METRO TAC AGENDA
(Technical Advisory Committee to Metro JPA)

TO: Metro TAC Representatives and Metro Commissioners

DATE: Wednesday, March 21, 2012

TIME: 11:00 p.m. to 1:30 p.m.

LOCATION: MWWD, 9192 Topaz Way, (MOC II Auditorium) – Lunch will be provided

PLEASE DISTRIBUTE THIS NOTICE TO METRO COMMISSIONERS AND METRO TAC REPRESENTATIVES

1. Review and Approve Metro TAC Action Minutes for the Meetings of February 15, 2012 (**Attachment**)
2. Metro Commission/JPA Board Meeting Recap (Standing Item)
3. Financial Update (Karyn Keese)
4. Update To The Cost Estimate for Backup Generators (Ann Sasaki) (**Attachment**)
5. Slicer Presentation Engineering Flow Data Tool (Paul Mitchell)
6. Sampling Protocol Contract Final Scope of Work
7. Metro FY2008-FY2011 Rate Case Expenditures (Ann Sasaki) (**Attachment**)
8. Discussion of WDR Compliance Audits of Metro TAC Members
9. Metro JPA Strategic Plan Revisions (**Attachments**)
10. Discussion of IRWM Summit (Jennifer Duffy & Metro TAC Attendees)
11. Final Draft Recycled Water Study (**Attachment**)
12. Metro Wastewater Update
13. Padre Dam Mass Balance Correction (Standing Item) (**Attachment**)
14. Metro TAC Work Plan (Standing Item) (**Attachment)**
15. Municipal Transportation Agreements (Standing Item) (Edgar Patino)
16. Review of Items to be Brought Forward to the next Metro Commission/Metro JPA Meeting.
17. Other Business of Metro TAC
18. Adjournment (To the next Regular Meeting, April 18, 2012)

Metro TAC 2012 Meeting Schedule

January 18	May 16	September 19
February 15	June 20	October 17
March 21	July 18	November 21
April 18	August 15	December 19

AGENDA ITEM 1
Attachment

METRO WASTEWATER JPA

Metro TAC
(Technical Advisory Committee to Metro JPA)

ACTION MINUTES

DATE OF MEETING: February 15, 2012

TIME: 11:00 AM

LOCATION: MWWD, MOC II, Auditorium

MEETING ATTENDANCE:

Roberto Yano, Chula Vista
Scott Tulloch, Chula Vista
Dan Brogadir, County of San Diego
Dennis Davies, El Cajon
Kristen Crane, Poway
Greg Humora, La Mesa
Bob Kennedy, Otay WD
Rita Bell, Otay WD
Manny Magana, Otay WD
Eric Minicilli, Del Mar
Chris Helmer, Imperial Beach
Al Lau, Padre Dam MWD
Augie Caires, Padre Dam MWD
Joe Smith, National City
Tom Crane, City of San Diego
Edgar Patino, City of San Diego
Peggy Merino, City of San Diego
Ann Sasaki, City of San Diego
Guann Hwang, City of San Diego
Lee Ann Jones-Santos, City of San Diego
Karyn Keese, Atkins
Jennifer Duffy, Atkins
Mike Uhrhammer

1. **Review and Approve MetroTAC Action Minutes for the Meeting of January 18, 2011**
   - Chairman Humora noted a change to the minutes on Page 3. Under Item 9 Bob Cunningham should be changed to Bob Kennedy. With this change the minutes were approved unanimously.

2. **Metro Commission/JPA Board Meeting Recap**
   - The Metro Commission approved the two projects forwarded to them by Metro TAC last month: the North City Cogeneration Facility Expansion Design Build and the PUD/WWTD Back-up Generator Project.
   - The Metro JPA strategic plan was discussed and the Metro Commission/JPA requested that Metro TAC work with Mike Uhrhammer and that a new draft be brought to the next Commission meeting
   - The Commission is in support of the record retention project that will be undertaken next fiscal year. Initially Karyn Keese and Paula de Sousa will work on what should be maintained, in what format, and where.

3. **Financial Update**
   - Karyn Keese reported that the 2010 audit is proceeding ahead of the current schedule.
   - She requested input from the JPA members about their record retention policies and service providers.
   - She also introduced Jennifer Duffy from Atkins who will be providing engineering support to the Metro TAC/JPA.

ACTION: Metro TAC members will provide Ms. Keese with their record retention policies and service provider information.

4. Discussion of Metro JPA Strategic Plan

- Mike Uhrhammer discussed the changes to the Strategic Plan. The draft in the agenda packet includes comments from Poway, Chula Vista, Otay, Padre Dam, and Paula de Sousa. He has removed all discussions of large dollar studies and projects and has made the Plan less aggressive with a longer term view. The Plan more clearly discusses the PAs role in the system (oversight of what San Diego does). This is a two-year plan and possibly when the JPA revises it in 2013 he suggested they might consider expanding it to be a five-year plan.
- Chairman Humora stated that the Commission wants San Diego's input into the Strategic Plan. Ann Sasaki stated that they only had one change and would provide.
- Scott Tulloch discussed that while the County of San Diego has formed a regional stormwater group that there is currently not a group that coordinates water resources such as IPR on a regional basis. Discussion followed regarding the evolving relationship of wastewater to stormwater and water.
- Kristen Crane discussed the Integrated Regional Water (IRWM) Management Summit that is being held on February 29, 2012. This summit is intended to gain input from regional stakeholders on how to enhance water resources management in the San Diego region. She will provide the registration information for distribution to Metro TAC members. It was suggested that a member of the IRWM should be invited to Metro TAC to discuss a more regional approach to water resources such as IPR and forming a relationship with this group similar to the one the Commission has established with IROC.
- On a motion by Dan Brogadir, seconded by Vice Chair Al Lau the Metro TAC unanimously approved the document, subject to the changes discussed at the meeting, and forwarding it on to the Metro Commission/JPA for review and potential approval.

ACTION: Kristin Crane to provide IRWM Summit information for Metro TAC distribution. City of San Diego should provide final comments on the current draft to Karyn Keese. Mike Uhrhammer to incorporate Metro TAC changes into draft.

5. Padre Dam Mass Balance Correction

- Karyn Keese and Rita Bell discussed the audit they are performing on the PUD staffs proposed mass balance billing correction. All years are complete except 1998. This year should be resolved within the next week and then the audit will be complete. A white paper is being drafted that will help explain how the billing problem occurred. Metro TAC members discussed changes in the format of the spreadsheet and that they would like to receive the white paper and revised spreadsheets as early as possible and not just with the agenda package.
- Metro TAC members discussed potentially adopting a policy to deal with billing errors/corrections in the future. This will be part of ongoing discussions. The Padre Dam Mass Balance Billing Correction issue will be added as a standing item to the Metro TAC agenda.
- Kristen Crane asked if Scott Huth had contacted Paula de Sousa regarding legal representation on this issue. Ms. Keese reported that he had and that Ms. de Sousa

had reiterated her position that BBK has a conflict on this issue and thus cannot represent the JPA members. She also stated that the City has separate contracts for billing purposes with each of the PAs and thus this is an independent issue from the JPA. She suggested that each PA refer this to their legal advisor. An alternative might be to form a group of the PAs legal advisors, such as during the AFFORD proceedings, to review this issue on behalf of the PAs.

ACTION: Audit to be completed the week of February 13, 2012. The whitepaper and revised spreadsheets to be sent to Metro TAC members prior to next meeting.

6. **Sampling Protocol Contract**
   - Guann Hwang, PUD staff, reviewed the Brown and Caldwell proposal for the Metro strength-based billing study. He is requesting comments from the PAs on the contract scope-of-work in the next two weeks so that it can be finalized. Discussion centered on insuring that the basis for house counts is reviewed by the consultant with the goal of standardizing the gallons used per EDU for billing purposes.
   - At the January 2012 Metro TAC meeting a subcommittee had been formed to work in conjunction with PUD staff on the project. The subcommittee consists of Vice Chair Al Lau, Bob Kennedy, and Dan Brogadir.

   ACTION: The Metro TAC subcommittee to provide comments on the scope of work within the next two weeks.

7. **PUD CIP Audit Presentation**
   - Tom Crane, PUD staff, provided an overview of the Audit's purpose, recommendations and PUD's responses to the Audit. All PUD disagreements with the audit findings have been resolved and all but one will be corrected by June 30, 2012. The other finding will be corrected by September 30, 2012. PUD staff will make a further status briefing to the Metro TAC in July 2012.

   ACTION: PUD staff to prepare an update for the July 2012 agenda.

8. **Request for Participation by Representative of Metro TAC FY2013 City of San Diego Strategic Initiative Development Process**
   - Tom Crane requested participation of at least one Metro TAC member and one Metro Commission/JPA member in San Diego's strategic planning process. There are three meetings scheduled. Beginning on April 6, 2012 the strategic planning group will meet the first Friday's of April, May, and June at the Alvarado Treatment Plant. A final meeting will be held the end of June to make revisions to the report. Bob Kennedy volunteered to be the Metro TAC's member.

