

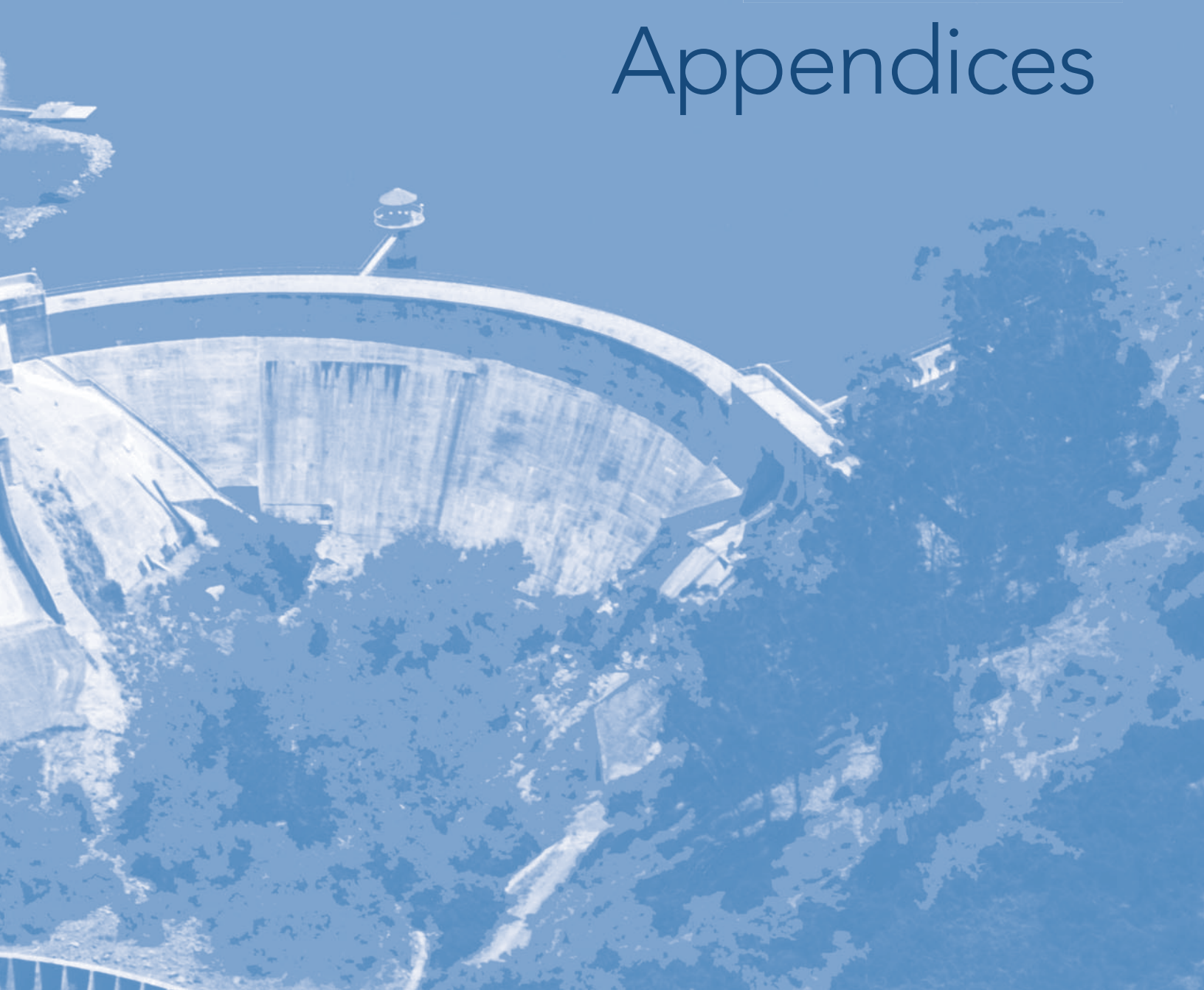


Sweetwater Authority

STRATEGIC PLAN

2012

Appendices





"The Color of Water"

*Photo by Taylor Hargraves
SAILS Options Secondary School*

*Honorable Mention, 2012 High
School Photo Contest*



strategic plan 2012 appendices

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appendix A

A. DETAILED WORK PLANS

GOAL #1 Water Quality (WQ)

Provide high quality water that meets regulatory requirements.

Objective WQ1: Minimize taste and odor events to less than two customer complaints per year per 1,000 acre-feet of water sold (this equate to 40 taste and odor complaints based on 19,416 acre-feet of water sold) *[Water Quality]*

action steps		completion date
a	Monitor for nuisance algae	Weekly
b	Add powder activated carbon as needed	Annually

Objective WQ2: Achieve a combined filter effluent turbidity goal of less than 0.1 NTU 99 percent of the time *[Water Quality]*

action steps		completion date
a	Maintain optimized coagulant dose	Ongoing
b	Maintain optimized oxidation dose	Ongoing

Objective WQ3: Achieve a clearwell effluent chlorine residual of between 2.0 and 3.5 mg/L *[Water Quality]*

action steps		completion date
a	Maintain chemical feed equipment	Ongoing
b	Maintain dose and residual monitoring equipment	Ongoing

Objective WQ4: Remove sediment and bio film build-up through unidirectional flushing of distribution pipe lines (a 3-year process) at 6-10 year intervals *[Distribution]*

action steps		completion date
a	Update flushing program standards and plans	June 2013
b	Initiate flushing program	June 2014
c	Unidirectional flushing of distribution system	Annually for 3 consecutive years; restarts 6 years after completion

Objective WQ5: Apply the management plan recommendations of standards for permitting adaptive, long term management of Authority lands and operations as defined in the Habitat Management Plan *[Water Quality]*

action steps		completion date
a	Complete HRP (WQ6)	March 2017
b	Remove/control non-native species	Annually
c	Continue target species monitoring	Annually
d	Secure funding to enhance listed species	Ongoing
e	Continue with environmental mitigation programs	Ongoing

Objective WQ6: Restore the east end habitat at Sweetwater Reservoir upon receipt of grant funding as defined in the Habitat Recovery Project *[Water Quality]*

action steps		completion date
a	Complete bid documents and construction permitting	September 2013
b	Secure grant funding	June 2014
c	Bid, award and start construction	October 2014
d	Complete construction	March 2017

Objective WQ7: Study alternatives to relocating the brine pipeline and discharge point from the Reynolds Groundwater Desalination Facility and redirecting resources to monitoring and habitat enhancement [Water Quality]

action steps		completion date
a	Obtain concurrence from Regional Board on study approach	December 2012
b	Complete sampling period data gathering and formulate approaches to need to relocate brine line	December 2013
c	Determine best approach to brine discharge relocation issues	June 2014

Objective WQ8: Obtain permit renewal from Regional Board for Reynolds Desalination discharge [Water Quality]

action steps		completion date
a	Meeting with RB staff to discuss permit conditions and begin negotiations	September 2014
b	Incorporate results of actions from WQ7	See WQ7
c	Complete revised permit requirements pending RB staff feedback	July 2015

Objective WQ9: Maintain and improve the Supervisory Control and Data Acquisition (SCADA) system for all treatment and distribution facilities as defined in the SCADA Master Plan [Water Quality]

action steps		completion date
a	Update SCADA Master Plan	Annually
b	Modify SCADA as necessary to optimize system	Annually

Objective WQ10: Track development and manage watershed activities for the beneficial use of the Authority and protect the environment for future benefit of species and Authority operations [Water Quality]

action steps		completion date
a	Prepare and solicit for Request For Proposal (RFP) for watershed sanitary survey (WSS)	October 2016
b	Complete WSS	August 2017

Objective WQ11: Provide a documented layout and potential project costs for a variety of future improvements at the Perdue Plant as defined in the Perdue Plant Master Plan [Water Quality]

action steps		completion date
a	Prepare RFP for Master Plan Update	September 2014
b	Select Consultant and begin work to update documents	January 2015
c	Complete Perdue WTP Master Plan Update	December 2015

GOAL #2 System Reliability (SR)

Achieve an uninterrupted, long-term water supply through investment, maintenance, and environmental stewardship.

