

**Agenda**  
Sacramento Suburban Water District  
**Facilities and Operations Committee**

3701 Marconi Avenue, Suite 100  
Sacramento, CA 95821

Wednesday, February 8, 2012  
3:00 p.m.

Public documents relating to any open session item listed on this agenda that are distributed to the Committee members less than 72 hours before the meeting are available for public inspection in the customer service area of the District's Administrative Office at the address listed above.

The public may address the Committee concerning any item of interest. Persons who wish to comment on either agenda or non-agenda items should fill out a Comment Card and give it to the General Manager. The Committee Chair will call for comments at the appropriate time. Comments will be subject to reasonable time limits (3 minutes).

In compliance with the Americans with Disabilities Act, if you have a disability, and you need a disability-related modification or accommodation to participate in this meeting, then please contact Sacramento Suburban Water District Human Resources at 679-3972. Requests must be made as early as possible and at least one-full business day before the start of the meeting.

**Call to Order**

**Roll Call**

**Public Comment**

This is an opportunity for the public to comment on non-agenda items within the subject matter jurisdiction of the Committee. Comments are limited to 3 minutes.

**Items for Discussion and Action**

- 1. SCADA Master Plan Report**  
Discuss subject report and provide staff direction.
  
- 2. Succession Management Program Report**  
Review report and provide recommendation to the full Board.

**Adjournment**

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**Upcoming Meetings:**

Monday, February 27, 2012 at 6:30 p.m., Regular Board Meeting

Monday, March 19, 2012 at 6:30 p.m., Regular Board Meeting

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I certify that the foregoing agenda for the February 8, 2012, meeting of the Sacramento Suburban Water District Facilities and Operations Committee was posted by February 3, 2012 at the Sacramento Suburban Water District office, 3701 Marconi Avenue, Suite 100, Sacramento, California, and was made available to the public during normal business hours.

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Robert S. Roscoe  
General Manager/Secretary  
Sacramento Suburban Water District



## Facilities and Operations Committee

### Agenda Item: 1

**Date:** February 1, 2012

**Subject:** SCADA Master Plan

**Staff Contact:** John E. Valdes, CIP Manager

#### **Recommended Committee Action:**

Receive Executive Summary from SCADA Master Plan report and a presentation providing background information on the District's SCADA system and key findings from the master planning process. Provide input and direct staff as appropriate.

#### **Background:**

**What is SCADA?** SCADA is short for Supervisory Control and Data Acquisition. SCADA is a large scale monitoring and control system used for automated industrial processes like municipal water and wastewater systems, power generation, steel manufacturing, gas and oil pipelines, etc. SCADA systems can range from very simple to highly complex. In the case of water systems, they are generally considered simple to moderate in complexity.

**What does SCADA do?** SCADA systems monitor and control operations by gathering data from instruments and sensors at the water supply facility (groundwater well, etc.) or remote station and then sending it via phone lines, radio, or microwave to a central computer system that monitors and manages the operations using this information. Information that might be collected from a well site would include pump on/off status, pumped flow rate (in gpm), water pressure (in psi), chemical usage and power demand. Alarms are also generated when problems occur and the critical alarms are transmitted to the central computer system to alert operations staff.

**How does SCADA Work?** A complete SCADA system is made up of signal hardware for input/output, networks, control equipment, user interfaces (sometimes called the Human-Machine Interface or HMI), communication equipment and centralized computer hardware and software. The central computer system is often located miles away from where the operations take place. The system also needs on-site instruments and sensors to collect and monitor data. An example would be a flow meter at a well site. The District's system uses radio telemetry to send information from the remote water facility sites to the central computer located at the Walnut Avenue Corporation Yard.

**What type of SCADA system did SSWD have in place at merger?** Both the former Arcade and Northridge water districts had SCADA systems in place at the time of merger (February 1, 2002). Fortunately, both systems were very similar and had been developed by a local company, Tesco Controls. Both systems used an operating software call *Factory Link*. For several years after merger, both systems were operated independently of one another.

