

Water Resources Manager (Salary Grade 18.E) ➔ Water Resources Manager (Salary Grade 19.E)

This salary grade reclassification is being requested to more properly reflect the work being performed and the addition of supervisory responsibilities.

Assistant Director of Water Policy (Salary Grade U23.E) ➔ New job title (title and salary grade to be determined)

This position downgrade is being requested to more properly reflect the new duties and responsibilities that will be assigned to the new position. Position will be transferred from Department 710 to Department 720.

Assistant Engineer (Salary Grade 10.E) ➔ Engineering Technician III (Salary Grade 29.N)

This position downgrade is being requested to more properly reflect the duties and responsibilities of the position.

Maintenance Administration (810):

Assistant Director of Maintenance (Salary Grade U20.E) ➔ Assistant Director of Maintenance (Salary Grade U23.E)

This salary grade reclassification is being requested to more consistently align the Assistant Director positions throughout the organization.

New Positions:

Engineering (300):

Principal Engineer (Salary Grade U23.E) – one position

This position will oversee the Development Services group and the Construction Inspection group and will assist with increased workload and coordination of hundreds of projects. The new position will be located at Sand Canyon and will be filled as an in-house promotional opportunity.



LABOR

PROPOSED LABOR CHANGES

MWRP Operations (550):

Operations Supervisor (Salary Grade U35.N) – one position

The Biosolids and Energy Recovery Facilities are currently under construction and the initial phase of staffing for the facilities will begin in FY2014-15. Facility training classes have been scheduled and startup, testing, and commissioning will be occurring this year. This position will oversee the Biosolids and Energy Recovery staff that will be hired later in the fiscal year and in subsequent years.

Operator III (Salary Grade 29.N) – two positions

The Biosolids and Energy Recovery Facilities are currently under construction and the initial phase of staffing for the facilities will begin in FY2014-15. Facility training classes have been scheduled and startup, testing, and commissioning will be occurring this year. These positions will be filled no earlier than January 1, 2015.

Water Resources and Policy (710):

Sr. Water Use Efficiency Specialist (Salary Grade 29.N) – one position

This new position is necessary to support the Water Use Efficiency Analyst and provide customer support to commercial, industrial, and institutional customers. This position will replace a current full-time temporary position. It is funded by overallocation funds and is not included in the Operating budget.

Operations Administration (805):

Executive Assistant (Salary Grade 26.N) – one position

This position will help meet the administrative needs of the Operations department which are currently being handled by one administrative support position. The addition of this position will allow senior management team members and other staff to focus on primary duties rather than performing administrative tasks.

Electrical Services (820):

Electrical and Automation Manager (Salary Grade U19.E) – one position

This position will replace the Electrical Services Manager position which was not backfilled when the incumbent was promoted. The title has been updated to include the addition to the group of SCADA automation group, which was transferred to Department 520 in fall 2013. The Electrical Services group requires a full-time manager to ensure continued levels of customer service and equipment reliability.

Automation Specialist (Salary Grade 32.N) – one position

This position will fulfill staffing needs associated with the MWRP Phase II plant expansion and Wells 21/22 Treatment Facility. It is also needed to meet the needs of



LABOR

PROPOSED LABOR CHANGES

facilities still under construction, including Biosolids and Energy Recovery Facilities and the Baker Treatment Facility.

Sr. Electrical Technician (Salary Grade 30.N) – one position

This position will fulfill staffing needs associated with the MWRP Phase II plant expansion and Wells 21/22 Treatment Facility. It is also needed to meet the needs of facilities still under construction, including Biosolids and Energy Recovery Facilities and the Baker Treatment Facility. This position will be filled no earlier than January 1, 2015.

Sr. Instrumentation Technician (Salary Grade 30.N) – one position

This position will fulfill staffing needs associated with the MWRP Phase II plant expansion and Wells 21/22 Treatment Facility. It is also needed to meet the needs of facilities still under construction, including Biosolids and Energy Recovery Facilities and the Baker Treatment Facility. This position will be filled no earlier than January 1, 2015.

Mechanical Services (840):

Maintenance Mechanic (Salary Grade 20.N) – one positions

This position will fulfill staffing needs associated with the MWRP Phase II plant expansion and Wells 21/22 Treatment Facility. It is also needed to meet the needs of facilities still under construction, including Biosolids and Energy Recovery Facilities and the Baker Treatment Facility.

(This page intentionally left blank)

EXHIBIT "B"



Irvine Ranch Water District Notice of Proposed Water and Sewer Rate Change

Background

Irvine Ranch Water District (IRWD) is a government agency that provides water and sewer services based on the actual cost of operation and maintenance. Each year, the IRWD Board of Directors adopts an annual operating budget that goes into effect on July 1. Part of that process is setting water and sewer rates. One of IRWD's critical business objectives is to keep costs, and therefore rates, as low as possible for all our customers. When compared with other agencies providing similar services in Orange County, IRWD's rates are consistently among the lowest in the county.

Rate Structure Changes Proposed

On July 1, 2014, the Irvine Ranch Water District is proposing to make several changes to the rates and charges on your bill. The first step and all other proposed changes to the rates and charges, allocations and tiers will become effective and operative for all bills sent starting on July 1, 2014.

Proposed Commodity Rates

Commodity charges are based on the volume of water used. For FY 2014-15, IRWD is proposing a two-step commodity rate increase for the Irvine Ranch rate area. As shown in the table of proposed rates, the rates are proposed to be increased for each tier, except for the low volume tier which is being decreased. The second step increase is proposed to be applied if customer demands for water exceed the projected water budget, requiring IRWD to make additional purchases of imported water, the most expensive source of supply for IRWD.

First and Second Rate Steps: An increase of \$0.07 per ccf (one hundred cubic feet of water, or 748 gallons) to the base rate is proposed to occur July 1, 2014. The \$0.07 increase would change the current base commodity charge for water from \$1.27 to \$1.34 per ccf, which is still one of the lowest water rates in Orange County. The second step of \$0.02 per ccf to the base rate is proposed to occur January 1, 2015, or later, but only if necessary.

FY 2014-15 Proposed Commodity Rates		
Tier	FY 2013-14	FY 2014-15
Low Volume	\$0.91 per ccf	\$0.88* per ccf
Base Rate	\$1.27	\$1.34 (step 1) \$1.36 (step 2)
Inefficient	\$2.86	\$3.91
Excessive	\$4.80	\$6.22
Wasteful	\$9.94	\$12.60

*the Low Volume rate is decreasing by \$0.03 to reward those customers using the least amount of water, thereby reducing the need for IRWD to purchase more expensive supplies. A ccf equals one hundred cubic feet and is the standard billing unit. One ccf = 748 gallons of water

Why Are These Changes Necessary?

The main reasons for the change are due to uncontrollable cost increases from:

- The need to buy more imported water as a result of the drier conditions from the drought;
- Significantly higher electricity costs for pumping and treating water (12% increase);
- Charges from the Metropolitan Water District of Southern California (MWD) for imported water purchases through our regional wholesaler the Municipal Water District of Orange County (MWDOC), the most expensive source of water supply (3.8% increase); and
- Charges from the Orange County Water District (OCWD) for pumping local groundwater (6.5% increase).

Allocation-Based Conservation Rate Structure

Since 1991, IRWD customer bills have been calculated using an allocation-based conservation rate structure that uses property-specific water budgets and tiered pricing to provide customers with an economic incentive to encourage efficient water use.

- Each customer receives a basic allocation of water that allows for a reasonable amount of water for the customer's needs.
- Water bills are calculated based upon how much water is used and whether customers stayed within their allocation.
- If a customer uses more water than their allocation, the water used that month is billed at increasingly higher tiers.
- Revenue generated by these higher billing tiers is applied to expenses associated with IRWD having to purchase additional imported water (the most expensive type of water for IRWD), urban runoff programs, and water conservation programs.
- As a result of the allocation-based rate structure, IRWD is regarded as a statewide leader in water efficiency.

How are Allocations Determined?

IRWD's water use allocations take into consideration both indoor and outdoor water use.

- Allocations are based on the default number of residents in the home, the type of home (detached home, attached home or apartment), landscape area (LA) and actual daily weather and the amount of water your plants need to stay healthy (referred to as evapotranspiration or ET).
- Grass is the highest water-using plant in a landscape. IRWD's allocation formula is based on the relative amount of water needed for warm-season turf (Kc, which averages 0.65). Trees and shrubs use far less water than grass – but IRWD's allocation assumes that your entire landscape is covered with grass. Your allocation will provide more than enough water to meet the demands of your landscaping.
- Your allocation will change with the weather throughout the year. When the weather is hotter or windier, your allocation goes up automatically. When it's cooler or rains, your allocation decreases automatically. Your allocation is printed on your monthly bill.

Proposed Changes to Allocations

The formula for the indoor part of your allocation is changing from **55 gallons** per person per day (gpd), to **50 gallons** per person per day as indicated in the table below. There are no proposed changes to the outdoor allocation. Variances are available to make adjustments to the default allocations for more people living in the home, medical needs, additional landscape area or other special circumstances. Variance forms are available on-line at IRWD's website www.irwd.com.

Type of Residence	Number of Residents Allocated (Default)	Landscape Area (Default)	Allocation Indoor (change from 55 to 50 gpd)	Allocation Outdoor	Total Allocation
Attached Home (Condo)	3	435 sq. feet	# Residents x 50 gpd	ET x LA x Kc x 1.4	Indoor + Outdoor x # days in bill period
Apartment	2	N/A	# Residents x 50 gpd	N/A	
Single Family Residence	4	1,300 sq. feet	# Residents x 50 gpd	ET x LA x Kc x 1.4	Indoor + Outdoor x # days in bill period

*Outdoor allocation is multiplied by 36.3 to convert to ccf

Proposed Change to Average Customer Monthly Allocation

The table below shows average customer allocations for summer and winter, based on customer defaults and a 30-day bill period for current and proposed allocations. IRWD always rounds up allocations to the nearest whole ccf. As a result, there is no change to the allocation for apartments. Actual allocations could vary if the actual weather is hotter (increase) or cooler (decrease) than an average year. Allocations would also increase if variances for additional allocation are applied.

Type of Residence	Indoor ccf	Outdoor Summer Average ccf	Outdoor Winter Average ccf	Total Average Summer Allocation ccf	Total Average Winter Allocation ccf
Attached Home (Condo) - Current	7	3	1	10	8
Attached Home (Condo) - Proposed	6	3	1	9	7
Apartment - Current	4	n/a	n/a	4	4
Apartment - Proposed	4	n/a	n/a	4	4
Single Family Residence - Current	9	7	3	16	12
Single Family Residence - Proposed	8	7	3	15	11

An "Allocation-Based Conservation Rate Calculator" is also available on the IRWD website www.irwd.com to show how staying within your allocation or exceeding it will affect your monthly bill. Provide your account number from a recent bill and you can see how your bill will be recalculated using the new rates, allocations and tiers, and any variances you have on your account. Customers who use water wisely and stay within their allocation will be rewarded with some of the lowest rates in Orange County.

Proposed Changes to Billing Tiers

For FY 2014-15, IRWD is also proposing the following changes to the tiers for usage greater than 100% of allocation.

- The proposed reductions of the percentage of allocation in the Inefficient, Excessive and Wasteful tiers will increase the cost for any water usage that falls within those tiers as a result of the percentage reductions.

- Water usage in each tier is determined as a percentage of allocation. Customers with reasonable use should be able to stay within 100% of allocation. No changes are proposed to the percentages for first two tiers which represent usage within allocation.
- Usage greater than 100% of allocation is not considered reasonable use, and would fall into the Inefficient, Excessive and Wasteful tiers. The percentage of allocation in these three remaining (over-allocation tiers) is proposed to be reduced as shown in the table on July 1, 2014.
- Separate from, and in addition to, the rate increase proposed for the respective tiers as described above, the proposed reductions of the percentage of allocation in the three top tiers (Inefficient, Excessive and Wasteful), will increase the cost of any water usage that falls within a higher tier, as a result of the percentage reductions.

Proposed Reduction in Inefficient, Excessive and Wasteful Tiers		
Tier	FY 2013-14	FY 2014-15
Low Volume	0 -40 %	0 - 40%
Base Rate	41 -100%	41-100%
Inefficient	101-150%	101-130%
Excessive	151-100%	131-160%
Wasteful	201+	161+

} Decrease

A potential additional reduction of 10% in each of the tiers above Low Volume is proposed for January 1, 2015, or later, to implement further water use reduction.

Proposed Monthly Water and Sewer Service Rates

The fixed monthly water service charge is proposed to increase \$0.75 from \$9.85 to \$10.60 for the average size residential water meter. The sewer rate is proposed to increase from \$18.40 to \$20.60 per month. **The total cost of all water and sewer rate increases would be an average of \$3.41 per month for a residential customer using the typical 5/8 x 3/4 inch meter.**

Included in the monthly service charges to the average residential customer are \$1.50 per month for water infrastructure enhancements and replacements, and \$7.40 per month for sewer infrastructure enhancements and replacements. IRWD includes this funding source for capital enhancements and replacements as part of its long-term planning approach. By planning for the future and setting aside funds now to pay for the inevitable repair and the replacement of infrastructure such as pipes, pumping stations and treatment facilities, the District can avoid significant one-time increases to its customer rates and charges in the future. These funds are not used to pay for facilities that extend service to new development.

Proposed Changes for Water Service Charges fixed monthly charge based on meter size for the operation and maintenance of the water system		
Component	Current Rates	Proposed Rates
Residential - homes, condo, apartments		
5/8 x 3/4"	\$9.85/meter	\$10.60/meter
3/4" disc meter	\$9.85/meter	\$15.55/meter
1" disc meter	\$9.85/meter	\$18.00/meter
1 1/2" disc meter	\$23.20/meter	\$38.05/meter
2" disc meter	\$31.75/meter	\$58.30/meter
2" turbo meter	\$118.85/meter	\$113.00/meter
Residential master meter (shared) - apartments and condominiums	\$9.85/meter	\$10.60/meter
5/8 x 3/4" meter		

For meters one-inch and larger, there is a graduated schedule of charges on a per-meter basis, ranging from \$18.00 per month for a 1-inch meter to \$113.00 for 2" turbo meter. The current amount for your meter size appears on your bill.

Proposed Changes for Sewer Service Charges fixed monthly charge based on meter size for the operation and maintenance of the sewer system		
Component	Current Rates	Proposed Rates
Sewer service charge (Single family dwelling units)	\$18.40/month	\$20.60/month
Sewer service charge (Multi-family dwelling units, per unit)	\$13.80 to \$16.60/month	\$15.45 to \$18.55/month
Collection Service Charge (based on flows)	\$0.67/ccf	\$0.73/ccf

Pumping Surcharges, Set-up and Reconnection Fees

A pumping surcharge is added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based on prevailing energy costs and varies depending upon the elevation of the area served. If you live in an area affected by a pumping surcharge, it is itemized on your monthly bill.

Proposed Changes to Pumping Surcharges, Set-up and Reconnection Fees		
Component	Current Rates	Proposed Rates
Pumping Surcharges by Zone	\$0.16 to \$0.42/ccf	\$0.16 to \$0.42/ccf
One-time Setup Fee for New Accounts	\$17.00	\$20.00
Fees for Reconnection to the System in the event of Shutoff	\$70.00 - \$95.00	\$70.00 - \$95.00

Sample Bills

Below are two examples, using the proposed Step 1 rate increase, of how water efficiency can lower your bill and save you money. Each of these examples for single family customers takes the actual water use per month determined by the meter reading and then applies it using the tier rate percentage allocations (see page 3). To see how your bill would change, use the rate calculator on the IRWD website www.irwd.com.

Bill # 1 – The Inefficient Customer			
Dates of Service	Meter Reading	Units Used	
7/10/14 8/09/14	1255 1281	26 CCF	
USAGE – LOW VOLUME	6	\$ 0.88	\$ 5.28
USAGE – BASE RATE	9	\$ 1.34	\$12.06
USAGE – INEFFICIENT	5	\$ 3.91	\$19.55
USAGE – EXCESSIVE	4	\$ 6.22	\$24.88
USAGE –WASTEFUL	2	\$12.60	\$25.20
WATER SERVICE CHARGE			\$10.60
SEWER SERVICE CHARGE			\$20.60
YOUR ALLOCATION FOR THIS BILL	15 CCF		
BILL CALCULATION BASED ON	.03 ACRES		
TO AVOID LATE CHARGE PAY BEFORE	9/07/14		\$118.17

Bill # 2 – The Efficient Customer			
Dates of Service	Meter Reading	Units Used	
7/10/14 8/09/14	1532 1547	15 CCF	
USAGE – LOW VOLUME	6	\$0.88	\$ 5.28
USAGE – BASE RATE	9	\$1.34	\$12.06
WATER SERVICE CHARGE			\$10.60
SEWER SERVICE CHARGE			\$20.60
YOUR ALLOCATION FOR THIS BILL	15 CCF		
BILL CALCULATION BASED ON	.03 ACRES		
TO AVOID LATE CHARGE PAY BEFORE	9/07/14		\$48.54

For a residential customer using 18 ccf of water, the total proposed rates will translate into an increase of \$3.41 per month. Most customers use less than 18 ccf per month.

Automatic Pass-Through Adjustments

In calculating the proposed rate increases, IRWD has used its best available information on projected increases in the cost of imported water IRWD purchases from Metropolitan Water District of Southern California (MWD) through the Municipal Water District of Orange County (MWDOC), the replenishment charges paid by IRWD to OCWD for pumping groundwater, and the cost for regional treatment of sewage paid by IRWD to the Orange County Sanitation District (OCSD). However, IRWD has no control over the amounts set by MWD, MWDOC, OCWD and OCSD (the "Regional Agencies"), and must pass those costs through to IRWD's customers. While not anticipated at this time, should any of the Regional Agencies adopt an additional increase (or decrease) in its charges ("Pass-Through Amount"), IRWD will automatically recalculate its rates to include the Pass-Through Amount. If this occurs, the automatic IRWD rate adjustment will not require a public hearing or any additional action by the IRWD Board of Directors. At least 30 days before the effective date of the adjustment, IRWD will provide its customers with the expected adjustment(s), which will generally be calculated as the total projected cost increase divided by the projected annual water consumption or annual total sewage flow as appropriate. This calculation will vary as necessary to reflect IRWD's different service areas and service classes.

Public Hearing

Any customers or property owners within the IRWD service area may file a written protest for the proposed rate increases with IRWD by sending a letter to IRWD, P.O. Box 5149, Irvine, CA 92616. A valid protest letter must include your name, the address at which you receive service from IRWD, a statement of protest and your original signature. Protest letters received by June 19 will be tabulated and presented to the Board of Directors at a public hearing regarding the rate increase to be held on June 23, 2014 at 5 p.m. in the IRWD Board Room, 15600 Sand Canyon Ave., Irvine, CA. Any customers or property owners may appear at the hearing to make comments regarding the proposed rates. Letters not mailed to meet the June 19 deadline, may be delivered in person at the hearing, and must be received prior to the conclusion of the June 23 public hearing.

Additional Information

For more information on IRWD's water efficiency programs, rebates and tips on how you can conserve, visit www.irwd.com.

If you have any additional questions, please contact IRWD Customer Service at (949) 453-5300.



Irvine Ranch Water District Notice of Proposed Water and Sewer Rate Change

Background

Irvine Ranch Water District (IRWD) is a government agency that provides water and sewer services based on the actual cost of operation and maintenance. Each year, the IRWD Board of Directors adopts an annual operating budget that goes into effect on July 1. Part of that process is setting water and sewer rates. One of IRWD's critical business objectives is to keep costs, and therefore rates, as low as possible for all our customers. When compared with other agencies providing similar services in Orange County, IRWD's rates are consistently among the lowest in the county.

Rate Structure Changes Proposed

On July 1, 2014, the Irvine Ranch Water District is proposing to make several changes to the rates and charges on your bill. The first step and all other proposed changes and rates will become effective and operative for all bills sent starting on July 1, 2014.

Proposed Potable Water Commodity Rates

Commodity charges are based on the volume of water used. For FY 2014-15, IRWD is proposing a two-step commodity rate increase for the Irvine Ranch rate area. As shown in the table of proposed rates, the rates are proposed to be increased for each tier. The second step is proposed to be applied should customer demands for water exceed the projected water budget, and therefore IRWD has to make additional purchases of imported water, the most expensive source of supply for IRWD.

First and Second Rate Steps: An increase of \$0.07 per ccf (one hundred cubic feet of water, or 748 gallons) to the base rate is proposed to occur July 1, 2014. The \$0.07 increase would change the current base commodity charge for water from \$1.27 to \$1.34 per ccf, which is still one of the lowest water rates in Orange County. The second step of \$0.02 per ccf to the base rate is proposed to occur January 1, 2015, or later, but only if necessary.

FY 2014-15 Proposed Potable Water Commodity Rates		
Potable Water	FY 2013-14	FY 2014-15
Base Rate	\$1.27	\$ 1.34 (Step 1) \$ 1.36 (Step 2)
Inefficient	\$2.86	\$ 3.91
Excessive	\$4.80	\$ 6.22
Wasteful	\$9.94	\$12.60

Proposed Recycled Water and Recycled Water Loan Commodity Rates

FY 2014-15 Recycled Water Commodity Rates		
Recycled Water	FY 2013-14	FY 2014-15
Base Rate	\$0.76	\$0.80
Inefficient	\$1.67	\$2.35
Excessive	\$2.82	\$3.73
Wasteful	\$5.91	\$7.56

FY 2014-15 Recycled Water Loan Commodity Rates		
Recycled Water	FY 2013-14	FY 2014-15
Base Rate	\$1.27	\$ 1.34
Inefficient	\$2.86	\$ 3.91
Excessive	\$4.80	\$ 6.22
Wasteful	\$9.94	\$12.60

Why Are These Changes Necessary?

The main reasons for the change are due to uncontrollable cost increases from:

- The need to buy more imported water as a result of the drier conditions from the drought;
- Significantly higher electricity costs for pumping and treating water (12% increase);
- Charges from the Metropolitan Water District of Southern California for imported water purchases, the most expensive source of water supply for IRWD (3.8% increase); and
- Charges from the Orange County Water District for pumping local groundwater (6.5% increase).

Allocation-Based Conservation Rate Structure

Since 1991, IRWD customer bills have been calculated using an allocation-based conservation rate structure that uses property-specific water budgets and tiered pricing to provide customers with an economic incentive to encourage efficient water use.

- Each customer receives a basic allocation of water, (referred to as a base index on the bill), that allows for a reasonable amount of water for the customer's needs.
- Water bills are calculated based upon how much water is used and whether customers stayed within their allocation.
- If a customer uses more water than their allocation, the water used that month is billed at increasingly higher tiers.
- Revenue generated by these higher billing tiers is applied to expenses associated with IRWD having to purchase additional imported water (the most expensive type of water for IRWD), urban runoff programs, and water conservation programs.
- As a result of the allocation-based rate structure, IRWD is regarded as a statewide leader in water efficiency.

How are Allocations Determined?

- Allocations are based on reasonable site-specific needs including but not limited to: productivity, number of employees, water use processes and efficiency practices, etc. plus outdoor irrigation needs.
- The allocation for outdoor irrigation needs is based on the irrigated landscape area (LA) and actual daily weather and the amount of water your plants need to stay healthy (referred to as evapotranspiration or ET).
- Grass is the highest water-using plant in a landscape. IRWD's allocation formula is based on the relative amount of water needed for warm-season turf (Kc, which averages 0.65). Trees and shrubs use far less water than grass – but IRWD's allocation assumes that your entire landscape is covered with grass. Your allocation should provide more than enough water to meet the demands of your landscaping.
- Your allocation (base index) can change throughout the year to reflect changes in site water use needs. Your allocation is printed on your monthly bill.

Billing Tiers

For FY 2014-15, IRWD there are no proposed changes to the billing tiers for commercial, industrial and institutional customers effective July 1, 2014. A potential reduction of 10% in each billing tier is proposed for January 1, 2015, or later, to implement water use reductions, but only if necessary.

- Water usage in each tier is determined as a percentage of allocation. Customers with reasonable use should be able to stay within 100% of their allocation (base index) and be billed at the base rate.
- Usage greater than 100% of allocation is not considered reasonable use, and would fall into the Inefficient, Excessive and Wasteful tiers.

Tier	FY 2014-15
Base Rate	0-100%
Inefficient	101-110%
Excessive	111-120%
Wasteful	121+

Proposed Monthly Water and Sewer Service Charges

The fixed monthly water service charge is proposed to increase \$0.75 from \$9.85 to \$10.60 for a 5/8 x 3/4" meter. Proposed charges for other meter sizes are shown in the table below.

Included in the monthly service charges is \$1.50 per month for water infrastructure enhancements and replacements, and \$7.40 per month for sewer infrastructure enhancements and replacements. IRWD includes this funding source for capital enhancements and replacements as part of its long-term planning approach. By planning for the future and setting aside funds now to pay for the inevitable repair and the replacement of infrastructure such as pipes, pumping stations and treatment facilities, the District can avoid significant one-time increases to its customer rates and charges in the future. These funds are not used to pay for facilities that extend service to new development.

Proposed Changes for Water Service Charges
fixed monthly charge based on meter size for the operation and maintenance of the water system

Component	Current Rates	Proposed Rates
5/8" x 3/4" disc	\$9.85/meter	\$10.60/meter
3/4" disc	\$9.85/meter	\$15.55/meter
1" disc	\$19.45/meter	\$26.15/meter
1 1/2" disc	\$53.85/meter	\$53.00/meter
2" disc	\$88.65/meter	\$84.80/meter
3" compound	\$211.35/meter	\$169.60/meter
4" compound	\$342.20/meter	\$318.00/meter
6" compound	\$549.40/meter	\$530.00/meter
8" compound	\$1,226.65/meter	\$1,020.25/meter
10" compound	\$1,361.30/meter	\$1,166.00/meter
14" compound	\$2,099.70/meter	\$1,855.00/meter
2" turbo	\$118.85/meter	\$113.00/meter
3" turbo	\$272.95/meter	\$254.40/meter
4" turbo	\$811.15/meter	\$530.00/meter
6" turbo	\$1,435.70/meter	\$1,060.00/meter
8" turbo	\$2,099.70/meter	\$1,855.00/meter
10" turbine	\$3,268.35/meter	\$2,226.00/meter
2" magnetic	\$211.35/meter	\$164.85/meter
4" magnetic	\$811.15/meter	\$658.80/meter
6" magnetic	\$1,435.70/meter	\$1,482.40/meter
8" magnetic	\$2,099.70/meter	\$2,636.20/meter
6" propeller	\$1,226.65/meter	\$715.50/meter
8" propeller	\$1,361.30/meter	\$954.00/meter
10" propeller	\$1,435.70/meter	\$1,272.00/meter
12" or 14" propeller	\$2,099.70/meter	\$1,788.75/meter
16", 18" or 20" propeller	\$3,301.85/meter	\$3,021.00/meter

The sewer service charge is proposed to increase from \$18.40 to \$20.60 per month, which includes the first 10 ccfs of water per month. Additional charges based on the volume of water used and treated in excess of 10 ccf per month are shown in the table below.

Proposed Changes for Sewer Quantity and Industrial Waste Charges
fixed monthly charge based on meter size for the operation and maintenance of the sewer system

Component	Current Rates	Proposed Rates
Sewer Quantity Charge	\$2.11 per ccf of water used	\$2.36 per ccf of water used
Collection Quantity Charge	\$0.67 per ccf of water used	\$0.73 per ccf of water used
Industrial Waste Charge	\$0.103 per ccf	\$0.115 per ccf

Private Fire Line Service Fee, Hydrant Charges, Pumping Surcharges, Set-up and Reconnection Fees

A pumping surcharge is added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based on prevailing energy costs and varies depending upon the elevation of the area served. Areas affected by a pumping surcharge are itemized on the monthly bill.

Proposed Changes to Pumping Surcharges, Set-up and Reconnection Fees

Component	Current Rates	Proposed Rates
Private Fire Line Service Fee (per diameter in.)	\$13.60	\$13.60
Fire Hydrant Charge	\$23.70/month per hydrant	\$23.70/month per hydrant
Pumping Surcharges by Zone	\$0.16 to \$0.42/ccf	\$0.16 to \$0.42/ccf
One-time Setup Fee for New Accounts	\$17.00	\$20.00
Fees for Reconnection to the System due to Shutoff	\$70.00 - \$95.00	\$70.00 - \$95.00

Automatic Pass-Through Adjustments

In calculating the proposed rate increases, IRWD has used its best available information on projected increases in the cost of imported water IRWD purchases from MWD through MWDOC, the replenishment charges paid by IRWD to OCWD for pumping groundwater, and the cost for regional treatment of sewage paid by IRWD to the Orange County Sanitation District (OCSD). However, IRWD has no control over the amounts set by MWD, MWDOC, OCWD and OCSD (the "Regional Agencies"), and must pass those costs through to IRWD's customers. While not anticipated at this time, should any of the Regional Agencies adopt an additional increase (or decrease) in its charges ("Pass-Through Amount"), IRWD will automatically recalculate its rates to include the Pass-Through Amount. If this occurs, the automatic IRWD rate adjustment will not require a public hearing or any additional action by the IRWD Board of Directors. At least 30 days before the effective date of the adjustment, IRWD will provide its customers with the expected adjustment(s), which will generally be calculated as the total projected cost increase divided by the projected annual water consumption or annual total sewage flow as appropriate. This calculation will vary as necessary to reflect IRWD's different service areas and service classes.

Public Hearing

Any customers or property owners within the IRWD service area may file a written protest for the proposed rates and charges with IRWD by sending a letter to IRWD, P.O. Box 5149, Irvine, CA 92616. A valid protest letter must include your name, the address at which you receive service from IRWD, a statement of protest and your original signature. Protest letters received by June 19 will be tabulated and presented to the Board of Directors at a public hearing regarding the rate increase to be held on June 23, 2014 at 5 p.m. in the IRWD Board Room, 15600 Sand Canyon Ave., Irvine, CA. Any customers or property owners may appear at the hearing to make comments regarding the proposed rates. Letters not mailed to meet the June 19 deadline may be delivered in person at the hearing, and must be received prior to the conclusion of the June 23 public hearing.

Additional Information

For more information on IRWD's water efficiency programs, rebates and tips on how you can conserve, visit www.irwd.com. If you have any additional questions, please contact IRWD Customer Service at (949) 453-5300.



Irvine Ranch Water District Notice of Proposed Water and Sewer Rate Change

Background

Irvine Ranch Water District (IRWD) is a government agency that provides water and sewer services based on the actual cost of operation and maintenance. Each year, the IRWD Board of Directors adopts an annual operating budget that goes into effect on July 1. Part of that process is setting water and sewer rates. One of IRWD's critical business objectives is to keep costs, and therefore rates, as low as possible for all our customers. When compared with other agencies providing similar services in Orange County, IRWD's rates are consistently among the lowest in the county.

Rate Structure Changes Proposed

On July 1, 2014, the Irvine Ranch Water District is proposing to make several changes to the rates and charges on your bill. The first step and all other proposed changes to the rates and charges will become effective and operative for all bills sent starting on July 1, 2014.

Proposed Commodity Rates

Commodity charges are based on the volume of water used. For FY 2014-15, IRWD is proposing a two-step commodity rate increase for the Irvine Ranch rate area. As shown in the table of proposed rates, the rates are proposed to be increased for each tier, except for the low volume tier, which is decreasing. The second step increase is proposed to be applied should customer demands for water exceed the projected water budget, and therefore IRWD has to make additional purchases of imported water, the most expensive source of supply for IRWD.

Potable Water – Non Agricultural

First Rate Step: An increase of \$0.07 per ccf (one hundred cubic feet of water, or 748 gallons) to the base rate. The first step will occur July 1, 2014. The \$0.07 increase would change the current base commodity charge for potable water from \$1.27 to \$1.34 per ccf, which is still one of the lowest water rates in Orange County.

The second step of \$0.02 per ccf to the base rate, is proposed to occur January 1, 2015, or later, but only if necessary.

FY 2014-15 Proposed Potable Non-Agricultural Landscape Commodity Rates		
Tier	FY 2013-14	FY 2014-15
Low Volume	\$0.91 per ccf	\$0.88* per ccf
Base Rate	\$1.27	\$1.34 (Step 1) \$1.36 (Step 2)
Inefficient	\$2.86	\$3.91
Excessive	\$4.80	\$6.22
Wasteful	\$9.94	\$12.60

*the Low Volume rate is decreasing by \$0.03 to reward those customers that use the least amount of water. A ccf equals one hundred cubic feet and is the standard billing unit. One ccf = 748 gallons of water

Non-Potable and Recycled Water – Non-Agricultural

First and Second Rate Steps: An increase of \$0.08 per ccf (one hundred cubic feet of water, or 748 gallons) to the base rate. The first step will occur July 1, 2014. The \$0.08 increase would change the current base commodity charge for potable water from \$1.11 to \$1.19 per ccf, which is still one of the lowest water rates in Orange County.

The second step of \$0.02 per ccf to the base rate, increasing the base rate from \$1.19 to \$1.21. The second step is proposed to occur January 1, 2015, or later, but only if necessary.

FY 2014-15 Proposed Non-Potable and Recycled Non-Agricultural Landscape Commodity Rates		
Tier	FY 2013-14	FY 2014-15
Low Volume	\$0.82 per ccf	\$0.79 per ccf
Base Rate	\$1.11	\$1.19 (Step 1) \$1.21 (Step 2)
Inefficient	\$2.48	\$2.56
Excessive	\$4.23	\$5.17
Wasteful	\$8.85	\$11.47

A ccf equals one hundred cubic feet and is the standard billing unit. One ccf = 748 gallons of water

Agricultural Commodity Rates

FY 2014-15 Agricultural Potable Water Commodity Rates		
Tier	FY 2013-14	FY 2014-15
Base Rate	\$ 1.54	\$ 1.62
Inefficient	\$ 3.46	\$ 3.91
Excessive	\$ 5.81	\$ 6.22
Wasteful	\$11.96	\$12.60
FY 2014-15 Proposed Agricultural Non-Potable Water Commodity Rates		
Non-Potable	\$ 1.12	\$ 1.21
SAC Water	\$ 1.57	\$ 1.66
A ccf equals one hundred cubic feet and is the standard billing unit. One ccf = 748 gallons of water		

Why Are These Changes Necessary?

The main reasons for the change are due to uncontrollable cost increases from:

- The need to buy more imported water as a result of the drier conditions from the drought;;
- Charges from the Metropolitan Water District of Southern California for imported water purchases, the most expensive source of water supply for IRWD (3.8% increase);
- Charges from the Orange County Water District for pumping local groundwater (10% increase); and
- Significantly higher electricity costs for pumping and treatment of water (12% increase).

Allocation-Based Conservation Rate Structure

IRWD customer bills are calculated using an allocation-based conservation rate structure that uses property-specific water budgets and tiered pricing to provide customers with an economic incentive to encourage efficient water use.

- Each customer receives a basic allocation of water that allows for a reasonable amount of water for the customer's needs.
- Water bills are calculated based upon how much water is used and whether customers stayed within their allocation.
- If a customer uses more water than their allocation, the water used that month is billed at increasingly higher tiers.
- Revenue generated by these higher billing tiers is applied to expenses associated with IRWD having to purchase additional imported water (the most expensive type of water for IRWD), urban runoff programs, and water conservation programs.
- As a result of the allocation-based rate structure, IRWD is regarded as a statewide leader in water efficiency.

How are Allocations Determined?

Landscape Irrigation: IRWD's water use allocations for landscape use take into consideration the following.

- Allocations are based on irrigated landscape acreage (LA,) actual daily weather, the amount of water your landscape needs to stay healthy (referred to as evapotranspiration or ET), and the efficiency of your irrigation system (assumed to be 71%).
- IRWD's allocation formula is based on the relative amount of water needed for warm-season turf (Kc, which averages 0.65). Trees and shrubs use far less water than grass – but IRWD's allocation assumes that your entire landscape is covered with grass.
- Your allocation will change with the weather throughout the year. When the weather is hotter or windier, your allocation goes up automatically. When it's cooler or rains, your allocation decreases automatically. Your allocation is printed on your monthly bill.

Allocation Outdoor	Total Allocation
$ET \times LA \times Kc \times 1.4 \times 36.3$ (conversion factor to ccf)	Outdoor allocation based on ET for bill period

Agricultural: IRWD's allocations for agricultural needs are based on the site-specific crops and property use, and reasonable water use requirements.

Rate Calculator

An "Allocation-Based Conservation Rate Calculator" is also available on the IRWD website www.irwd.com for landscape customers to show how staying within your allocation or exceeding it will affect your monthly bill. Provide your account number from a recent bill and you can see how your bill will be recalculated using the new rates. Customers who use water wisely and stay within their allocation will be rewarded with some of the lowest rates in Orange County.

Billing Tiers

For FY 2014-15, there are no proposed changes to the billing tiers as of July 1, 2014. A potential additional reduction of 10% in each of the tiers above Low Volume is proposed for January 1, 2015, or later to implement further water use reduction, but only if necessary.

- Water usage in each tier is determined as a percentage of allocation. Customers with reasonable use should be able to stay within 100% of allocation.
- Usage greater than 100% of allocation is not considered reasonable use, and would fall into the Inefficient, Excessive and Wasteful tiers.

Tier	Landscape	Agriculture
Low Volume	0 -40 %	
Base Rate	41 -100%	0-100%
Inefficient	101-110%	101-110%
Excessive	111-120%	111-120%
Wasteful	121+	121+

Proposed Monthly Water Service Rates

The fixed monthly water service charge is proposed to increase \$0.75 from \$9.85 to \$10.60 for a 5/8 x 3/4 inch meter. Included in the monthly service charges is \$1.50 per month for water infrastructure enhancements and replacements. IRWD includes this funding source for capital enhancements and replacements as part of its long-term planning approach. By planning for the future and setting aside funds now to pay for the inevitable repair and the replacement of infrastructure such as pipes, pumping stations and treatment facilities, the District can avoid significant one-time increases to its customer rates and charges in the future. These funds are not used to pay for facilities that extend service to new development.

Component	Current Rates	Proposed Rates
5/8" x 3/4" disc	\$9.85/meter	\$10.60/meter
3/4" disc	\$9.85/meter	\$15.55/meter
1" disc	\$19.45/meter	\$26.15/meter
1 1/2" disc	\$53.85/meter	\$53.00/meter
2" disc	\$88.65/meter	\$84.80/meter
3" compound	\$211.35/meter	\$169.60/meter
4" compound	\$342.20/meter	\$318.00/meter
6" compound	\$549.40/meter	\$530.00/meter
8" compound	\$1,226.65/meter	\$1,020.25/meter
10" compound	\$1,361.30/meter	\$1,166.00/meter
14" compound	\$2,099.70/meter	\$1,855.00/meter
2" turbo	\$118.85/meter	\$113.00/meter
3" turbo	\$272.95/meter	\$254.40/meter
4" turbo	\$811.15/meter	\$530.00/meter
6" turbo	\$1,435.70/meter	\$1,060.00/meter
8" turbo	\$2,099.70/meter	\$1,855.00/meter
10" turbine	\$3,268.35/meter	\$2,226.00/meter
2" magnetic	\$211.35/meter	\$164.85/meter
4" magnetic	\$811.15/meter	\$658.80/meter
6" magnetic	\$1,435.70/meter	\$1,482.40/meter
8" magnetic	\$2,099.70/meter	\$2,636.20/meter
6" propeller	\$1,226.65/meter	\$715.50/meter
8" propeller	\$1,361.30/meter	\$954.00/meter
10" propeller	\$1,435.70/meter	\$1,272.00/meter
12" or 14" propeller	\$2,099.70/meter	\$1,788.75/meter
16", 18" or 20" propeller	\$3,301.85/meter	\$3,021.00/meter

Private Fire Line Service Fee, Hydrant Charges, Pumping Surcharges, Set-up and Reconnection Fees

A pumping surcharge is added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based on prevailing energy costs and varies depending upon the elevation of the area served. Areas affected by a pumping surcharge are itemized on the monthly bill.

Proposed Changes to Pumping Surcharges, Set-up and Reconnection Fees		
Component	Current Rates	Proposed Rates
Private Fire Line Service Fee (per diameter in.)	\$13.60	\$13.60
Fire Hydrant Charge	\$23.70/month per hydrant	\$23.70/month per hydrant
Pumping Surcharges by Zone	\$0.16 to \$0.42/ccf	\$0.16 to \$0.42/ccf
One-time Setup Fee for New Accounts	\$17.00	\$20.00
Fees for Reconnection to the System due to Shutoff	\$70.00 - \$95.00	\$70.00 - \$95.00

Automatic Pass-Through Adjustments

In calculating the proposed rate increases, IRWD has used its best available information on projected increases in the cost of imported water IRWD purchases from MWD through MWDOC, the replenishment charges paid by IRWD to OCWD for pumping groundwater, and the cost for regional treatment of sewage paid by IRWD to the Orange County Sanitation District (OCSD). However, IRWD has no control over the amounts set by MWD, MWDOC, OCWD and OCSD (the "Regional Agencies"), and must pass those costs through to IRWD's customers. While not anticipated at this time, should any of the Regional Agencies adopt an additional increase (or decrease) in its charges ("Pass-Through Amount"), IRWD will automatically recalculate its rates to include the Pass-Through Amount. If this occurs, the automatic IRWD rate adjustment will not require a public hearing or any additional action by the IRWD Board of Directors. At least 30 days before the effective date of the adjustment, IRWD will provide its customers with the expected adjustment(s), which will generally be calculated as the total projected cost increase divided by the projected annual water consumption or annual total sewage flow as appropriate. This calculation will vary as necessary to reflect IRWD's different service areas and service classes.

Public Hearing

Any customers or property owners within the IRWD service area may file a written protest regarding the proposed rates and charges with IRWD by sending a letter to IRWD, P.O. Box 5149, Irvine, CA 92616. A valid protest letter must include your name, the address at which you receive service from IRWD, a statement of protest and your original signature. Protest letters received by June 19 will be tabulated and presented to the Board of Directors at a public hearing regarding the rate increase to be held on June 23, 2014 at 5 p.m. in the IRWD Board Room, 15600 Sand Canyon Ave., Irvine, CA. Any customers or property owners may appear at the hearing to make comments regarding the proposed rates. Letters not mailed to meet the June 19 deadline, may be delivered in person at the hearing, and must be received prior to the conclusion of the June 23 public hearing.

Additional Information

For more information on IRWD's water efficiency programs, rebates and tips on how you can conserve, visit www.irwd.com. If you have any additional questions, please contact IRWD Customer Service at (949) 453-5300.



Irvine Ranch Water District Notice of Proposed Water and Sewer Rate Change

Background

Irvine Ranch Water District (IRWD) is a government agency that provides water and sewer services based on the actual cost of operation and maintenance. Each year, the IRWD Board of Directors adopts an annual operating budget that goes into effect on July 1. Part of that process is setting water and sewer rates. One of IRWD's critical business objectives is to keep costs, and therefore rates, as low as possible for all our customers. When compared with other agencies providing similar services in Orange County, IRWD's rates are consistently among the lowest in the county.

Rate Structure Changes Proposed

On July 1, 2014, the Irvine Ranch Water District is proposing to make several changes to the rates and charges on your bill. The proposed changes to the rates and charges, allocations and tiers will become effective and operative for all bills sent starting on July 1, 2014.

Proposed Commodity Rates

Commodity charges are based on the volume of water used. For FY 2014-15, IRWD is proposing a commodity rate increase for the Los Alisos rate area. As shown in the table of proposed rates, the rates are proposed to be increased for each tier, except for the low volume tier, which is decreasing.

Rate Increase: An increase of \$0.07 per ccf (one hundred cubic feet of water, or 748 gallons) to the base rate is proposed to occur July 1, 2014. The \$0.07 increase would change the current base commodity charge for water from \$2.24 to \$2.31 per ccf, which is still one of the lowest water rates in Orange County.

FY 2014-15 Proposed Commodity Rates		
Tier	FY 2013-14	FY 2014-15
Low Volume	\$1.54 per ccf	\$1.51* per ccf
Base Rate	\$2.24	\$2.31
Inefficient	\$3.20	\$3.91
Excessive	\$4.80	\$6.22
Wasteful	\$9.84	\$12.60

*the Low Volume rate is decreasing by \$0.03 to reward those customers using the least amount of water, thereby reducing the need for IRWD to purchase more expensive supplies. A ccf equals one hundred cubic feet and is the standard billing unit. One ccf = 748 gallons of water

Why Are These Changes Necessary?

The main reasons for the change are due to uncontrollable cost increases from:

- The need to buy more imported water as a result of the drier conditions from the drought;
- Significantly higher electricity costs for pumping and treating water (12% increase); and
- Charges from the Metropolitan Water District of Southern California (MWD) for imported water purchases through our regional wholesaler the Municipal Water District of Orange County (MWDOC), the most expensive source of water supply for IRWD (3.8% increase).

Allocation-Based Conservation Rate Structure

Since 1991, IRWD customer bills have been calculated using an allocation-based conservation rate structure that uses property-specific water budgets and tiered pricing to provide customers with an economic incentive to encourage efficient water use.

- Each customer receives a basic allocation of water that allows for a reasonable amount of water for the customer's needs.
- Water bills are calculated based upon how much water is used and whether customers stayed within their allocation.
- If a customer uses more water than their allocation, the water used that month is billed at increasingly higher tiers.
- Revenue generated by these higher billing tiers is applied to expenses associated with IRWD having to purchase additional imported water (the most expensive type of water for IRWD), urban runoff programs, and water conservation programs.
- As a result of the allocation-based rate structure, IRWD is regarded as a statewide leader in water efficiency.

How are Allocations Determined?

IRWD's water use allocations take into consideration both indoor and outdoor water use.

- Allocations are based on the default number of residents in the home, the type of home (detached home, attached home or apartment), landscape area (LA) and actual daily weather and the amount of water your plants need to stay healthy (referred to as evapotranspiration or ET).

- Grass is the highest water-using plant in a landscape. IRWD’s allocation formula is based on the relative amount of water needed for warm-season turf (Kc, which averages 0.65). Trees and shrubs use far less water than grass – but IRWD’s allocation assumes that your entire landscape is covered with grass. Your allocation will provide more than enough water to meet the demands of your landscaping.
- Your allocation will change with the weather throughout the year. When the weather is hotter or windier, your allocation goes up automatically. When it’s cooler or rains, your allocation decreases automatically. Your allocation is printed on your monthly bill.

Proposed Changes to Allocations

The formula for the indoor part of your allocation is changing **from 55 gallons** per person per day (gpd), **to 50 gallons** per person per day as indicated in the table below. There are no proposed changes to the outdoor allocation. Variances are available to make adjustments to the default allocations for more people living in the home, medical needs, additional landscape area or other special circumstances. Variance forms are available on-line at IRWD’s website www.irwd.com.

Type of Residence	Number of Residents Allocated (Default)	Landscape Area (Default)	Allocation Indoor (change from 55 to 50 gpd)	Allocation Outdoor	Total Allocation
Attached Home (Condo)	3	435 sq. feet	# Residents x 50 gpd	ET x LA x Kc x 1.4	Indoor + Outdoor x # days in bill period
Apartment	2	N/A	# Residents x 50 gpd	N/A	
Single Family Residence	4	1,300 sq. feet	# Residents x 50 gpd	ET x LA x Kc x 1.4	Indoor + Outdoor x # days in bill period

*Outdoor allocation is multiplied by 36.3 to convert to ccf

Proposed Change to Average Customer Monthly Allocation

The table below shows average customer allocations for summer and winter, based on customer defaults and a 30-day bill period for current and proposed allocations. IRWD always rounds up allocations to the nearest whole ccf. As a result, there is no change to the allocation for apartments. Actual allocations could vary if the actual weather is hotter (increase) or cooler (decrease) than an average year. Allocations would also increase if variances for additional allocation are applied.

Type of Residence	Indoor ccf	Outdoor Summer Average ccf	Outdoor Winter Average ccf	Total Average Summer Allocation ccf	Total Average Winter Allocation ccf
Attached Home (Condo) - Current	7	3	1	10	8
Attached Home (Condo) - Proposed	6	3	1	9	7
Apartment - Current	4	n/a	n/a	4	4
Apartment - Proposed	4	n/a	n/a	4	4
Single Family Residence - Current	9	7	3	16	12
Single Family Residence - Proposed	8	7	3	15	11

An “Allocation-Based Conservation Rate Calculator” is also available on the IRWD website www.irwd.com to show how staying within your allocation or exceeding it will affect your monthly bill. Provide your account number from a recent bill and you can see how your bill will be recalculated using the new rates, allocations and tiers, and any variances you have on your account. Customers who use water wisely and stay within their allocation will be rewarded with some of the lowest rates in Orange County.

Proposed Changes to Billing Tiers

For FY 2014-15, IRWD is also proposing the following changes to the tiers for usage greater than 100% of allocation.

- The proposed reductions of the percentage of allocation in the Inefficient, Excessive and Wasteful tiers will increase the cost for any water usage that falls within those tiers as a result of the percentage reductions.
- Water usage in each tier is determined as a percentage of allocation. Customers with reasonable use should be able to stay within 100% of allocation. No changes are proposed to the percentages for first two tiers which represent usage within allocation.

- Usage greater than 100% of allocation is not considered reasonable use, and would fall into the Inefficient, Excessive and Wasteful tiers. The percentage of allocation in these three remaining (over-allocation tiers) is proposed to be reduced as shown in the table on July 1, 2014.
- Separate from, and in addition to, the rate increase proposed for the respective tiers as described above, the proposed reductions of the percentage of allocation in the three top tiers (Inefficient, Excessive and Wasteful), will increase the cost of any water usage that falls within a higher tier, as a result of the percentage reductions.

Proposed Reduction in Inefficient, Excessive and Wasteful Tiers		
Tier	FY 2013-14	FY 2014-15
Low Volume	0 -40 %	0 - 40%
Base Rate	41 -100%	41-100%
Inefficient	101-150%	101-130%
Excessive	151-100%	131-160%
Wasteful	201+	161+

} Decrease

A potential additional reduction of 10% in each of tiers, with the exception of Low Volume, is proposed for January 1, 2015, or later, if necessary to implement further water use reduction.

Proposed Monthly Water and Sewer Service Charges

The fixed monthly water service charge is proposed to increase \$0.75 from \$9.85 to \$10.60 for the average size residential water meter. The sewer rate is proposed to increase from \$18.40 to \$20.60 per month. **The total cost of all water and sewer rate increases would be an average of \$3.65 per month for a residential customer using the typical 5/8 x 3/4 inch meter.**

Included in the monthly service charges to the average residential customer are \$1.50 per month for water infrastructure enhancements and replacements, and \$7.40 per month for sewer infrastructure enhancements and replacements. IRWD includes this funding source for capital enhancements and replacements as part of its long-term planning approach. By planning for the future and setting aside funds now to pay for the inevitable repair and the replacement of infrastructure such as pipes, pumping stations and treatment facilities, the District can avoid significant one-time increases to its customer rates and charges in the future. These funds are not used to pay for facilities that extend service to new development.

Proposed Changes for Water Service Charges fixed monthly charge based on meter size for the operation and maintenance of the water system		
Component	Current Rates	Proposed Rates
Residential - homes, condo, apartments		
5/8 x 3/4"	\$9.85/meter	\$10.60/meter
3/4" disc meter	\$9.85/meter	\$15.55/meter
1" disc meter	\$9.85/meter	\$18.00/meter
1 1/2" disc meter	\$23.20/meter	\$38.05/meter
2" disc meter	\$31.75/meter	\$58.30/meter
2" turbo meter	\$118.85/meter	\$113.00/meter
Residential master meter (shared) - apartments and condominiums		
5/8 x 3/4" meter	\$9.85/meter	\$10.60/meter

For meters one-inch and larger, there is a graduated schedule of charges on a per-meter basis, ranging from \$18.00 per month for a 1-inch meter to \$113.00 for 2" turbo meter. The current amount for your meter size appears on your bill.

Proposed Changes for Sewer Service Charges fixed monthly charge based on meter size for the operation and maintenance of the sewer system		
Component	Current Rates	Proposed Rates
Sewer service charge (Single family dwelling units)	\$18.40/month	\$20.60/month
Sewer service charge (Multi-family dwelling units, per unit)	\$13.80 to \$16.60/month	\$15.45 to \$18.55/month

Pumping Surcharges, Set-up and Reconnection Fees


A pumping surcharge is added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based on prevailing energy costs and varies depending upon the elevation of the area served. If you live in an area affected by a pumping surcharge, it is itemized on your monthly bill.


Proposed Changes to Pumping Surcharges, Set-up and Reconnection Fees

Component	Current Rates	Proposed Rates
Pumping Surcharges by Zone	\$0.16 to \$0.42/ccf	\$0.16 to \$0.42/ccf
One-time Setup Fee for New Accounts	\$17.00	\$20.00
Fees for Reconnection to the System in the event of Shutoff	\$70.00 - \$95.00	\$70.00 - \$95.00

Sample Bills

Below are two examples, using the proposed Step 1 rate increase, of how water efficiency can lower your bill and save you money. Each of these examples for single family customers takes the actual water use per month determined by the meter reading and then applies it using the tier rate percentage allocations (see page 3). To see how your bill would change, use the rate calculator on the IRWD website www.irwd.com.

Bill # 1 – The Inefficient Customer			
			
Dates of Service	Meter Reading	Units Used	
7/10/14 8/09/14	1255 1281	26 CCF	
USAGE – LOW VOLUME	6	\$ 1.51	\$ 9.06
USAGE – BASE RATE	9	\$ 2.31	\$20.79
USAGE – INEFFICIENT	5	\$ 3.91	\$19.55
USAGE – EXCESSIVE	4	\$ 6.22	\$24.88
USAGE –WASTEFUL	2	\$12.60	\$25.20
WATER SERVICE CHARGE			\$10.60
SEWER SERVICE CHARGE			\$20.60
YOUR ALLOCATION FOR THIS BILL	15 CCF		
BILL CALCULATION BASED ON	.03 ACRES		
TO AVOID LATE CHARGE PAY BEFORE	9/07/14		\$130.68

Bill # 2 – The Efficient Customer			
			
Dates of Service	Meter Reading	Units Used	
7/10/14 8/09/14	1532 1547	15 CCF	
USAGE – LOW VOLUME	6	\$1.51	\$ 9.06
USAGE – BASE RATE	9	\$2.34	\$20.79
WATER SERVICE CHARGE			\$10.60
SEWER SERVICE CHARGE			\$20.60
YOUR ALLOCATION FOR THIS BILL	15 CCF		
BILL CALCULATION BASED ON	.03 ACRES		
TO AVOID LATE CHARGE PAY BEFORE	9/07/14		\$61.05

For a residential customer using 18 ccf of water, the total proposed rates will translate into an increase of \$3.65 per month. Most customers use less than 18 ccf per month.

Automatic Pass-Through Adjustments

In calculating the proposed rate increases, IRWD has used its best available information on projected increases in the cost of imported water IRWD purchases from Metropolitan Water District of Southern California (MWD) through the Municipal Water District of Orange County (MWDOC), and the cost for regional treatment of sewage paid by IRWD to the Orange County Sanitation District (OCSD). However, IRWD has no control over the amounts set by MWD, MWDOC and OCSD (the "Regional Agencies"), and must pass those costs through to IRWD's customers. While not anticipated at this time, should any of the Regional Agencies adopt an additional increase (or decrease) in its charges ("Pass-Through Amount"), IRWD will automatically recalculate its rates to include the Pass-Through Amount. If this occurs, the automatic IRWD rate adjustment will not require a public hearing or any additional action by the IRWD Board of Directors. At least 30 days before the effective date of the adjustment, IRWD will provide its customers with the expected adjustment(s), which will generally be calculated as the total projected cost increase divided by the projected annual water consumption or annual total sewage flow as appropriate. This calculation will vary as necessary to reflect IRWD's different service areas and service classes.

Public Hearing

Any customers or property owners within the IRWD service area may file a written protest for the proposed rate increases with IRWD by sending a letter to IRWD, P.O. Box 5149, Irvine, CA 92616. A valid protest letter must include your name, the address at which you receive service from IRWD, a statement of protest and your original signature. Protest letters received by June 19 will be tabulated and presented to the Board of Directors at a public hearing regarding the rate increase to be held on June 23, 2014 at 5 p.m. in the IRWD Board Room, 15600 Sand Canyon Ave., Irvine, CA. Any customers or property owners may appear at the hearing to make comments regarding the proposed rates. Letters not mailed to meet the June 19 deadline, may be delivered in person at the hearing, and must be received prior to the conclusion of the June 23 public hearing.

Additional Information

For more information on IRWD's water efficiency programs, rebates and tips on how you can conserve, visit www.irwd.com. If you have any additional questions, please contact IRWD Customer Service at (949) 453-5300.



Irvine Ranch Water District Notice of Proposed Water and Sewer Rate Change

Background

Irvine Ranch Water District (IRWD) is a government agency that provides water and sewer services based on the actual cost of operation and maintenance. Each year, the IRWD Board of Directors adopts an annual operating budget that goes into effect on July 1. Part of that process is setting water and sewer rates. One of IRWD's critical business objectives is to keep costs, and therefore rates, as low as possible for all our customers. When compared with other agencies providing similar services in Orange County, IRWD's rates are consistently among the lowest in the county.

Rate Structure Changes Proposed

On July 1, 2014, the Irvine Ranch Water District is proposing to make several changes to the rates and charges on your bill. The proposed changes to the rates and charges will become effective and operative for all bills sent starting on July 1, 2014.

Proposed Potable Water Commodity Rates

Commodity charges are based on the volume of water used. For FY 2014-15, IRWD is proposing a commodity rate increase for the Los Alisos rate area. As shown in the table of proposed rates, the rates are proposed to be increased for each tier.

Rate Increase: An increase of \$0.07 per ccf (one hundred cubic feet of water, or 748 gallons) to the base rate is proposed to occur July 1, 2014. The \$0.07 increase would change the current base commodity charge for water from \$2.24 to \$2.31 per ccf, which is still one of the lowest water rates in Orange County.

FY 2014-15 Potable Water Commodity Rates		
Potable Water	FY 2013-14	FY 2014-15
Base Rate	\$2.24 per ccf	\$ 2.31 per ccf
Inefficient	\$3.20	\$ 3.91
Excessive	\$4.80	\$ 6.22
Wasteful	\$9.84	\$12.60

Recycled Water Commodity and Recycled Water Loan Rates

FY 2014-15 Recycled Water Commodity Rates		
Recycled Water	FY 2013-14	FY 2014-15
Base Rate	\$0.76	\$0.80
Inefficient	\$1.67	\$2.35
Excessive	\$2.82	\$3.73
Wasteful	\$5.91	\$7.56

FY 2014-15 Recycled Water Loan Commodity Rates		
Recycled Water	FY 2013-14	FY 2014-15
Base Rate	\$1.27	\$ 1.34
Inefficient	\$2.86	\$ 3.91
Excessive	\$4.80	\$ 6.22
Wasteful	\$9.94	\$12.60

Why Are These Changes Necessary?

The main reasons for the change are due to uncontrollable cost increases from:

- The need to buy more imported water as a result of the drier conditions from the drought;
- Significantly higher electricity costs for pumping and treating water (12% increase); and
- Charges from the Metropolitan Water District of Southern California for imported water purchases, the most expensive source of water supply for IRWD (3.8% increase).

Allocation-Based Conservation Rate Structure

Since 1991, IRWD customer bills have been calculated using an allocation-based conservation rate structure that uses property-specific water budgets and tiered pricing to provide customers with an economic incentive to encourage efficient water use.

- Each customer receives a basic allocation of water, (referred to as a base index on the bill), that allows for a reasonable amount of water for the customer's needs.
- Water bills are calculated based upon how much water is used and whether customers stayed within their allocation.
- If a customer uses more water than their allocation, the water used that month is billed at increasingly higher tiers.

- Revenue generated by these higher billing tiers is applied to expenses associated with IRWD having to purchase additional imported water (the most expensive type of water for IRWD), urban runoff programs, and water conservation programs.
- As a result of the allocation-based rate structure, IRWD is regarded as a statewide leader in water efficiency.

How are Allocations Determined?

- Allocations are based on reasonable site-specific needs including but not limited to: productivity, number of employees, water use processes and efficiency practices, etc. plus outdoor irrigation needs.
- The allocation for outdoor irrigation needs is based on the irrigated landscape area (LA) and actual daily weather and the amount of water your plants need to stay healthy (referred to as evapotranspiration or ET).
- Grass is the highest water-using plant in a landscape. IRWD’s allocation formula is based on the relative amount of water needed for warm-season turf (Kc, which averages 0.65). Trees and shrubs use far less water than grass – but IRWD’s allocation assumes that your entire landscape is covered with grass. Your allocation should provide more than enough water to meet the demands of your landscaping.
- Your allocation (base index) can change throughout the year to reflect changes in site water use needs. Your allocation is printed on your monthly bill.

Billing Tiers

For FY 2014-15, IRWD there are no proposed changes to the billing tiers for commercial, industrial and institutional customers effective July 1, 2014. A potential reduction of 10% in each billing tier is proposed for January 1, 2015, or later, to implement water use reductions, but only if necessary.

- Water usage in each tier is determined as a percentage of allocation. Customers with reasonable use should be able to stay within 100% of their allocation (base index) and be billed at the base rate.
- Usage greater than 100% of allocation is not considered reasonable use, and would fall into the Inefficient, Excessive and Wasteful tiers.

Tier	FY 2014-15
Base Rate	0-100%
Inefficient	101-110%
Excessive	111-120%
Wasteful	121+

Proposed Monthly Water and Sewer Service Charges

The fixed monthly water service charge is proposed to increase \$0.75 from \$9.85 to \$10.60 for a 5/8 x 3/4" meter. Proposed charges for other meter sizes are shown in the table below.

Included in the monthly service charges is \$1.50 per month for water infrastructure enhancements and replacements, and \$7.40 per month for sewer infrastructure enhancements and replacements. IRWD includes this funding source for capital enhancements and replacements as part of its long-term planning approach. By planning for the future and setting aside funds now to pay for the inevitable repair and the replacement of infrastructure such as pipes, pumping stations and treatment facilities, the District can avoid significant one-time increases to its customer rates and charges in the future. These funds are not used to pay for facilities that extend service to new development.

Proposed Changes for Water Service Charges
fixed monthly charge based on meter size for the operation and maintenance of the water system

Component	Current Rates	Proposed Rates
5/8" x 3/4" disc	\$9.85/meter	\$10.60/meter
3/4" disc	\$9.85/meter	\$15.55/meter
1" disc	\$19.45/meter	\$26.15/meter
1 1/2" disc	\$53.85/meter	\$53.00/meter
2" disc	\$88.65/meter	\$84.80/meter
3" compound	\$211.35/meter	\$169.60/meter
4" compound	\$342.20/meter	\$318.00/meter
6" compound	\$549.40/meter	\$530.00/meter
8" compound	\$1,226.65/meter	\$1,020.25/meter
10" compound	\$1,361.30/meter	\$1,166.00/meter
14" compound	\$2,099.70/meter	\$1,855.00/meter
2" turbo	\$118.85/meter	\$113.00/meter
3" turbo	\$272.95/meter	\$254.40/meter
4" turbo	\$811.15/meter	\$530.00/meter
6" turbo	\$1,435.70/meter	\$1,060.00/meter
8" turbo	\$2,099.70/meter	\$1,855.00/meter
10" turbine	\$3,268.35/meter	\$2,226.00/meter
2" magnetic	\$211.35/meter	\$164.85/meter
4" magnetic	\$811.15/meter	\$658.80/meter
6" magnetic	\$1,435.70/meter	\$1,482.40/meter
8" magnetic	\$2,099.70/meter	\$2,636.20/meter
6" propeller	\$1,226.65/meter	\$715.50/meter
8" propeller	\$1,361.30/meter	\$954.00/meter
10" propeller	\$1,435.70/meter	\$1,272.00/meter
12" or 14" propeller	\$2,099.70/meter	\$1,788.75/meter
16", 18" or 20" propeller	\$3,301.85/meter	\$3,021.00/meter

The sewer service charge is proposed to increase from \$18.40 to \$20.60 per month, which includes the first 10 ccf of water per month. Additional charges based on the volume of water used and treated in excess of 10 ccf per month are shown in the table below.

Proposed Changes for Sewer Quantity and Industrial Waste Charges
fixed monthly charge based on meter size for the operation and maintenance of the sewer system

Component	Current Rates	Proposed Rates
Sewer Quantity Charge	\$2.11 per ccf of water used	\$2.36 per ccf of water used
Collection Quantity Charge	\$0.67 per ccf of water used	\$0.73 per ccf of water used
Industrial Waste Charge	\$0.103 per ccf	\$0.115 per ccf

Private Fire Line Service Fee, Hydrant Charges, Pumping Surcharges, Set-up and Reconnection Fees

A pumping surcharge is added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based on prevailing energy costs and varies depending upon the elevation of the area served. Areas affected by a pumping surcharge are itemized on the monthly bill.

Proposed Changes to Pumping Surcharges, Set-up and Reconnection Fees

Component	Current Rates	Proposed Rates
Private Fire Line Service Fee (per diameter in.)	\$9.50	\$9.50
Fire Hydrant Charge	\$23.70/month per hydrant	\$23.70/month per hydrant
Pumping Surcharges by Zone	\$0.16 to \$0.42/ccf	\$0.16 to \$0.42/ccf
One-time Setup Fee for New Accounts	\$17.00	\$20.00
Fees for Reconnection to the System due to Shutoff	\$70.00 - \$95.00	\$70.00 - \$95.00

Automatic Pass-Through Adjustments

In calculating the proposed rate increases, IRWD has used its best available information on projected increases in the cost of imported water IRWD purchases from MWD through MWDOC, the cost for regional treatment of sewage paid by IRWD to the Orange County Sanitation District (OCSD). However, IRWD has no control over the amounts set by MWD, MWDOC and OCSD (the "Regional Agencies"), and must pass those costs through to IRWD's customers. While not anticipated at this time, should any of the Regional Agencies adopt an additional increase (or decrease) in its charges ("Pass-Through Amount"), IRWD will automatically recalculate its rates to include the Pass-Through Amount. If this occurs, the automatic IRWD rate adjustment will not require a public hearing or any additional action by the IRWD Board of Directors. At least 30 days before the effective date of the adjustment, IRWD will provide its customers with the expected adjustment(s), which will generally be calculated as the total projected cost increase divided by the projected annual water consumption or annual total sewage flow as appropriate. This calculation will vary as necessary to reflect IRWD's different service areas and service classes.

Public Hearing

Any customers or property owners within the IRWD service area may file a written protest for the proposed rates and charges with IRWD by sending a letter to IRWD, P.O. Box 5149, Irvine, CA 92616. A valid protest letter must include your name, the address at which you receive service from IRWD, a statement of protest and your original signature. Protest letters received by June 19 will be tabulated and presented to the Board of Directors at a public hearing regarding the rate increase to be held on June 23, 2014 at 5 p.m. in the IRWD Board Room, 15600 Sand Canyon Ave., Irvine, CA. Any customers or property owners may appear at the hearing to make comments regarding the proposed rates. Letters not mailed to meet the June 19 deadline may be delivered in person at the hearing, and must be received prior to the conclusion of the June 23 public hearing.

Additional Information

For more information on IRWD's water efficiency programs, rebates and tips on how you can conserve, visit www.irwd.com. If you have any additional questions, please contact IRWD Customer Service at (949) 453-5300.



Irvine Ranch Water District Notice of Proposed Water and Sewer Rate Change

Background

Irvine Ranch Water District (IRWD) is a government agency that provides water and sewer services based on the actual cost of operation and maintenance. Each year, the IRWD Board of Directors adopts an annual operating budget that goes into effect on July 1. Part of that process is setting water and sewer rates. One of IRWD's critical business objectives is to keep costs, and therefore rates, as low as possible for all our customers. When compared with other agencies providing similar services in Orange County, IRWD's rates are consistently among the lowest in the county.

Rate Structure Changes Proposed

On July 1, 2014, the Irvine Ranch Water District is proposing to make several changes to the rates and charges on your bill. The first step and all other proposed changes to the rates and charges will become effective and operative for all bills sent starting on July 1, 2014.

Proposed Commodity Rates

Commodity charges are based on the volume of water used. For FY 2014-15, IRWD is proposing a commodity rate increase for the Los Alisos rate area. As shown in the table of proposed rates, the rates are proposed to be increased for each tier, except for the low volume tier, which is decreasing.

Potable Water – Non Agricultural

Rate Increase: An increase of \$0.07 per ccf (one hundred cubic feet of water, or 748 gallons) to the base rate. The first step will occur July 1, 2014. The \$0.07 increase would change the current base commodity charge for potable water from \$2.24 to \$2.31 per ccf, which is still one of the lowest water rates in Orange County.

FY 2014-15 Proposed Potable Non-Agricultural Landscape Commodity Rates		
Tier	FY 2013-14	FY 2014-15
Low Volume	\$1.54 per ccf	\$1.51* per ccf
Base Rate	\$2.24	\$2.31
Inefficient	\$3.20	\$3.91
Excessive	\$4.80	\$6.22
Wasteful	\$9.84	\$12.60

*the Low Volume rate is decreasing by \$0.03 to reward those customers that use the least amount of water. A ccf equals one hundred cubic feet and is the standard billing unit. One ccf = 748 gallons of water

Non-Potable and Recycled Water – Non-Agricultural

Rate Increase: An increase of \$0.08 per ccf (one hundred cubic feet of water, or 748 gallons) to the base rate. The first step will occur July 1, 2014. The \$0.08 increase would change the current base commodity charge for potable water from \$1.11 to \$1.19 per ccf, which is still one of the lowest water rates in Orange County.

FY 2014-15 Proposed Non-Potable and Recycled Non-Agricultural Landscape Commodity Rates		
Tier	FY 2013-14	FY 2014-15
Low Volume	\$0.82 per ccf	\$0.79 per ccf
Base Rate	\$1.11	\$1.19
Inefficient	\$2.48	\$2.56
Excessive	\$4.23	\$5.17
Wasteful	\$8.85	\$11.47

A ccf equals one hundred cubic feet and is the standard billing unit. One ccf = 748 gallons of water

Agricultural Commodity Rates

FY 2014-15 Agricultural Potable Water Commodity Rates		
Tier	FY 2013-14	FY 2014-15
Base Rate	\$ 2.60	\$ 2.68
Inefficient	\$ 4.52	\$ 3.91
Excessive	\$ 7.21	\$ 6.22
Wasteful	\$11.70	\$12.60
FY 2014-15 Proposed Agricultural Non-Potable Water Commodity Rates		
Non-Potable	\$ 1.12	\$ 1.21
SAC Water	\$ 1.57	\$ 1.66
A ccf equals one hundred cubic feet and is the standard billing unit. One ccf = 748 gallons of water		

Why Are These Changes Necessary?

The main reasons for the change are due to uncontrollable cost increases from:

- The need to buy more imported water as a result of the drier conditions from the drought;
- Charges from the Metropolitan Water District of Southern California for imported water purchases, the most expensive source of water supply for IRWD (3.8% increase);
- Significantly higher electricity costs for pumping and treatment of water (12% increase).

Allocation-Based Conservation Rate Structure

- Since 1991, IRWD customer bills have been calculated using an allocation-based conservation rate structure that uses property-specific water budgets and tiered pricing to provide customers with an economic incentive to encourage efficient water use. Each customer receives a basic allocation of water that allows for a reasonable amount of water for the customer's needs.
- Water bills are calculated based upon how much water is used and whether customers stayed within their allocation.
- If a customer uses more water than their allocation, the water used that month is billed at increasingly higher tiers.
- Revenue generated by these higher billing tiers is applied to expenses associated with IRWD having to purchase additional imported water (the most expensive type of water for IRWD), urban runoff programs, and water conservation programs.
- As a result of the allocation-based rate structure, IRWD is regarded as a statewide leader in water efficiency.

How are Allocations Determined?

Landscape Irrigation: IRWD's water use allocations for landscape use take into consideration the following.

- Allocations are based on irrigated landscape acreage (LA,) actual daily weather, the amount of water your landscape needs to stay healthy (referred to as evapotranspiration or ET), and the efficiency of your irrigation system (assumed to be 71%).
- IRWD's allocation formula is based on the relative amount of water needed for warm-season turf (Kc, which averages 0.65). Trees and shrubs use far less water than grass – but IRWD's allocation assumes that your entire landscape is covered with grass.
- Your allocation will change with the weather throughout the year. When the weather is hotter or windier, your allocation goes up automatically. When it's cooler or rains, your allocation decreases automatically. Your allocation is printed on your monthly bill.

Allocation Outdoor	Total Allocation
$ET \times LA \times Kc \times 1.4 \times 36.3$ (conversion factor to ccf)	Outdoor allocation based on ET for bill period

Agricultural: IRWD's allocations for agricultural needs are based on the site-specific crops and property use, and reasonable water use requirements.

Rate Calculator

An "Allocation-Based Conservation Rate Calculator" is also available on the IRWD website www.irwd.com for landscape customers to show how staying within your allocation or exceeding it will affect your monthly bill. Provide your account number from a recent bill and you can see how your bill will be recalculated using the new rates. Customers who use water wisely and stay within their allocation will be rewarded with some of the lowest rates in Orange County.

Billing Tiers

For FY 2014-15, there are no proposed changes to the billing tiers as of July 1, 2014. A potential reduction of 10% in each of the tiers above Low Volume is proposed for January 1, 2015, or later, to implement further water use reduction, but only if necessary.

- Water usage in each tier is determined as a percentage of allocation. Customers with reasonable use should be able to stay within 100% of allocation.
- Usage greater than 100% of allocation is not considered reasonable use, and would fall into the Inefficient, Excessive and Wasteful tiers.

Tier	Landscape	Agriculture
Low Volume	0 -40 %	
Base Rate	41 -100%	0-100%
Inefficient	101-110%	101-110%
Excessive	111-120%	111-120%
Wasteful	121+	121+

Proposed Monthly Water Service Rates

The fixed monthly water service charge is proposed to increase \$0.75 from \$9.85 to \$10.60 for a 5/8 x 3/4 inch meter. Included in the monthly service charges is \$1.50 per month for water infrastructure enhancements and replacements. IRWD includes this funding source for capital enhancements and replacements as part of its long-term planning approach. By planning for the future and setting aside funds now to pay for the inevitable repair and the replacement of infrastructure such as pipes, pumping stations and treatment facilities, the District can avoid significant one-time increases to its customer rates and charges in the future. These funds are not used to pay for facilities that extend service to new development.