Objective SR1: Replace the top 60 critical existing metallic mains with new pipelines to minimize the potential for leaks and failures as defined in the Metallic Main Replacement Program [Engineering]

action steps		completion date
a	Assess condition of Bonita Valley 36-inch transmission line	March 2013
b	Prepare design for 36-inch transmission line	June 2014
c	Complete environmental document for 36-inch line	June 2015
d	Advertise for bids and construct 36-inch transmission line	June 2017
e	Prepare designs each year for highest priority main replacements	June each year through 2020
f	Complete environmental documents for each main replacement	June each year through 2020
g	Prepare work orders for Authority Distribution Dept. crews or advertisement for bids for contractors	June each year through 2020
h	Construct metallic main replacements during the FY following the year the main replacements are designed	June each year through 2020

Objective SR2: Install new pipelines to upgrade capacity and reliability of the distribution network for adequate pressure throughout the system with appropriate redundancy [Engineering]

action steps		completion date
a	Prepare designs each year for highest priority Master Plan pipelines	June each year through 2035
b	Complete environmental documentation for Master Plan pipes	June each year through 2035
c	Prepare work orders for Authority Distribution Dept. crews or advertisement for bids for contractors	August each year through 2035
d	Construct Master Plan pipelines during the FY following the year the Master Plan pipelines are designed	June each year through 2035

Objective SR3: Minimize corrosion and replacement of finished water storage tanks through routine inspections and corrective action [Engineering]

action steps		completion date
a	Complete inspections of Demin Contact Tank, Perdue Washwater Tank, and BVR North	December 2012
b	Complete inspection of Morris Tank	December 2013
c	Design, advertise for bids, and reline Cherry Hills Tank	June 2014
d	Complete inspection of Bonita Highlands "2", Claire Vista "A", and Halecrest Tanks	December 2014
e	Complete inspection of Lynwood Hills "A", O.D. Arnold "A", and Starr Tanks	December 2015

Objective SR4: Increase finished water storage capacity in deficient zones as defined in the 2010 Water Distribution System Master Plan [Engineering]

action steps		completion date
a	Prepare design for new Central-Wheeler Tank	June 2014
b	Complete environmental document for Central-Wheeler Tank	June 2015
c	Advertise for bids and construct new Central-Wheeler Tank	June 2016
d	Design, bid, and construct Morris-Claire Vista Zone Tank	June 2035
e	Design, bid, and construct Halecrest Zone Tank	June 2035
f	Design, bid, and construct Bonita Highlands Zone Tank	June 2035
g	Design, bid, and construct O.D. Arnold Zone Tank	June 2035

Objective SR5: Provide additional pumping capacity for Hydropneumatic Zones to ensure adequate pumping capacity at each pump station *[Engineering]*

action steps		completion date
a	Design, bid, and construct pump at Bonita Highlands No. 15	June 2017
b	Design, bid, and construct pump at O.D. Arnold Hydro No. 17	June 2035
c	Design, bid, and construct pump at Halecrest Hydro No. 27	June 2035
d	Design, bid, and construct pump at Seaview Hydro No. 23	June 2035
e	Design, bid, and construct pump at Steeplechase Hydro No. 35	June 2035
f	Design, bid, and construct pump at Robinhood Hydro No. 34	June 2035
g	Design, bid, and construct pump at Bonita Bel-Aire No. 28	June 2035

Objective SR6: Assess the condition of asbestos cement (AC) pipe and conduct appropriate replacements to prevent failures and maximize service life throughout the distribution network *[Engineering]*

action steps		completion date
a	Conduct Phase II acoustic analysis of selected AC pipes	January 2013
b	Conduct Phase II destructive testing of AC pipe	June 2013
c	Analyze AC pipe testing results and define improvement plan	December 2014
d	Update Water Distribution System Master Plan to incorporate AC pipe analysis	June 2016
e	Design and construct appropriate AC pipe improvements	June each year through 2035

Objective SR7: Operate all distribution valves over a three year cycle, and all transmission valves 14-inches and larger once a year, replacing valves that meet established replacement criteria outlined in the Valve Maintenance and Replacement Program *[Distribution]*

action steps		completion date
a	Identify all valves 14-inches and larger through the Asset Management Program and schedule for operation over a one year period	Ongoing
b	Identify all valves less than 14-inches and smaller through the Asset Management Program and schedule for operation of all valves over a three-year period	Ongoing

Objective SR8: Operate all fire hydrants over a three year cycle and replace fire hydrants that meet established replacement criteria as part of the Fire Hydrant Maintenance and Replacement Programs *[Distribution]*

action steps		completion date
a	Identify all fire hydrants through the Asset Management Program and schedule for operation and maintenance over a three-year period	Ongoing

Objective SR9: Maintain and replace fleet vehicles according to manufacturers’ standards and replacement criteria as defined in the Fleet Maintenance/Replacement Program *[Distribution]*

action steps		completion date
a	Identify all vehicles and equipment through the Asset Management Program and schedule for service according to the manufacturers standards	Ongoing
b	Identify all vehicles and equipment through the Asset Management Program and evaluate vehicles for replacement at minimum replacement criteria of: 10 years, 100,000 miles and 50 percent cost ratio (purchase price/total repair cost)	Ongoing

Objective SR10: Comply with Heavy Equipment Replacement policies from the California Air Resources Board *[Distribution]*

action steps		completion date
a	Identify diesel vehicles meeting mandated replacement and schedule for replacement deadline of 2025.	July 2012
b	Begin replacing eight pieces of heavy equipment beginning in FY 2012-2013 and ending in FY 2024-2025. Approximately one replacement every other year	June 2025

Objective SR11: Address Division of Safety of Dams (DSOD) and maintenance requirements to accommodate Probable Maximum Flood (PMF) for Sweetwater Dam and stairs replacement at Loveland Dam *[Engineering]*

action steps		completion date
a	Refine PMF and develop conceptual design for SW Dam	June 2013
b	Meet with state to determine action, if any, required for PMF	June 2014
c	Design improvements for South Spillway at SW Dam (unless incorporated into PMF improvements, if required)	June 2015
d	Design, bid, and construct replacement stairs at Loveland Dam	June 2016
e	Advertise for bids and construct SW Dam South Spillway Improvements	June 2017
f	Design, bid, and construct SW Dam PMF Improvements (if required by State DSOD)	June 2020