**What type of SCADA system does SSWD have now?** In 2006, a major project was undertaken to combine the two SCADA systems into a single system. The existing SCADA system is an integrated set of components that includes remote network communications, Remote Terminal Units (RTUs), Human Machine Interfaces (HMI), and the Master Station (SCADA servers). A total of 66 water facility sites now utilize SCADA, including 51 well sites. The single system utilizes *Wonderware* HMI software. The Master Station is located at the District's Walnut Avenue Corporation Yard. The Master Station consists of redundant computer servers and an historical database server to store historical operating data. The Master Station is isolated behind a firewall to protect the SCADA system from unauthorized and inadvertent access.

**Why is there a need for SCADA and why is it beneficial to the District?** When properly applied, a SCADA system can help to save time and money. One reason is that with SCADA, the need for site visits by operations staff for inspection, adjustments and data collection can be greatly reduced. SCADA software enables District staff to monitor the operations in real time. It can also be used to remotely control the system (for example, to turn on a well pump), generate reports and to trouble-shoot. Therefore, it reduces operational costs and improves efficiency. The SCADA system is equipped to make immediate corrections in the system, so it can also increase the life expectancy of equipment and reduce the need for costly repairs. Its use translates into man-hours saved and allows operations staff to focus on other tasks that require human involvement. Further, the auto-generated reporting system ensures compliance with regulatory requirements such as various reports required by the California Department of Public Health (CDPH).

**Why was a SCADA Master Plan Needed?** In 2009, the District hired Brown and Caldwell to prepare a water system master plan. Included in this master planning effort was an assessment of the District's existing SCADA system. A SCADA technical memorandum included in the 2009 *Water System Master Plan* recommended that the District develop SCADA standards and guidelines, develop master station programming guidelines, conduct a master station functionality evaluation, and develop a SCADA system completion plan. In totality, these elements were recommended to be included in a SCADA Master Plan. Other needs for the project included evaluating the capability of the existing system and developing a master plan to be used as a guide for decisions on the purchase of future SCADA hardware and software components. The existing SCADA system has been standardized by using Tesco Control's components and panels. Tesco Controls has also been responsible for SCADA integration, programming and screen development. Although the District is satisfied with Tesco Controls, there was also some concern long term about using a single vendor with proprietary

programming software. As part of the SCADA master plan, the District wanted to review and evaluate other vendor and/or technology options.

**Discussion:**

As stated above, a SCADA Master Plan was recommended in the District's 2009 *Water System Master Plan*. It was recommended that this master plan include, at a minimum, development of SCADA standards and guidelines, development of master station programming guidelines, a master station functionality evaluation, and development of a SCADA system completion plan. Funds for a SCADA Master Plan were included in the adopted Operating Capital Budget (OCB) for 2011. The approved budget amount was \$200,000.

In April 2011, following a qualification based selection process, Westin Engineering (WE) was selected to prepare the District's SCADA Master Plan. The negotiated contract amount with WE was \$170,485. WE is an international consulting firm founded in 1981 to help utilities address the unique challenge of automating facilities and making control systems functional. Since then they have completed over 500 control system planning and design projects for water and wastewater utilities, including some of the largest utilities in North America.

At the start of the project, a SCADA Master Plan Steering Committee was established to be directly involved throughout the master planning process. Members of the Steering Committee included Ed Formosa, Assistant General Manager; Warren Jung, Engineering Services Manager; John Valdes Capital Improvement Program Manager; Matt Winans, IT Manager; Dan York, Operations Manager; Jim Arenz, Production Superintendent; Dave Bruns, Electrical and Instrumentation Technician; and Hector Segoviano, Production Foreman.

This project has been underway for the past several months and included a step-by-step process. During this time, WE has evaluated the District's existing SCADA system and interviewed District staff on its use; assessed the security and reliability of the existing system; defined future SCADA requirements based on regulatory and business needs; developed a vision for the future SCADA system and analyzed various alternatives. This process included several workshops that were conducted to receive input from the Steering Committee. As part of this project, WE has also developed comprehensive SCADA standards. The final step in the process was the development of project descriptions, estimated costs and a schedule for recommended short term, long term and future SCADA projects. A SCADA Master Plan report has now been completed by WE which incorporates all of the master plan findings. A copy of the Executive Summary is attached to this report.