9. **Metro Wastewater Update**
   - Ann Sasaki reviewed information of the PUD's CIP financing plan memo provided to IROC (a copy of this memo is included as Attachment A to these minutes) . This memo covers how the capital funds were spent from San Diego's last rate case. Metro TAC member will review over the next month and discuss at their next meeting.

- Ms. Jones-Santos discussed that PUD staff is updating the future CIP funding plan and that it will be presented at a future meeting.

  ACTION: Metro TAC members to review. Metro FY2008-FY2011 Rate Case Expenditures to be placed on the next Metro TAC meeting agenda. PUD staff will provide a funding plan for each future CIP project at a future Metro TAC meeting.

10. Metro TAC Work Plan

- Metro TAC members reviewed and updated the Work Plan. A copy of the updated work plan is included with these minutes as Attachment B.

11. Municipal Transportation Agreements

- The Imperial Beach Transportation Agreement is going to NR&C on February 29, 2012.

12. Review of Items to be Brought Forward to the Metro Commission/JPA Meeting of March 1, 2012.

- Chairman Humora discussed that there are no time sensitive items that need to be brought forward to the Metro Commission/JPA. He will contact Commission Chairman Ewin and discuss cancelling the Metro Commission/JPA meeting.

13. Other Business of Metro TAC

- There was no other business.

14. Adjournment (To the Next Regular Meeting, March 21, 2012)

ATTACHMENT A

THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: February 9, 2012

TO: Independent Rates Oversight Committee Members

FROM: Roger Bailey, Director of Public Utilities

SUBJECT: Summary of Water and Sewer FY2008-FY2011 Rate Case Expenditures

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On February 26, 2007 the City Council approved rate increases for both the water and wastewater systems. These rates were critical for funding infrastructure improvements needed to meet mandated requirements under the Department of Public Health Compliance Order (Water) and the Consent Decree (Wastewater) and to maintain the integrity of the system. The mandates required the replacement of aging pipes, pumps and other infrastructure to reduce the number of water main breaks, sewer spills, pump station, treatment system failures, and violations of regulatory permits. Cost of service studies were prepared for both the water and sewer funds and were the basis of the recommended rate increases.

The Public Utilities Department operates large, complex water and wastewater systems. The Water System consists of over 3,000 miles of pipeline, 129 pressure zones, 50 water pumps stations, 29 potable water reservoirs, and 3 water treatment plants. The water system covers over 404 square miles and serves a population of 1.3 million. Of the more than 3,000 miles of water pipe, approximately 760 miles or 25% are over 50 years old. The overall wastewater system is comprised of the Municipal sub-system and the Metro Sub-system. The Municipal Sub-system is the municipal sewer collection system for the City's residents and consists of over 3,000 miles pipeline and 74 municipal pump stations. Of the more than 3,000 miles of sewer pipeline, approximately 720 miles or 24% are over 50 years old. The Metro Sub-system is a regional sewer treatment and disposal system that serves the City and 11 other cities and public agencies. The Metro Sub-system consists of three wastewater treatment plants a biosolids processing facility, eight large pump stations and two ocean outfalls. The wastewater system covers over 450 square miles and serves a regional population in excess of 2.5 million.

The water rate case focused on the needs of the water treatment system and included the upgrade of the Alvarado, Miramar and Otay Water Treatment Plants to meet new regulatory requirements, the replacement of the Otay 2nd Transmission Pipeline and the replacement of 75 miles of old cast iron water pipelines as mandated in the Compliance Order and the Federal Safe Drinking Water Act.

The wastewater rate case focused on the needs of the municipal collection system and included the replacement and rehabilitation of 115 miles of sewer pipelines, trunk sewers and pump station projects as mandated in the Consent Decree. Additionally the rate case included improvements to the Metropolitan Sewerage System treatment plants and pump stations.

Capital Improvement Project Updates

During Fiscal Years 2008 to 2011, $393 million in water funds and $250 million in wastewater funds were expended on critical infrastructure. These projects included, among others, the award of 100 miles of water pipeline replacement, of which 88.5 miles were cast iron pipeline; replacement of 61 miles of sewer pipeline and the rehabilitation of 102 miles of sewer pipeline; upgrades to the Alvarado, Miramar and Otay Water Treatment plants: upgrades to the Otay 2nd Water Pipeline and eight trunk sewers; upgrades to nine sewer pump stations projects; and water security upgrades.

Through the end of December 2011, an additional 15 miles of water pipeline were awarded, 4 miles of sewer pipeline were replaced and 19 miles of sewer pipeline were rehabilitated.

While some project schedules have slipped, all of the Compliance Order and Consent Decree projects are projected to be completed by their required deadlines. Some delays in project schedules can be attributed to redesigns which have reduced the scope of work while still maintaining capacity and reliability needs at a lower cost. Some projects have been cancelled due to re-evaluation of operational needs or they have been replaced by other projects.

Financing

The Water Rate Case assumed a total expenditure of $585,200,000 and the Wastewater Case assumed a total expenditure of $585,365,944. The Capital Improvement Program (CIP) for both funds was developed using 2006 dollars and a 4% annual escalation rate. At the time of the planning of the rate case in 2006, construction costs had been increasing and were projected to continue to increase. After the approval of the rate increases, the economy began a downturn and construction costs decreased significantly.

Variance in Expenditures

The majority of the variance in the expenditures between the rate case and actual, fall into three categories: 1) completed projects, with savings due to favorable bidding conditions or revised designs; 2) projects that were cancelled or put on hold; and 3) additional critical infrastructure needs identified after the rate case as part of our ongoing assessment of the system.

Completed Projects: Due to the economic downturn in 2008, there were considerable savings in construction. For example, the water rate case assumed the cost to replace one mile of water pipeline in 2006 dollars was $2.0 million per mile, versus an actual average cost of $1.3 million per mile. The estimated savings from the lower water pipeline cost alone is $38 million. The

wastewater rate case assumed the cost to replace one mile of sewer pipeline in 2006 dollars was $2.3 million per mile versus an actual average cost of $1.5 million per mile and the cost to rehabilitate one mile of sewer pipeline was $800,000 per mile versus an actual average cost of $500,000 million per mile. The estimated savings from the lower sewer pipeline replacement and rehabilitation cost alone is $111 million. Additionally, several other projects came in at lower bid prices.

During the rate case period several project were reviewed and their designs were modified to reduce their total construction costs. For example, the design of the East Point Loma Trunk Sewer was modified from open trench replacement to rehabilitation, which resulted in a savings of $17 million for this project.

Projects that were cancelled or put on hold: During the rate case period several projects were reevaluated. Some of these projects are no longer required because of reductions in flow, other projects superseding them, or changes in operational needs. For example, the construction of SD17 Water Pump Station was cancelled following an evaluation of operational needs and life cycle costs, and will be replaced by a gravity pipeline. The cancellation of the SD17 Pump Station project resulted in a savings of $15 million.

Additional Critical Projects: During the rate case period additional critical projects, not previously identified, were added to the CIP. For example, the Customer Information System (CIS) Enterprise Resource Planning implementation was added in Fiscal Year 2011 at a cost of $14 million.

On an ongoing basis, the Department prepares a rolling Five Year Capital Improvement Program. The Program is based on the Water and Wastewater Facility Master Plans. The master plans identify facility needs based on condition assessment, future capacity demands, regulatory requirements, and system hydraulic performance criteria. The Department has televised over 1,600 miles of sewer pipelines, and has identified over 540 miles needing replacement or rehabilitation. Over 129 miles of old cast iron water main still remain to be replaced.

The Department is embarking on a program to assess the condition of the approximately 2,100 miles of asbestos concrete water pipeline to determine what will need to be replaced in the next 10 years. Condition assessments are continuing on water transmission pipelines and trunk sewers. Following these condition assessments, projects will be developed and prioritized using a scoring and ranking method in compliance with Council Policy 800-14.

The Program for Fiscal Years 2012 to 2016 includes the following categories of projects:

- Water and Sewer Pipelines
- Trunk Sewers and Water Transmission Pipelines
- Water and Sewer Pump Stations
- Water and Sewer Treatment Plants

In summary, the majority of projects proposed in the FY08-FY11 Rate Case, are either complete or in the process of being implemented and will be completed by the end of Fiscal Year 2014 at a cost under that proposed in the FY08-FY11 Rate Case. These cost savings will allow the Department to continue to implement critical infrastructure needs including the acceleration of the water and sewer pipeline replacement with no additional rate increases.