Objective SR12: Maximize local water supplies by expanding the capacity of the Richard A. Reynolds Desalination Facility up to 10 mgd *[Engineering]*

action steps		completion date
a	Negotiate with City of San Diego for Desal Phase II Expansion	December 2012
b	Revise EIR for Desal Phase II Expansion	June 2013
c	Design brine line extension, if needed	June 2013
d	Advertise for bids and construct brine line extension, if needed	December 2013
e	Complete design, bid, and construct Desal Phase II Expansion	June 2017

Objective SR13: Respond to the needs of Chula Vista, National City, and County of San Diego to facilitate implementation of the respective street improvement projects in a fiscally responsible manner *[Engineering]*

action steps		completion date
a	Review CIP for each agency and compare to Authority	Quarterly
b	Attend Utility Coordination meetings	Monthly
c	Utilize existing agreements for cost sharing of improvements	Prior to Project Construction
d	Determine whether Distribution Dept. crews or time and material contractor will construct work	Prior to Project Construction

Objective SR14: Respond to the needs of private developers for domestic and fire services with minimal-to-zero financial impacts to the Authority’s ratepayers *[Engineering]*

action steps		completion date
a	Review plans from developers and determine required facilities	Upon submittal
b	Estimate cost of improvements	After field check
c	Construct required water system improvements	4-6 weeks after receipt of deposit

GOAL #3 Financial Viability (FV)

Ensure long-term financial viability of the agency.

Objective FV1: Develop an annual budget that determines yearly expenditures, incorporates a five-year projection to track fiscal stability, and guides rate-setting decision-making *[Finance]*

action steps		completion date
a	Develop initial financial plan for the upcoming fiscal year	Annually - January
b	Develop department budget detail for upcoming year	Annually - March
c	Approve Draft Budget and Five-Year Projection	Annually - March
d	Review Draft Budget and Five-Year projection with Governing Board and make adjustments as needed	Annually - April-May
e	Conduct budget workshop to adopt final budget and water rates	Annually - June

Objective FV2: Replace the Customer Service and Financial Information Systems to improve technological currency and improve efficiency *[Finance]*

action steps		completion date
a	Select consultant to assist the Authority with developing a needs assessment, selecting and implementing the new system	November 2011
b	Develop needs assessment	April 2012
c	Issue a Request for Proposal for a vendor to supply the new system	July 2012
d	Conduct vendor demonstrations and select new system based on proposals and demonstrations	September 2012
e	Implement new system	June 2014

Objective FV3: Update the Authority’s fiscal policies to include debt, reserve, and investment polices that improve the ability to achieve a favorable bond rating and rate in support of a bond issue for capital projects *[Finance]*

action steps		completion date
a	Update Investment Policy	August 2012
b	Update Debt and Reserve Policy with input from financial advisor	June 2013

Objective FV4: Issue bond in FY 2014-15 to fund as much as \$45 million in capital projects as defined in the 2010 Water Distribution Master Plan *[Finance]*

action steps		completion date
a	Contract with a financial advisor to assess feasibility and develop a debt issuance plan	December 2013
b	Plan FY 2013-14 Budget and capital projects in coordination with any potential debt to be issued for FY 2014-15	June 2013
c	Plan FY 2014-15 Budget and capital projects in coordination with any potential debt to be issued for FY 2014-15	June 2014
d	Final selection of capital projects to be funded by potential bond proceeds	June 2014
e	Issue debt as feasibility advises	June 2015

Objective FV5: Identify and pursue grant funds for high priority projects and programs including, but not limited to, legislative advocacy, Integrated Regional Water Management, BuRec Title XIV, and Proposition 50 *[General Manager]*

action steps		completion date
a	Management and staff regularly meet to discuss potential projects to be funded by grand funds	Ongoing

Objective FV6: Replace meters aged 15 years per industry standards for consistent revenue collections as defined in the Meter Replacement Program *[Finance]*

action steps		completion date
a	Replace meters that have reached or will reach 15 years of age during the fiscal year	June 30
b	Test the Authority’s meters accuracy and assess increasing or decreasing the age of when meters are to be replaced	Ongoing

Objective FV7: Study the feasibility of implementing an Advanced Metering Infrastructure (AMI) or Automated Meter Reading (AMR) to improve the efficiency and precision of the current meter reading process *[Finance]*

action steps		completion date
a	Assess the new financial systems ability to integrate with an AMI or AMR system	October 2012
b	Staff to attend technical workshops as they arise in order to develop an understanding of the current state of AMR and AMI technology	December 2014
c	Staff to evaluate AMI or AMR projects implemented at water agencies similar in size to the Authority	December 2014
d	Develop a feasibility analysis on implementing AMI or AMR and present findings to the Governing Board	March 2015

Objective FV8: Conduct Comprehensive Water Audit to determine level of nonrevenue water losses and potential mitigation strategies and initiatives *[General Manager]*

action steps		completion date
a	Compile and review Authority water loss statistics	November 2012
b	Review AWWA audit methodology and what other water agencies are using	November 2012
c	Hold series of internal meetings with key staff to review material	February 2013
d	Determine optional approaches based on consideration of cost and level of effort	March 2013
e	Implement best approach	June 2013

GOAL #4 Customer Service (CS)

Provide high-quality customer service.

Objective CS1: Evaluate the credit card acceptance policy and identify potential revisions to increase customer satisfaction and enhance the bill collection process *[Finance]*

action steps		completion date
a	Meet with credit card processors	July 2012
b	Evaluate credit card functionality of new financial systems (system to be identified in September 2012)	September 2012
c	Report to Governing Board on Feasibility and Implementation process	October 2012

Objective CS2: Develop an expanded Customer Outreach program to include, but not be limited to, attending community events and school programs, producing educational materials, and conducting customer surveys *[Administration]*

action steps		completion date
a	Continue current customer outreach programs	Ongoing
b	Evaluate the need for additional customer outreach as needed for specific events or occurrences	Ongoing

Objective CS3: Expand web-based communications to include, but not be limited to, distributing e-notifications/news, and posting to Authority social media pages/sites *[Administration]*

action steps		completion date
a	Continue with website maintenance and e-notification	Ongoing
b	Continue to post and update the Authority's Facebook page	Ongoing
c	Establish an Authority Twitter account	October 2012

GOAL #5 Staff Development (SD)

Develop a highly-skilled, adaptable workforce and a safe, properly-equipped and effective work environment.

Objective SD1: Achieve professional and regulatory certifications as required by job classifications to perform assigned duties *[Administrative Services]*

action steps		completion date
a	Identify all required certifications based on job classifications, date required and date obtained.	Ongoing
b	Take appropriate continuing education units to maintain certification	Ongoing

Objective SD2: Provide tuition reimbursement to eligible staff for continuing their formal education on a voluntary basis during off-hours *[Administrative Services]*

action steps		completion date
a	Pertinent course is identified	
b	Pre-authorization by Supervisor/Department Head for reimbursement	
c	Course completion	
d	Grade of C or better required for reimbursement	Scholastic Year (September - August)

Objective SD3: Create a Leadership Development Program that engages eligible staff in developing leadership skills to support their professional development and to meet the Authority's needs for leadership capacity *[Administrative Services]*

action steps		completion date
a	RFP for consultant to develop curriculum based program	FY 2012-13
b	Select consultant	FY 2012-13
c	Develop curriculum based program	FY 2013-14
d	Implement curriculum based program	FY 2013-14