Component	Current Rates	Proposed Rates
5/8" x 3/4" disc	\$9.85/meter	\$10.60/meter
3/4" disc	\$9.85/meter	\$15.55/meter
1" disc	\$19.45/meter	\$26.15/meter
1 1/2" disc	\$53.85/meter	\$53.00/meter
2" disc	\$88.65/meter	\$84.80/meter
3" compound	\$211.35/meter	\$169.60/meter
4" compound	\$342.20/meter	\$318.00/meter
6" compound	\$549.40/meter	\$530.00/meter
8" compound	\$1,226.65/meter	\$1,020.25/meter
10" compound	\$1,361.30/meter	\$1,166.00/meter
14" compound	\$2,099.70/meter	\$1,855.00/meter
2" turbo	\$118.85/meter	\$113.00/meter
3" turbo	\$272.95/meter	\$254.40/meter
4" turbo	\$811.15/meter	\$530.00/meter
6" turbo	\$1,435.70/meter	\$1,060.00/meter
8" turbo	\$2,099.70/meter	\$1,855.00/meter
10" turbine	\$3,268.35/meter	\$2,226.00/meter
2" magnetic	\$211.35/meter	\$164.85/meter
4" magnetic	\$811.15/meter	\$658.80/meter
6" magnetic	\$1,435.70/meter	\$1,482.40/meter
8" magnetic	\$2,099.70/meter	\$2,636.20/meter
6" propeller	\$1,226.65/meter	\$715.50/meter
8" propeller	\$1,361.30/meter	\$954.00/meter
10" propeller	\$1,435.70/meter	\$1,272.00/meter
12" or 14" propeller	\$2,099.70/meter	\$1,788.75/meter
16", 18" or 20" propeller	\$3,301.85/meter	\$3,021.00/meter

Private Fire Line Service Fee, Hydrant Charges, Pumping Surcharges, Set-up and Reconnection Fees

A pumping surcharge is added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based on prevailing energy costs and varies depending upon the elevation of the area served. Areas affected by a pumping surcharge are itemized on the monthly bill.

Proposed Changes to Pumping Surcharges, Set-up and Reconnection Fees		
Component	Current Rates	Proposed Rates
Private Fire Line Service Fee (per diameter in.)	\$13.60	\$13.60
Fire Hydrant Charge	\$23.70/month per hydrant	\$23.70/month per hydrant
Pumping Surcharges by Zone	\$0.16 to \$0.42/ccf	\$0.16 to \$0.42/ccf
One-time Setup Fee for New Accounts	\$17.00	\$20.00
Fees for Reconnection to the System due to Shutoff	\$70.00 - \$95.00	\$70.00 - \$95.00

Automatic Pass-Through Adjustments

In calculating the proposed rate increases, IRWD has used its best available information on projected increases in the cost of imported water IRWD purchases from MWD through MWDOC, and the cost for regional treatment of sewage paid by IRWD to the Orange County Sanitation District (OCSD). However, IRWD has no control over the amounts set by MWD, MWDOC and OCSD (the "Regional Agencies"), and must pass those costs through to IRWD's customers. While not anticipated at this time, should any of the Regional Agencies adopt an additional increase (or decrease) in its charges ("Pass-Through Amount"), IRWD will automatically recalculate its rates to include the Pass-Through Amount. If this occurs, the automatic IRWD rate adjustment will not require a public hearing or any additional action by the IRWD Board of Directors. At least 30 days before the effective date of the adjustment, IRWD will provide its customers with the expected adjustment(s), which will generally be calculated as the total projected cost increase divided by the projected annual water consumption or annual total sewage flow as appropriate. This calculation will vary as necessary to reflect IRWD's different service areas and service classes.

Public Hearing

Any customers or property owners within the IRWD service area may file a written protest regarding the proposed rates and charges with IRWD by sending a letter to IRWD, P.O. Box 5149, Irvine, CA 92616. A valid protest letter must include your name, the address at which you receive service from IRWD, a statement of protest and your original signature. Protest letters received by June 19 will be tabulated and presented to the Board of Directors at a public hearing regarding the rate increase to be held on June 23, 2014 at 5 p.m. in the IRWD Board Room, 15600 Sand Canyon Ave., Irvine, CA. Any customers or property owners may appear at the hearing to make comments regarding the proposed rates. Letters not mailed to meet the June 19 deadline, may be delivered in person at the hearing, and must be received prior to the conclusion of the June 23 public hearing.

Additional Information

For more information on IRWD's water efficiency programs, rebates and tips on how you can conserve, visit www.irwd.com. If you have any additional questions, please contact IRWD Customer Service at (949) 453-5300.



Irvine Ranch Water District Notice of Proposed Water Rate Change

Background

Irvine Ranch Water District (IRWD) is a government agency that provides water and sewer services based on the actual cost of operation and maintenance. Each year, the IRWD Board of Directors adopts an annual operating budget that goes into effect on July 1. Part of that process is setting water and sewer rates. One of IRWD's critical business objectives is to keep costs, and therefore rates, as low as possible for all our customers. When compared with other agencies providing similar services in Orange County, IRWD's rates are consistently among the lowest in the county.

Rates in the Orange Park Acres rate area are tied directly to the proposed changes in the Irvine Ranch rate area, by agreement. Once the Orange Park Acres rate area's "buy-in" to IRWD is completed, Orange Park Acres rate area customers will be migrated to the Irvine Ranch rate area rates.

Rate Structure Changes Proposed

On July 1, 2014, the Irvine Ranch Water District is proposing to make several changes to the rates and charges on your bill. The first step and all other proposed changes to the rates and charges will become effective and operative for all bills sent starting on July 1, 2014.

Proposed Commodity Rates

Commodity charges are based on the volume of water used. For FY 2014-15, IRWD is proposing a two-step commodity rate increase for the Orange Park Acres rate area. As shown in the table of proposed rates, the rates are proposed to be increased for each tier. The second step increase is proposed to be applied if customer demands for water exceed the projected water budget, requiring IRWD to make additional purchases of imported water, the most expensive source of supply.

First and Second Rate Steps: An increase of \$0.07 per ccf (one hundred cubic feet of water, or 748 gallons) to the base rate. The first step will occur July 1, 2014. The \$0.07 increase would change the current base commodity charge for water from \$1.79 to \$1.86 per ccf, which is still one of the lowest water rates in Orange County. The second step of \$0.02 per ccf to the base rate is proposed to occur January 1, 2015, or later, but only if necessary.

FY 2014-15 Proposed Commodity Rates			
Tier - ¾" meter size	FY 2013-14	FY 2014-15	
		Step 1	Step 2
Standard Tier 1 (0-10 ccf)	\$1.79 per ccf	\$1.86 per ccf	\$1.88 per ccf
Excess Tier II (11 – 40 ccf)	\$2.13	\$2.20	\$2.22
Excess Tier III (41+ ccf)	\$1.68	\$2.75	\$2.77

Proposed Monthly Water Service Charges

The fixed monthly water service charge is proposed to increase \$0.85 from \$18.35 to \$19.10 for the average size residential water meter.

Included in the monthly service charges to the average residential customer are \$1.50 per month for water infrastructure enhancements and replacements. IRWD includes this funding source for capital enhancements and replacements as part of its long-term planning approach. By planning for the future and setting aside funds now to pay for the inevitable repair and the replacement of infrastructure such as pipes, pumping stations and treatment facilities, the District can avoid significant one-time increases to its customer rates and charges in the future. These funds are not used to pay for facilities that extend service to new development

For a residential customer using 62 ccf of water, the total proposed rates will translate into an increase of \$5.09 per month.

Proposed Changes for Water Service Charges		
Component	Current Rates	Proposed Rates
All meter sizes	\$18.35/meter	\$19.10/meter
The fixed monthly charge is based on meter size for the operation and maintenance of the water system.		

Proposed Changes to Set-up and Reconnection Fees		
Component	Current Rates	Proposed Rates
One-time Setup Fee for New Accounts	\$17.00	\$20.00
Fees for Reconnection to the System in the event of Shutoff	\$70.00 - \$95.00	\$70.00 - \$95.00

Proposed Sewer Service Monthly Service Charges

For those customers receiving sewer service from IRWD, the sewer rate is proposed to increase from \$18.40 to \$20.60 per month. Included in the monthly service charge is \$7.40 per month for sewer infrastructure enhancements and replacements.

Proposed Changes for Sewer Service Charges fixed monthly charge based on meter size for the operation and maintenance of the sewer system		
Component	Current Rates	Proposed Rates
Sewer service charge (Single family dwelling units)	\$18.40/month	\$20.60/month
Sewer service charge (Multi-family dwelling units, per unit)	\$13.80 to \$16.60/month	\$15.45 to \$18.55/month

Why Are These Changes Necessary?

The main reasons for the change are due to uncontrollable cost increases from:

- The need to buy more imported water as a result of the drier conditions from the drought;
- Significantly higher electricity costs (12% increase) for pumping and treating water; and
- Charges from the Metropolitan Water District of Southern California (MWD) for imported water purchases through our regional wholesaler the Municipal Water District of Orange County (MWDOC), the most expensive source of water supply for IRWD (3.8% increase).

Automatic Pass-Through Adjustments

In calculating the proposed rate increases, IRWD has used its best available information on projected increases in the cost of imported water IRWD purchases from MWD through MWDOC, and the cost for regional treatment of sewage paid by IRWD to the Orange County Sanitation District (OCSD). However, IRWD has no control over the amounts set by MWD, MWDOC, OCWD and OCSD (the "Regional Agencies"), and must pass those costs through to IRWD's customers. While not anticipated at this time, should any of the Regional Agencies adopt an additional increase (or decrease) in its charges ("Pass-Through Amount"), IRWD will automatically recalculate its rates to include the Pass-Through Amount. If this occurs, the automatic IRWD rate adjustment will not require a public hearing or any additional action by the IRWD Board of Directors. At least 30 days before the effective date of the adjustment, IRWD will provide its customers with the expected adjustment(s), which will generally be calculated as the total projected cost increase divided by the projected annual water consumption or annual total sewage flow as appropriate. This calculation will vary as necessary to reflect IRWD's different service areas and service classes.

Public Hearing

Any customers or property owners within the IRWD service area may file a written protest for the proposed rate increases with IRWD by sending a letter to IRWD, P.O. Box 5149, Irvine, CA 92616. A valid protest letter must include your name, the address at which you receive service from IRWD, a statement of protest and your original signature. Protest letters received by June 19 will be tabulated and presented to the Board of Directors at a public hearing regarding the rate increase to be held on June 23, 2014 at 5 p.m. in the IRWD Board Room, 15600 Sand Canyon Ave., Irvine, CA. Any customers or property owners may appear at the hearing to make comments regarding the proposed rates. Letters not mailed to meet the June 19 deadline, may be delivered in person at the hearing, and must be received prior to the conclusion of the June 23 public hearing.

Additional Information

For more information on IRWD's water efficiency programs, rebates and tips on how you can conserve, visit www.irwd.com. If you have any additional questions, please contact IRWD Customer Service at (949) 453-5300.

Exhibit "C"

RESOLUTION NO. 2014 -

RESOLUTION OF THE BOARD OF DIRECTORS
OF IRVINE RANCH WATER DISTRICT,
ORANGE COUNTY, CALIFORNIA
APPROVING DISTRICT'S OPERATING BUDGET FOR
FISCAL YEAR 2014-15 AND DETERMINING COMPLIANCE WITH
ARTICLE XIII B OF THE CALIFORNIA CONSTITUTION

WHEREAS, the Board of Directors of the Irvine Ranch Water District (IRWD) has fully considered the financial needs of IRWD for purposes of operational costs during Fiscal Year 2014-15; and

WHEREAS, an Operating Budget has been prepared and reviewed by this Board of Directors; and

WHEREAS, Article XIII B of the Constitution of the State of California provides that the appropriations of local agencies will be limited each year to those of the previous year, adjusted for changes in population, cost of living and transfers in sources of funding; and

WHEREAS, Section 8 of Article XIII B specifically excludes user charges or fees or regulatory fees as long as such fees and charges do not produce revenues exceeding the costs reasonably borne in providing the regulation, product or service; and

WHEREAS, IRWD's Operating Budget for Fiscal Year 2014-15 is totally funded from user charges which are excluded from the appropriations formula established by Article XIII B.

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

Section 1. That relative to appropriations subject to limitation under Article XIII B of the Constitution of the State of California, IRWD's Operating Budget for Fiscal Year 2014-15 is hereby determined to be funded totally by revenues other than the proceeds of taxes as defined in Section 8(c) of Article XIII B, and that the documentation used in making such determination has been on file in the offices of IRWD for not less than fifteen days prior to the date hereof, pursuant to Section 7910 of the Government Code of the State of California.

Section 2. That IRWD's Operating Budget for Fiscal Year 2014-15 is in compliance with the provisions of Article XIII B of the Constitution of the State of California.

Section 3. That the Operating Budget for IRWD for Fiscal Year 2014-15 as set forth in the Summary of the Operating Budget dated April 28, 2014 which is by this reference incorporated herein, be and the same is hereby approved.

ADOPTED, SIGNED AND APPROVED this 28th day of April, 2014.

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

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

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

By: _____

EXHIBIT "D"

Board Workshop Operating Budget and Rate Setting April 28, 2014



Schedule for Budget & Rate Adoption

FY 2014-15 Operating Budget and Rates

March 4	F&P Committee: Preliminary Budget Review
March 19	Special F&P Committee: Detailed Budget Review
April 1	F&P Committee: Budget Update, Impact on Rates
April 14	First Board Workshop
April 28	Second Board Workshop: Staff recommends adoption of Budget and approval of 218 Notices
May 2	Proposition 218 Notices mailed
June 23	Adopt FY 2014-15 Rates & Charges

DRAFT
D-1



Agenda

First Workshop (held April 14, 2014):

Detailed Budget Review- FY 2014-15

Revenues

Significant factors affecting rate setting

Operating expenses by system

Cost of Service Study

Funding Operating Increases Through Rates

Comparison of Proposed Rates

Schedule for Budget & Rate Adoption

Tonight's Workshop:

Recap Budget Highlights FY 2014-15

Updated Impact on Rates and use of Rate Stabilization Fund

Detailed Review of the Proposition 218 Notices

Staff Recommendation:

Adopt Budget

Approve Proposition 218 Notices

OPERATING BUDGET



FY 2014-15 Operating Budget

Key drivers comparison to prior year budget

(in millions)

CONSOLIDATED BUDGET	Current FY 2013-14	Proposed FY 2014-15	Increase/ (Decrease)	%
Salaries and Benefits	\$44.7	\$47.5	\$2.9	6.4%
Purchased Water	26.4	31.5	5.2	19.7%
Repairs and Maintenance	17.8	18.4	0.6	3.2%
Electricity	11.7	16.0	4.3	37.2%
Other Expenses	16.5	17.2	0.7	4.0%
Total Budget	\$117.1	\$130.6	\$13.6	11.6%

Irvine Ranch Water District

5

FISCAL YEAR ENDING JUNE 30, 2015 CONSOLIDATED SOURCES & USES OF FUNDS (in thousands)

Revenues:	Sewer/		Total
	Water	Recycled	
Operating	\$60,199	\$41,078	\$101,277
Enhancement & Replacement Contribution	3,830	15,705	19,535
Proposed Rate Increase	3,766	5,870	9,636
Rate Stabilization	240	2,272	2,512
Total Revenues	\$68,035	\$64,925	\$132,960
Expenses:	Sewer/		Total
	Water	Recycled	
Water	\$36,610	\$17,800	\$54,410
Labor	5,675	4,135	9,810
Materials and Supplies	8,225	7,330	15,555
OCSD – O & M		9,800	9,800
General and Admin Expense	10,330	7,525	17,855
General Plant	460	420	880
Marsh/NTS/Conservation	2,905	2,210	5,115
Total Expenses	\$64,205	\$49,220	\$113,425
Net Operating Position	\$3,830	\$15,705	\$19,535
Enhancement & Replacement Contribution	3,830	15,705	19,535
Budgeted Year-End Position	\$0	\$0	\$0

Irvine Ranch Water District

6



PROPOSED RATES



Proposed Rates

Summary of current and proposed water rates for the IRWD rate areas:

Revenue Source	Rate Area	FY 2013-14	FY 2014-15
Base commodity rate	Irvine Ranch	\$ 1.27/ccf	\$ 1.34/ccf
Base commodity rate	Los Alisos	\$ 2.24/ccf	\$ 2.31/ccf
Standard Tier I	OPA	\$ 1.79/ccf	\$ 1.86/ccf
5/8" X 3/4" meter rate	Irvine Ranch	\$ 9.85/meter	\$ 10.60/meter
5/8" X 3/4" meter rate	Los Alisos	\$ 9.85/meter	\$ 10.60/meter
Meter rate	OPA	\$18.35/meter	\$19.10/meter



Proposed Rates

Summary of current and proposed tiered rates per ccf for the Irvine Ranch rate area:

Tiers	FY 2013-14	FY 2014-15	Change	Description
Low Volume	\$0.91	\$0.88	(\$0.03)	70% of the pumped water melded cost (DRWF, DATS)
Base Rate	\$1.27	\$1.34	\$0.07	All sources melded cost of budgeted water (\$1.34)
Inefficient	\$2.86	\$3.91	\$1.05	Increased MWD rate (\$2.07) + 20% of various conservation programs (\$1.84)
Excessive	\$4.80	\$6.22	\$1.42	Loaded MWD rate (\$2.07) + 30% of various conservation programs (\$4.15)
Wasteful	\$9.84	\$12.60	\$2.76	Loaded MWD rate (\$2.07) + 50% of conservation programs (\$10.53)



Comparison of the Irvine Ranch Rate Area Proposed Rates – FY 13-14 to FY 14-15

Typical Residential Customer

	Current Rate FY 13-14	Proposed Rate FY 14-15	Rate Change	% Change
Water				
Service Charge *	\$ 9.85	\$ 10.60	\$ 0.75	
Commodity Charge **	19.98	20.44	0.46	
Total Water Charge	\$ 29.83	\$ 31.24	\$ 1.21	
Sewer				
Service Charge *	\$ 18.40	\$ 20.60	\$ 2.20	
Total Typical Residential Monthly Bill	\$ 48.23	\$ 51.64	\$3.41	7.1%

* Treated water service charge assumes a 5/8" x 3/4" meter and includes enhancement and replacement components of \$0.70 and \$0.80, respectively. Sewer service charge includes enhancement and replacement components of \$0.70 and \$6.70, respectively. This includes an additional \$0.65 for Biosolids Project phase in.

** Commodity charges for a typical residential customer are based on 18 ccf (average used in MWDOC rate survey).





Comparison of the Irvine Ranch Rate Area Proposed Rates – FY 13-14 to FY 14-15

Typical Residential Customer Assuming Higher Commodity Rate

	Current Rate FY 13-14	Proposed Rate FY 14-15	Rate Change	% Change
Water				
Service Charge *	\$ 9.85	\$ 10.60	\$ 0.75	
Commodity Charge **	<u>19.98</u>	<u>20.64</u>	<u>0.66</u>	
Total Water Charge	\$ 29.83	\$ 31.34	\$ 1.41	
Sewer				
Service Charge *	\$ 18.40	\$ 20.60	\$ 2.20	
Total Typical Residential Monthly Bill	\$ 48.23	\$ 51.84	\$3.61	7.5%

* Treated water service charge assumes a 5/8" x 3/4" meter and includes enhancement and replacement components of \$0.70 and \$0.80, respectively. Sewer service charge includes enhancement and replacement components of \$0.70 and \$6.70, respectively. This includes an additional \$0.65 for Biosolids Project phase in.

** Commodity charges for a typical residential customer are based on 18 ccf (average used in MWDOC rate survey).

11

Proposed Rates

Summary of current and proposed tiered rates per ccf for the Orange Park Acres rate area:

Tiers	FY 2013-14	FY 2014-15	Change	Description
Standard Tier I	\$1.79	\$1.86	\$0.07	Standard usage
Excess Tier II	\$2.13	\$2.20	\$0.07	Excess usage tier 1
Excess Tier III	\$2.68	\$2.75	\$0.07	Excess usage tier 2





Comparison of the Orange Park Acres Rate Area Proposed Rates – FY 13-14 to FY 14-15

Typical Residential Customer

	Current Rate FY 13-14	Proposed Rate FY 14-15	Rate Change	% Change
Water				
Service Charge *	\$ 18.35	\$ 19.10	\$ 0.75	
Commodity Charge **	<u>140.76</u>	<u>145.10</u>	<u>4.34</u>	
Total Typical Residential Monthly Bill	\$ 159.11	\$ 164.20	\$ 5.09	3.2%

* Treated water service charge includes enhancement and replacement components of \$0.70 and \$0.80, respectively.

** Commodity charges for a typical residential customer in the OPA Rate Area are based on 62 ccf average usage.

13

Proposed Rates

Summary of current and proposed tiered rates per ccf for the Los Alisos rate area:

Tiers	FY 2013-14	FY 2014-15	Change	Description
Low Volume	\$1.54	\$1.51	(\$0.03)	70% of the all-in cost for MWDOC
Base Rate	\$2.24	\$2.31	\$0.07	Melded cost of budgeted sales (\$2.31)
Inefficient	\$3.20	\$3.91	\$0.71	Loaded MWD rate (\$2.07) + 20% of various conservation programs (\$1.84)
Excessive	\$4.80	\$6.22	\$1.42	Loaded MWD rate (\$2.07) + 30% of various conservation programs (\$4.15)
Wasteful	\$9.84	\$12.60	\$2.76	Loaded MWD rate (\$2.07) + 50% of conservation programs (\$10.53)





Comparison of the Los Alisos Rate Area Proposed Rates – FY 13-14 to FY 14-15

Typical Residential Customer

	Current Rate FY 13-14	Proposed Rate FY 14-15	Rate Change	% Change
Water				
Service Charge *	\$ 9.85	\$ 10.60	\$ 0.75	
Commodity Charge **	34.48	35.18	0.70	
Total Water Charge	\$ 44.33	\$ 45.78	\$ 1.45	
Sewer				
Service Charge *	\$ 18.40	\$ 20.60	\$ 2.20	
Total Typical Residential Monthly Bill	\$ 62.73	\$ 66.38	\$ 3.65	5.8%

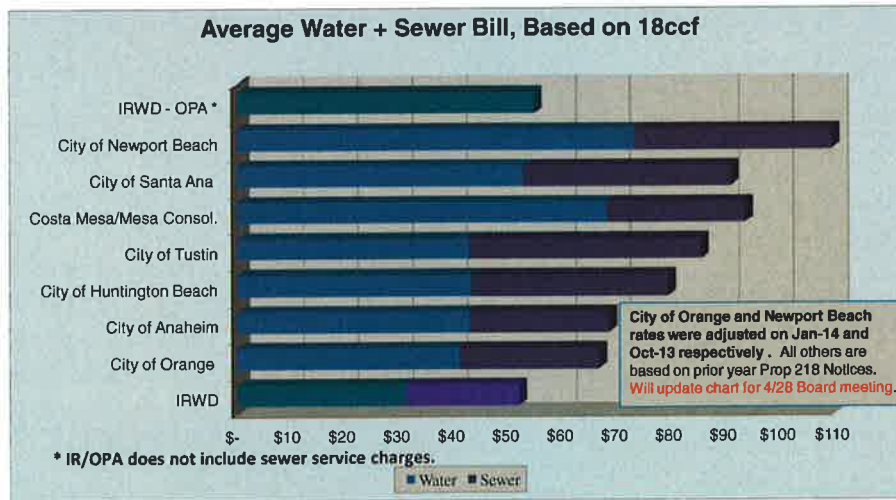
* Treated water service charge assumes a 5/8" x 3/4" meter and Treated water service charge includes enhancement and replacement components of \$0.70 and \$0.80, respectively. Sewer service charge includes enhancement and replacement components of \$0.70 and \$6.70, respectively. This includes an additional \$0.65 for Biosolids Project phase in.

** Commodity charges for a typical residential customer are based on 18 ccf (average used in MWDOC rate survey).

15

Comparison of Irvine Ranch Rate Area's Proposed Rates

Neighboring agencies with access to groundwater through OCWD:



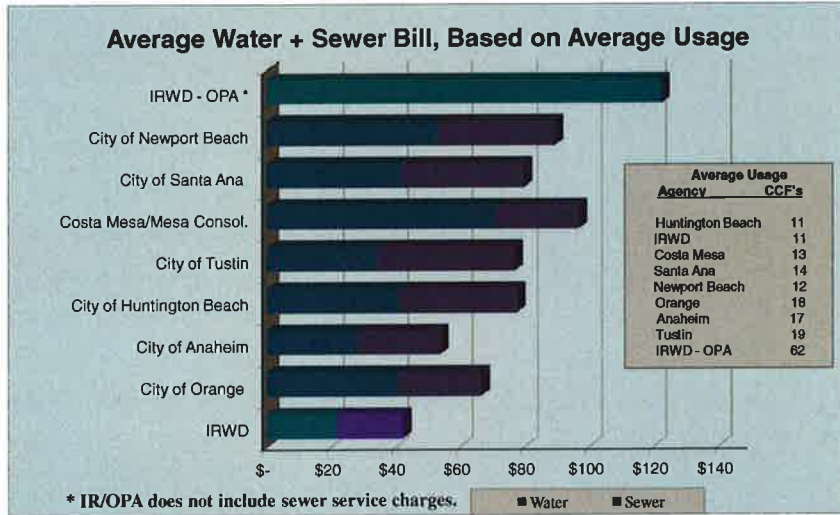
Irvine Ranch Water District

16



Comparison of Irvine Ranch Rate Area's Proposed Rates

Neighboring agencies with access to groundwater through OCWD:

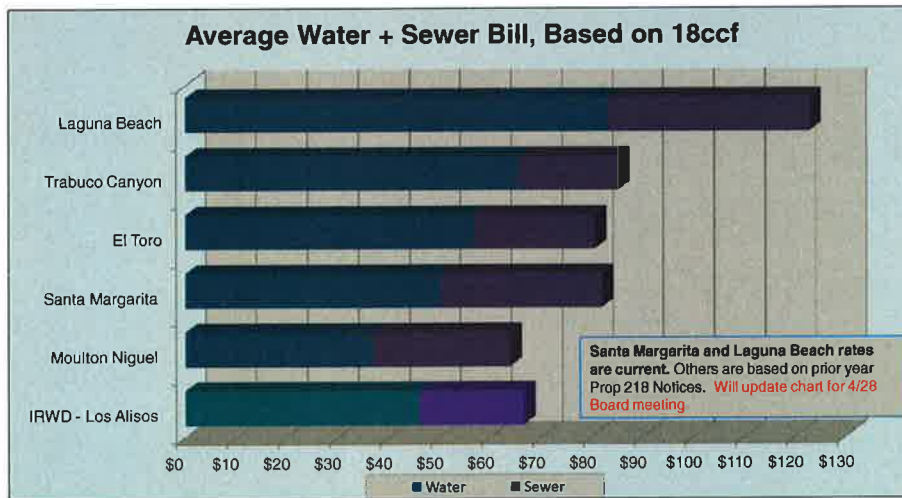


Irvine Ranch Water District

17

Comparison of Los Alisos Rate Area's Proposed Rates

Neighboring agencies without access to groundwater through OCWD:



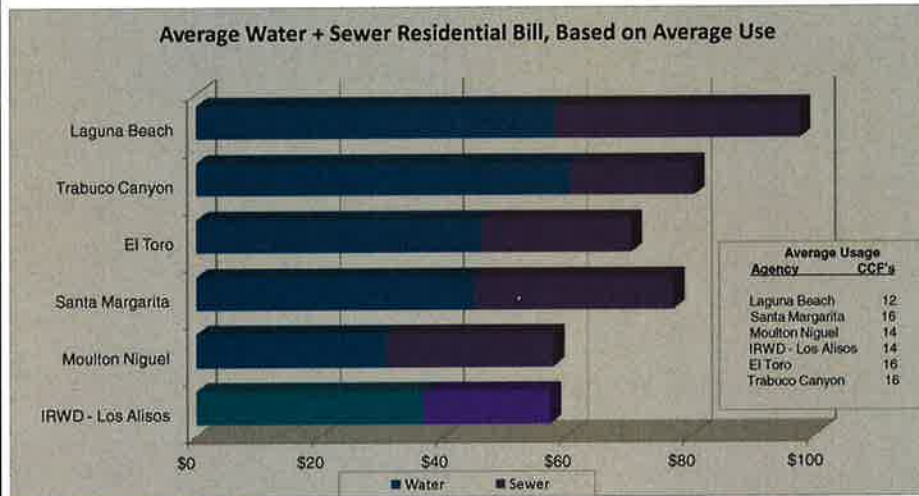
Irvine Ranch Water District

18



Comparison of Los Alisos Rate Area's Proposed Rates

Neighboring agencies without access to groundwater through OCWD:



Irvine Ranch Water District

19

Proposed Rates

		Use of Rate Stabilization (in millions)	\$3.5	\$3.0	\$2.5
Irvine Ranch	Water Service		\$10.40	\$10.50	\$10.60
	Sewer Service		\$20.40	\$20.50	\$20.60
	Commodity *		\$20.44	\$20.44	\$20.44
	Total		\$51.24	\$51.44	\$51.64
	Current Monthly		\$48.23	\$48.23	\$48.23
	Difference		\$3.01	\$3.21	\$3.41
	Change		6.2%	6.7%	7.1%
Los Alisos	Water Service		\$10.40	\$10.50	\$10.60
	Sewer Service		\$20.40	\$20.50	\$20.60
	Commodity *		\$35.18	\$35.18	\$35.18
	Total		\$65.98	\$66.18	\$66.38
	Current Monthly		\$62.73	\$62.73	\$62.73
	Difference		\$3.25	\$3.45	\$3.65
	Change		5.2%	5.5%	5.8%
Orange Park Acres	Water Service		\$18.90	\$19.00	\$19.10
	Commodity *		\$36.20	\$36.20	\$36.20
	Total		\$55.10	\$55.20	\$55.30
	Current Monthly		\$53.29	\$53.29	\$53.29
	Difference		\$1.81	\$1.91	\$2.01
		Change		3.4%	3.6%

* Assumes 18 ccf's usage per month.

Irvine Ranch Water District

20



CUSTOMER OUTREACH

Proposition 218 notices are more customer friendly

Conservation outreach prior to July 1, 2014:

- Customer website for calculating new charges
- Proactive contact of customers in the higher tiers based on new rates and allocations
 - Leak repairs
 - Variance requests
 - Water conserving strategies

Conservation outreach after July 1, 2014:

- Continue to contact customers in the higher tiers as well as
- Continue to provide outreach and support
- Provide variances and courtesy adjustments as applicable

PROP 218 NOTICES



PROPOSITION 218 NOTICES

Improved customer friendly format

- Commodity rates
- Changes to the allocations and tiers
- Proposed changes to monthly water and sewer service charges
- Sample bills for efficient and inefficient customers
- Other required noticing

PROP 218 STRUCTURE

Proposed Commodity Rates- Irvine Ranch Rate Area

FY 2014-15 Proposed Potable Water Commodity Rates			
Potable Water	FY 2013-14	FY 2014-15	
Potential Two Step Increase		July 1, 2014	January 1, 2015
Low Volume	\$0.91	\$ 0.88	\$ 0.88
Base Rate	\$1.27	\$ 1.34	\$ 1.36
Inefficient	\$2.86	\$ 3.91	\$ 3.91
Excessive	\$4.80	\$ 6.22	\$ 6.22
Wasteful	\$9.94	\$12.60	\$12.60



PROP 218 STRUCTURE

Internal Allocations (default)- Irvine Ranch Rate Area

Type of Residence	Number of Residents	Allocation Indoor (change from 55 to 50 gpd)
Attached Home (Condo)	3	# Residents x 50 gpd
Apartment	2	# Residents x 50 gpd
Single Family Residence	4	# Residents x 50 gpd

External Allocations – No Change (default)

Type of Residence	Landscape Area	Allocation Outdoor	Total Allocation
Attached Home (Condo)	435 sq. feet	ET x LA x Kc x 1.4	Indoor + Outdoor x # days in bill period
Apartment	N/A	N/A	
Single Family Residence	1,300 sq. feet	ET x LA x Kc x 1.4	Indoor + Outdoor x # days in bill period

PROP 218 STRUCTURE

Proposed Changes to Allocations (in ccf's) - Irvine Ranch Rate Area

Type of Residence	Indoor	Outdoor Summer Average	Outdoor Winter Average	Total Average Summer	Total Average Winter
Attached Home (Condo) - Current	7	3	1	10	8
Attached Home (Condo) - Proposed	6	3	1	9	7
Apartment - Current	4	n/a	n/a	4	4
Apartment - Proposed	4	n/a	n/a	4	4
Single Family Residence - Current	9	7	3	16	12
Single Family Residence - Proposed	8	7	3	15	11



PROP 218 STRUCTURE

Proposed Changes to Over Allocation Tiers - Irvine Ranch Rate Area

Proposed Reduction in Inefficient, Excessive and Wasteful Tiers		
Tier	FY 2013-14	FY 2014-15
Low Volume	0 -40 %	0 - 40%
Base Rate	41 -100%	41-100%
Inefficient	101-150%	101-130%
Excessive	151-100%	131-160%
Wasteful	201+	161+

} Decrease

Potential additional reduction of 10% in tiers.

PROP 218 STRUCTURE

Changes to the Water Fixed Service Charges - Irvine Ranch Rate Area:

Proposed Changes for Water Service Charges fixed monthly charge		
Component	Current Rates	Proposed Rates
Residential - homes, condo, apartments		
5/8 x 3/4"	\$9.85/meter	\$10.60/meter
3/4" disc meter	\$9.85/meter	\$15.55/meter
1" disc meter	\$9.85/meter	\$18.00/meter
1 1/2" disc meter	\$23.20/meter	\$38.05/meter
2" disc meter	\$31.75/meter	\$58.30 /meter
Residential master meter (shared) - apartments and condominiums		
5/8 x 3/4" meter	\$9.85 /meter	





PROP 218 STRUCTURE

Changes to the Sewer Fixed Service Charges - Irvine Ranch Rate Area:

Proposed Changes for Sewer Service Charges fixed monthly charge		
Component	Current Rates	Proposed Rates
Sewer service charge (Single family dwelling units)	\$18.40/month	\$20.60/month
Sewer service charge (Multi-family dwelling units, per unit)	\$13.80 to \$16.60/month	\$15.45 to \$18.55/month
Collection Service Charge (based on flows)	\$0.67/ccf	\$0.73/ccf

PROP 218 STRUCTURE

Sample Bills- Irvine Ranch Rate Area:

Bill # 1 – The Inefficient Customer 					Bill # 2 – The Efficient Customer 				
Dates of Service	Meter Reading		Units Used		Dates of Service	Meter Reading		Units Used	
7/10/14 8/09/14	1255	1281	26 CCF		7/10/14 8/09/14	1532	1547	15 CCF	
USAGE – LOW VOLUME	6	\$ 0.88	\$ 5.28		USAGE – LOW VOLUME	6	\$0.88	\$ 5.28	
USAGE – BASE RATE	9	\$ 1.34	\$12.06		USAGE – BASE RATE	9	\$1.34	\$12.06	
USAGE – INEFFICIENT	5	\$ 3.91	\$19.55						
USAGE – EXCESSIVE	4	\$ 6.22	\$24.88						
USAGE – WASTEFUL	2	\$12.60	\$25.20						
WATER SERVICE CHARGE			\$10.60		WATER SERVICE CHARGE			\$10.60	
SEWER SERVICE CHARGE			\$20.60		SEWER SERVICE CHARGE			\$20.60	
YOUR ALLOCATION FOR THIS BILL	15 CCF				YOUR ALLOCATION FOR THIS BILL	15 CCF			
BILL CALCULATION BASED ON	.03 ACRES				BILL CALCULATION BASED ON	.03 ACRES			
TO AVOID LATE CHARGE PAY BEFORE	9/07/14		\$118.17		TO AVOID LATE CHARGE PAY BEFORE	9/07/14		\$48.54	



PROP 218 STRUCTURE

Other Required Disclosures

- Automatic pass-through adjustments
- Notice the Public Hearing date and location

Recommendations & Next Steps

Recommended Board Actions:

1. Adopt the Resolution to Approve the FY 2014-15 Operating Budget
2. Approve the Proposition 218 Notices

Next Steps:

1. Mail Proposition 218 Notices (~May 2)
2. Receive and Tabulate Responses over 45 day period
3. June 23, 2014: Adopt proposed Rates & Charges effective July 1, 2014



Next Steps

Date	Action
April 28	Second Board workshop – Will recommend approval of operating budget and approval of Proposition 218 notices that include changes to rates and charges
May 2 (approx)	Mail notification to residents meeting Prop. 218 requirements
June 20	Tabulate responses to the Prop. 218 notices
June 23	Board Meeting – Public hearing to review Prop. 218 responses; adopt IRWD Rates and Charges for FY 2014-15



April 29, 2014
Prepared and
Submitted by: L. Bonkowski *LB*
Approved by: P. Cook *P. Cook*

CONSENT CALENDAR

MINUTES OF BOARD MEETINGS

SUMMARY:

Provided are the minutes of the April 4, 2014 Adjourned Regular Board Meeting and the April 14, 2014 Regular Board meeting for approval.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE MINUTES OF THE APRIL 4, 2014 ADJOURNED REGULAR BOARD MEETING AND THE APRIL 14, 2014 REGULAR BOARD MEETING BE APPROVED AS PRESENTED.

LIST OF EXHIBITS:

Exhibit "A" – Minutes of April 4, 2014 Adjourned Regular Board Meeting
Exhibit "B" – Minutes of April 14, 2014 Regular Board Meeting

EXHIBIT "A"

MINUTES OF ADJOURNED REGULAR MEETING – APRIL 4, 2014

The adjourned regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 10:30 p.m. by President LaMar on April 4, 2014 in the District's Multi-purpose Room, 15600 Sand Canyon Avenue, Irvine, California.

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

Directors Absent: None.

Also Present: General Manager Cook, Executive Director of Operations Shields, Director of Water Policy Weghorst, Director of Public Affairs Beeman, Director of Administrative Services Mossbarger, Director of Water Policy Sanchez, Director of Human Resources Roney, Director of Risk Management and Treasury Jacobson, Secretary Bonkowski, Principle Engineer Mori, Principle Engineer Hoolihan and consultant Loren Lillstrand.

WRITTEN COMMUNICATION: None.

ORAL COMMUNICATION: None.

REVIEW AGENDA AND DESIRED OUTCOMES

General Manager Cook reviewed the agenda and desired outcomes.

IRWD'S TARGET ACTIVITIES

General Manager Cook said that staff has updated the District's Target Activities Priorities List for the Board's review, comment and approval. This list is a planning tool used to prioritize the tasks being performed by District staff consistent with the District's 2014 Goals and Objectives. He said that staff has also updated for the Board's review and comment the Target Activities Descriptions document which provides more detailed information regarding each activity.

The Board reviewed the Target Activity Priorities List, and provided comments and suggestions including: 1) Eliminating the Target Activities Priorities list for Board review; 2) Prior to future Board workshops, poll the Board to determine what projects they would like to discuss; provide a progress report on Goals and Objectives; include a category for discussing new initiatives; and advise the Board if there are any needs from them; 3) Schedule a visioning session with senior staff for a five year forecast; 4) Investigate property acquisitions for additional water storage opportunities; and 5) that IRWD to take a more responsible lead in disadvantaged communities.

BOARD PROCESS REVIEW

Consultant Loren Lillestrand facilitated an interactive discussion regarding Board processes and operating efficiencies.

ADJOURNMENT

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

APPROVED and SIGNED this 28th day of April, 2014.

President, IRVINE RANCH WATER DISTRICT

Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

Legal Counsel - Bowie, Arneson, Wiles & Giannone

EXHIBIT "B"

MINUTES OF REGULAR MEETING – APRIL 14, 2014

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 Director Matheis, acting by consensus as temporary chair, on April 14, 2014 in the District office, 15600 Sand Canyon Avenue, Irvine, California.

Directors Present: Withers, Matheis and Reinhart

Directors Absent: LaMar and Swan

Also Present: General Manager Cook, Executive Director of Finance Clary, Executive Director of Engineering and Planning Burton, Executive Director of Operations Shields, Executive Director of Water Resources Weghorst, Director of Human Resources Roney, Director of Public Affairs Beeman, Assistant Director of Maintenance Drake, Assistant Director of Water Operations Roberts, Assistant Director of Recycling Operations Lee, Legal Counsel Arneson, Secretary Bonkowski, Mr. Christopher Smithson, Mr. Mike Hoolihan, Ms. Tina Bertsch, Mr. Ian Swift, Mr. Mike Bray, Mr. Jim Reed, Mr. Bruce Newell, and other members of the public and staff.

WRITTEN COMMUNICATION: None.

ORAL COMMUNICATION

1) 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 2, C-8, C-9, 10, 12, 15 16, 17 and 18 will operate in accordance with the District's annual pumping plan. Wells 1, 3, 4, 5, 6, 7, 11, 13, and 14 will be off. This was confirmed by Mr. Cook, General Manager of the District.

On October 31, 2013, the District received its fully executed copy of the Annexation Agreement with the Orange County Water District. 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. On November 10 2008, the IRWD Board 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 approved the operating agreement. This was confirmed by Mr. Cook.

2) Mr. James Fisler, incumbent Special District Alternate member for LAFCO, is running for re-election, and provided the Board background on his current involvement with LAFCO. A copy of Mr. Fisler's bio and support letter from General Manager Shoenberger of Mesa Water District were placed before each Director where Mr. Fisler holds the position of its Board President. Director Reinhart said that at a future date, that all of the LAFCO candidates will be invited to attend a Board meeting to provide background and qualifications.

WORKSHOP

FISCAL YEAR 2014-15 OPERATING BUDGET AND PROPOSED RATES AND CHARGES

Using a PowerPoint presentation, Executive Director of Finance Clary reported on the Operating Budget highlights, including revenues, significant factors effecting rate setting, and operating expenses by system. Ms. Clary said that the proposed Fiscal Year (FY) 2014-15 Operating Budget is \$131.1 million (M), representing an increase of \$14.1 M, or 12.1%, when compared with the Operating Budget for FY 2013-14. She reported on the proposed increase over last year's budget which is driven primarily by the following: increased cost of water, primarily due to increased demands and anticipated rate increases from outside agencies (\$5.7 M); increased electricity expenses due to a full year of operations for the Michelson Water Recycling Plant (MWRP) as well as an increase in energy rates (\$4.3); increased labor costs (including overtime and contract labor) for additional personnel, primarily in the operations groups for new facilities, along with additional temporary labor required for the integration of the new Customer Care and Billing (CC&B) system (\$2.2 M); increased employee benefits primarily due to higher labor costs (\$0.6 M); decreased chemicals resulting from the expansion of the MWRP (<\$0.7 M>); higher repair and maintenance expenses due to five new Natural Treatment System (NTS) sites as well as higher expenses at other facilities. (\$.06 M); higher professional fees due primarily to the recycled water site inspection and testing program (\$0.4 M); higher data processing fees due primarily to CC&B software maintenance fee which was previously capitalized prior to system implementation (\$0.3 M); higher insurance due to premium increases, higher loss experience below deductible limits and associated legal expenses (\$0.3 M); lower conservation expenses (\$0.2 M); and all other costs less than \$0.2 M individually (\$0.6 M).

Mr. Christopher Smithson reported on the IRWD rate setting process including; strategic options used to control rate increases; current and proposed water rates for the IRWD rate areas; conservation allocation changes; current and proposed tiered rates per ccf for IRWD rate areas; comparison of the IRWD rate area compared with FY 13-14 to FY 14-15; current and proposed tiered rates per ccf for OPA and LAWD areas; 10-year rate history of IRWD; comparison of IRWD's and LAWD's proposed rates with other agencies; and next steps with the advertised workshop scheduled for April 28, 2014 and mail notifications to residents (meeting the Proposition 218 requirement notice) in early May 2014. Following discussion, Director Reinhart suggested that staff prepare a study on drought schedules for all tiered rates as well as accelerate studies relative to expanding IRWD's seasonal storage capacity at the Syphon Reservoir and the Los Alisos Water Recycling Plant. Director Withers suggested an outreach meeting be scheduled with the top 10 water users. General Manager Cook recognized staff members Smithson and Bertsch on their efforts with the budget process.

CONSENT CALENDAR

Director Reinhart asked that Item No. 6 be moved to the Action Calendar for discussion. There being no objection, No. 6 was moved accordingly. On MOTION by Withers, seconded and unanimously carried, CONSENT CALENDAR ITEMS 5, 7 AND 8 WERE APPROVED AS FOLLOWS:

CONSENT CALENDAR (continued)

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

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

7. IRWD PROPERTY INSURANCE FISCAL YEAR 2014-15

Recommendation: That the Board authorize changing the District's property insurance coverage from Affiliated FM to the CSAC-EIA property insurance program effective April 15, 2014.

8. 2014 STATE LEGISLATIVE UPDATE

Recommendation: That the Board take a "SUPPORT" position on AB 1799 (Gordon); a "SUPPORT" position on AB 2104 (Gonzalez); a "SUPPORT" position on AB 2312 (Nestande); a "SUPPORT" position on AB 2434 (Gomez); and authorize IRWD to send a comment letter on the administration's groundwater management proposal, which is expected to be released in mid-April, upon review and approval of the Water Banking Committee at its April 22, 2014, meeting.

ACTION CALENDAR

PENSION PLAN FUNDING STATUS UPDATE

In response to Director Reinhart's inquiry, Executive Director of Finance Clary provided clarification on the District's estimated unfunded liability at approximately \$33 million, or 86% funded as of December 31, 2103 as provided by the District's actuarial consultant, AON Hewett. Ms. Clary said that the District's long-term goal of being fully funded, assuming a continuation of the Board-adopted contribution rate of 25% of payroll, is now projected to be met in approximately seven years. There being no further comments, on MOTION by Reinhart, seconded and unanimously carried, **THE BOARD AUTHORIZED STAFF TO TRANSFER DISTRICT FUNDS IN THE AMOUNT OF \$2,236,900 TO THE POST-EMPLOYMENT RETIREMENT TRUST (RETIREMENT TRUST) NO LATER THAN JUNE 30, 2014 AND THAT THESE FUNDS BE ALLOCATED CONSISTENT WITH THE INVESTMENT POLICY OF THE RETIREMENT TRUST BOARD.**

GENERAL MANAGER'S COMMENTS – None.

DIRECTORS' COMMENTS

Director Withers reported on his attendance at an ACC-OC Board of Directors installation where he received an award for Local Government Liaison. He said that this week he will be attending an OCSA Public Affairs Committee meeting, a meeting with the State Water Board, and a City of Dana Point Planning Commission meeting.

DIRECTORS' COMMENTS (continued)

Director Reinhart reported that he attended a MWDOC Board meeting and MWDOC's elected officials forum. He said that this Thursday he will be interviewing candidates for SOCWA's General Manager position.

Director Matheis reported on her attendance at a two-day Water Education Foundation event, a MWDOC Elected Officials forum, and a WACO meeting.

CLOSED SESSION

Director Matheis said that a Closed Sessions would be held with legal counsel relative to:

- 1) Existing litigation - Government Code Section 54956.9(a) – Williams vs. IRWD and MWDS; Chen vs. IRWD, and
- 2) Anticipated litigation - Government Code Section 54956.9(b) - significant exposure to litigation – 19 cases – 19 claims filed under the Tort Claims Act, on file with the District.

OPEN SESSION

Director Matheis said that the meeting was adjourned with both Directors Withers and Reinhart present. Director Matheis said that there was no action to report from the Closed Session.

ADJOURNMENT

Director Matheis adjourned the meeting

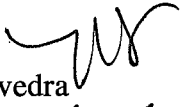
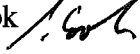
APPROVED and SIGNED this 28th day of April, 2014.

President, IRVINE RANCH WATER DISTRICT

Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

Legal Counsel - Bowie, Arneson, Wiles & Giannone

April 28, 2014
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

4/22/14 South Orange County Agencies Meeting
4/25/14 Southern California Water Committee Quarterly Meeting
5/05/14 Monthly meeting w/General Manager Paul Cook re: District Activities
5/6-9/14 ACWA Spring Conference, Monterey, CA

Mary Aileen Matheis

4/17/14 Urban Land Institute OC/Inland Empire The Best of the Best Award Event
4/23/14 Santa Margarita Water District – Cadiz Project Tour
4/24/14 Orange County Forum
5/5-9/14 ACWA Spring Conference, Monterey, CA

Douglas Reinhart

4/22/14 South Orange County Agencies Meeting
5/6-9/14 ACWA Spring Conference, Monterey, CA

John Withers

5/6-9/14 ACWA Spring Conference, Monterey, CA
5/15/14 Orange County Forum

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

LIST OF EXHIBITS:

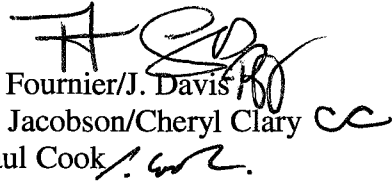
None

April 28, 2014

Prepared by: T. Fournier/J. Davis

Submitted by: R. Jacobson/Cheryl Clary

Approved by: Paul Cook



CONSENT CALENDAR

MARCH 2014 TREASURY REPORTS

SUMMARY:

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

- A. The Investment Summary Report for March 2014. This Investment Summary Report is in conformity with the 2014 Investment Policy and provides sufficient liquidity to meet estimated expenditures during the next six months, as outlined in Exhibit "A".
- B. The Monthly Interest Rate Swap Summary as of March 31, 2014, as outlined in Exhibit "B".
- C. The Summary of Payroll ACH payments in the total amount of \$1,457,937, as outlined in Exhibit "C".
- D. The March 31, 2014 Disbursement Summary of warrants 346630 through 347427, wire transfers, Workers' Compensation distributions, payroll withholding distributions, and voided checks in the total amount of \$18,428,899, as outlined in Exhibit "D".
- E. The Disclosure Report of Reimbursements to Board Members and Staff for March 2014, detailing payments or reimbursements for individual charges of \$100.00 or more per transaction, as outlined in Exhibit "E".

FISCAL IMPACTS:

As of March 31, 2014, the book value of the investment portfolio was \$326,205,075, with a 0.43% rate of return and a market value of \$326,051,642. Based on the District's March 31, 2014 quarterly real estate investment rate of return of 12.21%, the District's weighted average return for the fixed income and real estate investments was 2.65%.

As of March 31, 2014, the total notional amount of the interest rate swap portfolio was \$130 million of fixed payer swaps. Cash accrual in March from all swaps was negative \$691,603.

Payroll ACH payments totaled \$1,457,937, and wire transfers, all other ACH payments, and checks issued for debt service, accounts payable, payroll, and water purchases for March totaled \$18,428,899.

ENVIRONMENTAL COMPLIANCE:

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

COMMITTEE STATUS:

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

RECOMMENDATION:

THAT THE BOARD RECEIVE AND FILE THE TREASURER'S INVESTMENT SUMMARY REPORT, THE MONTHLY INTEREST RATE SWAP SUMMARY FOR MARCH 2014, AND DISCLOSURE REPORT OF REIMBURSEMENTS TO BOARD MEMBERS AND STAFF; APPROVE THE MARCH 2014 SUMMARY OF PAYROLL ACH PAYMENTS IN THE TOTAL AMOUNT OF \$1,457,937 AND APPROVE THE MARCH 2014 ACCOUNTS PAYABLE DISBURSEMENT SUMMARY OF WARRANTS 346630 THROUGH 347427, WORKERS' COMPENSATION DISTRIBUTIONS, WIRE TRANSFERS, PAYROLL WITHHOLDING DISTRIBUTIONS AND VOIDED CHECKS IN THE TOTAL AMOUNT OF \$18,428,899.

LIST OF EXHIBITS:

- Exhibit "A" - Investment Summary Report
- Exhibit "B" - Monthly Interest Rate Swap Summary
- Exhibit "C" - Monthly Payroll ACH Summary
- Exhibit "D" - Monthly Summary of District Disbursements
- Exhibit "E" – Disclosure of Reimbursements to Board Members and Staff

03/31/14

SECT/LMT	Call Schedule	Initial Call	Maturity Date	Rating	INVESTMENT TYPE	INSTITUTION / ISSUER	PAR Amount	COUPON DISCOUNT	YIELD	YTC	ORIGINAL COST	CARRY VALUE	MARKET VALUE (1)	UNREALIZED GAIN/(LOSS) (2)
03/18/14			05/01/14		LAIF	State of California Tsy.	\$50,000,000		0.236%		\$50,000,000.00	\$50,000,000.00	50,015,855.90	15,855.90
01/15/14			05/01/14		LAIF-JPA	State of California Tsy.	50,000,000		0.236%		\$50,000,000.00	\$50,000,000.00	50,015,855.90	15,855.90
01/15/14			04/16/14		LAIF BABS	State of California Tsy.	21,419,533		0.236%		\$21,419,532.63	\$21,419,532.63	21,426,325.15	6,792.52
03/18/14	N/A	N/A	05/06/14		FHLB - Discount Note	Fed Home Loan Bank Discount Note	15,000,000	0.050%	0.051%		14,998,979.10	14,998,979.10	14,999,550.00	570.90
05/23/12	N/A	N/A	05/23/14	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.350%	0.394%		4,995,600.00	4,999,686.58	5,001,900.00	2,213.42
04/18/12	N/A	N/A	05/28/14	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	1.375%	0.354%		5,107,250.00	5,007,939.29	5,010,100.00	2,160.71
12/18/12	Continuous	03/18/13	06/18/15	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	10,000,000	0.320%	0.360%	0.720%	9,990,000.00	9,995,142.54	10,000,200.00	5,057.46
04/30/13	Continuous	07/15/13	07/15/15	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.290%	0.290%	0.290%	5,000,000.00	5,000,000.00	5,000,100.00	100.00
03/04/14	N/A	N/A	08/28/15	Aaa/AA+/NR	FHLMC - Note	Fed Home Loan Mortgage Bank	2,000,000	0.500%	0.225%		2,008,140.00	2,007,719.48	2,004,640.00	(3,079.48)
03/04/14	N/A	N/A	08/28/15	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	8,000,000	0.375%	0.225%		8,017,720.00	8,016,804.58	8,010,640.00	(6,164.58)
09/28/12	Continuous	12/28/12	09/28/15	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.450%	0.470%	0.470%	4,997,000.00	4,998,506.85	5,000,200.00	1,693.15
10/17/12	One Time 2yr	10/09/14	10/09/15	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.480%	0.460%	0.466%	5,002,000.00	5,001,023.00	5,007,300.00	6,277.00
01/07/14	One Time	10/28/14	10/28/15	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Bank	5,000,000	0.500%	0.300%	0.411%	5,008,050.00	5,007,023.90	5,007,700.00	676.10
12/18/12	Continuous	03/18/13	12/18/15	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	10,000,000	0.400%	0.425%	0.701%	9,992,500.00	9,995,712.33	9,996,200.00	487.67
01/15/13	N/A	07/15/13	01/15/16	NA/AA+/AAA	FHLB - Note	Fed Home Loan Bank	5,000,000	0.375%	0.390%		4,997,750.00	4,998,500.00	4,987,400.00	(11,100.00)
01/17/13	Quarterly	07/15/13	01/15/16	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.500%	0.500%	0.500%	5,000,000.00	5,000,000.00	5,000,700.00	700.00
03/14/13	Continuous	09/07/13	03/07/16	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	4,444,444	0.470%	0.490%	0.730%	4,438,444.44	4,440,554.63	4,434,933.33	(5,621.30)
03/14/14	Continuous	06/10/14	03/10/16	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.350%	0.413%	0.874%	4,993,750.00	4,993,904.75	4,997,150.00	3,245.25
04/12/13	Continuous	07/12/13	04/12/16	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.410%	0.447%	0.851%	4,994,500.00	4,996,276.46	4,993,150.00	(3,126.46)
04/30/13	Quarterly	10/25/13	04/25/16	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.580%	0.536%	0.310%	5,006,550.00	5,004,532.77	4,994,750.00	(9,782.77)
05/24/13	Quarterly	10/25/13	04/25/16	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	4,975,000	0.580%	0.568%	0.500%	4,976,641.75	4,974,726.47	4,969,776.25	(4,950.22)
05/20/13	Quarterly	10/29/13	04/29/16	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.500%	0.500%	0.500%	5,000,000.00	5,000,000.00	4,990,400.00	(9,600.00)
12/19/13	Quarterly	11/20/13	05/20/16	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Bank	5,000,000	0.520%	0.520%	0.520%	5,000,000.00	5,000,000.00	4,989,100.00	(10,900.00)
05/31/13	Quarterly	11/27/13	05/27/16	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.520%	0.585%	0.935%	4,990,000.00	4,992,793.04	4,993,950.00	1,156.96
01/31/14	Continuous	03/27/14	06/27/16	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.500%	0.552%	0.552%	4,993,750.00	4,994,177.11	4,975,600.00	(18,577.11)
01/30/14	Quarterly	04/29/14	07/29/16	NR/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.750%	0.507%	0.507%	5,003,000.00	5,002,799.12	5,002,300.00	(499.12)
02/11/14	Continuous after	08/11/14	08/11/16	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.570%	0.590%	0.590%	4,997,500.00	4,997,634.32	4,992,750.00	(4,884.32)
12/31/13	Quarterly	06/14/13	09/14/16	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Bank	5,000,000	0.650%	0.759%	0.759%	4,985,500.00	4,986,835.53	4,993,700.00	6,864.47
03/14/13	Continuous	12/26/12	09/26/16	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.680%	0.683%	0.690%	4,999,500.00	4,999,648.22	4,980,900.00	(18,748.22)
12/03/13	One Time	11/25/14	11/25/16	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.750%	0.647%	0.716%	5,005,000.00	5,004,453.63	4,980,700.00	(23,753.63)
12/09/13	Quarterly	12/09/14	12/09/16	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.700%	0.727%	0.780%	4,996,000.00	4,996,412.41	4,968,550.00	(27,862.41)
12/19/13	Quarterly	06/19/14	12/19/16	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Bank	5,000,000	0.750%	0.750%	0.750%	5,000,000.00	5,000,000.00	4,986,150.00	(13,850.00)
12/20/13	Quarterly	06/19/14	12/19/16	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Bank	5,000,000	0.750%	0.755%	0.755%	4,999,250.00	4,999,319.86	4,986,150.00	(13,169.86)
12/27/13	Continuous after	06/24/14	12/27/16	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.750%	0.760%	0.760%	4,998,500.00	4,998,630.02	4,981,650.00	(16,980.02)
12/27/13	S Quarterly	06/27/14	12/27/16	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Bank	2,500,000	0.500%	0.550%	0.550%	2,498,750.00	2,498,858.35	2,496,550.00	(2,308.35)
01/30/14	Quarterly	04/30/14	01/30/17	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	10,000,000	1.000%	1.000%	1.000%	10,000,000.00	10,000,000.00	9,989,900.00	(10,100.00)
03/13/14	Quarterly	06/13/14	03/13/17	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.875%	0.946%	1.719%	4,989,500.00	4,989,682.03	4,968,950.00	(20,732.03)
03/27/14	Quarterly	06/27/14	03/27/17	Aaa/NR/NR	FHLMC - Note	Fed Home Loan Mortgage Bank	5,000,000	1.125%	1.125%	1.125%	5,000,000.00	5,000,000.00	5,012,650.00	12,650.00
SUB-TOTAL							\$318,338,977				\$318,400,657.92	\$318,317,808.98	\$318,164,376.53	(\$153,432.45)
RESTRICTED CASH (Swap Collateral Deposits)														
03/03/14					Collateral Deposit	Citi-Group	\$7,467,266		0.060%		\$7,467,265.54	\$7,467,265.54	7,467,265.54	
10/28/13					Collateral Deposit	Merrill Lynch	\$420,000		0.060%		\$420,000.00	\$420,000.00	420,000.00	
SUB-TOTAL							\$7,887,266				\$7,887,265.54	\$7,887,265.54	\$7,887,265.54	
TOTAL INVESTMENTS							\$326,226,243				\$326,287,923.46	\$326,205,074.52	\$326,051,642.07	
				March	Petty Cash Bank Bal.	Bank of America					3,400.00	2,930,131.46		
											\$329,221,454.92			

(1) LAIF market value is as of the most recent quarter-end as reported by LAIF. Security market values are determined using Bank of New York ("Trading Prices"), Bloomberg and/or broker dealer pricing.

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

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

Outstanding Variable Rate Debt

Net Outstanding Variable Rate Debt (Less \$130 million fixed-payer swaps)

Investment Balance:

Investment to Variable Rate Debt Ratio:

Portfolio - Average Number of Days To Maturity

\$349,000,000

\$219,000,000

\$329,221,455

150%

432

This Investment Summary Report is in conformity with the 2014 Investment Policy and provides sufficient liquidity to meet the next six months estimated expenditures.

*S - Step up

Row Labels	Sum of Par Amount
FFCB - Note	50,000,000.00
FHLB - Note	57,444,444.44
FHLMC - Note	34,500,000.00
FNMA - Note	39,975,000.00
FHLB - Discount Note	15,000,000.00
Grand Total	196,919,444.44

	Investment Portfolio	Real Estate Portfolio (3)	Weighted Avg. Return
March	0.43%	12.21%	2.65%
February	0.42%	11.43%	2.51%
Change	0.01%		

IRVINE RANCH WATER DISTRICT
SUMMARY OF MATURITIES

03/31/14

DATE	TOTAL	%	LAIF	AGENCIES	COLLATERAL DEPOSIT	CAL REV NOTES
3/14	\$129,306,798	39.64%	\$121,419,533		\$7,887,266	
4/14						
5/14	\$25,000,000	7.66%		25,000,000		
6/14	-					
07/14						
08/14						
09/14						
10/14						
11/14						
12/14						
1/15						
02/15						
SUB-TOTAL	\$154,306,798	47.30%	\$121,419,533	\$25,000,000	\$7,887,266	
13 Months - 3 YEARS						
3/1/2015 - 6/30/2015	10,000,000	3.07%		\$10,000,000		
07/1/2015 - 9/30/2015	\$20,000,000	6.13%		20,000,000		
10/1/2015 - 12/30/15	20,000,000	6.13%		20,000,000		
01/01/16 - 03/31/2016	19,444,444	5.96%		19,444,444		
04/01/16 - 06/30/2016	34,975,000	10.72%		34,975,000		
07/01/16 - 9/30/2016	20,000,000	6.13%		20,000,000		
10/01/16 - 12/31/2016	27,500,000	8.43%		27,500,000		
1/1/2017 - 3/31/2017	20,000,000	6.13%		20,000,000		
	-					
TOTALS	\$326,226,243	100.00%	\$121,419,533	\$196,919,444	\$7,887,266	

% OF PORTFOLIO

A-2

37.22%

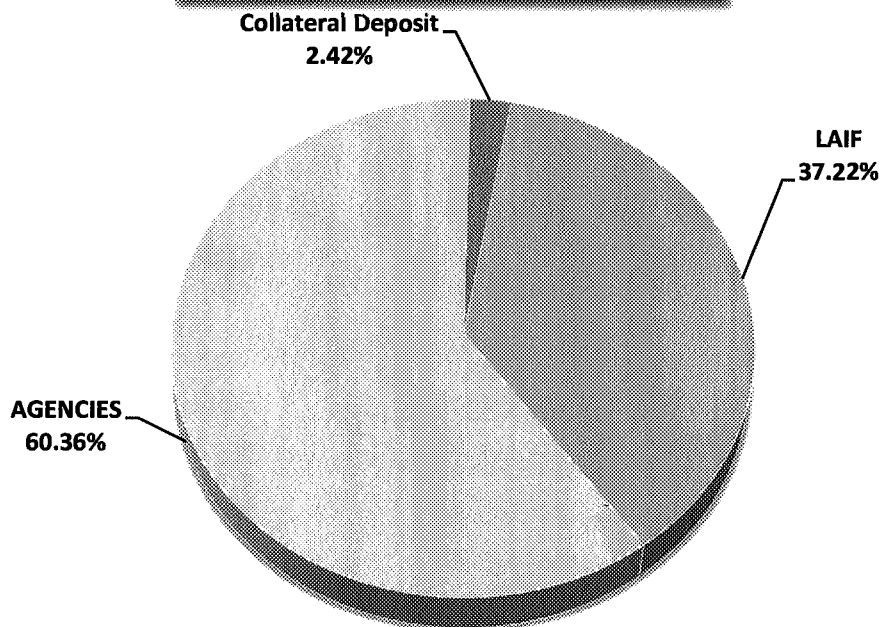
60.36%

2.42%

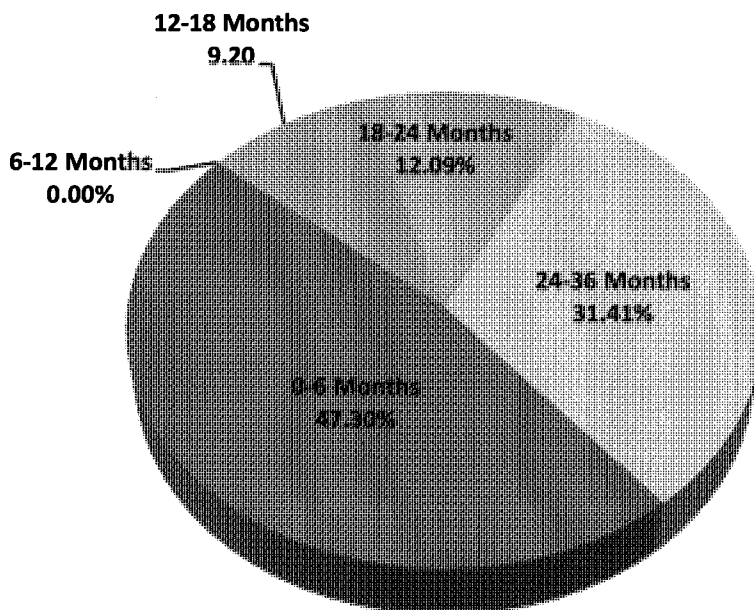
MARCH 2014 INVESTMENT PORTFOLIO

March 31, 2014

Portfolio by Investment Type



Portfolio by Maturities



Irvine Ranch Water District
 Summary of Real Estate
 3/31/2014

	<u>ACQUISITION DATE</u>	<u>PROPERTY TYPE</u>	<u>OWNERSHIP INTEREST</u>	<u>ORIGINAL COST</u>	<u>RATE OF RETURN QUARTER ENDED Mar-14</u>
Sycamore Canyon	Dec-92	Apartments	Fee Simple	\$ 43,550,810	15.81%
Wood Canyon Villas	Jun-91	Apartments	Limited Partner	\$ 6,000,000	8.25%
ITC (230 Commerce)	Jul-03	Office Building	Fee Simple	\$ 5,739,845	6.74%
Waterworks Business Pk.	Nov-08	Research & Dev.	Fee Simple	\$ 8,630,577	4.82%
Sand Canyon Professional Center	Jul-12	Medical Office	Fee Simple	\$ 8,648,594	7.85%
				<u>\$ 72,569,826</u>	<u>12.21%</u>

**IRVINE RANCH WATER DISTRICT
INTEREST RATE SWAP MONTHLY SUMMARY REPORT - DETAIL
March 31, 2014**

Exhibit "B"

Current Fiscal Year - Active Swaps									Cash Flow				Mark to Market	
Effective Date	Maturity Date	Years to Maturity	Counter Party	Notional Amt	Type	Base Index	Fixed Rate		Prior Month	Current Month	Fiscal YTD	Cumulative Cash Flow	Current Mark to Market	Notional Difference
Fixed Payer Swaps - By Effective Date														
6/4/2006	6/4/2019	5.2	ML	\$ 20,000,000	FXP	LIBOR	6.200%		\$ (90,460)	\$ (110,987)	\$ (913,625)	\$ (7,149,643)	\$ 15,569,708	\$ (4,430,292)
6/4/2006	6/4/2019	5.2	CG	20,000,000	FXP	LIBOR	6.200%		(90,460)	(110,987)	(913,625)	(7,149,643)	15,584,212	(4,415,788)
6/17/2006	6/17/2019	5.2	CG	30,000,000	FXP	LIBOR	6.140%		(134,433)	(164,853)	(1,357,132)	(10,596,340)	23,440,442	(6,559,558)
3/10/2007	3/10/2029	15.0	ML	30,000,000	FXP	LIBOR	5.687%		(124,204)	(152,388)	(1,253,944)	(9,443,647)	20,663,639	(9,336,361)
3/10/2007	3/10/2029	15.0	CG	30,000,000	FXP	LIBOR	5.687%		(124,204)	(152,388)	(1,253,944)	(9,443,647)	20,768,327	(9,231,673)
Totals/Weighted Avgs		9.7		\$ 130,000,000			5.949%		\$ (563,761)	\$ (691,603)	\$ (5,692,270)	\$ (43,782,921)	\$ 96,026,328	\$ (33,973,672)
Total Current Year Active Swaps				\$ 130,000,000					\$ (563,761)	\$ (691,603)	\$ (5,692,270)	\$ (43,782,921)	\$ 96,026,328	\$ (33,973,672)

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

Current Fiscal Year - Total Swaps									Cash Flow				Mark to Market	
									Prior Month	Current Month	Fiscal YTD	Cumulative Cash Flow	Current Mark to Market	Notional Difference
Total Current Year Active & Terminated Swaps				\$ 130,000,000					\$ (563,761)	\$ (691,603)	\$ (5,692,270)	\$ (43,782,921)	\$ 96,026,328	\$ (33,973,672)

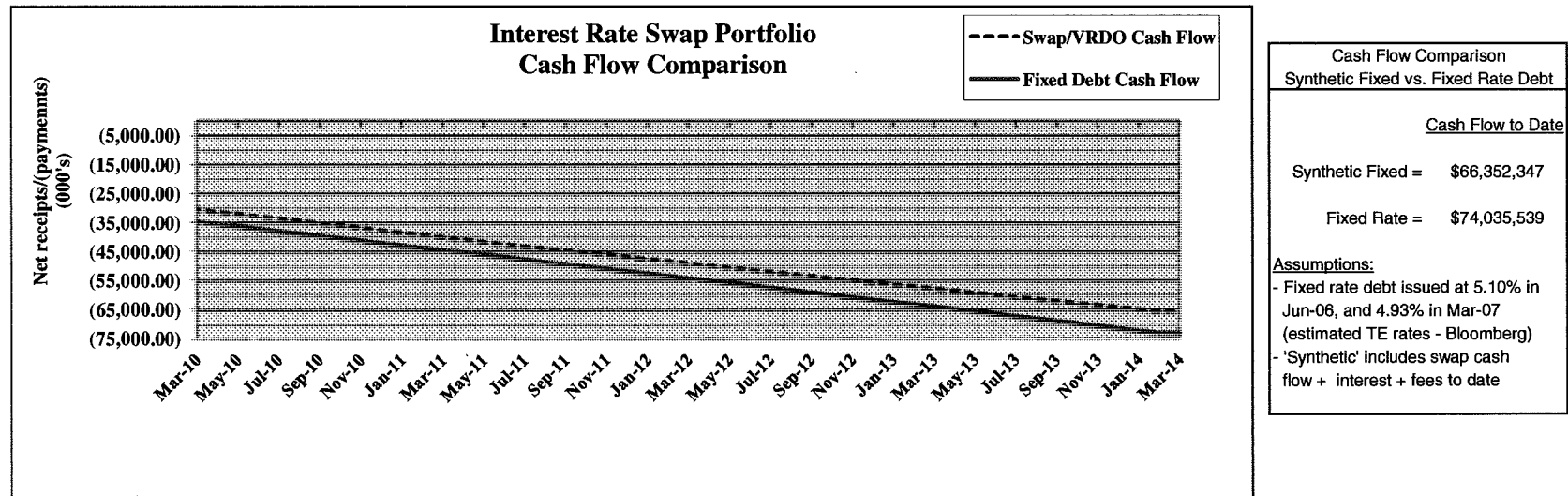


Exhibit "C"

MONTHLY SUMMARY OF PAYROLL ACH PAYMENTS

March
2014

DATE	AMOUNT	VENDOR	PURPOSE
3/7/2014	743,150.60	BANK OF AMERICA	ACH Payments for Payroll
3/21/2014	714,786.80	BANK OF AMERICA	ACH Payments for Payroll
	<u>\$1,457,937.40</u>		

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 1
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346630		03-MAR-14	MAYLACK, ROBERT	PURCHASE	4,179.52	13-MAR-14	4,179.52	Reconciled
346631		03-MAR-14	FINANCIAL SERVICES	PURCHASE	38,748.08	21-MAR-14	38,748.08	Reconciled
				REMARKETING				
346632		05-MAR-14	JOHN MICHAEL COVASSILVERADO		277.40	10-MAR-14	277.40	Reconciled
346633		06-MAR-14	Garcia, Alejandro		350.00	12-MAR-14	350.00	Reconciled
				(Alex)				
346634		06-MAR-14	Fike, Christopher		55.00	14-MAR-14	55.00	Reconciled
				A (Chris)				
346635		06-MAR-14	Jackson, Gina C		93.79	10-MAR-14	93.79	Reconciled
				(Gina)				
346636		06-MAR-14	Bailey, Johnathan		225.00	21-MAR-14	225.00	Reconciled
				R				
346637		06-MAR-14	Silva, Jose A		161.99	07-MAR-14	161.99	Reconciled
				(Jose)				
346638		06-MAR-14	Oldewage, Lars D		361.20	10-MAR-14	361.20	Reconciled
				(Lars)				
346639		06-MAR-14	Cortez, Malcolm A		70.56			Negotiable
				(Malcolm)				
346640		06-MAR-14	Bray, Michael P		41.74			Negotiable
				(Michael)				
346641		06-MAR-14	Licht, Michael J		60.00	17-MAR-14	60.00	Reconciled
				(Mike)				
346642		06-MAR-14	Schulze, Richard W		225.00	12-MAR-14	225.00	Reconciled
				(Richard)				
346643		06-MAR-14	ACTION WHOLESAL		7,571.20	11-MAR-14	7,571.20	Reconciled
				PRODUCTS, INC.				
346644		06-MAR-14	ADS LLC		1,991.00	10-MAR-14	1,991.00	Reconciled
346645		06-MAR-14	AIRGAS-WEST, INC.		485.33	10-MAR-14	485.33	Reconciled
346646		06-MAR-14	ALEXANDER CONTRACT		103,970.37	12-MAR-14	103,970.37	Reconciled
				SERVICES INC				
346647		06-MAR-14	AMERICAN WATER		9,833.00	14-MAR-14	9,833.00	Reconciled
				WORKS ASSOC				
346648		06-MAR-14	ANDERSONPENNA		15,575.00	12-MAR-14	15,575.00	Reconciled
				PARTNERS, INC				
346649		06-MAR-14	ANTHONY SUFFREDINI		4,000.00	10-MAR-14	4,000.00	Reconciled
346650		06-MAR-14	ARCADIS U.S., INC.		13,343.50	13-MAR-14	13,343.50	Reconciled
346651		06-MAR-14	ARMORCAST PRODUCTS		13,751.44	12-MAR-14	13,751.44	Reconciled
				COMPANY				
346652		06-MAR-14	AT&T		82.13	12-MAR-14	82.13	Reconciled
346653		06-MAR-14	AT&T		263.05	11-MAR-14	263.05	Reconciled
346654		06-MAR-14	AUTOZONE PARTS,		527.05	10-MAR-14	527.05	Reconciled
				INC.				
346655		06-MAR-14	BATTERIES PLUS AND		147.69	13-MAR-14	147.69	Reconciled
				BATTERIES PLUS				
				BULBS				
346656		06-MAR-14	BDC SPECIAL WASTE		357.35	10-MAR-14	357.35	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 2
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346657		06-MAR-14	BIGWIG MONSTER,		8,400.00	11-MAR-14	8,400.00	Reconciled
				LLC				
346658		06-MAR-14	BILL'S SWEEPING		747.50	10-MAR-14	747.50	Reconciled
				SERVICE INC				
346659		06-MAR-14	BIOMAGIC INC		5,026.86	13-MAR-14	5,026.86	Reconciled
346660		06-MAR-14	BLACK & VEATCH		203,918.20	13-MAR-14	203,918.20	Reconciled
				CORPORATION				
346661		06-MAR-14	BOYD & ASSOCIATES		480.00	10-MAR-14	480.00	Reconciled
346662		06-MAR-14	BRITHINEE ELECTRIC		14,213.61	10-MAR-14	14,213.61	Reconciled
346663		06-MAR-14	BURLINGTON SAFETY		202.00	07-MAR-14	202.00	Reconciled
				LABORATORY OF				
				CALIFORNIA INC				
346664		06-MAR-14	C WELLS PIPELINE		41,169.60	14-MAR-14	41,169.60	Reconciled
				MATERIALS INC				
346665		06-MAR-14	CALIBRATE, INC.		2,499.00	10-MAR-14	2,499.00	Reconciled
346666		06-MAR-14	CALIFORNIA		455.00	11-MAR-14	455.00	Reconciled
				BARRICADE INC				
346667		06-MAR-14	CANON SOLUTIONS		1,238.49	10-MAR-14	1,238.49	Reconciled
				AMERICA, INC.				
346668		06-MAR-14	CHARLES P CROWLEY		444.47	12-MAR-14	444.47	Reconciled
				COMPANY INC				
346669		06-MAR-14	CITY CIRCUIT		156.60	07-MAR-14	156.60	Reconciled
				BREAKERS				
346670		06-MAR-14	CITY OF IRVINE		769.40	11-MAR-14	769.40	Reconciled
346671		06-MAR-14	CITY OF ORANGE		217.52	10-MAR-14	217.52	Reconciled
346672		06-MAR-14	COASTLINE		488.65	10-MAR-14	488.65	Reconciled
				EQUIPMENT COMPANY				