Roger S. Bailey
Director of Public Utilities

AS/ah

Attachments: Water and Wastewater Capital Improvement Program, Rate Case vs Planned and Actual

cc: Jay Goldstone, Chief Operating Officer
Almis Udrys, Deputy Director of IRD an Fiscal Policy

Wastewater (Metro Fund) Capital Improvement Program
Rate Case vs. Planned and Actual

PROJECT TITLE		Rate Case	Actual FY08-FY11	Expenditures Actuals plus Planned FY08-FY12	Expenditures Actuals plus Planned FY08-FY13	Expenditures Actuals plus Planned FY08-FY14	Comments	Project Description
Rate Case - Ongoing								
ENVIRONMENTAL MONITORING & TECH. SERVICES LAB BOAT DOCK	Rate Case	$2,036,981					Project delayed because the Navy has not conveyed the property to the City. The Navy indicated they will issue a Right of Entry Permit or Licensing Agreement to allow the City to proceed with the project.	This project provides for a new boat dock to be constructed in the former Naval Training Center boat channel. This dock will provide mooring for two ocean monitoring vessels in support of the Environmental Monitoring and Technical Services Laboratory
	Actual		$0					
	Planned			$0	$0	$1,497,884		
MBC BIOSOLIDS STORAGE SILOS	Rate Case	$9,167,765					In design. Construction is anticipated to start 12/2012 and be complete by 3/2014 (FY14).	The project will add two more storage silos and will also evaluate alternatives for additional truck loadout stations.
	Actual		$872,063					
	Planned			$972,063	$2,555,438	$7,555,438		
MBC DEWATERING CENTRIFUGES REPLACEMENT	Rate Case	$1,451,980					Project originally anticipated to be funded FY09-FY13. Procuring a design build contractor. Construction is anticipated to start 3/2013 and be completed by 3/2016 (FY16).	This project replaces 4 existing dewatering centrifuge units with larger units to allow for increased capacity, equipment redundancy and increase recovery from shutdowns
	Actual		$13,559					
	Planned			$513,559	$1,513,559	$5,013,559		
MBC ODOR CONTROL FACILITY UPGRADES	Rate Case	$5,362,139					Design anticipated in FY12. Construction to be completed by 6/2015 (FY15).	This project will upgrade the existing Odor Control System. The project will provide improvements to better capture foul air and ensure compliance with safety and APCD permit regulations.
	Actual		$57,296					
	Planned			$557,296	$1,057,296	$3,857,296		
METRO FACILITIES CONTROL SYSTEM UPGRADE	Rate Case	$11,381,533					MBC Control System Upgrade - Completed Pt. Loma Control System Upgrade - In construction and expected to be completed by FY13.	This project provides for the replacement and upgrade of the existing control system at various Metropolitan Wastewater treatment and pump station facilities. These facilities include Metro Biosolids Center, North City Water Reclamation Plant, Point Loma Treatment Plant, Pump Station 64, and Penasquitos Pump Station.
	Actual		$6,281,770					
	Planned			$9,481,770	$10,951,770	$10,951,770		
NCWRP - SLUDGE PUMP STATION UPGRADE	Rate Case	$467,717					In design. Construction to be completed by 3/2013.	This project provides engineering and construction services to remedy the vibration problem that is currently taking place when operating the pumps at full speed.
	Actual		$136,460					
	Planned			$419,460	$652,305	$652,305		
POINT LOMA - GRIT PROCESSING IMPROVEMENTS	Rate Case	$26,803,969					The original design was postponed and the project scope reduced pending the results of the pilot testing of the Biological Aerated Filter (BAF) Technology at the Point Loma Wastewater Treatment Plant. In construction and expected to be completed by 12/2013.	The Grit Processing Improvements project will include reconstruction of the old south grit tanks and their adjacent pump gallery, replacement of the headworks building that was constructed in 1962 with a new drive-through facility, expansion of an existing odor removal system and replacement of auxiliary equipment.
	Actual		$2,476,961					
	Planned			$10,476,961	$18,476,961	$26,407,903		
PUMP STATION 2 ONSITE STANDBY POWER	Rate Case	$9,014,161					The higher cost is based on the recent updated cost estimate and a scope increase to include a diesel startup generator and two new larger generators. Complete the feasibility study in FY12. Design is anticipated to be completed by FY14. Construction is expected to be completed by FY16.	This project will replace the Engine drives for pumps 4&5 with electric motors and provide two generators for electrical power to any two or more of the 8 pumps at the station. This will provide the required surge protection against a electrical utility outage and also better flex-ability as to how it is applied.
	Actual		$64,035					
	Planned			$164,035	$364,035	$864,035		

Wastewater (Metro Fund) Capital Improvement Program
Rate Case vs. Planned and Actual

PROJECT TITLE		Rate Case	Actual FY08-FY11	Expenditures Actuals plus Planned FY08-FY12	Expenditures Actuals plus Planned FY08-FY13	Expenditures Actuals plus Planned FY08-FY14	Comments	Project Description
WET WEATHER STORAGE FACILITY	Rate Case	$5,717,875					A feasibility study was completed 10/2011. The Department is applying for a RWQCB permit for the construction of intermittent discharge of reclaimed water into a stream during extreme wet weather events. Construction is anticipated to start in FY14 and complete by FY16.	This facility will be utilized to provide hydraulic relief to Pump Station 2 , as well as reduce the risk of potential sewer spills during severe rainfall events. The first phase consists of the implementation of live stream discharge of reclaimed water from the North City Water Reclamation Plant during heavy rain events to reduce the demand on the downstream system and facilities. Phase 2 is to build a 7 mg underground storage tank at a site adjacent to and west of Pump Station 2.
	Actual		$597,151					
	Planned			$647,151	$747,151	$847,151		
Subtotal (Ongoing)		$71,404,120	$10,499,296	$23,232,296	$36,318,516	$57,647,342		
Rate Case - Completed								
ANNUAL ALLOCATION - METROPOLITAN SYSTEM PUMP STATIONS (formerly Annual Allocation - Pump Stations 1 & 2)	Rate Case	$7,482,829					PS#1 SCREENING ROOM LINER - Completed PS#1, 2, GAPS - CCTV SECURITY - Completed PUMP STATION 1 & 2 ELECTRIC - In construction, project to be completed by 5/2012. Scope increase to include the upsizing of the switchgear at Pump Stations 1 & 2 from 250MWA to 300 MVA to accomodate future turbine generators.	This annual allocation provides for upgrades, renovation or replacement of major equipment, such as pumps, valves, tanks, controls, and odor control systems at the prump stations. These improvements will allowthe pump stations to be run more efficiently. Projects are scheduled on a priority basis.
	Actual		$7,662,533	$8,916,263	$8,916,263	$8,916,263		
ANNUAL ALLOCATION - PT. LOMA TREATMENT PLANT & RELATED FACILITIES (This Annual merged with Annual Allocation Metro Treatment Plants in FY10)	Rate Case	$2,665,819					POINT LOMA- SOUTH USE AREA - Completed PT LOMA HYDRO 84 BULKHEAD - Cancelled PT. LOMA 84-INCH PENSTOCK - Completed This Annual was closed in FY10 and merged into AA- Metro Treatment Plants.	This annual allocation provides for minor renovation or replacement of facilities at the treatment plant and associated facilities. Various facilities require replacement due to increasing wastewater flows and changing regulatory requirements and to increase efficiencies. Projects are scheduled on a priority basis
	Actual		$887,487	$887,487	$887,487	$887,487		
ANNUAL ALLOCATION-NORTH CITY WATER RECLAMATION PLANT (This Annual merged with Annual Allocation Metro Treatment Plants in FY10)	Rate Case	$1,685,710					NCWRP-AUTOMATED SCUM SPRAY - Completed NCWRP-FOUL AIR IMPROVEMENT - Completed This Annual was closed in FY10 and merged into AA- Metro Treatment Plants.	This annual allocation provides for minor renovation or replacement of facilities at the treatment plant and associated facilities. Various facilities require replacement due to increasing wastewater flows and changing regulatory requirements. Projects are scheduled on a priority basis
	Actual		$654,896	$654,896	$654,896	$654,896		
ANNUAL ALLOCATION-SOUTH BAY WATER RECLAMATION PLANT (This Annual merged with Annual Allocation Metro Treatment Plants in FY10)	Rate Case	$634,549					SBWRP SURGE ANTICIPATOR - Completed SBWRP-600HP RECL WTR PUMP - Completed This Annual was closed in FY10 and merged into AA- Metro Treatment Plants.	This annual allocation provides for minor renovation or replacement of facilities at the treatment plant and associated facilities. Various facilities require replacement due to increasing wastewater flows and changing regulatory requirements. Projects are scheduled on a priority basis
	Actual		$388,241	$388,241	$388,241	$388,241		
ANNUAL ALLOCATION-METRO TREATMENT PLANTS (formerly Annual Allocation - BIOSOLIDS CENTER)	Rate Case	$3,423,140					MBC BIOSOLIDS SCREEN & BL - Completed MBC CENTRATE PIPELINE ACC - Completed MBC CHEMICAL STORAGE & HANDLING - Completed MBC LIME MIXER BYPASS/EMERGENCY - Completed	This annual allocation provides for minor renovation or replacement of facilities at the treatment plant and associated facilities. Various facilities require replacement due to increasing wastewater flows and changing regulatory requirements. Projects are scheduled on a priority basis.
	Actual		$4,982,519	$4,982,519	$4,982,519	$4,982,519		
NORTH CITY RAW SLUDGE / POINT LOMA CATHODIC PROTECTION	Rate Case	$488,839					Completed	This project provides for a new impressed current cathodic protection system to replace an existing galvanic anode cathodic protection system.
	Actual		$388,959	$388,959	$388,959	$388,959		