Objective SD4: Develop and implement employee rotation/cross training over time to ensure consistent staff knowledge and experience *[Administrative Services]*

action steps		completion date
a	Track employees' experience and knowledge	Ongoing
b	Rotate employees' after initial experience and knowledge is gained at current tasks	Ongoing

Objective SD5-I: Conduct annual performance evaluations *[Administrative Services]*

action steps		completion date
a	Provide a pre-evaluation questionnaire to employee being evaluated	Annually
b	Provide employee with a copy of their job description for review and discussion with supervisor	Annually
c	Department Head, Human Resources, and Management review of all evaluations	Annually
d	Meeting with Employee and Supervisor to discuss details of the evaluation	Annually

Objective SD5-II: Develop baseline Authority-wide measures and customized measures for each department and position to document efficiency, competency, conduct, areas of improvement, and merit of Authority Employees *[Administrative Services]*

action steps		completion date
a	Work with Department Heads to identify staff that can participate in the development of standards and measures for individual workgroups	July 2012
b	Develop schedule to meet with each workgroup	July 2012
c	Discuss changes with bargaining units – SAEC, MMG, Confidential Group	Ongoing
d	Provide Authority-wide training	June 2013

Objective SD6: Identify and implement expanded risk management and safety protocols to reduce experience modification and incident rates at or below industry standards *[Administrative Services]*

action steps		completion date
a	Conduct required training	Monthly
b	Discuss and evaluate incidents via the Safety Committee	Monthly
c	Safety tailgates	Ongoing
d	Implement suggested changes by JPIA, Cal/OSHA, and OSHA	Ongoing

GOAL #6 Administrative Effectiveness (AE)

Provide efficient and effective administrative systems and procedures in accordance with best management practices.

Objective AE1: Develop a comprehensive water use efficiency plan to include, but not be limited to, meeting or exceeding 20x2020 and California Urban Water Conservation Council (CUWCC) goals/reporting requirements *[Administrative Services]*

action steps		completion date
a	Calculate 10-year baseline (124 gallons per capita per day (GPCD))	July 2012
b	Calculate 2020 water use target (115 GPCD)	July 2012
c	Implement "Foundational" Best Management Practices (BMP) as defined by and listed in Authority's 2010 Urban Water Management Plan (UWMP)	June each year through 2035
d	Meet or exceed the GPCD's goals as defined by CUWCC by implementing cost effective "Programmatic" BMPs as listed in the Authority's 2010 UWMP	June each year through 2035
e	Meet 2015 interim water use target of 120 GPCD	2015
f	Meet 2020 water use target of 115 GPCD	2020

Objective AE2: Increase conserved water supplies through water efficiency education and assistance programs and outreach efforts, through strategic partnerships with public and private agencies, and developing effective rate setting strategies *[Administration]*

action steps		completion date
a	Review concept of using Customer Connection to raise the level of awareness of the existing programs	September 2012
b	Determine best available partnerships with other agencies and utilities	October 2012
c	Maximize customer participation in regional conservation rebate and WaterSmart field services programs	Ongoing

Objective AE3: Update the Emergency Response and Recovery Plan and exercises *[Administrative Services]*

action steps		completion date
a	Determine types of exercises to perform for FY 2012-13	September 2012
b	Conduct exercises	TBD
c	Update Emergency Response Plan accordingly (through exercises or those provided by regulatory agencies)	Ongoing

Objective AE4: Complete implementation of the 2002 Information Systems Strategic Plan [Information Systems]

action steps		completion date
a	Complete last major project per the 2002 plan: IBM system replacement	June 2014

Objective AE5: Update the Information Systems Strategic Plan [Information Systems]

action steps		completion date
a	Release RFP for plan update project	September 2013
b	Complete plan update	June 2014

Objective AE6: Implement the enterprise-wide Asset Management System (“Maximo”) to track and maintain all Authority assets [Information Systems]

action steps		completion date
a	Incorporate Engineering work orders	June 2013
b	Add building assets	June 2014
c	Add Water Quality laboratory assets	June 2015
d	Add Watershed Caretaker work orders	June 2016

Objective AE7: Assess the requirements, costs and the Authority’s positioning for pursuing American Public Works Association Accreditation to establish a process for verifying and recognizing compliance with recommended best practices [General Manager]

action steps		completion date
a	Research process with other accredited agencies	July 2012
b	Present findings to the Governing Board and determine whether to proceed with accreditation	September 2012
c	(18 month process to complete if approved)	March 2014

Objective AE8: Revise the monthly Management Report to a “dashboard” format that incorporates current and future performance measures to improve ease of use and understanding for the Governing Board and interested stakeholders *[General Manager]*

action steps		completion date
a	Complete Strategic Plan	July 2012
b	Research “dashboard” concepts used by other public agencies	October 2012
c	Work with Department Heads to determine the format	November 2012
d	Review with Finance and Personnel Committee and Governing Board	December 2012

Objective AE9: Maintain and update existing policies and procedures *[General Manager]*

action steps		completion date
a	Maintain the existing 331 Authority policies and procedures	Ongoing
b	Develop new (when necessary) policies and procedures	Ongoing

Objective AE10: Continue to assess the feasibility of optimizing the use of outsourcing services and operations *[General Manager]*

action steps		completion date
a	Develop general methodology and process to selection of vendors for services and operations	October 2012
b	Identify areas when outsourcing would be practical and not be practical as baseline list	October 2012
c	Case-by-case analysis of future potential outsourcing	Ongoing

appendix B

B. SUMMARY OF EXISTING PLANS

As the Strategic Plan will provide the Authority with overarching guidance towards its desired future, it is important to understand how other existing Authority plans are linked to and inform the Strategic Plan. Following is a summary of existing Authority plans.

Budget

The establishment of an Annual Budget and Five-Year Financial projections enables the Governing Board, management, and the community to monitor the Authority's annual expenditures and operating performance, which contributes to the credibility, public confidence, and mission of the organization. To the credit rating industry, such policies and statements show a commitment to sound financial management and fiscal integrity.

The budget is developed annually by the Authority's staff to estimate yearly operating and capital expenditures and the corresponding revenue requirement. The budget also incorporates a five-year capital projection to prioritize capital investment projects in conjunction with a five-year financial projection to provide fiscal stability. The Annual Budget includes a Manager's Report, Five-Year Projections, Reserve Budget, Operating Budget, Capital Investment Budget, and Notes to Operating Budget.

Authority staff works with Management to develop a Draft Budget each spring, for the following fiscal year. Management then presents the draft to the Board for input and guidance. The recommendations provided by the Board are incorporated into the draft to develop a final budget. The final budget is presented annually in June at a "Budget Workshop" to the Governing Board for approval.

Information Systems Strategic Plan (December 2002)

The Information Systems Strategic Plan (ISSP) was completed in December of 2002, and was initially to be implemented over a 10-year period. This coincided with the creation of the Information Systems Department (I.S.) in 2001. Previously, the I.S. staff was under the Finance

Department, and was primarily responsible for the maintenance of the IBM system and the telephones. Any other I.S. decisions on hardware and software were left to the individual departments. This created a system of different word processor and spreadsheet software systems, which made collaboration between departments difficult.

The ISSP consists of the following recommendations:

- Overall/Common
- Applications and Integration
- Data
- IT Infrastructure Management
- Service Delivery and Sourcing
- IT Organization Direction/Oversight and Planning
- Program and Project Management

The ISSP consists of over 50 individual projects or plans, with an estimated cost of between \$3.4 and \$6.4 million.