346673	06-MAR-14	COMMERCE ENERGY INC	620.58	10-MAR-14	620.58	Reconciled
346674	06-MAR-14	COMMERCIAL CLEANING SYSTEMS	10,888.99	12-MAR-14	10,888.99	Reconciled
346675	06-MAR-14	ONEYBEARE INC	13,347.41	13-MAR-14	13,347.41	Reconciled
346676	06-MAR-14	CORELOGIC INC	18.00	10-MAR-14	18.00	Reconciled
346677	06-MAR-14	D & G SIGNS	162.00	10-MAR-14	162.00	Reconciled
346678	06-MAR-14	D & H WATER SYSTEMS INC.	2,297.96	11-MAR-14	2,297.96	Reconciled
346679	06-MAR-14	DELL MARKETING LP	2,196.51	10-MAR-14	2,196.51	Reconciled
346680	06-MAR-14	DELTA SYSTEMS ENGINEERING INC	23,056.14	12-MAR-14	23,056.14	Reconciled
346681	06-MAR-14	ELABRA INC	2,564.60	11-MAR-14	2,564.60	Reconciled
346682	06-MAR-14	EMA INC	1,080.00	10-MAR-14	1,080.00	Reconciled
346683	06-MAR-14	EMERGENCY POWER CONTROLS INC	1,200.00	13-MAR-14	1,200.00	Reconciled
346684	06-MAR-14	ENVIRONMENTAL SCIENCE ASSOCIATES	19,851.75	18-MAR-14	19,851.75	Reconciled
346685	06-MAR-14	EVERGREEN OIL INC	145.00	10-MAR-14	145.00	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 3
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346686		06-MAR-14	FARRELL & ASSOCIATES		85.93	12-MAR-14	85.93	Reconciled
346687		06-MAR-14	FEDEX		216.80	11-MAR-14	216.80	Reconciled
346688		06-MAR-14	FERGUSON ENTERPRISES, INC.		6,894.17	12-MAR-14	6,894.17	Reconciled
346689		06-MAR-14	FISERV		284.50	07-MAR-14	284.50	Reconciled
346690		06-MAR-14	FISHER SCIENTIFIC COMPANY LLC		2,160.77	10-MAR-14	2,160.77	Reconciled
346691		06-MAR-14	GANAHL LUMBER CO.		4,158.23	11-MAR-14	4,158.23	Reconciled
346692		06-MAR-14	GLOBALSTAR INC		211.97	10-MAR-14	211.97	Reconciled
346693		06-MAR-14	GRAINGER		1,674.25	10-MAR-14	1,674.25	Reconciled
346694		06-MAR-14	GRAYBAR ELECTRIC COMPANY		8,934.75	12-MAR-14	8,934.75	Reconciled
346695		06-MAR-14	H2O INNOVATION USA INC		6,600.00	18-MAR-14	6,600.00	Reconciled
346696		06-MAR-14	HAAS, MICHAEL		23.77	11-MAR-14	23.77	Reconciled
346697		06-MAR-14	HARRINGTON INDUSTRIAL PLASTICS LLC		7,604.27	11-MAR-14	7,604.27	Reconciled
346698		06-MAR-14	HDR ENGINEERING INC		29,018.66	14-MAR-14	29,018.66	Reconciled
346699		06-MAR-14	HEALTH SCIENCE ASSOCIATES, INC.		741.50	12-MAR-14	741.50	Reconciled
346700		06-MAR-14	HILL BROTHERS CHEMICAL COMPANY		10,905.85	12-MAR-14	10,905.85	Reconciled
346701		06-MAR-14	HOME DEPOT USA INC		1,525.75	11-MAR-14	1,525.75	Reconciled
346702		06-MAR-14	INDUSTRIAL METAL SUPPLY CO		677.51	11-MAR-14	677.51	Reconciled
346703		06-MAR-14	IRVINE PIPE & SUPPLY INC		2,734.50	07-MAR-14	2,734.50	Reconciled
346704		06-MAR-14	IRWD-PETTY CASH CUSTODIAN		696.30	07-MAR-14	696.30	Reconciled
346705		06-MAR-14	JCI JONES CHEMICALS INC		4,034.71	11-MAR-14	4,034.71	Reconciled
346706		06-MAR-14	JOHN G. ALEVIZOS D.O. INC.		85.00	11-MAR-14	85.00	Reconciled
346707		06-MAR-14	KELLY SERVICES INC		3,707.62	10-MAR-14	3,707.62	Reconciled
346708		06-MAR-14	KIMBALL MIDWEST		871.85	14-MAR-14	871.85	Reconciled
346709		06-MAR-14	KONECRANES INC		698.00	11-MAR-14	698.00	Reconciled
346710		06-MAR-14	KS DIRECT LLC		5,277.07	11-MAR-14	5,277.07	Reconciled
346711		06-MAR-14	LA HABRA FENCE COMPANY INC		550.00	18-MAR-14	550.00	Reconciled
346712		06-MAR-14	LAGUNA BEACH COUNTY WATER DISTRICT		2,972.25	13-MAR-14	2,972.25	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 4
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346713		06-MAR-14	LAKE FOREST COMM ASSN		829.81	12-MAR-14	829.81	Reconciled
346714		06-MAR-14	LEE & RO, INC.		14,079.37	12-MAR-14	14,079.37	Reconciled
346715		06-MAR-14	LENNAR INTERGULFS LLC		303.66			Negotiable
346716		06-MAR-14	LU'S LIGHTHOUSE, INC.		272.99	10-MAR-14	272.99	Reconciled
346717		06-MAR-14	MAYER HOFFMAN MCCANN P.C.		14,228.00	17-MAR-14	14,228.00	Reconciled

346718	06-MAR-14	MC MASTER CARR SUPPLY CO	4,003.88	10-MAR-14	4,003.88	Reconciled
346719	06-MAR-14	MCDONALD, VICKI	464.92	18-MAR-14	464.92	Reconciled
346720	06-MAR-14	MCR TECHNOLOGIES INC	2,763.55	13-MAR-14	2,763.55	Reconciled
346721	06-MAR-14	MR CRANE INC	946.05	07-MAR-14	946.05	Reconciled
346722	06-MAR-14	MSC INDUSTRIAL SUPPLY CO	217.59	12-MAR-14	217.59	Reconciled
346723	06-MAR-14	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	34,531.24	12-MAR-14	34,531.24	Reconciled
346724	06-MAR-14	NANDHYALA, SRUTHI	54.02			Negotiable
346725	06-MAR-14	NATIONAL READY MIXED CONCRETE CO	515.76	10-MAR-14	515.76	Reconciled
346726	06-MAR-14	NATIONAL SPECIALITY ALLOYS LLC	783.00	10-MAR-14	783.00	Reconciled
346727	06-MAR-14	NATURES IMAGE INC	1,783.62	11-MAR-14	1,783.62	Reconciled
346728	06-MAR-14	NEON, INC.	3,349.44	11-MAR-14	3,349.44	Reconciled
346729	06-MAR-14	OLIN CORPORATION	13,968.64	17-MAR-14	13,968.64	Reconciled
346730	06-MAR-14	OLSON HAGEL FISHBURN, LLP	601.50	10-MAR-14	601.50	Reconciled
346731	06-MAR-14	ON ASSIGNMENT LAB SUPPORT	2,085.04	10-MAR-14	2,085.04	Reconciled
346732	06-MAR-14	ORACLE AMERICA, INC.	1,613.86	11-MAR-14	1,613.86	Reconciled
346733	06-MAR-14	ORANGE COUNTY AUTO PARTS CO	1,724.05	07-MAR-14	1,724.05	Reconciled
346734	06-MAR-14	ORANGE COUNTY FIRE PROTECTION	1,590.00			Negotiable
346735	06-MAR-14	ORANGE COUNTY VECTOR CONTROL DISTRICT	100.10			Negotiable
346736	06-MAR-14	ORANGE COUNTY VECTOR CONTROL DISTRICT	1,203.15			Voided

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 5
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346737		06-MAR-14	ORANGE COUNTY WATER DISTRICT		4,788.46			Voided
346738		06-MAR-14	OSTS, INC		9,500.00			Voided
346739		06-MAR-14	OWENS, ROBERT		32.22			Voided
346740		06-MAR-14	PARKHOUSE TIRE INC		2,181.19			Voided
346741		06-MAR-14	PARKWAY LAWNMOWER SHOP		209.06			Voided
346742		06-MAR-14	PAUL E BRADLEY INC		3,600.00			Voided
346743		06-MAR-14	PAULUS ENGINEERING INC		193,434.25			Voided
346744		06-MAR-14	PINNACLE LANDSCAPE COMPANY		6,560.00			Voided
346745		06-MAR-14	PONTON INDUSTRIES INC		3,916.85			Voided
346746		06-MAR-14	PRAXAIR DISTRIBUTION INC		1,704.99			Voided
346747		06-MAR-14	PRUDENTIAL OVERALL SUPPLY		166.67			Voided
346748		06-MAR-14	PSOMAS		11,792.81			Voided
346749		06-MAR-14	PTI SAND & GRAVEL INC		1,437.65			Voided
346750		06-MAR-14	QUICKEL PAVING INC		975.00			Voided
346751		06-MAR-14	RAINBOW DISPOSAL CO INC		506.33			Voided
346752		06-MAR-14	RAM AIR ENGINEERING INC		1,429.42			Voided
346753		06-MAR-14	RANCHO MONTEREY APARTMENTS		430.12			Voided
346754		06-MAR-14	REED, JAMES D		1,985.38			Voided
346755		06-MAR-14	RESPONSE ENVELOPE, INC		1,892.43			Voided
346756		06-MAR-14	RINCON TRUCK CENTER INC.		203.45			Voided
346757		06-MAR-14	RITE AID PHARMACY		60.00			Voided
346758		06-MAR-14	SANTA ANA BLUE PRINT		891.98			Voided
346759		06-MAR-14	SANTA MARGARITA FORD		142.67			Voided
346760		06-MAR-14	SANTA MARGARITA FORD		1,131.88			Voided
346761		06-MAR-14	SANTA MARGARITA WATER DISTRICT		18,300.38			Voided
346762		06-MAR-14	SECURTEC DISTRICT PATROL INC		10,080.00			Voided
346763		06-MAR-14	SIRIUS COMPUTER SOLUTIONS INC		6,208.40			Voided

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 6

Bank Account Currency: USD (US Dollar)
 Payment Type: All

Payment Currency: USD (US Dollar)
 Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346764		06-MAR-14	SOUTH COAST ANSWERING SERVICE		483.66			Voided
346765		06-MAR-14	SOUTH COAST WATER DISTRICT		809.31			Voided
346766		06-MAR-14	SOUTH ORANGE COUNTY WASTEWATER AUTHORITY		65,853.50			Voided
346767		06-MAR-14	SOUTHERN CALIFORNIA EDISON COMPANY		432,462.69			Voided
346768		06-MAR-14	SOUTHERN CALIFORNIA SECURITY CENTER, INC.		130.18			Voided
346769		06-MAR-14	SOUTHERN COUNTIES LUBRICANTS LLC		1,506.55			Voided
346770		06-MAR-14	SPATIAL WAVE, INC.		35,190.00			Voided
346771		06-MAR-14	STETSON ENGINEERS INC.		25,412.57			Voided
346772		06-MAR-14	SUNNYHILLS RESTORATION		85,551.91			Voided
346773		06-MAR-14	TAIT ENVIRONMENTAL SERVICES INC		1,197.95			Voided
346774		06-MAR-14	TESCO CONTROLS INC		475.00			Voided
346775		06-MAR-14	TEST EQUIPMENT DEPOT		1,206.20			Voided
346776		06-MAR-14	TETRA TECH, INC		42,417.24			Voided
346777		06-MAR-14	THYSSENKRUPP ELEVATOR		218.95			Voided
346778		06-MAR-14	TRIPAC MARKETING INC		536.53			Voided
346779		06-MAR-14	TROPICAL PLAZA NURSERY INC		1,625.44			Voided
346780		06-MAR-14	TRUCPARCO		1,410.51			Voided
346781		06-MAR-14	ULTRA SCIENTIFIC		282.00			Voided
346782		06-MAR-14	UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA		706.50			Voided
346783		06-MAR-14	UNITED PARCEL SERVICE INC		30.72			Voided
346784		06-MAR-14	UNITED STATES POST OFFICE		24,580.00			Voided
346785		06-MAR-14	UNITED STATES POSTAL SERVICE		56.74			Voided

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 7
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346786		06-MAR-14	VERIZON CALIFORNIA INC		251.18			Voided
346787		06-MAR-14	VERIZON WIRELESS SERVICES LLC		6,740.90			Voided
346788		06-MAR-14	VULCAN MATERIALS COMPANY		1,351.60			Voided
346789		06-MAR-14	VWR INTERNATIONAL, LLC		1,459.75			Voided
346790		06-MAR-14	WALTERS WHOLESALE ELECTRIC		757.94			Voided
346791		06-MAR-14	WASTE MANAGEMENT OF ORANGE COUNTY		1,785.74			Voided
346792		06-MAR-14	WAXIE'S ENTERPRISES, INC		2,797.92			Voided
346793		06-MAR-14	WECK LABORATORIES INC		2,825.00			Voided
346794		06-MAR-14	WELLS SUPPLY COMPANY		1,922.40			Voided
346795		06-MAR-14	WEST COAST SAFETY SUPPLY INC		1,815.10			Voided
346796		06-MAR-14	WORTHINGTON DIRECT HOLDINGS , LLC		1,672.87			Voided
346797		06-MAR-14	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	736.00			Voided
346798		06-MAR-14	ORANGE COUNTY WATER DISTRICT	FOUNTAIN VALLEY	4,788.46	07-MAR-14	4,788.46	Reconciled
346799		06-MAR-14	OWENS, ROBERT	ORANGE	32.22	20-MAR-14	32.22	Reconciled
346800		06-MAR-14	PARKWAY LAWNMOWER SHOP	IRVINE	209.06	10-MAR-14	209.06	Reconciled

346801	06-MAR-14	PAUL E BRADLEY INCYORBA LINDA	3,600.00	13-MAR-14	3,600.00	Reconciled
346802	06-MAR-14	PONTON INDUSTRIES YORBA INC LINDA	3,916.85	14-MAR-14	3,916.85	Reconciled
346803	06-MAR-14	ORANGE COUNTY VECTOR CONTROL DISTRICT	1,203.15	17-MAR-14	1,203.15	Reconciled
346804	06-MAR-14	OSTS, INC	9,500.00	12-MAR-14	9,500.00	Reconciled
346805	06-MAR-14	PARKHOUSE TIRE INC	2,181.19	11-MAR-14	2,181.19	Reconciled
346806	06-MAR-14	PAULUS ENGINEERING INC	193,434.25	11-MAR-14	193,434.25	Reconciled
346807	06-MAR-14	PINNACLE LANDSCAPE COMPANY	6,560.00	12-MAR-14	6,560.00	Reconciled
346808	06-MAR-14	PRAXAIR DISTRIBUTION INC	1,704.99	11-MAR-14	1,704.99	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 8
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346809		06-MAR-14	PRUDENTIAL OVERALL SUPPLY		166.67	10-MAR-14	166.67	Reconciled
346810		06-MAR-14	PSOMAS		11,792.81	13-MAR-14	11,792.81	Reconciled
346811		06-MAR-14	PTI SAND & GRAVEL INC		1,437.65	11-MAR-14	1,437.65	Reconciled
346812		06-MAR-14	QUICKEL PAVING INC		975.00	10-MAR-14	975.00	Reconciled
346813		06-MAR-14	RAINBOW DISPOSAL CO INC		506.33	07-MAR-14	506.33	Reconciled
346814		06-MAR-14	RAM AIR ENGINEERING INC		1,429.42	12-MAR-14	1,429.42	Reconciled
346815		06-MAR-14	RANCHO MONTEREY APARTMENTS		430.12	17-MAR-14	430.12	Reconciled
346816		06-MAR-14	REED, JAMES D		1,985.38	19-MAR-14	1,985.38	Reconciled
346817		06-MAR-14	RESPONSE ENVELOPE, INC		1,892.43	12-MAR-14	1,892.43	Reconciled
346818		06-MAR-14	RINCON TRUCK CENTER INC.		203.45	07-MAR-14	203.45	Reconciled
346819		06-MAR-14	RITE AID PHARMACY		60.00	13-MAR-14	60.00	Reconciled
346820		06-MAR-14	SANTA ANA BLUE PRINT		891.98	14-MAR-14	891.98	Reconciled
346821		06-MAR-14	SANTA MARGARITA FORD		142.67	07-MAR-14	142.67	Reconciled
346822		06-MAR-14	SANTA MARGARITA FORD		1,131.88	07-MAR-14	1,131.88	Reconciled
346823		06-MAR-14	SANTA MARGARITA WATER DISTRICT		18,300.38	11-MAR-14	18,300.38	Reconciled
346824		06-MAR-14	SCHINDLER ELEVATOR CORPORATION		169.16	10-MAR-14	169.16	Reconciled
346825		06-MAR-14	SEAL ANALYTICAL INC		1,028.64	13-MAR-14	1,028.64	Reconciled
346826		06-MAR-14	SECURTEC DISTRICT PATROL INC		10,080.00	11-MAR-14	10,080.00	Reconciled
346827		06-MAR-14	SHAMROCK SUPPLY CO INC		1,059.34	07-MAR-14	1,059.34	Reconciled
346828		06-MAR-14	SIRIUS COMPUTER SOLUTIONS INC		6,208.40	14-MAR-14	6,208.40	Reconciled
346829		06-MAR-14	SOUTH COAST ANSWERING SERVICE		483.66	11-MAR-14	483.66	Reconciled
346830		06-MAR-14	SOUTH COAST WATER DISTRICT		809.31	11-MAR-14	809.31	Reconciled
346831		06-MAR-14	SOUTH ORANGE COUNTY WASTEWATER AUTHORITY		65,853.50	10-MAR-14	65,853.50	Reconciled
346832		06-MAR-14	SOUTHERN CALIFORNIA EDISON COMPANY		432,462.69	10-MAR-14	432,462.69	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 9
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346833		06-MAR-14	SOUTHERN CALIFORNIA SECURITY CENTER, INC.		130.18	14-MAR-14	130.18	Reconciled
346834		06-MAR-14	SOUTHERN COUNTIES LUBRICANTS LLC		1,506.55	07-MAR-14	1,506.55	Reconciled
346835		06-MAR-14	SPATIAL WAVE, INC.		35,190.00	07-MAR-14	35,190.00	Reconciled
346836		06-MAR-14	STETSON ENGINEERS INC.		25,412.57	17-MAR-14	25,412.57	Reconciled
346837		06-MAR-14	SUNNYHILLS RESTORATION		85,551.91	07-MAR-14	85,551.91	Reconciled
346838		06-MAR-14	SUPERMEDIA LLC		72.75	24-MAR-14	72.75	Reconciled

346839	06-MAR-14	TAIT ENVIRONMENTAL SERVICES INC	1,197.95	07-MAR-14	1,197.95	Reconciled
346840	06-MAR-14	TESCO CONTROLS INC	475.00	10-MAR-14	475.00	Reconciled
346841	06-MAR-14	TEST EQUIPMENT DEPOT	1,206.20	11-MAR-14	1,206.20	Reconciled
346842	06-MAR-14	TETRA TECH, INC	42,417.24	13-MAR-14	42,417.24	Reconciled
346843	06-MAR-14	THYSSENKRUPP ELEVATOR	218.95	10-MAR-14	218.95	Reconciled
346844	06-MAR-14	TRIPAC MARKETING INC	536.53	07-MAR-14	536.53	Reconciled
346845	06-MAR-14	TROPICAL PLAZA NURSERY INC	1,625.44	07-MAR-14	1,625.44	Reconciled
346846	06-MAR-14	TRUCPARCO	1,410.51	10-MAR-14	1,410.51	Reconciled
346847	06-MAR-14	ULTRA SCIENTIFIC	984.09	11-MAR-14	984.09	Reconciled
346848	06-MAR-14	UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA	706.50	10-MAR-14	706.50	Reconciled
346849	06-MAR-14	UNITED PARCEL SERVICE INC	30.72	10-MAR-14	30.72	Reconciled
346850	06-MAR-14	UNITED STATES POST OFFICE	24,580.00	17-MAR-14	24,580.00	Reconciled
346851	06-MAR-14	UNITED STATES POSTAL SERVICE	56.74	17-MAR-14	56.74	Reconciled
346852	06-MAR-14	VERIZON CALIFORNIA INC	251.18	12-MAR-14	251.18	Reconciled
346853	06-MAR-14	VERIZON WIRELESS SERVICES LLC	6,740.90	13-MAR-14	6,740.90	Reconciled
346854	06-MAR-14	VULCAN MATERIALS COMPANY	1,351.60	10-MAR-14	1,351.60	Reconciled
346855	06-MAR-14	VWR INTERNATIONAL, LLC	1,459.75	10-MAR-14	1,459.75	Reconciled
346856	06-MAR-14	WALTERS WHOLESALE ELECTRIC	757.94	18-MAR-14	757.94	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 10
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346857		06-MAR-14	WASTE MANAGEMENT OF ORANGE COUNTY		1,785.74	10-MAR-14	1,785.74	Reconciled
346858		06-MAR-14	WAXIE'S ENTERPRISES, INC		2,797.92	10-MAR-14	2,797.92	Reconciled
346859		06-MAR-14	WECK LABORATORIES INC		2,825.00	07-MAR-14	2,825.00	Reconciled
346860		06-MAR-14	WELLS SUPPLY COMPANY		1,922.40	07-MAR-14	1,922.40	Reconciled
346861		06-MAR-14	WEST COAST SAFETY SUPPLY INC		1,815.10	14-MAR-14	1,815.10	Reconciled
346862		06-MAR-14	WORTHINGTON DIRECT HOLDINGS , LLC		1,672.87	10-MAR-14	1,672.87	Reconciled
346863		06-MAR-14	PERS LONG TERM CARE	PASADENA	738.95	11-MAR-14	738.95	Reconciled
346864		06-MAR-14	IRWD EMPLOYEE ASSOCIATION	IRVINE	700.00	07-MAR-14	700.00	Reconciled
346865		06-MAR-14	CLEARINGHOUSE	PHOENIX	528.45	10-MAR-14	528.45	Reconciled
346866		06-MAR-14	INTERNAL REVENUE SERVICE	FRESNO	100.00	12-MAR-14	100.00	Reconciled
346867		06-MAR-14	FRANCHISE TAX BOARD	SACRAMENTO	797.88	12-MAR-14	797.88	Reconciled
346868		06-MAR-14	ORANGE COUNTY SHERIFF'S OFFICE	NEWPORT BEACH	351.12	13-MAR-14	351.12	Reconciled
346869		13-MAR-14	Compton, Christine A		78.52			Negotiable
346870		13-MAR-14	Reinhart, Douglas J		115.36	18-MAR-14	115.36	Reconciled
346871		13-MAR-14	Sanchez, Fiona M (Fiona)		12.00	14-MAR-14	12.00	Reconciled
346872		13-MAR-14	Roney, Jenny Lauren		100.00	14-MAR-14	100.00	Reconciled
346873		13-MAR-14	Kallo, John		350.00	14-MAR-14	350.00	Reconciled
346874		13-MAR-14	Withers, John B		22.40	17-MAR-14	22.40	Reconciled
346875		13-MAR-14	Bonkowski, Leslie A (Leslie)		138.92	14-MAR-14	138.92	Reconciled
346876		13-MAR-14	Bonkowski, Thomas J (Thomas)		28.11	14-MAR-14	28.11	Reconciled
346877		13-MAR-14	1000BULBS.COM		133.70	18-MAR-14	133.70	Reconciled
346878		13-MAR-14	AIRGAS-WEST, INC.		783.94	17-MAR-14	783.94	Reconciled
346879		13-MAR-14	AKINS, JAY		15.54	25-MAR-14	15.54	Reconciled
346880		13-MAR-14	ALL AMERICAN SEWER TOOLS		423.03	17-MAR-14	423.03	Reconciled
346881		13-MAR-14	ALPHA TRAFFIC SERVICES, INC.		1,090.00	14-MAR-14	1,090.00	Reconciled
346882		13-MAR-14	AMERICAN GEOTECHNICAL, INC.		1,123.50	14-MAR-14	1,123.50	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 11
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status	
Payment Document : IRWD CHECK									
346883		13-MAR-14	AMERICAN MESSAGING SERVICES LLC		292.76	19-MAR-14	292.76	Reconciled	
346884		13-MAR-14	ANDERSON, ADAM		34.32	17-MAR-14	34.32	Reconciled	
346885		13-MAR-14	ANDERSONPENNA PARTNERS, INC		16,720.00	20-MAR-14	16,720.00	Reconciled	
346886		13-MAR-14	ANTHEM BLUE CROSS		562.26	24-MAR-14	562.26	Reconciled	
346887		13-MAR-14	ARCADIS U.S., INC.		6,276.65	21-MAR-14	6,276.65	Reconciled	
346888		13-MAR-14	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA		34,104.74	21-MAR-14	34,104.74	Reconciled	
346889		13-MAR-14	AT&T		4,398.08	17-MAR-14	4,398.08	Reconciled	
346890		13-MAR-14	AT&T		121.50	24-MAR-14	121.50	Reconciled	
346891		13-MAR-14	AT&T		243.82	19-MAR-14	243.82	Reconciled	
346892		13-MAR-14	AUSTIN HARDWOODS, INC		157.99	18-MAR-14	157.99	Reconciled	
346893		13-MAR-14	AUTOZONE PARTS, INC.		75.48	17-MAR-14	75.48	Reconciled	
346894		13-MAR-14	AVISTA TECHNOLOGIES, INC		3,800.00	17-MAR-14	3,800.00	Reconciled	
346895		13-MAR-14	BARNES GROUP INC		358.78	18-MAR-14	358.78	Reconciled	
346896		13-MAR-14	BATTERIES PLUS AND BATTERIES PLUS BULBS		436.65	21-MAR-14	436.65	Reconciled	
346897		13-MAR-14	BATTERY SPECIALTIES		456.45	19-MAR-14	456.45	Reconciled	
346898		13-MAR-14	BEST DRILLING AND PUMP, INC.		109,934.00	24-MAR-14	109,934.00	Reconciled	
346899		13-MAR-14	BHAGANI, FARUK		163.39	24-MAR-14	163.39	Reconciled	
346900		13-MAR-14	BIOMAGIC INC		7,119.09	19-MAR-14	7,119.09	Reconciled	
346901		13-MAR-14	BLOOMBERG FINANCE LP		11,985.00	24-MAR-14	11,985.00	Reconciled	
346902		13-MAR-14	BLR INC		221.00	24-MAR-14	221.00	Reconciled	
346903		13-MAR-14	BOCK DEVELOPMENT CO LLC		465.00	18-MAR-14	465.00	Reconciled	
346904		13-MAR-14	BOYD & ASSOCIATES		1,422.00	17-MAR-14	1,422.00	Reconciled	
346905		13-MAR-14	CALIFORNIA BARRICADE INC		5,580.12	21-MAR-14	5,580.12	Reconciled	
346906		13-MAR-14	CALIFORNIA MUNICIPAL UTILITIES ASSOCIATION		125.00			Negotiable	
346907		13-MAR-14	CALIFORNIA PACIFIC HOMES		2,546.97	27-MAR-14	2,546.97	Reconciled	
346908		13-MAR-14	CAMERON WELDING SUPPLY		218.70	14-MAR-14	218.70	Reconciled	
IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49									
BANK: Bank of America N.A.			Branch : Los Angeles			Account: Checking AP and PR			Page: 12
Bank Account Currency: USD (US Dollar)			Payment Currency: USD (US Dollar)			Display Supplier Address: No			
Payment Type: All									

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346909		13-MAR-14	CANON FINANCIAL SERVICES, INC		8,422.12	21-MAR-14	8,422.12	Reconciled
346910		13-MAR-14	CHAPMAN, BARBARA		57.08	24-MAR-14	57.08	Reconciled
346911		13-MAR-14	CHEM TECH INTERNATIONAL INC		9,847.20			Negotiable
346912		13-MAR-14	CHI, PEI		61.97			Negotiable
346913		13-MAR-14	CHO DESIGN ASSOCIATES, INC		525.00	18-MAR-14	525.00	Reconciled
346914		13-MAR-14	CITY OF LAKE FOREST		37,440.00	25-MAR-14	37,440.00	Reconciled
346915		13-MAR-14	CITY OF ORANGE		27.37	17-MAR-14	27.37	Reconciled
346916		13-MAR-14	CITY OF SANTA ANA		19,760.37			Negotiable
346917		13-MAR-14	CITY OF TUSTIN		840.00	26-MAR-14	840.00	Reconciled
346918		13-MAR-14	CLEAN ENERGY		802.61	19-MAR-14	802.61	Reconciled
346919		13-MAR-14	CNC ENGINEERING, INC		2,130.00	17-MAR-14	2,130.00	Reconciled
346920		13-MAR-14	COAST PLUMBING HEATING AND AIR, INC		2,795.83	14-MAR-14	2,795.83	Reconciled
346921		13-MAR-14	COMMERCIAL CLEANING SYSTEMS		11,626.83	20-MAR-14	11,626.83	Reconciled
346922		13-MAR-14	CONYBEARE INC		10,763.06	20-MAR-14	10,763.06	Reconciled
346923		13-MAR-14	CR & R INCORPORATED		12.30	14-MAR-14	12.30	Reconciled
346924		13-MAR-14	CREATIVE ALLIANCE GROUP LLC		500.00	17-MAR-14	500.00	Reconciled
346925		13-MAR-14	DANGELO CO		548.53	14-MAR-14	548.53	Reconciled
346926		13-MAR-14	DCSE INC		6,280.00	19-MAR-14	6,280.00	Reconciled
346927		13-MAR-14	DECKER, GENE		1.82	17-MAR-14	1.82	Reconciled
346928		13-MAR-14	EAST ORANGE COUNTY WATER DISTRICT		2,561.24	19-MAR-14	2,561.24	Reconciled
346929		13-MAR-14	EMPLOYEE BENEFIT		850.00	20-MAR-14	850.00	Reconciled

D-7

346930	13-MAR-14	SPECIALIST, INC ENDRESS AND HAUSER INC	4,539.16	17-MAR-14	4,539.16	Reconciled
346931	13-MAR-14	ENVIRONMENTAL EXPRESS INC	2,543.89	18-MAR-14	2,543.89	Reconciled
346932	13-MAR-14	ENVIRONMENTAL RESOURCE ASSOCIATES	554.06	18-MAR-14	554.06	Reconciled
346933	13-MAR-14	ENVIRONMENTAL SCIENCE ASSOCIATES	15,610.82	21-MAR-14	15,610.82	Reconciled
346934	13-MAR-14	EQUIPCO SALES & SERVICE	9,347.35	20-MAR-14	9,347.35	Reconciled
346935	13-MAR-14	ETEMADI, ALI	43.93	18-MAR-14	43.93	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 13
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346936		13-MAR-14	FARRELL & ASSOCIATES		285.80	14-MAR-14	285.80	Reconciled
346937		13-MAR-14	FEDEX		864.06	17-MAR-14	864.06	Reconciled
346938		13-MAR-14	FERGUSON		14,961.24	20-MAR-14	14,961.24	Reconciled
346939		13-MAR-14	ENTERPRISES, INC. FIRST CHOICE SERVICES		1,334.65	18-MAR-14	1,334.65	Reconciled
346940		13-MAR-14	FISHER SCIENTIFIC COMPANY LLC		3,669.87	19-MAR-14	3,669.87	Reconciled
346941		13-MAR-14	GANAHL LUMBER CO.		1,558.70	18-MAR-14	1,558.70	Reconciled
346942		13-MAR-14	GANDHI, AMI		3.09	24-MAR-14	3.09	Reconciled
346943		13-MAR-14	GCI CONSTRUCTION, INC.		316,597.00	25-MAR-14	316,597.00	Reconciled
346944		13-MAR-14	GMU GEOTECHNICAL INC		980.00	17-MAR-14	980.00	Reconciled
346945		13-MAR-14	GRAINGER		4,465.16	17-MAR-14	4,465.16	Reconciled
346946		13-MAR-14	GRAYBAR ELECTRIC COMPANY		2,026.08	17-MAR-14	2,026.08	Reconciled
346947		13-MAR-14	GREEN COAST INDUSTRIES, INC.		301.32	18-MAR-14	301.32	Reconciled
346948		13-MAR-14	H2O INNOVATION USA INC		3,299.40	18-MAR-14	3,299.40	Reconciled
346949		13-MAR-14	HAMILTON, KURT		757.62	26-MAR-14	757.62	Reconciled
346950		13-MAR-14	HANNIGAN, JOHN		19.45	25-MAR-14	19.45	Reconciled
346951		13-MAR-14	HARMSWORTH ASSOCIATES		890.00	25-MAR-14	890.00	Reconciled
346952		13-MAR-14	HARSCH INVESTMENT PROPERTIES LLC		5,514.45	24-MAR-14	5,514.45	Reconciled
346953		13-MAR-14	HAYAKAWA, DEBRA		262.58			Negotiable
346954		13-MAR-14	HEENDENIYA, ANIL		22.98			Negotiable
346955		13-MAR-14	HEFLIN, JAMIE		40.59	25-MAR-14	40.59	Reconciled
346956		13-MAR-14	HILL BROTHERS CHEMICAL COMPANY		12,003.85	20-MAR-14	12,003.85	Reconciled
346957		13-MAR-14	HOME DEPOT USA INC		526.28	18-MAR-14	526.28	Reconciled
346958		13-MAR-14	HONG, SUNG YONG		5.97	27-MAR-14	5.97	Reconciled
346959		13-MAR-14	HUANG, DAVID - ACCT 10067976026		599.79	25-MAR-14	599.79	Reconciled
346960		13-MAR-14	HUNSAKER & ASSOCIATES IRVINE		4,210.00	17-MAR-14	4,210.00	Reconciled
346961		13-MAR-14	IDEXX DISTRIBUTION, INC		5,408.28	24-MAR-14	5,408.28	Reconciled
346962		13-MAR-14	II FUELS INC		31,463.02	19-MAR-14	31,463.02	Reconciled
346963		13-MAR-14	INDUSTRIAL METAL SUPPLY CO		409.33	18-MAR-14	409.33	Reconciled
346964		13-MAR-14	INFINITY DRYWALL CONTRACTING, INC.		7,675.00	19-MAR-14	7,675.00	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 14
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346965		13-MAR-14	IRON MOUNTAIN INFORMATION MANAGEMENT INC		1,763.90	17-MAR-14	1,763.90	Reconciled
346966		13-MAR-14	IRVINE PIPE & SUPPLY INC		1,971.57	14-MAR-14	1,971.57	Reconciled
346967		13-MAR-14	JCI JONES CHEMICALS INC		5,505.50	18-MAR-14	5,505.50	Reconciled
346968		13-MAR-14	JOHN G. ALEVIZOS D.O. INC.		120.00	17-MAR-14	120.00	Reconciled
346969		13-MAR-14	JUNG, KIBONG		68.71	27-MAR-14	68.71	Reconciled
346970		13-MAR-14	KELLY SERVICES INC		1,283.40	17-MAR-14	1,283.40	Reconciled
346971		13-MAR-14	KERRIGAN, KRISTIN		38.36	21-MAR-14	38.36	Reconciled
346972		13-MAR-14	KS DIRECT LLC		4,525.20	14-MAR-14	4,525.20	Reconciled
346973		13-MAR-14	LARO PROPERTIES LP		409.18	18-MAR-14	409.18	Reconciled

346974	13-MAR-14	LATISYS IRVINE LLC	16,635.19	21-MAR-14	16,635.19	Reconciled
346975	13-MAR-14	LCS TECHNOLOGIES, INC.	12,625.00	24-MAR-14	12,625.00	Reconciled
346976	13-MAR-14	LEWIS OPERATING CORP	1,800.00	18-MAR-14	1,800.00	Reconciled
346977	13-MAR-14	LU'S LIGHTHOUSE, INC.	2.91	17-MAR-14	2.91	Reconciled
346978	13-MAR-14	LUBRICATION ENGINEERS, INC.	424.73	18-MAR-14	424.73	Reconciled
346979	13-MAR-14	MAILFINANCE INC	9,931.08	21-MAR-14	9,931.08	Reconciled
346980	13-MAR-14	MARKET-THINK LLC	3,900.00	24-MAR-14	3,900.00	Reconciled
346981	13-MAR-14	MC FADDEN-DALE INDUSTRIAL	4.86	14-MAR-14	4.86	Reconciled
346982	13-MAR-14	MC MASTER CARR SUPPLY CO	1,387.59	18-MAR-14	1,387.59	Reconciled
346983	13-MAR-14	MISCOWATER	1,723.68	24-MAR-14	1,723.68	Reconciled
346984	13-MAR-14	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	750.00	14-MAR-14	750.00	Reconciled
346985	13-MAR-14	MUTUAL PROPANE	27.00	17-MAR-14	27.00	Reconciled
346986	13-MAR-14	NATIONAL READY MIXED CONCRETE CO	3,463.20	17-MAR-14	3,463.20	Reconciled
346987	13-MAR-14	NATIONAL SPECIALITY ALLOYS LLC	1,501.20	18-MAR-14	1,501.20	Reconciled
346988	13-MAR-14	NCH CORPORATION	362.18	17-MAR-14	362.18	Reconciled
346989	13-MAR-14	NINE, JERRY	1,561.62	18-MAR-14	1,561.62	Reconciled
346990	13-MAR-14	O'HAREN GOVERNMENT RELATIONS	13,000.00	21-MAR-14	13,000.00	Reconciled
346991	13-MAR-14	OLIN CORPORATION	5,860.95	21-MAR-14	5,860.95	Reconciled
346992	13-MAR-14	ON ASSIGNMENT LAB SUPPORT	2,427.36	17-MAR-14	2,427.36	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 15
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
346993		13-MAR-14	ORACLE AMERICA, INC.		21,868.61	20-MAR-14	21,868.61	Reconciled
346994		13-MAR-14	ORANGE COUNTY AUTO PARTS CO		437.91	14-MAR-14	437.91	Reconciled
346995		13-MAR-14	ORANGE COUNTY TREASURER		269.00	17-MAR-14	269.00	Reconciled
346996		13-MAR-14	PAC RIM ENGINEERING		3,375.00	19-MAR-14	3,375.00	Reconciled
346997		13-MAR-14	PAPER DEPOT DOCUMENT DESTRUCTION LLC		718.00	21-MAR-14	718.00	Reconciled
346998		13-MAR-14	PARKER, JEANNE		51.51	25-MAR-14	51.51	Reconciled
346999		13-MAR-14	PAULUS ENGINEERING INC		21,389.25	19-MAR-14	21,389.25	Reconciled
347000		13-MAR-14	PEARPOINT		1,654.46	17-MAR-14	1,654.46	Reconciled
347001		13-MAR-14	PHAM, AI		466.66	17-MAR-14	466.66	Reconciled
347002		13-MAR-14	PRAXAIR		161.99	17-MAR-14	161.99	Reconciled
347003		13-MAR-14	DISTRIBUTION INC PRINCIPAL LIFE INSURANCE		26,362.94	24-MAR-14	26,362.94	Reconciled
347004		13-MAR-14	PSOMAS		1,733.20	17-MAR-14	1,733.20	Reconciled
347005		13-MAR-14	PTI SAND & GRAVEL INC		476.83	18-MAR-14	476.83	Reconciled
347006		13-MAR-14	RAM AIR ENGINEERING INC		3,736.17	17-MAR-14	3,736.17	Reconciled
347007		13-MAR-14	REITER, SANDRA		21.34	24-MAR-14	21.34	Reconciled
347008		13-MAR-14	RICHARD C SLADE & ASSOCIATES LLC		5,245.50			Negotiable
347009		13-MAR-14	RINCON TRUCK CENTER INC.		2,403.51	17-MAR-14	2,403.51	Reconciled
347010		13-MAR-14	RINGCLEAR LLC		64.44	18-MAR-14	64.44	Reconciled
347011		13-MAR-14	ROYALTY CARPET MILLS		1,905.45	17-MAR-14	1,905.45	Reconciled
347012		13-MAR-14	RRM DESIGN GROUP		641.25	17-MAR-14	641.25	Reconciled
347013		13-MAR-14	SANTIAGO AQUEDUCT COMMISSION		5,144.64	21-MAR-14	5,144.64	Reconciled
347014		13-MAR-14	SEE, YEE		20.03			Negotiable
347015		13-MAR-14	SHERWIN WILLIAMS COMPANY		1,036.41	18-MAR-14	1,036.41	Reconciled
347016		13-MAR-14	SIMI VALLEY LANDFILL AND RECYCLING CENTER		1,675.39	18-MAR-14	1,675.39	Reconciled
347017		13-MAR-14	SIMON, MELISSA		29.74	21-MAR-14	29.74	Reconciled
347018		13-MAR-14	SOUTH COAST WATER CO.		40.00	25-MAR-14	40.00	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 16
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Cleared

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347019		13-MAR-14	SOUTHERN CALIFORNIA EDISON COMPANY		69,218.34	14-MAR-14	69,218.34	Reconciled
347020		13-MAR-14	SPARKLETTS		101.40	19-MAR-14	101.40	Reconciled
347021		13-MAR-14	SS MECHANICAL CORPORATION		6,628.75	20-MAR-14	6,628.75	Reconciled
347022		13-MAR-14	SS MECHANICAL CORPORATION		125,946.25	20-MAR-14	125,946.25	Reconciled
347023		13-MAR-14	STEEL UNLIMITED INC		1,115.64	18-MAR-14	1,115.64	Reconciled
347024		13-MAR-14	STONE LAW FIRM, APC		72.28	18-MAR-14	72.28	Reconciled
347025		13-MAR-14	SUPER BRIGHT LEDs, INC		5,904.89	26-MAR-14	5,904.89	Reconciled
347026		13-MAR-14	TAO, OLIVER		7.54	24-MAR-14	7.54	Reconciled
347027		13-MAR-14	TELEDYNE LEEMAN LABS		5,305.00	25-MAR-14	5,305.00	Reconciled
347028		13-MAR-14	TETRA TECH, INC		2,210.00	17-MAR-14	2,210.00	Reconciled
347029		13-MAR-14	THE NEW HOME COMPANY		127.09			Negotiable
347030		13-MAR-14	TIC-SPECTRUM OFFICE		4,308.71	17-MAR-14	4,308.71	Reconciled
347031		13-MAR-14	TROPICAL PLAZA NURSERY INC		200.00	17-MAR-14	200.00	Reconciled
347032		13-MAR-14	TRUCPARCO		612.50	19-MAR-14	612.50	Reconciled
347033		13-MAR-14	TRUGREEN LANDCARE LLC		8,757.58	20-MAR-14	8,757.58	Reconciled
347034		13-MAR-14	UNISAN PRODUCTS		703.46	17-MAR-14	703.46	Reconciled
347035		13-MAR-14	UNITED PARCEL SERVICE INC		195.08	17-MAR-14	195.08	Reconciled
347036		13-MAR-14	UNIVAR USA INC		3,479.42	17-MAR-14	3,479.42	Reconciled
347037		13-MAR-14	VA CONSULTING, INC		6,875.00	19-MAR-14	6,875.00	Reconciled
347038		13-MAR-14	VAUGHAN'S INDUSTRIAL REPAIR CO INC		13,314.06	20-MAR-14	13,314.06	Reconciled
347039		13-MAR-14	VERITEXT CORP.		1,298.35	19-MAR-14	1,298.35	Reconciled
347040		13-MAR-14	VERIZON WIRELESS SERVICES LLC		724.14	19-MAR-14	724.14	Reconciled
347041		13-MAR-14	WAGNER, CYNTHIA AND ROBERT		716.23	17-MAR-14	716.23	Reconciled
347042		13-MAR-14	WALTERS WHOLESale ELECTRIC		1,695.58	18-MAR-14	1,695.58	Reconciled
347043		13-MAR-14	WASTE MANAGEMENT OF ORANGE COUNTY		2,102.33	18-MAR-14	2,102.33	Reconciled
347044		13-MAR-14	WAXIE'S ENTERPRISES, INC		857.69	19-MAR-14	857.69	Reconciled
IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49								
BANK: Bank of America N.A.			Branch : Los Angeles		Account: Checking AP and PR		Page: 17	
Bank Account Currency: USD (US Dollar)					Payment Currency: USD (US Dollar)			
Payment Type: All					Display Supplier Address: No			

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347045		13-MAR-14	WEST COAST SAFETY SUPPLY INC		4,821.70	19-MAR-14	4,821.70	Reconciled
347046		13-MAR-14	WESTIN ENGINEERING, INC		13,562.50	21-MAR-14	13,562.50	Reconciled
347047		13-MAR-14	WESTRIDGE APARTMENTS		2,560.90			Negotiable
347048		13-MAR-14	WIRELESS WATCHDOGS, LLC		928.00	26-MAR-14	928.00	Reconciled
347049		13-MAR-14	WONG, RYAN		125.80			Negotiable
347050		13-MAR-14	WORKFLOWONE		2,782.20	17-MAR-14	2,782.20	Reconciled
347051		13-MAR-14	WRIGHT, ALEX		782.91	24-MAR-14	782.91	Reconciled
347052		13-MAR-14	WU, WANMEI		517.72	14-MAR-14	517.72	Reconciled
347053		13-MAR-14	WW VKO OWNER LLC		80.00	19-MAR-14	80.00	Reconciled
347054		13-MAR-14	ZEBRON CONTRACTING INC		4,180.00	18-MAR-14	4,180.00	Reconciled
347055		13-MAR-14	ZUCKERMAN, MIRIAM		50.39	24-MAR-14	50.39	Reconciled
347056		17-MAR-14	FIDELITY SECURITY CINCINNATI LIFE INSURANCE COMPANY		6,280.18	24-MAR-14	6,280.18	Reconciled
347057		20-MAR-14	McNulty, Amy K (Amy)		43.79			Negotiable
347058		20-MAR-14	Kalinsky, Arseny (Arseny)		1,308.15	25-MAR-14	1,308.15	Reconciled
347059		20-MAR-14	Figueroa, Jorge (Jorge)		200.00			Negotiable
347060		20-MAR-14	Marshall, Matt I (Matt)		229.00	25-MAR-14	229.00	Reconciled
347061		20-MAR-14	Bergen, Melinda J (Mindy)		21.60			Negotiable
347062		20-MAR-14	Norman, Tammy		108.11	24-MAR-14	108.11	Reconciled
347063		20-MAR-14	1000BULBS.COM		133.70	25-MAR-14	133.70	Reconciled
347064		20-MAR-14	AFLAC		7,248.72			Negotiable
347065		20-MAR-14	AIRGAS-WEST, INC.		402.75	24-MAR-14	402.75	Reconciled
347066		20-MAR-14	ALDERSON, THERESA		12.60			Negotiable

D-10

347067	20-MAR-14	ALL AMERICAN SEWER TOOLS	427.43	21-MAR-14	427.43	Reconciled
347068	20-MAR-14	ALLIED ELECTRONICS INC	357.34	26-MAR-14	357.34	Reconciled
347069	20-MAR-14	ALPHA TRAFFIC SERVICES, INC.	570.00	21-MAR-14	570.00	Reconciled
347070	20-MAR-14	ALSTON & BIRD LLP	5,002.58	27-MAR-14	5,002.58	Reconciled
347071	20-MAR-14	ANDERSON, LISA	40.42			Negotiable
347072	20-MAR-14	ARC	468.62	21-MAR-14	468.62	Reconciled
347073	20-MAR-14	ARIZONA PIPELINE COMPANY	741.12			Negotiable
347074	20-MAR-14	ASHFORD, WALT	217.07	24-MAR-14	217.07	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 18
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347075		20-MAR-14	AT&T		48.18	25-MAR-14	48.18	Reconciled
347076		20-MAR-14	AT&T		1,753.52	27-MAR-14	1,753.52	Reconciled
347077		20-MAR-14	AT&T		586.89	25-MAR-14	586.89	Reconciled
347078		20-MAR-14	ATHENS SERVICES		27,012.28	25-MAR-14	27,012.28	Reconciled
347079		20-MAR-14	AUTOZONE PARTS, INC.		4.49	24-MAR-14	4.49	Reconciled
347080		20-MAR-14	BATTERIES PLUS AND BATTERIES PLUS BULBS		68.58			Negotiable
347081		20-MAR-14	BATTERY SPECIALTIES		109.80			Negotiable
347082		20-MAR-14	BELL TOWER FLORIST & GIFTS		209.50			Negotiable
347083		20-MAR-14	BELLINO, STEVEN JOHN		1,050.00			Negotiable
347084		20-MAR-14	BELMONTEZ, THOMAS		942.61	26-MAR-14	942.61	Reconciled
347085		20-MAR-14	BK FOUNTAIN WORKS		666.04	21-MAR-14	666.04	Reconciled
347086		20-MAR-14	BORCHARD SURVEYING & MAPPING, INC.		9,737.50			Negotiable
347087		20-MAR-14	BOROVINSKY, ALBERTO		1.82			Negotiable
347088		20-MAR-14	BOYD & ASSOCIATES		1,891.00	24-MAR-14	1,891.00	Reconciled
347089		20-MAR-14	C WELLS PIPELINE MATERIALS INC		307.80	24-MAR-14	307.80	Reconciled
347090		20-MAR-14	CALIFORNIA BARRICADE INC		3,827.50	21-MAR-14	3,827.50	Reconciled
347091		20-MAR-14	CALIFORNIA MUNICIPAL STATISTICS INC		2,200.00	27-MAR-14	2,200.00	Reconciled
347092		20-MAR-14	CANON FINANCIAL SERVICES, INC		591.84	24-MAR-14	591.84	Reconciled
347093		20-MAR-14	CARL WARREN & CO		4,209.18	24-MAR-14	4,209.18	Reconciled
347094		20-MAR-14	CHAMMAS, MAURICE MD		34.44	21-MAR-14	34.44	Reconciled
347095		20-MAR-14	CHILDREN'S EDUCATION FOUNDATION OF ORANGE COUNTY		5,000.00			Negotiable
347096		20-MAR-14	CHO DESIGN ASSOCIATES, INC		3,150.00	24-MAR-14	3,150.00	Reconciled
347097		20-MAR-14	CITY OF NEWPORT BEACH		1,154.85	26-MAR-14	1,154.85	Reconciled
347098		20-MAR-14	CITY OF SANTA ANA		52.62	21-MAR-14	52.62	Reconciled
347099		20-MAR-14	CITY OF TUSTIN		1,042.00	26-MAR-14	1,042.00	Reconciled
347100		20-MAR-14	CLEARINGHOUSE		528.45	26-MAR-14	528.45	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 19
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347101		20-MAR-14	COLONIAL LIFE & ACCIDENT INSURANCE CO.		1,997.40	25-MAR-14	1,997.40	Reconciled
347102		20-MAR-14	COMMERCE ENERGY INC		1,430.05	24-MAR-14	1,430.05	Reconciled
347103		20-MAR-14	CONEYBEARE INC		11,816.90	26-MAR-14	11,816.90	Reconciled
347104		20-MAR-14	CORELOGIC INC		36.00	24-MAR-14	36.00	Reconciled
347105		20-MAR-14	CREDENTIAL CHECK CORPORATION		240.28	24-MAR-14	240.28	Reconciled
347106		20-MAR-14	DALEY & HEFT LLP		14,757.30			Negotiable
347107		20-MAR-14	DAN'S MACHINE TOOL, INC		1,221.56	25-MAR-14	1,221.56	Reconciled
347108		20-MAR-14	DATA CLEAN CORPORATION		513.25	25-MAR-14	513.25	Reconciled
347109		20-MAR-14	DE VAUL PAINT COMPANY		723.31	24-MAR-14	723.31	Reconciled

347110	20-MAR-14	DEE JASPAR & ASSOCIATES, INC.		1,722.75				Negotiable
347111	20-MAR-14	DELL MARKETING LP		42,736.47	26-MAR-14	42,736.47		Reconciled
347112	20-MAR-14	DELPHIN COMPUTER SUPPLY		718.20	24-MAR-14	718.20		Reconciled
347113	20-MAR-14	DIRECTV INC		105.98	24-MAR-14	105.98		Reconciled
347114	20-MAR-14	DISCOVERY SCIENCE CENTER		6,847.26	25-MAR-14	6,847.26		Reconciled
347115	20-MAR-14	DOKUPARTHI, SIVAR SRINIVAS		32.68				Negotiable
347116	20-MAR-14	EI&C ENGINEERING INC		12,600.00	26-MAR-14	12,600.00		Reconciled
347117	20-MAR-14	EISEL ENTERPRISES INC		521.20	25-MAR-14	521.20		Reconciled
347118	20-MAR-14	EMPLOYMENT DEVELOPMENT DEPARTMENT		42.41	24-MAR-14	42.41		Reconciled
347119	20-MAR-14	ENTERPRISE SECURITY, INC		545.37	21-MAR-14	545.37		Reconciled
347120	20-MAR-14	ENVIRONMENTAL EQUIPMENT SUPPLY, INC		343.46				Negotiable
347121	20-MAR-14	ENVIRONMENTAL EXPRESS INC		487.11	25-MAR-14	487.11		Reconciled
347122	20-MAR-14	ENVIRONMENTAL SCIENCE ASSOCIATES		5,435.69	27-MAR-14	5,435.69		Reconciled
347123	20-MAR-14	EXECUTIVE LIGHTING & ELECTRIC		1,831.20	21-MAR-14	1,831.20		Reconciled
347124	20-MAR-14	EXPRESSAIR		190.00				Negotiable

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 20
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347125		20-MAR-14	FARRELL & ASSOCIATES		308.09	21-MAR-14	308.09	Reconciled
347126		20-MAR-14	FERGUSON ENTERPRISES, INC.		6,875.28	26-MAR-14	6,875.28	Reconciled
347127		20-MAR-14	FIRST CHOICE SERVICES		215.56	25-MAR-14	215.56	Reconciled
347128		20-MAR-14	FISHER SCIENTIFIC COMPANY LLC		335.27	24-MAR-14	335.27	Reconciled
347129		20-MAR-14	FISHER SCIENTIFIC COMPANY LLC		239.94	24-MAR-14	239.94	Reconciled
347130		20-MAR-14	FIVE POINT PARTNERS LLC		91,973.87			Negotiable
347131		20-MAR-14	FLEET SOLUTIONS LLC		4,316.25	24-MAR-14	4,316.25	Reconciled
347132		20-MAR-14	FRANCHISE TAX BOARD		139.65	25-MAR-14	139.65	Reconciled
347133		20-MAR-14	GAMER, ROBERT L		31.38			Negotiable
347134		20-MAR-14	GANAHL LUMBER CO.		4,471.63	25-MAR-14	4,471.63	Reconciled
347135		20-MAR-14	GERHARD, MARK		24.58			Negotiable
347136		20-MAR-14	GOLAVAR, MIKE		24.10	27-MAR-14	24.10	Reconciled
347137		20-MAR-14	GOMEZ, LILLY		26.50			Negotiable
347138		20-MAR-14	GRAINGER		1,379.37	24-MAR-14	1,379.37	Reconciled
347139		20-MAR-14	GRAYBAR ELECTRIC COMPANY		2,942.10	24-MAR-14	2,942.10	Reconciled
347140		20-MAR-14	H2O INNOVATION USA INC		5,142.06			Negotiable
347141		20-MAR-14	HACH COMPANY		1,614.30	24-MAR-14	1,614.30	Reconciled
347142		20-MAR-14	HARTFORD LIFE AND ACCIDENT INSURANCE COMPANY		137.58	24-MAR-14	137.58	Reconciled
347143		20-MAR-14	HEALTH SCIENCE ASSOCIATES, INC.		736.00	24-MAR-14	736.00	Reconciled
347144		20-MAR-14	HILL BROTHERS CHEMICAL COMPANY		26,589.30	27-MAR-14	26,589.30	Reconciled
347145		20-MAR-14	HILLSIDE ORCHARDS, INC		3,600.00			Negotiable
347146		20-MAR-14	HOME DEPOT USA INC		90.12	25-MAR-14	90.12	Reconciled
347147		20-MAR-14	HYDRO-SCAPE PRODUCTS INC		81.33	24-MAR-14	81.33	Reconciled
347148		20-MAR-14	INFOSYS LIMITED		1,141,650.00			Negotiable
347149		20-MAR-14	INTERNAL REVENUE SERVICE		100.00	26-MAR-14	100.00	Reconciled
347150		20-MAR-14	INTERNATIONAL RISK MANAGEMENT		319.00	26-MAR-14	319.00	Reconciled
347151		20-MAR-14	IRVINE PACIFIC, LP		57.91	27-MAR-14	57.91	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 21
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

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

347152	20-MAR-14	IRVINE PIPE & SUPPLY INC	410.95	21-MAR-14	410.95	Reconciled
347153	20-MAR-14	IRVING BURTON ASSOCIATES, INC.	7,500.00			Negotiable
347154	20-MAR-14	IRWD EMPLOYEE ASSOCIATION	700.00			Negotiable
347155	20-MAR-14	IRWD-PETTY CASH CUSTODIAN	1,095.50	21-MAR-14	1,095.50	Reconciled
347156	20-MAR-14	JACOBS PROJECT MANAGEMENT CO.	15,400.00			Negotiable
347157	20-MAR-14	JACOBS, MARK	10.31			Negotiable
347158	20-MAR-14	JCI JONES CHEMICALS INC	3,069.36	24-MAR-14	3,069.36	Reconciled
347159	20-MAR-14	JOHN G. ALEVIZOS D.O. INC.	710.00	24-MAR-14	710.00	Reconciled
347160	20-MAR-14	JONES, ERIC	41.83	24-MAR-14	41.83	Reconciled
347161	20-MAR-14	KB HOMES	47.60			Negotiable
347162	20-MAR-14	KENNY THE PRINTER	2,861.92	21-MAR-14	2,861.92	Reconciled
347163	20-MAR-14	KIM, SOON TAE	2,500.00	24-MAR-14	2,500.00	Reconciled
347164	20-MAR-14	KING & SILK, LLC	43.00	26-MAR-14	43.00	Reconciled
347165	20-MAR-14	KS DIRECT LLC	2,214.00	21-MAR-14	2,214.00	Reconciled
347166	20-MAR-14	LAGUNA BEACH COUNTY WATER DISTRICT	3,593.37			Negotiable
347167	20-MAR-14	LEHMAN CONSTRUCTION	514.70	21-MAR-14	514.70	Reconciled
347168	20-MAR-14	LEWIS BRISBOIS BISGAARD AND SMITH LLP	6,997.12	26-MAR-14	6,997.12	Reconciled
347169	20-MAR-14	LILLESTRAND LEADERSHIP CONSULTING, INC.	5,011.50			Negotiable
347170	20-MAR-14	LU'S LIGHTHOUSE, INC.	511.01	24-MAR-14	511.01	Reconciled
347171	20-MAR-14	MC FADDEN-DALE INDUSTRIAL	140.18	27-MAR-14	140.18	Reconciled
347172	20-MAR-14	MC MASTER CARR SUPPLY CO	822.77	25-MAR-14	822.77	Reconciled
347173	20-MAR-14	MR CRANE INC	1,338.25	21-MAR-14	1,338.25	Reconciled
347174	20-MAR-14	MUTUAL PROPANE	206.19	24-MAR-14	206.19	Reconciled
347175	20-MAR-14	NAKAE & ASSOCIATES	657.57	21-MAR-14	657.57	Reconciled
347176	20-MAR-14	NATIONAL READY MIXED CONCRETE CO	1,009.80	24-MAR-14	1,009.80	Reconciled
347177	20-MAR-14	NEWAGE INDUSTRIES INC	661.07	26-MAR-14	661.07	Reconciled
347178	20-MAR-14	OLIN CORPORATION	31,421.85	27-MAR-14	31,421.85	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 22
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347179		20-MAR-14	ON ASSIGNMENT LAB SUPPORT		3,858.88	24-MAR-14	3,858.88	Reconciled
347180		20-MAR-14	ONESOURCE DISTRIBUTORS LLC		11,373.87	26-MAR-14	11,373.87	Reconciled
347181		20-MAR-14	ORANGE COUNTY AUTO PARTS CO		436.68	21-MAR-14	436.68	Reconciled
347182		20-MAR-14	ORANGE COUNTY SHERIFF'S OFFICE		135.36	26-MAR-14	135.36	Reconciled
347183		20-MAR-14	ORANGE COUNTY TREASURER		341.00	25-MAR-14	341.00	Reconciled
347184		20-MAR-14	ORANGE COUNTY VECTOR CONTROL DISTRICT		218.07			Negotiable
347185		20-MAR-14	OSTS, INC		1,990.00	24-MAR-14	1,990.00	Reconciled
347186		20-MAR-14	PACIFIC GAS AND ELECTRIC COMPANY		22.67	26-MAR-14	22.67	Reconciled
347187		20-MAR-14	PARADA PAINTING INC		6,887.50			Negotiable
347188		20-MAR-14	PARKWAY LAWNMOWER SHOP		992.20	24-MAR-14	992.20	Reconciled
347189		20-MAR-14	PERKINELMER HEALTH SCIENCES INC		2,678.49	24-MAR-14	2,678.49	Reconciled
347190		20-MAR-14	PERS LONG TERM CARE		738.95	25-MAR-14	738.95	Reconciled
347191		20-MAR-14	PHILLIPS PLYWOOD CO, INC.		210.55	25-MAR-14	210.55	Reconciled
347192		20-MAR-14	PINNACLE TOWERS LLC		615.79	24-MAR-14	615.79	Reconciled
347193		20-MAR-14	PONTON INDUSTRIES INC		1,114.99	27-MAR-14	1,114.99	Reconciled
347194		20-MAR-14	PRAXAIR DISTRIBUTION INC		295.92	25-MAR-14	295.92	Reconciled
347195		20-MAR-14	PRE-PAID LEGAL SERVICES INC		1,436.46	25-MAR-14	1,436.46	Reconciled
347196		20-MAR-14	PSB INTEGRATED MARKETING		3,177.50	21-MAR-14	3,177.50	Reconciled
347197		20-MAR-14	QUICKEL PAVING INC		569.00	24-MAR-14	569.00	Reconciled

347198	20-MAR-14	REACH EMPLOYEE ASSISTANCE INC		868.00			Negotiable
347199	20-MAR-14	RED WING SHOES		177.12			Negotiable
347200	20-MAR-14	RINCON TRUCK CENTER INC.		1,171.35	21-MAR-14	1,171.35	Reconciled
347201	20-MAR-14	S & J SUPPLY CO INC		3,069.36	21-MAR-14	3,069.36	Reconciled
347202	20-MAR-14	SANTA ANA BLUE PRINT		253.49	25-MAR-14	253.49	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 23
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347203		20-MAR-14	SECURTEC DISTRICT PATROL INC		1,600.00			Negotiable
347204		20-MAR-14	SHAO, SIMON WEN		24.77			Negotiable
347205		20-MAR-14	SIRIUS COMPUTER SOLUTIONS INC		21,674.83	27-MAR-14	21,674.83	Reconciled
347206		20-MAR-14	SNIDER, WILLIAM		657.88	27-MAR-14	657.88	Reconciled
347207		20-MAR-14	SOUTH COAST WATER DISTRICT		2.60	25-MAR-14	2.60	Reconciled
347208		20-MAR-14	SOUTHERN CALIFORNIA EDISON COMPANY		225,763.88	24-MAR-14	225,763.88	Reconciled
347209		20-MAR-14	SPARKLETTTS		82.21	26-MAR-14	82.21	Reconciled
347210		20-MAR-14	STANTEC CONSULTING SERVICES INC.		10,537.00	27-MAR-14	10,537.00	Reconciled
347211		20-MAR-14	STATE BOARD OF EQUALIZATION		1,591.00			Negotiable
347212		20-MAR-14	STRADLING YOCCA CARLSON & RAUTH		35,000.00	25-MAR-14	35,000.00	Reconciled
347213		20-MAR-14	TETRA TECH, INC		262.50	24-MAR-14	262.50	Reconciled
347214		20-MAR-14	TEXCELLENT INDUSTRIES INC		1,362.45	25-MAR-14	1,362.45	Reconciled
347215		20-MAR-14	THE FURMAN GROUP		10,086.00			Negotiable
347216		20-MAR-14	THE GAS COMPANY		6,228.98			Negotiable
347217		20-MAR-14	THE GITTELMAN GROUP		5,000.00	26-MAR-14	5,000.00	Reconciled
347218		20-MAR-14	TIC-IPG-COMMON		291.26	26-MAR-14	291.26	Reconciled
347219		20-MAR-14	TIC-SPECTRUM OFFICE		3,616.46	26-MAR-14	3,616.46	Reconciled
347220		20-MAR-14	TRAM, MELISSA		24.31			Negotiable
347221		20-MAR-14	TROPICAL PLAZA NURSERY INC		31,385.00	25-MAR-14	31,385.00	Reconciled
347222		20-MAR-14	TRUCPARCO		2,629.63	21-MAR-14	2,629.63	Reconciled
347223		20-MAR-14	TRUGREEN LANDCARE LLC		26,840.00	26-MAR-14	26,840.00	Reconciled
347224		20-MAR-14	UNITED PARCEL SERVICE INC		75.11	24-MAR-14	75.11	Reconciled
347225		20-MAR-14	UNITED WAY OF ORANGE COUNTY		510.00	24-MAR-14	510.00	Reconciled
347226		20-MAR-14	UNIVAR USA INC		9,523.01	26-MAR-14	9,523.01	Reconciled
347227		20-MAR-14	US PEROXIDE LLC		6,216.41	27-MAR-14	6,216.41	Reconciled
347228		20-MAR-14	VERIZON CALIFORNIA INC		289.69	26-MAR-14	289.69	Reconciled
347229		20-MAR-14	VULCAN MATERIALS COMPANY		1,421.96	24-MAR-14	1,421.96	Reconciled
347230		20-MAR-14	WALTERS WHOLESALE ELECTRIC		379.01	25-MAR-14	379.01	Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 24
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347231		20-MAR-14	WATERSMART SOFTWARE INC		7,500.00			Negotiable
347232		20-MAR-14	WAXIE'S ENTERPRISES, INC		461.01	24-MAR-14	461.01	Reconciled
347233		20-MAR-14	WECK LABORATORIES INC		624.00	21-MAR-14	624.00	Reconciled
347234		20-MAR-14	WELLS SUPPLY COMPANY		206.29	21-MAR-14	206.29	Reconciled
347235		20-MAR-14	WESTERN EXTERMINATOR COMPANY		8,886.00			Negotiable
347236		20-MAR-14	WU, CHUN-TE		12.41			Negotiable
347237		20-MAR-14	YEN, JERRY		14.06			Negotiable
347238		20-MAR-14	ZAKARYAN, ANNA		15.40			Negotiable
347239		20-MAR-14	ZEE MEDICAL SERVICE CO		762.65	21-MAR-14	762.65	Reconciled
347240		20-MAR-14	ZEMARIAM, ALGANESH		152.60			Negotiable
347241		20-MAR-14	ORANGE COUNTY FOUNTAIN		1,500.00	21-MAR-14	1,500.00	Reconciled

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
347242	20-MAR-14		SANITATION DISTRICT BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	736.00	26-MAR-14	736.00	Reconciled
347243	27-MAR-14		Spangenberg, Carl W (Carl)		364.75			Negotiable
347244	27-MAR-14		Collazo, Carlos C (Carlos)		124.18			Negotiable
347245	27-MAR-14		Briones, Christina (Christina)		10.80			Negotiable
347246	27-MAR-14		Hayden, David M (Dave)		148.00			Negotiable
347247	27-MAR-14		Lin, Eileen (Eileen)		11.48			Negotiable
347248	27-MAR-14		Leal, Eliberto (Eliberto)		194.38			Negotiable
347249	27-MAR-14		Garza, Gaspar		109.93			Negotiable
347250	27-MAR-14		Justice, Jack L (Jack)		148.00			Negotiable
347251	27-MAR-14		Lew, Kelly N (Kelly)		10.80			Negotiable
347252	27-MAR-14		Erwin, Kenneth D (Ken)		75.00			Negotiable
347253	27-MAR-14		Cano, Marco T (Marco)		190.00			Negotiable
347254	27-MAR-14		Matheis, Mary Aileen		1,577.43			Negotiable

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 25
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347255	27-MAR-14		Castaneda, Natalie N (Natalie)		28.38			Negotiable
347256	27-MAR-14		Reynoso, Pio (Pio)		39.21			Negotiable
347257	27-MAR-14		Sitzler, Roberta K (Roberta)		58.13	27-MAR-14	58.13	Reconciled
347258	27-MAR-14		LaMar, Steven E		1,811.83			Negotiable
347259	27-MAR-14		Malloy, Steven L (Steven)		1,618.48			Negotiable
347260	27-MAR-14		Sinclair, Todd C (Todd)		80.00			Negotiable
347261	27-MAR-14		Wright, Wayne H (Wayne)		130.51			Negotiable
347262	27-MAR-14		Stewart, William A (Billy)		115.00			Negotiable
347263	27-MAR-14		A & Y ASPHALT CONTRACTORS INC		37,777.00			Negotiable
347264	27-MAR-14		AIRGAS-WEST, INC.		518.67			Negotiable
347265	27-MAR-14		ARM CONSULTING ENGINEERS, INC.		64,490.00			Negotiable
347266	27-MAR-14		ALCON MANUFACTURING		24.50			Negotiable
347267	27-MAR-14		ALPHA TRAFFIC SERVICES, INC.		520.00			Negotiable
347268	27-MAR-14		AMERICAN GEOTECHNICAL, INC.		372.00			Negotiable
347269	27-MAR-14		ANDERSONPENNA PARTNERS, INC		37,445.00			Negotiable
347270	27-MAR-14		APCO GRAPHICS INC		108.00			Negotiable
347271	27-MAR-14		APG FUND I, LLC		77.67			Negotiable
347272	27-MAR-14		APPLIED TECHNOLOGY GROUP INC		2,377.14			Negotiable
347273	27-MAR-14		ARCADIS U.S., INC.		30,051.47			Negotiable
347274	27-MAR-14		AT&T		50.27			Negotiable
347275	27-MAR-14		AT&T		5,081.99			Negotiable
347276	27-MAR-14		AT&T		3,499.73			Negotiable
347277	27-MAR-14		AUTOZONE PARTS, INC.		755.28			Negotiable
347278	27-MAR-14		BATTERIES PLUS AND BATTERIES PLUS BULBS		460.30			Negotiable
347279	27-MAR-14		BLACK & VEATCH CORPORATION		24,333.75			Negotiable
347280	27-MAR-14		BOUDREAU PIPELINE CORP		1,330.67			Negotiable
347281	27-MAR-14		BOWIE, ARNESON, WILES & GIANNONE		22,352.87			Negotiable

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 26
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

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

347282	27-MAR-14	BRUCE NEWELL	1,316.00	Negotiable
347283	27-MAR-14	CABELA'S MARKETING AND BRAND MANAGEMENT, INC.	224.83	Negotiable
347284	27-MAR-14	CALIFORNIA BANK & TRUST	22,487.92	Negotiable
347285	27-MAR-14	CALIFORNIA BARRICADE INC	3,860.16	Negotiable
347286	27-MAR-14	CANON SOLUTIONS AMERICA, INC.	180.00	Negotiable
347287	27-MAR-14	CAROLLO ENGINEERS, INC	20,554.00	Negotiable
347288	27-MAR-14	CDW GOVERNMENT LLC	1,435.00	Negotiable
347289	27-MAR-14	CHARLES P CROWLEY COMPANY INC	5,146.62	Negotiable
347290	27-MAR-14	CITY OF TUSTIN	1,939.00	Negotiable
347291	27-MAR-14	CIVILSOURCE, INC.	34,104.00	Negotiable
347292	27-MAR-14	CLA-VAL COMPANY	5,485.42	Negotiable
347293	27-MAR-14	COASTAL IGNITION & CONTROLS, INC	2,349.00	Negotiable
347294	27-MAR-14	COMMERCIAL COATING RESOURCE INC	11,585.00	Negotiable
347295	27-MAR-14	CONDITION MONITORING SERVICES INC	5,060.50	Negotiable
347296	27-MAR-14	CONEYBEARE INC	12,612.47	Negotiable
347297	27-MAR-14	COUNTY OF ORANGE	454.50	Negotiable
347298	27-MAR-14	COX COMMUNICATIONS	3,331.63	Negotiable
347299	27-MAR-14	CREATIVE ALLIANCE GROUP LLC	4,564.41	Negotiable
347300	27-MAR-14	DEE JASPAR & ASSOCIATES, INC.	1,344.00	Negotiable
347301	27-MAR-14	DUDEK	633.64	Negotiable
347302	27-MAR-14	DUDLEY RIDGE WATER DISTRICT	6,890.64	Negotiable
347303	27-MAR-14	EAST ORANGE COUNTY WATER DISTRICT	5,604.45	Negotiable
347304	27-MAR-14	EISEL ENTERPRISES INC	4,260.06	Negotiable
347305	27-MAR-14	EMA INC	1,260.00	Negotiable
347306	27-MAR-14	ENVIRONMENTAL ENGINEERING AND CONTRACTING, INC.	17,364.51	Negotiable
347307	27-MAR-14	ENVIRONMENTAL EXPRESS INC	102.96	Negotiable