Wastewater (Metro Fund) Capital Improvement Program
Rate Case vs. Planned and Actual

PROJECT TITLE		Rate Case	Actual FY08-FY11	Expenditures Actuals plus Planned FY08-FY12	Expenditures Actuals plus Planned FY08-FY13	Expenditures Actuals plus Planned FY08-FY14	Comments	Project Description
POINT LOMA-DIGESTER S1 AND S2 UPGRADES	Rate Case	$730					Completed	This project will complete the last two of eight digester upgrades. This project will upgrade the piping, mixing system, roofs, and inspect and repair the concrete tanks to keep the S1 and S2 digesters operating efficiently, effectively and safely.
	Actual		$313	$313	$313	$313		
Subtotal (Completed)		**$16,381,616**	**$14,964,948**	**$16,218,677**	**$16,218,677**	**$16,218,677**		
Rate Case - Cancelled								
MBC STANDBY CENTRIFUGE FEED FACILITIES	Rate Case	$1,605,431					The Dewatering Centrifuge Replacement Project negates the need this project because the new proposed centrifuges have double the capacity of the existing units thus maintaining the dewatering capacity required.	This project provides two dedicated standby centrifuge feed pumps and two dedicated polymer feed pumps for added redundancy.
	Actual		$3,677	$3,677	$3,677	$3,677		
MBC SWITCHGEAR RECONFIGURATION	Rate Case	$2,172,382					The 2nd Plant Power Feed Project negates the need for the Switchgear reconfiguration project.	This project will reconfigure the MBC Main Plant Switchgear so that the COGEN will have a more stable and direct interface with the utility power grid.
	Actual		$0	$0	$0	$0		
MBC WASTEWATER FORCEMAIN EXTENSION	Rate Case	$1,285,273					This project is no longer required since it was determined that Muni SPS 86 is capable of handling the increased Wastewater flows from MBC.	This project upgrades the Wastewater pumps in order to by-pass Muni SPS86 by extending MBC's discharge pipeline and discharging directly to a gravity trunk sewer.
	Actual		$648	$648	$648	$648		
NCWRP - EFFLUENT PUMP STATION UPGRADE	Rate Case	$833,541					O&M staff completed minor modifications to the existing HVAC system and checker plates to avoid chlorine fume accumulation inside the pump room at the Effluent Pump Station. This modification proved to be effective to stop the corrosion and therefore it was determined that this project is no longer required.	This project will investigate and provide measures to eliminate the corrosion that is due to the chlorine off-gasing.
	Actual		$0	$0	$0	$0		
NCWRP - ULTRAFILTRATION & EDR UPGRADE	Rate Case	$2,186,912					This project consists of three phases: Phase 1: EDR Enclosure ($70K) - Completed Phase 2- EDR Mechanical Upgrades ($500K) - O&M Fund Phase 3- EDR Pre-filter upgrades - Cancelled	The EDR units and corresponding pumps, valves, piping and other equipment are currently exposed to the environment. As a result, several pieces of equipment have been damaged by ultraviolet light and the coastal high salinity environment. This project will replace any damaged equipment, install an enclosure, and provide ultrafiltration pretreatment process to replace the EDR units.
	Actual		$0					
ANNUAL ALLOCATION - METRO OPERATIONS CENTER	Rate Case	$587,259					It was determined that this AA is no longer required since the remaining work to be completed under the O&M budget.	This annual allocation provides for minor renovation or upgrades to the Metropolitan Operations Center (MOC) Facilities. The MOC facilities are used to house Public Utilities staff, as well as warehouse and storage forPublic Utilities assets and vehicles.
	Actual		$13,949	$13,949	$13,949	$13,949		
Subtotal (Cancelled)		**$8,670,798**	**$18,274**	**$18,274**	**$18,274**	**$18,274**		

Wastewater (Metro Fund) Capital Improvement Program
Rate Case vs. Planned and Actual

PROJECT TITLE		Rate Case	Actual FY08-FY11	Expenditures Actuals plus Planned FY08-FY12	Expenditures Actuals plus Planned FY08-FY13	Expenditures Actuals plus Planned FY08-FY14	Comments	Project Description
Rate Case - On Hold								
SBWRP DEMINERALIZATION PHASE 1 & 2	Rate Case	$8,299,188					Presently, the SBWRP satisfies the effluent TDS limit requirements of 1000 mg/l and therefore it was determined that this project is not required at this time. Also, a BCE was completed and determined that if the effluent exceeds TDS levels of 1000mg/l in the RW distribution system, it is more cost effective to blend with potable water as it was originally designed.	This project will evaluate what type of technology should be used to reduce the salinity of the wastewater effluent. Phase 1 would construct a demineralization facility to provide 7.5 mgd of reclaimed water. Phase 2 would expand the facility to 15 mgd.
	Actual		$399	$399	$399	$399		
SOUTH METRO SEWER REHABILITATION PHASE IIIB	Rate Case	$157,506					This project is still in planning. A CCTV inspection video is needed to determine the project scope.	This project is intended to rehabilitate 5,000 feet of the 108-inch pipe from Winship Lane to Pump Station 2.
	Actual		$0					
Subtotal (On Hold)		$8,456,694	$399	$399	$399	$399		
Rate Case - Contingency								
POOLED CONTINGENCY	Rate Case	$689,590					Funds are not expended within the AA. They are moved to the actual projects authorized by Council to use Pooled Contingency funds.	This annual allocation provides for Capital Improvement Program contingency needs.
	Actual		$0	$0	$0	$0		
POOLED CONTINGENCY	Rate Case	$1,861,515					Funds are not expended within the AA. They are moved to the actual projects authorized by Council to use Pooled Contingency funds.	This annual allocation provides for Capital Improvement Program contingency needs.
	Actual		$0	$0	$0	$0		
Subtotal (Contingency)		$2,551,105	$0	$0	$0	$0		
RATE CASE PROJECTS TOTAL		$107,464,333	$25,482,918	$39,469,647	$52,555,866	$73,884,692		
Additional CIP Projects Not in Rate Case								
NON- RATE CASE PROJECTS TOTAL			$2,595,356	$5,610,386	$13,410,386	$20,460,386		
TOTAL		$107,464,333	$28,078,274	$45,080,033	$65,966,252	$94,345,078		

Sources:
FY08 GPSR; FY09 GPSR; FY10 (Period 12) SAP Budget to Actual run 9/1/11;
FY11 (Period 12) SAP Budget to Actual run 9/1/11;
FY12 (Period 3) SAP Budget to Actual run 10/7/11.
SAP Budget to Actuals do not include Grant Fund expenditures
Figures have been rounded to nearest dollar.

AGENDA ITEM 4
Attachment

METRO JPA/TAC
Staff Report

Subject Title:
PUD/ WWTD Backup Generation Project – UPDATE OF COST ESTIMATE

Requested Action:
Approval to purchase and permanently install 7- 2MW and one 400kw generators for emergency backup power at 6 PUD WWTD facilities.

Recommendations:

Metro TAC:	
IROC:	
Prior Actions: (Committee/Commission, Date, Result)	

Fiscal Impact:

Is this projected budgeted? Yes ___ No _X__	
Cost breakdown between Metro & Muni:	$ 8,367,943 for Metro $ 9,377,657 for Muni
Financial impact of this issue on the Metro JPA:	$2,803,261, (33.5% of Metro Cost)

Capital Improvement Program:

New Project? Yes _ __ No X

Existing Project? Yes _X__ No ___ upgrade/addition _X__ change ___

Comments/Analysis:
This is an update to the cost estimate for this project. Previously the project was estimated at $11,150,000. The cost estimate has been revised to $17,745,600 This reflects the actual proposal from the National Joint Powers Alliance for the purchase of the generators and the addition of $ 3,771,250 in contingency to cover the possibility that these generators will need additional emission controls to make them compliant with APCD requirements for stationary generators. The 400 kw generator for the EMTS laboratory that was part of the generator purchase in the previous action will now be included in the design build contract.

Previous TAC/JPA Action: The original project was approved by the Metro TAC on January 18, 2012 and the Metro Commission on February 2, 2012.