The projects of highest priority listed were the implementation of a system wide I.T. hardware and software infrastructure, an Enterprise Asset Management System, and the replacement of the IBM system. The first two of these recommendations have been completed, and staff is in the process of replacing the IBM system, with an estimated completion date of June 2014. Each year an ISSP is published to detail the implementation components for that year.

Groundwater Management Alternative Report (June 2005)

The Groundwater Management Alternative Report evaluated the Authority's current Interim Groundwater Management Plan (GMP) and other options to manage groundwater in the San Diego Formation (SDF). The report is an assessment (technical and legal) determining which option best achieves the Authority's objectives, which are: the protection of basin yield, groundwater quality, and financial investments; the opportunity for groundwater storage programs; and the potential eligibility for third party funding.

The following groundwater management alternatives were assessed:

- Continue with the Interim GMP until additional technical studies have been completed
- Develop an AB 3030 plan independently, or with the cooperation of other entities
- Groundwater adjudication
- Formation of a special management district or agency
- Implementation or other contractual arrangements with stakeholders
- Adoption of a city or county ordinance to regulate groundwater

The report recommended that the Authority complete the U.S. Geological Survey (USGS) groundwater study on the SDF and then decide on the best alternative based on the technical information derived from the USGS study.

2008 Water Resources Master Plan (June 2008)

The 2008 Water Resources Master Plan (WRMP) presented a summary of the Authority's current and projected water demands and supplies. It also reviewed the complexity of supply options considering varying hydrologies and offered potential partnering options to provide solutions to some of the challenges and complexities in meeting future demands.

The WRMP reviewed the following potential new or expanded supplies:

- Expanding the production in the National City Well field
- Expanding the Reynolds Desalination Facility
- Constructing the Otay River Brackish Groundwater Desalination Project
- Purchasing supplies from DWR (Department of Water Resources) or other entities and wheel it through MWD (Metropolitan Water District)/CWA (San Diego County Water Authority)
- Seawater desalination
- Recycling and distributing water for irrigation
- Storage and treatment at Loveland Reservoir
- Aquifer storage and recovery in the National City Well field

The WRMP reviewed the issues with each new source that included institutional, environmental, water quality, and costs for each supply. The WRMP recommended expansion of the National City Well field, Reynolds Desalination Facility, and construction of the Otay project if the safe yield of the SDF was determined to be sufficient in USGS groundwater study.

Otay River Basin Desalination Feasibility Study (June 2009)

The Authority and Otay Water District (OWD) coauthored this study to determine the feasibility of constructing and operating facilities to treat and use brackish groundwater from the San Diego Formation (SDF). The facility would be jointly owned and operated with an annual production of 4,000 acre-feet (2,000 acre-feet for each agency). Facilities would include a series of wells, raw water conveyance pipelines, a desalination treatment plant (similar to Authority's Reynolds Desalination Plant), and conveyance facilities to deliver the product water to the distribution system of each agency. Other facilities needed to implement this desalination project include the San Diego Regional Concentrate System (a brine disposal line connected to the South Bay Ocean Outfall) and brine conveyance to the regional brine line.

The total capital cost for construction of the project was estimated at \$67 million. The cost per acre-foot of water was approximately \$1,200 for the Authority and \$1,700 for OWD. These costs included all capital and operating costs and assumed a 25 percent Title 16 funding grant from the Bureau of Reclamation for construction costs. The OWD costs are higher due to the additional length of main needed to transport the water to their service area and higher pumping costs due to the higher elevation of its customers. Based on the results of the study, both agencies decided that it was not cost-effective to pursue this project.

2010 Urban Water Management Plan

California state law requires that every urban water supplier providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet of water annually, prepare and adopt an Urban Water Management Plan (UWMP) every five years. The UWMP is intended to ensure that adequate water supplies are available to meet existing and future demands in the Authority's service area for a 25-year planning horizon. The UWMP reviewed the Authority's current and future water demands and supplies. It also analyzed the Authority's shortage contingency plan and demand management measures.

The 2010 UWMP verified that there will be sufficient water supply to serve demand in 2035. However, while the Authority is developing new local water supplies, and MWD retains its conclusion of available surplus supplies, the UWMP advised that given current water supply issues; including a) recent and future drought conditions in California and the Colorado River Basin and b) legal and regulatory issues involving utilization of the Delta to convey water, the Authority cannot guarantee that at some time in the future, MWD and CWA may not project availability of surplus water necessary to meet demands. As such, implementation of voluntary/mandatory conservation measures throughout the service area may be necessary to manage future water consumption during a drought condition.

2010 Water Distribution System Master Plan

The Water Distribution System Master Plan (Master Plan) presented an evaluation of the transmission and distribution pipeline network, pumping, and finished water storage, and included recommendations for additions and/or replacement of facilities to meet anticipated demands through the year 2035. The Authority has two on-going programs for water main upgrades; one is the Metallic Main Replacement Program and the other consists of new pipelines to upgrade the capacity and reliability of the distribution network (referred to as Master Plan pipelines). There are nearly 200 pipeline segments identified in the list of metallic mains. Not all need to be replaced; however, the top 60 pipeline segments are recommended to be replaced over the next 10 years. Perhaps the most critical and costly metallic main that requires replacement is the 36-inch transmission main constructed through Bonita Valley from the Perdue Plant to Interstate 805. The Master Plan pipeline improvements are divided into two phases: Phase 1 includes pipelines to be constructed through 2020, and Phase 2 includes pipelines from 2020 to 2035.

In general, the capacities of the pump stations in the water system which pump into zones that have ground storage tanks have adequate capacity, primarily because fire flows in these areas are provided from water in the storage tank. However, the zones without storage (Hydro zones) were found to be lacking in backup capacity based on the evaluation criteria that considers the largest pump to be out of service. Additional pumping capacity is recommended for the Hydro zones. In most pressure zones, the existing volume of finished water storage was found to be adequate. Construction of additional capacity is recommended for O.D. Arnold, Halecrest, Morris-Claire Vista, Wheeler, and Bonita Highlands zones.

The most critical project elements, including the 36-inch transmission pipeline, are recommended to be funded through revenue bonds at a cost of \$45 million. Steel pipe replacements and Phase 1 Master Plan pipelines to be constructed through 2020 will cost about \$19 million. The Phase 2 Master Plan pipelines and other improvements to be constructed in the 2020 to 2035 timeframe will cost nearly \$18 million. The total cost of the water distribution system projects was estimated at about \$82 million, and does not account for improvements to the 280 miles AC pipe in the system, as the evaluation of the AC pipe is just getting started.

Supervisory Control and Data Acquisition (SCADA) Master Plan

The Supervisory Control and Data Acquisition (SCADA) Master Plan was completed in 2011 and details the past efforts to correct deficiencies and future efforts to maintain the Authority's computer control systems for the treatment plants and distribution system pump stations and tanks. The SCADA Master Plan provided recommendations for projects that should be investigated in the five year horizon ending in 2016. The project list was developed as a collaborative effort by Authority staff, Timberline Engineering (authors), and Enterprise Automation. Many of the projects that are listed in the report also have short descriptive narratives that further describe the rationale for the project. The SCADA Master Plan is updated annually as part of the budgeting process.