A presentation on the District's existing SCADA system and the master plan findings will be made by staff and consultants at the Facilities and Operations Committee meeting.

**Fiscal Impact:**

The SCADA Master Plan report identifies estimated costs for recommended short and long term SCADA projects. However, the Plan does not represent a financial commitment by the Board,

other than those CIP funds already approved and adopted. The Plan will be used as a planning tool during annual capital improvement program (CIP) budget discussions with the Board.

**Strategic Plan Alignment:**

Water Supply – 1.B. Provide for the future needs of the District through prudent planning that will ensure sufficient capacity to serve all customers.

The preparation of a SCADA Master Plan is a useful tool that will provide a road map for the District in making SCADA system improvements over the next several years.

Facilities and Operations – 2.A. The District will utilize appropriate planning tools, identify financial resources necessary, and prioritize system requirements to protect and maintain District assets and attain water resource objectives.

The District's SCADA system is an important asset and the SCADA Master Plan is a planning tool that will help staff determine where District funds should best be spent on capital expenditures going forward.

# Sacramento Suburban Water District SCADA Master Plan

January 2012

3701 Marconi Avenue, Suite 100  
Sacramento, CA 95821-5303

**Westin**   
Passion for Improving Performance

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## Acronyms

ANSI	American National Standards Institute
CMMS	Computerized Maintenance Management System
COTS	Commercial Off-the-Shelf
FAT	Factory Acceptance Test
GE	General Electric
HMI	Human-Machine Interface
I/O	Input/Output
ISA	International Society of Automation
IT	Information Technology
MHz	Megahertz
O&M	Operations and Maintenance
ODMS	Operations Data Management System
OI	Operator Interface
PDC	Production Data Collection
PLC	Programmable Logic Controller
PRS	Pressure Reducing Station
PRV	Pressure Reducing Valve
RTU	Remote Telemetry Unit
Rx	Receive (Frequency)
SCADA	Supervisory Control and Data Acquisition
SQL	Structured Query Language
TM	Technical Memorandum
Tx	Transmit (Frequency)
UHF	Ultrahigh Frequency

## 1. Executive Summary

### 1.1. Master Plan Overview

The Sacramento Suburban Water District (District) was formed in February 2002 through a consolidation of the Northridge Water District and the Arcade Water District. The District currently provides water to an estimated population of 168,000 through approximately 43,500 service connections. The District utilizes a Supervisory Control and Data Acquisition (SCADA) System to monitor and control the remote facilities associated with groundwater wells, surface water related facilities, and reservoir and booster stations.

The District engaged Westin Engineering, Inc. (Westin) to develop a SCADA Master Plan. The District wanted an independent review and evaluation of the existing SCADA System in comparison to industry-best standards, along with recommendations for upgrades and improvements. The District intends to use the master plan as a guide for budgeting and planning for future SCADA System additions and enhancements.

This SCADA System Master Plan was developed through a series of site visits, stakeholder interviews, and structured workshops, with an emphasis on working closely with District staff to develop the plan. The Master Plan project also included the development of a number of SCADA System standards.

The SSWD SCADA System Master Plan outlines nine (9) recommended short-term projects to be executed in the next two years and five (5) longer-term projects planned over a six-year timeframe.

Completing these projects will achieve the following four high-level strategies that collectively support District's current and long-term SCADA System requirements.

- **Strategy 1 – Standardization:** Develop and apply the standards for a District-wide SCADA system that achieves consistent system operation, including effective alarm notification and unrestricted access to quality data that enables fact-based decision-making and business optimization.
- **Strategy 2 – SCADA Governance:** Establish the organization, policies, procedures, standards, and levels of service required to effectively manage the development and maintenance of SCADA System assets.
- **Strategy 3 – PLC Functionality:** Implement a Programmable Logic Controller (PLC) technology based on industry-standard programming and communications protocols to support more efficient development and maintenance of SCADA system functionality.
- **Strategy 4 – Communications Performance:** Implement the communications technology to support reliable supervisory control and enhanced data acquisition for operations and maintenance of all active District facilities.

### 1.2. Report Contents

The SCADA Master Plan contains the following sections, in addition to this executive overview:

**Project Overview:** This section provides a general background for the project and outlines the structured approach used in the development of the SCADA Master Plan.