Additional/Future Action:

City Council Action:

Metro JPA/TAC
PUD/WWTD Backup Generation Project
Revised Cost Estimate for Backup Generators

	Original Estimate	Revised Estimate
Purchase of the generators, transformers, and required cables	$6,100,000	$7,178,816
Permanent Installation of the generators	$4,600,000	$6,322,387
Admininstration, engineering, land acquisition, permitting	$450,000	$473,147
Contingency for APCD emission control compliance		$3,771,250
Total	$11,150,000	$17,745,600

Muni		$9,377,657
Metro		$8,367,943
Metro JPA share (33.5%)		$2,803,261

AGENDA ITEM 7
Attachment

Wastewater (Metro Fund) Capital Improvement Program
Rate Case vs. Planned and Actual

PROJECT TITLE		FY08	FY09	FY10	FY11	FY12	FY13	FY14	Rate Case	Actual FY08-FY11	Expenditures Actuals plus Planned FY08-FY12	Expenditures Actuals plus Planned FY08-FY13	Expenditures Actuals plus Planned FY08-FY14	Comments	Project Description
Rate Case - Ongoing															
ENVIRONMENTAL MONITORING & TECH. SERVICES LAB BOAT DOCK	Rate Case	$1,878,201	$158,780	$0	$0				$2,036,981					Project delayed because the Navy has not conveyed the property to the City. The Navy indicated they will issue a Right of Entry Permit or Licensing Agreement to allow the City to proceed with the project.	This project provides for a new boat dock to be constructed in the former Naval Training Center boat channel. This dock will provide mooring for two ocean monitoring vessels in support of the Environmental Monitoring and Technical Services Laboratory
	Actual	$0	$0	$0	$0	$0				$0					
	Planned							$1,497,884			$0	$0	$1,497,884		
MBC BIOSOLIDS STORAGE SILOS	Rate Case	$755,229	$1,690,356	$4,046,621	$2,675,559				$9,167,765					In design. Construction is anticipated to start 12/2012 and be complete by 3/2014 (FY14).	The project will add two more storage silos and will also evaluate alternatives for additional truck loadout stations.
	Actual	$35,537	$77,600	$576,191	$182,735	$1,938				$872,063					
	Planned					$100,000	$1,583,374	$5,000,000			$972,063	$2,555,438	$7,555,438		
MBC DEWATERING CENTRIFUGES REPLACEMENT	Rate Case	$0	$143,096	$264,367	$1,044,517				$1,451,980					Project originally anticipated to be funded FY09-FY13. Procuring a design build contractor. Construction is anticipated to start 3/2013 and be completed by 3/2016 (FY16).	This project replaces 4 existing dewatering centrifuge units with larger units to allow for increased capacity, equipment redundancy and increase recovery from shutdowns
	Actual	$0	$934	$12,471	$154	$12,064				$13,559					
	Planned					$500,000	$1,000,000	$3,500,000			$513,559	$1,513,559	$5,013,559		
MBC ODOR CONTROL FACILITY UPGRADES	Rate Case	$405,934	$4,409,224	$546,981	$0				$5,362,139					Design anticipated in FY12. Construction to be completed by 6/2015 (FY15).	This project will upgrade the existing Odor Control System. The project will provide improvements to better capture foul air and ensure compliance with safety and APCD permit regulations.
	Actual	$823	$0	$1,511	$54,963	$5,654				$57,296					
	Planned					$500,000	$500,000	$2,800,000			$557,296	$1,057,296	$3,857,296		
METRO FACILITIES CONTROL SYSTEM UPGRADE	Rate Case	$2,571,179	$4,232,477	$3,391,269	$1,186,608				$11,381,533					MBC Control System Upgrade - Completed Pt. Loma Control System Upgrade - In construction and expected to be completed by FY13.	This project provides for the replacement and upgrade of the existing control system at various Metropolitan Wastewater treatment and pump station facilities. These facilities include Metro Biosolids Center, North City Water Reclamation Plant, Point Loma Treatment Plant, Pump Station 64, and Penasquitos Pump Station.
	Actual	$12,765	$666,398	$4,297,948	$1,304,659	$9,826				$6,281,770					
	Planned					$3,200,000	$1,470,000				$9,481,770	$10,951,770	$10,951,770		
NCWRP - SLUDGE PUMP STATION UPGRADE	Rate Case	$20,800	$104,841	$223,966	$118,110				$467,717					In design. Construction to be completed by 3/2013.	This project provides engineering and construction services to remedy the vibration problem that is currently taking place when operating the pumps at full speed.
	Actual	$0	$438	$79,361	$56,661	$6,801				$136,460					
	Planned					$283,000	$232,845				$419,460	$652,305	$652,305		
POINT LOMA - GRIT PROCESSING IMPROVEMENTS	Rate Case	$209,277	$1,794,601	$8,859,921	$15,940,170				$26,803,969					The original design was postponed and the project scope reduced pending the results of the pilot testing of the Biological Aerated Filter (BAF) Technology at the Point Loma Wastewater Treatment Plant. In construction and expected to be completed by 12/2013.	The Grit Processing Improvements project will include reconstruction of the old south grit tanks and their adjacent pump gallery, replacement of the headworks building that was constructed in 1962 with a new drive-through facility, expansion of an existing odor removal system and replacement of auxiliary equipment.
	Actual	$592,910	$580,636	$546,456	$756,959	$1,245,659				$2,476,961					
	Planned					$8,000,000	$8,000,000	$7,930,942			$10,476,961	$18,476,961	$26,407,903		
PUMP STATION 2 ONSITE STANDBY POWER	Rate Case	$2,393,597	$6,179,112	$441,452	$0				$9,014,161					The higher cost is based on the recent updated cost estimate and a scope increase to include a diesel startup generator and two new larger generators. Complete the feasibility study in FY12. Design is anticipated to be completed by FY14. Construction is expected to be completed by FY16.	This project will replace the Engine drives for pumps 4&5 with electric motors and provide two generators for electrical power to any two or more of the 8 pumps at the station. This will provide the required surge protection against a electrical utility outage and also better flex-ability as to how it is applied.
	Actual	$0	$0	$0	$64,035	$5,463				$64,035					
	Planned					$100,000	$200,000	$500,000			$164,035	$364,035	$864,035		
WET WEATHER STORAGE FACILITY	Rate Case	$683,218	$615,119	$2,869,173	$1,550,365				$5,717,875					A feasibility study was completed 10/2011. The Department is applying for a RWQCB permit for the construction of intermittent discharge of reclaimed water into a stream during extreme wet weather events. Construction is anticipated to start in FY14 and complete by FY16.	This facility will be utilized to provide hydraulic relief to Pump Station 2 , as well as reduce the risk of potential sewer spills during severe ranifall events. The first phase consists of the implementation of live stream discharge of reclaimed water from the North City Water Reclamation Plant during heavy rain events to reduce the demand on the downstream system and facilities. Phase 2 is to build a 7 mg underground storage tank at a site adjacent to and west of Pump Station 2.
	Actual	$30,179	$189,059	$292,446	$85,467	$8,787				$597,151					
	Planned					$50,000	$100,000	$100,000			$647,151	$747,151	$847,151		
Subtotal (Ongoing)		**$672,214**	**$1,515,065**	**$5,806,384**	**$2,505,633**	**$12,733,000**	**$13,086,219**	**$21,328,826**	**$71,404,120**	**$10,499,296**	**$23,232,296**	**$36,318,516**	**$57,647,342**		
Rate Case - Completed															

Wastewater (Metro Fund) Capital Improvement Program
Rate Case vs. Planned and Actual