Robert A Perdue Water Treatment Plant Site Master Plan

The Perdue Master Plan was produced by MWH in 2003 as part of the planning process for compliance with the pending regulations that go into effect in 2010 and 2011. The Perdue Master Plan presented several treatment process train alternatives and showed how the individual treatment components might fit on the Perdue Plant site. There were several requirements for the treatment processes to be considered such as ability to meet regulatory requirements, meet a budget of less than \$22 million and minimize interruption to existing facilities during construction. In addition, the Perdue Master Plan also had to consider the possible footprint for a Perdue Plant that was capable of treating 40 or 50 MGD. Preliminary construction cost estimates and design criteria were presented for future use as well. Considering the completion of the Perdue Upgrades Projects in 2011, the Perdue Master Plan still has value in providing information on the future clearwell replacement and the location and footprint of future solids management facilities. No future updates are planned.

Sweetwater Authority Emergency Response and Recovery Plan

The Sweetwater Authority Emergency Response and Recovery Plan (ERRP) was developed to guide the Authority through planned responses to emergency situations including but not limited to natural and man-made disasters; technological incidents; and national security emergencies in, or having an effect upon, the Authority's facilities and/or service area. The Authority last updated the ERRP in 2008, subsequent to the Vulnerability Assessment (V/A) conducted during 2002-2003, to be in compliance with Section 1433 (b) of the Safe Drinking Water Act as amended by the Public Health Security and the Bioterrorism Preparedness Act of 2002 (Public Law 107-188, Title IV – Drinking Water Security and Safety). The ERRP generally conforms to the National Incident Management System (NIMS; Homeland Security Presidential Directive 5), and the Standardized Emergency System (SEMS; Government Code Section 8607), and is used in conjunction with the State Emergency Plan and local emergency plans.

The ERRP describes:

- The Authority's emergency management organizational structure which is required to assist in mitigating any significant emergency or disaster
- Policies, responsibilities, and procedures which are required to protect the health and safety of customers, personnel, and facility property
- Operational concepts and procedures associated with field response to emergencies, Emergency Operations Center (EOC) activities, and the recovery process
- Implementation of NIMS for use within the United States, along with SEMS for use within the San Diego County operational area, regional, and State systems
- Multi-agency and multi-jurisdictional coordination, particularly between Sweetwater Authority and local, state, and federal agencies in emergency operations
- Pre-event emergency planning as well as emergency operations procedures

Habitat Management Plan

The Habitat Management Plan (HMP) was developed to balance the operating needs of Sweetwater Reservoir with the protection and management of the existing endangered species. The HMP was permitted by the wildlife regulatory agencies in the mid 1990's and allowed for both initial clearing and periodic maintenance of densely vegetated habitat within the reservoir. This was done to reduce trihalomethane (THM) production which was created during the raw water treatment and disinfection process. Surrounding forested habitat was also set aside to be conserved and managed under the HMP agreement in order to maintain a healthy and robust species population. In total, the HMP would support approximately 125 acres of vireo habitat, 50+ acres of which would serve as mitigation. In 2007 the Harris fire devastated the upper reservoir site. The HMP was utilized to create a larger program that resulted in the Habitat Recovery Project (HRP), an adaptive management action in support of the HMP commitment to protect and manage habitat for the vireo. The HMP details the steps and actions to be taken to meet the objectives outline above and provide a basis for future conservation efforts in the region.

Fleet Maintenance/Replacement Program

The vehicle replacement program was approved by the Board of Directors in FY 1997-1998. This program consists of evaluating the Authority's automobiles, light trucks, medium trucks and heavy trucks by using data collected from an asset management software (i.e., Maximo) for each vehicle. Vehicle evaluation is conducted when the Maximo system flags a vehicle "Alert" based on the following criteria:

1. If the age of the unit is 10 years or older
2. If the total life miles is 100,000 or greater
3. If the cost ratio is 50 percent or greater (total repair cost/original price)

The vehicle maintenance program follows the manufacturer's recommendation for servicing, preventive maintenance and repairs. Major repairs are sent to an outside vendor (i.e., transmission repairs, major engine repairs, vehicle painting) for competitive pricing and quick turnaround time.

appendix C

C. IMPLEMENTATION TIMELINE

The following tables organize the goals and objectives by timeframes for implementation: short-term (0-2 years), mid-term (2-5 years), long-term (5+ years), and ongoing. Expected completion dates are defined by the Authority’s fiscal year calendar, which ends on June 30 of each year. For example, an objective targeted for implementation by 2015 is defined as June 30, 2015. Objectives categorized under ongoing implementation are continuously conducted, measured and reported on monthly, annual or other bases.

SHORT-TERM IMPLEMENTATION (0-2 YEARS)

objective		fiscal year end completion	
		2013	2014
WQ7	Study alternatives to relocating the brine pipeline and discharge point from the Reynolds Groundwater Desalination Facility and redirecting resources to monitoring and habitat enhancement	→	
SR2	Install new pipelines to upgrade capacity and reliability of the distribution network for adequate pressure throughout the system with appropriate redundancy (Top 3)	→	
FV2	Replace the Customer Service and Financial Information Systems to improve efficiency	→	→
FV3	Update the Authority’s fiscal policies to include debt, reserve, and investment polices to achieve a favorable bond rating in support of a bond issue for capital projects	→	
FV8	Conduct Comprehensive Water Audit to determine level of nonrevenue water losses and potential mitigation strategies and initiatives	→	
CS1	Evaluate the credit card acceptance policy and identify potential revisions to increase customer satisfaction and enhance the bill collection process	→	→
SD2	Provide tuition reimbursement to eligible staff for continuing their formal education on a voluntary basis during off-hours	→	
SD5-II	Develop baseline Authority-wide measures and customized measures to each department and position to document efficiency, competency, conduct, areas of improvement, and merit of Authority employees	→	

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SHORT-TERM IMPLEMENTATION (0-2 YEARS) - CONTINUED

objective		fiscal year end completion	
		2013	2014
AE4	Complete implementation of the 2002 Information Systems Strategic Plan		
AE5	Update the Information Systems Strategic Plan		
AE7	Assess the requirements, costs and the Authority's positioning for pursuing American Public Works Association Accreditation to establish a process for verifying and recognizing compliance with recommended best practices		
AE8	Revise the monthly Management Reports to a "dashboard" format that incorporates current and future performance measures to improve ease of use and understanding for the Board and interested stakeholders		
AE10	Continue to assess the feasibility of optimizing the use of outsourcing services and operations		

MID-TERM IMPLEMENTATION (2-5 YEARS)

objective		fiscal year end completion				
		2013	2014	2015	2016	2017
WQ4	Remove sediment and bio film build-up through unidirectional flushing of distribution pipelines (a 3-year process) at 6-10 year intervals					
WQ6	Restore the east end habitat at Sweetwater Reservoir upon receipt of grant funding as defined in the Habitat Recovery Project					
WQ8	Obtain permit renewal from Regional Board for Reynolds Desalination discharge.					
WQ10	Track development and manage watershed activities for the beneficial use of the Authority and protect the environment for future benefit of species and Authority operations					