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 27
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347308		27-MAR-14	EXTERRAN ENERGY SOLUTIONS LP		1,674.02			Negotiable
347309		27-MAR-14	FAIRBANK, MASLIN, MAULLIN, METZ & ASSOCIATES, INC.		9,250.00			Negotiable
347310		27-MAR-14	FEDEX		642.77			Negotiable
347311		27-MAR-14	FERGUSON ENTERPRISES, INC.		2,291.76			Negotiable
347312		27-MAR-14	FISERV		300.25			Negotiable
347313		27-MAR-14	FISHER SCIENTIFIC COMPANY LLC		1,242.23			Negotiable
347314		27-MAR-14	FLUKE CORPORATION		176.00			Negotiable
347315		27-MAR-14	GANAHL LUMBER CO.		4,823.07			Negotiable
347316		27-MAR-14	GARFINKEL, MEGAN		220.83			Negotiable
347317		27-MAR-14	GARZA INDUSTRIES, INC		1,381.97			Negotiable
347318		27-MAR-14	GCI CONSTRUCTION, INC.		191,173.25			Negotiable
347319		27-MAR-14	GRAINGER		2,115.08			Negotiable
347320		27-MAR-14	HILL BROTHERS CHEMICAL COMPANY		34,500.10			Negotiable
347321		27-MAR-14	HOME DEPOT USA INC		643.79			Negotiable
347322		27-MAR-14	HUNSAKER & ASSOCIATES IRVINE		2,800.00			Negotiable
347323		27-MAR-14	II FUELS INC		31,569.05			Negotiable
347324		27-MAR-14	INNOVYZE		10,624.00			Negotiable
347325		27-MAR-14	IRVINE PACIFIC, LP		204.30			Negotiable
347326		27-MAR-14	IRVINE PIPE & SUPPLY INC		163.41			Negotiable
347327		27-MAR-14	IRVINE SCIENTIFIC, LLC		54.40			Negotiable
347328		27-MAR-14	ISLAND RESTAURANTS		17.00			Negotiable
347329		27-MAR-14	JOHN G. ALEVIZOS D.O. INC.		625.00			Negotiable
347330		27-MAR-14	KB HOMES		31.96			Negotiable
347331		27-MAR-14	KELLY SERVICES INC		1,283.40			Negotiable
347332		27-MAR-14	KENNY THE PRINTER		322.93			Negotiable
347333		27-MAR-14	KIMBALL MIDWEST		4,468.08			Negotiable

347334	27-MAR-14	LENNAR HOMES	13.67	Negotiable
347335	27-MAR-14	LEWIS OPERATING CORP	1,050.00	Negotiable
347336	27-MAR-14	LU'S LIGHTHOUSE, INC.	656.53	Negotiable
347337	27-MAR-14	LUBRICATION ENGINEERS, INC.	978.61	Negotiable
347338	27-MAR-14	MARVIN GARDENS LLC	2,593.70	27-MAR-14 2,593.70 Reconciled

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 28
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347339		27-MAR-14	MBC APPLIED ENVIRONMENTAL SCIENCES		1,250.00			Negotiable
347340		27-MAR-14	MC FADDEN-DALE INDUSTRIAL		557.73			Negotiable
347341		27-MAR-14	MC MASTER CARR SUPPLY CO		3,428.92			Negotiable
347342		27-MAR-14	MCBAIN SYSTEMS LP		3,225.63			Negotiable
347343		27-MAR-14	MISCOWATER		2,250.72			Negotiable
347344		27-MAR-14	MOBILE MODULAR MANAGEMENT CORPORATION		972.00			Negotiable
347345		27-MAR-14	MOTION INDUSTRIES INC		5,387.58			Negotiable
347346		27-MAR-14	MR CRANE INC		946.05			Negotiable
347347		27-MAR-14	MSC INDUSTRIAL SUPPLY CO		66.53			Negotiable
347348		27-MAR-14	MUNICIPAL UNDERGROUND SERVICES INC		3,600.00			Negotiable
347349		27-MAR-14	NATIONAL READY MIXED CONCRETE CO		2,157.84			Negotiable
347350		27-MAR-14	NATIONAL READY MIXED CONCRETE CO		409.88			Negotiable
347351		27-MAR-14	NINYO & MOORE		4,300.63			Negotiable
347352		27-MAR-14	NURSERY PRODUCTS LLC		11,428.36			Negotiable
347353		27-MAR-14	OLIN CORPORATION		25,781.26			Negotiable
347354		27-MAR-14	ON ASSIGNMENT LAB SUPPORT		2,365.12			Negotiable
347355		27-MAR-14	ONESOURCE DISTRIBUTORS LLC		498.89			Negotiable
347356		27-MAR-14	ORANGE COUNTY AUTO PARTS CO		695.36			Negotiable
347357		27-MAR-14	ORANGE COUNTY WATER DISTRICT		1,632.83			Negotiable
347358		27-MAR-14	ORANGE UNIFIED SCHOOL DISTRICT		88.65			Negotiable
347359		27-MAR-14	PACESETTER INVESTMENT CO		3,156.70			Negotiable
347360		27-MAR-14	PACIFIC HYDROTECH CORPORATION		214,605.52			Negotiable
347361		27-MAR-14	PACIFIC PARTS & CONTROLS INC		8,663.04			Negotiable
347362		27-MAR-14	PANPACIFIC MANAGEMENT		20.59			Negotiable

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 29
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347363		27-MAR-14	PARKHOUSE TIRE INC		2,568.17			Negotiable
347364		27-MAR-14	PARKWAY LAWNMOWER SHOP		203.56			Negotiable
347365		27-MAR-14	PAUL E BRADLEY INC		3,690.00			Negotiable
347366		27-MAR-14	PAULUS ENGINEERING INC		203,062.09			Negotiable
347367		27-MAR-14	PAYNE & FEARS LLP		8,370.00			Negotiable
347368		27-MAR-14	PRAXAIR DISTRIBUTION INC		4,844.38			Negotiable
347369		27-MAR-14	PSB INTEGRATED MARKETING		225.00			Negotiable
347370		27-MAR-14	PTI SAND & GRAVEL INC		1,362.99			Negotiable
347371		27-MAR-14	QUICKEL PAVING INC		375.00			Negotiable
347372		27-MAR-14	QUINN POWER SYSTEMS		958.40			Negotiable
347373		27-MAR-14	R&B AUTOMATION INC		14,095.45			Negotiable
347374		27-MAR-14	RAM AIR ENGINEERING INC		16,595.00			Negotiable

347375	27-MAR-14	RBF CONSULTING	280.00	Negotiable
347376	27-MAR-14	RINCON TRUCK CENTER INC.	2,204.48	Negotiable
347377	27-MAR-14	ROBINSON, CYNTHIA	982.42	Negotiable
347378	27-MAR-14	S & J SUPPLY CO INC	3,430.51	Negotiable
347379	27-MAR-14	SANDERS PAVING INC	31,473.00	Negotiable
347380	27-MAR-14	SANTA ANA BLUE PRINT	1,568.09	Negotiable
347381	27-MAR-14	SANTA MARGARITA FORD	166.74	Negotiable
347382	27-MAR-14	SANTA MARGARITA WATER DISTRICT	4,117,110.00	Negotiable
347383	27-MAR-14	SCAP	10,114.00	Negotiable
347384	27-MAR-14	SCOTT HEALTH & SAFETY	471.62	Negotiable
347385	27-MAR-14	SECURTEC DISTRICT PATROL INC	600.00	Negotiable
347386	27-MAR-14	SEPARATION PROCESSES INC	4,802.70	Negotiable
347387	27-MAR-14	SHAMROCK SUPPLY CO INC	1,408.14	Negotiable
347388	27-MAR-14	SIGMA-ALDRICH INC	158.58	Negotiable
347389	27-MAR-14	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	4,641.13	Negotiable

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 30
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347390		27-MAR-14	SOUTH COAST ANSWERING SERVICE		416.94			Negotiable
347391		27-MAR-14	SOUTHERN CALIFORNIA EDISON COMPANY		210,875.73			Negotiable
347392		27-MAR-14	SOUTHERN COUNTIES LUBRICANTS LLC		2,462.03			Negotiable
347393		27-MAR-14	SPATIAL WAVE, INC.		24,670.00			Negotiable
347394		27-MAR-14	SS MECHANICAL CORPORATION		5,875.00			Negotiable
347395		27-MAR-14	SS MECHANICAL CORPORATION		111,625.00			Negotiable
347396		27-MAR-14	STERILIZER TECHNICAL		375.00			Negotiable
347397		27-MAR-14	TEST CORP		91.42			Negotiable
347398		27-MAR-14	TEST EQUIPMENT DEPOT		107.20			Negotiable
347399		27-MAR-14	TESTAMERICA LABORATORIES, INC		362.25			Negotiable
347400		27-MAR-14	THOMPSON INDUSTRIAL SUPPLY		242.80			Negotiable
347401		27-MAR-14	TISCHER, CHRISTINE L.		254.34			Negotiable
347402		27-MAR-14	TRENCH SHORING COMPANY		64.80			Negotiable
347403		27-MAR-14	TROPICAL PLAZA NURSERY INC		1,226.92			Negotiable
347404		27-MAR-14	TRUCPARCO		375.90			Negotiable
347405		27-MAR-14	TRUGREEN LANDCARE LLC		529.62			Negotiable
347406		27-MAR-14	TYCO INTEGRATED SECURITY, LLC		3,252.44			Negotiable
347407		27-MAR-14	UNITED SITE SERVICES OF CALIFORNIA INC		458.67			Negotiable
347408		27-MAR-14	URS CORPORATION		10,297.35			Negotiable
347409		27-MAR-14	US BANK NAT'L ASSOCIATION NORTH DAKOTA		66,026.30			Negotiable
347410		27-MAR-14	US PEROXIDE LLC		4,250.00			Negotiable
347411		27-MAR-14	USA BLUEBOOK		1,023.33			Negotiable
347412		27-MAR-14	UTILITY SYSTEMS SCIENCE & SOFTWARE INC.		2,886.79			Negotiable
347413		27-MAR-14	VCI CONSTRUCTION INC		9,185.00			Negotiable

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 31
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
347414		27-MAR-14	VCS ENVIRONMENTAL		5,390.55			Negotiable

347415	27-MAR-14	VERIZON CALIFORNIA INC		292.19	Negotiable
347416	27-MAR-14	VWR INTERNATIONAL, LLC		834.54	Negotiable
347417	27-MAR-14	WALTERS WHOLESALE ELECTRIC		43.65	Negotiable
347418	27-MAR-14	WARD, KAREN		1,134.84	Negotiable
347419	27-MAR-14	WARMINGTON HOMES		12.32	Negotiable
347420	27-MAR-14	WATER EDUCATION FOUNDATION		535.00	Negotiable
347421	27-MAR-14	WAXIE'S ENTERPRISES, INC		49.51	Negotiable
347422	27-MAR-14	WECK LABORATORIES INC		685.00	Negotiable
347423	27-MAR-14	WILLIAM LYON HOMES		343.00	Negotiable
347424	27-MAR-14	YORKE ENGINEERING LLC		362.00	Negotiable
347425	27-MAR-14	ZEE MEDICAL SERVICE CO		276.35	Negotiable
347426	31-MAR-14	Compton, ChristineHOME A		463.78	Negotiable
347427	31-MAR-14	Swan, Peer HOME		1,883.45	Negotiable

Payment Document Subtotal: 12,083,465.42 3,731,158.14

Payment Document : IRWD Wire

10331	12-MAR-14	CALPERS SACRAMENTO		365,906.28	Negotiable
10332	13-MAR-14	YORK INSURANCE PAY SERVICES GROUP INC - CA		2,810.71	Negotiable
10333	24-MAR-14	CITIGROUP GLOBAL MARKETS INC. NEW YORK		468,027.71	Negotiable
10334	24-MAR-14	BANK OF NEW YORK MELLON TRUST COMPANY NA NEWARK		1,919.18	Negotiable
10335	24-MAR-14	SUMITOMO MITSUI BANKING CORPORATION NEW YORK		395.01	Negotiable
10336	24-MAR-14	U.S. BANK NATIONALPAY ASSOCIATION		1,054.80	Negotiable
10337	24-MAR-14	BANK OF AMERICA SAN FRANCISCO		843.86	Negotiable

IRWD Ledger Payment Register For 01-MAR-14 To 31-MAR-14 Report Date: 01-APR-2014 11:49
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 32
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD Wire								
10338		24-MAR-14	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	166.67			Negotiable
10339		24-MAR-14	INTERNAL REVENUE SERVICE	FRESNO	157,503.81			Negotiable
10340		24-MAR-14	FRANCHISE TAX BOARD	SACRAMENTO	43,819.91			Negotiable
10341		24-MAR-14	EMPLOYMENT DEVELOPMENT DEPARTMENT	W SACRAMENTO	11,171.25			Negotiable
10342		24-MAR-14	ORDONEZ, CYNTHIA MARIE	DESERT HOT SPR	500.17			Negotiable
10343		24-MAR-14	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	SACRAMENTO	2,425.36			Negotiable
10344		24-MAR-14	EMPLOYEE BENEFIT SPECIALIST, INC	PAY	11,231.63			Negotiable
10345		24-MAR-14	GREAT WEST	DENVER	88,821.52			Negotiable
10346		24-MAR-14	SUMITOMO MITSUI BANKING CORPORATION	NEW YORK	1,058.63			Negotiable
10347		24-MAR-14	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	560.41			Negotiable
10348		24-MAR-14	BANK OF AMERICA MERRILL LYNCH	PAY	827,630.41			Negotiable
10349		24-MAR-14	CITIGROUP GLOBAL MARKETS INC.	NEW YORK	827,630.06			Negotiable
10350		24-MAR-14	MUNICIPAL WATER DISTRICT OF ORANGEVALLEY COUNTY	FOUNTAIN	1,210,463.85			Negotiable
10351		24-MAR-14	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	194.44			Negotiable
10352		24-MAR-14	INTERNAL REVENUE SERVICE	FRESNO	148,794.59			Negotiable
10353		24-MAR-14	FRANCHISE TAX BOARD	SACRAMENTO	40,882.90			Negotiable

IRWD Ledger

Report Date: 01-APR-2014 11:49

Include Zero Amount Payments: Yes
Display Payee Address: No

Void Payment Register

Period From: 01-MAR-14

Page: 1
To: 31-MAR-14
Date: Void Date

Bank: Bank of America N.A.

Branch: Los Angeles

Account: Checking AP and PR

Bank Account Currency: USD

Payment Currency: USD (US Dollar)

Payment Number	Date	Payee Name	Site	Address	Payment Amount	Void Date
Payment Document: IRWD CHECK						
346162	13-FEB-14	CITY OF TUSTIN	TUSTIN 1		840.00	10-MAR-14
346736	06-MAR-14	ORANGE COUNTY VECTOR CONTRO	GARDEN GROVE		1,203.15	06-MAR-14
346737	06-MAR-14	ORANGE COUNTY WATER DISTRICT	FOUNTAIN VALLEY		4,788.46	06-MAR-14
346738	06-MAR-14	OSTS, INC	PURCHASE_PAY		9,500.00	06-MAR-14
346739	06-MAR-14	OWENS, ROBERT	ORANGE		32.22	06-MAR-14
346740	06-MAR-14	PARKHOUSE TIRE INC	PURCHASE		2,181.19	06-MAR-14
346741	06-MAR-14	PARKWAY LAWNMOWER SHOP	IRVINE		209.06	06-MAR-14
346742	06-MAR-14	PAUL E BRADLEY INC	YORBA LINDA		3,600.00	06-MAR-14
346743	06-MAR-14	PAULUS ENGINEERING INC	PAY		193,434.25	06-MAR-14
346744	06-MAR-14	PINNACLE LANDSCAPE COMPANY	IRVINE		6,560.00	06-MAR-14
346745	06-MAR-14	PONTON INDUSTRIES INC	YORBA LINDA		3,916.85	06-MAR-14
346746	06-MAR-14	PRAXAIR DISTRIBUTION INC	PAY		1,704.99	06-MAR-14
346747	06-MAR-14	PRUDENTIAL OVERALL SUPPLY	SANTA ANA		166.67	06-MAR-14
346748	06-MAR-14	PSOMAS	LOS ANGELES		11,792.81	06-MAR-14
346749	06-MAR-14	PTI SAND & GRAVEL INC	CORONA		1,437.65	06-MAR-14
346750	06-MAR-14	QUICKEL PAVING INC	LAGUNA HILLS		975.00	06-MAR-14
346751	06-MAR-14	RAINBOW DISPOSAL CO INC	ORANGE		506.33	06-MAR-14
346752	06-MAR-14	RAM AIR ENGINEERING INC	LAKE FOREST		1,429.42	06-MAR-14
346753	06-MAR-14	RANCHO MONTEREY APARTMENTS	IRVINE		430.12	06-MAR-14
346754	06-MAR-14	REED, JAMES D	PURCHASE_PAY		1,985.38	06-MAR-14
346755	06-MAR-14	RESPONSE ENVELOPE, INC	LOS ANGELES		1,892.43	06-MAR-14
346756	06-MAR-14	RINCON TRUCK CENTER INC.	PURCHASE_PAY		203.45	06-MAR-14
346757	06-MAR-14	RITE AID PHARMACY	PITTSBURG		60.00	06-MAR-14
346758	06-MAR-14	SANTA ANA BLUE PRINT	IRVINE		891.98	06-MAR-14
346759	06-MAR-14	SANTA MARGARITA FORD	RSM		142.67	06-MAR-14
346760	06-MAR-14	SANTA MARGARITA FORD	RSM		1,131.88	06-MAR-14
346761	06-MAR-14	SANTA MARGARITA WATER DISTR	PAY		18,300.38	06-MAR-14
346762	06-MAR-14	SECURTEC DISTRICT PATROL IN	PAY		10,080.00	06-MAR-14
346763	06-MAR-14	SIRIUS COMPUTER SOLUTIONS I	DALLAS		6,208.40	06-MAR-14
346764	06-MAR-14	SOUTH COAST ANSWERING SERVI	RIVERSIDE		483.66	06-MAR-14
346765	06-MAR-14	SOUTH COAST WATER DISTRICT	LAGUNA NIGUEL		809.31	06-MAR-14
346766	06-MAR-14	SOUTH ORANGE COUNTY WASTewa	DANA POINT		65,853.50	06-MAR-14
346767	06-MAR-14	SOUTHERN CALIFORNIA EDISON	ROSEMEAD		432,462.69	06-MAR-14
346768	06-MAR-14	SOUTHERN CALIFORNIA SECURIT	PAY		130.18	06-MAR-14
346769	06-MAR-14	SOUTHERN COUNTIES LUBRICANT	PAY		1,506.55	06-MAR-14
346770	06-MAR-14	SPATIAL WAVE, INC.	PAY		35,190.00	06-MAR-14
346771	06-MAR-14	STETSON ENGINEERS INC.	SAN RAFAEL		25,412.57	06-MAR-14
346772	06-MAR-14	SUNNYHILLS RESTORATION	PAY		85,551.91	06-MAR-14

IRWD Ledger

Report Date: 01-APR-2014 11:49

Include Zero Amount Payments: Yes
Display Payee Address: No

Void Payment Register

Period From: 01-MAR-14

Page: 2
To: 31-MAR-14
Date: Void Date

Bank: Bank of America N.A.

Branch: Los Angeles

Account: Checking AP and PR

Bank Account Currency: USD

Payment Currency: USD (US Dollar)

Payment Number	Date	Payee Name	Site	Address	Payment Amount	Void Date
Payment Document: IRWD CHECK						
346773	06-MAR-14	TAIT ENVIRONMENTAL SERVICES	PURCHASE		1,197.95	06-MAR-14
346774	06-MAR-14	TESCO CONTROLS INC	SACRAMENTO		475.00	06-MAR-14
346775	06-MAR-14	TEST EQUIPMENT DEPOT	BOSTON		1,206.20	06-MAR-14
346776	06-MAR-14	TETRA TECH, INC	DENVER 2		42,417.24	06-MAR-14
346777	06-MAR-14	THYSSENKRUPP ELEVATOR	PAY		218.95	06-MAR-14
346778	06-MAR-14	TRIPAC MARKETING INC	PAY		536.53	06-MAR-14
346779	06-MAR-14	TROPICAL PLAZA NURSERY INC	PAY		1,625.44	06-MAR-14
346780	06-MAR-14	TRUCPARCO	ANAHEIM		1,410.51	06-MAR-14
346781	06-MAR-14	ULTRA SCIENTIFIC	NORTH KINGSTON		282.00	06-MAR-14
346782	06-MAR-14	UNDERGROUND SERVICE ALERT O	PAY		706.50	06-MAR-14
346783	06-MAR-14	UNITED PARCEL SERVICE INC	LOS ANGELES		30.72	06-MAR-14
346784	06-MAR-14	UNITED STATES POST OFFICE	IRVINE		24,580.00	06-MAR-14
346785	06-MAR-14	UNITED STATES POSTAL SERVIC	EAGAN		56.74	06-MAR-14
346786	06-MAR-14	VERIZON CALIFORNIA INC	PAY		251.18	06-MAR-14
346787	06-MAR-14	VERIZON WIRELESS SERVICES L	PAY		6,740.90	06-MAR-14
346788	06-MAR-14	VULCAN MATERIALS COMPANY	PAY		1,351.60	06-MAR-14
346789	06-MAR-14	VWR INTERNATIONAL, LLC	PAY		1,459.75	06-MAR-14
346790	06-MAR-14	WALTERS WHOLESALE ELECTRIC	PAY		757.94	06-MAR-14
346791	06-MAR-14	WASTE MANAGEMENT OF ORANGE	PAY		1,785.74	06-MAR-14
346792	06-MAR-14	WAXIE'S ENTERPRISES, INC	LOS ANGELES		2,797.92	06-MAR-14
346793	06-MAR-14	WECK LABORATORIES INC	PAY		2,825.00	06-MAR-14
346794	06-MAR-14	WELLS SUPPLY COMPANY	PAY		1,922.40	06-MAR-14
346795	06-MAR-14	WEST COAST SAFETY SUPPLY IN	PAY		1,815.10	06-MAR-14
346796	06-MAR-14	WORTHINGTON DIRECT HOLDINGS	DALLAS		1,672.87	06-MAR-14
346797	06-MAR-14	BANK OF NEW YORK MELLON TRU	NEWARK		736.00	06-MAR-14

Report Count: 63
IRWD Ledger

Include Zero Amount Payments: Yes
Display Payee Address: No

Void Payment Register

Payment Document Subtotal 1,031,865.29

Bank Account Subtotal -----
1,031,865.29

Report Total 1,031,865.29

Report Date: 01-APR-2014 11:49

Page: 3

Period From: 01-MAR-14

To: 31-MAR-14

Date: Void Date

*** End of Report ***

Exhibit "E"

IRWD Gov Code 53065.5 Disclosure Report

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

01-MAR-14 to 31-MAR-14

NAME	CHECK	CHECK DATE	TRANSACTION	ITEM DESCRIPTION	EXPENSE JUSTIFICATION
Bailey, Johnathan	346636	6-Mar-14	\$ 148.00	Membership/Certification	CWEA Membership Renewal Fee
Bonkowski, Leslie	346875	13-Mar-14	\$ 138.92	Other(Misc)	Meeting supplies
Cano, Marco	347253	27-Mar-14	\$ 120.00	Membership/Certification	CA Dept of Public Health Water Distribution Grade III Certification
Collazo, Carlos	347244	27-Mar-14	\$ 124.18	Other(Misc)	Safety shoes reimbursement
Compton, Christine	347426	31-Mar-14	\$ 309.50	Lodging	Rm & Tax 3/11/14, attended Bioenergy Association of California Board Meeting, Sacramento CA
Figueroa, Jorge	347059	20-Mar-14	\$ 200.00	Other(Misc)	Safety shoes reimbursement
Garcia, Alejandro (Alex)	346633	6-Mar-14	\$ 350.00	Membership/Certification	Substation Maintenance Technician Certification
Hayden, David (Dave)	347246	27-Mar-14	\$ 148.00	Membership/Certification	CWEA Membership Renewal Fee
Justice, Jack	347250	27-Mar-14	\$ 148.00	Membership/Certification	CWEA Membership Renewal Fee
Kalinsky, Arseny	347058	20-Mar-14	\$ 695.00	Registration Fees	AWWA/AMTA 2014 Membrane Technology Conf. & Expo, Las Vegas, NV
Kalinsky, Arseny	347058	20-Mar-14	\$ 151.76	Mileage	From OC to Las Vegas, NV - attended AWWA/AMTA 2014 Membrane Technology Conf.
Kalinsky, Arseny	347058	20-Mar-14	\$ 151.76	Mileage	From Las Vegas, NV to OC - attended AWWA/AMTA 2014 Membrane Technology Conf.
LaMar, Steve	347258	27-Mar-14	\$ 166.71	Lodging	Rm & Tax 2/20/14, attended Urban Water Institute Water Conf. in Palm Springs, CA
LaMar, Steve	347258	27-Mar-14	\$ 382.43	Lodging	Rm & Tax 2/24/14, attended ACWA in Washington, DC
LaMar, Steve	347258	27-Mar-14	\$ 382.43	Lodging	Rm & Tax 2/25/14, attended ACWA in Washington, DC
LaMar, Steve	347258	27-Mar-14	\$ 382.43	Lodging	Rm & Tax 2/26/14, attended ACWA in Washington, DC
Leal, Eliberto	347248	27-Mar-14	\$ 194.38	Other(Misc)	Safety shoes reimbursement
Malloy, Steve	347259	27-Mar-14	\$ 695.00	Registration Fees	AWWA/AMTA Membrane Tech Conference, Las Vegas, NV
Malloy, Steve	347259	27-Mar-14	\$ 261.80	Airfare	Roundtrip attended AWWA/AMTA Membrane Tech Conference, Las Vegas, NV
Malloy, Steve	347259	27-Mar-14	\$ 144.48	Lodging	Rm & Tax 3/10/14, attended AWWA/AMTA Membrane Tech Conference, Las Vegas, NV
Malloy, Steve	347259	27-Mar-14	\$ 144.48	Lodging	Rm & Tax 3/11/14, attended AWWA/AMTA Membrane Tech Conference, Las Vegas, NV
Malloy, Steve	347259	27-Mar-14	\$ 144.48	Lodging	Rm & Tax 3/12/14, attended AWWA/AMTA Membrane Tech Conference, Las Vegas, NV
Malloy, Steve	347259	27-Mar-14	\$ 144.48	Lodging	Rm & Tax 3/13/14, attended AWWA/AMTA Membrane Tech Conference, Las Vegas, NV
Marshall, Matt	347060	20-Mar-14	\$ 100.00	Other(Misc)	CA Dept of Public Health Water Distribution Grade III exam fee
Marshall, Matt	347060	20-Mar-14	\$ 120.00	Membership/Certification	CA Dept of Public Health Water Distribution Grade III Certification
Matheis, Mary Aileen	347254	27-Mar-14	\$ 166.71	Lodging	Rm & Tax 2/20/14, attended Urban Water Institute Water Conf. in Palm Springs, CA
Matheis, Mary Aileen	347254	27-Mar-14	\$ 104.16	Other(Misc)	Roundtrip mileage, attended Urban Water Institute Water Conf. in Palm Springs, CA
Matheis, Mary Aileen	347254	27-Mar-14	\$ 382.43	Lodging	Rm & Tax 2/24/14, attended ACWA in Washington, DC
Matheis, Mary Aileen	347254	27-Mar-14	\$ 382.43	Lodging	Rm & Tax 2/25/14, attended ACWA in Washington, DC
Matheis, Mary Aileen	347254	27-Mar-14	\$ 382.43	Lodging	Rm & Tax 2/26/14, attended ACWA in Washington, DC
Norman, Tammy	347062	20-Mar-14	\$ 107.03	Other(Misc)	Meeting supplies
Oldewage, Lars	346638	6-Mar-14	\$ 244.00	Membership/Certification	AWWA annual membership renewal
Reinhart, Doug	346870	13-Mar-14	\$ 107.52	Other(Misc)	Roundtrip mileage, attended Urban Water Institute Water Conf. in Palm Springs, CA
Roney, Jenny	346872	13-Mar-14	\$ 100.00	Membership/Certification	HR Certification Institute renewal
Schulze, Richard	346642	6-Mar-14	\$ 148.00	Membership/Certification	CWEA Membership Renewal Fee
Silva, Jose	346637	6-Mar-14	\$ 161.99	Other(Misc)	Safety shoes reimbursement
Spangenberg, Carl	347243	27-Mar-14	\$ 144.48	Lodging	Rm & Tax 3/11/14, attended AWWA/AMTA Membrane Tech Conference, Las Vegas, NV
Spangenberg, Carl	347243	27-Mar-14	\$ 144.48	Lodging	Rm & Tax 3/12/14, attended AWWA/AMTA Membrane Tech Conference, Las Vegas, NV
Stewart, William (Billy)	347262	27-Mar-14	\$ 115.00	Membership/Certification	Civil Engineer license renewal
Swan, Peer	347427	31-Mar-14	\$ 792.50	Airfare	Roundtrip airfare, attended CASA Conference, Washington, DC
Swan, Peer	347427	31-Mar-14	\$ 319.46	Lodging	Rm & Tax 2-23/14, attended CASA Conference, Washington, DC
Swan, Peer	347427	31-Mar-14	\$ 319.46	Lodging	Rm & Tax 2/24/14, attended CASA Conference, Washington, DC
Swan, Peer	347427	31-Mar-14	\$ 319.46	Lodging	Rm & Tax 2/25/14, attended CASA Conference, Washington, DC
Total Amount:			\$ 10,389.76		

DS
April 28, 2014
Prepared by: A. Murphy/M. Cortez
Submitted by: K. Burton
Approved by: Paul Cook

CONSENT CALENDAR

CATHODIC PROTECTION FOR GREEN ACRES PROJECT PIPELINE SEGMENT CONSULTANT SELECTION

SUMMARY:

The Cathodic Protection for Green Acres Project (GAP) Pipeline Segment will construct a cathodic protection system to protect 1,310 feet of the GAP pipeline that was transferred in ownership from Orange County Water District to IRWD in 2011. Staff recommends that the Board:

- Approve an Expenditure Authorization in the amount of \$123,200, and
- Authorize the General Manager to execute a Professional Services Agreement with RBF Consulting in the amount of \$106,565 for the Cathodic Protection for GAP Pipeline Segment, Project 30415.

BACKGROUND:

IRWD constructed a recycled water pipeline to interconnect the IRWD and Orange County Water District (OCWD) recycled water systems as part of the GAP in 1997. The pipeline is located on University Drive between Jamboree Road and the State Highway 73 overpass as shown in Exhibit "A". Prior to 2011, IRWD owned and maintained the pipeline east of the intertie metering structure and OCWD owned and maintained the segment west of the metering structure. In 2011, as part of a larger agreement governing GAP, IRWD assumed ownership and maintenance of the 1,310 foot GAP pipeline segment between the Intertie Metering Vault and Jamboree Road. Since this segment was constructed without a cathodic protection system and has experienced leaks due to corrosion, this project will construct a cathodic protection system to protect the pipeline. IRWD completed construction of a cathodic protection system on the remainder of the IRWD owned portion of the GAP pipeline in 2011.

Consultant Selection:

Staff issued a Request for Proposal for the design to six consultants: RBF Consulting (RBF), Corpro, V&A Consulting Engineers (V&A), Farwest Corrosion Control, HDR Schiff, and R.F. Yeager Engineering. Only RBF and Corpro submitted complete proposals, while V&A submitted a budgetary cost estimate only. Staff evaluated the proposals and selected RBF based on its extensive cathodic protection and civil engineering experience. RBF's proposal also demonstrated careful consideration of all relevant design parameters and a better project understanding than Corpro. The consultant selection matrix is included as Exhibit "B". RBF has in-depth background knowledge of the GAP pipeline and the District's existing cathodic protection systems based on their experience on the District's annual cathodic protection monitoring program since 2011. RBF is currently under contract to perform annual cathodic protection monitoring of the District's facilities through FY 2016-17. In addition, RBF is

working on the design of the SAC/Baker Pipeline Cathodic Protection Improvements Project and has performed well. RBF's proposal in the amount of \$106,565 is provided as Exhibit "C".

FISCAL IMPACTS:

Project 30415 (4396) is included in the FY 2013-14 Capital Budget. Staff requests an Expenditure Authorization as shown in the table below and in Exhibit "D".

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
30415 (4396)	\$121,000	\$-0-	\$121,000	\$-0-	\$121,000	\$121,000

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15301 which provides exemption for minor alterations of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. A Notice of Exemption for the project will be prepared and filed with the County of Orange.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on April 15, 2014.

RECOMMENDATION:

THAT THE BOARD APPROVE AN EXPENDITURE AUTHORIZATION IN THE AMOUNT OF \$121,000 AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH RBF CONSULTING IN THE AMOUNT OF \$106,565 FOR THE CATHODIC PROTECTION FOR GREEN ACRES PROJECT PIPELINE SEGMENT, PROJECT 30415 (4396).

LIST OF EXHIBITS:

- Exhibit "A" – Site Location Map
- Exhibit "B" – Consultant Selection Matrix
- Exhibit "C" – RBF Consulting Proposal
- Exhibit "D" – Expenditure Authorization

EXHIBIT "A"

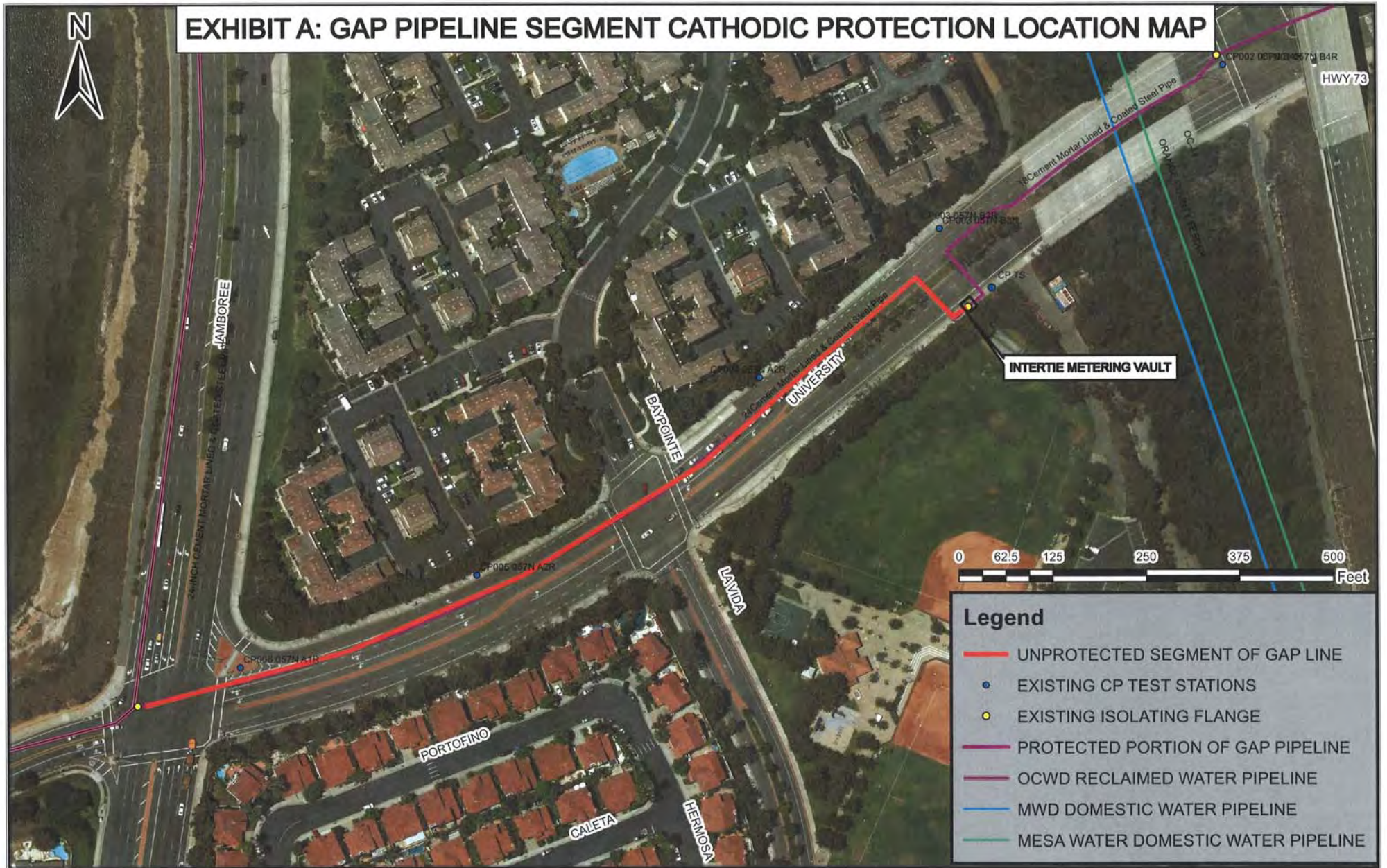


EXHIBIT "B"
Consultant Selection Matrix
Cathodic Protection For GAP Pipeline Segment
Project 30415 (4396)

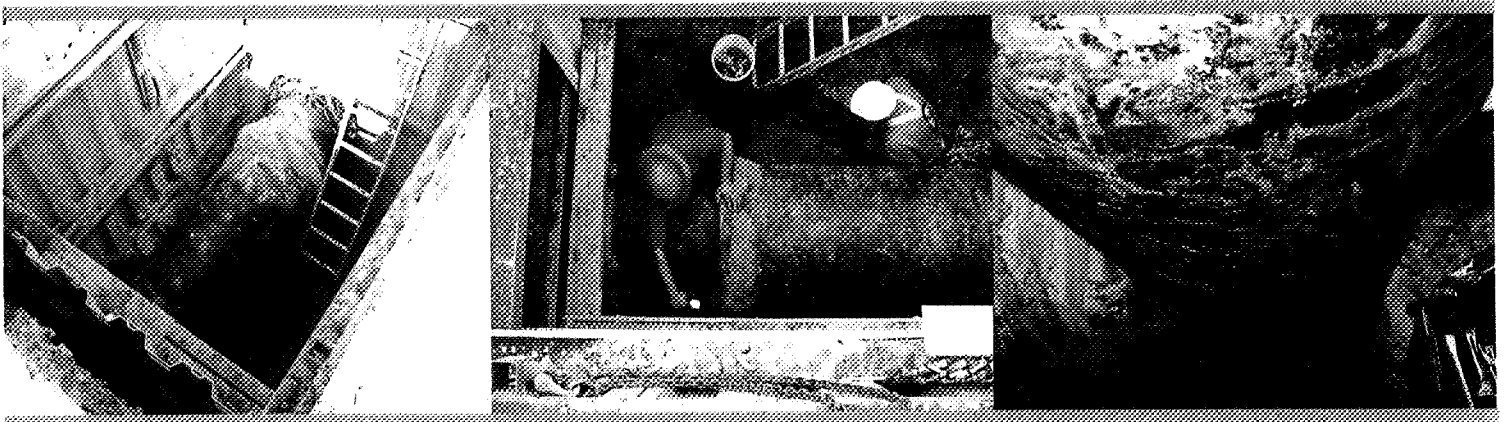
	Weights	RBF Consulting	Corrpro	V&A Consulting Engineers	Farwest Corrosion Control, HDR/Schiff, R.F. Yeager Engineering
TECHNICAL APPROACH	60%			Submitted Budgetary Estimate Only	Declined to Submit
*Project Approach	30%	1	2		
*Project Details in PDR	10%	1	2		
*Scope of Work	30%	1	2		
*Man Hour Estimates	30%	1	2		
Weighted Score (Technical Approach)		1.00	2.00		
EXPERIENCE	40%				
*Firm/Team	30%	1	2		
*Project Manager	40%	1	2		
*Project Engineer 1 - CP	30%	1	2		
Weighted Score (Experience)		1.00	2.00		
Project Manager		Yrs	Yrs	Yrs	Yrs
Corrosion Engineer-		Michael Boeck	Sarvit Singh		
Corrosion Tech		James Jenkins	Sibal Mitra		
Surveying/ Mapping		JD Chiniaeff	Joshua Emmanuel		
Electrical		John Duquette	Safa Kamangar		
Potholing		Rhonda Tijerina	Khanh Nguyen		
Traffic Control		Kana	?		
		Ryan Zellers	Kristie Ferronato		
COMBINED WEIGHTED SCORE		1.00	2.00		
		Man-hours	Man-hours	Man-hours	Man-hours
Task 1 Preliminary Design Report		150	257		
Task 2 Final Design		387	68		
TOTAL DESIGN HOURS		537	325		
Task 3 Construction Service		149	124		
TOTAL HOURS		686	449		
Sheet Count					
General		2	2		
CP-Layout		2	3		
CP-Details		2	5		
Traffic Control		9	6		
TOTAL SHEETS		15	16		
FD HRS/SHT		26	4		
FEE					
Average \$/manhrs		\$160	\$225		
Preliminary Design		\$25,375	\$0		
Add Items (potholing)		\$0	\$20,000		
Final Design		\$60,370	\$53,040		
Subtotal - PDR & Design		\$85,745	\$73,040		
Services During Construction		\$20,820	\$11,670		
Grand Total - PDR/Design/Const. Ser.		\$106,565	\$84,710	*\$175,000-\$200,000	
Number of Drawings		15 dwgs	16 dwgs		
Final Design Unit Prices (\$/dwg)		\$4,025	\$3,315		
Professional Liability Insurance		YES	YES	YES	YES
General Liability Insurance		YES	YES	YES	YES
FORCED RANKINGS:		1 - First	2 - Second	3 - Third	4 - Four

* V&A declined to submit a formal proposal because their budgetary estimate of 175-200K was not competitive with the other proposals.

Creating Value...

PROPOSAL

Design and Construction Phase
Engineering Services for
Cathodic Protection of the
GAP Pipeline Segment Project



...Delivering Solutions

*Creating value by delivering
innovative and sustainable solutions
for infrastructure and the environment*



Prepared For:
Irvine Ranch Water District

March 7, 2014



SECTION 2 - PROJECT UNDERSTANDING & APPROACH

RBF has monitored the pipe-to-soil potentials over the Green Acres Pipeline within University Avenue between Jamboree Road and State Route 73. Through the Annual Pipeline Monitoring Program and RBF's construction service contract during the construction of cathodic protection (CP) systems along University Avenue, RBF has a good understanding of test station locations and background. It is the District's desire to protect the remaining 1,300 linear feet (LF) of unprotected pipe segment. There are two main methods in protecting the pipeline:

1. Install a galvanic (sacrificial) CP system. This entails the placement and connection of anodes near the pipeline. This system would not cause unwanted stray current that may affect other adjacent pipelines.
2. Cross-bond the unprotected pipeline to the protected line. However, the current distribution from the existing rectifier system may not have enough output to adequately protect the GAP segment.
3. Install an impressed current cathodic protection (ICCP) system for the unprotected GAP segment. This system may pose additional issues such as possible stray current to other adjacent pipelines in the immediate area. To alleviate this concern, sacrificial anodes could be used to "drain-off" unwanted stray current.

It is our understanding that the District has taken over ownership of the 1300 LF of pipeline and desire to construct a cathodic protection system. It is also understood that the segment may be discontinuous, and therefore, these pipeline must first be bonded in order for any type of CP system to function. Our approach is to check the continuity of the unprotected pipeline reach to ensure that a protection system would work correctly. To save costs for the District, our approach is to develop a sacrificial type CP system to protect the 1300 LF of the GAP segment west of the metering vault.

We have separated out and modified scope tasks into Preliminary and Final Design than what is shown in the RFP. We recommended having a meeting review prior to the 75% design stage in order to obtain agreement with District staff before moving forward in a higher stage set of plans. We have also discussed the project internally with our traffic control engineers. Due to the location of the pipeline with respect to street lanes and the potential to bond every joint, we recommend revisiting the traffic control scope once we better understand the mitigation techniques involved. This could reduce the number of traffic control phasing and ultimately the number of sheets required for the plans.



SCOPE OF WORK

Preliminary Design

Task 1

1A - Initial Background Material Review

RBF is familiar with the site area along University Drive having performed the annual cathodic protection monitoring project with the District for the past couple of years. RBF has read the test stations associated with the pipe segment as shown in the Final Report for the annual contract.

1B - Utility Research

RBF will perform a utility research for the GAP segment along University Drive from Jamboree Road to an approximately 1,300 linear feet to the east using a Dig-Alert web search. This research will ensure that all utilities are accounted for in the final design. RBF will provide IRWD with prepared letters in a Word Document to each purveyor requesting record drawings in the project area. RBF has found that the utility purveyors will not charge processing fees when a direct request for plans and as-builts comes from a municipality, but will however charge should a fee should a consultant request the information. Request from consultants are also executed in the order in which some purveyors received them. A direct request from IRWD will provide a savings in both time and money.

Using as-built plans from the purveyors, existing facilities will be plotted on the mapping CAD base files. These files will be used for preliminary planning locations for rectifiers, anodes, etc.

1C - Right-of-Way/Site Survey

RBF will create a site plan of the area using true coordinates to process right-of-way property data along University Drive. This base will be used to input existing utility data for the task stated above. The workflow is as follows:

- Perform survey records at the County Surveyors Office.
- Incorporate Survey Ground Control information to the Mapping Base for proper orientation.
- RBF will complete a field survey of the site sufficient to establish orientation of the record survey data. RBF will perform an analysis of the field survey data and record data obtained through research, and compile the results on a record data AutoCAD base map. The budget for this scope of work is based upon an assumption that adequate and accessible boundary monumentation exists in the immediate project vicinity to control this record data survey. Any cost associated with the preparation and processing of a Record of Survey Map, if one becomes necessary, will be covered by a separate agreement. The work will include field surveying services to locate ground control, in order to orientate the right-of-way and above ground utility appurtenances (test stations, vault, manholes, catch basins, etc.) information into the correct coordinate system.

Task 2

2 - Field Review

RBF will perform the following field surveys. This task includes two (2) days of field time for the field related tasks. Field tasks include following testing along the pipe corridor.

- Potential measurements of joint isolations for effectiveness.

RBF has a portable gas meter for entering vaults and safety harness equipment. RBF would require assistance from District Operations staff for confined space entry into the metering vault for testing purposes.



- Continuity survey of approximately 1300 linear feet. This survey requires that a signal is induced onto the pipeline at available test stations and the pipeline monitored using a Metrotech locating device. Testing of the pipeline continuity is achieved until a discontinuous pipe segment is discovered.

This task includes the preparation of a “typical” traffic control sheet. The work flow for entering the right-of-way at this task is to submit an encroachment permit for potholing activities with the City. Corrosion survey will utilize the pothole permit for entry and include safety devices such as signage, single arrow board, and one (1) flagman. It is assumed that traffic control plans will not be required for entry into the intersection areas.

Task 3

3 - Conceptual Construction Plans and Pipeline Dewatering

Conceptual layout exhibits will be prepared on 11x17 sheets and include Eagle Aerial photos, utility research data, survey field data, and mapping data. Exhibits will be prepared for the following scenarios:

- Areas of discontinuities along the pipe reach.
- RBF will work with District Operations and Construction Services to determine a pipeline dewatering plan should this be required.
- Preliminary locations for anode beds (most likely at existing test stations).

Task 4

4A – Permit Assistance

It is our understanding that one permit will be necessary for the project:

- 1) The pipeline is within the right-of-way of University Drive, which is in the City of Newport Beach. It is our understanding that a permit from the City will be required for construction activities. This permit will require traffic control plans to be provided.

We are assuming that construction activities will be outside the right-of-way of Caltrans along State Route 73. Other Agencies contain facilities that are within the right-of-way corridor including OCWD, MWD, and Mesa Water District. These agencies can be contacted as a courtesy in the preliminary design stage to alert them of the proposed construction work.

4B – Not Used



Final Design

Task 5

5A – Potholing

As requested per the RFP, five (5) potholes are included in this task. Potholes will be performed by Kana Engineering Group (Kana). RBF will provide an exhibit to the District showing the exact areas of potholing. Once approved, this exhibit will be provided to Kana who will perform the potholing work for this Task. Kana will be responsible for notifying USA Alert (or the appropriate underground locator) 48 hours prior to excavation. Kana will locate the horizontal and vertical location of key utility crossings along the pipe alignment. Potholing will utilize a vacuum dig method to minimize pavement repair and traffic issues.

Encroachment permits required for potholing work will be obtained by Kana including permits and pavement repair. This assumes that potholes can be backfilled with native and/or fill sand and repaired with hot patch per the City encroachment permit requirements. Should the City not require a hot patch repair, the cost of potholing can be reduced. This task assumes that Kana can utilize accepted methods of lane closure delineation, signage and barricading as shown in the WATCH manual. One “typical” traffic control plan sheet is included for obtaining the permit as stated in Task 2. This task assumes potholes will be performed along the alignment and not at intersections. RBF will provide a field survey to determine the horizontal and vertical location of the object after the commencement of the potholing. The survey will document the location on a set of survey notes and provide the information to the design engineer.

The pothole number is for budgetary purposes and will only be done if required. Additional potholing can be incorporated with an addendum to the contract. The budget amount shown for this task in this agreement assumes that the services described herein will cover the potholes in no more than one (1) separate survey crew move-in over a one (1) day period.

5B – Preparation of Drawings Specifications and Cost Estimates

75% Design

The 75% design level will incorporate the finalized approach prepared in the Preliminary Design Report. Technical specifications will be prepared using IRWD standard CSI format using Microsoft Word format. Drawing plans will include labeling of utilities and property/right-of-way line work on the District’s Standard D size sheets (24” x 36”) using AutoCAD version 2013. The following is RBF’s anticipated plan set list:

- Title Sheet
- Table of Contents, Legend, General Notes
- Plan View Layout (Three (3) Site Plans for Anode Locations)
- Plan View Layout (discontinuity areas)
- Detail Sheet 1 for Anodes and Isolations
- Detail Sheet 2 for Anodes and Isolations
- Traffic Control Plans (9 sheets)

Because it is unknown where discontinuities will be discovered and where the exact location of anodes will be, RBF is assuming that the entire segment will require joint bonding. Intersections are particular problematic as each lane closure requires phasing (individual sheets). Since three joints could potentially be found at each intersection, a total of six sheets alone would be required for traffic control. The remaining three sheets would be dedicated for the entire length of pipeline, possible location for an excavator, and the perpendicular crossing of the pipeline line to the metering vault. The total number of traffic control sheets can be reduced depending on the actual locations of construction work. RBF suggests revisiting this sheet count with the District during the Preliminary Design stage review.



Six (6) sets of the above plan sheets, draft of the technical specification sections, and estimate of probable construction costs will be provided at the 75% level to IRWD. RBF will meet with IRWD staff to review comments. Comments will be incorporated into the 90% design level.

90% Design

Comments from the 75% design plans, technical specifications, and cost estimate will be incorporated into the 90% submittal. In addition, RBF will prepare a bid schedule at this level. RBF will coordinate with and submit six (6) copies of the plans, specs, and cost estimate to the District. RBF will meet with IRWD staff to review comments. Comments will be incorporated into the Final design level.

Final Design

After acceptance of the 90% Design, a final submittal will be provided. The final submittal will include one (1) set of mylars and Project Manual specifications signed and stamped by a licensed civil engineer. One (1) set of all final documents, will be provided electronically in a PDF format to IRWD. Written documentation will be prepared in Microsoft Word and construction drawings will be submitted in AutoCAD.

Task 6

Meetings and Coordination

RBF will conduct and attend four (4) meetings as requested in the RFP. Meeting times have been slightly altered from what was requested in the RFP. Each meeting will include Agendas at least 1 day in advance and Minutes within 3 days of the meeting. The budgeted meetings include:

- Kick-Off Meeting
- Preliminary Design Review Meeting
- 75% Review Meeting
- 90% Review Meeting

Bid/Construction Phase

The following construction phase items have been budgeted per the direction of the RFP. Budget for this task will only be used if requested by the District.

Task 7

7 - Bid Phase Assistance

RBF has budgeted to one (1) addenda during the bidding phase for clarification of bid documents during bidding.

Task 8

8A - Project Meetings

RBF has budgeted five (5) project meetings consisting of two hours each during the construction phase. Minutes for each meeting will be provided within 3 days of the meeting.

8B - Contractor's Request for Information (RFI's)

RBF will respond up to five (5) "Request for Information" (RFI's) questions during construction. RFI's will consist of clarifications and interpretations requested by the Contractor for the Contract Documents.

8C - Shop Drawing Reviews

RBF has budgeted shop drawing review (review and response of ten (10) shop drawings submittals).

8D - Minor Plan Revisions

RBF has budgeted twenty (20) hours of staff time for minor plan revisions to construction drawings.



8E - Site Visits

RBF has budgeted up to Five (5) site visits lasting approximately three (3) hours each during construction.

8F - Prepare Record Drawings

RBF will incorporate IRWD's and Contractor's supplied red-line comments onto the original approved mylar plan set at the completion of construction. RBF will hand draft changes to the original approved mylars or re-issue new mylars. An electronic copy, in AutoCAD and PDF format, of the as-built plans will be provided on a CD with the original mylar(s). This assumes that one red line plan will be provided to RBF that includes enough information such as stationing, pipe lengths, etc. that can be reasonably used to adjust plans.

8G - Testing

Final testing of the completed project will be specified for the Contractor to perform. RBF will review and verify the test results and provide additional testing. For the purposes of this scope, 40 hours have been budgeted for additional testing that may be warranted. The hours are for budgetary purposes and will only be done if required. This testing may include the following:

- Final continuity survey
- Isolation effectiveness
- Anode Potentials

8H - Notification

RBF will provide notification to the Southern California Protection Committee of the finalized project.

Additional Services

Services which are not specifically identified herein in as those which are to be performed by RBF or its subconsultants are considered "Additional Services" for the purposes of this Agreement. However, RBF is not obligated to perform such Additional Services unless an amendment to this Agreement has been fully executed setting forth the scope, schedule, and fee for such Additional Services.

Additional corrosion protection plan view layouts and coordination can be added with additional scope/fee depending upon the ultimate locations decided upon between RBF and IRWD during the preliminary design phase.

Exclusions

Any work related to the following is specifically excluded from the services proposed herein and, if required, must be contracted for under separate contract or as an addendum to this contract:

- *Aerial Topographic Survey*
- *Design of an Impressed Current Cathodic Protection System*
- *CEQA Documentation*
- *Geotechnical Investigations*
- *Material Testing*
- *Environmental Analysis*
- *Archeological Services*
- *Paleontological Services*
- *Hazardous Waste Investigations*
- *Costs or fees for permits or agency related reviews*
- *Any other work task not specifically provided for in the Scope of Services*

**REQUEST FOR PROPOSAL (FEE PROPOSAL)
ENGINEERING CONSULTING SERVICES FOR
CATHODIC PROTECTION OF THE GAP PIPELINE SEGMENT PROJECT
Revision 1 March 27, 2014 (Sacrificial CP System)**

		Project Manager	Corrosion PE QA/QC	Corrosion Tech / Drafter	Mapper (PLS) / Surveyor*	Traffic Engineer	Electrical Engineer	Total Estimated Hours	Direct Fees	Indirect Fees	Total Estimated Fee
Task Description		\$ 170.00	\$ 260.00	\$ 115.00	\$ 165.00	\$ 170.00	\$ 170.00				
Preliminary Design											
1 A	Initial Background Material Review	1		1				2	\$ 285.00	\$ -	\$ 285.00
1 B	Utility Review	1		4				5	\$ 630.00	\$ -	\$ 630.00
1 C	Right-of-Way / Site Surveys	1	1		20			22	\$ 3,730.00	\$ 200	\$ 3,930.00
2	Field Review	8	26	20				54	\$ 10,420.00	\$ 4,900	\$ 15,320.00
3	Conceptual Design (Continuity Survey)	4	4	24				32	\$ 4,480.00	\$ 50	\$ 4,530.00
4 A	Permits	4						4	\$ 680.00	\$ -	\$ 680.00
4 B	Not Used							0	\$ -	\$ -	\$ -
Subtotal for Preliminary Design		19	31	49	20	0	0	119	\$ 20,225.00	\$ 5,150	\$ 25,375.00
Final Design											
5 A	Potholing			2	6				\$ 1,220.00	\$ 7,100	\$ 8,319.50
5 B	Preparation of Drawings Specifications and Cost Estimates (see costs for 75%, 90%, and Final Design)								\$ -	\$ -	\$ -
	75% Design	12	6	80		112		210	\$ 31,840.00	\$ 180	\$ 32,020.00
	90% Design	8	4	24		24		60	\$ 9,240.00	\$ 250	\$ 9,490.00
	Final Design	4	2	8		15		29	\$ 4,670.00	\$ 330	\$ 5,000.00
6	Meetings and Coordination	20		16				36	\$ 5,240.00	\$ 300	\$ 5,540.00
Subtotal for Final Design		44	12	130	6	151	0	335	\$ 52,210.00	\$ 8,160	\$ 60,369.50
Bid/Construction Phase											
7	Bid Phase Assistance (1 addenda)	4	1	2				7	\$ 1,170.00	\$ 100	\$ 1,270.00
8 A	Project Meetings (5)	8		20				28	\$ 3,660.00	\$ 330	\$ 3,990.00
8 B	RFI's (5)	4	2	6				12	\$ 1,890.00	\$ -	\$ 1,890.00
8 C	Shop Drawing Reviews (10)	2	1	15				18	\$ 2,325.00	\$ 100	\$ 2,425.00
8 D	Plan Revisions			20				20	\$ 2,300.00	\$ 200	\$ 2,500.00
8 E	Site Visits (5)			15				15	\$ 1,725.00	\$ 200	\$ 1,925.00
8 F	Record Drawings	1		8				9	\$ 1,090.00	\$ -	\$ 1,090.00
8 G	Testing	4	4	32				40	\$ 5,400.00	\$ 330	\$ 5,730.00
Subtotal for Construction Phase Services		23	8	118	0	0	0	149	\$ 19,560.00	\$ 1,260	\$ 20,820.00
Total		86	51	297	26	151	0	603	\$ 91,995.00	\$ 14,570	\$ 106,564.50

* RBF understands that this is a prevailing wage project as it relates to land survey field time.

EXHIBIT "D"

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: CATHODIC PROTECTION FOR GAP PIPE SEGMENT

EPMS Project No: 30415 **EA No:** 1

Oracle Project No: 4396

Project Manager: CORTEZ, MALCOLM

Project Engineer: MURPHY, ALEXANDER

Request Date: April 7, 2014

ID Split: Regional RW Split w/ Enhance (11/08)

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
211	.7	CAPITAL FUND
212	4.7	BONDS YET TO BE SOLD**
213	1.7	BONDS YET TO BE SOLD**
215	.3	CAPITAL FUND
221	4.7	BONDS YET TO BE SOLD**
230	3.4	BONDS YET TO BE SOLD**
240	2.7	BONDS YET TO BE SOLD**
250	11.2	BONDS YET TO BE SOLD**
261	3.2	BONDS YET TO BE SOLD**
299	67.4	CAPITAL FUND ENHANCEMENT**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	<u>\$121,000</u>
Total EA Requests:	\$121,000
Previously Approved Budget:	\$121,000
Budget Adjustment Requested this EA:	<u>\$0</u>
Updated Budget:	\$121,000
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 DESIGN - IRWD	18,000	0	18,000	8,000	10,000	18,000	3/14	8/14
ENGINEERING DESIGN - OUTSIDE	90,000	0	90,000	50,000	40,000	90,000	4/14	8/14
DESIGN STAFF FIELD SUPPORT	0	0	0	0	0	0	4/14	12/14
ENGINEERING - CA&I IRWD	0	0	0	0	0	0	9/14	12/14
ENGINEERING - CA&I OUTSIDE	0	0	0	0	0	0	9/14	12/14
CONSTRUCTION FIELD SUPPORT	0	0	0	0	0	0	9/14	12/14
CONSTRUCTION	0	0	0	(60,000)	60,000	0	9/14	12/14
LEGAL	2,000	0	2,000	2,000	0	2,000	3/14	12/14
Contingency - 10.00% Subtotal	\$11,000	\$0	\$11,000	\$0	\$11,000	\$11,000		
Subtotal (Direct Costs)	\$121,000	\$0	\$121,000	\$0	\$121,000	\$121,000		
Estimated G/A - 170.00% of direct labor*	\$30,600	\$0	\$30,600	\$13,600	\$17,000	\$30,600		
Total	\$151,600	\$0	\$151,600	\$13,600	\$138,000	\$151,600		
Direct Labor	\$18,000	\$0	\$18,000	\$8,000	\$10,000	\$18,000		

*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 \$155,000. 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.

08
April 28, 2014
Prepared by: K. Lew/M. Cortez
Submitted by: K. Burton *(KLK)*
Approved by: Paul Cook *(Signature)*

CONSENT CALENDAR

PLANNING AREA 40 CYPRESS VILLAGE
CAPITAL SEWER IMPROVEMENTS

SUMMARY:

Irvine Community Development Company (ICDC) is currently developing Planning Area 40 Cypress Village (PA 40) which includes the construction of streets, storm drains, domestic water, sewer, and recycled water improvements. As part of the project, ICDC will construct the IRWD capital improvements under an existing Supplemental Reimbursement Agreement. Staff recommends that the Board:

- Authorize the addition of Project 21204 in the amount of \$227,000 to the FY 2013-14 Capital Budget, and
- Approve an Expenditure Authorization for Project 21204 in the amount of \$227,000 for the Planning Area 40 Capital Sewer Facilities.

BACKGROUND:

IRWD and ICDC have had a Reimbursement Agreement (RA) for construction of IRWD capital improvements in place since May 1997. Under this RA, a Supplemental Reimbursement Agreement serves to define the improvements to be designed and constructed within a specific Planning Area as well as the estimated reimbursable costs.

PA 40 is bounded by Trabuco Road to the north, the Great Park to the east, the I-5 to the south, and Jeffrey Road to the west. A Project Location Map is provided as Exhibit "A". The required IRWD domestic water, sewer, and recycled water capital improvements are documented in the PA 40 Sub-Area Master Plan, as prepared in January 2011 and shown in the capital system maps as Exhibit "B". The design and construction of these PA 40 capital improvements consist of approximately 850 feet of 16-inch diameter sewer pipeline. The design and construction of the capital improvements were performed under an ICDC contract through the terms of an existing Supplemental Reimbursement Agreement between IRWD and ICDC. ICDC inadvertently overlooked requesting concurrence from IRWD in 2010 and is now seeking concurrence and reimbursement for the project.

ICDC retained Stantec to prepare improvement plans and received bids from five contractors in July 2010. Leatherwood Construction was the lowest bidder for the IRWD improvements with a bid amount of \$206,682 as shown in Exhibit "C". In addition, ICDC received consultant proposals for geotechnical soils testing, surveying, and tree monitoring. Staff has reviewed the consultant proposals and the construction bids and found the amounts to be acceptable.

A summary of the PA 40 capital sewer improvements costs under this Supplemental Reimbursement Agreement is shown in the following list:

Construction (Leatherwood)	\$ 206,682.00
Construction Soils Testing (NMG)	\$ 5,417.00
Construction Surveying (Hunsaker)	\$ 3,060.00
Tree Monitoring (Dudek)	\$ 690.00
ICDC Administration Fee (1%)	\$ <u>2,066.82</u>
	\$ 217,915.82

FISCAL IMPACTS:

Funding for IRWD’s capital improvements will require the addition of Project 21204 (5337) to the FY 2013-14 Capital Budget and approval of an Expenditure Authorization in the amount shown in the table below and in Exhibit “D”.

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
21204 (5337)	\$-0-	\$227,000	\$227,000	\$-0-	\$227,000	\$227,000

The above funding provides for the reimbursement costs to ICDC for the design and construction of IRWD capital improvements, staff time, and consultant support during construction.

ENVIRONMENTAL COMPLIANCE:

Construction of capital domestic water, sewer, and recycled water improvements for Planning Area 40 is subject to CEQA. In conformance with the California Code of Regulations Title 14, Chapter 3, Article 7 an Environmental Impact Report was certified by the City of Irvine on February 29, 2008 (SCH #2000071014).

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on April 15, 2014.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE ADDITION OF PROJECT 21204 (5337) IN THE AMOUNT OF \$227,000 TO THE FY 2013-14 CAPITAL BUDGET, AND APPROVE AN EXPENDITURE AUTHORIZATION IN THE AMOUNT OF \$227,000 FOR THE PLANNING AREA 40 CAPITAL SEWER IMPROVEMENTS, PROJECT 21204 (5337).

LIST OF EXHIBITS:

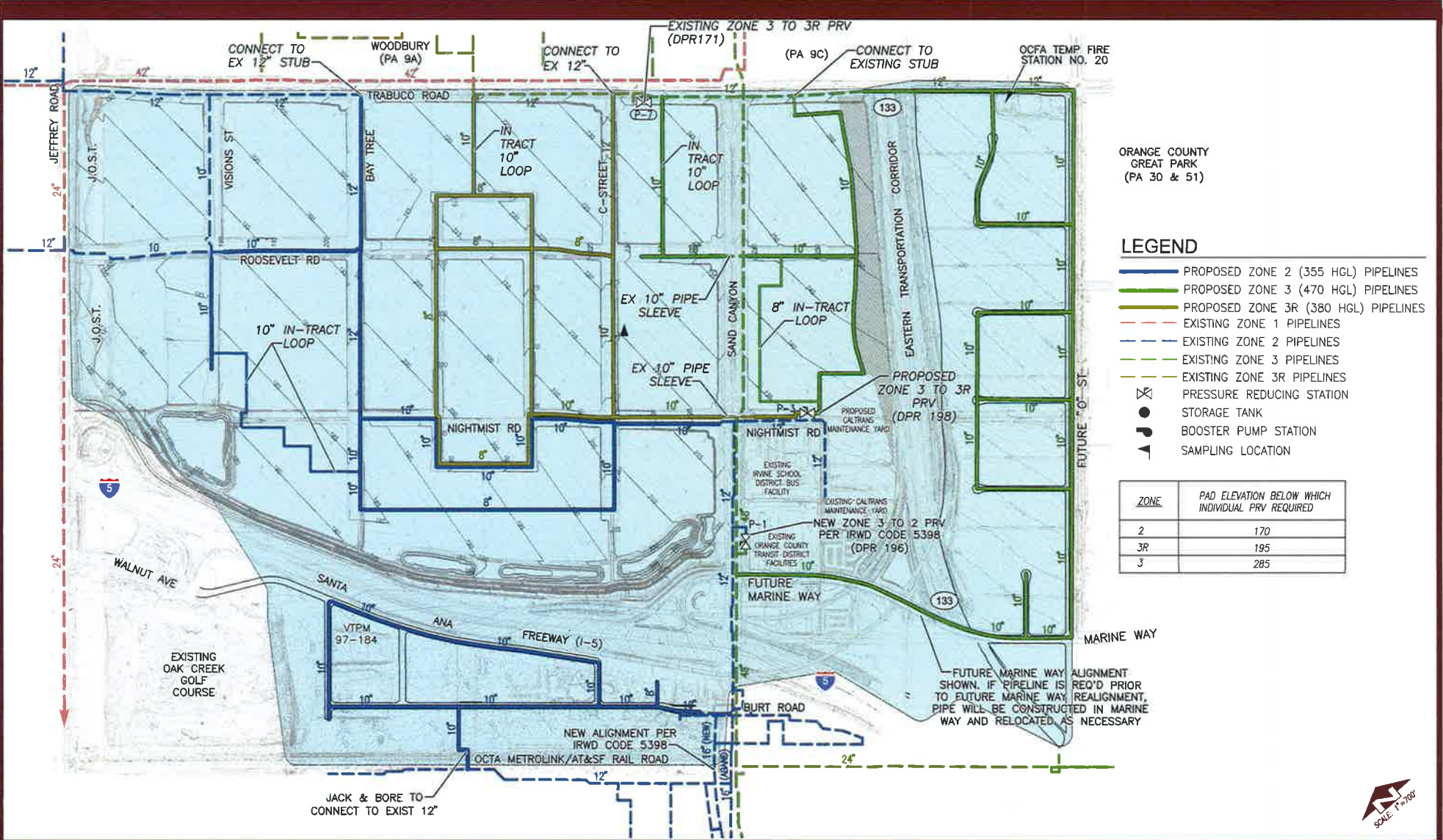
- Exhibit “A” – Project Location Map
- Exhibit “B” – Capital System Maps
- Exhibit “C” – Bid Summary for Construction of IRWD Capital Improvements
- Exhibit “D” – Expenditure Authorization

EXHIBIT "A"



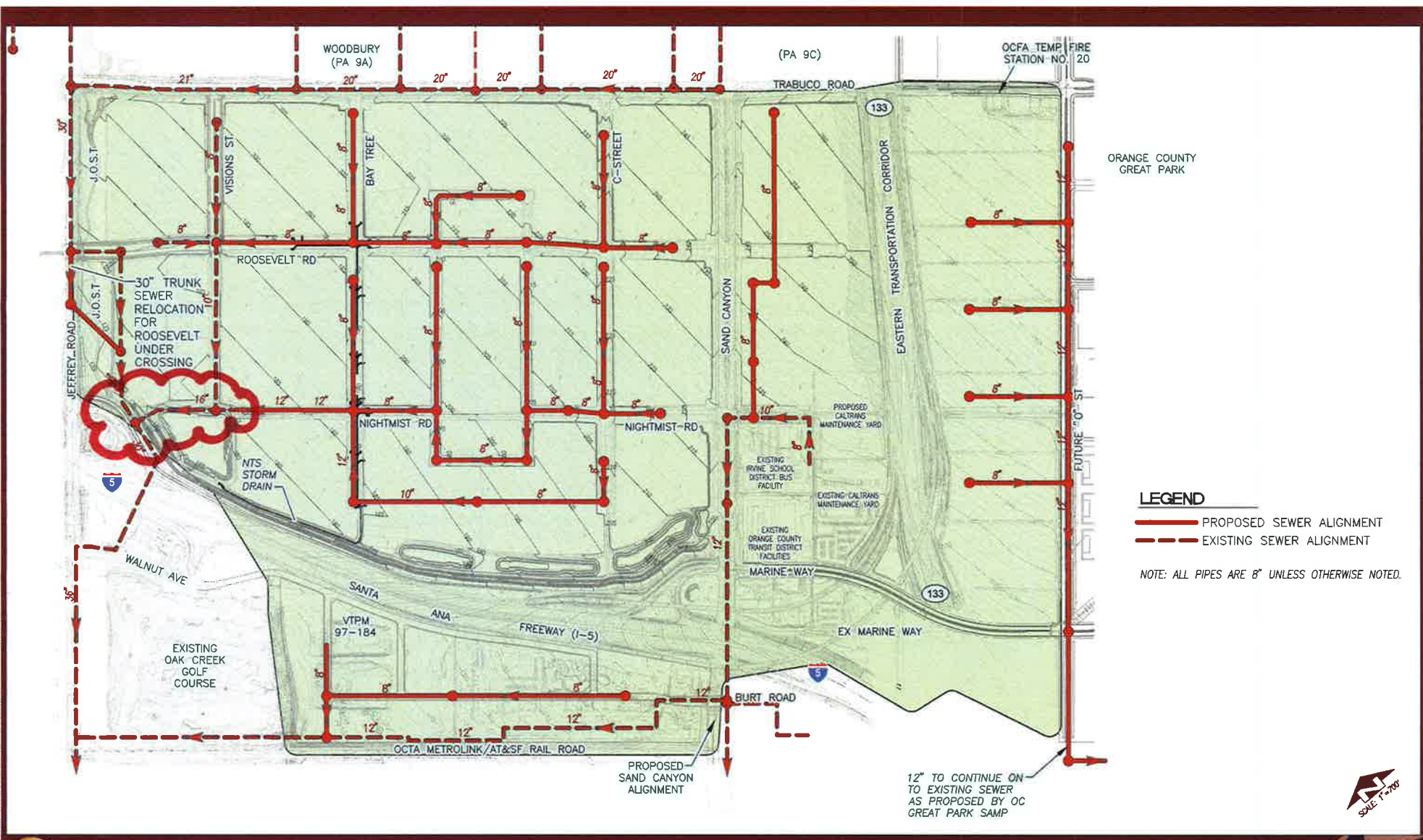
PA 40 LOCATION MAP

EXHIBIT "B"



DRAWING: v:\projects\20404282800\dwg\area006.dwg PLOTTED: 1/10/2011 1:54 PM BR: Fontenot_jon

DRAWING: v:\projects\2010\478900\dwg\area040.dwg PLOTTED: 1/19/2011 1:58 PM BY: Fontenot, Jon



LEGEND

- PROPOSED SEWER ALIGNMENT
- - - EXISTING SEWER ALIGNMENT

NOTE: ALL PIPES ARE 8" UNLESS OTHERWISE NOTED.

12" TO CONTINUE ON TO EXISTING SEWER AS PROPOSED BY OC GREAT PARK SAMP



18 Technology Drive, Irvine, CA 92618 Phone 949.923.6249 Fax 949.923.8188 www.stantec.com



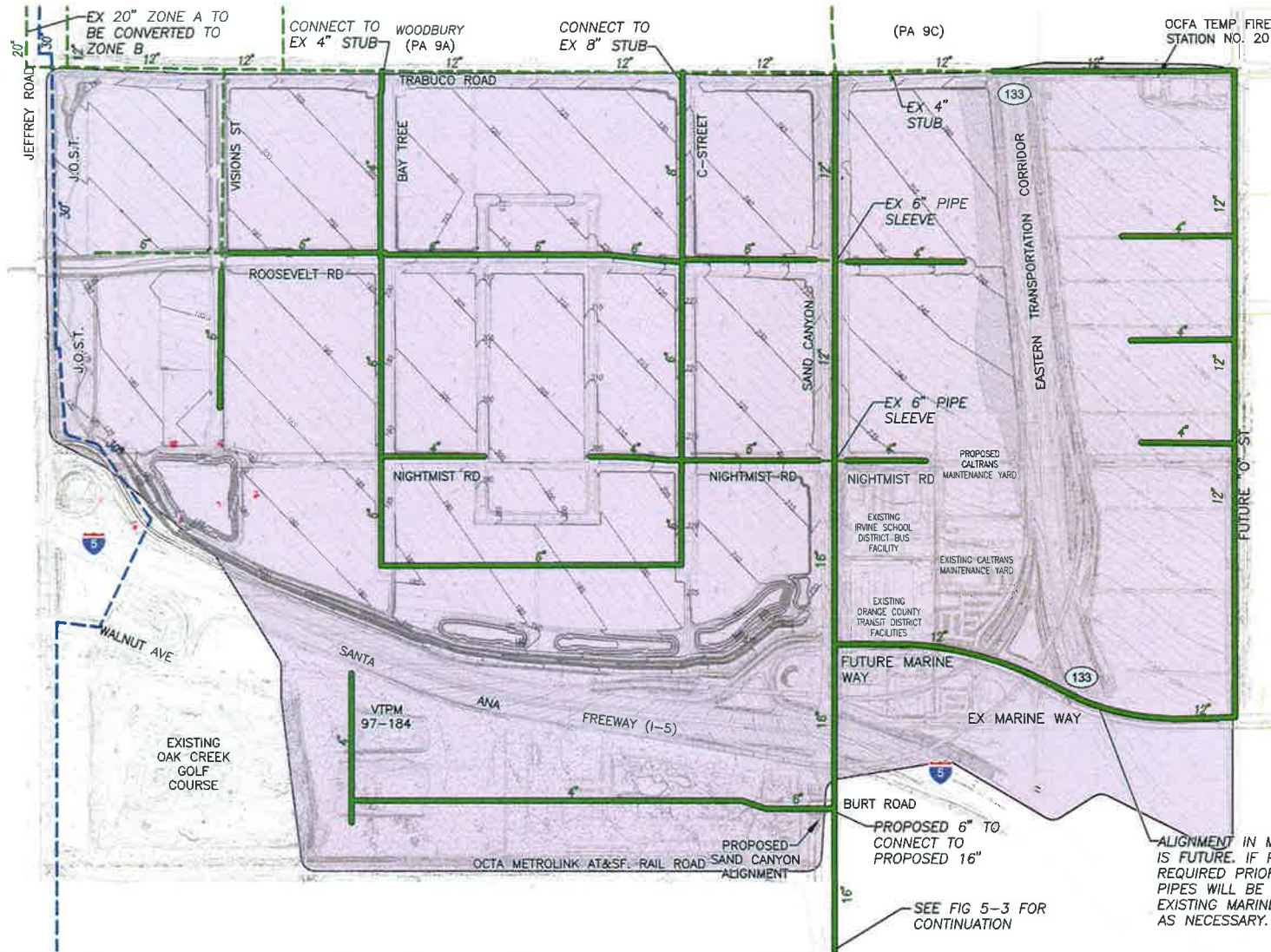
PREPARED FOR THE
IRVINE RANCH
WATER DISTRICT

PLANNING AREA 40 SAMP

**SEWER COLLECTION
SYSTEM FACILITIES**



DRAWING: \\projects\ca\2010\478900\dwg\area0009.dwg PLOTTED: 1/19/2011 1:51 PM BY: Fontenot, Jan



ORANGE COUNTY GREAT PARK (PA 30 & 51)

LEGEND

- PROPOSED ZONE B (460 HGL) PIPELINES
- - - EXISTING ZONE A
- - - EXISTING ZONE B
- PRESSURE REDUCING STATION
- STORAGE TANK
- BOOSTER PUMP STATION

ALIGNMENT IN MARINE WAY AS SHOWN IS FUTURE. IF PIPELINES ARE REQUIRED PRIOR TO REALIGNMENT, PIPES WILL BE CONSTRUCTED IN EXISTING MARINE WAY AND RELOCATED AS NECESSARY.