PROJECT TITLE		FY08	FY09	FY10	FY11	FY12	FY13	FY14	Rate Case	Actual FY08-FY11	Expenditures Actuals plus Planned FY08-FY12	Expenditures Actuals plus Planned FY08-FY13	Expenditures Actuals plus Planned FY08-FY14	Comments	Project Description
ANNUAL ALLOCATION - METROPOLITAN SYSTEM PUMP STATIONS (formerly Annual Allocation - Pump Stations 1 & 2)	Rate Case	$4,429,124	$2,162,813	$519,994	$370,898				$7,482,829					PS#1 SCREENING ROOM LINER - Completed PS#1, 2, GAPS - CCTV SECURITY - Completed PUMP STATION 1 & 2 ELECTRIC - In construction, project to be completed by 5/2012. Scope increase to include the upsizing of the switchgear at Pump Stations 1 & 2 from 250MWA to 300 MVA to accomodate future turbine generators.	This annual allocation provides for upgrades, renovation or replacement of major equipment, such as pumps, valves, tanks, controls, and odor control systems at the prump stations. These improvements will allowthe pump stations to be run more efficiently. Projects are scheduled on a priority basis.
	Actual	$154,374	$1,608,222	$2,452,748	$3,447,190	$1,253,729				$7,662,533	$8,916,263	$8,916,263	$8,916,263		
ANNUAL ALLOCATION - PT. LOMA TREATMENT PLANT & RELATED FACILITIES (This Annual merged with Annual Allocation Metro Treatment Plants in FY10)	Rate Case	$956,154	$356,990	$615,239	$737,436				$2,665,819					POINT LOMA- SOUTH USE AREA - Completed PT LOMA HYDRO 84 BULKHEAD - Cancelled PT. LOMA 84-INCH PENSTOCK - Completed This Annual was closed in FY10 and merged into AA- Metro Treatment Plants.	This annual allocation provides for minor renovation or replacement of facilities at the treatment plant and associated facilities. Various facilities require replacement due to increasing wastewater flows and changing regulatory requirements and to increase efficiencies. Projects are scheduled on a priority basis
	Actual	$559,714	$327,773	$0	$0	$0				$887,487	$887,487	$887,487	$887,487		
ANNUAL ALLOCATION-NORTH CITY WATER RECLAMATION PLANT (This Annual merged with Annual Allocation Metro Treatment Plants in FY10)	Rate Case	$810,476	$284,244	$333,046	$257,944				$1,685,710					NCWRP-AUTOMATED SCUM SPRAY - Completed NCWRP-FOUL AIR IMPROVEMENT - Completed This Annual was closed in FY10 and merged into AA- Metro Treatment Plants.	This annual allocation provides for minor renovation or replacement of facilities at the treatment plant and associated facilities. Various facilities require replacement due to increasing wastewater flows and changing regulatory requirements. Projects are scheduled on a priority basis
	Actual	$359,846	$295,050	$0	$0	$0				$654,896	$654,896	$654,896	$654,896		
ANNUAL ALLOCATION-SOUTH BAY WATER RECLAMATION PLANT (This Annual merged with Annual Allocation Metro Treatment Plants in FY10)	Rate Case	$93,912	$157,585	$168,322	$214,730				$634,549					SBWRP SURGE ANTICIPATOR - Completed SBWRP-600HP RECL WTR PUMP - Completed This Annual was closed in FY10 and merged into AA- Metro Treatment Plants.	This annual allocation provides for minor renovation or replacement of facilities at the treatment plant and associated facilities. Various facilities require replacement due to increasing wastewater flows and changing regulatory requirements. Projects are scheduled on a priority basis
	Actual	$387,729	$512	$0	$0	$0				$388,241	$388,241	$388,241	$388,241		
ANNUAL ALLOCATION-METRO TREATMENT PLANTS (formerly Annual Allocation -BIOSOLIDS CENTER)	Rate Case	$1,413,101	$627,067	$671,975	$710,997				$3,423,140					MBC BIOSOLIDS SCREEN & BL - Completed MBC CENTRATE PIPELINE ACC - Completed MBC CHEMICAL STORAGE & HANDLING - Completed MBC LIME MIXER BYPASS/EMERGENCY - Completed	This annual allocation provides for minor renovation or replacement of facilities at the treatment plant and associated facilities. Various facilities require replacement due to increasing wastewater flows and changing regulatory requirements. Projects are scheduled on a priority basis.
	Actual	$597,324	$867,614	$1,626,217	$1,891,364	$0				$4,982,519	$4,982,519	$4,982,519	$4,982,519		
NORTH CITY RAW SLUDGE / POINT LOMA CATHODIC PROTECTION	Rate Case	$488,397	$442	$0	$0				$488,839					Completed	This project provides for a new impressed current cathodic protection system to replace an existing galvanic anode cathodic protection system.
	Actual	$90,869	$228,474	$69,616	$0	$0				$388,959	$388,959	$388,959	$388,959		
POINT LOMA-DIGESTER S1 AND S2 UPGRADES	Rate Case	$730	$0	$0	$0				$730					Completed	This project will complete the last two of eight digester upgrades. This project will upgrade the piping, mixing system, roofs, and inspect and repair the concrete tanks to keep the S1 and S2 digesters operating efficiently, effectively and safely.
	Actual	$313	$0	$0	$0	$0				$313	$313	$313	$313		
Subtotal (Completed)		**$2,150,169**	**$3,327,645**	**$4,148,581**	**$5,338,553**	**$1,253,729**	**$0**	**$0**	**$16,381,616**	**$14,964,948**	**$16,218,677**	**$16,218,677**	**$16,218,677**		
Rate Case - Cancelled															
MBC STANDBY CENTRIFUGE FEED FACILITIES	Rate Case	$185,962	$744,034	$675,435	$0				$1,605,431					The Dewatering Centrifuge Replacement Project negates the need this project because the new proposed centrifuges have double the capacity of the existing units thus maintaining the dewatering capacity required.	This project provides two dedicated standby centrifuge feed pumps and two dedicated polymer feed pumps for added redundancy.
	Actual	$3,677	$0	$0	$0					$3,677	$3,677	$3,677	$3,677		
MBC SWITCHGEAR RECONFIGURATION	Rate Case	$259,413	$1,245,168	$667,801	$0				$2,172,382					The 2nd Plant Power Feed Project negates the need for the Switchgear reconfiguration project.	This project will reconfigure the MBC Main Plant Switchgear so that the COGEN will have a more stable and direct interface with the utility power grid.
	Actual	$0	$0	$0	$0					$0	$0	$0	$0		
MBC WASTEWATER FORCEMAIN EXTENSION	Rate Case	$130,724	$503,642	$650,907	$0				$1,285,273					This project is no longer required since it was determined that Muni SPS 86 is capable of handling the increased Wastewater flows from MBC.	This project upgrades the Wastewater pumps in order to by-pass Muni SPS86 by extending MBC's discharge pipeline and discharging directly to a gravity trunk sewer.
	Actual	$648	$0	$0	$0					$648	$648	$648	$648		
NCWRP - EFFLUENT PUMP STATION UPGRADE	Rate Case	$81,120	$126,547	$534,494	$91,380				$833,541					O&M staff completed minor modifications to the existing HVAC system and checker plates to avoid chlorine fume accumulation inside the pump room at the Effluent Pump	This project will investigate and provide measures to eliminate the corrosion that is due to the chlorine off-gasing.

Wastewater (Metro Fund) Capital Improvement Program
Rate Case vs. Planned and Actual

PROJECT TITLE		FY08	FY09	FY10	FY11	FY12	FY13	FY14	Rate Case	Actual FY08-FY11	Expenditures Actuals plus Planned FY08-FY12	Expenditures Actuals plus Planned FY08-FY13	Expenditures Actuals plus Planned FY08-FY14	Comments	Project Description
	Actual	$0	$0	$0	$0					$0	$0	$0	$0	Station. This modification proved to be effective to stop the corrosion and therefore it was determined that this project is no longer required.	
NCWRP - ULTRAFILTRATION & EDR UPGRADE	Rate Case	$336,114	$584,552	$742,507	$523,739				$2,186,912					This project consists of three phases: Phase 1: EDR Enclosure ($70K) - Completed Phase 2- EDR Mechanical Upgrades ($500K) - O&M Fund Phase 3- EDR Pre-filter upgrades - Cancelled	The EDR units and corresponding pumps, valves, piping and other equipment are currently exposed to the environment. As a result, several pieces of equipment have been damaged by ultraviolet light and the coastal high salinity environment. This project will replace any damaged equipment, install an enclosure, and provide ultrafiltration pretreatment process to replace the EDR units.
	Actual	$0	$0	$0	$0	$0				$0					
ANNUAL ALLOCATION - METRO OPERATIONS CENTER	Rate Case	$91,499	$220,572	$134,238	$140,950				$587,259					It was determined that this AA is no longer required since the remaining work to be completed under the O&M budget.	This annual allocation provides for minor renovation or upgrades to the Metropolitan Operations Center (MOC) Facilities. The MOC facilities are used to house Public Utilities staff, as well as warehouse and storage forPublic Utilities assets and vehicles.
	Actual	$13,949	$0	$0	$0					$13,949	$13,949	$13,949	$13,949		
Subtotal (Cancelled)		**$18,274**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$8,670,798**	**$18,274**	**$18,274**	**$18,274**	**$18,274**		
Rate Case - On Hold															
SBWRP DEMINERALIZATION PHASE 1 & 2	Rate Case	$54,080	$480,093	$1,036,269	$6,728,746				$8,299,188					Presently, the SBWRP satisfies the effluent TDS limit requirements of 1000 mg/l and therefore it was determined that this project is not required at this time. Also, a BCE was completed and determined that if the effluent exceeds TDS levels of 1000mg/l in the RW distribution system, it is more cost effective to blend with potable water as it was originally designed.	This project will evaluate what type of technology should be used to reduce the salinity of the wastewater effluent. Phase 1 would construct a demineralization facility to provide 7.5 mgd of reclaimed water. Phase 2 would expand the facility to 15 mgd.
	Actual	$0	$0	$399	$0					$399	$399	$399	$399		
SOUTH METRO SEWER REHABILITATION PHASE IIIB	Rate Case	$157,506	$0	$0	$0				$157,506					This project is still in planning. A CCTV inspection video is needed to determine the project scope.	This project is intended to rehabilitate 5,000 feet of the 108-inch pipe from Winship Lane to Pump Station 2.
	Actual	$0	$0	$0	$0	$0				$0					
Subtotal (On Hold)		**$0**	**$0**	**$399**	**$0**	**$0**	**$0**	**$0**	**$8,456,694**	**$399**	**$399**	**$399**	**$399**		
Rate Case - Contingency															
POOLED CONTINGENCY	Rate Case	$24,703	$51,790	$251,093	$362,004				$689,590					Funds are not expended within the AA. They are moved to the actual projects authorized by Council to use Pooled Contingency funds.	This annual allocation provides for Capital Improvement Program contingency needs.
	Actual	$0	$0	$0	$0					$0	$0	$0	$0		
POOLED CONTINGENCY	Rate Case	$409,114	$518,156	$478,022	$456,223				$1,861,515					Funds are not expended within the AA. They are moved to the actual projects authorized by Council to use Pooled Contingency funds.	This annual allocation provides for Capital Improvement Program contingency needs.
	Actual	$0	$0	$0	$0					$0	$0	$0	$0		
Subtotal (Contingency)		**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,551,105**	**$0**	**$0**	**$0**	**$0**		
RATE CASE PROJECTS TOTAL		**$2,840,657**	**$4,842,710**	**$9,955,364**	**$7,844,187**	**$13,986,729**	**$13,086,219**	**$21,328,826**	**$107,464,333**	**$25,482,918**	**$39,469,647**	**$52,555,866**	**$73,884,692**		
Additional CIP Projects Not in Rate Case															
ON- RATE CASE PROJECTS TOTAL		**$108,221**	**$503,855**	**$357,087**	**$1,626,194**	**$3,015,030**	**$7,800,000**	**$7,050,000**		**$2,595,356**	**$5,610,386**	**$13,410,386**	**$20,460,386**		
TOTAL		**$2,948,878**	**$5,346,565**	**$10,312,451**	**$9,470,380**	**$17,001,759**	**$20,886,219**	**$28,378,826**	**$107,464,333**	**$28,078,274**	**$45,080,033**	**$65,966,252**	**$94,345,078**		