**Current State Overview:** This section provides an overview of the existing SCADA System – Master Station hardware and software, remote network, and remote terminal units (RTUs).

**Summary of Requirements:** A series of requirements workshops were held with District stakeholders. The results of these workshops were compiled and analyzed. This section outlines the functional requirements for SCADA System upgrades/enhancements.

**Summary of Alternatives and Recommendations:** A number of the system requirements that were identified required an analysis of available alternatives to meet those requirements. These requirements include PLC Replacement and Radio Network Upgrade. In each case, the alternatives were analyzed and recommendations provided.

### **Recommended Projects**

Short-Term Projects: A number of short-term initiatives were identified which can be accomplished within 12 - 18 months. These short-term initiatives are designed to yield immediate improvements in system operations and to develop standards used in longer-term improvements. Each project is provided with an Overview, Work Plan, recommended schedule/duration, and Cost Opinion. An estimate of significant District staff involvement in each project is also provided.

Longer-Term Projects: The recommendations defined in the System Assessment phase have been developed into an overall plan to improve the District's SCADA system. These improvements have been divided into a series of interrelated projects. In general, the longer-term projects can be implemented independently; however, some dependencies exist. Each project is provided with an Overview, Prerequisites and Dependencies, Work Plan, recommended schedule/duration, and Cost Opinion. An estimate of significant District staff involvement in each project is also provided.

Future Projects: Two projects, Integrated Business Solution and System Optimization, have been designated as future projects. The short-term and longer-term projects must be completed before there is a well enough defined scope to develop a budgetary estimate for these projects.

**SCADA System Improvements Project Schedule:** An overall schedule of the short and long-term projects, showing dependencies is provided in Appendix A. The total estimated program is six (6) years in duration.

**Appendices:** A number of appendices are provided with supporting documentation and details.

### 1.3. Budgetary Estimate Summary

	Project	Estimated Total Costs	Estimated SSWD Labor
	<b>Short-Term Projects Cost Summary</b>		
S-1	RTU Pilot Study	\$260,000	120
S-2	Radio Replacement Pilot Study	\$134,000	120
S-3	ODMS Readiness Assessment	\$31,000	24
S-4	HMI Evaluation	\$47,000	120
S-5	Optimization Feasibility Analysis	\$24,000	24
S-6	SCADA System Documentation	\$43,000	360
S-7	Alarm Management Plan	\$45,000	200
S-8	Expanded RTU Pilot	\$334,000	120
S-9	SCADA Governance Implementation	\$46,000	40
	Total Short-Term Projects	\$964,000	1,128
	<b>Longer-Term Projects Cost Summary</b>		
L-1	SCADA System Completion	\$1,511,000	480
L-2	RTU Upgrade Program	\$3,406,000	400
L-3	HMI Upgrade	\$494,000	400
L-4	Standards Expansion	\$28,000	140
L-5	ODMS Implementation	\$212,000	180
	Total Longer-Term Projects	\$5,651,000	1,600
	<b>TOTAL</b>	<b>\$6,615,000</b>	<b>2,728</b>



## Facilities and Operations Committee

### Agenda Item: 2

**Date:** February 2, 2012

**Subject:** Succession Management Program Report and Recommendation

**Staff Contact:** Robert S. Roscoe, P.E., General Manager  
Edward Formosa, Assistant General Manager  
Lynne Yost, Human Resources Coordinator

**Recommended Committee Action:**

Approve staff's recommendation to take this item to the full Board of Directors with a recommendation to select Plan A-Early Hire, which will authorize the General Manager to temporarily increase staffing levels by hiring one full-time engineering position prior to the actual departure of the first retiring engineering manager with an automatic return to normal staffing levels at time of the retirement.