PROPOSED 6" TO CONNECT TO PROPOSED 16"
SEE FIG 5-3 FOR CONTINUATION



Stantec 16 Technology Drive, Irvine, CA 92618 Phone 949.923.6249 Fax 949.923.6156 www.stantec.com



PREPARED FOR THE:
IRVINE RANCH WATER DISTRICT

PLANNING AREA 40 SAMP

NON-POTABLE WATER SYSTEM FACILITIES



FIGURE 5-4

EXHIBIT "D"

IRVINE RANCH WATER DIST

Expenditure Authorization

Project Name: PA 40 CAPITAL SEWER IMPROVEMENTS
EPMS Project No: 21204 **EA No:** 1
Oracle Project No: 5337
Project Manager: CORTEZ, MALCOLM
Project Engineer: LEW, KELLY
Request Date: April 7, 2014

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No. Allocation % Source of Funds

250	100.0	BONDS YET TO BE SOLD**
Total	100.0%	


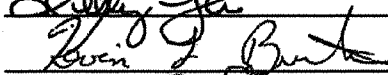

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$227,000
Total EA Requests:	\$227,000
Previously Approved Budget:	\$0
Budget Adjustment Requested this EA:	\$227,000
Updated Budget:	\$227,000
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 - CA&I IRWD	2,000	0	2,000	2,000	0	2,000	3/14	6/14
ENGINEERING - CA&I OUTSIDE	15,000	0	15,000	15,000	0	15,000	3/14	6/14
CONSTRUCTION	210,000	0	210,000	210,000	0	210,000	3/14	6/14
Contingency - % Subtotal	\$0	\$0	\$0	\$0	\$0	\$0		
Subtotal (Direct Costs)	\$227,000	\$0	\$227,000	\$227,000	\$0	\$227,000		
Estimated G/A - 170.00% of direct labor*	\$3,400	\$0	\$3,400	\$3,400	\$0	\$3,400		
Total	\$230,400	\$0	\$230,400	\$230,400	\$0	\$230,400		
Direct Labor	\$2,000	\$0	\$2,000	\$2,000	\$0	\$2,000		

*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:  4/7/14
Department Director:  4/8/14
Finance:  4/8/14
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 \$236,000. 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.**

April 28, 2014
Prepared by: R. Thatcher/M. Hoolihan
Submitted by: K. Burton (KLB)
Approved by: Paul Cook

ACTION CALENDAR

IMPROVEMENT DISTRICT CONSOLIDATIONS LEGAL DESCRIPTION PREPARATION VARIANCE

SUMMARY:

RBF Consulting prepared approximately 40 legal descriptions required for the formation of the consolidated Improvement Districts (IDs) as part of the recently completed Long Term Finance Plan (LTFP). The legal descriptions had to be completed and filed with the County of Orange by December 1, 2013 in order to be effective on the County's 2014-15 tax roll. During preparation of the legal descriptions staff requested RBF to perform additional out of scope work to meet this aggressive schedule. Staff recommends that the Board:

- Authorize a budget increase for the LTFP ID Consolidation, Projects 11742 and 21742, each in the amount of \$34,100, from \$77,000 to \$111,100, for a total of \$222,200; and
- Approve Expenditure Authorizations in the amounts of \$34,100 each, for a total of \$68,200, for Projects 11742 and 21742.

BACKGROUND:

In 2013, staff worked with the Finance and Personnel Committee and a developer-working group to develop the LTFP that addresses how capital and replacement projects will be funded in the future. An important step of the LTFP was the consolidation of IDs. The plan included the consolidation of currently developed areas within the District into one developed ID while creating two new developing IDs for undeveloped areas and preserving several other existing developing IDs. The first significant step in this process was to develop the Plans of Works and legal descriptions for the new IDs. These tasks were accomplished by the December 1, 2013 State Board of Equalization's deadline in order for the new tax rates to be implemented by July 2014.

Professional Services Agreement Variance:

To accommodate the consolidation process, approximately 40 legal descriptions totaling over 800 pages for the various annexations and detachments were prepared and processed through the County Surveyor's Office by RBF. RBF began the preparation of the legal descriptions in August 2013 with an initial contract of \$59,500. The legal descriptions were to be completed in early November in the following three phases:

- 1) Detachment of State/County/City owned natural open space areas from each affected ID;
- 2) Annexation of each remaining ID with each other to create a co-terminus boundary for consolidation into the new IDs; and
- 3) Identification of future development areas to be annexed into the existing IDs.

During each phase of the project, discrepancies such as gaps, overlaps and omissions were discovered in the various ID boundaries that required resolution to coincide with the County of Orange land records. The immediate resolution of these issues was essential in order to meet the aggressive timetable for approving the consolidation legal descriptions. RBF notified the District of the extra work that was required before proceeding and was instructed to proceed to meet the required schedule. Following the County’s approval of the legal descriptions and the consolidation approval by the Board, RBF submitted the final variance which was split into the following three phases of the project:

Phase 1: Open Space Detachments (\$17,000): Additional work was required to resolve significant gaps, overlaps and differences in the legal descriptions of existing ID boundaries. Staff had limited documentation on existing open space boundaries required to complete this work. RBF had to perform significant research and calculations to establish open area boundaries between IDs that were not available from the District.

Phase 2: Consolidation Boundaries (\$17,000): Additional work was required to resolve significant gaps, overlaps and differences of affected adjoining ID boundaries. RBF identified numerous missing existing annexation/detachment documents required to depict the consolidation area. The final boundaries were required to be provided to the County as part of the review process.

Phase 3: Formation of future development IDs (\$16,000): RBF resolved missing or incorrectly depicted County land base lines within the future development areas. Also, additional parcels were added/removed at the request of staff and the Irvine Company. The final boundaries were required to be provided to the County as part of the review process.

Staff reviewed the documentation submitted by RBF and negotiated a final variance in the amount of \$50,000. The variance, attached as Exhibit “A”, was approved by the Engineering and Operations Committee on April 15, 2014.

FISCAL IMPACTS:

Projects 11742 (4710) and 21742 (4711) are included in the FY 2013-14 Capital Budget. Staff requests budget increases and Expenditure Authorizations as shown in the table below and in Exhibit “B”.

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
11742 (4710)	\$77,000	\$34,100	\$111,100	\$77,000	\$34,100	\$111,100
21742 (4711)	\$77,000	\$34,100	\$111,100	\$77,000	\$34,100	\$111,100
Total:	\$154,000	\$68,200	\$222,200	\$154,000	\$68,200	\$222,200

ENVIRONMENTAL COMPLIANCE:

Activities such as executing agreements for consulting services are exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15061 (b) (3). These types of activities are covered by the general rule that CEQA applies only to projects which have the potential for causing a significant direct effect on the environment or reasonably indirect effect on the environment.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on April 15, 2014.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE BUDGET INCREASES FOR THE LONG TERM FINANCE PLAN IMPROVEMENT DISTRICT CONSOLIDATION, PROJECTS 11742 (4710) AND 21742 (4711), EACH IN THE AMOUNT OF \$34,100, FROM \$77,000 TO \$111,100, FOR A TOTAL BUDGET OF \$222,200; AND APPROVE EXPENDITURE AUTHORIZATIONS IN THE AMOUNTS OF \$34,100, FOR A TOTAL OF \$68,200, FOR THE LONG TERM FINANCE PLAN IMPROVEMENT DISTRICT CONSOLIDATION, PROJECTS 11742 (4710) AND 21742 (4711).

LIST OF EXHIBITS:

Exhibit "A" – RBF Consulting Variance No. 1

Exhibit "B" – Expenditure Authorizations

EXHIBIT "A"
IRVINE RANCH WATER DISTRICT
PROFESSIONAL SERVICES VARIANCE

Project Title: Improvement District Consolidation 125/225

Project No.: 11742/21741 Date: 11/1/2013

Purchase Order No.: 515722 Variance No.: 1

Originator: IRWD ENGINEER/CONSULTANT Other (Explain) County of Orange

Description of Variance (attach any back-up material):

Variance related to work on the open space, consolidation, future improvement district phases the of project; refer to attached description of additional work summary.

Engineering & Management Cost Impact:

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
See Attached						50,000
Total \$ =						50,000

Schedule Impact:

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
				No schedule impact

Required Approval Determination:

Total Original Contract	\$ <u>59,500</u>	<input type="checkbox"/> General Manager: Single Variance less than or equal to \$30,000. <input checked="" 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.
Previous Variances \$	<u>0</u>	
This Variance	\$ <u>50,000</u>	
Total Sum of Variances	\$ <u>50,000</u>	
New Contract Amount	\$ <u>109,500</u>	
Percentage of Total Variances to Original Contract	<u>84</u> %	

ENGINEER/CONSULTANT: RBF Consulting

Kurt R. T.
 Company Name
 Project Engineer/Manager

11/01/2013
 Date

IRVINE RANCH WATER DISTRICT

[Signature]
 Department Director

4/8/14
 Date

Engineer's/Consultant's Management

General Manager/Comm./Board

Date

Date



14725 Alton Parkway
Irvine, CA 92618-2027
949.472.3505
949.472.8373 Fax
www.rbf.com
www.mbakercorp.com

November 1, 2013

Mr. Ray Thatcher, LSIT
Irvine Ranch Water District
Master Planning and Technical Services
15600 Sand Canyon Avenue
Irvine, CA 92618

Subject: Improvement District Consolidation 125/225.
Professional Service Variance 01

Dear Ray:

Based on our discussion, RBF has incurred additional work related to the open space, consolidation and future improvement district phases of work. The additional work effort is summarized below

(Open Space)

1. RBF resolved significant gaps and overlap between the affected adjoining Improvement District boundaries in the IRWD geo-database. The resolution of these parcel boundaries was necessary to keep the geo-database consistent for polygon queries and area calculations for later phases of the project.
2. RBF resolved differences in location of existing Improvement District boundaries relative to the County Parcel land base. This was necessary to keep the ID boundary geo-database consistent with County land base, which was used by the County Surveyor's office to validate and check the legal and plats.
3. RBF provided significant additional research work to track down missing open space grant deeds and Irrevocable offers within the Newport Coast/Laguna wilderness area and Irvine Lake/Lower Peters/Orchard hills open space; additional calculations were required to add these missing areas to the County Land base to form the basis of the detachment area polygons.
4. RBF resolved missing existing or incorrectly depicted Improvement District boundaries with in the IRWD geo-database to be consistent with the existing formation/annexation documents. This was required to accurately depict the remainder of the ID boundaries for parcel validation and County checking purposes.
5. RBF revised the Point of Commencement (POC) locations for the detachments legal descriptions to the County's CORS GPS stations (CGPS) at the request of the County Surveyor.
6. RBF was required to upload and organize iterative versions of the open space detachment shape files to County Orange's GIS Cloud server throughout the checking process. This was requested by the County to facilitate their timely parcel review and validation process on the project.

(Consolidation)

7. RBF identified numerous missing existing annexation/detachment documents that required additional research and coordination with IRWD to complete the documentation for the consolidation legal descriptions.

(Future IDs)

8. RBF resolved missing or incorrectly depicted County land base lines within the Orchard Hills, Stone Gate, Portola Springs, Cypress Village, and Laguna Canyon, and Rancho Parkway Planning areas to accurately define the proposed future development polygons. Many of these land base lines were calculated from source subdivision maps that had recently recorded by new development activity in each of these areas and had not been reflected in the County land base files.
9. RBF added four (4) additional future ID polygons within the Irvine Spectrum planning areas at the request of IRWD.
10. RBF was required to upload and organize iterative versions of the consolidation shape files to County Orange's GIS Cloud server throughout the checking process. This was requested by the County to facilitate their timely parcel review and validation process on the project.

Should you have any questions regarding any of these changes, please do not hesitate to contact me.

Sincerely,
RBF Consulting



Kurt R. Troxell, PLS
Vice President
Surveying Geomatics

IRVINE RANCH WATER DIST EXHIBIT "B"

Expenditure Authorization

Project Name: LTFP ID CONSOLIDATION
 EPMS Project No: 11742 EA No: 2
 Oracle Project No: 4710
 Project Manager: HOOLIHAN, MICHAEL
 Project Engineer: AKIYOSHI, ERIC
 Request Date: April 7, 2014

ID Split: Regional DW w/LAWD w/ Enhance (11/08)
Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
112	1.0	BONDS YET TO BE SOLD**
113	1.2	BONDS YET TO BE SOLD**
115	1.7	CAPITAL FUND
121	3.5	BONDS YET TO BE SOLD**
130	2.7	BONDS YET TO BE SOLD**
135	4.4	PREVIOUSLY SOLD BONDS
140	.9	BONDS YET TO BE SOLD**
150	7.1	BONDS YET TO BE SOLD**
153	.8	BONDS YET TO BE SOLD**
154	.3	BONDS YET TO BE SOLD**
161	1.8	BONDS YET TO BE SOLD**
182	.7	BONDS YET TO BE SOLD**
184	.6	BONDS YET TO BE SOLD**
186	.2	BONDS YET TO BE SOLD**
188	.2	BONDS YET TO BE SOLD**
199	72.9	CAPITAL FUND ENHANCEMENT**
Total	100.0%	

Summary of Direct Cost Authorizations


Previously Approved EA Requests:	\$77,000
This Request:	\$34,100
Total EA Requests:	\$111,100
Previously Approved Budget:	\$77,000
Budget Adjustment Requested this EA:	\$34,100
Updated Budget:	\$111,100
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	0	15,000	15,000	0	15,000	15,000	8/13	6/14
ENGINEERING - PLANNING OUTSIDE	31,000	50,000	81,000	31,000	50,000	81,000	8/13	6/14
LEGAL	0	5,000	5,000	0	5,000	5,000	8/13	6/14
Contingency - 10.00% Subtotal	\$3,100	\$7,000	\$10,100	\$3,100	\$7,000	\$10,100		
Subtotal (Direct Costs)	\$34,100	\$77,000	\$111,100	\$34,100	\$77,000	\$111,100		
Estimated G/A - 170.00% of direct labor*	\$0	\$25,500	\$25,500	\$0	\$25,500	\$25,500		
Total	\$34,100	\$102,500	\$136,600	\$34,100	\$102,500	\$136,600		
Direct Labor	\$0	\$15,000	\$15,000	\$0	\$15,000	\$15,000		

*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:

 4-9-14

Department Director:

 4-9-14

Finance:

 4/9/14

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 \$140,000 further described in the attached staff report and additional documents, if any, which are hereby incorporated into this report. It is the official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: LTFP ID CONSOLIDATION
 EPMS Project No: 21742 EA No: 2
 Oracle Project No: 4711
 Project Manager: HOOLIHAN, MICHAEL
 Project Engineer: AKIYOSHI, ERIC
 Request Date: April 7, 2014

ID Split: Regional Sewer w/LAWD w/ Enhance (11/08)
Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
211	2.2	CAPITAL FUND
212	.9	BONDS YET TO BE SOLD**
213	1.3	BONDS YET TO BE SOLD**
215	2.1	CAPITAL FUND
221	4.4	BONDS YET TO BE SOLD**
230	2.9	BONDS YET TO BE SOLD**
235	3.8	PREVIOUSLY SOLD BONDS
240	.8	BONDS YET TO BE SOLD**
250	6.8	BONDS YET TO BE SOLD**
253	.3	BONDS YET TO BE SOLD**
261	1.8	BONDS YET TO BE SOLD**
282	.5	BONDS YET TO BE SOLD**
284	.5	BONDS YET TO BE SOLD**
286	.1	BONDS YET TO BE SOLD**
288	.1	BONDS YET TO BE SOLD**
299	71.5	CAPITAL FUND ENHANCEMENT**
Total	100.0%	

Summary of Direct Cost Authorizations

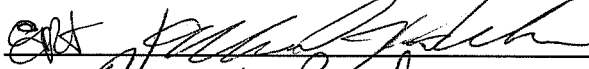
Previously Approved EA Requests:	\$77,000
This Request:	\$34,100
Total EA Requests:	\$111,100
Previously Approved Budget:	\$77,000
Budget Adjustment Requested this EA:	\$34,100
Updated Budget:	\$111,100
Budget Remaining After This EA	\$0

Comments:

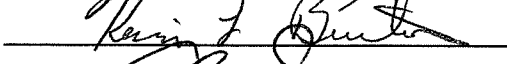
Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	0	15,000	15,000	0	15,000	15,000	8/13	6/14
ENGINEERING - PLANNING OUTSIDE	31,000	50,000	81,000	31,000	50,000	81,000	8/13	6/14
LEGAL	0	5,000	5,000	0	5,000	5,000	8/13	6/14
Contingency - 10.00% Subtotal	\$3,100	\$7,000	\$10,100	\$3,100	\$7,000	\$10,100		
Subtotal (Direct Costs)	\$34,100	\$77,000	\$111,100	\$34,100	\$77,000	\$111,100		
Estimated G/A - 170.00% of direct labor*	\$0	\$25,500	\$25,500	\$0	\$25,500	\$25,500		
Total	\$34,100	\$102,500	\$136,600	\$34,100	\$102,500	\$136,600		
Direct Labor	\$0	\$15,000	\$15,000	\$0	\$15,000	\$15,000		

*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:

 4-9-14

Department Director:

 4-9-14

Finance:

 4/9/14

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 \$140,000. This project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. The official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-

April 28, 2014

Prepared by: J. Corey 

Submitted by: F. Sanchez/P. Weghorst 

Approved by: Paul Cook 

ACTION CALENDAR

MITIGATION CREDIT INVENTORY DEVELOPMENT

SUMMARY:

This project will identify and quantify potential mitigation areas in support of obtaining future regulatory permits for near-term and future Irvine Ranch Water District (IRWD) projects pursuant to State and Federal regulatory requirements. Staff requests that the Board:

- Authorize the addition of Project 11797 (5338) to the FY 2013-14 Capital Budget in the amount of \$36,300, and
- Approve an Expenditure Authorization in the amount of \$36,300 for the Marsh Mitigation Credit Inventory, Project 11797 (5338).

BACKGROUND:

IRWD must comply with the requirements of State and Federal statutes, regulations, policies and programs that provide for permitting to carry out new projects, conduct operations and maintenance activities and if necessary, address emergency conditions. In consideration of upcoming District maintenance projects, staff is preparing to submit permit applications to the Army Corps of Engineers (ACOE) and California Department of Fish and Wildlife (CDFW). These permits will require identification of proposed mitigation for wetland and riparian area impacts.

Prior to the development of the permit applications, a District-wide mitigation credit inventory will be prepared. In preparing the inventory, IRWD will identify and quantify potential mitigation areas that could be used to facilitate IRWD's near-term and future projects that are expected to require mitigation. In preparing the mitigation credit inventory, IRWD will evaluate District owned lands with potentially suitable mitigation areas and establish mitigation credits for previous work completed at the San Joaquin Marsh. In addition, the inventory will include the evaluation of potential mitigation areas that could be obtained from the Irvine Company.

Consultant Assistance:

IRWD has an on-call Professional Services Agreement with VCS Environmental Services (VCS) for monitoring and permitting services. Staff has negotiated with VCS a scope of work and cost estimate to prepare a mitigation credit inventory. VCS has previously created formal, ACOE and CDFWS approved mitigation credit inventories in the Santa Ana, San Gabriel and Santa Clara River Watersheds. The VCS scope of work and cost estimate is provided as Exhibit "A". A budget and Expenditure Authorization are required to perform the work.

FISCAL IMPACTS:

Project 11797 (5338) is not included in the FY 2013-14 Capital Budget. Staff requests the addition of the project in the amount of \$36,300 to the FY 2013-14 Capital Budget and approval of an Expenditure Authorization in the amount shown in the table below and in Exhibit "B".

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
11797 (5338)	\$-0-	\$36,300	\$36,300	\$-0-	\$36,300	\$36,300

ENVIRONMENTAL COMPLIANCE:

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

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on April 15, 2014.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE ADDITION OF PROJECT 11797 (5338) TO THE FY 2013-14 CAPITAL BUDGET IN THE AMOUNT OF \$36,300 AND APPROVE THE EXPENDITURE AUTHORIZATION IN THE AMOUNT OF \$36,300 FOR THE MITIGATION CREDIT INVENTORY, PROJECT 11797 (5338).

LIST OF EXHIBITS:

Exhibit "A" – VCS Mitigation Credit Inventory Scope of Work/Cost Estimate

Exhibit "B" – Expenditure Authorization



April 7, 2014

Jo Ann Corey, MPA
Engineering Technician III
Water Resources & Environmental Compliance
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, California 92618

Subject: Marsh Mitigation Credit Inventory

Dear Jo Ann:

Please consider this letter a Scope of Work for Vandermost Consulting Services, Inc. doing business as VCS Environmental (VCS) to assist the Irvine Ranch Water District (IRWD) with identifying and quantifying potential mitigation areas in support of master regulatory permits or other regulatory permits obtained by IRWD. Our proposed Scope of Work is as follows:

1. Identify Potential Mitigation Areas within San Joaquin Marsh (assumes 48 hours) \$8,760
 - a. Review San Joaquin Marsh title report for restrictions
 - b. Delineate San Joaquin Marsh and remaining areas in Carlson Marsh that can be used for mitigation credits
 - c. Quantify acres and types of mitigation available
 - d. Review IRWD documentation and reports on Marsh

2. Identify other mitigation opportunities on IRWD-owned land (assumes 40 hours) \$6,240
 - a. Conduct aerial survey of known IRWD land to identify potentially suitable mitigation areas
 - b. Further field investigate and quantify those sites with potentially suitable mitigation
 - c. Meet with key IRWD staff, such as right of way, planning, and biology/NTS to identify IRWD-owned land (assumes 4, 2-hour meetings)

3. Evaluate potential excess mitigation credits made available by TIC (assumes 14 hours) \$2,650
 - a. Review mitigation credits to determine amount, and type
 - b. Evaluate the potential credit value of excess mitigation credits
 - c. Assist IRWD with negotiations with TIC to purchase the excess mitigation credits

4. Meetings and Coordination (assumes 30 hours)	\$5,850
5. Expenses billed at cost	\$2,000
	Total \$25,500

The project manager and engineer for the client need to sign off on the project description. Our fee assumes that we have the final and complete project description including graphic. If the project description changes we will require a change order.

Should regulatory requirements change as a result of new laws, ordinances, guidelines, etc., an amended scope will be provided for your review and approval.

We bill on a time and materials basis pursuant to the attached fee schedule. Miscellaneous expenses such as reprographics, Federal Express, mileage and postage are billed as reimbursable expenses for the actual cost.

In order to authorize VCS to proceed, please sign below and return. Thank you for the opportunity to provide this scope of work. Please do not hesitate to contact me with any questions at 949-489-2700, extension 203.

Sincerely,

Julie Vandermost
President

Attachment: IRWD Fee Schedule

Authorized _____ Date _____

IRVINE RANCH WATER DISTRICT

Exhibit "B"

Expenditure Authorization

Project Name: MARSH MITIGATION CREDIT INVENTORY
 EPMS Project No: 11797 EA No: 1
 Oracle Project No: 5338
 Project Manager: SANCHEZ, FIONA
 Project Engineer: COREY, JO ANN
 Request Date: April 7, 2014

ID Split: Regional Water Split with LAWD (11/08)

Improvement District (ID) Allocations

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%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$36,300
Total EA Requests:	\$36,300
Previously Approved Budget:	\$0
Budget Adjustment Requested this EA:	\$36,300
Updated Budget:	\$36,300
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	5,000	0	5,000	5,000	0	5,000	5/14	6/15
LEGAL	2,000	0	2,000	2,000	0	2,000	5/14	6/15
ENGINEERING ENVIRONMENTAL-OUTS	26,000	0	26,000	26,000	0	26,000	5/14	6/15
Contingency - 10.00% Subtotal	\$3,300	\$0	\$3,300	\$3,300	\$0	\$3,300		
Subtotal (Direct Costs)	\$36,300	\$0	\$36,300	\$36,300	\$0	\$36,300		
Estimated G/A - 170.00% of direct labor*	\$8,500	\$0	\$8,500	\$8,500	\$0	\$8,500		
Total	\$44,800	\$0	\$44,800	\$44,800	\$0	\$44,800		
Direct Labor	\$5,000	\$0	\$5,000	\$5,000	\$0	\$5,000		

*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 \$46,000. 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.

April 28, 2014

Prepared by: A. McNulty/R. Bennett

Submitted by: F. Sanchez/P. Weghorst

Approved by: Paul Cook

ACTION CALENDAR

EMBEDDED ENERGY PLAN CONSULTANT SELECTION

SUMMARY:

The development of an Embedded Energy Plan will position IRWD for obtaining energy utility grant funding for water conservation programs. The plan will quantify energy use associated with each District facility involved in the production, treatment, distribution, collection, reuse and disposal of water and biosolids. It will also include the development of a tool that can be used to identify portions of the District where future water conservation and energy reduction measures should be focused. The plan will assist in developing a methodology for calculating pumping surcharges and will provide estimates of the District's embedded energy use for 20 years into the future. Staff recommends that the Board:

- Authorize the addition of Projects 11792 (5343) and 30499 (5344) in the amount of \$180,000 each, for a total of \$360,000, to the FY 2013-14 Capital Budget;
- Approve Expenditure Authorizations in the amount of \$180,000 each for a total of \$360,000 for the Embedded Energy Plan, Projects 11792 (5343) and 30499 (5344); and
- Authorize the General Manager to execute a Professional Services Agreement with Navigant Consulting Inc., in the amount of \$282,140 to develop an Embedded Energy Plan for Projects 11792 (5343) and 30499 (5344).

BACKGROUND:

The preparation of an Embedded Energy Plan will build on the District's Energy and Greenhouse Gas Master Plan which identified that additional water conservation was the highest ranked project for reducing energy use within the District. The plan will involve developing historic and future energy use estimates (in kilowatt-hours per acre-foot) associated with the production, treatment and distribution of water within the District summarized for each service area identified in the IRWD Water Resources Master Plan. It will also include the development of energy use estimates associated with the collection, sewage treatment, distribution of recycled water and the treatment and production of biosolids. The plan will quantify the current and historic energy savings associated with the District's conservation program and will include embedded energy estimates for each service area for 20 years into the future.

Benefits of Embedded Energy Plan:

Developing an Embedded Energy Plan will provide the following benefits:

- Position IRWD for obtaining energy utility funding for water conservation programs;

- Identify facilities to consider for operational changes and/or energy efficiency improvements;
- Identify the most cost-effective geographic areas to target water conservation programs and energy reduction measures;
- Quantify the avoided cost of energy in water conservation programs;
- Provide information required to develop pumping surcharge recommendations;
- Provide an estimate of embedded energy for 20 years into the future; and
- Further enhance IRWD's role as an industry leader in water conservation and energy savings.

Consultant Selection Process

Staff issued a Request for Proposals in February to seven firms to develop an Embedded Energy Plan. Proposals were received from Navigant Consulting, Inc. (Navigant), CLEARresult, and Kennedy Jenks Consultants. Staff completed a thorough evaluation of the written proposals and recommends the selection of Navigant to complete the work. Navigant's proposal includes the use of HDR Engineering (HDR) as a sub-consultant. Key strengths of the Navigant/HDR team proposal are as follows:

- Significant experience in embedded energy models, including similar work for the California Public Utilities Commission on embedded energy in water and demand-side management studies.
- HDR's in-depth knowledge of the District's water and sewage collection and treatment systems. HDR is currently developing the District's Recycled Water Salt Management Plan.
- The Navigant/HDR team's proposal offers the strongest project understanding and a detailed project approach that includes a schedule that meet's staff expectations.
- Costs were competitive when compared to the other proposals, and are in line with staff estimates.

The consultant selection matrix is attached as Exhibit "A". Navigant Consulting's scope of work is attached as Exhibit "B".

FISCAL IMPACTS:

Project 11792 (5343) and Project 30499 (5344) are not included in the FY 2013-14 Capital Budget. Staff requests the addition of Project 11792 (5343) in the amount of \$180,000 and the addition of Project 30499 (5344) in the amount of \$180,000 to the Capital Budget and approval of the Expenditure Authorizations shown in the table below and in Exhibit "C".

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
11792 (5343)	\$-0-	\$180,000	\$180,000	\$-0-	\$180,000	\$180,000
30499 (5344)	\$-0-	\$180,000	\$180,000	\$-0-	\$180,000	\$180,000
Total	\$-0-	\$360,000	\$360,000	\$-0-	\$360,000	\$360,000

ENVIRONMENTAL COMPLIANCE:

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

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on April 15, 2014.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE ADDITION OF PROJECTS 11792 (5343) AND PROJECTS 33499 (5344) TO THE FY 2013-14 CAPITAL BUDGET IN THE AMOUNT OF \$180,000 EACH, FOR A TOTAL OF \$360,000 WHICH INCLUDES \$40,000 FOR STAFF TIME AND \$5,000 FOR LEGAL ASSISTANCE; APPROVE EXPENDITURE AUTHORIZATIONS FOR PROJECTS 11792 (5343) AND 33499 (5344) IN THE AMOUNT OF \$180,000 EACH, FOR A TOTAL OF \$360,000; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH NAVIGANT CONSULTING INC. IN THE AMOUNT OF \$282,140 TO DEVELOP THE EMBEDDED ENERGY PLAN.

LIST OF EXHIBITS:

Exhibit "A" – Consultant Selection Matrix

Exhibit "B" – Navigant Consulting Inc. Scope of Work

Exhibit "C" – Expenditure Authorizations, Project 11792 (5343) and Project 30499 (5344)

EXHIBIT "A"

CONSULTANT EVALUATION MATRIX

Embedded Energy Plan Consultant Selection Matrix

Item	Description	Weights	Kennedy / Jenks	CLEARResult	Navigant/HDR		
A	TECHNICAL APPROACH	60%					
1	Adherence to RFP Requirements	10%	3	1	2		
2	Understanding of required services and project details	30%	2	3	1		
3	Approach and Methodology	40%	3	2	1		
4	Schedule	20%	3	2	1		
	Weighted Score (Technical Approach)		2.70	2.20	1.10		
B	QUALIFICATIONS AND EXPERIENCE	40%					
1	Project Manager	25%	2 Alan Zelenka MS, 26 yrs Exp	3 Alison ten Cate BS/MA, 20 yrs Exp	1 Craig McDonald MS, 32 yrs Exp		
2	Project Engineer	25%	2 Craig Lichty BS, 30 yrs Exp	3 Paul Kyilo MS, 17 yrs Exp	1 Amul Sathe MS, 6 yrs Exp		
2	Project Modeler	25%	3 Bijan Sadeghi MS, 8 yrs Exp	2 Jonathan Kleinman MS, 20 yrs Exp	1 Joel Engleson PhD, 10 yrs Exp		
3	Project Team Experience (sub and prime)	20%	3	2	1		
4	Firm's Relevant Experience (sub and prime)	5%	3	2	1		
	Weighted Score (Experience)		2.50	2.50	1.00		
	COMBINED WEIGHTED SCORE		2.62	2.32	1.06		
	Ranking of Consultants		3	2	1		
C	SCOPE OF WORK						
TASK		Task Hours	FEE	Task Hours	FEE	Task Hours	FEE
1	Project Management and Meetings	363	\$54,109	208	\$36,860	98	\$22,200
2	Historic Embedded Energy Estimates	1,395	\$93,512	208	\$24,836	242	\$36,485
3	Future Embedded Energy Estimates	211	\$30,513	160	\$26,576	204	\$31,815
4	GIS Processing	256	\$49,818	144	\$16,560	159	\$24,890
5	Water Use Analysis	157	\$29,563	104	\$14,356	76	\$11,865
6	Spatial Embedded Energy Estimates	1,631	\$110,534	208	\$24,420	471	\$73,710
7	Embedded Energy Management Tool	379	\$70,228	220	\$28,364	145	\$24,370
8	Water Conservation Program Energy Savings	359	\$42,475	200	\$28,396	57	\$9,490
9	Pumping Surcharge Estimate	159	\$33,578	84	\$16,024	68	\$11,845
10	Scopes of Work for New Data Collection and Embedded Energy Plan Updates	71	\$12,735	N/A	\$10,000	109	\$19,650
11	Report	390	\$64,379	142	\$16,179	82	\$15,820
	SUB-TOTAL ENGINEERING SERVICES, FEE (Does Not Include Optional Items)	5,373	\$591,444	1,678	\$242,571	1,711	\$282,140
15	Optional Items (Equipment Cost)		\$13,331		\$6,000		
	TOTAL ENGINEERING SERVICES, FEE	5,373	\$604,775	1,678	\$248,571	1,711	\$282,140
	Avg \$/hr		\$110		\$145		\$165
D	OTHER						
	Miscellaneous Items						
	Multiplier				-		
	Conflict of Interest		No		No		No
	Joint Venture		Yes		No		Yes
	Addendum Acknowledgement		No		No		No
	Scope of Work Exclusions		No		No		No
	Exceptions taken to IRWD Std. Contract		No		Yes		Yes
	Insurance (Professional & General Liability)		Yes		Yes		Yes

Scope of Work for
Embedded Energy Plan

Prepared for:
Irvine Ranch Water District



Submitted by:

Navigant Consulting, Inc.
1 Market Street
Spear Tower, Suite 1200
San Francisco, CA 94132
415.399.2180
navigant.com

In Collaboration with:

HDR

HDR Engineering Inc.
3230 El Camino Real, Suite 200
Irvine, CA 92602
714.730.2388
hdrinc.com

Navigant Reference No.: 171637

April 9, 2014

Table of Contents

1. Introduction	1
1.1 The Navigant Team’s Understanding of Project Goals and General Approach	2
2. Scope of Work and Methodology	5
2.1 Task 1: Project Management and Meetings.....	5
2.2 Task 2: Historic Embedded Energy Estimates	8
2.3 Task 3: Future Embedded Energy Estimates	11
2.3.1 Core Methodology	12
2.3.2 Scenario Analysis	14
2.4 Task 4: GIS Processing.....	15
2.5 Task 5: Water Use Analysis	16
2.6 Task 6: Spatial Embedded Energy Estimates	17
2.6.1 Water Supply	20
2.6.2 Water Treatment.....	21
2.6.3 Water Distribution	21
2.6.4 Sewage Collection	22
2.6.5 Sewage Treatment.....	23
2.6.6 Recycled Water Treatment.....	24
2.6.7 Recycled (Non-Potable) Water Distribution.....	25
2.6.8 Sewage Discharge	25
2.6.9 Biosolids Treatment	25
2.6.10 Biosolids Product Disposal	26
2.7 Task 7: Embedded Energy Management Tool	26
2.8 Task 8: Water Conservation Program Energy Savings	27
2.9 Task 9: Pumping Surcharge Estimate.....	28
2.10 Task 10: Scopes of Work for New Data Collection and Embedded Energy Plan Updates.....	28
2.11 Task 11: Report.....	29
3. Team	30
3.1 Experience and Background of Navigant Staff.....	31
3.2 Experience and Background of HDR Staff	33
4. Schedule.....	36
5. Budget	39
6. Joint Venture.....	41

7. Conflict of Interest.....42

1. Introduction

Navigant Consulting, Inc. (Navigant), in conjunction with HDR Engineering Inc. (HDR), presents this proposal to support the Irvine Ranch Water District's (IRWD) need to develop an Embedded Energy Plan. Our team brings outstanding expertise and experience in the California water-energy nexus to perform the full range of services required by IRWD for this critical assignment. Furthermore, HDR has a long history of successfully working with IRWD on many of the organization's critical issues.

Key reasons to select Navigant and HDR (the Navigant team) include:

- Navigant is a recognized leader in water-energy nexus issues in California.*** Navigant staff have led most of the water-energy projects for the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC). Work completed includes the CPUC Embedded Energy in Water Studies (Studies 1 and 2), the CEC's report *Refining Estimates of Water-Related Energy Use in California*, and multiple other studies regarding water-energy topics. Because of this past experience, the Navigant team has a much stronger working knowledge of embedded energy analysis than any other bidder. Navigant is also the prime contractor to the CPUC to conduct analysis on Water-Energy Cost Effectiveness and has more relevant, up-to-date knowledge of the CPUC's policy direction than any other bidder. Navigant has also met with the CPUC's Project Coordination Group on multiple occasions.
- HDR brings deep knowledge of the IRWD water system, including existing data, project development, and future capital improvement plans.*** HDR has a diverse staff of tenured experts, project managers, GIS analysts, and project engineers specializing in consulting engineering providing services in optimization of wastewater, recycled water, water, industrial waste facilities, environmental, permitting, planning, design, funding, construction, start-up, and related services to clients in Southern California, across the nation, and abroad. HDR has worked (and is currently working) with IRWD on numerous projects bringing deep knowledge of IRWD's existing and planned systems, as well as system operations, to the Navigant team. These projects include (but are not limited to): Recycled Water Salt Management Plan, Biosolids/Energy Management Plan, Michelson Water Reclamation Plant Phase 2 Expansion, Cienega Selenium Treatment Facility, and the Los Alisos Water Reclamation Plant 2005 Construction Upgrades.
- Navigant has a track record of delivering high-quality, transparent, user-friendly tools and models.*** We are committed to delivering high-quality deliverables to clients in a timely manner. We maintain a product quality policy which ensures that high-quality deliverables are provided that are numerically accurate and designed to convey information in a clear and concise manner. Navigant has developed multiple user-friendly tools directed at non-technical end users including a web-based graphical user interface for the California Wholesale Water-Energy Model. Navigant also developed a streamlined interface for the very complex California Energy Efficiency Potential and Goals Model for the CPUC. Stakeholders have expressed strong support

for this tool due to its transparency, its usability, and Navigant’s commitment to training users on how to effectively use the model. HDR brings outstanding GIS skills to the team to enable Navigant-developed tools to be built for IRWD’s needs.

Navigant has selected key personnel with unmatched qualifications to assist in this effort. Amul Sathe, the proposed project manager, is a recognized expert on the water-energy nexus in California, having led multiple studies to examine energy use by water systems and served as principal investigator for the CPUC Studies 1 and 2. Mr. Sathe has also led the development of multiple tools to process and visualize water-energy data. Craig McDonald, the proposed project director, has worked with more than a dozen water utilities on water efficiency programs and distributed generation projects. He led the original studies with the California Energy Commission to analyze the water-energy nexus and directed subsequent studies on embedded energy for the CPUC. David Reardon has been involved in over 130 energy optimization projects for water and wastewater facilities/systems. Benjamin Porter has worked with IRWD on a variety of projects over the past eight years that have engendered a big picture understanding of IRWD’s operations, policies, goals, objectives, and decision-making procedures. If selected, our team is available to start work on this project immediately.

Furthermore, the Navigant team commends IRWD staff for proactively conducting such a study. The CPUC is considering allowing the California Investor Owned Energy Utilities (IOUs) to establish water-energy programs and partnerships and further allow the IOUs to fund water conservation programs. If such a partnership is allowed, the data analysis in this project will lay the groundwork for IRWD to quickly and efficiently partner with IOUs for enhanced programming and possible funding.

1.1 The Navigant Team’s Understanding of Project Goals and General Approach

The Navigant team understands the goal of developing an Embedded Energy Plan is to provide the following benefits to IRWD:

- Demonstrate embedded energy reductions over time
- Quantify the avoided cost of energy in water conservation programs
- Identify the most cost-effective geographic areas for water conservation programs
- Provide information required to develop a pumping surcharge recommendation
- Position IRWD for the possibility of obtaining energy utility funding for water conservation programs
- Enhance IRWD’s role as an industry leader in water conservation and energy savings

The Navigant team has conducted similar work for other clients and has given much thought to the best and most efficient approach for IRWD’s Embedded Energy Plan. The highlights of the Navigant team methodology are as follows:

- **Task 1: Project Management and Meetings.** The Navigant team will conduct project management activities required to ensure adherence to schedule and budget. This will also include a kickoff meeting, review of available reports/data, summary of data gaps, and two 4-hour workshops to be conducted at IRWD’s office on project related topics.

- **Task 2: Historic Embedded Energy Estimates.** The Navigant team will calculate total energy use and historic embedded energy on an annual basis from 2005 to 2013 for each of IRWD's major facility types. The Navigant team will leverage its existing knowledge of IRWD systems and past methodologies used to calculate embedded energy. The energy intensity of each facility will be estimated and used for analysis in subsequent tasks.
- **Task 3: Future Embedded Energy Estimates.** The Navigant team will develop a baseline for future embedded energy and total energy use on an annual basis for a 20-year planning horizon. The analysis will consider both existing facilities and possible new facilities under five future scenarios. The calculations will leverage water use forecasts as well as energy intensity data developed in Task 2. Navigant has conducted similar analysis for the CPUC and will leverage its past experience.
- **Task 4: GIS Processing.** The Navigant team will provide a GIS processing analysis to estimate potable water demands, non-potable water demands, and sewage generation rates. The data developed in this task will be used to inform Task 6 and estimate embedded energy for each facility in each region. This task will leverage HDR's familiarity with IRWD flow and production data and GIS datasets. This will be conducted simultaneously with Task 3.
- **Task 5: Water Use Analysis.** The Navigant team will analyze historic water use for each service area to develop coefficients that will allow future demand forecasts to be adjusted to account for wet, dry and average hydrologic conditions. The team will obtain and examine historic data, adjust for population growth if possible, and cross reference hydrologic year types with data from the Department of Water Resources. This will be conducted early in the project (simultaneous to Task 2) and could inform scenarios in Task 3.
- **Task 6: Spatial Embedded Energy Estimates.** This task will develop estimates of embedded energy in each of the approximately 50 water service areas within IRWD territory. It will leverage data from Tasks 2 and 4. The Navigant team developed a detailed approach to examining each of the 10 facility types listed in the RFP (see Section 2.6) based on lessons learned from past similar analysis. The Navigant team has carefully considered calculation approaches and recognizes several efficiencies in the process are possible given the interrelation of major facility groups. Through the analysis in this task, the Navigant team can ultimately develop multiple types of output in GIS format that can inform IRWD activities, including a "heat map" of embedded energy and other metrics that will help IRWD regionally target water conservation programs.
- **Task 7: Embedded Energy Management Tool.** Based on the defined methodology in Task 6, an Embedded Energy Management Tool will be built using Esri Model Builder tools and the GIS data developed in Tasks 4 and 6. The tool will allow user to: identify a geographic region type for analysis, identify the type of analysis to be performed (water conservation or surcharge), (if a water conservation analysis is requested) the general type of water conservation activity to be considered (e.g., indoor or outdoor). Navigant has reviewed other similar tools and is currently developing a similar tool for the CPUC to estimate embedded energy savings.

- **Task 8: Water Conservation Program Energy Savings.** The Navigant team will develop embedded energy estimates for the 2005–2013 time period based on past water conservation efforts. Navigant has conducted similar analysis for other projects and will apply best practices to this task as appropriate. This will be conducted simultaneously with Task 7 to speed up project schedule.
- **Task 9: Pumping Surcharge Estimate.** The Navigant team will help IRWD assess the variation in cost of pumping to provide water to different regions throughout its service territory and develop a pumping surcharge by region. The Navigant team will compare recommended surcharges to the existing IRWD elevation surcharge. This will be conducted simultaneously with Task 7 and 8 to speed up project schedule.
- **Task 10: Scopes of Work for New Data Collection and Embedded Energy Plan Updates.** The Navigant team will develop two scopes of work: one for new data collection (to address data gaps) and one for future updates. The Navigant team is well versed in the data gaps that arise in water-energy projects through its past work.
- **Task 11: Report.** The Navigant team will develop a comprehensive report on the analysis conducted as part of the Embedded Energy Plan. This report will include full documentation of all methodologies, sources, analysis, and assumptions, as well as “next-step” recommendations.

2. Scope of Work and Methodology

This section provides a detailed scope of work and methodology to develop an Embedded Energy Plan for IRWD. The project is divided into 11 tasks described in detail below.

2.1 Task 1: Project Management and Meetings

As part of this task the Navigant team will conduct project management activities required to ensure adherence to schedule and budget. This task will include:

- A kick-off meeting to review project objectives and introduce key members of the project team.
- A review of existing reports that include but not limited to the District's Water Efficiency Plan, Water Resources Master Plan, Energy and GHG Master Plan, and GHG Inventories.
- The selection of a study period to be used throughout the plan and discussion of alternate study periods (both historic and future) to consider.
- A data request to be submitted to IRWD to collect readily available information needed for the Embedded Energy Plan
- A memorandum that summarizes data collection and recommended approach to estimate data gaps.
- Two, four hour workshops to be conducted at IRWD's office on project related topics. The topics of these workshops will be determined by IRWD staff and the Navigant team.
- Monthly invoicing, progress reports, progress meetings and meeting notes.

Additional details on important aspects of this task are described below.

Kickoff Meeting

The Navigant team is committed to providing its clients with deliverables that meet both the internal and the external needs of the organization. Our experience has shown that this is best accomplished by working in a collaborative fashion with the client. Establishing clear communication procedures and an open working relationship early in the project will help ensure success as project activities progress.

The Navigant team has found that it is useful to conduct a project initiation meeting with key members of the Navigant project team and client's staff. At this meeting, we will:

- Obtain IRWD latest thoughts on the desired outcomes of Embedded Energy Plan
- Review the scope as presented in Navigant's proposal
- Discuss overall analysis methodology for each task
- Identify any other research needs related to this project
- Discuss communications protocol with regard to interactions with IRWD, Navigant, and HDR

The Navigant team’s project manager and key project staff along with a representative from HDR will attend this meeting in person. Other members of the project team will attend via teleconference. The IRWD project manager and other relevant staff should attend as appropriate. The project initiation meeting will be scheduled at the IRWD’s offices within a week of contract signing.

Review of Existing Reports

The Navigant team will review existing IRWD reports relevant to this project that could serve as data sources. The Navigant team has already started its review and has found the following to be useful for this analysis:

- Water Efficiency Plan (2013)
 - Non-agriculture, landscape, and CII accounts and demand; expected savings from UC Irvine
 - GPCD compliance data and landscape water use, 1991-2012
 - Single family residence (SFR) water use and GPCD, residential GPCD 2005-2012
- Energy and GHG Master Plan (2012)
 - Energy Use and Cost and GHG for Baseline Plus Proposed Projects (BPPP), baseline year—2015-2030
 - Baseline vs. Baseline Plus Proposed Projects Electricity use and cost, GHG Emissions, baseline year-2012-2030
- GHG Inventory (2014)
 - Attachment 1 cites data sources for gas and electricity use (items #1 and 13)
 - GHG Emissions summary by scope and facility, imported water, population, 2008-2012
 - Approach outlined for natural gas, vehicle emissions, deep aquifer treatment system, etc.
 - Inventories have been taken since 2008 to plan for future capital projects, etc.
- Urban Water Management Plan (2010)
 - Historic and projected water use by customer sector
 - Historic and projected water supply by supply type
 - Expected water production from planned projects
- Water Resources Master Plan (1999)
 - Projected Total Water Supply Resource Mix, 2000-2025
 - Historical and Projected Water Demands by System, 1981-2025

The Navigant team will seek additional insight from IRWD staff on the quality and relevance of the data found in these existing reports. For example, the Urban Water Management Plan may contain more relevant data than the Water Resources Master Plan.

Selection of Study Period

Based on past experience with similar projects, the selection of study period often depends on the quality and availability of data. The Navigant team will seek to analyze historic water and energy data from 2005 to 2013; future analysis will be conducted on an annual basis for the next 20 years. Navigant will

assess the quality of historical data and report to IRWD if any changes to the study selection period are required.

Data Request and Summary of Data Gaps

Based on past experience with similar projects, the Navigant team expects the following types of data to be required for this analysis:

- Facility account mapping
 - Identification of facility type (i.e. groundwater well, distribution pump, administrative building, treatment plant, etc.)
 - Assignment of a unique identifier code to each facility
- Monthly water production at each facility
- Monthly energy consumption at each facility
- Monthly energy production at each facility (i.e. biogas micro-turbines, or solar energy production)
- Forecasts of future water production by supply type (i.e. imported treated, imported raw, groundwater, etc.)
- Number of historic customers and future forecasts
- Staff comments on general system operation strategy
- Historic water conservation activities and total water savings by indoor vs. outdoor end uses

Additional data may enable additional insights to be produced from the analysis though are not required. These include but are not limited to:

- Annual rainfall totals (available from local weather stations if IRWD does not track)
- Documentation of major facility upgrades or changes to operation strategy during 2005 - 2013
- Documentation of major facility shut-down or maintenance events during 2005 - 2013

The Navigant team will review data provided by IRWD and report back regarding any data issues, perceived errors, or gaps and possible solutions to filling these data gaps. The following are common types of data errors and gaps the Navigant team has encountered in similar project work:

- Energy bill data may not be disaggregated by facility type
- Energy meters are not necessarily read by energy utilities at the end of a calendar month. Therefore, energy bill data may not correspond to an actual calendar month.
- Water flow data through individual sewer lift stations may not be available
- Data on energy self-generation may not be tracked
- Energy and water meters may have malfunctioned for a short period of time providing erroneous readings (there is a low likelihood of this)
- A select, few facilities may be simply missing data for a portion of the historic data period

In most cases, these data gaps are resolved using proxy data from the same facility during a different time period, interviews with IRWD staff, or Navigant team engineering judgment.

Task 1 Deliverables:

- Kickoff meeting agenda and facilitation slide deck
- A memorandum that summarizes data collection and recommended approach to estimate data gaps.
- Two, four hour workshops to be conducted at IRWD's office on project related topics.
- Monthly invoicing, progress reports, progress meetings and meeting notes

2.2 Task 2: Historic Embedded Energy Estimates

In this task, the Navigant team will calculate total energy use and historic embedded energy on an annual basis from 2005 to 2013 for each of IRWD's major facility types. The Navigant team will develop embedded energy estimate for the following ten major facility types as they are utilized by IRWD:

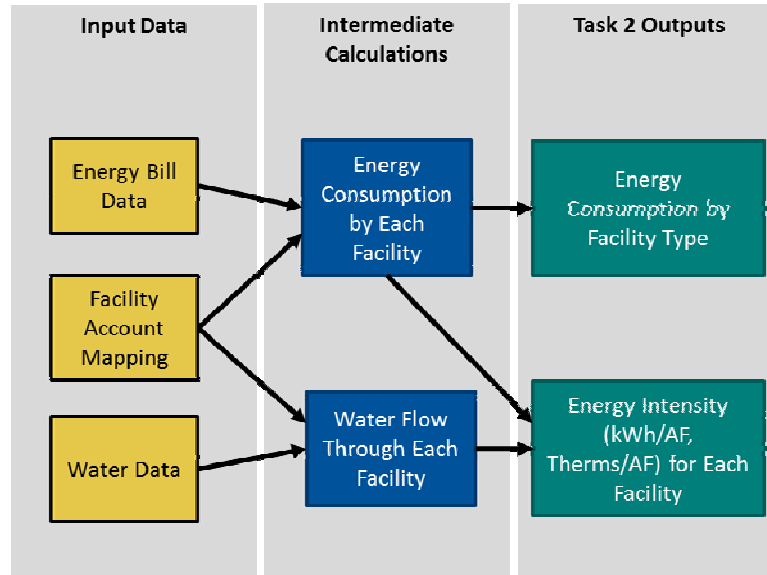
1. Water Supply
2. Water Treatment
3. Water Distribution
4. Wastewater Collection
5. Wastewater Treatment
6. Recycled Water Treatment
7. Recycled Water Distribution
8. Wastewater Discharge
9. Biosolids Treatment
10. Biosolids Product Disposal

Navigant has developed similar analysis for more than 20 retail water and wastewater agencies around the state of California through its work with the California Public Utilities Commission and Southern California Gas. Navigant will draw upon the methodologies it has previously developed in past studies to efficiently collect, clean, analyze and summarize IRWD's historic energy and water data for these facilities.

As part of this task, the Navigant team will estimate the total historic energy use by each of the major systems as well as the average energy intensity (EI) of each major system (in kWh/AF or Therms/AF). Energy intensity values will help inform Tasks 3, 6, 7, 8 and 9 as it provides an estimate of the energy consumption required to produce a unit of water.

The high level process of calculating total energy use and energy intensity is illustrated in Figure 1. The Navigant team will start by collecting energy bill data and water flow data from IRWD. The facility account mapping will be used to associate the appropriate energy data and water data with each facility (e.g. each groundwater well, each distribution pump). Dividing energy consumption for each facility by water flow through the facility will produce the energy intensity of each facility.

Figure 1: Task 2 Data Analysis Process



Throughout this process special considerations will be taken to:

- Track electric and gas consumption separately
- Track data by year (2005 – 2013)
- Allocate Michelson Water Recycling Plant (MWRP) and Los Alisos Water Recycling Plant (LAWRP) energy use into sewage treatment, tertiary treatment and recycled distribution sub components using additional sub metering measurements by IRWD and engineering judgment.
- Compare intermediate results to and (if needed) reconcile with prior IRWD water supply, water conservation and GHG reports (specifically the *Energy and GHG Master Plan*).

Throughout the analysis, the Navigant team will note the distinction of IRWD energy use vs. energy used by other water and wastewater utilities (such as MWD and OCSD). This distinction will be an important requirement when this data is used in the CPUC Water-Energy Cost Effectiveness Analysis Calculators (currently under development). The Navigant team is currently developing these calculators and anticipates some level of distinction between the energy uses of multiple water systems will be required.

The Navigant team is familiar with the format of data IRWD is able to provide for this analysis through HDR’s work on previous projects. Energy data is available on a monthly basis for each metered facility. The two recycled water treatment plants in particular have SCADA systems that track operational parameters that could be used in this analysis. MWRP has tracked its electricity use during summer peak demand periods to avoid higher peak charges, operating in “island mode.” The Navigant team is familiar with the format and types of energy meter data through its past work with the CPUC. While several larger IRWD facilities may have hourly energy meter interval data available, such level of detail is not needed for this analysis. Similarly IRWD tracks monthly water production data for each treatment plant, groundwater well, and import location. HDR has been working with these data to develop a

historical mass balance of IRWD's entire system; therefore, much of this data is already in the Navigant team's hands.

Distribution pump flow data would likely come from historic SCADA data which the Navigant team can analyze. The time it takes to process SCADA data depends on the complexity and format of the data. For budgeting purposes, the Navigant team assumes SCADA data for a facility will be provided in a single file, time stamped for its entire relevant history (2005-2013). In the case that sufficient water flow data for distribution pumps are not available, the Navigant team will work with IRWD staff to determine an appropriate framework to allocating flows to individual distribution pumps.

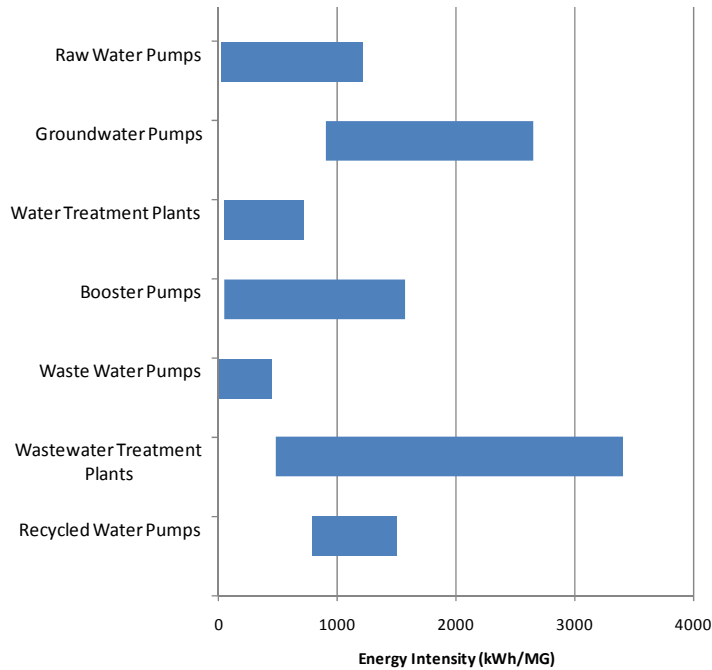
All data and analysis will be stored in a database in MS Excel or MS Access format (pending discussion with IRWD staff). The Navigant team will query the database to generate useful output for IRWD staff including:

- A summary of the total energy consumption by facility type over the data analysis period
- A list of the top energy consuming facilities (those systems that consume 80% of IRWD's total energy use) to help identify facilities for operational efficiency improvements
- A list of the most energy intensive facilities
- Trend data showing increases or decreases in energy consumption and energy intensity of key facilities

The Navigant team proposes two additional outputs associated with this task. The Navigant team will:

1. Estimate the upstream energy intensity of imported water from MWD and the downstream energy intensity of OCSW wastewater treatment facilities to provide IRWD with a full picture of the energy intensity of its water supply.
2. Compare the energy intensity of key facilities to those observed by the Navigant team through other studies. While this is not a true benchmarking exercise it can still prove to be informative to the IRWD staff. Figure 2 illustrates the energy intensity of various water system components examined in past Navigant studies

Figure 2: Energy Intensity Ranges Observed in Other Water-Energy Studies



Source: Navigant. CPUC Embedded Energy in Water Studies. Public Workshop Presentation. 2013

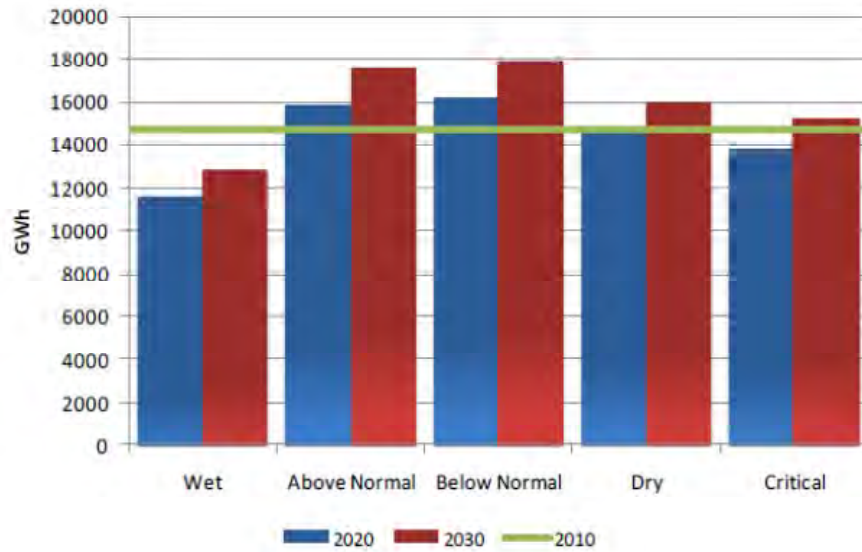
Task 2 Deliverable: A memorandum that clearly describes the source data, technical approach and annual embedded energy estimates of all historic years studied.

2.3 Task 3: Future Embedded Energy Estimates

In this task, the Navigant team will develop a baseline for future embedded energy and total energy use on an annual basis for a 20-year planning horizon. The analysis will consider both existing facilities and possible new facilities under multiple future scenarios.

Navigant developed forecasts for energy use by California’s water supplies through past work with the CPUC. Through work for the CPUC, Navigant forecasted energy consumption over the next 20 years subject to various population and water demand scenarios, water year types, and addition of new facilities and supply types (see Figure 3). The Navigant team will apply the methodologies developed and lessons learned from the CPUC study to forecast IRWD’s future energy use.

Figure 3: Statewide Energy Use by Water Supply Forecast Under Various Hydrologic Year Types

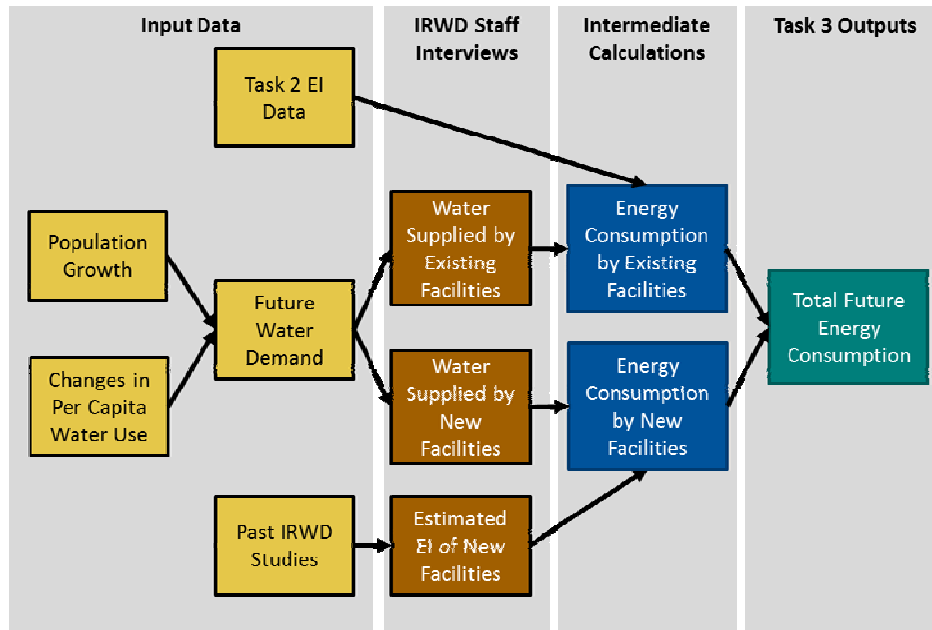


Source: GEI Consultants and Navigant. *Embedded Energy in Water Study 1*. Prepared for the CPUC. 2009

2.3.1 Core Methodology

Figure 4 illustrates at a high level the Navigant team’s data analysis process for Task 3. Future estimates of total energy use are made using future water demand and energy intensity of water facilities. A more detailed discussion of the process follows the figure.

Figure 4: Task 3 Data Analysis Process



Future water demand is driven by multiple factors including population growth and any changes to per capita water consumption (including the impacts of ongoing water conservation programs). IRWD’s 2010 UWMP shows water use in 2035 is expected to surpass 120,000 AF/year; an increase of approximately 20% relative to 2015 projected deliveries. This additional demand is expected to be met by new treatment plants and supply options. The Navigant team will seek updated future water use forecasts from IRWD as part of this task. Future water use forecasts will be tracked in the following categories: Potable, Non-Potable, and Wastewater. Wastewater will be estimated as a fraction of Potable water use; the Navigant team will leverage historic data and the mass balance developed by HDR and interview IRWD staff to determine the appropriate fraction.

In addition to determining the total volume of water delivered, the Navigant team will need to understand the changes in water produced by each supply type. Such data is available in the 2010 UWMP but the Navigant team will leverage the mass balance developed by HDR and interview IRWD staff for more recent forecasts. As part of this discussion, the Navigant team will seek to understand if certain existing supplies will be reduced in the future (such as imported treated water) in favor of some of the new supplies coming online. The Navigant team already has a good understanding of the issues that impact water source distribution, including the Basin Pumping Percentage, In Lieu periods, and agreements with other agencies such as the Corps of Engineers. Understanding how these agreements will impact operations going forward will also be enhanced by the Recycled Water Salt Management Plan, which will facilitate the future analysis when the time comes.

Energy intensity of existing water systems will be available from Task 2; EI for new supplies will be developed using a combination of past IRWD studies, IRWD staff interviews, and engineering assessments. The Navigant team recognizes the EI of existing facilities may change over time from planned facility upgrades and will seek IRWD insight on the matter. Energy intensity for new supplies will be estimated using data available from past studies. For example, the *Energy and GHG Master Plan* forecasts the Baker Treatment Plant will consume 5.8 GWh/year while the 2010 IRWD UWMP forecasts 6,858 AF/year of water production from the plant resulting in an energy intensity of 845 KWh/AF. The Navigant team will verify such data and analysis with IRWD staff through interviews. Such new facilities to consider include:

- Baker Water Treatment Plant – construction underway (expected completion in 2016)
- Michelson Biosolids Facility – construction underway (expected completion in 2017)
- Syphon Reservoir Expansion – funding may impact development timeline of this project (design and construction is expected to take at least four years once funding is defined)
- Michelson Phase 2 Capacity Expansion – completion of facility expansion expected in 2014
- Michelson Phase 3 Capacity Expansion – design of expansion complete for all processes. Some processes have been expanded to Phase 3 capacity during Phase 2 expansion. Timeline for completion of Phase 3 will be based on planning efforts and development.

2.3.2 Scenario Analysis

The Navigant team will work in cooperation with IRWD staff to select five alternative future development scenarios and estimate future energy use of these scenarios. Numerous variables can be adjusted to create these five alternate scenarios considering both endogenous variables (things IRWD has control over) and exogenous variables (things IRWD has no control over). Table 1 lists possible exogenous and endogenous variables to consider in this analysis.

Table 1: Variables to Consider in Scenario Analysis

Endogenous Variables	Exogenous Variables
<ul style="list-style-type: none"> • Additional facilities • New technologies (such as more or less energy intensive treatment technologies) • New energy sources (such as self-generation that could reduce reliance on purchased energy) • New energy savings programs (such as pump maintenance programs that reduce distribution energy use) 	<ul style="list-style-type: none"> • Various forecasts for future water demand • Changing availability of imported water • Changing quality of raw water • Sensitivity to water year type

As part of this task, the Navigant team will consider all variables that could affect scenario design and develop recommended scenario options for IRWD staff to review. In scenario analysis, Navigant typically recommends developing a “worst case” and “best case” scenario to understand the range of possibilities followed by several scenarios that model higher probability futures. A similar approach was taken by Navigant in Study 1 for the CPUC (see Table 2).

Table 2: Scenario Analysis Approach taken by Navigant in CPUC Study 1

Scenario	Time Period	Assumptions
Base Case	2010	<ul style="list-style-type: none"> • “Above Normal” hydrologic year type • Current year water demand • Current year water supply portfolio • Current water policies
Low Energy Scenario (“Best Case”)	2020 & 2030	<p><u>For each of 5 types of hydrology years assume:</u></p> <ul style="list-style-type: none"> • Low water demand projections • Aggressive urban water conservation • Increased use of recycled water • New surface water storage
High Energy Scenario (“Worst Case”)	2020 & 2030	<p><u>For each of 5 types of hydrology years assume:</u></p> <ul style="list-style-type: none"> • High water demand projections • Minimal urban water conservation • Aggressive growth in seawater and brackish water desalination • Minimal construction of new recycled water supply, new surface water storage.

Source: Adapted from GEI Consultants and Navigant. *Embedded Energy in Water Study 1*. Prepared for the CPUC. 2009

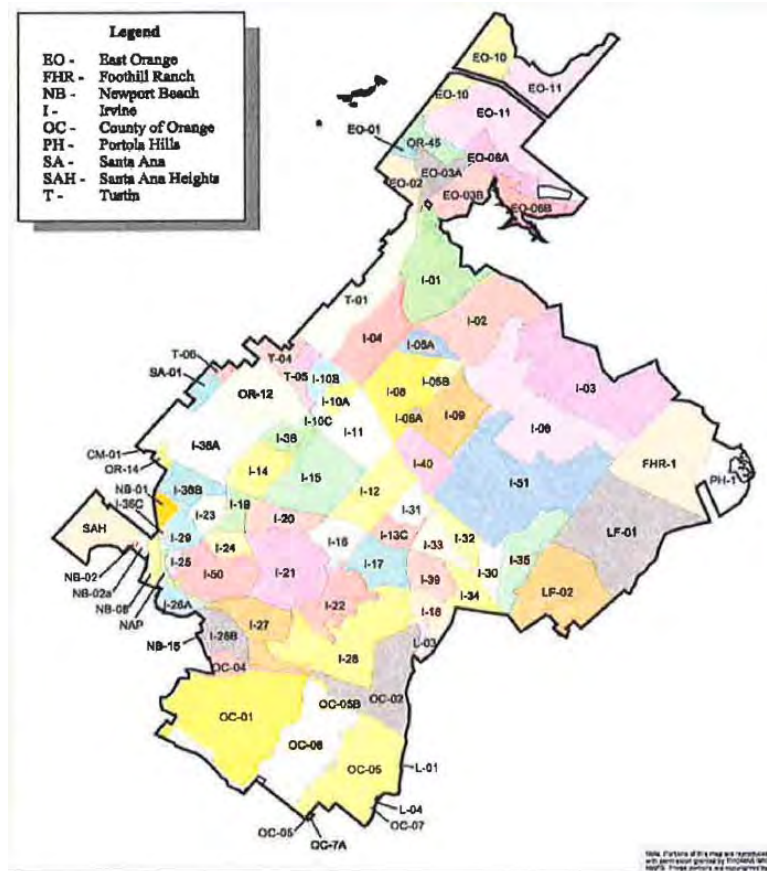
Focusing scenarios around exogenous variables allows IRWD to get a better sense of the uncertainty range that external, uncontrollable factors present. Focusing scenarios around endogenous variables allows IRWD to observe the relative impacts of its own strategy decisions and inform investment decisions. The Navigant team will discuss these approaches to scenario analysis with IRWD staff to determine the most useful approach.

Task 3 Deliverable: A memorandum that clearly describes the source data, technical approach and future embedded energy and total energy use for all scenarios.

2.4 Task 4: GIS Processing

The Navigant team will provide a GIS processing analysis to estimate potable water demands, non-potable water demands, and sewage generation rates in each potable water service area (illustrated in Figure 5). This analysis will be conducted alongside and inform Task 6 in which embedded energy estimates for each potable water service area will be made.

Figure 5: IRWD Water Service Regions



Source: IRWD

First, using current land use spatial data and land use factors provided by the District, the Navigant team will conduct a GIS analysis to develop the following estimates for each potable water service area under current average annual conditions:

- Potable water demand
- Non potable water demand
- Sewage generation

Second, the Navigant team will estimate the percent of each pump station, treatment plant, and sewage lift station that provides services to each potable water service area. This estimate will be based on the Navigant team’s current understanding of IRWD’s system, available flow data, and discussions with IRWD staff. HDR has been using IRWD’s data sources to model this information for the purposes of the Recycled Water Salt Management Plan project, and will translate its knowledge of these flows for salt loading to this analysis.

Finally, the Navigant team will use this data to inform Task 6 and estimate embedded energy in each region. The data from this task will allow Navigant team to estimate energy use for each potable water service area based on the estimates for water demands, sewage generation, and percent of each facility that serves each potable water service area. The estimate of energy use for each potable water service area will be conducted as part of Task 6 and can be summarized in multiple ways. See Section 2.6 for additional details.

The Navigant team’s proposed budget incorporates the following assumptions:

- Required GIS feature classes will be readily available including
 - Current land use parcel data
 - Current potable service areas
 - Current areas served by each sewage lift station and treatment plant
- Required factors will be available from the District including
 - Potable water use factors
 - Non-potable water use factors
 - Sewer generation return factors

Task 4 Deliverable: *A memorandum that clearly describes the source data, technical approach and results of this task as well as a geodatabase of results.*

2.5 Task 5: Water Use Analysis

In this task, the Navigant team will analyze historic water use for each service area to develop coefficients that will allow future demand forecasts to be adjusted to account for wet, dry and average hydrologic conditions.

The Navigant team proposes to take the following approach to this task:

1. **Obtain historic water consumption data (2005-2013) by region in summary format from IRWD staff.** The Navigant team will compare this data to the results of Task 4 and discuss any discrepancies.
2. **Determine the hydrologic year type for each historic year (2005 to 2013) as wet, dry or average.** The Navigant team will reference Department of Water Resource data (as seen in Table 3) as a starting point but will seek additional input from IRWD staff.
3. **Attempt to adjust water use for changes in population or number of customer throughout the historic data period.** It's possible certain service areas saw a large growth in number of customers that would skew analysis. Ideally, per capita or per customer water use should be used to compare different years and assess changes in water use based on changes in hydrologic year type.
4. **Select representative years for wet, dry and average hydrologic conditions.** The Navigant team will select representative year types and discuss the selection with IRWD staff. During the selection process, the Navigant team will discuss "outlier years" (years in which unusual system operation or water use occurred) to better select truly representative years.
5. **Compare potable and non-potable water use as well as sewer flows for each service area across the selected representative years.** The ratio of water use and sewer flows in the Wet and Dry years relative to the Average year will be the basis of the final coefficients.

Table 3: DWR Water Year Hydrologic Classification Indices

River Index	2005	2006	2007	2008	2009	2010	2011	2012	2013
Sacramento Valley	Above Normal	Wet	Dry	Critical	Dry	Below Normal	Wet	Below Normal	Dry
San Joaquin Valley	Wet	Wet	Critical	Critical	Below Normal	Above Normal	Wet	Dry	Critical

Source: <http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST>

The results of this analysis will produce coefficients that can be used to estimate future water demand under various hydrologic conditions. The Navigant team suggests conducting this analysis prior to task 3 and concurrent with Task 4. This timeline will allow the possibility of using hydrologic year type variations in the scenario analysis for Task 3 (previously discussed in section ②).

Task 5 Deliverable: A memorandum that clearly describes the source data and results of this task including tables indicating future demand coefficients for different hydrologic conditions.

2.6 Task 6: Spatial Embedded Energy Estimates

This task will develop estimates of embedded energy in each of the approximately 50 water service areas within IRWD territory. One of the purposes of this analysis is to provide insight to IRWD staff on the locations that have the most energy intensive water services and can be specifically targeted for water conservation measures. The CPUC is considering allowing the California Investor Owned Energy Utilities (IOUs) to establish water-energy programs and partnerships and further allow the IOUs to fund

CPUC Embedded Energy in Water Study 2, Navigant developed the Water-Energy Load Profiling tool to automate water-energy data analysis of 22 retail water and wastewater agencies in California including separate analysis of different facility groups (i.e. groundwater pumps, distribution pumps, potable treatment, wastewater treatment, etc.)