Sources:
FY08 GPSR; FY09 GPSR; FY10 (Period 12) SAP Budget to Actual run 9/1/11;
FY11 (Period 12) SAP Budget to Actual run 9/1/11;
FY12 (Period 3) SAP Budget to Actual run 10/7/11.
SAP Budget to Actuals do not include Grant Fund expenditures
Figures have been rounded to nearest dollar.

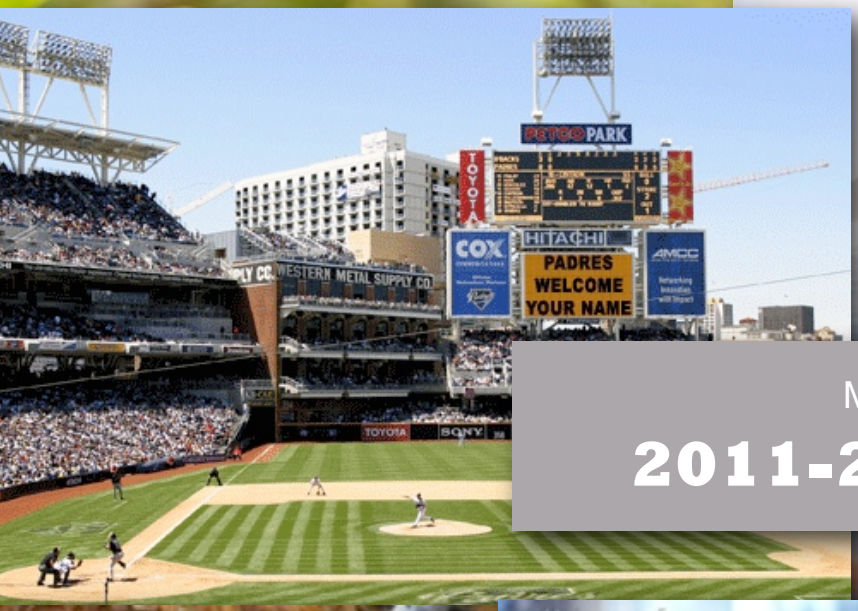
Wastewater (Metro) Capital Improvement Program
Rate Case vs. Planned and Actual

PROJECT TITLE		FY08	FY09	FY10	FY11	FY12	FY13	FY14	Rate Case	Actual FY08-11	Expenditures Actuals plus Planned FY08-FY12	Expenditures Actuals plus Planned FY08-FY13	Expenditures Actuals plus Planned FY08-FY14	Comments	Project Description
Additional CIP Projects Not in Rate Case															
ANNUAL ALLOCATION-METRO TREATMENT PLANTS	Actual					$314,863				$0				MBC Water Systems Improvements (D/B) - ongoing MBC Access Road Drainage Improvements - To be awarded MBC Chemical Systems Imp. - Phase 2 - Design procurement North City Cogen Facility - Design/build selection PLWTP Power Center 6 Transformer Cabinet & Switchboard - To be awarded PTL Sedimentation Basins Equip Refurbish (D/B)- to be awarded	This annual allocation provides for minor renovation or replacement of facilities at the treatment plant and associated facilities. Various facilities require replacement due to increasing wastewater flows and changing regulatory requirements. Projects are scheduled on a priority basis.
	Planned					$2,961,398	$7,700,000	$5,550,000			$2,961,398	$10,661,398	$16,211,398		
ANNUAL ALLOCATION MWWD TRUNK SEWERS (METRO)	Actual	$0	$0	$0	$23,059	$34,361				$23,059				The projected expenditures are for PS 2 FM 1 siphon and WPLIS repair and Rose Canyon TS Joint repair.	This annual allocation provides for the replacement of trunk sewers and sewer mains at various locations, including canyons within the City.
	Planned						$100,000	$1,500,000			$23,059	$123,059	$1,623,059		
Cancelled															
NCWRP-EDR UPGRADE	Actual	$0	$0	$0	$0	$0				$0	$0	$0	$0	This work to be performed by O&M staff.	This project provides for the upgrade of the electro dialysis reversal (EDR) equipment at the North City Water Reclamation Plant including piping, pumps, chemical feed system, and automatic backwash prefilters.
Completed															
ALVARADO WATER QUALITY LAB ROOF	Actual	$0	$315,357	$20,666	$0	$0				$336,023	$336,023	$336,023	$336,023	Completed	This project provided for the removal and replacement of approximately 58,000 square feet of roofing, installation of California Title 24 roof coating, the removal and installation of HVAC ductwork at the water chemistry and industrial waste unit offices and the installation of miscellaneous sheet metal and flashing.
NCWRP-EDR ENCLOSURE	Actual	$0	$0	$72,042	$0	$0				$72,042	$72,042	$72,042	$72,042	Completed	This project will provide an enclosure around the Electro Dialysis Reversal (EDR) at the North City Water Reclamation Plant (NCWRP) to prevent harmful ultraviolet rays and coastal high salinity environmental levels from attacking existing equipment.
MBC CENTRATE COLLECTION UPGRADES	Actual	$15,560	$182,353	$264,379	$1,603,135	$53,632				$2,065,426	$2,119,058	$2,119,058	$2,119,058	This project is anticipated to be completed in FY12.	This project will convert the existing foul air ducting at the centrifuges into dual- use headers for centrate and foul air collection. The improvement will prevent on-going centrate backups into the foul air duct headers and damage to the centrifuges.
SOUTH BAY WATER RECL. PLANT	Actual	$19,403	$0	$0	$0	$0				$19,403	$19,403	$19,403	$19,403		This project provides for the construction of the South Bay Water Reclamation Plant, a 15 million gallon per day plant that will treat raw sewage and produce reclaimed water for beneficial use in the South Bay area.
ENVIRONMENTAL MONITORING AND TECH. SERVICES LAB	Actual	$73,258	$6,145	$0	$0	$0				$79,403	$79,403	$79,403	$79,403		This project provides for a laboratory facility for the Department.
NON- RATE CASE PROJECTS TOTAL		**$108,221**	**$503,855**	**$357,087**	**$1,626,194**	**$3,015,030**	**$7,800,000**	**$7,050,000**		**$2,595,356**	**$5,610,386**	**$13,410,386**	**$20,460,386**		

AGENDA ITEM 9
Attachment

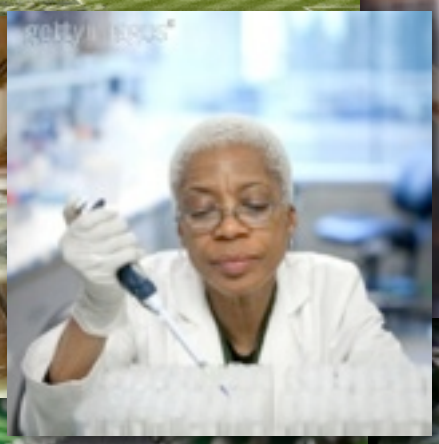


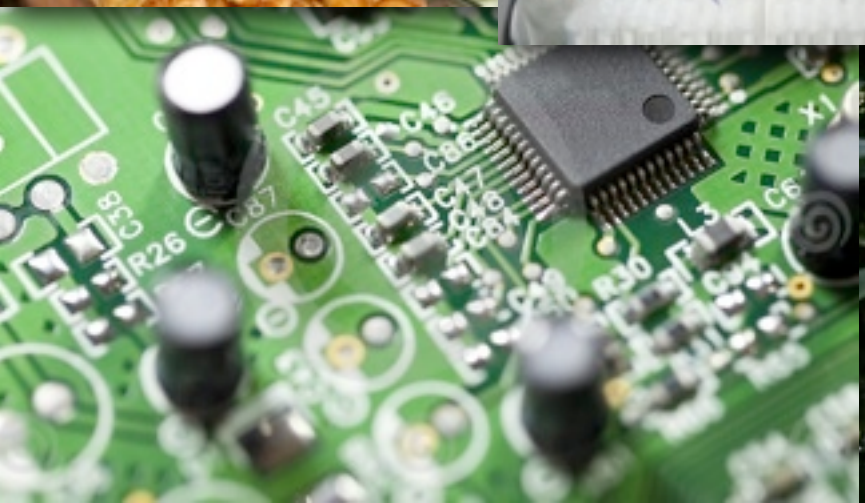


METRO Wastewater Joint Powers Authority

2011-2013 Strategic Plan

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CONTENTS

On average,
urban wastewater is 99.4% water.