**Discussion:**

Introduction

Sacramento Suburban Water District ("the District") continually looks ahead to proactively address opportunities and challenges that arise in meeting its mission to deliver high quality, reliable water and superior customer service to the public. One such challenge is to plan for a smooth transition in the District's workforce given anticipated turnover levels driven by a labor market-wide retirement wave. In their publication entitled, "Succession Planning for a Vital Workforce in the Information Age," the AWWA Research Foundation recognized succession planning as a critical issue for utilities given the higher than average age of their workforce, high average length of service, shallow pool of competent workers to replace retirees, and the loss of valuable knowledge as a result of senior personnel retirements. Members of the "Baby Boom" generation are approaching 55 to 60 years of age and will soon be leaving the workforce in record numbers. Since the younger demographic groups (commonly known as "Generation X" for those born from 1965-1981 and "Generation Y" or "Millennials" for those born from 1981-1999) are much smaller, employers face intense competition to recruit and retain replacement talent. This competition can be especially difficult for local government and special districts because young people are not necessarily drawn to government/public sector employment. Due to the critical nature of this issue, the General Manager, Assistant General Manager and Human Resources Coordinator have engaged in monthly meetings for the past several months to discuss succession management planning and strategies.

Current Organizational Structure

A copy of the District’s organization chart (Attachment 1) shows the current organizational structure of the District, which continues to have department assignments that are a remnant of the merger between Northridge Water District and Arcade Water District. Given potential upcoming retirements in the two engineering departments (CIP and Engineering Services), succession planning efforts have focused on that section of the District’s current workforce. Staff expects to merge the two departments when the first engineering manager retires, which could be as early as the next 1-3 years, and have one management-level position and two associate engineer-level positions that will directly oversee the Meter Retrofit/Main Replacement Projects and Capital Improvement Projects. Given the significant institutional knowledge and utility experience of current engineering employees, staff is recommending the Board consider hiring an engineering position prior to the actual departure of the first retiring manager as the most critical succession planning need. By so doing, the new employee will have an opportunity to obtain critical information and experience prior to the retiring manager’s departure.

The Impact of Upcoming Retirements

As the District looks ahead, high retirement rates are expected in addition to turnover from resignations as talented employees are lured away by other agencies seeking to replace their retirees. The potential for retirement is especially significant in management and engineering positions. As the table below shows, 89%-100% of these employees are eligible to retire.

Level	# of Positions	Over Age 50		Eligible to Retire	
		# of Staff	% of Staff	# of Staff	% of Staff
Management	9	8	89%	8	89%
Engineering (incl 2 Mgmt)	4	4	100%	4	100%

The nine management team members have worked with the District (and both predecessor districts) and in similar professional capacities for a total of 211.5 years, or an average of 23.5 years per employee. The three engineering staff members have each worked over 30 years with the District (or a predecessor district) and in similar professional capacities. This is in line with AWWA’s succession planning research findings that senior personnel with utilities have high average lengths of service and their retirement will result in the loss of valuable knowledge.

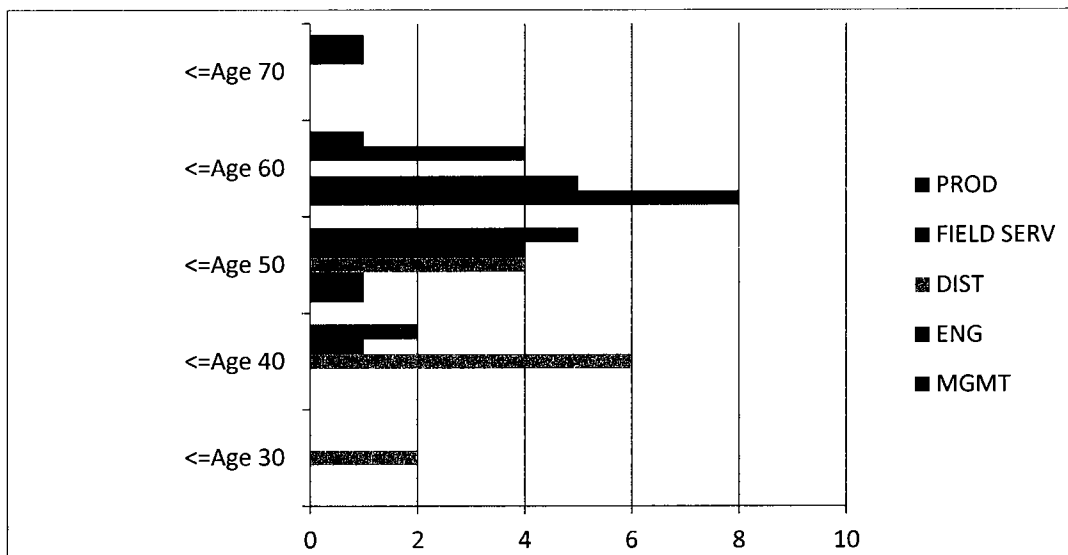
While retirement dates are subject to change based on each employee’s final retirement decision, the District has estimated that eight employees may retire within the next 1-3 years (including two management-level staff, two management-level engineering staff, one associate engineer-level engineer, one general engineering staff and two general staff). Another four employees may retire within the next 5 years (including two management-level staff, one engineering staff and one general staff). With the District’s current total workforce at sixty-one full-time employees (including the General Manager), this means the potential retirement of twelve full-time staff could result in the District losing as much as 20% of its current workforce within the next 5 years. Broken down further, the District could lose 13% of its workforce within the next 1-3 years and another 7% within the next 5 years.