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MID-TERM IMPLEMENTATION (2-5 YEARS) - CONTINUED

objective		fiscal year end completion				
		2013	2014	2015	2016	2017
WQ11	Provide a documented layout and potential project costs for a variety of future improvements at the Perdue Plant as defined in the Perdue Plant Master Plan		→			
SR12	Maximize local water supplies by expanding the capacity of the Richard A. Reynolds Groundwater Desalination Facility to up to 10 mgd	→	→	→	→	→
FV4	Issue bond in FY 2014-15 to fund up to \$45 million in capital projects as defined in the 2010 Water Distribution System Master Plan		→			
FV7	Study the feasibility of implementing an Advanced Metering Infrastructure (AMI) or Automated Meter Reading (AMR) to improve the efficiency and precision of the current meter reading process		→			
AE6	Implement the enterprise-wide Asset Management System ("Maximo") to track and maintain all Authority assets		→			

LONG-TERM IMPLEMENTATION (5+ YEARS)

objective		fiscal year end completion
SR1	Replace the top 60 critical existing metallic mains with new pipelines to minimize the potential for leaks and failures as defined in the Metallic Main Replacement Program	2020
SR2	Install new pipelines to upgrade capacity and reliability of the distribution network for adequate pressure throughout the system with appropriate redundancy	2035
SR4	Increase finished water storage capacity in deficient zones as defined in the 2010 Water Distribution System Master Plan	2035
SR5	Provide additional pumping capacity for Hydropneumatic Zones to ensure adequate pumping capacity at each pump station with the largest pump out of service	2035
SR6	Assess the condition of asbestos cement (AC) pipe and conduct appropriate replacements to prevent failures and maximize service life throughout the distribution system	2035
SR10	Comply with Heavy Equipment Replacement policies from the California Air Resources Board	2025

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LONG-TERM IMPLEMENTATION (5+ YEARS) - CONTINUED

objective		fiscal year end completion
SR11	Address Division of Safety of Dams (DSOD) and maintenance requirements to accommodate Probable Maximum Flood (PMF) for Sweetwater Dam and stairs replacement at Loveland Dam	2020
AE1	Develop a comprehensive water use efficiency plan to include, but not be limited to, meeting or exceeding 20x2020 and California Urban Water Conservation Council (CUWCC) goals/reporting requirements	2020

ONGOING IMPLEMENTATION

objective		fiscal year end completion
WQ1	Minimize taste and odor events to less than two customer complaints per year per 1,000 acre-feet of water sold (this equate to 40 taste and odor complaints based on 19,416 acre-feet of water sold)	Annually
WQ2	Achieve a combined filter effluent turbidity goal of less than 0.1 NTU 99 percent of the time	Monthly
WQ3	Achieve a clearwell effluent residual of between 2.0 and 3.5 mg/L.	Monthly
WQ5	Apply the management plan recommendations of standards for permitting adaptive, long-term management of Authority lands and operations as defined in the Habitat Management Plan	Annually
WQ9	Maintain and improve the Supervisory Control and Data Acquisition (SCADA) system for all treatment and distribution facilities as defined in the SCADA Master Plan	Annually
SR3	Minimize corrosion and replacement of finished water storage tanks through routine inspections and corrective actions	Ongoing
SR7	Operate all distribution valves over a three-year cycle, and all transmission valves 14-inches and larger once a year, replacing valves that meet established replacement criteria outlined in the Valve Maintenance and Replacement Program	Ongoing
SR8	Operate all fire hydrants over a three-year cycle and replace fire hydrants that meet established replacement criteria as part of the Fire Hydrant Maintenance and Replacement Program	Ongoing
SR9	Maintain and replace fleet vehicles according to manufacturer's standards and replacement criteria as defined in the Fleet Maintenance/Replacement Program	Ongoing
SR13	Respond to the needs of Chula Vista, National City, and County of San Diego to facilitate implementation of the respective street improvement projects in a fiscally responsible manner	Ongoing

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ONGOING IMPLEMENTATION - CONTINUED

objective		fiscal year end completion
SR14	Respond to the needs of private developers for domestic and fire services with minimal-to-zero financial impacts to the Authority's ratepayers	Ongoing
FV1	Develop an annual budget that determines yearly expenditures, incorporates a five-year projection to track fiscal stability, and guides rate-setting decision-making	Annually
FV5	Identify and pursue grant funds for high priority projects and programs including, but not limited to, legislative advocacy, Integrated Regional Water Management, Bur Rec Title XIV, and Proposition 50	Ongoing
FV6	Replace meters aged 15 years for consistent revenue collections as defined in the Meter Replacement Program	Ongoing
CS2	Develop an expanded Customer Outreach program to include, but not limited to, attending community events and school programs, producing educational materials, and conducting customer surveys	Ongoing
CS3	Expand web-based communications to include, but not be limited to, distributing public notifications, distributing e-notifications/news, and posting to Authority social media pages/sites	Ongoing
SD1	Achieve professional and regulatory certifications as required by job classifications to perform assigned duties	Ongoing
SD3	Create a Leadership Development Program that engages eligible staff in developing leadership skills to support their professional development and to meet the Authority's needs for leadership capacity	Ongoing
SD4	Develop and implement employee rotation/cross training over time to ensure consistent staff knowledge and experience	Ongoing
SD5-I	Conduct annual performance evaluations	Annually
SD6	Identify and implement expanded risk management and safety protocols to reduce experience modification and incident rates at or below industry standards	Bi-Annually
AE2	Increase conserved water supplies through water efficiency and education and assistance program and outreach efforts, through strategic partnerships with public and private agencies, and developing effective rate setting strategies	Ongoing
AE3	Update the Emergency Response and Recovery Plan and exercises	Ongoing
AE9	Maintain and update existing policies and procedures	Annually
AE10	Continue to assess the feasibility of optimizing the use of outsourcing services and operations	Ongoing

appendix D

D. CAPITAL INVESTMENT BUDGET WRITE-UP FORM (SAMPLE)

**SWEETWATER AUTHORITY
FY 2013-14 PROPOSED CAPITAL INVESTMENT BUDGET**

Prior Year	<input type="checkbox"/>
Deferred?	<input type="checkbox"/>
Carryover?	<input type="checkbox"/>
Multi-year?	<input type="checkbox"/>

Subject of Study

SP Objective:

TITLE OF THE PROJECT

Recommendation

Executive summary of the project. Please try to keep this to one or two sentences.

Estimated Cost

Budget Amount		\$	-
Vendor payments	\$	-	
Salaries		-	
Benefits (79% Salaries)		-	
Overhead (43% Salaries)		-	
Inventory		-	
Equipment		-	

Discussion

Include a detail discussion of the project for the FY 2013-14 Budget. Please include additional information (cause and affect) if the project is deferred by the Governing Board.