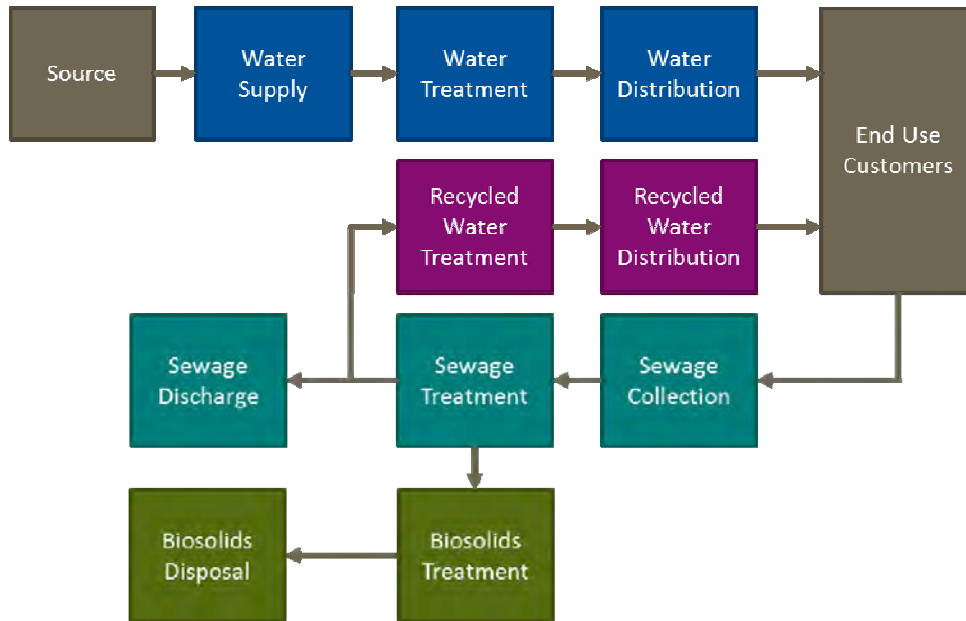
Additionally the Navigant team has collective experience and insight in analyzing:

- IRWD wastewater system flows
- IRWD wastewater treatment plants
- OCSD wastewater treatment plant energy use
- MWD imported raw water and treated water energy use

The Navigant team has carefully considered calculation approaches and recognizes several efficiencies in the process are possible given the interrelation of major facility groups. These facility groups are illustrated in Figure 7. Analysis of the following groups of facilities is interrelated and can leverage the same sets of data or very similar analysis processes:

- Water Supply and Recycled Water Treatment
- Sewage Treatment, Recycled Water Treatment, and Sewage Discharge
- Biosolids Treatment and Biosolids Product Disposal
- Water Distribution and Recycled (Non-Potable) Water Distribution

Figure 7: Relation of Facility Groups



The analysis will be conducted for 2013 only leveraging data collected in Task 2. Specific calculation methodologies and considerations for each facility category are described in the following subsections.

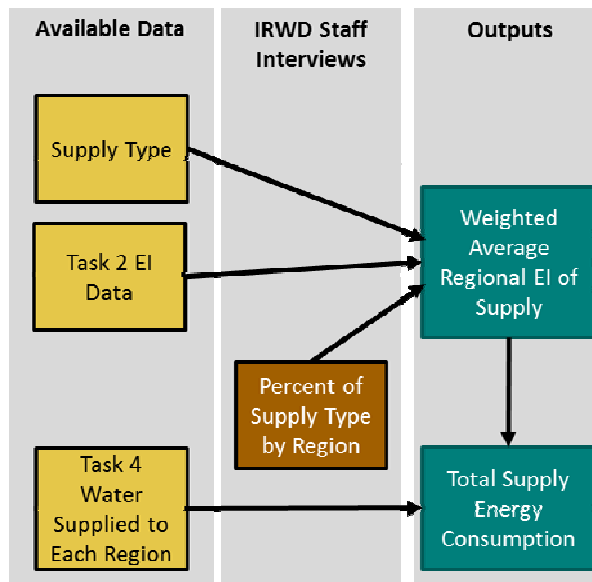
2.6.1 Water Supply

The Navigant team will calculate total energy used in each region associated with supply as well as the energy intensity (kWh/AF or therms/AF) of water supply for each region. These calculations will consider three main components:

- **Water Quantity:** The total quantity of potable and non-potable water used by each geographic area (informed by Task 4)
- **Water Source:** The types of water source include but are not limited to clear groundwater, treated groundwater, imported water and local surface water.
- **Energy Use (energy intensity):** The energy intensity of each supply will be available from previous calculations (in Task 2 and Task 3). Energy intensity varies by source.

These three components will be used to calculate total energy use in a region as well as average energy intensity of supply for each region. The analysis methodology is illustrated in Figure 8. A detailed description of the calculations follows the figure.

Figure 8: Water Supply Data Analysis Process



First, the Navigant team will calculate a Weighted Average Regional Energy Intensity of water supply. This will be calculated multiplying the energy intensity of each supply type by the percent of each supply type that serves each region. For example, if a region receives 40% of its water from MWD imports and the other 60% from groundwater, the EI of each source will be multiplied by its percent value to estimate the weighted average regional value.

Energy Intensity for each supply will be obtained from data in Task 2 or from MWD in the case of imported raw or treated water.

It may be difficult to know exactly which water supply provides service to each geographic area because IRWD's system is interconnected. The Navigant team also recognizes water supply to a given geographic area may be significantly different during different times of the year and from year to year. Therefore, the *Percent of Supply Type by Region* factor will be developed based on an annual basis based on general trends obtained from interviewing IRWD's operations staff.

The total supply energy consumption associated with each region will be calculated by multiplying the total water supplied to each region (from Task 4) by the weighted average supply energy intensity.

2.6.2 Water Treatment

Certain water supplies require additional water treatment before distribution. Currently three major treatment facilities process impaired groundwater at the Deep Aquifer Treatment System, the Irvine Desalter Project and the Wells 21 & 22 treatment facility. Additionally, various disinfection facilities are used to treat unimpaired water supplies prior to entering the distribution system.

Analysis of water treatment embedded energy will be closely tied to analysis of water supply embedded energy. The Navigant team will quantify the energy intensity of treatment systems (leveraging data in Task 2) and assign each treatment system to a supply type (recognizing that only certain supplies need treatment). The same *Percent of Supply Type by Region* factor developed for supply analysis will be used to allocate treatment energy use on a regional basis.

2.6.3 Water Distribution

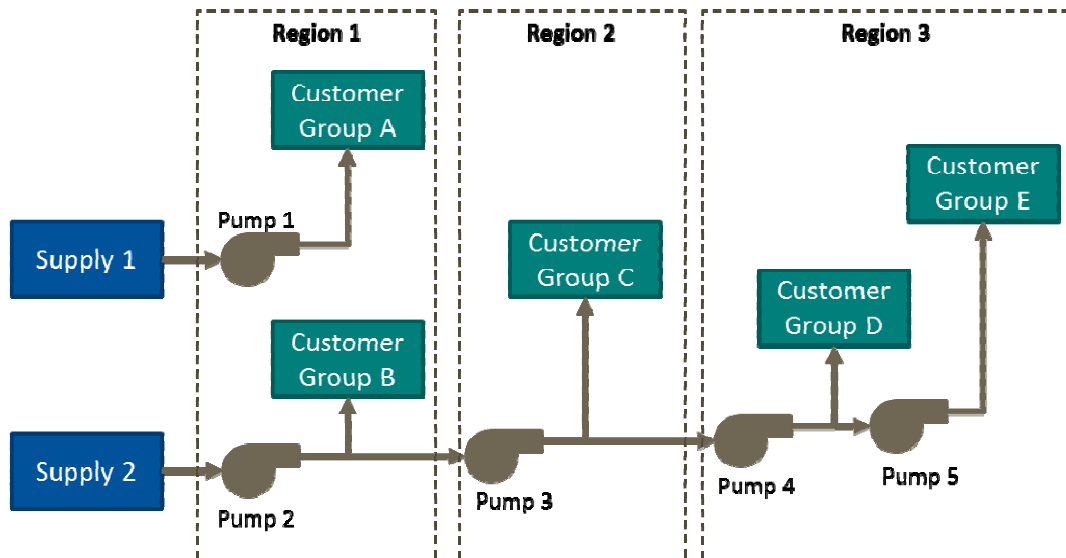
The Navigant team understands the end goal of water distribution analysis is to quantify the energy intensity (KWh/AF) of water delivered to each region and total energy use by distribution infrastructure. Embedded energy analysis of distribution systems requires knowledge of how the system is interconnected. The energy used to distribute potable water to a given geographic area depends on its water supply, the pump stations required to get the water to the region and equipment associated with any pressure reducing valves required for delivery. The Navigant team has previously examined multiple water distribution systems to estimate embedded energy.

The key component of any distribution system energy analysis is estimating the flow-weighted average energy intensity (EI) of water delivered to the region. Figure 9 illustrates a distribution system with two supplies distributed to three regions. The methods to calculate the flow-weighted average EI for each illustrated region are listed below:

- **Region 1:** This region contains two groups of customers (A and B) that receive water from two different supplies. The weighted average EI for the region is calculated by weighting the energy intensity of Pump 1 and Pump 2 the amount of water provided by each supply.
- **Region 2:** All customers in region 2 receive water from Supply 2 via Pump 2 and Pump 3. The EI of water delivered to region 2 is a summation of the energy intensity of Pump 2 and Pump 3; this sum is called the "cumulative EI of Pump 3"
- **Region 3:** This region contains two groups of customers (D and E) that receive water from Supply 2; however Pump 5 provides water to only a subset of the customers (Group E). Group D

receives water with an EI equal to the sum of EIs from Pumps 2, 3, and 4 (the cumulative EI of Pump 4). Group E receives water with an EI equal to the sum of EIs from Pumps 2, 3, 4, and 5 (cumulative EI of Pump 5). The weighted average EI for the region is calculated by weighting the cumulative EIs of Pump 4 and 5 by the amount of water provided to Customer Groups D and E.

Figure 9: Distribution System Illustration



This calculation methodology requires knowledge of the location of each pump station relative to the regions it serves, the interconnections amongst the stations, and the annual volume of water pumped through each station (to calculate weighted average EIs). Past Navigant experience has shown the availability of complete data required for this analysis varies by water agency. The Navigant team will assess the available data and determine appropriate adjustments to calculation methodology. In most cases IRWD staff interviews will supplement data gaps. Based on past experience, the Navigant team understands the following issues in this analysis may arise:

- Annual volume pumped by each pump station is not readily available
- Customer groups are not easily partitioned into regions
- Total deliveries to each customer group within a region is unavailable

The Navigant team expects an approach that will leverage IRWD staff interviews to inform allocation of flows and embedded energy from each distribution system component to each region.

2.6.4 Sewage Collection

Similar to distribution system analysis, to analyze IRWD’s sewage collection system the Navigant team needs to understand the location of each sewer lift station relative to the regions it serves as well as the connection of the lift station network.

The Navigant team has a very good working knowledge of IRWD’s sewage collection system through ongoing work with IRWD. The Navigant team will identify the location of each lift station and its connections to IRWD treatment plants. The team will then estimate the regions each lift station serves and then confirm its understanding with IRWD staff.

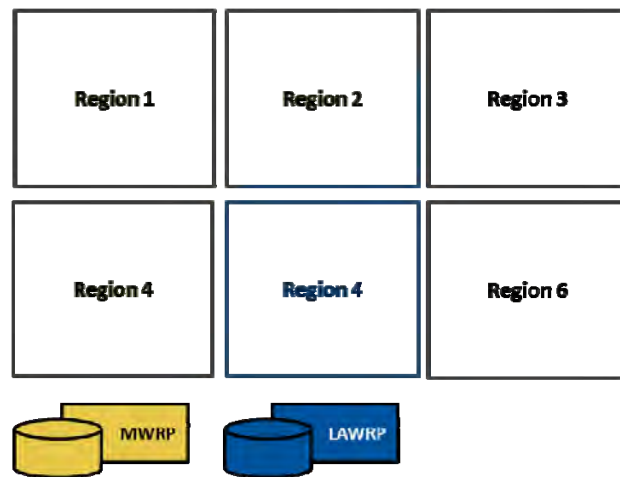
A cumulative energy intensity analysis (previously discussed in section 2.6.3) will be used to estimate the energy intensity of sewage collection attributed to each region.

2.6.5 Sewage Treatment

The Navigant team will examine the embedded energy of sewage treatment by IRWD and make estimates for treatment conducted by Orange County Sanitation District (OCSD). The Navigant team understands IRWD has historically treated 77% of the sewage generated by its customers. Of the remaining 23%, the majority (about 22%) has been transferred to the OCSD and the remaining has been transferred to Santa Margarita Water District (SMWD). The first step in this analysis will be to understand which portions of IRWD service territories are serviced by which facility or agency (see Figure 10); this is already understood very well through HDR’s ongoing work with IRWD.

The Navigant team will determine the related sewage treatment system (or systems) that provide services to each region. For example, Figure 10 illustrates Region 1 and 4 are served by MWRP, Region 2 is served by both MWRD and LAWRP, and Regions 3 and 6 are not served by IRWD sewage treatment plants. The Navigant team has existing knowledge of IRWD’s wastewater system to determine this distribution and will confirm its knowledge with IRWD staff.

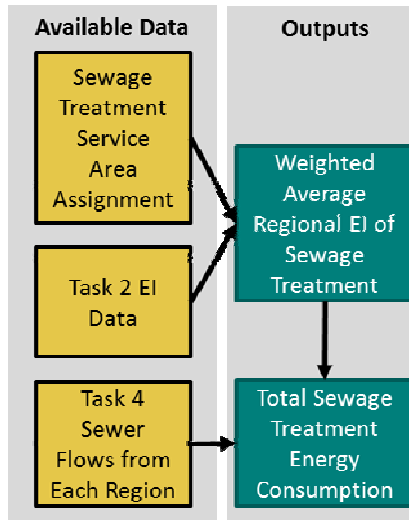
Figure 10: Illustration of Sewage Treatment Service Area Assignment



Once regional associations are determined, the Navigant team will calculate the energy intensity of wastewater treatment for each region (illustrated in Figure 11). The average energy intensity of each region will leverage data collected in Task 2 (which includes available sub-metering measurements by IRWD or engineering judgment to disaggregate MWRP and LAWRP energy data from the single SCE

meter). Sewage treatment energy use will consider primary and secondary treatment systems. Additional energy use beyond secondary treatment is attributed to recycled water production.

Figure 11: Sewage Treatment Data Analysis Process



Data regarding sewage treatment by OCSD and SMWD will be also be quantified. Navigant conducted detailed analysis of OCSD’s wastewater treatment energy use in 2008 and has access and insight to the embedded energy and energy intensity of OCSD sewer systems and treatment facilities. The Navigant team will leverage this past data and update it as necessary with additional information obtained directly from OCSD and SMWD estimated using engineering judgment.

2.6.6 Recycled Water Treatment

As previously mentioned, energy used at MWRP and LAW RP associated with tertiary treatment will be attributed to recycled water treatment. This analysis will leverage data collection from Task 2 and isolate tertiary treatment energy use.

Recycled water treatment analysis is closely tied to water supply analysis (discussed in section 2.6.1). Much like the analysis described in section 2.6.1, the Navigant team will need to understand which regions in IRWD territory receive recycled water (and specifically from which treatment plant).

The energy use associated with recycled water supplies will only include the incremental energy requirements of tertiary treatment since primary and secondary treatment are required even if recycled water was not being produced. This incremental energy consumption allows recycled water supplies to be counted as a low energy intensive supply. Past Navigant work has shown recycled water can be less energy intensive than imported water and (in some cases) groundwater.

Any recycled water treatment by OCSD and SMWD will not be included in this analysis.

2.6.7 Recycled (Non-Potable) Water Distribution

The Navigant team’s analysis of recycled (non-potable) water distribution will be very similar to the analysis of water distribution (as previously discussed in section 2.6.3). The team understands the non-potable water is supplied by MWRP, LAWRP, non-potable groundwater, and is also purchased untreated from MWD for non-potable use. This “dual supply” system can be analyzed by understand system connection as previously illustrated in Figure 9. The team recognizes this analysis will be simpler than potable distribution system analysis as the non-potable system has fewer pumps; in fact, recycled water distribution from MWRP and LAWRP is measured at a single SCE meter. The Navigant team will disaggregate this energy use with available sub-metering measurements by IRWD or engineering judgment.

2.6.8 Sewage Discharge

The energy associated with sewage discharge will be estimated separately for MWRP and LAWRP. The Navigant team views this as a simple analysis that will consider the portion of water that is not recycled at either of IRWD’s treatment facilities. The energy intensity associated with sewer discharge facilities will be obtained from data in Task 2 (which includes available sub-metering measurements by IRWD or engineering judgment to disaggregate MWRP and LAWRP energy data from the since SCE meter).

The Navigant team will allocate sewage discharge energy use to each region the same way it allocates sewage treatment energy use. This energy intensity will then be associated to each region leveraging the Sewage Treatment Service Area Assignment (as illustrated earlier in Figure 10). One additional factor to consider in the analysis is the fraction of plant effluent that is actually discharged (a limited number for MWRP).

2.6.9 Biosolids Treatment

The Navigant team recognizes that biosolids treatment energy use should be analyzed to obtain a complete picture of IRWD’s energy use. However, the (yet to be developed) CPUC embedded energy cost effectiveness protocol is not likely to consider biosolids treatment energy use as avoidable through water conservation efforts. The amount of biosolids generated is likely not to change as a result of water conservation.

The Navigant team understands IRWD has an existing biosolids treatment facility at LAWRP and is constructing a biosolids treatment facility at MWRP (from which biosolids are currently being conveyed via pipeline to OCSD). The Navigant team also understands residuals from LAWRP receive some treatment on-site before they are conveyed by truck to Arizona for processing and reuse or disposal. IRWD’s new residuals-handling system at MWRP will include biosolids processing, biogas management and energy recovery systems and will process residuals produced at MWRP and LAWRP.

The historic embedded energy of biosolids treatment for MWRP will be based on information obtained from OCSD; the embedded energy of biosolids treatment at LAWRP will be estimated from available sub-metering measurements by IRWD (the LAWRP values are well understood because the sub-meter only records the dredge, sludge pumps, and the plate-and-frame filter press). The Navigant team will allocate biosolids treatment energy use to each region the same way it allocates sewage treatment energy

use. Energy intensity analysis may require a metric of kWh/pound (dry solids or wet cake) instead of kWh/AF. An average conversion factor of pounds/AF can be estimated to convert values.

As an optional the Navigant team can explore the estimated greenhouse gas savings (GHG) that will result from this project. GHG benefits include methane capture, energy generation, and eliminating transportation GHG emissions from trucks. The Navigant team can scope this additional analysis further with IRWD staff if there is interest. The proposed budget in this document does not include GHG emissions analysis.

2.6.10 Biosolids Product Disposal

IRWD's two sewage treatment plants dispose of biosolids products in different ways (as previously described). The embedded energy of biosolids product disposal from MWRP will be based on information obtained from OCSD while the embedded energy of biosolids product disposal from LAWRP will be estimated from available delivery and disposal information provided by IRWD and their contractors. The Navigant team will allocate biosolids product disposal energy use to each region the same way it allocates biosolids treatment energy use.

***Task 6 Deliverable:** GIS coverage using 2013 data for the energy intensity and embedded energy associated with each facility group and each region as well as a technical memorandum that clearly describes the source data, technical approach, and results.*

2.7 Task 7: Embedded Energy Management Tool

Based on the defined methodology in Task 6, an Embedded Energy Management Tool will be built using Esri Model Builder tools and the GIS data developed in Tasks 4 and 6. The tool will allow user to:

- identify a geographic region type for analysis
- identify the type analysis to be performed (water conservation or surcharge)
- (if a water conservation analysis is requested) the general type of water conservation activity to be considered (e.g. indoor or outdoor).

Esri Model Builder provides a stable foundation to build and document a sequence of analytical steps that directly interacts with the GIS data in its native environment with the ability to establish parameters that can be modified by the end user. The Esri Model builder environment is also very flexible, which makes it easy to apply changes to enhance and expand the tool as needed. Other benefits include the ability to quickly introduce new versions of existing data layers, visualize the model workflow, and produce maps and reports as outputs.

Building the application inside Esri's environment will facilitate interaction with the GIS data and allow end users to identify a geographic region, the type of analysis to perform, and the type of water conservation activity to be considered. Based on the requirements for the application, the end user will be able to select the parameters for the specific analysis and the tool will access the GIS data developed in Task 6 to produce results in a detailed PDF report.

Navigant is currently creating a similar embedded energy tool for the CPUC that will calculate the energy savings associated with a water conservation activity (see Section **Error! Reference source not found.**, California Public Utilities Commission (CPUC) Water-Energy Cost Effectiveness Analysis). This tool covers all of California at the hydrologic region level and addresses parameters of each water conservation measure, such as water use (indoor vs. outdoor) and water quality (potable vs. non-potable). The tool will ultimately calculate the embedded energy savings as well as the cost effectiveness of water conservation measures.

The Navigant team’s proposed budget incorporates the following assumptions:

- The Embedded Energy Management Tool will be built with Esri Model Builder
- The tool will be built on methodology defined in task 6
- Geographically defined areas will be included as a parameter in the model

***Task 7 Deliverable:** A memorandum that clearly describes the source data, technical approach and results of this task as well as a GIS application built with Esri Model Builder.*

2.8 Task 8: Water Conservation Program Energy Savings

In Task 8, the Navigant team will develop embedded energy estimates for the 2005–2013 time period. The Navigant team will use the following resources for this task:

- The total energy intensity estimates developed in Task 2
- The water savings documented in the District’s Water Efficiency Plan (December, 2013)
- Interviews with the District’s water conservation department to supplement any missing data

The team will review these source data for consistency and develop protocols for estimating missing data if need be. Estimates will be compared to and, as appropriate, reconciled with prior IRWD reports on water supply, water conservation, and GHG emissions. Specifically, Navigant will be able to leverage the literature from Task 1 of IRWD’s Water Efficiency Plan, Water Resources Master Plan, Energy and GHG Master Plan, and GHG Inventory. These embedded energy savings will then be compared to the total energy use of IRWD’s system (from Task 2) to estimate the system-wide impact that water conservation measures have provided.

Navigant has conducted similar embedded energy savings analysis in past projects and is currently developing a tool for the CPUC to quantify embedded energy savings from water conservation measures. Navigant previously conducted analysis on the City of Huntington Beach that estimated system energy intensity (both gas and electric) and used the values to estimate embedded energy savings from a hypothetical recycled water project as well as landscape irrigation upgrades at multiple city parks. Navigant is currently developing a tool to estimate embedded energy savings from water conservation measures as part of the CPUC Water-Energy Cost Effectiveness Analysis project. Through work with the CPUC over the coming months, Navigant will review similar existing calculators and will develop a user friendly spreadsheet calculator that can be used by all energy and water utilities in the state. Navigant will take the best practices it learns from these other projects and apply them to this task as appropriate.

***Task 8 Deliverable:** A memorandum that clearly describes the source data, technical approach, and energy savings associated with IRWD’s water conservation program.*

2.9 Task 9: Pumping Surcharge Estimate

The Navigant team recognizes the cost of providing potable water, sewage treatment and recycled water varies throughout IRWD’s service territory based on location. In this task, the team will help IRWD assess the variation in cost of pumping to provide water to different regions throughout its service territory and develop a pumping surcharge by region.

The Navigant team will develop a process in cooperation with IRWD’s financial department to utilize the results of the spatial embedded energy estimates developed in Tasks 3 and 4 to provide a pumping surcharge estimate for the District. The team will consider up to three alternative approaches that are expected to be developed and evaluated using the management tool developed in Task 7 that may include various groupings according to:

- Individual geographic areas (as illustrated in Figure 5)
- Groups of geographic areas
- Selection combinations of facilities
- Pressure zone
- Elevation

The Navigant team understands IRWD already applies a pumping surcharge to customers’ bills primarily based on elevation:

“A surcharge will be added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based upon prevailing energy costs and currently varies from \$0.16 to \$0.42 per ccf depending upon the elevation of the area served.”

The team will interview IRWD staff to understand how the current system was established. The team will then compare its results to IRWD’s current elevation-based surcharges to help IRWD optimize the way it assigns surcharges to various customer groups. Using information developed in this task, the Navigant team can support IRWD’s financial office in determining the impact of various surcharge scenarios on bill collection revenue.

***Task 9 Deliverable:** A memorandum that describes each alternative and recommends an approach to develop a pumping surcharge estimate for the District.*

2.10 Task 10: Scopes of Work for New Data Collection and Embedded Energy Plan Updates

The Navigant team is well versed in the data gaps that arise in water-energy projects; common data gaps were discussed earlier in Section 2.1. The Navigant team expects some data gaps will be observed during the execution of Tasks 1-7 (discussed in greater detail in Section 2.1). Some data gaps are unavoidable

(such as missing or poor quality energy billing data) as they are outside the control of IRWD; others however can be addressed in the future. In addition, the available data used to develop the Embedded Energy Plan may need to be reevaluated (updated) in the future to ensure the information used in future analysis remains accurate and relevant.

In this task, the Navigant team will develop two scopes of work; one for new data collection (to address data gaps) and one for future updates. Each scope of work will include

- The type of data required
- A detailed description of the data collection approach
- A description of the quality control/quality assures process required to ensure new data collection is accurate
- A cost estimate and schedule

Because the type and amount of new data to be collected is currently unknown, the Navigant team has set aside \$10,000 of the budget for new data collection. The Navigant team has not set aside any budget for updates to existing data. The Navigant team understands no data collection (new or updates to existing data) will be conducted without an approved scope of work agreed upon in writing between IRWD and the Navigant team.

***Task 10 Deliverable:** Two scopes of work describing the activities required to update existing data and collect new data to inform future updates of the Embedded Energy Plan.*

2.11 Task 11: Report

The Navigant team will develop a comprehensive report on the analysis conducted as part of the Embedded Energy Plan. This report will include full documentation of all methodologies, sources, analysis, and assumptions as well as “next-step” recommendations. Prior to issuing the draft report, the Navigant team will share an outline of the report with IRWD staff to solicit any comments on the format and structure of reporting. The draft report will consist of:

- An executive summary of the Embedded Energy Plan
- Sections that concisely summarize the information contained in each of the technical memoranda developed in Tasks 1-10.
- An appendix consisting of the complete technical memoranda (updated if necessary based on IRWD feedback) developed in Tasks 1-10.

All comments provided on the draft report by IRWD will be incorporated into a final report.

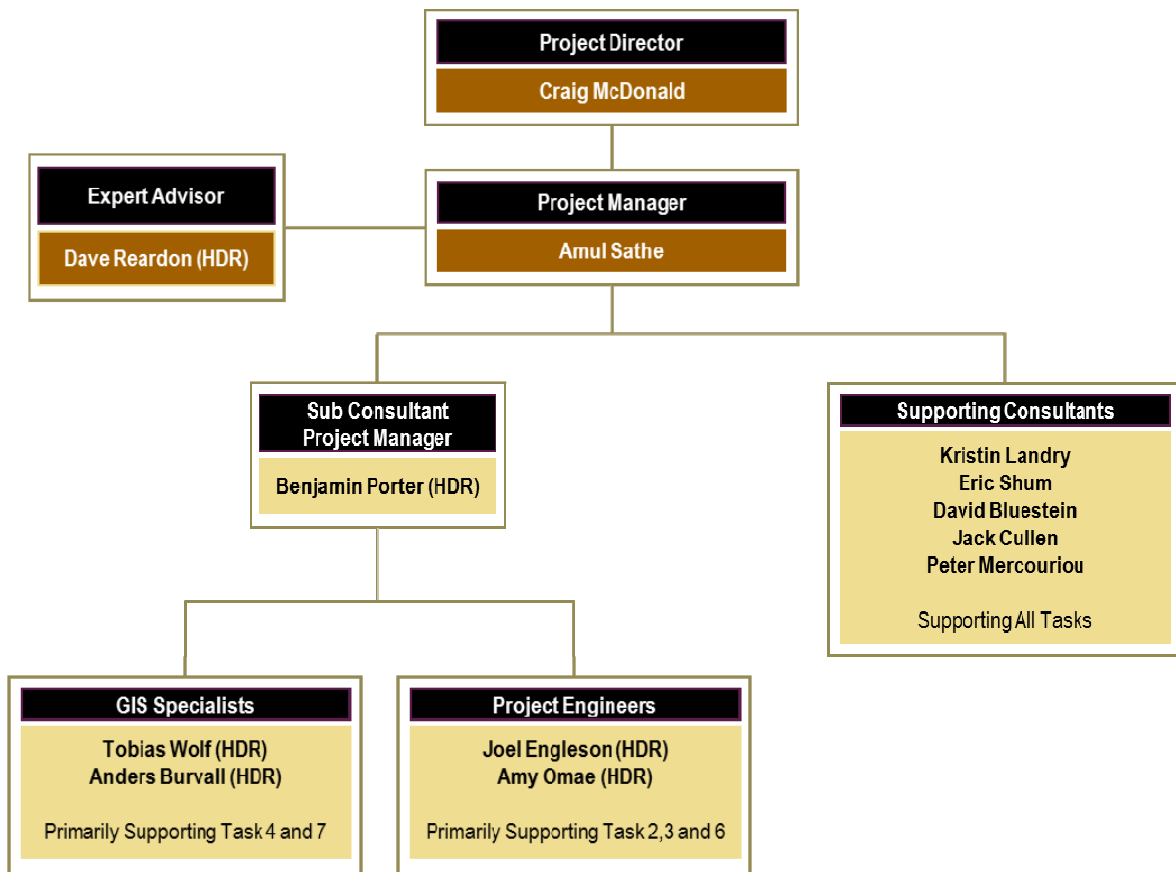
***Task 11 Deliverable:** An electronic copy of the draft report for IRWD staff review. Five hard copies and one digital copy of the final report will be provided on CD.*

3. Team

Navigant has selected key personnel with unmatched qualifications to assist in this effort. This section highlights the team structure, experience and background of the Navigant team. Full Resumes for Navigant’s project team are located in Appendix A. The Navigant team understands key personnel assigned to the project shall not be reassigned without the prior written approval from IRWD.

The Navigant team structure is illustrated in Figure 12. Craig McDonald will serve as Project Director overseeing the project strategy and deliverables. Amul Sathe will serve as Project Manager and oversee supporting consultants as well as the Sub Consultant Project Manager. Benjamin Porter will serve as the Sub Consultant Project Manager and mainly act as the channel for coordination between Navigant and the HDR team of GIS specialists and project engineers. Dave Reardon will serve as an expert advisor to the Project Manager.

Figure 12: Navigant Team Structure



The percentage of time each member will contribute to the project is documented in Table 4. The percentage is calculated as an average value over the duration of the study from start to completion. Navigant will dedicate the equivalent of 38% of a Senior Consultant’s time (spread amongst three staff members) and 34% of a Consultant’s time (spread amongst two staff members) to this project. Certain team members may contribute more to one task than another. Additional details on the hours each staff member will contribute to each task can be found in Section 5.

Table 4: Staff Time Summary

Team Member	Firm	Percent of Time
Craig McDonald	Navigant	4%
Amul Sathe	Navigant	19%
Kristin Landry, David Bluestein, and Eric Shum	Navigant	38%
Jack Cullen and Peter Mercouriou	Navigant	34%
Dave Reardon	HDR	2%
Tobias Wolf	HDR	3%
Ben Porter	HDR	6%
Joel Engleson	HDR	13%
Anders Burvall	HDR	11%
Amy Omae	HDR	11%

3.1 Experience and Background of Navigant Staff

Craig McDonald is a Managing Director with Navigant. Mr. McDonald will be the Project Director. Mr. McDonald will be responsible for project strategies and will review and approve all reports developed for this project. Mr. McDonald has more than 30 years of experience with utilities, governmental agencies and corporations in developing, implementing, and evaluating Clean Energy and Water Efficiency strategies, policies and programs. His expertise includes strategy, finance, public policy, business venturing, technology management, resource planning, asset management, and regulatory analysis. He has worked with more than 50 utilities on developing their energy efficiency, distributed generation programs. Mr. McDonald has worked with more than a dozen water utilities on water efficiency programs and distributed generation projects. He led the original studies with the California Energy Commission to analyze the water-energy nexus, and directed subsequent studies on embedded energy for the CPUC. He is currently directing the CPUC water-energy cost-effectiveness study. Mr. McDonald has testified on utility planning, rates, and market issues in more than 12 states and 2 Canadian provinces.

Amul Sathe is an Associate Director in the Energy Practice in Navigant’s San Francisco, California office. Mr. Sathe will be the Project Manager and lead the development of the Embedded Energy Plan. Mr. Sathe will be the primary contact for IRWD on all time and management issues and will also coordinate

with all team members to ensure successful completion of project deliverables on time and on budget. Mr. Sathe will ensure the project is running smoothly and that resources are allocated to allow for the successful completion of all tasks. Mr. Sathe served as principal investigator for two embedded energy in water studies funded by the California Public Utilities Commission in 2010. Mr. Sathe has also conducted due diligence and market studies for small hydropower technologies, case studies on energy management best practices for water agencies, research for on-site recycled water generation, and case studies on water-efficient landscape design. He is currently leading the CPUC's Water-Energy Cost Effectiveness Analysis project team which will enable regulators and utilities to assess the cost effectiveness of water conservation programs. Through these projects, Mr. Sathe has developed a strong insight into water operations and their energy requirements as well as the embedded energy in water at both the wholesale and retail level. He has served as a subject matter expert to the California Department of Water Resources regarding the energy intensity of water supplies. He has demonstrated strong analytical modeling skills by developing models for energy efficiency potential studies and energy use of wholesale and retail water systems. Mr. Sathe holds a B.S.E. in Mechanical Engineering from the University of Michigan and an M.S. in Mechanical Engineering from Stanford University.

Kristin Landry is a Senior Consultant with the Navigant Energy Practice in San Francisco. She brings experience in energy efficiency, water-energy, and renewables. Ms. Landry is currently building a tool to determine the avoided costs of embedded energy in water for the CPUC's Water-Energy Cost Effectiveness Analysis. She will review similar existing calculators and will develop a user friendly spreadsheet calculator that can be used by any energy and water utilities in the state. Her communication skills have helped representatives at utilities, water agencies, and local governments understand complex concepts in the realms of, the water-energy nexus, cap-and-trade, and financial enablement of municipal energy efficiency projects. She has also worked for a building commissioning agent focusing on specialized facilities, such as hospitals, research laboratories, and museums. Ms. Landry holds a B.S. in Mechanical Engineering with Certificate in Engineering Design from Northwestern University and an M.S. in Environmental Engineering with a specialization in Atmosphere/Energy from Stanford University.

Eric Shum is a Senior Consultant for the Energy practice in Walnut Creek, CA. He has substantive experience in performing complex conventional and emerging technologies technical evaluations, cost valuation research, survey design and administration, field measurement and verification, market characterization and assessment, codes and standards impact analysis, and big data interpretation and manipulation. In addition, Mr. Shum has been heavily engaged in developing data inputs for the residential, commercial, industrial, and agricultural sectors both at the measure and sector end-use levels for potential modeling projects nationally. Mr. Shum received his B.S. in Mechanical Engineering and B.S. in Materials Science from the University of California, Irvine.

David Bluestein is a Senior Consultant with Navigant and formerly an Analyst with Summit Blue Consulting. His areas of expertise include market and data analysis of electrical, gas, and water technologies for the Residential, Commercial, Industrial, and Agricultural sectors as they pertain to energy efficiency baseline and potential studies. He is also well versed in running Navigant's Energy Efficiency Resource Assessment Model (EERAM) and understanding the potential energy, gas, and

water savings that result from conducting a potential study. He has participated in multiple energy efficiency potential studies and energy baseline studies.

Jack Cullen is a Consultant at Navigant. Mr. Cullen has been with Navigant for 3 years and provided essential help with potential studies modeling, baseline studies, and impact evaluations while continually learning the ins and outs of the energy field. His areas of work with Navigant include data research and evaluation; energy efficiency potential forecast modeling; potential studies reports and analysis; measure input characterizations; and quality control. Mr. Cullen has worked on a number of energy efficiency potential studies in his time at Navigant, including projects for: The California Public Utilities Commission (CPUC 2011-2014), Energy Trust of Oregon (2013-2014), Nova Scotia Power Inc. (2012 and 2013), the Southern Minnesota Municipal Power Association (SMMPA 2012 and 2013), and all of the Municipal Utilities in California (2012). Additionally, Mr. Cullen is currently working on the Commercial Building Stock Assessment (CBSA) for the Northwest Energy Efficiency Agency (NEEA), one of the largest baseline studies conducted by Navigant.

Peter Mercouriou is a Consultant in the Energy Efficiency/DSM Practice at Navigant's Vancouver, Washington office. His experience spans the residential, commercial, industrial sectors, and he has worked on a number of impact analyses, baseline studies, market characterizations, and specializes in in-depth interviews. Mr. Mercouriou has an extensive background in natural resource sciences and research, as well as local government policy and business development. Mr. Mercouriou holds a Master of Environment in Policy, Governance, Communication, and Waste Management, and a Bachelor of Natural Resource Management from the University of Melbourne, Australia.

3.2 Experience and Background of HDR Staff

David Reardon, PE, BCEE, ENV SP, is a Senior Vice President and process engineer with more than 41 years of consulting and engineering experience. He offers extensive experience in the area of facility optimization and energy conservation for water, wastewater, and industrial facilities nationwide, and is considered one of the leading experts in the industry in terms of lower energy, demand, and chemical usage. He has been involved in over 130 energy optimization projects for water and wastewater facilities/systems. His past work includes providing the following services for water and wastewater utilities: developing energy management plans, overseeing energy audits, overseeing energy conservation studies, preparing strategic energy plans and preparing sustainability plans. He is registered as a professional engineer in California.

Benjamin Porter, PE, is a Project Manager with over 12 years of experience in water and wastewater engineering and project management. He has worked with Irvine Ranch Water District on a variety of projects over the past eight years that have engendered a big picture understanding of IRWD's operations, policies, goals, objectives, and decision-making procedures. At the same time, he has been given the opportunity to delve into the details of the District through design projects, management plans, and optimization studies. Mr. Porter is passionate about the interplay between water, wastewater, and energy. His past experience working with IRWD includes the following studies and analyses: Recycled Water Salt Management Plan, Biosolids/Energy Management Plan, Michelson Water Reclamation Plant Phase 2 Expansion, Michelson Water Reclamation Plant (MWRP) Biosolids

Alternatives and Financial Analysis, Cienega Selenium Treatment Facility, Los Alisos Water Reclamation Plant 2005 Construction Upgrades.

Tobias Wolf is a GIS Specialist with over 19 years of experience managing the design and development of GIS data and applications for the analysis of engineering and environmental information. He has managed all aspects of GIS services including; geodatabase design, mobile data collection, customized GIS applications, GIS-enabled web sites, data integration, data conversion, QA/QC, spatial analysis, modeling, and map production. Mr. Wolf has gained extensive knowledge and experience in the use and customization of the suite of ESRI GIS software products and has worked on a variety of large and complex GIS projects in southern California involving multiple engineering/environmental disciplines and both public and private agencies. Mr. Wolf has earned his Engineering in Training Certificate and also holds an MBA with a concentration in Management Information Systems. Mr. Wolf's extensive knowledge of GIS, engineering project experience, and business degree position him to understand the business issues of project management and the technical issues of GIS project development. His past experience working with IRWD includes the Michelson Water Reclamation Plant Phase 2 Expansion.

Amy Omae, PE, LEED AP, is a Project Engineering with seven years of professional experience as a civil engineer in the areas of water and wastewater engineering and three years of experience as a research assistant. She has been involved with design of water and wastewater treatment plant processes, preparing pipeline profiles and layouts, mechanical pumping systems, writing client reports, pilot testing and research, alternative technology evaluations, mass balance and financial model development, sample collection, data analysis for technically based local limits, quality assurance activities, and field engineering services during construction. Ms. Omae's project experience has included coordination with Irvine Ranch Water District, Orange County Water District, Orange County Sanitation District, other utility agencies, subconsultants, and private vendors. Her past experience working with IRWD includes the following studies and analyses: Recycled Water Salt Management Plan, Biosolids/Energy Management Plan, Michelson Water Reclamation Plant Phase 2 Expansion, and the Cienega Selenium Treatment Facility.

Joel Engleson is a Project Engineer Modeler with more than 10 years' experience in numerical and computational modeling at the graduate school level. He has also been involved in water and wastewater systems computer modeling. In pursuit of his Ph.D. at the University of South Florida, Joel is currently developing a groundwater contaminant fate-and-transport model considering endocrine disrupting compounds and pharmaceutically active compounds. He has served in various capacities of staff engineer, project engineer on a number of hydraulic evaluation and transient analysis projects. His past experience working with IRWD includes the following studies and analyses: Recycled Water Salt Management Plan and the Zone A Hydraulic Model.

Anders Burvall is a Senior Geographic Information Systems (GIS) Analyst. He has worked with GIS professionally and in an academic research environment for over 8 years. During this time Mr. Burvall has been the lead GIS professional (Data management, Analysis, Mapping) for many large scale projects encompassing a wide array of disciplines including Transmission line, Energy, Environmental, Biological, Transportation, Solid Waste, Waste Water and Hydrology. Mr. Burvall's GIS expertise includes Data management, Database Design, Model Builder applications, advanced spatial analysis,



cartography, Web mapping, and GPS data field collection. Mr. Burvall is proficient in a number of software applications, primarily the ESRI GIS program suite, Adobe Illustrator, ERDAS Imagine and ENVI image processing software. Mr. Burvall performed Spatial Analysis, data management, and cartography to better understand the contributing sources of salt in Irvine Ranch Water District's (IRWD) recycled water product.

4. Schedule

The Navigant team understands this project is of high priority as it will feed into decisions regarding partnerships with energy utilities and potential funding from energy utilities. To that end, the Navigant team has designed an efficient timeline (and identified several tasks that can be conducted concurrently) to produce results prior to the end of 2014. The Navigant team’s proposed project timeline is presented in Figure 13.

Figure 13: Proposed Project Schedule

	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Kickoff Meeting	■							
Task 1	■ ▲				■			■
Task 2		■	▲					
Task 3			■	■	▲			
Task 4			■	■	▲			
Task 5		■	▲					
Task 6			■	■	■	▲		
Task 7						■	▲	
Task 8						■	▲	
Task 9						■	▲	
Task 10						■	▲	
Task 11							■	▲

■	Workshop
■	Key Meeting
▲	Deliverable

Key meetings include:

- The in-person project kickoff meeting
- A meeting to discuss scenario design from Task 3
- A meeting during Task 9 to discuss existing pump surcharge calculations and options for different groupings
- Additional key meetings can be established as needed through discussions with IRWD at the kickoff meeting

Two in-person workshops will be held during the conduct of this study. The Navigant team proposes the following and will discuss alternatives with IRWD staff:

- The first workshop will be held after Task 3 and 4 is completed in early September to share the results of Tasks 1-5. This marks a half-way point through the timeline and an opportunity to share future projections from Task 3 as well as GIS analysis in Task 4.

- The second workshop will be held after Task 10 is completed in early December. The focus will be to demonstrate use of the Embedded Energy Management Tool developed in Task 7 and scopes of work for data collection developed in Task 10.

Table 5 provides a summary and schedule of our deliverables.

Table 5: Summary of Deliverables and Schedule

Task	Deliverable	Date
1	Kickoff meeting agenda and facilitation slide deck	2 days prior to kickoff meeting
1	Two, four hour workshops to be conducted at IRWD's office on project related topics.	Early September and Early December
1	Monthly invoicing, progress reports, progress meetings and meeting notes	Monthly
1	A memorandum that summarizes data collection and recommended approach to estimate data gaps.	End of May
2	A memorandum that clearly describes the source data, technical approach and annual embedded energy estimates of all historic years studied in Task 2.	Mid July
3	A memorandum that clearly describes the source data, technical approach and future embedded energy and total energy use for all scenarios in Task 3.	End of August
4	A memorandum that clearly describes the source data, technical approach and results of this task as well as a geodatabase of results.	End of August
5	A memorandum that clearly describes the source data and results of Task 5 including tables indicating future demand coefficients for different hydrologic conditions.	Mid July
6	GIS coverage using 2013 data for the energy intensity and embedded energy associated with each facility group and each region as well as a technical memorandum that clearly describes the source data, technical approach, and results.	End of September
7	A memorandum that clearly describes the source data, technical approach and results of this task as well as a GIS application built with Esri Model Builder	End of October
8	A memorandum that clearly describes the source data, technical approach, and energy savings associated with IRWD's water conservation program.	End of October
9	A memorandum that describes each alternative and recommends an approach to develop a pumping surcharge estimate for the District.	End of October
10	Two scopes of work describing the activities required to update existing data and collect new data to inform future updates of the Embedded Energy Plan	Mid November
11	Electronic copy of Draft Final Report for IRWD Staff Review	End of November
11	Five hard copies and one digital copy of the final report.	Mid December

The Navigant team's project manager will actively monitor the timeline and share status updates with the IRWD project manager on a regular basis. As previously discussed, Navigant's approach to managing project timeline includes:

- Holding bi-weekly status updates via teleconference and/or online conferencing with clients, including identification of key issues and progress against the schedule. Agendas for these meetings will be provided to client the day before each meeting, along with an updated project “tracker”.
- Maintaining an “Action Item” list tracking all issues to ensure each issue is addressed in a timely manner.
- Providing an outline of deliverables to the client before deliverables are developed. These valuable touch points align expectations and remove the risk of delays in reviewing work products.

5. Budget

The Navigant team proposes a budget of **\$282,140** for this effort.

Table 6 lists Navigant staff billing rates by title; Table 7 lists HDR staff billing rates by staff member. The bill rates for Navigant staff are the same as those negotiated with the Los Angeles Department of Water and Power for several recent studies. The billing rates used by HDR are consistent with recent work HDR has conducted with IRWD. Table 8 contains the Navigant team’s proposed budget for this effort by task. The Navigant team is willing to discuss the scope and make budget adjustments as necessary based on IRWD feedback.

Table 6: Navigant Bill Rate Summary

Title	Rate
Managing Director	\$305
Director	\$255
Associate Director	\$210
Managing Consultant	\$195
Senior Consultant	\$160
Consultant	\$140
Analyst	\$115
Intern/Admin	\$95

Table 7: HDR Bill Rate Summary

Staff Name	Rate
Dave Reardon	\$290
Tobias Wolf	\$215
Ben Porter	\$170
Joel Engleson	\$125
Anders Burvall	\$125
Amy Omae	\$135



Table 8: Navigant Team Proposed Budget

Staff Member	Firm	Title/Role	Rate	Hours											Total	Percent of Staff Time*
				Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10	Task 11		
Craig McDonald	Navigant	Managing Director	\$305	8	2	2	2	2	8	8	2	2	8	4	48	4%
Amul Sathe	Navigant	Project Manager	\$210	50	20	20	15	10	40	15	10	15	20	15	230	19%
Kristin Landry	Navigant	Senior Consultant	\$160	20	70	50	20	15	110	35	25	30	60	20	455	38%
David Bluestein	Navigant															
Eric Shum	Navigant															
Jack Cullen	Navigant	Consultant	\$140		80	60		30	200		10	10		25	415	34%
Peter Mercouriou	Navigant															
Dave Reardon	HDR	Senior Vice President	\$290	4		2	2		8	2		2	2	2	24	2%
Tobias Wolf	HDR	GIS Specialist	\$215	4			20			10			2		36	3%
Ben Porter	HDR	Subconsultant Project Manager	\$170	12	5	5	10	4	15	5	2	4	5	10	77	6%
Joel Engleson	HDR	Project Engineer Modeler	\$125		35	35	10	15	40	10	4	5	5	2	161	13%
Anders Burvall	HDR	Senior GIS Analyst	\$125				70		10	50			2	2	134	11%
Amy Omae	HDR	Project Engineer	\$135		30	30	10		40	10	4		5	2	131	11%
Total Hours				98	242	204	159	76	471	145	57	68	109	82	1,711	
Total Fees				\$20,200	\$36,485	\$31,065	\$24,890	\$11,865	\$72,960	\$23,620	\$9,490	\$11,845	\$19,650	\$14,120	\$276,190	
Expenses				\$2,000		\$750			\$750	\$750				\$1,700	\$5,950	
Total Budget				\$22,200	\$36,485	\$31,815	\$24,890	\$11,865	\$73,710	\$24,370	\$9,490	\$11,845	\$19,650	\$15,820	\$282,140	

* The percentage is calculated as an average value over the duration of the study from start to completion. Navigant will dedicate the equivalent of 38% of a Senior Consultant's time (spread amongst three staff members) and 34% of a Consultant's time (spread amongst two staff members) to this project.

6. Joint Venture

Navigant Consulting, Inc. (Navigant) and HDR Engineering Inc. (HDR) are jointly submitting this proposal to IRWD. Navigant will serve as the prime contractor to IRWD with HDR serving as a subcontractor to Navigant.

The Navigant project manager will direct and oversee the work of HDR staff during the conduct of this study. Through this arrangement HDR staff will still interact with IRWD staff during key meetings, data collection, staff interviews, and presentation of results. HDR staff will serve as the local, “on-the-ground” portion of the Navigant team (though key Navigant staff will attend key meetings and events in person during the conduct of this study).

HDR will provide invoices to Navigant for work conducted. Navigant will in turn provide a single invoice for all Navigant team services to IRWD on a monthly basis.

7. Conflict of Interest

Based on the names of the parties provided by IRWD, the Consultant is not aware of any circumstances that constitute a conflict of interest or that would otherwise impair its ability to provide the Work to IRWD. IRWD acknowledges that the Consultant provides a wide range of consulting services to numerous clients. In matters unrelated to the Work performed hereunder, some of these clients may now or in the future have legal or economic interests that may be adverse to IRWD's interests. As independent consultants and experts, the Consultant's determination of whether a conflict of interest exists is based primarily on the confidential information that it obtains or develops in the course of its engagements, rather than being based solely on the parties involved. IRWD agrees that the provision of Work hereunder will not preclude the Consultant from working for other clients on unrelated matters that are, or may be adverse to IRWD, provided that the Consultant does not make use of any of IRWD's confidential information that it may have received or had access to under this engagement."

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

EXHIBIT "C"

Project Name: EMBEDDED ENERGY PLAN
 EPMS Project No: 30499 EA No: 1
 Oracle Project No: 5344
 Project Manager: WEGHORST, PAUL
 Project Engineer: BENNETT, RAY
 Request Date: April 8, 2014

ID Split: Regional Reclaimed Water Split with LAWD (11/08)
Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
211	2.1	CAPITAL FUND
212	13.2	BONDS YET TO BE SOLD**
213	4.8	BONDS YET TO BE SOLD**
215	.7	CAPITAL FUND
221	13.2	BONDS YET TO BE SOLD**
230	9.6	BONDS YET TO BE SOLD**
235	7.9	PREVIOUSLY SOLD BONDS
240	7.7	BONDS YET TO BE SOLD**
250	31.7	BONDS YET TO BE SOLD**
261	9.1	BONDS YET TO BE SOLD**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$180,000
Total EA Requests:	\$180,000
Previously Approved Budget:	\$0
Budget Adjustment Requested this EA:	\$180,000
Updated Budget:	\$180,000
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	20,000	0	20,000	20,000	0	20,000	5/14	6/15
ENGINEERING - PLANNING OUTSIDE	141,100	0	141,100	141,100	0	141,100	5/14	6/15
LEGAL	2,500	0	2,500	2,500	0	2,500	5/14	6/15
Contingency - 10.00% Subtotal	\$16,400	\$0	\$16,400	\$16,400	\$0	\$16,400		
Subtotal (Direct Costs)	\$180,000	\$0	\$180,000	\$180,000	\$0	\$180,000		
Estimated G/A - 170.00% of direct labor*	\$34,000	\$0	\$34,000	\$34,000	\$0	\$34,000		
Total	\$214,000	\$0	\$214,000	\$214,000	\$0	\$214,000		
Direct Labor	\$20,000	\$0	\$20,000	\$20,000	\$0	\$20,000		

*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 \$219,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. It is the official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: EMBEDDED ENERGY PLAN
EPMS Project No: 11792 EA No: 1
Oracle Project No: 5343
Project Manager: WEGHORST, PAUL
Project Engineer: BENNETT, RAY
Request Date: April 8, 2014

ID Split: Regional Water Split with LAWD (11/08)

Improvement District (ID) Allocations

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%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$180,000
Total EA Requests:	\$180,000
Previously Approved Budget:	\$0
Budget Adjustment Requested this EA:	\$180,000
Updated Budget:	\$180,000
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	Fin
ENGINEERING - PLANNING IRWD	20,000	0	20,000	20,000	0	20,000	5/14	6/1
ENGINEERING - PLANNING OUTSIDE	141,100	0	141,100	141,100	0	141,100	5/14	6/1
LEGAL	2,500	0	2,500	2,500	0	2,500	5/14	6/1
Contingency - 10.00% Subtotal	\$16,400	\$0	\$16,400	\$16,400	\$0	\$16,400		
Subtotal (Direct Costs)	\$180,000	\$0	\$180,000	\$180,000	\$0	\$180,000		
Estimated G/A - 170.00% of direct labor*	\$34,000	\$0	\$34,000	\$34,000	\$0	\$34,000		
Total	\$214,000	\$0	\$214,000	\$214,000	\$0	\$214,000		
Direct Labor	\$20,000	\$0	\$20,000	\$20,000	\$0	\$20,000		

*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 \$219,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. The official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

April 28, 2014

Prepared by: K. Drake / T. Mossbarger

Submitted by: P. Shields / C. Clary

Approved by: Paul Cook



ACTION CALENDAR

ENTERPRISE ASSET MANAGEMENT SOFTWARE CONTRACT AWARD FOR PRE-IMPLEMENTATION ASSISTANCE AND EXPENDITURE AUTHORIZATION

SUMMARY:

The Enterprise Asset Management (EAM) Software Review, completed in February 2014, provided the District with a roadmap for implementing a program to better manage its operational assets. The roadmap outlines a systematic approach for implementing an Enterprise Asset Management System (EAMS) and addresses activities that need to occur in a logical, multi-phased approach.

Implementation of an EAMS will improve the District's ability to manage its operational assets from acquisition to retirement, providing tools for preventive and predictive maintenance, financial analysis, and reporting. Over the past 18 months, EMA, Inc. has assisted the District with developing an EAM strategy, software requirements, software review, and implementation roadmap. The next step toward implementation of an EAMS is to begin pre-implementation activities outlined in the implementation roadmap.

Staff recommends that the Board approve two Expenditure Authorizations, for a total of \$957,800, and authorize the General Manager to execute a Professional Services Agreement with EMA, Inc. in the amount of \$638,000 for assistance with Enterprise Asset Management Pre-implementation Activities.

BACKGROUND:

In July 2010, the Board approved a Professional Services Agreement with Pacific Technologies, Inc. to develop an Applications Strategic Plan with an emphasis on Utility Billing, Asset Management, Customer Relationship Management, and Budgeting and Planning. The completed Application Strategic Plan determined that a new EAM system to replace the District's existing TABWARE system (implemented over 15 years ago) is a high priority for the District. While certain components of the TABWARE system have been utilized (tracking preventive maintenance activities, for example), TABWARE's limited capabilities did not allow staff to implement an effective asset management system.

In September 2011 the Board approved a Professional Services Agreement with EMA, Inc. to develop an enterprise asset strategy and assist with an EAMS software review. EMA, Inc. worked with staff to develop the enterprise asset management strategy as shown in Exhibit "A", develop the EAMS software requirements, assist with the EAMS software review, and deliver an EAMS software implementation roadmap, as shown in Exhibit "B".

Pre-Implementation Activities:

The implementation road map outlines pre-implementation activities. EMA, Inc. has provided a statement of work as shown in Exhibit “C”, to assist the District with the following activities:

- Asset Management Strategic Planning;
- EAMS Enterprise Standards;
- Asset Data Definition;
- Asset Data Collection;
- Develop Business Processes;
- Develop Staffing Analysis;
- Develop Performance Measures; and
- EAMS Implementation Services RFP Support.

Several tasks listed in the statement of work will be completed by staff with oversight by EMA, Inc. Those tasks that require resources with specialized expertise will be performed by EMA, Inc.

One of the key activities to be performed by staff is collection of the current asset data which is not in a current state that allows for easy conversion to a new system. EMA, Inc. will provide a software tool that allows staff to conduct efficient and accurate asset data collection and enable an easier conversion to a new system.

Pre-Implementation Consultant Selection:

Staff has evaluated the work required for the pre-implementation activities identified in the implementation roadmap and the need for support from individuals who are familiar with the District’s requirements for the EAMS implementation. Additionally, experience with asset management strategic planning, EAMS enterprise standards, assets data definition and collection, development of business processes, performance measures, and assistance with procurement of implementation services for the EAMS is necessary to ensure that the project continues on schedule.

Staff recommends that a professional services agreement, in the amount of \$638,000 be executed with EMA, Inc. to provide the EAMS pre-implementation services. During the EAM strategy and software review project, EMA, Inc. demonstrated its ability to lead the development of the EAM strategy and provide a structured software review process. EAM’s experience is reflected in the content and quality of the Asset Management Strategy Report and EAMS Implementation Roadmap deliverables. EMA, Inc. will provide consultants who are familiar with the District’s current assets structure, EAMS requirements, and the experience necessary to provide assistance with the pre-implementation activities. Based on EMA’s qualifications and unique knowledge of the District’s asset management needs, staff is recommending EMA, Inc. on a sole-source basis.

FISCAL IMPACTS:

The EAM pre-implementation activities, including internal staff direct labor, will be funded from projects approved in the FY 2013-14 Capital Budget as summarized in the table below:

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
11619/3566	\$2,432,100	\$0	\$2,432,100	\$125,000	\$478,900	\$603,900
21619/3567	\$2,432,100	\$0	\$2,432,100	\$125,000	\$478,900	\$603,900
Total	\$4,864,200	\$0	\$4,864,200	\$250,000	\$957,800	\$1,207,800

ENVIRONMENTAL COMPLIANCE:

This activity is not subject to the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15060 (c)(1) Preliminary Review. An activity is not subject to CEQA if the activity will not result in a direct reasonably foreseeable indirect physical change to the environment.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on April 15, 2014.

RECOMMENDATION:

THAT THE BOARD APPROVE TWO EXPENDITURE AUTHORIZATIONS IN THE TOTAL AMOUNT OF \$957,800 FOR PROJECTS 11619 (3566) AND 21619 (3567), AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH EMA, INC. IN THE AMOUNT OF \$638,000 FOR THE ENTERPRISE ASSET MANAGEMENT PRE-IMPLEMENTATION ACTIVITIES PROJECT.

LIST OF EXHIBITS:

- Exhibit "A" – EAM Strategy Report
- Exhibit "B" – IRWD EAMS Implementation Roadmap and Gap Analysis
- Exhibit "C" – EMA's Scope of Work and Fee Proposal
- Exhibit "D" – Expenditure Authorizations



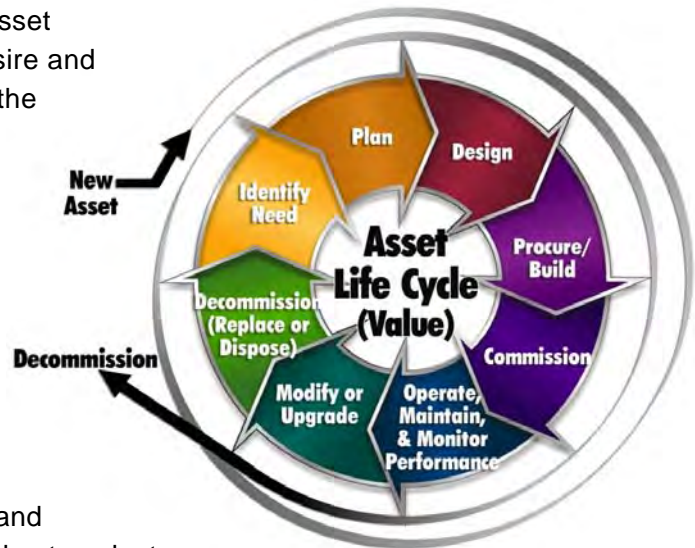
Irvine Ranch Water District Asset Management Strategy Report



1.0 INTRODUCTION

Irvine Ranch Water District (IRWD) management recognizes that while they currently implement elements of an asset management program to some extents, they desire and intend to further develop, formalize, and evolve the program to develop a higher level of asset management maturity.

In this respect, they acknowledge that asset management should be applied holistically and consider all asset lifecycle phases, in order to understand and better manage all aspects of their assets. They also recognize that key considerations of an effective program include strategies for knowing asset operational criticality, capturing whole life ownership costs, and applying reliability centered maintenance principles to select appropriate condition monitoring and maintenance tactics.



The purpose of this report is to present initiatives that will assist IRWD in developing a program to implement a holistic asset management strategy, and to identify opportunities for ongoing improvement in asset reliability and long term asset management.

The initiatives identified in this report were developed based on direct input from IRWD staff in the Wastewater Operations, Water Operations, Water Quality, Engineering, and Finance departments.

2.0 DEVELOPMENT APPROACH

To obtain IRWD inputs, discovery interviews were conducted with various persons in the five departments, using a qualitative assessment tool developed by EMA to facilitate the interviews. The tool provides an assessment of an organization’s maturity or capabilities relative to implementing leading industry practices for asset and maintenance management. It is structured to present ninety-two statements about implementing leading practices, to which single responses in the form of degrees of disagreement or agreement with the statements are selected.

Example Statement: The organization’s most critical assets are clearly identified.

Example Response: Somewhat Agree

The leading practices statements are organized under thirteen categories and the response results are compiled to develop composite implementation rankings/scores at the category level. The resulting rankings/scores are based on the following scale:

1 = Strongly Disagree
2 = Disagree
3 = Somewhat Disagree

4 = Somewhat Agree
5 = Agree
6 = Strongly Agree

The assessment tool was fully implemented with the Wastewater and Water Operations and Water Quality departments, but used only as a guide to solicit input from Engineering and Finance. The assessment results were reviewed with the Wastewater and Water Operations and Water Quality departments to validate scorings, and facilitate discussions of overall strengths and weaknesses in their asset and maintenance management program activities. These discussions resulted in jointly identifying improvement initiatives/strategies identified in this report.

3.0 ASSET MANAGEMENT STRATEGY INITIATIVES

Descriptions of the thirteen assessment tool categories and the ranking/scores for IRWD are presented below. These categories were used to present an overview of the assessment results, which also provides a frame of reference for improvement initiatives that were identified through review with IRWD staff. Proposed initiatives are itemized under each category as applicable, and represent items that action can be taken on immediately.

In addition, it was recognized that other opportunities for improvement exist, but are directly related to functional limitations of the existing work management tools or lack of their use. However, based on the assumption that a new enterprise asset management system (EAMS) will be acquired, improvement initiatives were not identified, since these opportunities can be addressed through the EAMS implementation. Consequently, EAMS implementation notes are also identified under various categories to identify these opportunities as applicable.

Regarding the assessment results scoring, the baseline for a mature asset and maintenance management program is a score of 4.5. While a score of 6.0 would appear ideal, 4.5 equates to 75% and is considered acceptable, since the benefit of achieving next increments of improvement may be impractical and far outweighed by the effort necessary to achieve them. (Note: the assessment was applied to Wastewater and Water Operations separately, but rankings/scores have been averaged for purposes of this report.)

3.1 Overall Maintenance Strategy (Score 4.2)

Description: Practices statements relate to senior management involvement in setting and communicating an overriding maintenance strategy to affected stakeholders, using the strategy to improve the maintenance program, and monitoring performance against the strategy.

Evaluation: Senior management has some degree of a maintenance strategy, but it is not applied uniformly across the organization and it is management institutional knowledge rather than being documented for consistent application and communication. In addition, measures are not

clearly defined, and tools and reports that provide a means to evaluate strategy effectiveness are lacking.

Proposed Initiatives:

1.1 Develop Maintenance Strategy: Developing a common maintenance strategy and set of guidelines will improve capabilities to effectively manage assets IRWD-wide. Documenting the strategy and guidelines can improve communication to stakeholders and establish a baseline for periodic evaluations. The strategy should include clear measurable goals linked to key business and operating requirements.

EAMS Implementation Note: To support monitoring performance against the maintenance strategy, a performance measures dashboard tool should be developed as part of or in parallel and in conjunction with implementing the new EAMS.

3.2 Maintenance Tactic Selection (Score 2.8)

Description: Practices statements relate to identifying and tracking critical assets, methods for selecting asset specific maintenance tactics (e.g. predictive maintenance vs. run-to-failure), and using maintenance history to adjust/modify selected tactics.

Evaluation: No formal asset criticality rating protocols exist and criticality judgments are based on management knowledge. In addition, the information is not recorded for reference, or application in decision making. Maintenance tactics are generally selected based on staff experience or manufacturer recommendations. However, a failure modes and effects analysis methodology has been applied to bio-solids assets and is captured in a notebook. Conducting failure analysis to evaluate and adjust maintenance tactics is done to a limited ad hoc extent.

Proposed Initiatives:

2.1 Develop and Apply Criticality Rating System: While asset criticality is not the only piece of information that should be determined and captured for all assets, it is one of the most important data elements. Asset criticality should essentially be used to drive all decisions regarding how to manage and maintain all assets. A common rating system considering safety, environmental, and operational consequences of failure, should be developed and applied to all assets. Ideally the ratings should be captured in the new EAMS.

2.2 Apply Analysis Method to Determine Maintenance Tactics: Given that IRWD has experience using a failure modes and effects analysis methodology, this methodology should be applied to all assets of a certain criticality rating or higher to aid in determining the most appropriate maintenance tactics for those assets. Determining plausible modes of asset failure, and using that data to determine maintenance tactics is a basic element of implementing reliability centered maintenance. Select staff should be trained on how to conduct an analysis, and analysis results should be documented for reference.

2.3 Develop Failure Analysis Protocols: Guidelines should be established to define the conditions for what assets are subjected failure analysis (e.g. based on asset criticality),

when failure analysis is performed, and who is responsible for doing the analysis in order to determine what if any actions should be taken to prevent the failures from recurring (e.g. modify maintenance tactics, clarify maintenance tasks, staff training) .

Note: It was stated that a new staff position is being established (Superintendent of Maintenance and Reliability), and that this function will be performed by this person.

3.3 Information Technology Infrastructure (Score 5.6)

Description: Practices statements relate to managing and providing technical support for the IT tools & infrastructure used to support asset and maintenance management activities.

Evaluation: All statements under this category were unanimously scored 5 or 6 across the board. While some current IT tools/applications may be lacking in capability/functionality, there were no areas for improvement noted. The information technology appears to be well managed, and the staff is pleased with the level of IT support that is provided.

Proposed Initiatives: No strategy changes or initiatives are proposed at this time

EAMS Implementation Note: A dedicated system administrator will be required to manage the system and support user change requests. It was noted that the IT department is currently implementing an independent assessment of their support capabilities, and an element of this assessment should consider staffing needs to provide appropriate support services.

EAMS Implementation Note: If not already in place, provisions should be made for records management of digital files (e.g. manuals, photos) that will be created over time to supplement asset and work order records via electronic links to the EAMS records.

3.4 CMMS Access and Use (Score 4.5)

Description: Practices statements relate to user training, security profiles, and monitoring user access to ensure it is appropriate for their position and/or functional role(s).

Evaluation: All statements under this category were scored 5, except for the statement related to the existence of custom user training materials which scored 1.5. However, it was noted that not all business units or maintenance sections use a “CMMS/EAMS” tool per se, so the overall score for this category may be artificially elevated to some extent.

Proposed Initiatives: No strategy changes or initiatives are proposed at this time

EAMS Implementation Note: Assuming the new EAMS will be used common across IRWD, most if not all work current work management tools and spreadsheets should become obsolete. User roles and rights for the new EAMS should be clearly defined, and role based training materials should be developed and maintained to ensure uniform and consistently repeatable user training for new staff or persons that change user roles.

3.5 CMMS Data Quality (Score 2.9)

Description: Practices statements relate to protocols for data entry, standardization, ownership, and updating and/or correcting data.

Evaluation: While management clearly understands the implications of data quality, protocols generally are not defined or applied uniformly across departments. Data standardization is problematic, in part due to limitations of existing tools, and in part due to lack of defined standards/conventions. Timeliness of data entry to capture new asset records or update existing records is relatively weak, particularly related to on-boarding new assets. There are no interfaces between work management tools and the Oracle inventory system to support developing maintenance bill of materials. In addition, there are no interfaces with other information systems to support developing a common asset registry and sharing asset data.

Proposed Initiatives:

5.1 Develop Asset Identification Protocols: Conventions for asset numbering and naming should be developed to provide uniformity throughout all information systems, across asset related records (e.g. drawings), and on physical asset tagging. Considerations should be made for existing numbering (i.e. SCADA, drawings, physical tags), and whether to take the challenge of implementing a “smart” numbering scheme. Smart numbering generally is not recommended because it becomes a program that must be managed, and staff often cannot decipher the scheme without a code sheet. In addition, adequate asset descriptions can be meaningful and readily support common database queries.

5.2 Develop Asset Classification and Attribute Standards: Standards should be developed to identify what data elements are important to know for what types or classifications of assets. Some data elements should likely be collected for all assets, while other data elements will be specific to a given type/classification. These standards can also be made a standard part of contracts so that equipment suppliers and contractors that supply and/or install new assets are required to provide the necessary data.

5.3 Develop Common To-Be Business Processes: To-be business processes that define steps/actions and functional roles and responsibilities for implementing an EAMS and maintaining the data should be established. The data and quality of data captured across all business processes directly influences abilities to make adequately informed decisions. All EAMS users should be following common business processes, although it is recognized that there may be nuances to how each department implements a specific process.

EAMS Implementation Note: Multiple systems interfaces will be required to share appropriate data with the EAMS, including Oracle inventory, GIS, and possibly SCADA at some point. It is also assumed that the EAMS and GIS combined will form the common asset registry.

3.6 Planning and Scheduling (Score 4.2)

Description: Practices statements relate to work planning, scheduling, assignment, and backlog management, and using a CMMS/EAMS to perform those functions.

Evaluation: Management recognizes that work planning, scheduling, and assignment are distinct functional roles, although the roles may be filled by the same person and not treated as structured off-line activities. Consequently, planning in particular is performed somewhat ad hoc, and the planning module in Tabware is not used. Materials cannot be planned or cost allocated at the work order level due to a lack of Oracle inventory interface. Job plans are used for program driven work (e.g. preventive maintenance), but most are developed in free form text. Backlog management is based on number of work orders for the most part.

Proposed Initiatives:

6.1 Conduct Staffing Needs Analysis: Planning and scheduling is by nature an off-line function typically performed by persons not directly involved in the day-to-day fray of emerging activities. As such, they can be dedicated to fully planning and scheduling work on behalf of supervisors that are better utilized managing crews and evolving issues to ensure work is completed. A staffing needs analysis should be conducted to determine how functional roles and responsibilities identified in the to-be business processes, particularly for planning and scheduling, will be filled and performed in the future.

3.7 Material Management (Score 3.6)

Description: Practices statements relate to the planning, acquisition, and control, of maintenance, repair & overhaul parts/material inventories, and using a CMMS/EAMS to perform those functions.

Evaluation: The scoring under this category is somewhat artificially inflated due to the fact that there are several collections of satellite inventories not managed through Oracle inventory, and scoring was developed based primarily on only that inventory that is. The warehouse is not large enough to accommodate all the items in stashes, but an expansion project was underway at the time. Much of the inventory in stashes was acquired via projects, although current stocking policies also contribute to developing stashes. End use accountability for inventory items is generally unknown, because there is no Oracle interface with any work management system. Inventory carrying costs and the fees charged to the business units is a bit of a sore spot.

Proposed Initiatives:

7.1 Business Needs Discussion with Warehouse: Issues between the warehouse and maintenance are often a result of the lack of communication; anecdotal evidence indicates this may be true for IRWD as well. Effective inventory management requires a partnership, and key to that partnership is clear communication of the needs for what and how much material should be stored in inventory. Likewise, there are responsibilities to advise the warehouse when items in stock are no longer needed and should be disposed of. While

there is no indication that inventory in stashes is disappearing, there is no evidence it is being properly controlled. A meeting or meetings should be held to determine an appropriate means to provide accountability for what is in stashes, and to potentially eliminate future needs to develop stashes. Finance should also participate in the meetings to aid in resolving cost accounting issues related to stashes, and clarify how carrying costs and inventory surcharges are passed on to end user departments.

3.8 Condition Based Maintenance (Score 4.3)

Description: Practices statements relate to protocols for collecting asset condition data, monitoring asset condition to trigger work activities in advance of asset failures, and using a CMMS/EAMS to manage those functions.

Evaluation: IRWD is relatively progressive in using oil analysis, vibration analysis, and thermography to support implementing condition based maintenance. However, there are no documented protocols for conducting condition assessments or guidelines defining what assets will be subject to condition monitoring. Some condition monitoring activities are performed by in-house staff, and some are contracted. Tabware does not support monitoring conditions in real time, and tools for tracking and trending condition are limited. However, it was noted that the SCADA system is capable of supporting condition monitoring in real time, and tracking and trending of condition monitoring results is provided via web-based programs including: Horizons for lubrication, the Watchman portal for vibration.

Proposed Initiatives:

8.1 Develop Condition Assessment Protocols: In addition to criticality, asset condition is another important data element to capture, as it helps to estimate remaining service life and supports renewal and replacement forecasting. Guidelines should be developed for how and how often asset condition assessments should be performed.

Note: Determining what assets will be subject to condition monitoring is an element of determining what maintenance tactics to apply to assets, and should be integral to Proposed Initiative 2.2 Apply Analysis Method to Determine Maintenance Tactics.

EAMS Implementation Note: Capabilities to use condition monitoring as a means to trigger maintenance activities should be inherent to the new EAMS functionality. The SCADA system is a classic tool used to provide data that supports condition monitoring (e.g. run times), and an interface to the EAMS at some point should be considered. In addition, the Network Fleet application has capabilities to provide similar data related to fleet assets, and could be a viable candidate for EAMS interface at some point.

3.9 Reliability Analysis (Score 2.6)

Description: Practices statements relate to protocols for codifying asset failures, tracking failures by asset within a CMMS/EAMS, and performing failure analysis to evaluate asset reliability.

Evaluation: Work orders for corrective maintenance are not codified, or codified with dedicated codes that support standardized failure reporting and analysis. With the exception of major failures or failures of critical equipment (based on management judgment), failure analysis is generally not performed as a standard protocol, and there has not been an organizational role chartered with performing this function.

Proposed Initiatives: No strategy changes or initiatives are proposed at this time

EAMS Implementation Note: Developing failure reporting codes should be an integral part of implementing the new EAMS, and requirements to utilize the codes should be incorporated into day-to-day business processes for completing all corrective maintenance work orders.

Note: It was stated that a new staff position is being established (Superintendent of Maintenance and Reliability), and that this function will be performed by this person.

3.10 CMMS History and Performance Measures (Score 4.1)

Description: Practices statements relate to tracking and trending maintenance activities, monitoring performance against pre-defined efficiency and effectiveness targets, and using a performance measures dashboard to communicate performance in near real time.