## Succession Management Program

February 2, 2012

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Current workforce age categories in the management, engineering and three field operations departments are graphically illustrated as follows (Age 50 is eligible to retire; Age 60 is considered likely to retire):



Clearly the impacts of these impending retirements are significant, including an average loss of 23.5 years per management employee and 32.6 years per engineering employee of institutional knowledge and experience, increased recruitment and training costs, the need to insure continued compliance with all statutory and regulatory requirements, and potentially reduced productivity and service quality during periods of prolonged vacancy and transition. The need for a succession management program is critical if the District is to insure the continued success of its operations and superior customer service.

### Alignment with District Mission Statement, Values and Goals

Aligning the succession management program with the District's Strategic Plan is important so that goals and actions can be identified to address and mitigate the impacts described above. The following key areas in the Strategic Plan serve as a guide for all succession planning efforts:

**Mission Statement:** To deliver a high quality, reliable supply of water and superior customer service at a reasonable price.

#### Values:

- Respect customers and conduct District business through open and transparent governance and communications.
- Ensure public health and safety by conducting operations in strict accordance with all statutory and regulatory requirements.
- Achieve high levels of staff professionalism through career development, including training opportunities, and retention of skilled staff with competitive compensation.

Facilities and Operations Goal and Principals:

- Plan, construct, operate and maintain the District water system facilities embracing sustainable practices to provide reliable delivery of safe water and service.
  - The District will utilize appropriate planning tools, identify financial resources necessary, and prioritize system requirements to protect and maintain District assets and attain water resource objectives incorporating resource sustainability into the framework.
  - Manage assets by implementing protective, preventive and predictive maintenance programs on all District assets to extend their life and reduce service interruptions.

Customer Service Goals and Principles:

- Assure superior customer service.
  - Operate in an open and public manner.
  - Attract and retain a well-qualified staff with competitive compensation, effective training, and professional development to ensure safe, efficient and effective job performance.
  - Assure appropriate staffing at all levels consistent with service goals.

In addition to these key areas, the District also needs to be mindful of actions to be taken as recommended in the Management Practices review process, specifically Management Practices Status Report (MPSR) Practice No. 2.1, Classification Plan, which included findings the District should engage in discussions regarding the potential need for organizational growth.

Framework for Succession Management Program

With the Strategic Plan key areas in mind, the following goals are suggested for establishing a framework for the District's succession management program and planning efforts:

- A. Attract Talent to the District—bring talented people into the organization
- B. Provide a Workplace Culture that Supports Employee Engagement and Retention—keep employees committed to stay and do their best work
- C. Provide Leadership Development Opportunities for Existing Staff—develop current employees to take on higher levels of responsibility
- D. Optimize Knowledge Management—capture institutional/organizational knowledge when an employee decides to retire

A. Attract Talent to the District

The District currently uses a variety of tools to fill specific vacancies, including a well-developed website that provides information about employment opportunities. Recruitments for entry-level positions have been very successful; the District typically receives 50-75+ applications from which to select the most qualified candidates for interviews. The successful candidates hired from these recruitments have included a diverse group of new employees of various ages, ethnicities and experience levels.