Discussion of Carryover

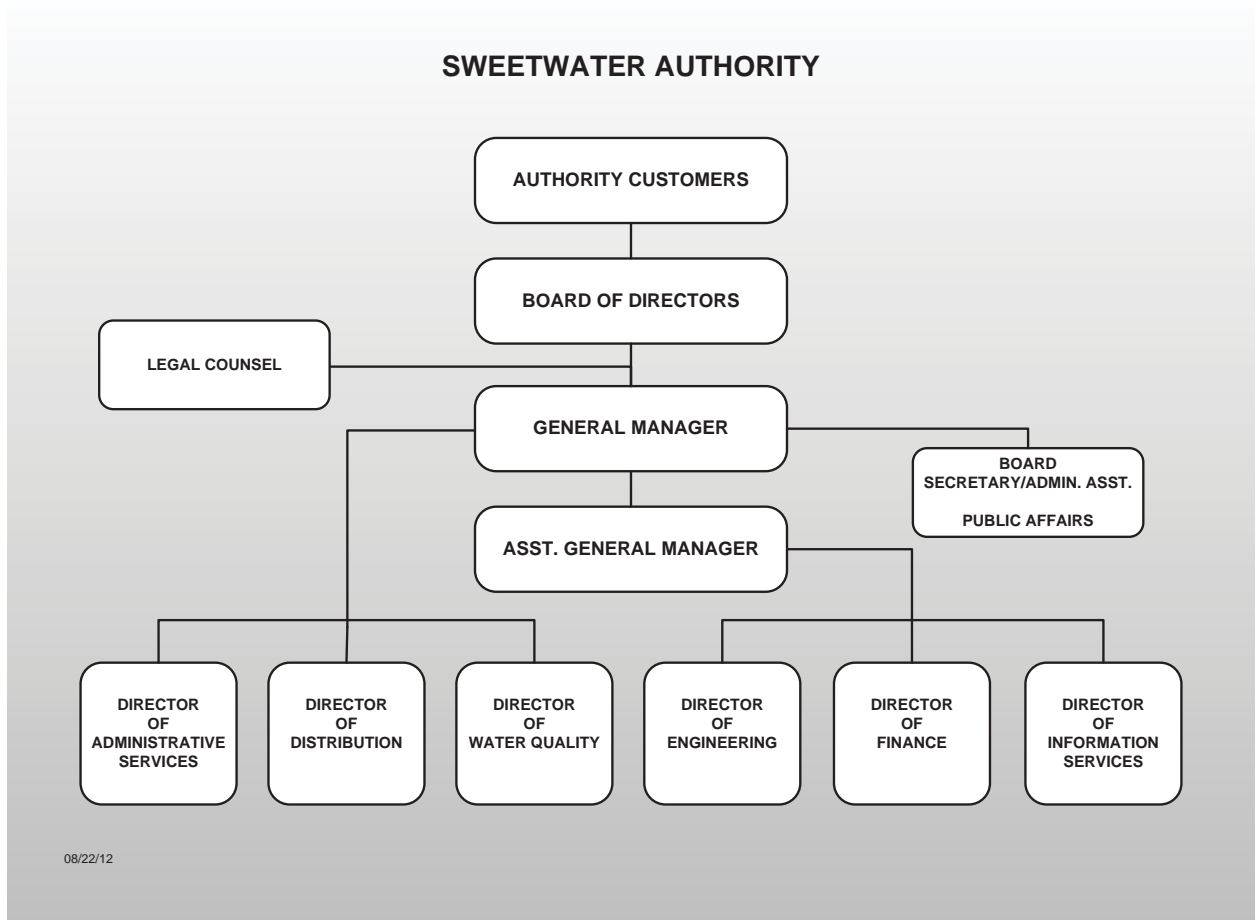
If this is not a carryover please leave blank. Otherwise include a detail discussion why this project is a carryover.

Summary of Cost Estimate

Total Project Cost		\$	-
<u>Spent in Prior Fiscal Years:</u>			
2009-10			-
2010-11			-
2011-12			-
2012-13			
<u>Proposed FY 2013-14 Budget Detail:</u>			
Detail line item	\$	-	
Detail line item		-	
Detail line item		-	
Detail line item		-	
<u>Proposed FY 2013-14 Budget:</u>			
			-
<u>Projected Cost for Future Fiscal Years:</u>			
2014-15			-
2015-16			
2016-17			

appendix E

E. ORGANIZATIONAL STRUCTURE



appendix F

F. GLOSSARY OF TERMS

Acre-foot: Volume of water with one acre foot equal to six months use by a family of four.

Advanced Metering Infrastructure (AMI): State-of-the-art electronic/digital hardware and software, which combine interval data measurement with continuously available remote communications. These systems enable measurement of detailed, time-based information and frequent collection and transmittal of such information.

Alluvium: Shallow groundwater aquifer located within a stream or river.

Aqueduct: Large diameter pipelines (generally greater than six foot in diameter) conveying water.

Asbestos Cement (AC): A type of pipe that was used extensively in the mid-1900s in potable water distribution systems, particularly in the Western United States.

Automated Meter Reading (AMR): The technology of automatically collecting consumption, diagnostic, and status data from a water meter and transferring that data to a central database for billing, troubleshooting, and analyzing.

AWWA: American Water Works Association.

Biofilm: A thin layer of microorganisms adhering to the surface of a structure, which may be organic or inorganic, together with the polymers that they secrete.

Brackish: Saline groundwater with salt content ranging from 2,000 to 5,000 mg/L.

Brine: Bi-product of reverse osmosis treatment, the high dissolved salts water flow stream.

Bur Rec Title XVI: Bureau of Reclamation federal grant funding for water reclamation projects.

Clearwell: A storage facility at the entrance to the distribution system. Usually adjacent to the treatment facility.

Council of Urban Water Conservation Council (CUWCC): A partnership of water suppliers, environmental groups, and others interested in conserving California's greatest natural resource.

Desalination: Removal of dissolved cations and anions (salts) from water.

Disinfection: The chemical stabilization of water to prevent biofilm growth.

Distribution system: A network of pipes, valves, pump stations, and tanks that distribute water to customers.

Division of Safety of Dams (DSOD): Part of the State of California's Department of Water Resources, this office is charged with protecting the public against the loss of property or life from dam failure.

Effluent: Usually refers to a flow stream that has gone through a treatment process.

E-mod: Workers Compensation Experience Modification.

EPA: Environmental Protection Agency.

Groundwater: Water that is found below the surface of the ground and not exposed to the influence of surface water such as a stream or lake.

Hydropneumatic zone: A water delivery zone that is pressurized by a tank that contains pressurized air and water.

Integrated regional water management: A relatively new California initiative aimed at developing long-term water supply reliability, improving water quality, and protecting natural resources.

Joint powers water agency: South Bay Irrigation District and City of National City formed to create Sweetwater Authority.

mg/L: Milligrams per liter, a measure of the quantity of a particular substance in a much larger volume of fluid.

mg/D: Million gallons per day.

Nonrevenue water loss: Water that has been produced and is "lost" before it reaches the customer through unbilled authorized consumption, apparent losses, and real losses.

NPDES: National Pollutant Discharge Elimination System.

NTU: Nepheloment turbidity unit.

Proposition 50: State of California grant program.

RWQCB: Regional Water Quality Control Board.

Reverse osmosis: The technology that describes when high pressure is applied to untreated water that flows through a semipermeable membrane separating the water into two flow streams, one with a low dissolved salt content and one with a high dissolved salt content.

SCADA: Supervisory Control and Data Acquisition.

System Reliability: The ability to capture, store, pump, treat, and deliver uninterrupted potable water that ensures Customers' water needs are met.

Turbidity: A measure of the quantity of particles in a water stream.

Unidirectional flushing: The intentional flushing of a distribution system in which cleaner water is forced, at high velocity, through the system to remove particle and biological buildup on the walls of the piping system.

URDS: Urban runoff diversion system.

Watershed Sanitary Survey: A document that is required by a regulating agency that details the location and type of potential sources of water contamination that may be found in the watershed.



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