Evaluation: While management recognizes the importance of performance monitoring, does have established targets, and routinely evaluates performance, Tabware does not readily support tracking and reporting such that information is readily available and updated in near real time.

Proposed Initiatives: No strategy changes or initiatives are proposed at this time

EAMS Implementation Note: To support near real time performance monitoring, a performance measures dashboard tool should be developed as part of or in parallel and in conjunction with implementing the new EAMS.

3.11 Asset Management (Score 3.2)

Description: Practices statements relate to having a formal program with appropriate business unit involvement (e.g. engineering, finance, operations, maintenance), and using protocols common for all business units to justify and prioritize CIP projects.

Evaluation: While elements of an asset management program are being implemented to some extent and varying degrees, there is no documented program plan that cohesively pulls all program elements together and involves all appropriate departments. Service level agreements are not documented, but may not be needed. Common rules/guidelines are used to support capital project justifications, but Tabware does not readily support the capital management program.

Proposed Initiatives:

11.1 Develop Asset Management Program Plan: The overall asset management program structure needs to be defined and documented, and the plan should address typical elements of a program plan. In addition, the plan should identify what asset related data needs to be captured, and what information systems will be the data systems of record.

EAMS Implementation Note: The new EAMS should have configuration capabilities to accommodate most if not all of necessary asset attribution data to be collected.

3.12 Workforce Flexibility (Score 4.4)

Description: Practices statements relate to having a formal program to promote workforce flexibility and multi-skilling to become more cost effective, and using operators to perform light maintenance activities and condition monitoring.

Evaluation: Management readily supports skills cross training, and there is an informal program in place to support this. Program participation is not mandatory, but is strongly encouraged as a means to provide career advancement opportunities. There currently is no compensation component to the program, but it may not be needed. Standard operating procedures are developed as needed to help staff safely perform tasks outside of their core functions/skills. The operations staffing is perceived to be low as-is, and there is no indication that they all should or desire to perform light maintenance activities, although some currently do so. It should also be noted that as IRWD implements more advanced technologies for performing condition monitoring, some skills specialization may still be required.

Proposed Initiatives: No strategy changes or initiatives are proposed at this time

3.13 Education, Training and Skill Management (Score 3.4)

Description: Practices statements relate to providing and tracking staff training and skills development, promoting a culture of knowledge sharing, and developing a sustainable workforce.

Evaluation: Organizationally there is a culture of knowledge sharing, critical skills have been identified, and knowledge sharing is promoted through proactive succession planning, standard work orders in the CMMS, and/or SOPs that are being developed. However, standard work orders and/or SOPs have not yet been developed to capture all critical skills related knowledge. The training program is informally administered. The score under this category is artificially deflated because training hours other than safety training are not tracked in the CMMS or other tool, and staffs are not required to obtain a minimum number of training hours annually (excluding safety and contact training hours).

Proposed Initiatives:

13.1 Define Future Training Requirements: Training requirements should be defined in conjunction with developing the asset management program plan, and may need to become

more formally documented to ensure gaps related to critical skills are addressed. In addition, training in support of specific initiatives in this report will require time commitments, and may require the use of outside resources, both of which will need to be budgeted for accordingly. Training in support of the new EAMS implementation rollout and subsequent changes will be required over time. Training will also be required to implement more advanced technologies for performing condition monitoring.

4.0 SUMMARY OF STRATEGY INITIATIVES

The table below summarizes the strategy initiatives previously identified and further defined in Appendix A. As a means of setting priorities for implementing the initiatives, a scale of 1 to 5 was applied to rank a relative level of importance for each initiative; 1 = highest priority level, 5 = lowest priority level.

INITIATIVE	PRIORITY	TIMING
1.1 Develop Maintenance Strategy	1	To be determined
2.1 Develop and Apply Criticality Rating System	2	To be determined
2.2 Apply Analysis Method to Determine Maintenance Tactics	1 & 3	To be determined
2.3 Develop Failure Analysis Protocols	2	To be determined
5.1 Develop Asset Identification Protocols	3	To be determined
5.2 Develop Asset Classification and Attribute Standards	5	To be determined
5.3 Develop Common To-Be Business Processes	2	To be determined
6.1 Conduct Staffing Needs Analysis	3	To be determined
7.1 Business Needs Discussion with Warehouse	1	To be determined
8.1 Develop Condition Assessment Protocols	4	To be determined
11.1 Develop Asset Management Program Plan	1	To be determined
13.1 Define Future Training Requirements	5	To be determined

APPENDIX A – STRATEGY INITIATIVE PROFILES

INITIATIVE 1.1: Develop Maintenance Strategy	
<p>The purpose of this initiative is to improve IRWD's maintenance program, in order to increase the overall maintenance program efficiency and effectiveness.</p> <p>This initiative will guide all other initiatives to drive long term needs for continuous maintenance program improvement. In addition, this initiative will identify and/or validate the resource requirements to support the overall program.</p>	
PRIORITY: 1 (highest)	TIMING: To be determined
COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)	DURATION: 2 to 4 weeks
<p>TEAM MEMBERS (INTERNAL RESOURCES):</p> <p>The team assembled to implement this initiative should be staffed as follows:</p> <ul style="list-style-type: none"> • Superintendent of Maintenance and Reliability (to coordinate/manage) • X 	
<p>DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES):</p> <p>The team assembled for this initiative should also be supported by:</p> <ul style="list-style-type: none"> • X 	
<p>DESCRIPTION:</p> <p>The initiative team is chartered with developing and documenting a maintenance management strategy that will be applied common across all operations and maintenance units; they should:</p> <ol style="list-style-type: none"> A) Capture existing strategies currently not documented B) Evaluate and/or modify the strategies as needed to ensure consistency and uniformity C) Include clear measureable goals that are linked to business and operating requirements D) Develop a communication plan that explains the desires to better implement leading practices for asset management, in order to more effectively manage your assets and continually improve the efficiency and effectiveness of maintenance activities 	
<p>DEPENDENCIES:</p> <p>This initiative should be one of the first completed, as it will help guide the overall program direction</p>	
<p>SUSTAINABILITY NEEDS:</p> <ul style="list-style-type: none"> • This initiative should be supported by senior management, and the outcomes should be well communicated upon completion • The strategy should be periodically reviewed for re-validation, or when changes to regulatory requirements dictate a change to the strategy • Outcomes of this initiative should be captured in the asset management program plan that will be developed under Initiative 11.1 	

INITIATIVE 2.1: Develop and Apply Criticality Rating System

The purpose of this initiative is to provide a means to determine individual asset levels of importance to the organization, using a process that provides consistent and repeatable results. Outcomes of this initiative will essentially provide a guide to prioritize decisions and actions to be taken for any given asset.

PRIORITY: 2

TIMING: To be determined

COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)

DURATION: 2 to 4 weeks to develop rating system, 4 to 6 weeks to retrofit against assets

TEAM MEMBERS (INTERNAL RESOURCES):

The team assembled to implement this initiative should be staffed as follows:

- Superintendent of Maintenance and Reliability (to coordinate/manage)
- X
- Asset or asset class specific subject matter experts as needed

DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES):

The team assembled for this initiative should also be supported by:

- X

DESCRIPTION:

The initiative team is chartered with:

- A) Developing and documenting an asset criticality rating system that will be applied common across all asset populations. The rating system should be based on consequences of asset failure that consider consequences from safety, environmental impact, and operational perspectives.
- B) Applying the rating system to determine criticality ratings/scores for all assets. Typically, the asset evaluation process is performed by a small cross functional team including operations, maintenance, and engineering staff. Subject matter experts may also be needed to assist evaluating certain assets or asset classes of unique natures.

DEPENDENCIES:

- This initiative should be one of the first completed, since the outcomes should be used to prioritize all subsequent decisions and/or levels of activity related to any given asset
- Given that a portion of the asset population are linear assets, provisions may be needed to capture asset criticality values within the geodatabase

SUSTAINABILITY NEEDS:

- The rating system can be managed and maintained by existing staff
- It should be periodically reviewed for re-validation of the assessment parameters, or when changes to regulatory requirements may impact an assessment parameter (e.g. environmental consequences)
- Applying the rating system should be incorporated into normal business processes for onboarding entirely new assets and conducting impact reviews of design changes
- Decision outcomes of this initiative should be captured in the asset management program plan that will be developed under Initiative 11.1

INITIATIVE 2.2: Apply Analysis Method to Determine Maintenance Tactics

The purpose of this initiative is to provide a means that ensures appropriate maintenance tactics are being selected for any given asset, and that those tactics provide value because they are focused on predicting and preventing plausible modes of asset failures.

PRIORITY: 3

TIMING: To be determined

COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)

DURATION: X to Y months

TEAM MEMBERS (INTERNAL RESOURCES):

The team assembled to implement this initiative should be staffed as follows:

- Superintendent of Maintenance and Reliability (to coordinate/manage)
- X
- Asset or asset class specific subject matter experts as needed

DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES):

The team assembled for this initiative should also be supported by:

- X

DESCRIPTION:

The initiative team is chartered with:

- A) Applying a failure modes and effects analysis methodology to all assets of a certain criticality ranking or higher to identify and document plausible modes of asset failures
- B) Determining and documenting appropriate maintenance tactics that should be applied to predict or prevent the failures
- C) Evaluating current maintenance tactics being applied to any given asset to validate the appropriateness of the tactics and/or modify the tactics accordingly for future use

DEPENDENCIES:

- Initiatives 1.1 and 2.1 should be completed prior to implementing this initiative, as their outcomes will have bearing on which assets should be evaluated under this initiative, and/or what maintenance tactics might be considered for any given asset
- Methodology training for additional staff on the team may be required

SUSTAINABILITY NEEDS:

- The analysis outcomes can be managed and maintained by existing staff
- Applying the analysis methodology should be incorporated into normal business processes for onboarding entirely new assets
- Decision outcomes of this initiative should be captured in the asset management program plan that will be developed under Initiative 11.1

INITIATIVE 2.3: Develop Failure Analysis Protocols

The purpose of this initiative is to establish protocols that ensure failures of appropriate assets will be evaluated, in order to determine the cause of failure and what if any actions should be taken to prevent the failures from recurring.

PRIORITY: 2

TIMING: To be determined

COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)

DURATION: 2 to 4 weeks

TEAM MEMBERS (INTERNAL RESOURCES):

The team assembled to implement this initiative should be staffed as follows:

- Superintendent of Maintenance and Reliability (to coordinate/manage)
- X

DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES):

The team assembled for this initiative should also be supported by:

- X

DESCRIPTION:

The initiative team is chartered with developing and documenting guidelines that define:

- A) What asset failures will be subjected to cause analysis (e.g. based on asset criticality)
- B) The period after a failure for when the analysis should be completed (e.g. 1 week or less)
- C) Who is responsible for performing the analysis to determine what actions should be taken

DEPENDENCIES:

Failure analysis training may be required for persons identified as being responsible for performing analysis activities.

SUSTAINABILITY NEEDS:

- Communication of the new protocols and staff expectations
- Requirements to perform failure analysis should be incorporated into normal business processes for work order completion and follow-up
- Decision outcomes of this initiative should be captured in the asset management program plan that will be developed under Initiative 11.1

INITIATIVE 5.1: Develop Asset Identification Protocols

The purpose of this initiative is to improve confidence in the EAMS data quality. It will also reduce chances of confusing assets while physically performing maintenance, and ensure precise reporting of what work was performed on which assets. Consequently, work orders will be easier to create, linked to the right asset, and provide a more accurate work history. In addition, the protocols can be used as standard contract requirements imposed contractors.

PRIORITY: 3

TIMING: To be determined

COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)

DURATION: 2 to 4 months to develop, possibly 1 to 3 years to retrofit existing assets

TEAM MEMBERS (INTERNAL RESOURCES):

The team assembled to implement this initiative should be staffed as follows:

- Superintendent of Maintenance and Reliability (to coordinate/manage)
- X

DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES):

The team assembled for this initiative should also be supported by:

- X

DESCRIPTION:

The initiative team is chartered with:

- A) Developing and documenting guidelines that define conventions to be used for asset numbering, asset naming/description, and asset physical tagging
- B) Developing a plan for an approach to retrofit the conventions to existing assets

DEPENDENCIES:

- This initiative should be addressed early to ensure all new assets are identified using the new conventions
- Completing initiative 2.1 prior to implementing this initiative is recommended
- Consideration should be made for existing conventions being used (e.g. SCADA, physical tags, documentation)

SUSTAINABILITY NEEDS:

- The protocols can be managed and maintained by existing staff
- External resources may be needed to expedite retrofitting identification of existing assets
- The protocols should be incorporated as standard requirements in future contracts
- Decision outcomes of this initiative should be captured in the asset management program plan that will be developed under Initiative 11.1

INITIATIVE 5.2: Develop Asset Classification and Attribute Standards	
<p>The purpose of this initiative is also to improve EAMS data quality. In addition, it will define standards to identify what asset related data elements are important to know and have readily available to support any number of decisions regarding asset operation and maintenance. The standards defined by this initiative can also be used as standard contract requirements imposed on equipment suppliers and contractors.</p>	
PRIORITY: 5	TIMING: To be determined
COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)	DURATION: X to Y months
<p>TEAM MEMBERS (INTERNAL RESOURCES):</p> <p>The team assembled to implement this initiative should be staffed as follows:</p> <ul style="list-style-type: none"> • Superintendent of Maintenance and Reliability (to coordinate/manage) • X • Asset or asset class specific subject matter experts as needed 	
<p>DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES):</p> <p>The team assembled for this initiative should also be supported by:</p> <ul style="list-style-type: none"> • X 	
<p>DESCRIPTION:</p> <p>The initiative team is chartered with:</p> <ol style="list-style-type: none"> A) Developing and documenting standards that define: <ol style="list-style-type: none"> 1) What data elements/attributes should be collected for all asset types/classifications 2) What additional data elements/attributes should be collected for specific asset types/classifications B) Developing a plan for an approach to retrofit data collection for existing assets 	
<p>DEPENDENCIES:</p> <p>Completing initiative 2.1 prior to implementing this initiative is recommended</p>	
<p>SUSTAINABILITY NEEDS:</p> <ul style="list-style-type: none"> • The standards can be managed and maintained by existing staff • The standards should be incorporated as standard requirements in future contracts • Decision outcomes of this initiative should be captured in the asset management program plan that will be developed under Initiative 11.1 	

INITIATIVE 5.3: Develop Common To-Be Business Processes

The purpose of this initiative is to develop future state business process protocols that will be common to all departments for implementing an asset management program and using the new EAMS to support the program. In addition, the processes will aid in defining how the EAMS should be set up and configured to meet IRWD business needs.

PRIORITY: 2

TIMING: To be determined

COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)

DURATION: 3 to 4 weeks

TEAM MEMBERS (INTERNAL RESOURCES):

The team assembled to implement this initiative should be staffed as follows:

- Superintendent of Maintenance and Reliability (to coordinate/manage)
- X

DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES):

The team assembled for this initiative should also be supported by:

- Note – use of outside resources is recommended to facilitate this initiative

DESCRIPTION:

The initiative team is chartered with developing business process protocols that define functional roles and responsibilities for business processes related to:

- A) Asset onboarding and decommissioning processes and related EAMS updating
- B) Setting up new preventive/predictive maintenance routines within the EAMS
- C) Managing service/work requests and work orders through all work order lifecycle phases
- D) Interfacing with the warehouse to identify necessary maintenance inventory items

DEPENDENCIES:

Completing this initiative prior to beginning EAMS implementation workshops is recommended

SUSTAINABILITY NEEDS:

- The business process protocols can be managed and maintained by existing staff
- Decision outcomes of this initiative should be captured in the asset management program plan that will be developed under Initiative 11.1

INITIATIVE 6.1: Conduct Staffing Needs Analysis

The purpose of this initiative is analyze the requirements for additional staffing that will be needed not only to implement all the initiatives identified in this report, but also to sustain implementing the asset management program as it is developed and evolves over time. The analysis should also factor in the resources that will be needed to initially implement the EAMS, and maintaining the data that will be captured and managed within the EAMS.

PRIORITY: 5

TIMING: To be determined

COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)

DURATION: 1 to 2 months

TEAM MEMBERS (INTERNAL RESOURCES):

The team assembled to implement this initiative should be staffed as follows:

- Superintendent of Maintenance and Reliability (to coordinate/manage)
- X

DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES):

The team assembled for this initiative should also be supported by:

- X

DESCRIPTION:

The initiative team is chartered with estimating additional staffing needs necessary to:

- A) Implement initiatives identified in this report
- B) Sustain implementing the asset management program over time
- C) Perform functional roles and responsibilities determined by initiative 5.3
- D) Adequately maintain new asset groups/facilities as they are commissioned

DEPENDENCIES:

- Completing initiative 5.3 prior to implementing this initiative is recommended
- This initiative should be reviewed/repeated on a periodic basis

SUSTAINABILITY NEEDS:

- The analysis outcomes can be managed and maintained by existing staff
- Decision outcomes of this initiative should be captured in the asset management program plan that will be developed under Initiative 11.1

INITIATIVE 7.1: Business Needs Discussion with Warehouse

The purpose of this initiative is to promote a working partnership between maintenance and the warehouse that helps to ensure the right parts/materials are available at the right time to adequately support the business needs of the organization as a whole. In addition, this initiative should preclude the perceived need for and prevent creation of future satellite inventories that are not managed through Oracle.

PRIORITY: 1 (highest)

TIMING: To be determined

COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)

DURATION: 1 to 2 weeks

TEAM MEMBERS (INTERNAL RESOURCES):

The team assembled to implement this initiative should be staffed as follows:

- Superintendent of Maintenance and Reliability (to coordinate/manage)
- X
- Finance department representative

DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES):

The team assembled for this initiative should also be supported by:

- X

DESCRIPTION:

The initiative team is chartered with facilitating discussions to:

- Clarify actual policies/procedures/protocols defining what maintenance supporting parts/materials will be formally identified in the inventory management system
- Clarify which identified items the warehouse will maintain some level of on-hand inventory for
- Clarify how carrying costs and surcharges are calculated and passed on to end users
- Determine what actions can be taken to properly account for and control inventory currently in various stashes
- Determine what practices changes are needed to prevent future inventory stashes

DEPENDENCIES:

None; this initiative can be implemented immediately

SUSTAINABILITY NEEDS:

Additional warehouse facilities may be needed, or provisions made to formally track and manage inventory stash locations as recognized storeroom locations.

INITIATIVE 8.1: Develop Condition Assessment Protocols	
The purpose of this initiative is to provide another important asset data element the can be used to support asset renewal and replacement forecasting and decision making.	
PRIORITY: 4	TIMING: To be determined
COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)	DURATION: 2 to 4 weeks to develop, X to Y months to apply to vertical assets, X to Y years to apply to horizontal assets
TEAM MEMBERS (INTERNAL RESOURCES): The team assembled to implement this initiative should be staffed as follows: <ul style="list-style-type: none"> • Superintendent of Maintenance and Reliability (to coordinate/manage) • X 	
DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES): The team assembled for this initiative should also be supported by: <ul style="list-style-type: none"> • X 	
DESCRIPTION: The initiative team is chartered with developing and documenting guidelines that define: <ol style="list-style-type: none"> What evaluation parameters will be used to assess asset condition What assets will be subject to condition assessments (e.g. based on criticality) How frequently asset condition assessments will be performed Developing a plan for an approach to retrofit condition assessments to existing assets 	
DEPENDENCIES: Completing initiative 2.1 prior to implementing this initiative is recommended	
SUSTAINABILITY NEEDS: <ul style="list-style-type: none"> • The guidelines can be managed and maintained by existing staff • Decision outcomes of this initiative should be captured in the asset management program plan that will be developed under Initiative 11.1 	

INITIATIVE 11.1: Develop Asset Management Program Plan	
<p>The purpose of this initiative is to develop and maintain the program that umbrellas and captures the programmatic aspects of implementing asset management practices. This program plan should be the organizing repository of all sub-programs, procedures, guidelines, etc. that are developed to assist IRWD in managing and providing direction on how they choose to implement various asset management practices.</p>	
PRIORITY: 1 (highest)	TIMING: To be determined
COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)	DURATION: 2 to 4 weeks to develop plan structure, on-going to update and maintain
<p>TEAM MEMBERS (INTERNAL RESOURCES):</p> <p>The team assembled to implement this initiative should be staffed as follows:</p> <ul style="list-style-type: none"> • Superintendent of Maintenance and Reliability (to coordinate/manage) • X 	
<p>DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES):</p> <p>The team assembled for this initiative should also be supported by:</p> <ul style="list-style-type: none"> • X 	
<p>DESCRIPTION:</p> <p>The initiative team is chartered with:</p> <ol style="list-style-type: none"> A) Developing and documenting the asset management program plan structure B) Supplementing the plan with the outcomes of asset management strategy initiatives identified in this report C) Supplementing the plan with the outcomes of future strategy initiatives that are developed as applicable D) Periodically 	
<p>DEPENDENCIES:</p> <p>This initiative should be completed in parallel with initiative 1.1</p>	
<p>SUSTAINABILITY NEEDS:</p> <ul style="list-style-type: none"> • This initiative should be supported by senior management • All components of the plan should be periodically reviewed for re-validation, or when changes to strategic decisions dictate potential changes to any component of the plan 	

INITIATIVE 13.1: Define Future Training Requirements	
The purpose of this initiative is to capitalize on the existing culture of knowledge sharing and proactive succession planning, and further evaluate areas of institutional knowledge that have a potential for being lost through staff turnover and attrition.	
PRIORITY: 5	TIMING: To be determined
COST RANGE: Internal staff time (+ \$X to \$Y if outside resources are used)	DURATION: X to Y months
TEAM MEMBERS (INTERNAL RESOURCES): The team assembled to implement this initiative should be staffed as follows: <ul style="list-style-type: none"> • Superintendent of Maintenance and Reliability (to coordinate/manage) • X 	
DEVELOPMENT/PROJECT NEEDS (EXTERNAL RESOURCES): The team assembled for this initiative should also be supported by: <ul style="list-style-type: none"> • X 	
DESCRIPTION: The initiative team is chartered with identifying and documenting training requirements: <ol style="list-style-type: none"> A) Currently known but not documented (e.g. SOPs being developed, and critical skills that are known not to have supporting SOPs or standard work orders) B) As needed to support various initiatives in this report C) As anticipated to support implementation of the new EAMS D) As can be determined based on evaluating the skills of staff expected to retire in the next one to two year period 	
DEPENDENCIES: This initiative can be implemented immediately, but should also run in parallel with other initiatives identified in this report.	
SUSTAINABILITY NEEDS: Further training support requirements can be identified as they arise.	



EXHIBIT B

IRWD EAMS Implementation Roadmap & Gap Analysis

March 2013



B-1

TABLE OF CONTENTS

SECTION 1 - EXECUTIVE SUMMARY

SECTION 2 - IMPLEMENTATION ROADMAP

2.1 - Introduction

2.2 - Pre-Acquisition Phase

Task 1: Asset Management Strategic Planning

Task 2: Governance and Project Team Formation

Task 3: EAMS Enterprise Standards

Task 4: Asset Data Definition

Task 5: Asset Criticality Rating System

Task 6: Asset Data Collections

Task 7: Business Process Workshops

Task 8: Secondary Staffing Analysis

Task 9: Performance Metric Workshops

Estimated Timeframe

2.3 - Phase 1

Task 1: Project Planning

Task 2: Functional Requirements Workshop

Task 3: System Architecture Design

Task 4: Implementation Analysis

Task 5: Software Installation

Task 6: Core Team Familiarization

Estimated Timeframe

2.4 - Phase 2

Task1: Configuration Workshops

Task 2: Additional Analysis of Existing Data

Task 3: System Interfaces Workshop

Estimated Tame Frame

2.5 - Phase 3

Task 1: Application Configuration

Task 2: Interfaces Development

Task 3: Data Conversion and Loading

Task 4: Reports Development

Task 5: Configurations Migration

Estimated Timeframe

2.6 - Phase 4

Task 1: Testing

Task 2: Training

Task 3: Go-Live Support

Task 4: Post Go-Live Support

Task 5: Post Implementation Audit

Estimated Timeframe

2.7 - Recommended System Environments

Demo Environment, Optional

Development Environment, Required

Testing Environment, Required

Production Environment, Required

Other Systems, Optional

2.8 - Implementation Cost Estimates

Infor Hansen 8 Software Costs

Infor Hansen 8 Professional Services Fees

Infor Hansen 8 Travel Expenses

MaintStar Software Costs

MaintStar Professional Services Fees

2.9 - Hardware Requirements

To Support MaintStar

To Support Infor Hansen 8

2.10 - Implementation Timeline Estimates

SECTION 3 - GAP ANALYSIS FINDINGS & RECOMMENDATIONS

3.1 - Introduction

3.2 - Data Standards

Asset Classes

Asset Attributes

Failure Reporting

Work Management Tracking Systems and Data

3.3 - Department Reviews

Wastewater Operations

Water Operations

3.4 - Challenges

Programmatic Guidance and Controls

Data Standards and Quality

Inventory Planning and Controls

Personnel and Staffing Shortages

Multiple and Disparate Information Systems

3.5 - Recommendations

Data Standards and Quality

Inventory Planning and Controls

Personnel and Staffing Shortages

INTRODUCTION

The Irvine Ranch Water District (IRWD) endeavors to implement an asset management program to meet their business objectives and to adopt industry best practices for conducting asset management. As an integral part of the program, IRWD will also acquire and implement a new Enterprise Asset Management System (EAMS) as a tool to track asset and work management outcomes that support making informed and effective management decisions.

IRWD established many goals for the new EAMS and its support of the asset management program; these included:

- Developing a better asset inventory, asset condition data, asset work history, and life cycle tracking to support decision-making, better predict asset life cycle/service life, better understand the cost drivers for maintenance, and facilitating better asset replacement planning & budgeting
- Allowing for developing an unlimited asset registry or inventory that is easy to update & maintain
- Supporting better asset design phase tracking
- Supporting regulatory compliance validation and reporting
- Supporting common work management processes across all departments
- Leveraging technology to support better data sharing through the EAMS and other information systems interfaces – e.g. mobile applications, internet, CSR system, GIS, SCADA, Oracle inventory & purchasing, and electronic records links to assets

This report presents a roadmap for implementing a new EAMS in a manner that supports the asset management program, its strategic initiatives, and provides data for use in long-term decision making. In addition, it provides direction for implementing fundamental key elements of an asset management program. The report is comprised of two major sections; the Implementation Roadmap, followed by the Gap Analysis.

EAMS IMPLEMENTATION ROADMAP

The roadmap section presents a systematic approach for implementing the EAMS, and addresses activities that need to occur in a logical multi-phased approach. Key inputs to the roadmap include outcomes from a previously prepared Asset Management Strategy Report (AMSR), and findings from gap analysis activities conducted in conjunction with preparing the roadmap.

With the goal of implementing an EAMS that supports IRWD's desired asset management program in mind, EMA conducted a multi-part program oriented assessment that examined

IRWD from three perspectives; organization, practices, and technology. The assessment yielded the AMSR, and several initiatives recommended for supporting development of IRWD's program. The sequencing and timelines for implementing the recommended initiatives are addressed throughout the roadmap implementation phasing.

The gap analysis activities analyzed and documented current use of a computerized maintenance management system (CMMS), staffing, processes, and practices. Recommendations for closing the gap, or moving from the current state to meeting the defined EAMS goals and objectives, were identified and also addressed within the roadmap phasing.

In addition, the roadmap includes specific subsections providing information on system environments needed to support the EAMS setup and rollout, implementation cost estimates from two EAMS solution vendors, and hardware requirements for each of the EAMS solutions.

GAP ANALYSIS

The purpose of conducting a gap analysis was to expand on and/or provide a more in-depth focus on previous examination and assessment topical areas. This was necessary to provide a more thorough understanding and evaluation of the current state for consideration in developing the roadmap. The gap analysis provides details on the current state of each department, challenges, and recommendations for overcoming them.

A series of face-to-face interviews with key IRWD staff revealed how the current CMMS, Tabware, is used, as well as desired "wish list" functions of a new EAMS. Further, EMA had the opportunity to do a primary analysis of Tabware data to determine its readiness or appropriateness for use in asset management and the new EAMS.

The face-to-face interviews and workshops also reviewed:

- EAMS goals and objectives
- Current technology used and upgrade plans
- Hardware and equipment
- Current staffing levels and types of potential EAMS users
- High-level business processes and practices
- Regulatory requirements

As part of the analysis, the following systems and/or data were reviewed:

- Tabware
- Field Mapplet
- Leak Detection Database
- Collection System Database

Primary areas where gaps were identified for implementing an EAMS and an asset management program are:

- To-Be business processes
- EAMS enterprise standards
- Data standards, quality, and completeness
- Staffing
- Inventory planning and controls

SUMMARY

Together, the EAMS Implementation Roadmap and Gap Analysis identify the challenges and recommendations for implementing a new EAMS and developing a comprehensive asset management program. The roadmap itself represents a detailed implementation plan addressing topical areas and recommendations as illustrated in the following table.

High Level Implementation Plan	
Affected Operations and Work Processes:	<ul style="list-style-type: none"> • All operations • All To-Be work processes per EAMS and AMSR
Affected Strategies:	<ul style="list-style-type: none"> • Maintenance Strategy and Tactics <ul style="list-style-type: none"> – AMSR 1.1 Develop Maintenance Strategy – AMSR 2.1 Develop and Apply Criticality Rating System – AMSR 2.2 Apply Analysis Method – AMSR 2.3 Develop Failure Analysis Protocols • Condition Based Maintenance <ul style="list-style-type: none"> – AMSR 8.1 Develop Condition Assessment Protocols • Reliability Analysis • CMMS Data Quality <ul style="list-style-type: none"> – AMSR 5.1 Develop Asset ID Protocols – AMSR 5.2 Develop Asset Classification and Attribute Standards • Planning and Scheduling <ul style="list-style-type: none"> – AMSR 6.1 Conduct Staffing Needs Analysis • Material Management <ul style="list-style-type: none"> – AMSR 7.1 Business Needs Discussion with Warehouse

	<ul style="list-style-type: none"> • Education, Training, Skill Management <ul style="list-style-type: none"> – AMSR 13.1 Define Future Training Requirements
Risks:	<ul style="list-style-type: none"> • Lack of participation in implementation project • Project timeline slippage • Inadequate staffing post go-live
Keys to Success:	<ul style="list-style-type: none"> • Commitment from leadership • Commitment from staff • Training and support • Clearly identified and consistently performed business processes

INTRODUCTION

EMA's system implementation methodology has been developed and refined based on extensive experience implementing asset, maintenance, and work management systems in the public sector over 15 years. This methodology is a proven successful approach to system implementation, and is based on several distinct phases:



Our approach, as detailed in the roadmap, is based on partnering with you to implement a solution that meets IRWD's unique needs. IRWD has narrowed the selection of the EAMS to two vendors: MaintStar and Infor Hansen 8. Comparisons of the two vendors, including costs and timelines for implementation are included in this roadmap. Each vendor's EAMS will have different requirements for implementation; therefore costs, modules, workshop activities, and timelines documented in the roadmap are approximations and may change slightly upon final selection. An analysis of the current situation (gap analysis) based on EMA's face-to-face meetings with IRWD staff, Tabware data analysis, and recommendations to address challenges

for EAMS implementation are included in the following section. A partnered approach assures that all segments of your organization embrace, understand, and are able to support the solution after the implementation consultant is gone.

Deliverables noted below pertain to the implementation itself, and not the roadmap, unless otherwise specified. The estimates provided in this report are current as of February 2013.

Asset Management Strategy Report (AMSR) Initiatives will be addressed in phases and tasks where applicable.

Critical Success Factors for an EAMS Implementation

The following must be in place in order for the EAMS project to succeed:

- Project Management and Governance Teams for the EAMS Implementation must be established
- Commitment and a significant level of staff involvement will be required throughout the EAMS implementation
- Key tasks in the Pre-Acquisition Phase should be complete:
 - Establish Enterprise Standards
 - Asset Data Definition, Criticality Ratings, and Data Collection
 - Develop Preliminary Common To-Be Business Processes
- The hardware and software must be made available during Phase 1
- System downtime during system implementation must be kept to a minimum
- End users must receive adequate training and support

PRE-ACQUISITION PHASE

In this phase, the goal is to develop baseline standards for asset and location data, as well as develop plans for the Asset Management Program and the appropriate maintenance strategies. Materials management is an integral part of work and asset management. Prior to implementation, the decision needs to be made whether interfaces to the existing inventory management system will be developed, or if a stand-alone materials cost list will be used in the EAMS. The implementation consultant will work with IRWD managers and staff to address recommendations outlined in the AMSR.

Key initiatives to be addressed prior to forward movement:

- Asset, Location, Data Standards
- Maintenance Strategy and Maintenance Tactics
- GIS Standards (as it applies)
- Data Collection
- Materials Management

IRWD may consider utilizing services of a consultant to direct and/or manage these pre-acquisition efforts.

Task 1: Asset Management Strategic Planning

A cohesive, documented plan will be created during this task to guide the procurement, use, maintenance, and decommissioning of all assets. All departments that participate in the life cycle of IRWD assets will be identified, documented and involved in the asset management program. The strategic planning task will also identify any required service level agreements to support asset management, what EAMS data is to be collected and used to support a CIP/CMP, and any other systems of record to be utilized for the Program.

The Asset Management Program Plan will also address a uniform asset maintenance strategy which will be applied across the organization. The strategy will include guidelines for improved asset management and measureable goals. Applying the strategy will combine EAMS work performance data and performing failure analysis to change maintenance tactics from preventive maintenance to predictive maintenance. Guidelines for condition assessment protocols will be identified and documented. As these guidelines are applied in the EAMS, asset condition data can trigger maintenance work orders to avoid asset failure,

Deliverables – Asset Management Program Plan

Related AMSR Initiatives:

- 11.1 – Develop Asset Management Program Plan

- 1.1 – Develop Maintenance Strategy
- 8.1 – Develop Condition Assessment Protocols
- 2.2 – Apply Analysis Method to Determine Maintenance Tactics

Task 2: Governance and Project Team Formation

Governance will be critical not only to setting up and initially implementing the EAMS, but also sustaining and advancing the implementation to meet IRWD’s objectives for implementing an asset management program. It involves aligning decisions and actions with strategic objectives, and essentially is a process of decision-making to achieve collective interests. Consequently, governance should be applied over all phases of the EAMS implementation efforts, including the continued used subsequent to declaring the EAMS live.

To facilitate effective governance for the EAMS implementation, an organizational structure comprised of teams is recommended for providing leadership over the implementation activities. From the beginning, two specific teams are recommended; a Steering Team and a Core Team. Shortly before, or immediately following EAMS go-live, a third team is recommended; a Change Control Board.

Steering Team

The Steering Team should be comprised of representatives from management within IRWD, and include representatives from all of the user departments, as well as the IT support organization.

Recommended Structure

Division	IRWD Staff Member
Operations	Patrick Shields
Asset Management	Chris Fike
Administrative Services	Tony Mossbarger
Engineering and Construction	Kevin Burton
Finance	Cheryl Clary

Key Roles and Responsibilities

- Organizational endorsement and active support of the Core Team
- Oversight and monitoring of Core Team decisions and activities
- Decision-making authority to resolve Core Team decision/direction impasses
- Provide visible top management support of the EAMS implementation
- Provide appropriate necessary resources, including staffing and funding

- Regular reporting of project progress to IRWD executive management

Core Team

The Core Team should be comprised of supervisors from the maintenance organization and IT support staff. They will be heavily involved in the implementation, testing, roll out and support of the EAMS.

Recommended Structure

Division	IRWD Staff Members
Water	Executive Director of Operations Patrick Sheilds, Tom Roberts, Water Operations Manager (TBA), Rory Moore, Mike Licht, Dave Crowe, additional lead staff
Wastewater	Wayne Posey, Chris Fike, Ken Drake, Mark Gingras, Greg Springman, Mechanical Maintenance Manager, additional lead staff
Engineering*	Mike Hoolihan, additional lead staff * requires discussion in regards to entering asset information while in design and construction phases
Water Quality	Lars Oldewage, Michelle Drzymkowski, Elizabeth Duarte, Lindy Lewis, additional lead staff
Fleet/Facilities	John Dayer, Richard Brown, additional Facilities staff

Key Roles and Responsibilities

- Provide expertise to plan, set up and configure the EAMS on behalf of all intended users, and to meet the business needs of the entire organization
- Serve as system champions by providing visible support and endorsement of the EAMS implementation and rollout for other users
- Become or drive developing EAMS “super” users that will enable IRWD to become self-sufficient in leveraging the EAMS capabilities
- Provide oversight and monitoring of post-implementation activities to ensure EAMS usage expectations and protocols are followed appropriately
- Provide ongoing guidance for EAMS refinement to meet evolving business needs
- Regular reporting of project progress to the Steering Team

Change Control Board

The Change Control Board (CCB) should be comprised of members from both the Steering Team and the Core Team. As users become more familiar with how the EAMS looks and feels,

they will request configuration refinements or changes to functionality, or possibly additional information system interfaces. The primary function of the CCB is to evaluate all such requests to determine the potential impact and acceptability to all users, to system operating performance, and to future EAMS upgrades planning.

Task 3: EAMS Enterprise Standards

The purpose of this task is to develop standards that will apply for all EAMS user departments; it will focus on topics including: Multi-Domain or Site Strategy

- Asset and Location Standards
- GIS Standards (to be aligned with asset standards)
- Work Tracking Standards (work types, priorities, status codes)
- Warehousing
- User, Group, Role Standards
- Resource Standards

The project consultant will conduct enterprise-wide location and asset hierarchy work sessions to define how maintenance costs and maintenance history will be tracked and rolled up for easy access and reporting.

The project consultant will conduct enterprise-wide work sessions for work tracking and failure reporting, data review and validation.

The project consultant will conduct enterprise-wide work sessions for other business processes that are determined to be mandatory.

The project consultant will facilitate the work sessions toward the completion of working documents.

Deliverables – Enterprise Standards Document

Related AMSR Initiatives - 7.1 – Warehouse Business Needs

Task 4: Asset Data Definition

Prior to any data collection effort, standard asset classes and attributes should be defined, reviewed, and approved. This task encompasses developing and documenting the conventions for asset numbering and naming, which provides uniformity throughout all information systems, across asset related records (e.g. drawings), and on physical asset tagging.

A plan will be developed for an approach to retrofit the conventions to existing assets. Considerations will be made for existing numbering (i.e. SCADA, drawings, physical tags). Smart numbering generally is not recommended because it becomes a program that must be managed, and staff often cannot decipher the scheme without a code sheet. In addition, adequate asset descriptions can be meaningful and readily support common database queries.

Attribute standards should be developed to identify what data elements are important to know for each type of asset. Typical asset data may include location, size, material, vendor and warranty information, serial and part numbers. Some data elements should likely be collected for all assets, while other data elements will be specific to a given type. These standards can also be made a standard part of contracts so that equipment suppliers and contractors that supply and/or install new assets are required to provide the necessary data. Attributes for Asset Management, such as installation date, original cost, consequence of failure (criticality rating), and estimated life, should be included in the list of standard asset attributes.

Deliverables – Asset Data Definition Document

Related AMSR Initiatives:

- 5.1 – Develop Asset Identification Protocols
- 5.2 – Develop Asset Classification and Attribute Standards

Task 5: Asset Criticality Rating System

The purpose of this task is to provide a means to determine individual asset levels of importance to the organization, using a process that provides consistent and repeatable results. Outcomes of this task will essentially provide a guide to prioritize decisions and actions to be taken for any given asset.

While asset criticality is not the only piece of information that should be determined and captured for all assets, it is one of the most important data elements. Asset criticality should essentially be used to drive all decisions regarding how to manage and maintain all assets. A common rating system considering safety, environmental, and operational consequences of failure, should be developed and applied to all assets. The ratings will be captured in the new EAMS.

Deliverables – Asset Criticality Rating System

Related AMSR Initiatives – 2.1 – Develop/Apply Criticality Rating System

Task 6: Asset Data Collection

Data collection efforts are substantial. Consultants often can provide tools for such efforts. This task will reference asset data standards defined in previous tasks.

Existing asset data may provide a starting point for data collection; however, for data quality control and assurance, it is recommended that each asset be individually inventoried.

Deliverables – Asset Data Collection Plan

Task 7: Business Process Workshops

The project consultant will conduct a series of Business Process Workshops. The workshops will be attended by the Core Team and a subset of the EAMS users. We refer to this group of users

as Subject Matter Experts (SMEs). The role of the SME is to provide detailed information about the work performed by each maintenance unit, any data that is available on assets or work performed and the current business processes. The project consultant will provide expertise to guide the team in defining maintenance and asset management “best practices”. The output of the Business Process Workshops will be process flow diagrams defining the “to be” business processes. The project consultant will submit the “to be” process flow diagrams for review and approval by the Core Team and sign off by IRWD’s project manager.

existing one. Ensures that the proper type and amount of preventive maintenance is defined and implemented for an asset, based on its characteristics and priority.

Emergency Work Performance Process: Used when an emergency is identified. Ensures that all persons that need to be involved are notified and that expedient corrective action is taken.

Asset Setup/Modification Process: Used for setting up new or existing assets in the EAMS.

Inventory Management Process: Used to manage chemical inventory in Water Quality division

Deliverables – “To-Be” Business Process Diagrams

Related AMSR Initiatives – 5.3 - Common To-Be Business Processes

Task 8: Secondary Staffing Analysis

Based on the business process and data analyses, the project consultant will provide a staffing analysis report. The report will address gaps in resourcing based on functional roles and responsibilities identified in the business process diagrams, and will provide recommendations for long-term staffing to support an effective asset management program.

Deliverables – Staffing Analysis Report

Related AMSR Initiatives – 6.1 – Staffing Needs Analysis

Task 9: Performance Metric Workshops

The project consultant will conduct a series of Performance Metric Workshops. The workshops will be attended by the Core Team and SMEs. The goal of these workshops will be to define the Key Performance Indicators (KPIs) to be used in measuring the effectiveness of the maintenance management program.

Deliverables – Key Performance Indicators

Estimated Time Frame

The Pre-Acquisition phase, which encompasses the eight tasks above, is estimated to last up to 18 months.

The timelines presented below are approximations. Time frames may vary based on IRWD resource availability.

Task	Description	Est. Time	Est. Resources
1	Asset Management Strategic Planning	Concurrent with other tasks	Project Manager, IRWD Project Team Members, Project Consultant
2	Team Formation / Governance	1 week	
3	EAMS Enterprise Standards	2-3 months	
4	Asset Data Definition	Up to 4 weeks	
5	Asset Criticality Rating System	Up to 4 weeks	
6	Asset Data Collection	Up to 10 months	
7	Business Process Workshops	Up to 8 weeks	
8	Secondary Staffing Analysis	1-2 weeks	
9	Performance Metrics Workshops	1-2 weeks	
Total:		Up to 18 months	

PHASE 1

Task 1: Project Planning

The implementation consultant will work closely with IRWD's project manager to develop an initial project plan. During the kick off meeting expectations around the schedule, user involvement, deliverables and project outcomes will be aligned.

Following completion of the Implementation Analysis (reference Phase 1 Task 4), the implementation consultant will prepare a detailed project plan.

Deliverables – Kick-off meeting presentation, initial project plan, project charter and detailed project plan

Task 2: Functional Requirements Workshops

The implementation consultant will conduct a series of Functional Requirements Workshops to be attended by the Core Team and SMEs. The goal of these workshops will be to review and validate the functional requirements provided to IRWD as an EAM Software Review project deliverable. Discussions in the functional requirements workshops will also center around and confirm which system interfaces will be needed for full EAMS implementation.

Following the workshops, the implementation consultant will prepare and deliver complete documentation of the Functional Requirements of the system. The implementation consultant will submit the Functional Requirements document for review and approval by the Core Team and sign off by IRWD's project manager.

After the functional requirements of the EAMS are confirmed by IRWD, the Functional Requirements Document must be presented to the software vendor(s) for review. The vendors' responses will indicate which required functionality is available out of the box, and which functionality needs to be configured or (less optimally) customized. Additionally, this will provide a platform for closely inspecting the differences between the MaintStar and Infor Hansen products.

Recommendation – As part of the formal RFP/RFI process for software vendor selection, it is recommended that all defined functional requirements are presented to the vendor(s) to ensure the software package can meet all requirements.

Deliverable – Functional Requirements document (including interface requirements)

Task 3: System Architecture Design

The implementation consultant will work in conjunction with both the software vendor and with IRWD's IT staff to complete the system architecture design. This design will define the hardware and software to be used for the Development, Testing and Production environments. Hardware procurement will be scheduled and prioritized.

Deliverable – System Architecture Design document

Task 4: Implementation Analysis

The implementation consultant and software vendor will perform additional implementation analysis as needed. The implementation analysis is an in-depth evaluation of the implementation. The analysis will define how all the implementation components will look in the final solution. The analysis will address issues such as:

- Phasing
- Initial project organization
- Management commitment
- Priority of requirements
- Configuration needs
- Current system data for conversion
- Data collection
- Preliminary staffing recommendations
- Asset management strategy report initiative requirements
- Integration requirements
- User training requirements

Deliverables:

- Comprehensive Implementation Analysis Report

Related AMSR Initiatives:

- 6.1 - Staffing Needs Analysis
- 13.1 - Future Training Requirements

Task 5: Software Installation

The selected software vendor will install the EAMS product in the Development environment. The Development environment will be used by implementation consultant to configure the system.

Deliverables – Software is installed and confirmed to be functional

Task 6: Core Team Familiarization

The demonstration system will be used to familiarize the Core Team with the EAMS. The objective is to provide an introduction to the system and prepare the Core Team for their role in the remainder of the project

Deliverables – High level software demonstration

Estimated Time Frame

PHASE 1, which encompasses the seven tasks above, is estimated to last up to 24 weeks.

The timelines presented below are approximations. Time frames will differ based on software selection and IRWD resource availability.

Task	Description	Est. Time	Est. Resources	Est. Cost		
				MaintStar	Infor	
1	Project Planning	1-2 weeks	Steering Team, Core Team, Implementation Consultant	\$19,250*	\$16,170	
2	Functional Requirements	1-2 weeks				
3	System Architecture Design	1-2 weeks	IT, Implementation Consultant			
4	Implementation Analysis	8-12 weeks	Steering Team, Core Team, Implementation Consultant			
5	Software Installation	1 week	IT, Implementation Consultant			\$1,260
6	Team Familiarization	4 weeks	Steering Team, Core Team, Implementation Consultant			\$2,800
Total:		Up to 24 weeks		\$19,250*	\$20,230	

* MaintStar costs are bundled for the entire software implementation. Cost breakdowns by phase are approximate.

PHASE 2

Task 1: Configuration Workshops

This activity builds upon IRWD's efforts to develop functional requirements and to-be business process diagrams. The purpose of this activity is to review this information with appropriate IRWD staff to ensure a common understanding of the implications for the software configuration. The implementation consultant will then explain various configuration alternatives and recommend specific approaches. The implementation consultant will facilitate discussions of these alternatives and the reasons behind the recommendations. The implementation consultant will work with the core team to finalize the specific software configuration plans.

The implementation consultant will recognize that IRWD will use standardized asset and work tracking data fields and values defined in the Enterprise Standards Workshops. However, there are other data standards (such as work activity details and failure reporting codes) that will be specific to individual work groups. Defining those work group-specific activity details and codes is part of the configuration planning activity.

The implementation consultant will propose to approach this configuration planning activity on a major work group basis in order to minimize the impact on IRWD resources. We will bring together the full Core Team and other stakeholders as may be needed to discuss the issues that cross work group boundaries. For those discussions that pertain to a single work group, it will not be necessary for as many IRWD team members to attend the work session.

After the enterprise-wide work sessions have been completed, the implementation consultant and/or software vendor will apply initial enterprise-wide configurations defined in those sessions.

Deliverables – System Configuration and Standards document

Related AMSR Initiatives – 2.3 – Failure Analysis Protocols

Task 2: Additional Analysis of Existing Data

The implementation consultant will review all available data on assets, inventory, and work performed. If asset data resides in a GIS system, the GIS system will be reviewed as part of this analysis. The data will be mapped to the EAMS and a data loading plan will be developed. If data is missing, incomplete, or inaccurate; a plan for IRWD to collect the required data will be developed. The implementation consultant will review all existing reports and forms.

Deliverables – Data Analysis Report and Loading Plan

Task 3: System Interfaces Workshops

The implementation consultant will conduct a series of information systems interfaces workshops. These workshops will be attended by the Core Team and SMEs. The SMEs for these workshops will include staff knowledgeable in the systems to which the EAMS will be interfaced. The goal of these workshops will be to define the objective of the interfaces and the “touch points” for interfaces between the new EAMS and the various systems. In addition, information on the frequency, granularity and quantify of data to be passed between systems will be defined. Following the workshops, the implementation consultant will prepare and deliver high level document describing the interfaces between the EAMS and the various systems. The implementation consultant will submit the Interface document for review and approval by the Core Team and sign off by IRWD’s project manager.

Expected interfaces include, but may not be limited to: Oracle CC&B (Customer Service), GIS/Spatial Wave, Oracle Inventory, Oracle Financials.

Deliverables – Systems Interfaces Specifications

Estimated Time Frame

Phase 2, which encompasses the three tasks above, is estimated to last up to 5 months. Work completed in the Pre-Acquisition Phase will contribute significantly to the Configuration Planning task.

The timelines presented below are approximations. Time frames will differ based on software selection and IRWD resource availability.

Task	Description	Est. Time	Est. Resources	Est. Cost	
				MaintStar	Infor
1	Configuration Planning Workshops	Up to 3 months	Steering Team, Core Team, IT, Implementation Consultant	\$37,200*	\$39,200
2	Additional Data Analysis	1-2 weeks			\$22,120
3	Systems Interfaces Workshops	4 weeks			\$38,780
Total:		Up to 5 months		\$37,200*	\$116,270

* MaintStar costs are bundled for the entire software implementation. Cost breakdowns by phase are approximate.

PHASE 3

Task 1: Application Configuration

The implementation consultant or software vendor will configure the EAMS Development environment to support the core application functional requirements documented in the Functional Requirements Configuration Document. Configurations will be applied iteratively. For each asset group, business focused work sessions will be conducted. As application configurations are defined and agreed to, they will be applied to the system. Once those configurations have been applied, representatives from the maintenance group, along with the implementation consultant or software vendor, will model the configured application. Any further modifications needed to conform to the functional requirements defined in the business focused sessions will be applied to ensure the application functions as expected.

The implementation consultant or software vendor will work with the Core Team to configure the application and databases to accommodate the business rules and process workflows documented earlier in the process. The configurations will be unit tested and verified according to procedures agreed to by IRWD's Project Manager.

Deliverable – Configured EAMS and Updated System Configuration and Standards document

Task 2: Interfaces Development

IRWD has expressed interest in interfaces to other systems such as Customer Service, GIS, Inventory, and Payroll. The implementation consultant and/or software vendor(s) will work with IRWD's IT staff to develop and configure the required interfaces to the EAMS. The interfaces will be unit tested and verified according to procedures agreed to by IRWD's Project Manager. Interface development traditionally occurs concurrently with other activities, with a separate set of application development resources. This activity is separate from server and application configuration.

Deliverable – Interfaces Developed and Updated Systems Interfaces Specification document.

Task 3: Data Conversion and Loading

The implementation consultant and/or software vendor will facilitate a workshop with the Core Team to explain the data gathering and loading methodology and process. The implementation consultant and/or software vendor will provide data conversion templates to the Core Team. These templates will be populated by the Core Team and utilized by the implementation

consultant and/or software vendor to electronically load data such as assets, locations and failure code information into the EAMS.

In general, EMA does not recommend loading work order history from other systems into a new EAMS as the cost normally outweighs the benefits. However, if required, the implementation consultant and/or software vendor can develop scripts to load existing work order history into the new system. These services will be provided on a time and materials basis.

Deliverables – Data loading templates; data loaded and confirmed

Task 4: Reports Development

Enterprise Asset Management Systems typically come with a large number of pre-configured reports. In addition, the system is designed to provide users with a large amount of information on screens such as dashboards, stored queries and lists. Some users find these sources adequate for their needs. The approach will be to utilize out of the box reports, in addition to developing a limited number of custom reports with IRWD staff. Department staff will then develop the remaining required reports, and acquire the skills needed to support the system in the future.

Deliverables – Report training and developed reports

Task 5: Configurations Migration

After successful unit testing, the implementation consultant and/or software vendor will migrate all of the configurations and data from the Development environment to the Test Environment for user testing.

Deliverables – Configurations are migrated to Test and confirmed

Estimated Time Frame

Depending on the software selection, phase 3, which encompasses the five tasks above, may range from up to 9 months to 24 months.

The timelines presented below are approximations. Time frames will differ based on software selection and IRWD resource availability.

Task	Description	Est. Time		Est. Resources	Est. Cost	
		MaintStar	Infor		MaintStar	Infor
1	Application Configuration	6 months	12-18 months	IT, Implementation Consultant	\$37,200*	\$37,310
2	Interface Development	concurrent				\$38,780
3	Data Conversion and Loading	4 weeks	4 weeks			\$92,400
4	Reports Development	4 weeks	12 weeks			\$18,480
5	Configurations Migration	1 week				\$1,260
Total:		Up to 9 months	Up to 24 months		\$37,200*	\$188,230

* MaintStar costs are bundled for the entire software implementation. Cost breakdowns by phase are approximate.

PHASE 4

Task 1: Testing

The implementation consultant will facilitate a workshop with the Core Team and technical staff to define user acceptance testing that will validate the application configuration functionality and validate the interfaces code functionality. This will include the development of test plans and scripts based on To-Be work processes, testing of software functionality, validation of business processes and rules, and validation of data conversion and integration functionality

The implementation consultant will provide a tool for tracking actions and issues that need to be resolved throughout the testing process. The tool provides the ability to track the action or issue, and assign responsibility for the action or issue with a resolution date. The action or issue can be emailed and shared with all appropriate project staff.

Testing will be conducted by the Core Team with assistance from the implementation consultant. The implementation consultant will apply additional configurations to the EAMS as needed to address the issues in the issues log (to bring the system into compliance with the Configuration Document). Any issues noted by testers that fall outside the project scope (outside the functional requirements noted in the Configuration Document) will be captured in a Future Enhancements appendix to the Configuration Document. The Core Team and subject matter experts will re-test the system and verify that all issues (other than future enhancements) have been addressed. IRWD's Project Manager will sign off on the user acceptance test.

Deliverables – Test Plans and Scripts; Issue tracking tool

Task 2: Training

The final step prior to system go-live is end user training. EMA recommends a Train-the-Trainer approach to training staff on new systems. The implementation consultant and/or software vendor will conduct training sessions per business or maintenance group with Core Team members or other designated staff.

These training sessions will be focused on the needs of each business or maintenance group. The implementation consultant will work with IRWD staff to develop a training plan and schedule, and will provide training materials in an electronic format that IRWD's trainers can use to train other staff. The training materials will reflect the final configuration of the EAMS, including any customized screens, reports, or other functionality, and the use of IRWD's data. IRWD staff will assist the project team in developing training scenarios that will be incorporated into the training lab exercises.

Preliminary identified training needs:

	Managers	Supervisors	Leads	Technicians	Total
Wastewater	4	9	8	49	70
Water	2	2		61	65
Facilities	1		2	3	6
Water Quality	1	3			4
Engineering	1	2	5		8
Total					153

Deliverable – Course outline and training materials

Task 3: Go-Live Support

The implementation consultant and/or the software vendor will provide assistance to IRWD’s IT staff in moving all of the fully tested configuration and data from the Test environment to the Production environment. The implementation consultant and/or software vendor will work with the Core Team to develop a System Cut-over Plan that details all of the steps required to move into production with the new EAMS.

The implementation consultant and/or the software vendor will provide on-site support to IRWD for the first two weeks following Go Live

Deliverables – Configurations and data migrated to Production; Cut-over plan; On-site Go-Live Support

Task 4: Post Go-Live Support

Following Go Live and the two week on site period, the implementation consultant and/or the software vendor will provide remote support for an additional four-week period.

Deliverables – Remote technical support as needed

Task 5: Post Implementation Audit

Three months following Go Live, the implementation consultant and/or the software vendor will return to conduct an audit of the use of the EAMS. The objective of this audit is to verify that the full benefit of the EAMS is being realized and to look for areas of potential improvement.

Deliverables – Post Implementation Audit Report

Estimated Time Frame

Phase 4, which encompasses the five tasks above, is estimated to last up to 25 weeks.

The timelines presented below are approximations. Time frames will differ based on software selection and IRWD resource availability.

Task	Description	Est. Time		Est. Resources	Est. Cost	
		MaintStar	Infor		MaintStar	Infor
1	Testing	8 weeks	16 weeks	Steering Team, Core Team, IT, Implementation Consultant	\$31,250*	\$22,120
2	Training	3 weeks				\$25,480
3	Go-Live Support	2 weeks		IT, Implementation Consultant		\$43,680
4	Post Go-Live Support	4 weeks				
5	Post Implementation Audit	1-2 days		Steering Team, Implementation Consultant		
Total:		17 weeks	25 weeks		\$31,250*	\$107,450

* MaintStar costs are bundled for the entire software implementation. Cost breakdowns by phase are approximate.

RECOMMENDED SYSTEM ENVIRONMENTS

Demo Environment, Optional

EMA's standard approach is based on creating four, or sometimes five, separate EAMS environments. The software vendor will begin by installing the selected software in a demonstration environment. This system will be used for the initial familiarization of the project team with the new EAMS. The demo environment will continue to be available throughout the project.

Development Environment, Required

The software vendor will install the EAMS in a Development environment. This is the system that will be used to configure the solution. Access to the Development environment will be limited to IT and consulting staff and possibly a limited number of members of the Core Team.

Test Environment, Required

The software vendor will install the new EAMS in a Test environment. The Test environment must be identical to the Production environment. After configuration and unit testing has been completed in the Development environment, the implementation consultant and/or software vendor will move the fully configured system to the Test environment. Members of the Core Team and other users will have access to the Test environment to perform detailed User Acceptance Testing.

After successful completion of User Acceptance Testing, clients typically use the Test environment to conduct user training. However, in some circumstances it can be beneficial to prepare a separate Training environment.

Production Environment, Required

IRWD staff, with assistance from the software vendor, will install the EAMS in the Production environment. After successful completion of User Acceptance Testing, IRWD staff will migrate the fully configured system to the Production environment.

Other Systems, Optional

In cases where there are interfaces to other systems such as GIS, Finance, CIS, etc. IRWD must provide separate Development and Test environments for each of these systems.

IMPLEMENTATION COST ESTIMATES

Estimates for implementing the MaintStar and Infor Hansen 8 solutions vary for a variety of reasons. Licensing bases (per-seat vs. concurrent users), complexity of the implementation, annual maintenance fees, and professional services billing rates are some of the factors that will contribute to the differences in cost. The table below provides side-by-side comparison of cost estimates for implementing the MaintStar and Infor Hansen 8 solutions as of February 15, 2013.

	Year 1	Year 2	Year 3	Year 4	Year 5	
MaintStar (SQL Server)	325,607	31,707	31,707	31,707	31,707	452,435
Software (100 concurrent users)	169,000					
Professional Services	124,900					
Annual Maintenance	31,707	31,707	31,707	31,707	31,707	
MaintStar (Oracle)	374,574	45,174	45,174	45,174	45,174	555,270
Software (100 concurrent users)	204,500					
Professional Services	124,900					
Annual Maintenance	45,174	45,174	45,174	45,174	45,174	
Infor Hansen 8	2,226,213	294,200	294,200	294,200	294,200	3,403,013
Software (up to 140 named users, per purchased modules)	1,471,000					
Professional Services	461,013					
Annual Maintenance	294,200	294,200	294,200	294,200	294,200	

For purchases before May 2013, Infor has offered IRWD a 50% discount on the software list price, bringing the software cost to \$738,000. Zero percent (0%) financing per the following terms is also available through Infor. This financing offer will expire on February 28, 2013.

- 24-month payment terms for qualified customers (based on credit history and financials)
- Discounts on software capped at 50% off of LIST price
- Transaction size >\$15,000 USD

Infor Hansen 8 Software Costs

	Product Code	# of Named User Licenses	Cost Per License	Total	
Software Costs					
Application Modules					
	Hansen 8 – Utilities for Asset Management	H8AMU	140	\$ 3,000	\$ 420,000
	Hansen 8 – Facility for Asset Management	H8AMF	140	\$ 3,000	\$ 420,000
	Hansen 8 Configured Assets	H8CAS	140	\$ 1,600	\$ 224,000
	Hansen 8 – Customer Service	H8CS	60	\$ 1,000	\$ 60,000
Add-On Applications					
	Hansen 8 – Work Management	H8WM	1	\$ 2,000	\$ 2,000
	Hansen 8 – Geo-Administrator	H8GGS	1	\$ 20,000	\$ 20,000
	CBM Pro Edition	MTEL-CBM-PRO	1	\$ 5,000	\$ 5,000
Advanced Asset Management					
Billing Components					
	Hansen 8 – Water Meter Management	H8AWMM	Yes	\$ 10,000	\$ 10,000
	Hansen 9 – Solid Waste Management	H8ASWMM	Yes	\$ 10,000	\$ 10,000
Dynamic Portal Licenses					
Web Services					
Mobile					

	Product Code	# of Named User Licenses	Cost Per License	Total
Mobile CDR Service for Notebook Edition	SELC-MS8-CDRN	Yes	\$ 20,000	\$ 20,000
Mobile Asset Field User License	SELC-MS8-AMF	140	\$ 2,000	\$ 280,000
SUBTOTAL SOFTWARE LICENSE FEES				\$ 1,471,000
LESS SOFTWARE DISCOUNT				(\$ 733,000)
TOTAL SOFTWARE				\$ 738,000
ANNUAL SMA@ 20%				\$ 147,600
TOTAL SOFTWARE AND SUPPORT				\$ 885,600
<i>*Quote is valid until May 30, 2013</i>				

As another alternative, Infor offers a hosted solution for the Asset Management module of their Public Sector Solution Suite.

Infor Hosting / Managed Services Budgetary Quote – Windows / SQL	One Time Charges (OTC)	Monthly Recurring Charges (MRC) Up to 3000 employees	Annual Recurring Charges Up to 3000 employees
Public Sector Solution Suite V8.x	\$ 5,000	\$ 7,000	\$ 7,000

Infor Hansen 8 Professional Services Fees

Item	Estimate (Hours)	Estimate (Cost, \$140/Hour)
Project Management	462	\$ 64,680
Product Installation	9	\$ 1,260
Business Process Review	158	\$ 22,120

Configurations (Design, Build, Unit Test)	132	\$ 18,480
Asset Management Modules	35	\$ 4,900
Work Order Management Module	44	\$ 6,160
Service Request Module	44	\$ 6,160
Configured Asset Module	176	\$ 24,640
Conversions	660	\$ 92,400
Reports	132	\$ 18,480
Interfaces (Design, Build, Unit Test)	554	\$ 77,560
Training	202	\$ 28,280
Testing	158	\$ 22,120
Cut-Over/Deploy/Close	312	\$ 43,680
Totals	3078	\$ 430,920

Infor Hansen 8 Travel Expenses

Item	Budgetary Quote Estimated # of Trips	Budgetary Quote Estimated Travel Expense
Implementation Travel and Expense Estimate at \$1,500 per Trip	25	\$ 37,500

MaintStar Software Costs

	SQL Server (2008 R2, 2012, 2005)		Oracle (10g, 11g)	
	25	100	25	100
Concurrent Users	25	100	25	100
Software		(+39,500)	(+35,500)	(+39,500)
5 modules, report writer, screen customization, email connectivity	95,000.00	134,500.00	130,500.00	170,000.00

<i>optional - service/work request module</i>	19,500.00	19,500.00	19,500.00	19,500.00
<i>optional -mobile service request application</i>	15,000.00	15,000.00	15,000.00	15,000.00
Software Subtotal	129,500.00	169,000.00	165,000.00	204,500.00
Annual Maintenance		(+7,307)	(+6,567)	(+7,307)
5 modules, report writer, screen customization, email connectivity	17,500.00	24,807.00	30,967.00	38,274.00
<i>optional - service/work request</i>	3,900.00	3,900.00	3,900.00	3,900.00
<i>optional -mobile service request</i>	3,000.00	3,000.00	3,000.00	3,000.00
Annual Maintenance Subtotal	24,400.00	31,707.00	37,867.00	45,174.00
Software Total	153,900.00	200,707.00	202,867.00	249,674.00

MaintStar Professional Services Fees

	SQL Server (2008 R2, 2012, 2005)		Oracle (10g, 11g)	
Concurrent Users	25	100	25	100
Operation Analysis, Installation, Email Configuration	10,000.00	10,000.00	10,000.00	10,000.00
Complete Project Management	18,500.00	18,500.00	18,500.00	18,500.00
Main Set-up & Complete Data Files Configuration	49,500.00	49,500.00	49,500.00	49,500.00
Inventory Configuration	5,400.00	5,400.00	5,400.00	5,400.00
GIS Linkage Set-up & Integration	19,500.00	19,500.00	19,500.00	19,500.00
Training (5 days)	11,000.00	11,000.00	11,000.00	11,000.00

<i>optional - Highly Recommended Service Request Training</i>	11,000.00	11,000.00	11,000.00	11,000.00
Professional Services Subtotal	124,900.00	124,900.00	124,900.00	124,900.00

HARDWARE REQUIREMENTS

To Support MaintStar

MaintStar Web Application Server spec for Virtualized Environment Up to 50 Users for SQL Server

Overview

This section describes the recommendations for running the MaintStar Web application in a Virtual Server for up to 50 concurrent users. There are four sections to this document:

- SQL Server
- File Server
- Web Server
- Special Considerations

SQL Server

- The SQL Server runs the back-end database which stores most of the MaintStar data
- We recommend Microsoft SQL Server 2008 R2.
- It is also possible to use SQL Server 2012, or 2005.
- May be virtualized
- If not virtualized, may be shared with other applications, depending upon usage
- 16 GB recommended memory
- 40 GB disk storage (depends on usage)
- 2 CPUs
- Daily Backup and Weekly Backup, 3 generations each
- Off-Site backup weekly

File Server

- The File Server stores all images (i.e., all attachments)
- All attachments must be saved on a single server.
- We recommend Windows Server 2008 R2
- It is also possible to use Windows 2003 server or higher
- May be virtualized
- If not virtualized, may be shared with other applications, depending on usage
- 8 GB memory
- 40 GB disk storage (depends on usage)

- 2 CPUs
- Daily backup and Weekly Backup, 3 generations each
- Off-Site backup monthly

Web Server

- The Web Server runs IIS, Appeon, and the MaintStar Web Application
- May be virtualized
- If not virtualized, may be shared with other applications, depending on usage, however we recommend not sharing IIS with other applications
- 2 CPUs
- Recommended Memory: 8 GB
 - Determine how much memory is actually used. If this is not enough, then the application will slow down, and it will be visible in the VM.
- Backup: Weekly, 3 generations
- Off-Site backup: Monthly
- We recommend using two hard drives:
 - Boot Drive
 - Recommended Hard Drive Size: 40 GB
 - Runs Windows Server 2008 R2 (recommended)
 - Application Drive
 - Recommended Hard Drive Size: 60 GB
 - Runs this software:
 - Appeon Server - 2 GB download 250MB installed
 - MaintStar - 120 MB
 - Work Request - 30 MB (optional MaintStar application)
 - Client/Server version of MaintStar - to run the Upgrades, etc. - 1 GB

Special Considerations

Appeon Licensing

- Appeon License program depends on the MAC Address on the Server.
- If the MAC address changes, sooner or later, perhaps weeks later, it may stop the entire application from running, with a License Error.
- This may happen after making only minor change to the VM, with no intention of changing the MAC Address.
- Please configure the VM to ensure the MAC Address stays fixed.
- Licensing is also based on number of CPUs.
- If you need to change the MAC or Number of Licenses, please call MaintStar Support well in advance.
- The license we will provide is for 2 CPUs (not cores, not sockets)
- If there is a licensing issue, we can usually get a new license within 24 hours, so please coordinate with us any changes which may require a new license.

-
- You are able to start with one CPU, then go to 2 CPUs with the same license, but please let us know to be sure.

IIS Configuration

- Ideally, we want no other IIS apps installed, so we can safely do the "IISReset" command - covered because we have a virtual server.
- We recommend a daily, scheduled IIS Reset, perhaps around midnight, to improve the speed of the application and free up memory. This is a recommendation for the VM environment. We can supply a batch file and set up the Windows Scheduler to accomplish this.

I/O ACTIVITY

This is a typical profile of Input/output Activity:

- 80% of all I/O will happen on the Database server
- 15% of all I/O will happen on the Application Server
- 5% of all I/O will happen on the Image Server

VM Rebooting

- Some problems, rarely, do require a reboot of the VM.

Adjust As Needed FOR THE FUTURE

These are absolute bare requirements, we recommend having a drive with ample free space to prevent performance issues. Once a hard drive becomes 90% full, the performance starts to degrade rapidly.

To Support Infor Hansen 8

Overview

This section lists the hardware and software requirements that must be in place before you can install and use Hansen 8. Both Infor and the appropriate agency staff must sign off on these requirements before an Infor representative will begin installing Hansen 8.

Included in this section are:

- Notes
- Pre-Installation Checklists
- Typical Hansen 8 Hardware/Firmware/Network Requirements
- Notes regarding installing Hansen 8 on Windows Vista

Note on 64-Bit Architecture

Starting with the 8.0.7 release, Infor recommends a 64-bit architecture for best performance. 64-bit architecture means the application server uses 64-bit processors, such as AMD64 or Intel x64, and is running the 64-bit version of Windows Server 2003 or Windows Server 2008. Switching from a 32-bit to a 64-bit platform dramatically increases the amount of RAM a processor can handle and thus increases the number of simultaneous users Hansen 8 can accommodate.

A 32-bit processor can store up to 2^{32} addresses in memory, giving a maximum of 4 GB of RAM. A 64-bit processor, on the other hand, can store up to 2^{64} addresses, for a maximum of 16 exabytes (EB) of RAM. An exabyte is equal to about 1,000,000,000 gigabytes. Although 16 EB of RAM is far beyond the capacity of current servers, complex multi-user applications such as Hansen 8 are already pushing up against the 4 GB limit of the 32-bit architecture, making the switch to 64 bits a desirable choice.

Note Not all applications that interact with Hansen 8 will work on a 64-bit platform. For example, Crystal XI embedded reports aren't currently supported in a 64-bit environment.

Also note that ArcGIS Server can work on a 64-bit platform, but IIS and [ASP.NET](#) will need to be configured to run in 32-bit mode.

Note on Virus Scanning

Infor has discovered that active virus scanning on Hansen 8 production servers can affect system performance. This applies primarily to the Windows, Mapping Services, Web Services, and Hansen 8 directories. Infor therefore recommends that you turn off virus scanning on live Hansen 8 servers.

Virus scanning can be turned off because Hansen 8 is typically accessed over an agency's intranet, which is protected from outside access by a firewall. In addition, the Hansen 8 database is typically hosted on a separate server. The simplest solution is to turn off all active virus

scanning on the Hansen 8 server, although you may only want to turn off virus scanning on the affected directories. At a minimum, for best performance, active virus scanning must be turned off on all web and Windows directories on each production server.

Note on IIS 7

If you're using IIS 7, you will need to install Windows Authentication before installing

Hansen 8. The Hansen 8 site uses Windows Authentication, but this feature is not installed by default.

To install Windows Authentication in Windows Server 2008, open the Server Manager and select the **Web Server (IIS)** node under **Roles**. Then scroll down to the **Role Services** section for the Web Server role and click **Add Role Services**. In Windows Vista or Windows 7, select **Programs and Features** in the Control Panel and then click **Turn Windows features on or off**.

In addition, you will need to make sure your Hansen 8 website in IIS 7 is using a classic .NET application pool rather than the default. To change the application pool, open the Advanced Settings dialog box for the site and change the application pool to `Classic .NET AppPool`. If you need to add a new application pool for Hansen 8, make sure you select `Classic` from the **Managed pipeline mode** list box.

Pre-Installation Checklists

Application/Web Server and Clients

The following list describes the hardware and software requirements for the Hansen 8 application/web server, as well as minimum requirements for client workstations that will access Hansen 8. Both Infor and the appropriate agency staff member must sign off on these requirements before an Infor technician will begin installing Hansen 8.

Application/Web Server:

- Windows Server 2003 or 2008 with latest service pack (64-bit recommended for best performance.)
- Application/Web Server is *not* installed on a
- Domain Controller
- Turn off active virus scanning on production servers (See Note on Virus Scanning, above.)
- **CPU:** See Typical Hansen 8 Hardware/Firmware/Network Requirements, below.
- **Memory:** See Typical Hardware/Firmware/Network Requirements, below.
- **Disk Space:** See Typical Hardware/Firmware/Network Requirements, below.
 - Note that a single instance of Hansen 8 can occupy up to 500 MB of disk space.
- Static IP address recommended
- IIS 6.0, 7.0, or 7.5

-
- If using IIS 7.0 or 7.5, Windows Authentication must be installed and the Hansen 8 site must use a classic .NET application pool.
 - Tested Oracle or SQL Server ODBC Connection to Databases
 - .NET 3.5 with SP1 is installed and enabled
 - **Note** [ASP.NET](#) must be configured to run under full trust.

Client Workstations:

- Internet Explorer 8 or Internet Explorer 9†
- WWW connection between Internet Explorer client and H8 Application/Web Server (check proxy server settings, if used)

† There is a known issue in Internet Explorer that can lead to memory leaks, causing IE to stop responding when you look up and scroll through large numbers of records in Hansen 8. This issue can be corrected by editing the Windows registry on the client machine. Set the following registry value to a string value of "yes" or a binary value of 1:

```
HKEY_CURRENT_USER\Software\Microsoft\Internet Explorer\Main\Cleanup HTC
```

See this article on the Microsoft Support site for more information:
<http://support.microsoft.com/default.aspx?scid=kb;EN-US;309170>

DynamicPORTAL Server

If you're using DynamicPORTAL with Hansen 8, the specifications for the DynamicPORTAL server are the same as for the Hansen 8 application/web server.

Batch Processing and Interface Servers

If your agency will make heavy use of batch processing with Hansen 8, or if you intend to use Hansen 8 Web Services to build interfaces with other applications, you may need additional servers to handle the load. The specifications for a batch processing server or an interface server are the same as for a Hansen 8 application/web server.

Database Server

The following list describes the hardware and software requirements for the database server that you plan to use with the Hansen 8 Application/Web server. Both Infor and the appropriate agency staff member must sign off on these requirements before an Infor technician will begin installing and setting up the Hansen 8 Application/Web server software.

- Oracle 10g or 11g; or SQL Server 2005 or 2008
- Create database
 - Oracle only:
 - Database must include a USERS tablespace.

- Database must use WE8MSWIN1252 character set.†
- Windows Server 2003 or 2008
- Static IP address recommended
- **CPU:** See Typical Hardware/Firmware/Network Requirements, below.
- **Memory:** See Typical Hardware/Firmware/Network Requirements, below.
- **Disk Space:** See Typical Hardware/Firmware/Network Requirements, below.