Future engineering vacancies will be a critical issue for the District. As indicated above, staff in the two current engineering departments may all be retiring within the next 1-5 years. Engineering positions are critical to the District and hiring earlier vs. later will not only be the lesser-cost option, but also will offer more likelihood of a successful transition when the retirement occurs. While engineers/consultants can be hired to perform the most critical work until full-time positions are filled, this would not allow for the transfer of institutional knowledge from the retiring manager and would be more expensive than hiring a staff engineer who would be trained and ready to perform the work when the retirement occurs, particularly since much of the staff engineer's time can be billed to capital projects.

In 2011, the District paid approximately \$1.3 million to engineering consultants for a wide range of work related to the Capital Improvement Plan, water resource issues, permitting and special planning studies. An associate engineer hired by the District would cost about \$120,000 per year, including all cost of benefits and other support. Staff is confident that if this position were temporarily added to the engineering department of the District to assimilate current institutional knowledge, the value of that knowledge paired with the work produced by the position would offset the increase in personnel costs and save a similar amount in expenses for outside engineering consultants. The potential work activities that could be done in-house to reduce consulting engineering services include, but are not limited to, design and permitting of small main replacement projects, large main replacement project design review and construction management, meter retrofit planning and permitting, development review and application processing, and field operations engineering support.

B. Provide a Workplace Culture that Supports Employee Engagement and Retention

Another critical goal is to create the type of workplace culture that sustains a high level of employee commitment so that talented employees stay with the organization and are motivated to do their best work. The District utilizes a broad range of strategies to help create such a workplace culture, including training and development programs, recognition programs that celebrate employee accomplishments and strong internal communication tools so that employees feel informed about the issues that impact their work. Research has also shown that one of the most important factors in influencing employee commitment and performance is the role played by supervisors through their ability to give meaningful work assignments and encourage training and development. The District has established a fair and meaningful process to evaluate and assess job performance and set individual goals for every employee. The District continuously reviews and improves the evaluation process and provides regular supervisory training to reinforce how critical this process is in recognizing good employee performance and providing constructive feedback.

C. Provide Leadership Development Opportunities for Existing Staff

Successful strategies have been developed to provide leadership and training opportunities for existing employees, including internal cross-training programs, Working Out of Class/Temporary Special Assignments, education incentives and outside training opportunities. While the District's commitment to training and development has been, and continues to be, very strong, there are critical new challenges that must be addressed. These new challenges include preparing rising talent to replace retiring Baby Boomers and

responding to the different motivators of Generation X and the Millennials, which include the expectation for continual learning and rapid advancement. Discussion of additional programs to meet these new challenges will continue to be part of succession planning discussions.

#### D. Optimize Knowledge Management

Arguably the most important goal in succession planning is to minimize the loss of essential job knowledge and institutional memory prior to the departure of a retiring employee. Strategies already in place or being discussed to help manage the transition of critical positions include: encouraging advance knowledge of retirements through candid and confidential discussions with employees, continuing cross-training for all positions, continuing work on desk manuals to outline critical functions and processes, and providing assistance to retiring managers to document important historical information and identify and develop potential successors.

#### Options for Committee Review and Consideration

Since the most critical and immediate need will be in the engineering department, staff has identified the following action plans for the Committee's review and consideration:

Plan A-Early Hire: Recommend to the full Board that the General Manager temporarily increase staffing levels by hiring one full-time engineering position prior to the actual departure of the first retiring engineering manager with an automatic return to normal staffing levels upon the retiring employee's actual departure. This would be the lesser-cost option since the staff position would cost less than outsourcing work to an engineer/consultant until the full-time position is filled. It would also provide continuity in training and customer service and allow for the transfer of institutional knowledge. The cost of hiring an associate engineer is approximately \$120,000 per year, including all benefits. Staff believes this cost would be offset by a similar reduction in engineering consulting costs.

Plan B-Outsource: Outsource work to an engineer/consultant when the retiring employee actually departs until the vacant engineering position is filled. This would involve a higher monetary investment than Plan A not only until the full-time position is filled, but also for a period of time after the position is filled while the new employee receives extensive training in ongoing District engineering projects as well as general operations, processes and procedures. It also would not provide an opportunity to transfer essential job and institutional knowledge to the new employee since the retired employee would no longer be employed. The cost of this option is estimated at \$150,000 per year based on an estimate of comparing similar time spent by one engineer/consultant.