† You can use the following script in SQL *Plus to check the character set your Oracle database is using:

```
SELECT value
FROM sys.props$
WHERE name = 'NLS_CHARACTERSET'
```

If the character set is US7ASCII, the following script will change it to WE8MSWIN1252:

```
SHUTDOWN IMMEDIATE;
STARTUP MOUNT;
ALTER SYSTEM ENABLE RESTRICTED SESSION;
ALTER SYSTEM SET JOB_QUEUE_PROCESSES=0;
ALTER DATABASE OPEN;
ALTER DATABASE CHARACTER SET WE8MSWIN1252;
SHUTDOWN IMMEDIATE;
STARTUP;
```

GIS Server

If you are using Hansen 8's GIS components (MapService, MapTileAdministrator, and MapTileGenerator), Infor recommends that you install these components, along with your GIS application, on a separate server. The following list details the hardware and software requirements for the GIS server. Both Infor and the appropriate agency staff member must sign off on these requirements before an Infor technician will begin installing and setting up the Hansen 8 Application/Web server software.

- GIS application installed (ESRI ArcIMS, ESRI ArcGIS Server, Intergraph WebMap, or Autodesk MapGuide)
- Windows Server 2003 or 2008 operating system with latest service pack†
- IIS 6.0, 7.0, or 7.5
- .NET 3.5 with SP1 is installed and enabled
 - **Note** [ASP.NET](#) must be configured to run under full trust.
- **CPU:** See Typical Hardware/Firmware/Network Requirements, below.
- **Memory:** See Typical Hardware/Firmware/Network Requirements, below.
- **Disk Space:** See Typical Hardware/Firmware/Network Requirements, below.

† If you're installing ArcGIS Server on a server with a 64-bit processor, IIS and [ASP.NET](#) must be configured to run in 32-bit mode.

Typical Hansen 8 Hardware/Firmware/Network Requirements

The following tables list the hardware requirements for the Hansen 8 application server and database server based on the expected number of users in your agency that will be accessing Hansen 8. Use these lists in conjunction with the pre-installation checklists in this document to make sure you're ready to install Hansen 8.

The hardware specifications in the tables below are based on capacity load and not necessarily overall performance. Also, the specifications are limited to production servers, and do not include development or training systems.

For all machine recommendations, if web farming or horizontal virtualization is not used, Infor recommends having a backup server as a failover for each production server. The specifications for the backup are the same as for the production server. In a live environment in excess of 200 simultaneous web requests, Infor recommends a horizontally scaled web farm that can reduce contention and improve end-user performance.

Hansen 8 Web/Application Server (32 bit)

The following table lists the typical hardware requirements for a 32-bit platform, based on the expected number of users.

Simultaneous Users	Number of Machines	CPU (GHz)	Memory (GB)	Hard Disk Space (GB)
0–99	1	dual 3.0	4	80
100–150	1	quad 3.0	8	80
150–300	2	quad 3.0	8	80 - each machine

Hansen 8 Web/Application Server (64 bit)

The following table lists the typical hardware requirements for a 64-bit platform, based on the expected number of users.

Simultaneous Users	Number of Machines	CPU (GHz)	Memory (GB)	Hard Disk Space (GB)
0-300	1	quad 3.0	8	80
300-700	2	quad 3.0	8	80 – each machine
700-1000	3	quad 3.0	8	80 – each machine

Note If you plan to make heavy use of reporting, then the Hansen 8 integrated reporting may not be sufficient. A separate SQL Server Reporting server or Crystal Enterprise server should be used. Also note that if you plan to make heavy use of Hansen Attachment files, then you may need one or more additional servers or Storage Area Network (SAN) to handle the disk space requirements.

Hansen 8 Database Server

Simultaneous Users	CPU (GHz)	Memory (GB)	Hard Disk Space (GB)
0-99	Single 3.0	4	80
100-249	Dual 3.0	8	80
250 or more	Quad 3.0	16	160

GIS Server

The following table lists the typical hardware requirements for the server you plan to use for your GIS application and the Hansen 8 GIS components.

CPU (GHz)	Memory (GB)	Hard Disk Space (GB)
Dual 3.0	4	Each layer requires approximately 1 to 1.5 GB for tile caching.

Network Requirements

Client Network Card	H8 Web/Application Server Network Card	H8 Database Server Network Card
100 Mbps	1000 Mbps (1 Gbps)	1000 Mbps (1 Gbps)

Client Workstations

The following table lists Infor's recommendations for best performance of the client machines that access Hansen 8 over the network. Note that less powerful machines can work with Hansen 8, but users will experience a loss of performance. Note also that releases prior to 8.1.0 do not support Windows Vista on client machines.

CPU (GHz)	Memory (GB)	Video Card
Single 2.0 (single 3.0 preferred)	1 (2 GB preferred, especially if using Windows Vista)	Dedicated video card recommended to handle Hansen 8 graphics

Other Recommendations

- Use separate computers for the Hansen 8 application/web server and the database server.
- Use Raid1 (redundancy, but no hot standby) for the application/web server.
- Use Raid5 for the database server (at least 3 disks; one of the disks is only used for parity striping).
- Reduce Web server logging to a minimum.
- Disable real-time virus scanning; of course, the client has final choice on this recommendation, depending on their agency's security policies.
- For international installations, make sure the server's Regional and Language Options (in Control Panel) are set correctly.

Consult database vendor for tips on optimizing performance of database application (e.g., separate drives for database files and log files).

Installing Hansen 8 on Windows Vista

Hansen 8 will typically be installed on Windows Server 2003 or 2008 in a production environment, but it may also be installed on Windows XP or Vista for demonstration purposes. If you want to install Hansen 8 on Vista, note that you will need to use the Business or Ultimate edition, since the other editions don't include IIS 7.

You will also need to turn on the following Windows features in Vista:

Under **Internet Information Services / World Wide Web Services / Application Development Features**, check **.NET Extensibility, ASP .NET, ISAPI Extensions, and ISAPI Filters**.

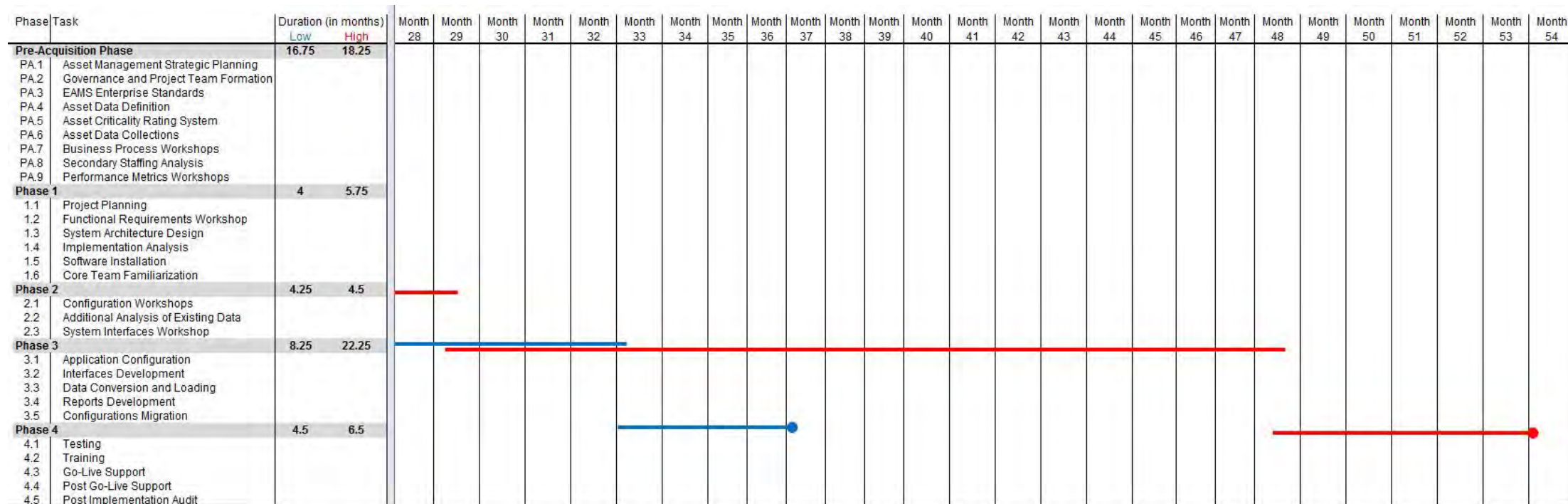
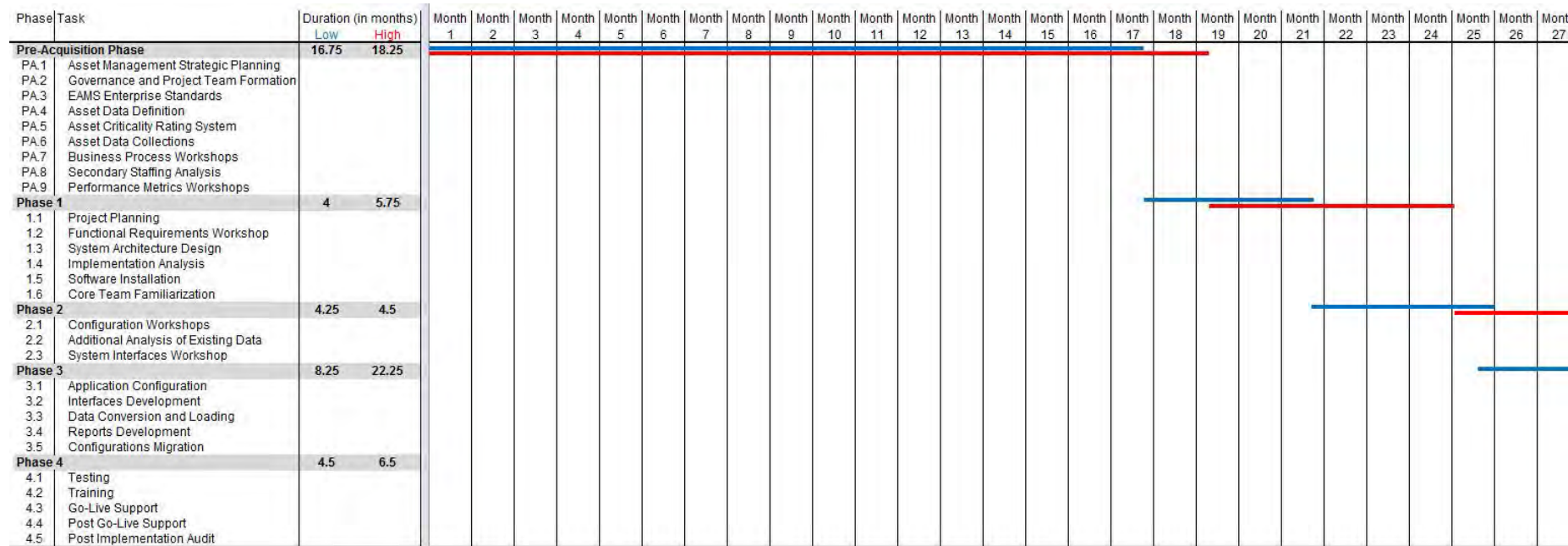
Under **World Wide Web Services / Security**, check **Windows Authentication**.

Note If you add Windows Authentication *after* installing Hansen 8, you will also need to add it manually for the Hansen 8 website in IIS 7.

Finally, you will need to make sure your Hansen 8 website in IIS 7 is using a classic .NET application pool rather than the default. To change the application pool, open the Advanced Settings dialog box for the site and change the application pool to `Classic .NET AppPool`. If you need to add a new application pool for Hansen 8, make sure you select `Classic` from the **Managed pipeline mode** list box.

IMPLEMENTATION TIMELINE ESTIMATES

The following is an estimate of the project timeline, presented in a Gantt chart format. Time frames may vary and/or slide based on availability of project resources. Interface development, Task 3.2, may occur concurrently with other configuration work.



INTRODUCTION

This section provides an in-depth view of IRWD's Water Operations, Wastewater Operations, Water Quality, and Facilities divisions. Findings are grouped and presented under the key business areas.

The findings are based on a compilation of information gathered through:

1. *Review of management and operations documentation;*
2. *Face-to-face work sessions and interviews with a variety of stakeholders; and*
3. *Preliminary data extracted from Tabware and various spreadsheets.*

This gap analysis compares the current situation (where we are) using findings gathered through the workshops to the EAMS goals and objectives (where we want to be). Each business unit's technology used, data, staffing, and work practices are outlined below. Recommendations for addressing the challenges (closing the gap) are presented, and relate closely to initiatives previously identified in the Asset Management Strategy Report (AMSR). The sequencing in which AMSR initiatives should be addressed is also presented in section one of the implementation roadmap.

The Section 2 Roadmap and Section 3 Gap Analysis address the following gaps to be closed as part of the EAMS implementation:

- Funding for technology and data
- Personnel and training
- EAM practices and processes
- The organizational structure (governance) of the EAMS Implementation
- AMSR initiatives
- Interfaces and options for the EAMS software

DATA STANDARDS

Asset Classes

The following is a list of current asset classes utilized at IRWD. There appear to be multiple redundancies in some classes (e.g. air compressor, comp air, compressor), which can promote incorrect application and data quality issues. In addition, there appear to be several classes that more likely represent components and/or parts of assets rather than actual assets (e.g. flow elements, level elements).

- ACTUATOR
- AIR COMPRESSOR
- ANALYSIS ELEMENT WITH ANALYSIS INDICATING TRANSMITTER
- ANALYSIS ELEMENT WITH ANALYSIS TRANSMITTER
- AUTOMATIC VALVE
- BLOWER
- BLOWER MOTOR
- CAPACITANCE LEVEL PROBE
- CENTERFUGE
- CHLORINATR
- COLLECTOR
- COMP AIR
- COMPRESSOR
- COMPRESSOR MOTOR
- CONTROL PANEL
- CP TEST ST
- DEWATERING
- DIFFERENTIAL PRESSURE INDICATOR
- DTCT GAS
- DTCT GAS P
- ENGINE
- FACILITY
- FAN
- FAN VENT
- FEEDER
- FINESCREEN
- FLOW INDICATOR
- FLOW ALARM
- FLOW CONTROLL VALVE
- FLOW ELEMENT
- FLOW ELEMENT WITH FLOW TRANSMITTER
- FLOW ELEMENT WITH FLOW INDICATING TRANSMITTER
- FLOW SWITCH HIGH
- FLOW SWITCH LOW
- GATE
- GEAR BOX
- GENSET
- HYDRANT
- HYDRANT C
- HYDRANT R
- LANDSCAPE
- LEVEL SWITCH HIGH HIGH
- LEVEL SWITCH LOW
- LEVEL SWITCH LOW LOW
- LEVEL DIFFERENTIAL
- LEVEL DIFFERENTIAL HI
- LEVEL ELEMENT
- LEVEL ELEMENT WITH LEVEL INDICATING TRANSMITTER
- LEVEL ELEMENT WITH LEVEL TRANSMITTER
- LEVEL SWITCH HIGH
- MAIN LINE
- MANHOLE

- METER
- METER
- METER FH
- METERING PUMP
- MIXER
- MOTOR
- MOTOR PUMP
- PIPE
- PRESSURE SWITCH LOW
- PRESSURE DIFFERENTIAL TRANSDUCER
- PRESSURE ELEMENT WITH PRESSURE INDICATING TRANSMITTER
- PRESSURE ELEMENT WITH PRESSURE TRANSMITTER
- PRESSURE INDICATOR
- PRESSURE SWITCH HIGH
- PRESSURE SWITCH HIGH LOW
- PROBES
- PUMP
- PUMP CIRC
- PUMP INJEC
- PUMP MOTOR
- PUMP RECRC
- RECTIFIER
- RESISTANCE TEMPERATURE DETECTOR
- SCREEN
- SCRUBBER
- SCUM COLLECTOR
- SLIDE GATE
- SLUICE GATE
- TELEMTRY
- TEMPERATURE ELEMENT WITH TEMPERATURE INDICATING TRANSMITTER
- TEMPERATURE ELEMENT WITH TEMPERATURE TRANSMITTER
- TEMPERATURE INDICATOR
- TEMPERATURE SWITCH HIGH
- TEMPERATURE SWITCH LOW
- TRANS MEMBRANE PRESSURE
- VACUM BREAKER
- VALVE
- VALVE PM C
- VALVE, CTL
- VEHICLE
- VIBRATION SWITCH
- W/C
- WASHER / CLASSIFIER
- WEIGHT ELEMENT WITH WEIGHT INDICATING TRANSMITTER
- WELL

Asset Attributes

Asset attribute data is not consistent across asset classes. Below is an example of what is available for certain valves. There appear to be some attributes that are more descriptive of how the asset is used (e.g. Suction/Discharge) rather than identifying physical or operational characteristics of the asset (e.g. material of construction). Similarly, there appear to be some attribute “values” that are more descriptive of how the asset is used (e.g. butterfly flow control). In addition, there appear to be some redundancy in attribute “values” which provide no value and can promote data quality issues.

Asset Class	Attribute	Value
VALVE	EQUIPMENT TAG NUMBER	
	TYPE	Backflow Preventer
		Ball Check

Asset Class	Attribute	Value
		Ball
		Butterfly
		Butterfly Flow Control
		Butterfly
		Check
		Gate
		Hand
		Motor Operated
		Mud
		Plug
		Pressure Reducing
	REFERENCE SHEET	
	SIZE	4"
		6"
		8"
		10"
		12"
		14"
		16"
		18"
		20"
		24"
		30"
		36"
	MOTORIZED OPERATION	MANUAL
		MOD
		Motorized Operation
		Op/Cl
		Pneumatic
	HORSEPOWER	
	SUCTION/DISCHARGE	SUCTION
		DISCHARGE
		N/A

Failure Reporting

When used properly, failure reporting provides the basis for improved maintenance tactics. Below are the failure reporting structures, per asset class, as they currently exist in Tabware. While the failure reporting structures appear to be asset class oriented, it should be noted that there are considerably less reporting structures than there are asset classes identified above. This tends to indicate that failure reporting may not be possible for certain asset classes (e.g. blower, chlorinator). In addition, it should be noted that the reporting structures are such that they support reporting problems and remedies, but do not account for reporting causes of the problems. Capturing the “cause” for a problem is fundamental to being able to

perform effective failure analysis, and determining what corrective measures should be taken to prevent recurring failures.

Asset Class	Failure Report Code	Value
Compressor	Condition	Leaking
	Action	Repair
CP Test St	Component	Box
		Concr Pad
		Lid
		Marker Pst
	Condition	Broken
		Missing
	Action	Install
		Replace
Dtct Gas	Component	Sensor
		Sensr Zero
	Condition	Drifting
Dtct Gas P	Component	Batteries
		Case
		Display
Filter		
Hose		
Keypad		
Pump Samp		
Sensor CO		
Sensor H2S		
Sensor LEL		
Sensor Oxy		
Trap Water		
Condition		Corroded
	Damage Wtr	
	Dead	
	Dirty	
	Dropped	
	Eroded	
	Flooded	
	Leaky	
	Out Date	
	Out Toler	
	Plugged	
Torn		
Action	Calibrated	
	Charged	
	Cleaned	
	Dried Out	

Asset Class	Failure Report Code	Value	
Engine		Repair	
		Replace	
		Tested	
	Component	Cataly Con	Heat Exch
			Manifold
		Condition	Broken
			Cracked
			Damaged
			Dirty
			Leaking
			Not Oprtng
			Not Wkng
			Oil Leak
			Unsafe
Action	Adjust		
	Clean		
	Inspect		
	Repair		
	Replace		
Facility	Component	Building	
		Landscape	
		Site Sign	
	Condition	Broken	
		Corroded	
		Cracked	
		Damaged	
		Dirty	
		Flooded	
		Graffiti	
		Leaking	
		Missing	
		Unsafe	
		Worn	
	Action	Adjust	
		Clean	
		Exchange	
		Inspect	
Other			
Repair			
Replace			
Fan	Component	Louvers	
Fan Vent	Component	Louvers	
Hydrant	Component	Biscuit	
		Bury	
		Nozzle	

Asset Class	Failure Report Code	Value
		O-Ring
		Spool
		Stem
	Condition	Bent
		Damaged
		Worn
	Action	Install
		Repair
		Replace
Hydrant C	Component	Biscuit
		Bury
		Spool
	Condition	Bent
		Damaged
		Worn
	Action	Install
		Repair
		Replace
Hydrant R	Component	Biscuit
		Bury
		Spool
	Condition	Bent
		Damaged
		Worn
	Action	Install
		Repair
		Replace
Landscape	Action	Install
Main Line	Component	Blow Off
		Sample St
	Action	Abandon
		Inspect
		Install
		Repair
Replace		
Manhole	Component	Landscape
		Line
		MH Channel
		MH Cone
		MH Cover
		MH Riser
		MH RngCovr
		MH Shelf
		MH Steps
	Condition	Bent
Broken		

Asset Class	Failure Report Code	Value		
		Coating		
		Corroded		
		Customer		
		Damaged		
		Dirty		
		Grease		
		Grease1		
		Grease2		
		Grease3		
		I&I		
		Joints Bad		
		Leaking		
		Mssng Grout		
		Mssng Lid		
		Nd Lwring		
		Nd Raising		
		Obstruct		
		Obstructed		
		Other		
		Pest		
		Roots		
		Roots1		
		Roots2		
		Roots3		
		Srvicable		
		Sulfided		
		Unsafe		
		Action		Abandon
				Adjust
				Clean
				Inspect
				Repair
Replace				
TV				
Meter	Component	Chamber		
		Debubbler		
		Disc		
		Meas. Elem		
		Meter		
		Register		
		Remote		
		Strainer		
	Condition		Broken	
			Condens.	
			Damaged	
			Dirty	

Asset Class	Failure Report Code	Value
		Failure
		Fast
		High
		Hrd to Rd.
		Low
		Missing
		Mssng Lid
		No Ser. #
		Not Oprtng
		Operates
		Other
		Remote
		Slow
		Smashed
		Stopped
	Action	Exchange
		Install
		Other
		Recalib
		Repair
Replace		
Test		
Motor	Component	Bushing
		Temp Swtch
	Condition	Dirty
	Action	Clean
Replace		
Motor Pump	Component	Bushing
		Dirty
	Action	Clean
		Replace
Pipe	Component	Anode
		Blow Off
		Cold Patch
		Dewatering
		Main Line
		Pipe
		Sample St
		Servc Line
		Svc Copper
		Svc Iron
		Svc Poly
		Svc Steel
		Valve
	Condition	Broken
		Damaged

Asset Class	Failure Report Code	Value
		Dewater 1
		Dewater 2
		Dewater 3
		Dewater 4
		Dewater 5
		Failure
		Smashed
	Action	Inspect
		Install
		New Copper
		Relocate
		Repair
		Replace
	Pump	Component
Shaft Seal		
Condition		Damaged
		Leaking
Action		Modificat.
		Rebuild
		Repair
		Replace
Rectifier	Component	115 Vac Hr
		115 Vac O
		Ameter
		Arrstr AC
		Arrstr DC
		Choke
		Circt Brkr
		Ext Shunt
		Fuse
		Fuse AC
		Fuse DC
		Stack
		Transfrmr
		Volt meter
	Condition	Broken
		No Deflect
		Open
		Short
		Trip
	Action	Inspect
Install		
Replace		
Reset		
Tested		
Service	Component	Angle Stop

Asset Class	Failure Report Code	Value	
		Anode	
		Corp Stop	
		Cust Leak	
		Exist Line	
		Servc Line	
		Svc Copper	
		Svc Iron	
		Svc Poly	
		Svc Steel	
		Valve	
		Condition	Broken
	Customer		
	Damaged		
	Failure		
	Other		
	Worn		
	Action	Abandon	
		Inspect	
		Install	
		Locate	
		New Copper	
		Relocate	
		Repair	
		Replace	
	Telemetry	Condition	Missing
		Action	Locate
	Valve	Component	2 Pc Washr
Conn Link			
Cover Bolt			
Cover Brng			
Cover Gskt			
Diaphragm			
Disc			
Disc Retnr			
Float			
Float Arm			
Needle			
Needle Pin			
O-Ring			
Poppit			
Seat			
Solenoids			
Speed Ctrl			
Spring			
Stem			
Stem Nut			

Asset Class	Failure Report Code	Value
		Valve
		Valve Ball
		Valve Gate
		Valve RW
		Yoke
		Y-Strainer
	Condition	Bent
		Broken
		Cavitated
		Clogged
		Corroded
		Damaged
		Failure
		Hole
		Missing
		Not Wkng
		Worn
	Action	Clean
		Exchange
		Flush Out
		Inspect
		Install
		Locate
		Relocate
		Repair
		Replace
Valve Pm C	Component	Bellows
		Body Studs
		Cover
		Cover Brng
		Diaph Wshr
		Diaphragm
		Disc
		Disc Assmb
		Disc Guide
		Disc Retnr
		Gasket
		Lock Washr
		Lower Stem
		Nut
		O ring Pwb
		O-Ring
		Pin
		Pwrtrl bdy
		Seat
		Seat O Rng

Asset Class	Failure Report Code	Value	
		Spacer Wsh	
		Spring	
		Stem	
		Thrust wsh	
		Upper Stem	
		Valve	
	Condition	Broken	
		Cavitated	
		Cracked	
		Perforated	
		Worn	
	Action	Replace	
	Valve, Ctl	Component	Adj Screw
			Bdy Strnr
			Bellows
CB			
DG			
Dia Wsh As			
Diaph Wshr			
Diaphragm			
Disc			
Disc Guide			
Disc Retnr			
Disc Rt As			
DR			
DW			
Gasket			
HPSID			
Jam Nut			
Lock Washr			
Lower Stem			
Machn Scrw			
Nut			
O Ring Bon			
O Ring Plg			
O ring Pwb			
O-Ring			
Pilot			
Pin			
Pwrtrl bdy			
RK			
Screen			
Seat			
Seat O Rng			
SN			
Spring			

Asset Class	Failure Report Code	Value
		Stem
		Thrust wsh
		Upper Stem
		Valve
		Yoke Assmb
	Condition	Broken
		Cavitated
		Corroded
		Out of Srv
		Perforated
		Worn
	Action	Adjust
		Cleaned
		Inspect
		Install
		Repair
		Replace
Service		
Vehicle	Component	Batteries
		O-Ring
	Condition	Bent
		Broken
		Corroded
		Damage Wtr
		Damaged
	Action	Adjust
		Calibrated
		Cleaned
Inspect		
Repair		
Well	Component	Well
	Condition	Graffiti
	Action	Clean

Work Management Tracking Systems and Data

Multiple information systems are used to manage and track maintenance activities. However, these systems are disparate and not interfaced in any manner. In addition, while the nature of the data collected in each system may similar in intent, data standards are not applied uniformly within and across all systems. While it is recognized that this may be due in part to system capability limitations, it results in maintenance history that is fragmented across multiple systems. Consequently, this makes being able to evaluate the information from a holistic perspective challenging if not near impossible.

Tabware

Several inconsistencies exist in Tabware with the following, but not limited to: addresses and/or physical locations, job descriptions, department and shop values, work classes and work types.

Existing work order types are as follows:

- Emergency
- PM - Master Plan
- PM - Work Order
- Routine
- Standard Request

Existing work order status codes are as follows:

- 0 - Entered
- 20 - In Planning
- 30 - Planning Complete
- 40 - Awaiting Material
- 50 - Material Reserved
- 60 - Ready to Work
- 70 - Completed
- 75 - Closed Incomplete
- 79 - Closed to Charges
- 80 - Cancelled

Existing work order classes are as follows:

- 17
- Abandon
- Building
- Calibrate
- Capital
- Chambr Ex
- Charge
- Chlorin.
- Clean
- ColdPatch
- Construct
- CPT Adj
- CSR
- CSR Leaks
- CSR Meter
- CSR Water
- Electrical
- Engine
- Excavate
- Fabricate
- Field Flow
- Field Srvy
- Flush
- Grounds
- HVAC
- Inspect
- Install
- Irrigation
- Isolate
- Leak Detec
- Locate
- Machinist
- Mainten.
- Mechanical
- Meter Set
- Mnhole Adj
- NULL
- P.M.
- Paint
- Plumbing
- Rebuild
- Relocate
- Remove
- Repair
- Replace
- Repr Field
- Repr Servc
- Repr Shop
- Repr Valve
- Repr/Test
- Safety
- SCADA
- SCADA Adm
- SCADA Cap
- SCADA Mnt
- SCADA Mod
- SCADA Rep
- Service
- Set Up
- Shop Flow
- Shutdown
- Slurry
- SOP
- Survey
- Sys Maint
- SysMod
- Test
- Vactor
- Valve Adj
- Wash Down
- Weld

Existing asset criticality is as follows:

- 1 – Critical safety protective devices
- 2 – Critical to entire plant operation
- 3 – Critical to continued production
- 4 – Ancillary System to main production
- 5 – Critical to continued secondary production
- 6 – Ancillary System to secondary production
- 7 – Standby unit in a critical system
- 8 – Standby unit in a non-critical system
- 9 – Ancillary Equipment

Collection System

The collection system Access database contains approximately 121,000 pipe cleaning records, which include:

- Date
- Operator (employee ID number)
- Equipment (truck number)
- Work type
- Downstream MH ID
- Upstream MH ID
- Street Name
- Condition
- Comments

AS400 - Cathodic Protection Testing

- Reads of conductivity of metallic pipelines
- Very difficult to find testing lines in field. Offset from mains/behind curbs
 - Started collecting GPS locations. Incomplete. Hope to add to Mapplet
 - Wires do not always have ID tags that refer back to pipeline ID
 - Pipe ID includes material, atlas page, stationing
- Data includes location and domestic/reclaimed/untreated system info

AS400 - Control Valves

- Broken down by domestic, reclaimed, untreated systems
- Broken down by season
- Valves have unique IDs
- CVs are NOT in Mapplet/GIS
 - Many valves to valve station, Mapplet could not accommodate location-asset hierarchy
- Valves listed by number, last service date
- Comments area MAY have comments, repairs, labor hours
- Station name captured
- Street/location captured

-
- Worker can search by location, but data population is inconsistent

Field Mapplet

- Valves
 - Valve work history
 - Date turned
 - Valve type (gate, butterfly, etc.)
 - Turns to close
 - Open/close status
 - Operational status
 - Torque – currently not used
- Hydrants
 - Manufacturer
 - Wet vs. dry barrel
 - Residential vs. commercial
- Each asset has a unique ID based on atlas page number
 - Service valve-atlas page-valve no
 - SV121N1234
- Mapplet keeps a running total of PMs completed for each asset.

DEPARTMENT REVIEWS

WASTEWATER OPERATIONS

Current Situation

The Wastewater Operations group is divided into several sections, including Electrical Maintenance, Mechanical Maintenance, Collections Systems, MWRP Operations, and the Los Alisos Recycling Plant. Electrical and Mechanical Maintenance utilize Tabware to track their work; Collections uses an Access database loaded with GIS asset data to track cleaning. Wastewater Operations performs a wide variety of response-based and preventative maintenance work, which is discussed in more detail below.

Technology Used – O&M

- Tabware
- Various workbooks, spreadsheets and hard-copy files are maintained for reporting purposes.
- Reservoir management assets are tracked via Spreadsheets

Technology Used – Collection Systems

- IBM AS400 J-Walk application for customer service requests
- Access database tracking cleaning work and sewer conditions
- Word document daily worksheets (re-typed into Access DB daily)
- Lift station inspection worksheets (scanned and saved to network drive)
- Tabware to enter work requests for Construction & Repair
- CCTV crews have laptops; they docks and update Spatial Wave's Field Mapplet daily. Flexidata software is used in CCTV trucks.

Current Staffing – O&M, MWRP Operations

- Electrical Services
 - One manager
 - Two supervisors, with three resources underneath each of them
- Mechanical Maintenance
 - One manager
 - Three supervisors, with four resources each underneath two of the supervisors and two resources underneath the third supervisor. Each mechanic is responsible for 30 work sites, and around 180 pieces of equipment.

-
- MWRP Operations - Two supervisors, with four resources underneath one supervisor and five resources underneath the other.

Current Staffing – Collection Systems

The collection system has 17 employees in the group:

- One manager (Springman)
- Two supervisors, with six resources underneath one supervisor and five resources underneath the other
- Two camera operators and CCTV trucks

One senior odor control person reports directly to the manager

Vactor crews run as 2-man crews, 6 vactors are out every day

O&M Preventative Maintenance

Mechanical Maintenance performs the following preventative maintenance (PM) activities:

- All equipment that needs lubrication
 - PMs initially set up based on manufacturer specifications
 - Updated when new synthetic lubricants are used, which have a longer lifespan
 - If the equipment is in warranty, manufacturer specs for maintenance/lubricants are used
- Drip traps and compressor traps, monthly cycle
- Condition testing/vibration testing
 - Adaptive PM cycle, updated as necessary
- Well field pump vibration testing – quarterly cycle
 - All other pumps, under 100 HP – annually
- Generators
 - Currently perform source testing and load bank testing
 - Will be adding emissions testing
 - Annual cycle
- Normal Rounds
 - Chemical feed systems
 - Calibrating dosage rates
 - Run pumps
 - Remove mixers from reservoirs - clean injectors every week
 - Team of two performs rounds every day
- Well packing adjustments
- Well sand tests
- Other PM cycles include chlorine safety scrubbers, media cleaning, regulator cleaning, condensers/water pumps/coils around motors, checking fans and fan belts, and oil quality sampling.

O&M Corrective Maintenance and Miscellaneous Work Requests

Wastewater Operations O&M performs the following corrective maintenance (CM) activities and other miscellaneous work requests from other departments:

- Mechanical Maintenance and Electrical Services perform all of mechanical and electrical maintenance work for both wastewater and water operations
- Fabricate computer/television monitor mounts
- Fleet
 - Vehicle mounts
 - Auxiliary battery mounts
- Vactor truck customization for large-diameter sewer cleaning
- Gas-lifted SCADA display mounts
- Well rehabilitation requests from Engineering
- Equipment repair
- Worked with OSHA to build straps to link/secure storage shelves
- Fence & gate welding for Facilities
- Plan checks for engineering. O&M may write equipment specifications

Collection Systems Customer Service Request Response, Other Work

Collection System workers are the first responders to many customer service requests. This includes, but is not limited to, sewer blockages or backups, noisy manhole covers, spills, odor complaints, and other customer complaints.

Customer service requests come in via AS400 system. The quantity of calls coming in is described as a “handful”, maybe 4 calls per day maximum. A collection system supervisor will respond and/or dispatch a crew, and will close out the request when complete.

The AS400 system has built in maplet, which only shows the water and reclaimed water systems, not the collection system.

Collection systems workers provide other request based work as needed, including:

- Working with IRWD Engineering & Facilities to clear brush from easement sewers
 - Easement sewers often follow waterways and other environmentally sensitive areas such as bird nesting sites.
 - Brush clearing needs approvals and permits in these areas, Engineering works to obtain permits
- Inspecting (walking) easement sewers where vactors do not have access
- Performing occasional cleaning work by request at the various treatment plants
- CCTV inspections by request for Engineering projects post-construction
- Collection system workers meet vendors who deliver chemicals at lift stations upon request
 - IRWD has replaced the majority of charcoal fan systems with chemical additions (“biomagic”) for odor and corrosion control
 - Portions of the system is concrete, which is highly affected by hydrochloric acid

Collection Systems PM Cleaning & Televising

The collection system cleaning group is primarily responsible for keeping water flowing through IRWD's 933 miles of sewer system pipes.

Scheduled or planned work includes:

- The entire sewer system is cleaned on an 18-month cycle, although trunklines over 24" are not cleaned by IRWD
 - Performance Metric: Each cleaner has a standard target of an average of 5,000 feet per day, per year
- Easement sewers are inspected more often than the 18-month cycle as they are inaccessible by vactor trucks
- CCTV – the master plan calls for 20% of the system to be televised per year; however, goals are not being met. The two CCTV crews are able to televise 10% of the system per year

Weekly reports are provided to IRWD management including:

- CCTV footage televised
- Sewer footage cleaned
- Number of general inspections
- CSRs
- Odor Complaints

Collection Systems Lift Station Inspections

The Collection System group also regularly inspects IRWD's lift stations, checking pumps, generators, wet or dry wells, control panels, and their various components.

The inspections also include pump runtime logs, notes, and issues found at each station. The inspections are tracked via hard-copy; at the end of the day the inspection logs for each station are scanned and saved to a network share.

- Performance metric: each inspector checks all lift stations on a weekly basis

Regulatory Requirements

IRWD Wastewater Operations is responsible for meeting the requirements or maintaining permits associated with the programs listed below. IRWD Water Quality also has regulatory requirements pertaining to wastewater.

- Title 22
- NPDES
- Stormwater Pollution Prevention
- Groundwater Permitting
- AQMD Emissions
- State WDR
- SSMP FOG Program
- EPA CMOM
- Emissions/source testing on rolling & stationary stock
- Annual audit

WATER OPERATIONS

Current Situation

The Water Operations group is divided into several sections, including Water Operations, Construction & Repair, Water Maintenance, Water Maintenance (PM), Water Quality, and Fleet & Facilities. Facilities, portions of Water Maintenance (CM), portions of Water Quality, and Construction & Repair utilize Tabware to track their work; however, the other groups within Water Operations use a wide variety of disparate systems for work and asset management. Water Operations performs both response-based and preventative maintenance work, which is discussed in more detail below.

Technology Used – Construction & Repair

- Tabware

Technology Used – Facilities

- Tabware

Technology Used – Water Maintenance

- IBM AS400 J-Walk application for customer service requests
- Access database for tracking water system leaks
- Tabware (mirrored interface with J-Walk CSRs)
- MS Excel for tracking daily duty sheets
- Spatial Wave's Field Mapplet USA One Call for underground utility locating
- Meter information and work tracked via hard-copy paper system

Technology Used – Water Maintenance (PM)

- Spatial Wave Field Mapplet
 - Hydrant and mainline valve PMs
- IBM AS400 J-Walk application
 - Automatic control valve service and maintenance PMs
 - Cathodic protection testing
- Tabware
 - Entering work requests for Water Maintenance (corrective maintenance) group

Technology Used – Water System Operations

- Tabware, used by wastewater O&M to track work against water operations assets
- IBM AS400 J-Walk application
 - Customer service requests (pressure, water quality)
 - Cross connection
- Asset criticality stored in MS Excel

-
- SCADA
 - LIMS

Technology Used – Water Quality

- Tabware
- Labworks

Current Staffing – Construction & Repair

The Construction & Repair group has approximately 20 employees:

- One manager (Moore)
- Five supervisors split between Modifications and Leak Repair
- Approximately 15 technicians

Current Staffing – Facilities

The Facilities group has 6 employees:

- One supervisor (Brown)
- Five facilities services technicians

Current Staffing – Water Maintenance

The water maintenance group has 13 employees:

- One supervisor (Crowe)
- Leak detection – Two water/meter maintenance technicians
- USA One Call - Three utility locators
- Chemical delivery – One driver
- Meter maintenance – Five technicians
- Meter shop – One technician

Current Staffing – Water Maintenance (PM)

- One supervisor (Licht)
- 10 water maintenance technicians

Current Staffing – Water Operations

The water operations group has 20 employees:

- One Water Operations Manager (Roberts)
- Distribution
 - Two supervisors
 - Nine operators
- Irrigation
 - One supervisor
 - Three operators

- Cross Connections
 - One supervisor
 - Three cross connections specialists

Current Staffing – Water Quality

There are four WQ employees that interact with the current CMMS. The majority of WQ workers utilize Labworks

Construction & Repair

The Construction & Repair group is responsible for major repairs to the sewer collection and water distribution systems, as well as system modifications. Most work by this group is request driven.

When repairs to the collection system are needed, the wastewater collections manager will enter work orders for Construction Services in Tabware. The manager will print atlas book pages with annotation, the Tabware work order, the CCTV inspection report, and will deliver to construction services. Minor deficiencies in system are not reported; as a result it is difficult to track minor issues.

Facilities

The Facilities group is responsible for maintaining all buildings, attributes of buildings, and all IRWD properties from the gates-in. Facilities workers perform corrective maintenance, preventative maintenance, and event type work.

Brown’s group receives work requests via phone or email. Two leads create work orders and populate them with appropriate completion notes. Unfortunately, many issues go unreported; facilities workers tend to find and fix them during routine inspections.

IRWD has approximately 190 known serviceable locations, 135 of which have landscape contracts. Most locations are in Tabware, with the exception of unknown locations.

There are a variety of PMs stored in Tabware for facilities management. Most facilities are inspected every two months, while the more heavily occupied buildings are inspected monthly.

Current PMs stored in Tabware:

- | | | |
|---------------------------------------|--|--------------------------------|
| • Annual Fire Extinguisher Change Out | • Check and clean ice machine | • Clean Facility |
| • Annual Slate Resealing PM | • Clean & check grease pan, grill, propane | • Clean OPA |
| • Building Inspection Rounds | • Clean A/C filter in Meter Shop | • Clean out dust collector |
| • Change out urinal cartridges | | • Collect Paper to Recycle OPS |
| | | • Empty test tube trash cans |

- Hotwater circulating pump PM
- Inspect
- Inspect Fire Extinguishers and sign off
- Lubricate linkage behind door pushbar
- Notify EOC Coordinator to order MRE's
- Physical Condition Inspection
- Pick up keys
- Pick up keys and reset facility
- Replace A/C Filters check unit
- Replace batteries
- Replace batteries in smoke detectors
- Replace Water filters
- Rotate Emergency Water Supply
- Service bug sprayers
- Wash vehicle
- Water Heater Maintenance

Water Maintenance

The water maintenance group is responsible for repairs to the utility systems, responding to customer service requests, the leak detection program, the meter maintenance and change-out programs, providing utility locating services, and supporting chemical deliveries. The majority of work in the water maintenance group is CSR or request-driven. Tabware is loosely integrated with the AS400 system for certain water maintenance requests, such as large meter requests. A mirrored system integration pushes requests to Tabware work orders, and a work order number will be pushed back to the CSR. All requests come into Tabware as a water leak; a water maintenance supervisor will update the work order to the correct classification, status, and water system among other fields. The address pushes to the description field, while the job information is stored as the long description.

Work requests for water maintenance come in from:

- WW/Collection system operations
- Engineering
- Preventative Maintenance
- Issues from customers via CSR system

Leak Detection

The Irvine Ranch Water District owns 1,200 miles of domestic and 330 miles of reclaimed water mains. As part of the leak detection program, 222 meters, 16 hydrants, and 16 valves are maintained as listening points. The entire system's listening points are walked each year. Leak detection information is stored in Access; once a leak is found a repair work order is entered into Tabware. Leaks found at meters are repaired at the time of detection.

Large Meter Inspection

IRWD's large meters are inspected and flow tested annually. While the work logs and PM schedule are maintained in Tabware, the actual meter asset information is stored as hard copies.

Meter Change-out Program

The meter replacement program is budgeted, and meters seventeen years and older are replaced. There are a set number of meters to be replaced each year, and no work orders are produced for these meter change-outs.

Water Maintenance (PM)

The Water Maintenance (PM) group is responsible for valve maintenance, hydrant servicing and maintenance, air vacuum release valve servicing and maintenance, bottom drain & blowoff valve servicing and maintenance, cathodic protection testing, and automatic control valve servicing and maintenance.

The Water Maintenance PM group performs the following preventative maintenance (PM) activities:

- Valve exercising (includes domestic and reclaimed systems)
 - 10" and smaller valves – 3 year cycle
 - 12" and above – annually
 - Air vacuum valve releases – 2 year cycle
 - Blow-offs at end of mains – annually
 - Bottom drains – annually
 - Control valves, including pressure regulators, prefer annually, currently on 18-month cycle
- Fire hydrants
 - Prefer annual flushing/inspection cycle, currently on 18-month cycle
 - Primary concern is verifying operability for local fire departments
 - Secondary concern is flushing

The water maintenance PM group works closely with the rest of water maintenance. Licht will enter repair work orders into Tabware for Crowe's group; Crowe will secure the encroachment permits and utility locating. Crowe's group will send lower-priority hydrant repairs to Licht's group; however, those requests are tracked in the Field Mapplet rather than Tabware.

Hydrant and valve maintenance, and cathodic protection testing are split among Tabware, AS400, and the Field Mapplet depending on the asset or activity.

Water System Operations

The Water System Operations group is divided into three sections: Distribution, Irrigation, and Cross Connection. The group's operators are responsible for normal rounds and inspections of IRWD's pumping stations and reservoirs, as well as responding to customer service requests regarding water quality and water pressure. Operators also respond to system issue alarms from the Department's five SCADA systems. Electrical and mechanical issues discovered during rounds are entered into Tabware as work orders for the wastewater maintenance mechanics.

Ideally, SCADA and EAMS integration would allow for SCADA alarms to trigger EAMS work orders.

Currently, four treatment plants are receiving pressure and water quality requests from the CSR system. Cross connections is also operating within AS400. As with other groups, the amount of work tracked in multiple disparate systems makes reporting challenging.

Water Quality

Water Quality is responsible for water quality analysis, regulatory compliance, and other WQ or environmental projects. Currently, Tabware is used to create PM “reminders” to create reports, to track permits and facilities, to track lab equipment and their PM calibrations, and to track updates to lab standard operating procedures. All of the actual lab work, chemical issuance and results are tracked in Labworks (running on SQL Server), but calibration work and other “upkeep” work against the equipment is tracked in Tabware. The inventory of lab equipment and their PMs is complete and fairly accurate; IRWD Water Quality staff would prefer to use the Tabware inventory as asset source data for the new EAMS.

The regulatory compliance group tracks some work in Tabware, such as routine sampling, permit renewals, spill bucket testing, secondary containment testing, training, and annual fees. Annual fees are tracked as work orders to remedy past double-billing/payment issues. Minimal information is logged onto work orders.

Water Quality tracks the types of the following preventative maintenance (PM) activities – there are currently approximately 220 distinct PMs stored in Tabware:

- Lab, based on Micro, Chem, and Monitoring Sections:
 - Calibrations
 - Waste disposal
 - Certifications
 - SOP updates
 - Inspections
- Regulatory compliance & field monitoring:
 - Routine sampling
 - Secondary containment testing
 - Permit renewals
 - Training
 - Spill bucket testing
 - Annual fees
- Reporting – reminders for monthly, quarterly, annual reports

Chemicals Inventory

The Water Quality (WQ) group is required to track expiration dates, on-hand quantities, and locations of chemicals for the yearly inventory. The current chemical inventory is not housed at the central warehouse, and on-hand quantities are not stored electronically. The microbiology supervisors are both able to re-order chemicals, but duplicate orders and emergency re-orders are frequent due to the lack of a tracking system. Several chemicals must be tracked by law – Water Quality is in compliance with these regulations. There is no WQ inventory manager or “storekeeper” position or person available to order, receive, and track the chemical inventory.

Regulatory Requirements

CA Prop 65, the Safe Drinking Water and Toxic Enforcement Act (1986)

By federal law, many of Water Quality's on-hand chemicals must be tracked, such as 190-proof ethanol.

CHALLENGES

Programmatic Guidance and Controls

While elements of an asset management program are being implemented to some extent and varying degrees, there is no documented program plan that cohesively pulls all program elements together and involves all appropriate departments

While some maintenance strategies have been developed, they are not applied uniformly across the organization, and it is management institutional knowledge rather than being documented for consistent application and communication.

No formal asset criticality rating protocols exist and criticality judgments are based on management knowledge. In addition, the information is not recorded for reference, or application in decision making. Maintenance tactics are generally selected based on staff experience or manufacturer recommendations.

Data Standards and Quality

While the implications of poor data quality are understood, protocols generally are not defined or applied uniformly across departments. Data standardization is problematic, in part due to limitations of existing tools, and in part due to lack of defined standards/conventions.

Similarly, business processes for conducting asset, maintenance, and inventory management activities, and capturing data regarding outcomes of those activities, are not standardized or uniformly implemented across all departments.

Inventory Planning and Controls

There are several collections of satellite inventories not managed through Oracle inventory or other information systems. Much of the inventory in these stashes was acquired via projects, although current warehouse stocking policies also contribute to developing stashes. While it is likely prudent to have these materials on hand in satellite inventory stashes, the lack of a cohesive tracking system allows for inefficient use and cost of materials. End use accountability for inventory items is generally unknown, because there is no Oracle interface with any work management system. Currently, only subsets of maintenance supporting inventory items are formally managed. Additionally, costs and parts used per job are not related to individual work orders.

Personnel and Staffing Shortages

Work planning, scheduling, and assignment are distinct functional roles, but are typically filled by the same person and not treated as structured off-line activities. Consequently, planning in particular is performed somewhat ad hoc.

The data and quality of data captured across all business processes is directly impacted by having sufficient resources to continually maintain the data, and do so in a timely manner.

While programmatic guidance and controls can be developed by a team, a “dedicated” resource is required to drive the efforts and ensure overall cohesion of the program and controls elements. In turn, this resource would also be dedicated to continually refining, updating, and monitoring the effectiveness of the programs.

Multiple and Disparate Information Systems

As previously noted, multiple information systems are used to manage and track assets, maintenance activities, and inventory, but these systems are disparate. This in itself creates numerous challenges for conducting asset and maintenance management activities in a comprehensive and programmatic manner.

Of particular importance is the lack of an Oracle inventory interface with any of the systems. This situation prohibits the ability to develop asset bills of materials, and greatly impacts the ability to plan and schedule work, and provide end use accountability for inventory items.

RECOMMENDATIONS

Recommendations to address the above noted challenges are for the most part enveloped by EAMS implementation notes and/or asset management strategy initiatives previously documented in the AMSR. The sequence for addressing initiatives is addressed throughout section two of the implementation roadmap. Consequently, those initiatives are not repeated herein. However, recommendations for addressing challenges of particular note are described in the following sections.

Data Standards and Quality

Consolidate Asset Classes, Develop Structured Asset Attribute Templates per Asset Class

There is redundancy in the existing asset classes. With proper data collection, asset attributes can provide the search functionality currently met with redundant classifications. For example: in a DETECTOR asset class, there may be multiple types, including GAS and RESISTANCE TEMPERATURE. Additionally, there may be an attribute for storing a value of PORTABLE/STATIONARY.

The following is an example of a consolidated list of asset classes based on the existing classes in use at IRWD:

- ACTUATOR
- ALARM
- BLOWER
- BREAKER
- CENTRIFUGE
- CHLORINATOR
- COLLECTOR
- COMPRESSOR
- CONTROL PANEL
- CP - Concrete Pad?
- DETECTOR
- DEWATERER
- DIFFERENTIAL
- ELEMENT
- ENGINE
- FACILITY
- FAN
- FEEDER
- GATE
- GEAR BOX
- GENERATOR
- HYDRANT
- INDICATOR
- LANDSCAPE
- MAIN LINE
- MANHOLE
- METER
- MIXER
- MOTOR
- PIPE
- PROBE
- PUMP
- RECTIFIER
- SCREEN
- SCRUBBER
- SERVICE
- SWITCH
- TELEMETRY
- TRANSDUCER
- VALVE
- VEHICLE
- VENT
- WASHER/CLASSIFIER
- WASHER/COMPACTOR
- WELL

Inventory Planning and Controls

Parts and materials information should be readily viewable and available in the EAMS for costs allocations and planning purposes. Establish systems of automatic stock level re-ordering to reduce the administrative work of ad-hoc ordering of inventory (interface to Oracle or link to procurement system). An evaluation of the inventory in all informal storerooms and satellite locations is needed to determine if effective levels are maintained. Establish a secure storeroom with inventory controls for Water Quality chemical management. Include all equipment needed into the CMMS database for use in planning work orders.

Inventory used at IRWD is not associated with EAMS work orders. Oracle is used in the warehouse for inventory management; a link to the EAMS will need to be developed as part of the EAMS implementation.

It is recommended that all inventory used be associated with either a work order in the EAMS, or a service order in the CIS, if it is related to meters. Doing so will provide the organization with data which will aid in decision making regarding future ordering and planning. Inventory levels can be better optimized through more accurate forecasting, and loss/obsolescence will be greatly reduced.

Personnel and Staffing Shortages

Preliminary recommendations for IRWD EAMS staffing are listed below, based on findings from on-site work sessions and face-to-face interviews. Final determination of appropriate levels of EAM administration staffing can be made only after the pre-acquisition business process workshops are completed (reference roadmap pre-acquisition phase). Preliminary training numbers documented in section one of the roadmap reflect current levels of staffing; training headcounts and roles can be finalized once staffing decisions are made.

Mechanical Maintenance Manager

A position of Superintendent of Maintenance and Reliability was previously established to provide a role that could focus on addressing the initiatives identified in the AMSR. However, the person filling that role is still filling the role of Mechanical Maintenance Manager as well. In order to effectively address the AMSR initiatives, the Mechanical Maintenance Manager position should be backfilled by another person so the Superintendent position has time available to focus on AMSR initiatives.

Planner/Scheduler

A minimum of one Planner/Scheduler position should be established with intentions to be filled by a dedicated person to aid in managing all maintenance activities and backlog. Planning and scheduling should include all tasks of the maintenance staff as well as those tasks performed less frequently by the Operations staff. This role may temporarily be filled by an existing position;

however, the pre-acquisition phase business process analyses will assist in determining the number of dedicated positions that will be required.

Water Quality Inventory Manager

Chemical inventory is ordered by multiple lab supervisors on an as-needed basis. This may be determined in one of several ways including: 1) Specific project needs; 2) Observation of storeroom (on hand) quantities; or 3) Review of chemical usage data. The IRWD water quality lab needs to track on-hand quantities of chemicals, storage locations, and expiration dates. Currently, the chemical inventory is not tracked, and reordering is a paper process with multiple failure points.

It is recommended that IRWD implement a Water Quality Inventory Manager to oversee ordering, dispensing, and the overall chemical inventory. The WQIM can perform regular inventory audits to avoid shortages, overages, emergency re-orders, expirations, and ensure compliance with Federal and State regulations. It is suggested that the WQIM role would be a half-time position, as IRWD Water Quality does not move sufficient quantities of chemicals to justify a full-time position.

EXHIBIT C



EMA, Inc.
3101 Judson Street
Gig Harbor, WA 98335
phone: 253.858.5887
fax: 253.858.5813
www.ema-inc.com

February 20, 2014

Ken Drake and Chris Fike
Irvine Ranch Water District
15600 Sand Canyon Ave.
PO Box 57000
Irvine, CA 92619-7000

SUBJECT: Revised Statement of Work & Cost Proposal for Implementation Support Services

Dear Ken and Chris:

In response to your request to modify the original Statement of Work & Proposal for Implementation Support Services dated September 26, 2013, the revised document is attached for your review. Revision bars are included in the left or right margins within the document identify where changes were made.

Tasks performed by IRWD resources – Tasks 1.3, 2.1, 3.1, 4.1, 5.1, and 8.2 are still identified in the SOW for reference purposes, but are annotated to reflect IRWD responsibility. In addition, deliverables identified for these tasks were eliminated and associated EMA labor costs were removed from the Schedule of Fees.

Task 3.5 Develop Common Inventory Interface Protocols – The task description and deliverables were enhanced to reflect also developing a guidance document related to developing, tracking, and managing satellite inventories. The fee for this task was also increased accordingly.

The task descriptions and fees for all other tasks in the original proposal remain unchanged.

I trust this revised proposal will serve your needs. Jon and I are both available to discuss or answer any questions you might have.

Sincerely,

Timothy S. Payne
Executive Vice President
EMA, Inc.

CC: Jon Crumpton, Mike Carter

IRWD EAMS IMPLEMENTATION ROADMAP and ASSET MANAGEMENT STRATEGY REPORT INITIATIVES

STATEMENT OF WORK FOR IMPLEMENTATION SUPPORT SERVICES

Version 2: February 20, 2014

Introduction

This statement of work (SOW) identifies services to be provided by EMA to assist IRWD in implementing tasks identified in the Pre-acquisition Phase of the IRWD EAMS Implementation Roadmap (Roadmap), and the Asset Management Strategy Initiatives identified in the IRWD Asset Management Strategy Report (AMSR).

For review purposes, tasks in this SOW are ordered similar to how they were presented in the Roadmap. However, depending on activities IRWD already initiated or performed, and/or for the best benefit of the project, some tasks may be performed in a sequencing other than presented.

Task Series 1: Asset Management Strategic Planning

Task 1.1 Develop Asset Management Program Plan (AMSR Initiative 11.1)

The program plan will capture the programmatic aspects of implementing AM practices, and will become the organizing repository for sub-programs, procedures, guidelines, etc. developed to manage and provide direction on how AM practices are implemented. The primary purpose of this task is to develop and document the structure of the program plan, which will be updated to include outcomes of other tasks in this SOW and future strategy initiatives that might be developed. EMA will conduct one full-day workshop to facilitate this task.

Deliverable: AM Program Plan Structure

Task 1.2 Develop Maintenance Strategy (AMSR Initiative 1.1)

This task serves several purposes: (1) document the overriding IRWD maintenance strategy and implementation guidelines; (2) evaluate and/or modify the strategy to promote uniform application organization-wide; (3) identify measurable goals for monitoring performance against the strategy; and, (4) develop a plan to consistently and uniformly communicate the strategy and subsequent updates to affected IRWD stakeholders. EMA will conduct three full-day workshops to facilitate this task.

Deliverables:

- Maintenance Strategy with Performance Measures/Goals
- Communication Plan

Task 1.3 Develop Condition Assessment Protocols (AMSR Initiative 8.1)

For reference only – this task has been or will be performed by IRWD resources. Asset condition is an important data element that can be used to support asset renewal and replacement decisions. Protocols will be developed to identify: (1) evaluation parameters to be used to assess condition; (2) which assets will be subject to assessment; (3) how assessments are performed and

recorded; and, (4) how often assessments are performed. A plan will also be developed for retrofitting assessments of existing assets.

Task 1.4 Apply Analysis Method to Determine Maintenance Tactics (AMSR Initiative 2.2)

Maintenance tactics for any given asset should be determined based on the specific operational context of the asset, and a sound analytical methodology. In addition, the analysis outcomes and maintenance tactics selections should be documented for communication and referral purposes. Given that IRWD has prior experience using a failure modes and effects analysis methodology, protocols will be developed to identify: (1) which assets will be subject to analysis; (2) how the analysis is performed and recorded; (3) when analysis will be performed; and, (4) how often maintenance tactics are reevaluated. A plan will also be developed for evaluating current maintenance tactics applied to assets previously analyzed, and for retrofitting analyses of existing assets. EMA will conduct three full-day workshops to facilitate this task.

Deliverables:

- Protocols for Analyzing Assets to Determine Maintenance Tactics
- Plan to Reevaluate Current Tactics of Analyzed Assets and Retrofit Analysis of Assets

Task 1.5 Develop Failure Analysis Protocols (AMSR Initiative 2.3)

Analyzing asset failures is fundamental to determining the cause of failure, and what if any changes should be made to maintenance tactics being applied to the asset. Protocols will be developed to identify: (1) which assets will be subject to failure analysis; (2) when an analysis is performed relative to the date of failure; (3) persons responsible for performing the analysis; and, (4) how analysis outcomes are recorded. EMA will conduct one full-day workshop to facilitate this task.

Deliverable: Failure Analysis Protocols

Task 1.6 Strategic Planning Wrap-up

The purpose of this task is to review outcomes of the previous planning tasks to identify additional issues that should be addressed. One area of focus will be defining if any service level agreements are required, and developing the basic elements of each agreement. Additionally, we will review and confirm if, what, and how other systems of record might be used to collectively support the AM program. EMA will conduct up to one full-day workshop to facilitate this task.

Deliverables:

- Definition of Service Level Agreements
- Definition of Other Systems of Record to be Used to Support the AM Program

Task Series 2: Governance and Project Teams Formation

Task 2.1 Teams Formation

For reference only – this task has been or will be performed by IRWD resources. The Roadmap identified two key teams that should be established at the onset of the project; a Steering Team and a Core Team. The purpose of these teams is to provide governance over project activities, and direction to ensure the collective interests of IRWD are achieved and sustained after initial implementation of the EAMS. The purpose of this task is to define the structure and persons

who will be members of each team, as well as the primary roles and responsibilities of each team relative to the implementation project.

Task Series 3: EAMS Enterprise Standards

Task 3.1 Develop Asset Hierarchy Structures

For reference only – this task has been or will be performed by IRWD resources. Assets are things that are owned, and/or operated and maintained, and/or used to perform work. The purpose of an asset hierarchy is to catalog an organization's assets, and organize the data in a logical manner that serves the asset management needs of the entire organization. Hierarchies will be developed specifically for the Michelson and Los Alisos Water Reclamation Plants, the Deep Aquifer Treatment System, the Irvine Desalter Project, the Well 21 and 22 Treatment Project, and the Baker Treatment Plant. In addition, generic hierarchies will be developed for a typical lift station, a typical pressure regulating station, a typical pump station, a typical reservoir site, and a typical well site. Hierarchies will be developed down to the position/location level, which represents asset entities that typically appear on P&IDs (e.g. pump assembly). This level of a hierarchy is also where actual equipment/assets are typically linked (e.g. pump, motor, valves, etc. that make up the pump assembly).

Task 3.2 Develop Common Asset Data Standards

The purpose of this task is to develop common data values that support making asset renewal and replacement decisions, and that typically apply globally for all asset types. Data values will be defined for status (relative to asset lifecycle phase), condition rating, performance rating, current and minimum service level ratings, consequence of failure rating, probability of failure rating, and redundancy rating. EMA will conduct two full-day workshops to facilitate this task.

Deliverable: Enterprise Asset Data Standards

Task 3.3 Develop Common Work Order Data Standards

The purpose of this task is to develop common data values that support making maintenance work order management decisions, and that typically apply globally for all work order types. Data values will be defined for priority rating, work types, status (relative to work order lifecycle phase), and hold reasons. EMA will conduct two full-day workshops to facilitate this task.

Deliverable: Enterprise Work Order Data Standards

Task 3.4 Develop Common Failure Reporting Data Standards

The purpose of this task is to develop common data values that support standardizing asset failure reporting in order to better support failure analysis activities. Failure codes typically have a direct correlation to asset classifications, and are developed in a class, problem, cause, and remedy hierarchy structure. EMA will conduct ten full-day workshops to facilitate this task.

Deliverable: Failure Reporting Hierarchy

Task 3.5 Develop Common Inventory Interface Protocols (AMSR Initiative 7.1)

Given that managing inventory demands and usage is critical to effectively supporting maintenance activities, and that inventory will likely be formally managed within Oracle, protocols need to be

established for how O&M will interface with inventory managers to support accurate demand forecasting, availability, and usage information. The business needs of both work groups needs to be understood in order to develop a feasible and functional arrangement for providing timely exchange of inventory demand, availability, and usage information. Protocols will be developed to identify: how inventory will be managed to support O&M data needs, and how O&M will provide timely updating of inventory usage. In addition, a guidance document will be developed to identify how satellite inventories will be developed, tracked, and properly managed. EMA will conduct two full-day workshops to facilitate this task.

Deliverables:

- Inventory Interface Protocols
- Guidance Document for Satellite Inventories Management

Task Series 4: Asset Data Definition

Task 4.1 Develop Asset Identification Protocols (AMSR Initiative 5.1)

For reference only – this task has been or will be performed by IRWD resources.

Standardization in how assets are identified, and applying those standards across related information systems and in physical asset tagging is important for ensuring persons are communicating about the same assets and working on and maintaining data on the correct assets. This task will focus on developing standard conventions for asset numbering and naming, but will consider conventions already in place (i.e. SCADA identification). In addition, a plan will be developed for retrofitting the identification protocols throughout existing information systems, asset records, and physical tagging.

Task 4.2 Develop Asset Classes & Attribute Standards (AMSR Initiative 5.2)

While some asset related data elements that support asset and maintenance management decisions should generally be collected for all assets, other important data elements will be more specific to the nature of specific asset types. Based on the assets population managed by IRWD, asset classifications and the appropriate attributes or important data elements for each classification will be developed to envelop all asset types. In addition, a plan will be developed to retrofit the classifications to existing assets and collect data that currently is not captured. EMA will conduct up to fifteen full-day workshops to facilitate this task.

Deliverables:

- Asset Classifications and Associated Attributes
- Plan to Retrofit the Asset Classifications

Task Series 5: Asset Criticality Rating System (AMSR Initiative 2.1)

Task 5.1 Develop Criticality Rating System

For reference only – this task has been or will be performed by IRWD resources. While all assets have a purpose, they are not equally important and do not pose the same operational risk in the event of failure. Consequently, a common risk-based rating system is required to determine each asset's importance and aid in prioritizing decisions and actions. A business risk exposure rating system and a plan for retrofitting the rating system will be developed.

Task Series 6: Asset Data Collection

Task 6.1 Develop Vertical Asset Data Collection Tool

Based on the asset data requirements identified within the roadmap and AMSR, the data collection efforts will be substantial and an interim repository will be needed prior to implementing Hansen. EMA will provide and configure a Microsoft Access based data collection tool to support capturing the various asset data elements identified within this SOW. A plan for collecting and capturing the asset data will also be developed. EMA will allow up to 200 hours to facilitate this task, plus up to 120 hours additional for supporting use of the tool.

Deliverables:

- Provide, Configure, and Train on a Data Collection Tool
- Plan for Data Collection

Task 6.2 Develop Linear Asset Data Collection Tool

Similar to providing a tool to support vertical assets data collection, EMA will provide and configure Microsoft Excel based data collection tools to support capturing the various asset data elements identified within this SOW relative to linear assets. A plan for collecting and capturing the asset data will also be developed. EMA will allow up to 80 hours to facilitate this task.

Deliverables:

- Provide, Configure, and Train on a Data Collection Tool
- Plan for Data Collection

Task Series 7: Business Process Workshops (*AMSR Initiative 5.3*)

Task 7.1 Develop Common Asset Management Processes

Following business common for the organization is fundamental to promoting uniformity in how asset management related data is compiled and utilized to make decisions. The focus of this task is to develop asset management program business processes that are common across all IRWD. EMA will conduct up to ten full-day workshops to facilitate this task.

Deliverable: Asset Management Program Business Process Diagrams

Task 7.2 Develop Common Work Order Lifecycle Processes

Equally as important as asset management program business processes is having uniform processes for managing maintenance work orders on a daily basis. Business processes for managing work orders through their lifecycle phases will be developed. EMA will conduct up to five full-day workshops to facilitate this task.

Deliverable: Work Order Lifecycle Business Process Diagrams

Task Series 8: Secondary Staffing Analysis

Task 8.1 Develop Staffing Analysis (AMSR Initiative 6.1)

Based primarily on the business processes, and to some extent on various plans developed to retrofit analysis and data collection activities identified within this SOW, a staffing analysis will be developed to address gaps in resourcing and provide recommendations for long-term staffing needs. EMA will conduct workshops and allow up to 160 hours to facilitate this task.

Deliverable: Staffing Analysis Report

Task 8.2 Define Training Requirements (AMSR Initiative 13.1)

For reference only – this task has been or will be performed by IRWD resources. To effectively implement the processes and protocols developed within this SOW, training will be required to promote common understanding of how asset management related activities are to be conducted and the expectations required of staff. This task will also consider training anticipated to implement the new EAMS, and/or related to critical skills known not to have supporting documented training materials.

Task Series 9: Performance Measures

Task 9.1 Define Key Performance Indicators

In order to assess the effectiveness of implementing asset and maintenance management program activities, performance measures need to be established, applied, and monitored on a regular basis. The primary focus of this task will be on maintenance management activities, but can be broadened based on consideration of preliminary asset management program activities. EMA will facilitate five full-day workshops to facilitate this task.

Deliverables: Key Performance Indicators Definitions

Task Series 10: Hansen Implementation Services RFP Support

Task 10.1 Assist Developing Hansen Implementation Services RFP

Given that IRWD is already experiencing difficulties staffing various projects and initiatives that will be occurring parallel to the roadmap implementation, EMA will provide up to 160 hours of support working with appropriate IRWD staff to develop the RFP that will be issued to solicit services for implementing and deploying the EAMS.

Deliverable: RFP Development Support

Task 10.2 Assist Reviewing Implementation Services RFP Responses

As needed following the RFP release and proposals collection by IRWD staff, EMA will provide up to 160 hours to assist IRWD in reviewing RFP responses and selecting an EAMS implementation services vendor to implement and deploy the EAMS.

Deliverable: Implementations Services Provider Selection Support

Task Series 11 Project Management

Task 11.1 Ongoing Project Management

The EMA project manager will monitor and report on project progress over the duration of the SOW activities. This includes developing and maintaining a project schedule, and submitting invoices and progress reports on a monthly basis.

Deliverables:

- Project Schedule
- Monthly Invoices and Progress Reports

Assumptions:

Workshops defined under each task will be scheduled to occur only on Tuesdays, Wednesdays, and Thursdays in order to minimize the impact on IRWD staff and accommodate EMA resources travel requirements.

SCHEDULE OF FEES

Following is a breakdown of fees for this SOW. Invoices will be generated monthly, based on actual labor charges and expenses incurred.

TASK DESCRIPTION	TASK LABOR
1.1 Develop Asset Management Program Plan	\$7,227.00
1.2 Develop Maintenance Strategy	\$14,003.00
1.3 Develop Condition Assessment Protocols	By IRWD Resources
1.4 Apply Analysis Method to Determine Maintenance Tactics	\$14,003.00
1.5 Develop Failure Analysis Protocols	\$7,227.00
1.6 Strategic Planning Wrap-up	\$7,227.00
<i>Task Series 1 Subtotal</i>	<i>\$49,687.00</i>
2.1 Teams Formation	By IRWD Resources
<i>Task Series 2 Subtotal</i>	<i>\$0.00</i>
3.1 Develop Asset Hierarchy Standards	By IRWD Resources
3.2 Develop Common Asset Data Standards	\$10,615.00
3.3 Develop Common Work Order Data Standards	\$10,615.00
3.4 Develop Common Failure Reporting Standards	\$41,107.00
3.5 Develop Common Inventory Interface Protocols	\$14,124.00
<i>Task Series 3 Subtotal</i>	<i>\$76,461.00</i>
4.1 Develop Asset Identification Protocols	By IRWD Resources
4.2 Develop Asset Classes & Attribute Standards	\$61,435.00
<i>Task Series 4 Subtotal</i>	<i>\$61,435.00</i>
5.1 Develop Criticality Rating System	By IRWD Resources
<i>Task Series 5 Subtotal</i>	<i>\$0.00</i>
6.1 Develop Vertical Assets Data Collection Tool	\$71,291.00
6.2 Develop Linear Assets Data Collection Tool	\$20,471.00
<i>Task Series 6 Subtotal</i>	<i>\$91,762.00</i>
7.1 Develop Common Asset Management Processes	\$41,107.00
7.2 Develop Common Work Order Lifecycle Processes	\$24,167.00
<i>Task Series 7 Subtotal</i>	<i>\$65,274.00</i>
8.1 Develop Staffing Analysis	\$34,331.00
8.2 Define Training Requirements	By IRWD Resources
<i>Task Series 8 Subtotal</i>	<i>\$34,331.00</i>
9.1 Define Key Performance Indicators	\$24,167.00
<i>Task Series 9 Subtotal</i>	<i>\$24,167.00</i>
10.1 Assist Developing Hansen Implementation Services RFP	\$34,331.00
10.2 Assist Reviewing Implementation Services RFP Responses	\$34,331.00
<i>Task Series 10 Subtotal</i>	<i>\$68,662.00</i>
11.1 Ongoing Project Management	\$82,346.00
<i>Task Series 11 Subtotal</i>	<i>\$82,346.00</i>
LABOR SUBTOTAL	\$554,125.00
EXPENSES ALLOWANCE	\$83,119.00
SOW TOTAL FEES	\$637,244.00

EXHIBIT "D"

IRVINE RANCH WATER DISTRICT
Expenditure Authorization

Project Name: ENTERPRISE ASSET MGMT SOFTWARE IMPLEMENTATION
EPMS Project No: 11619 **EA No:** 2
Oracle Project No: 3566
Project Manager: MOSSBARGER, ANTHONY
Project Engineer: FIKE, CHRISTOPHER
Request Date: March 24, 2014

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
101	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$125,000
This Request:	\$478,900
Total EA Requests:	\$603,900
Previously Approved Budget:	\$2,426,600
Budget Adjustment Requested this EA:	\$5,500
Updated Budget:	\$2,432,100
Budget Remaining After This EA	\$1,828,200

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	0	25,000	25,000	0	25,000	25,000	10/11	6/13
ENGINEERING - PLANNING OUTSIDE	0	0	0	0	100,000	100,000	10/11	6/13
ENGINEERING DESIGN - IRWD	105,000	0	105,000	(225,000)	650,000	425,000	4/14	6/16
ENGINEERING DESIGN - OUTSIDE	319,000	100,000	419,000	260,000	870,000	1,130,000	4/14	6/16
CONSTRUCTION	0	0	0	(30,000)	561,000	531,000	6/15	12/15
Contingency - 10.00% Subtotal	\$54,900	\$0	\$54,900	\$500	\$220,600	\$221,100		
Subtotal (Direct Costs)	\$478,900	\$125,000	\$603,900	\$5,500	\$2,426,600	\$2,432,100		
Estimated G/A - 170.00% of direct labor*	\$176,000	\$45,000	\$221,000	(\$382,500)	\$1,147,500	\$765,000		
Total	\$654,900	\$170,000	\$824,900	(\$377,000)	\$3,574,100	\$3,197,100		
Direct Labor	\$105,000	\$25,000	\$130,000	(\$225,000)	\$675,000	\$450,000		

*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 \$3,262,000. 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 DISTRICT

Expenditure Authorization

Project Name: ENTERPRISE ASSET MGMT SOFTWARE IMPLEMENTATION

EPMS Project No: 21619 **EA No:** 2

Oracle Project No: 3567

Project Manager: MOSSBARGER, ANTHONY

Project Engineer: FIKE, CHRISTOPHER

Request Date: March 24, 2014

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$125,000
This Request:	\$478,900
Total EA Requests:	\$603,900
Previously Approved Budget:	\$2,426,600
Budget Adjustment Requested this EA:	\$5,500
Updated Budget:	\$2,432,100
Budget Remaining After This EA	\$1,828,200

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	0	25,000	25,000	0	25,000	25,000	10/11	6/13
ENGINEERING - PLANNING OUTSIDE	0	100,000	100,000	0	100,000	100,000	10/11	6/13
ENGINEERING DESIGN - IRWD	105,000	0	105,000	(225,000)	650,000	425,000	4/14	6/16
ENGINEERING DESIGN - OUTSIDE	319,000	0	319,000	260,000	870,000	1,130,000	4/14	6/16
CONSTRUCTION	0	0	0	(30,000)	561,000	531,000	6/15	12/15
Contingency - 10.00% Subtotal	\$54,900	\$0	\$54,900	\$500	\$220,600	\$221,100		
Subtotal (Direct Costs)	\$478,900	\$125,000	\$603,900	\$5,500	\$2,426,600	\$2,432,100		
Estimated G/A - 170.00% of direct labor*	\$176,000	\$45,000	\$221,000	(\$382,500)	\$1,147,500	\$765,000		
Total	\$654,900	\$170,000	\$824,900	(\$377,000)	\$3,574,100	\$3,197,100		
Direct Labor	\$105,000	\$25,000	\$130,000	(\$225,000)	\$675,000	\$450,000		

*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 \$3,262,000. 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.