Plan C-No Action: Do not temporarily increase staffing levels or outsource work pending the hiring of a new full-time engineer to fill the vacancy created by the retired engineer. While this would be the option with the least cost, it poses significant risks to District operations and will reduce the level of customer service and project completions while the new employee receives extensive training. It also would result in a loss of the ability to transfer essential job and institutional knowledge to the new employee since the retired

employee will no longer be employed. While the cost of this option is estimated to be minimal, the risk to the District in terms of liability could be substantial and hard to estimate.

**Fiscal Impact:**

As discussed above for Plan A, B and C. Based upon these estimates, the District would save approximately \$30,000 if staff's recommendation is approved to authorize the General Manager to move forward with Plan A-Early Hire instead of Plan B-Outsource.

**Strategic Plan Alignment:**

As discussed above in "Alignment with District Mission Statement, Values and Goals."



# Organization Chart

Date: 1/23/2012

## BOARD OF DIRECTORS

**General Manager**  
Robert Roscoe

**Legal Counsel**  
Joshua Horowitz

**Finance Director** Dan Bills  
**Human Resources Coordinator** Lynne Yost  
**Assistant to the General Manager** Jan Gentry  
**Assistant General Manager** Ed Formosa

**Assistant Controller** Lynn Pham  
**Administrative Services Manager** Annette O'Leary  
**Capital Improvement Program Manager** John Valdes  
**Engineering Services Manager** Warren Jung  
**Operations Manager** Dan York

**Accountant** Robin Geiger  
**Information Technology Manager** Matthew Winans

**Administrative Assistant I** Judy Vilayphone  
**Customer Service Representative II** Sarita Cross  
**Customer Service Representative II** Heather Hernandez  
**Customer Service Representative II** Ian West  
**Customer Service Representative II** Christie Bosley

**Associate Engineer** Dave Jones  
**SIS Coordinator** Wayne Scherffius  
**SIS/IT Technician** Ken Gebert  
**Engineering Drafter** Daryl Vinavong

**Senior Engineering Technician** Cheryl Murdoch  
**Senior Inspector** Charlie Brackett  
**Senior Inspector** Song Dang

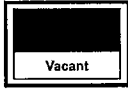
**Water Conservation Supervisor** Greg Bundesen  
**Water Conservation Technician II** Vicki Sprague  
**Purchasing Specialist** Tricia Weddle  
**Field Operations Coordinator** Rachel Middlestead  
**Facilities & Fleet Specialist** Michelle Hirt


**Superintendent Production** James Arenz  
**Electrical and Instrumentation Technician** David Bruns  
**Production Foreman** Hector Segoviano  
**Production Operator II** Tom Fox  
**Production Operator II** Rick Franz  
**Production Operator II** Gary Babin  
**Production Operator II** Shawn Shedenhelm  
**Production Operator II** John Seltzer  
**Production Operator I** Paul Miller

**Superintendent Distribution** Bob Ames  
**Distribution Foreman** Shawn Chaney  
**Distribution Operator II** Mark Taylor  
**Distribution Operator I** Andrew Duarte  
**Distribution Operator II** Erik Flaa  
**Distribution Operator II** Jeremy Moody  
**Distribution Foreman** Matt Underwood  
**Distribution Operator II** Joe Crockett  
**Distribution Operator I** Raul Palomar  
**Distribution Operator I** Abel Ramirez  
**Distribution Operator I** Rickey Oliver

**Superintendent Field Services** Doug Cater  
**Environmental Compliance Coordinator** Shane Jiang  
**Cross Connection Control Specialist** Tony Shedenhelm  
**Production Operator II** Tom Dickinson  
**Distribution Foreman** Todd Artrip  
**Distribution Operator II** Jerry Beams  
**Distribution Operator II** Rodney Lee  
**Distribution Operator II** Mike Jenner  
**Distribution Operator II** Gabriel Diaz  
**Distribution Operator II** Mike Rafferty

**LEGEND**

 - Presently Vacant

 - Announced Retirement