WHERE SAN DIEGO'S WASTEWATER GOES

In 1960, the population of San Diego County topped 1,000,000, five times the population of 30 years earlier, due primarily to World War II and military build-up. The resulting sanitation issues were severe. In the mid-1950s, the San Diego County Department of Public Health ordered a moratorium on homebuilding in inland communities until septic tanks were replaced by sewer systems. By 1960, the discharge of untreated sewage by cities, industry and the military caused the continuous quarantine of San Diego Bay and heavy pollution in Mission Bay.

In 1963, following three years of construction, the City of San Diego's Metropolitan Wastewater System (METRO ~~wastewater s~~System) was put into operation. The system collected wastewater from eight South County and East County communities~~,~~ and the U.S. Navy, treated it at the Point Loma Wastewater Treatment Plant,and discharged it into the ocean three miles offshore.

Today, 27 wastewater agencies collect and dispose of the wastewater generated by San Diego County's 3.5 million residents. The METRO ~~wastewater s~~System ~~is comprised of 11~~ collects wastewater generated by 13 of those agencies and serves 2.2 million of those residents over a 450 square mile area, treating an average of 180 million gallons of wastewater per day.

Table 1 / Today's METRO Wastewater Agencies

Cities	Special Districts
Chula Vista	Otay Water District
Coronado	Padre Dam Water District
Del Mar	San Diego County Sanitation District
El Cajon	
Imperial Beach	
La Mesa	
Lemon Grove	
National City	
Poway	
San Diego	

Graphic 1 / Map Showing METRO System Member Agencies (Purple Area)

HOW THE METRO WASTEWATER SYSTEM IS GOVERNED AND MANAGED

The METRO ~~wastewater s~~System is governed and managed by a coalition of participating cities and special districts ~~according~~ pursuant to the *Regional Wastewater Disposal Agreement* signed in 1998 by the City of San Diego and 12 other jurisdictions called the "~~p~~Participating ~~a~~Agencies" (See Appendix A). Pursuant to the agreement, the Participating Agencies pay their share of the METRO System's operations and maintenance costs -- approximately 35 percent -- based on the wastewater flow from each agency's jurisdiction.

The agreement established the METRO Commission as an advisory body for the City of San Diego~~. T~~ and charged the commission ~~can advise the city on any issues relevant to the~~ with advising the San Diego City Council on matters affecting the METRO system~~,~~. To that end, the position of the majority of the METRO Commission members must be presented to the City Council. Other than these duties, the commission ~~and its input must be delivered to the city council in writing by city staff, but it~~ has no legal powers.

The METRO Wastewater Joint Powers Authority (METRO JPA) was formed later, by the adoption in 2000 of the *METRO Wastewater Joint Power Authority Agreement* (See Appendix B), to give the ~~p~~Participating ~~a~~Agencies~~, which pay their share of the system's operations and maintenance costs (approximately 35 percent), a voice in~~ the authority to make decisions regarding operations, maintenance, capital improvements and rates. ~~how the system is operated, how sewer rates are set, and the financing of maintenance and capital improvements.~~ Currently, all Participating Agencies are members of the METRO JPA.~~—~~

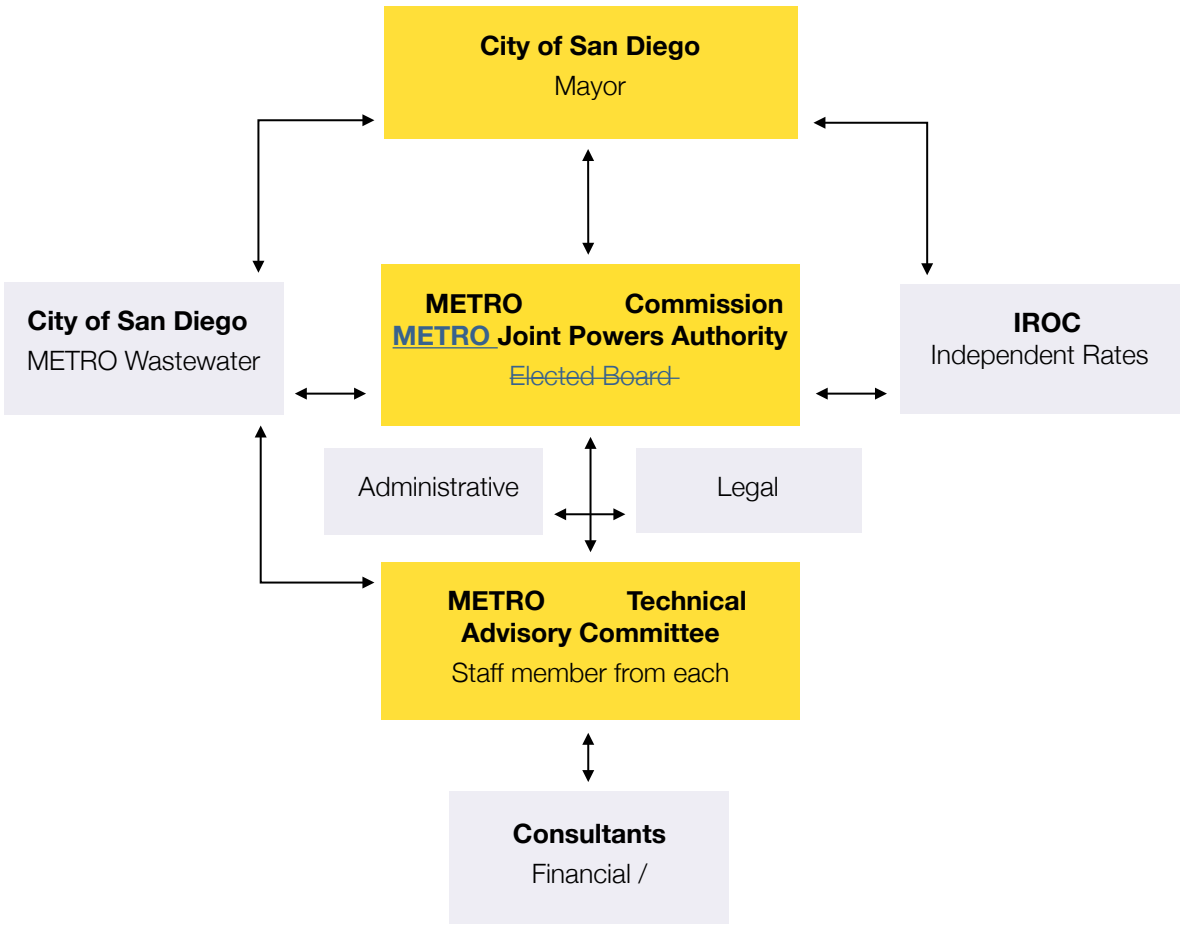
Although the commission and the joint powers authority have separate and distinct responsibilities, they are, in fact, represented by the same people. The 1~~5~~2 ~~p~~Participating ~~wastewater a~~Agencies each appoint a member of their elected board or council as their representative. Each Commissioner/Director is responsible for informing their agency of METRO System matters and seeking the approval of their board or council as needed regarding METRO System policies and issues.

The METRO Commission ~~/ Joint Powers Authority~~ and METRO JPA holds~~-~~ monthly public meetings~~ hosted by member agencies~~. Visit www.metrojpa.org for the date, time and location of upcoming meetings.

Mission Statement / METRO JPA

The Metro JPA's mission is to create an equitable partnership with the San Diego City Council and Mayor on regional wastewater issues~~. in the San Diego region that ensures fair rates for participating agencies, concern for the environment, and regionally balanced decisions through data analysis, collaboration amo The ng all stakeholders, and open dialogue.~~ Through stakeholder colalboration, open dialogue, and data analysis, the partnership seeks to ensure fair rates for Participating Agencies, concern for the environment, and regionally balanced decisions.

Graphic 2 / METRO Organization Chart



GAP ANALYSIS: 2009-2011
METRO JPA STRATEGIC PLAN

In 2009, the METRO ~~Joint Powers Authority~~ JPA adopted five strategic goals and ~~-~~12 strategic initiatives to accomplish over the ~~next~~ following 24 months. In May of 2011, METRO JPA and METRO Technical Advisory Committee (METRO TAC) members completed a survey and workshop to answer two key questions: "where are we?" and "where do we want to be?" The results of the survey are summarized below. The complete results of the survey, including all comments received, are included with this document as Appendix ~~D~~ C.

Mission Statement

The Metro JPA's mission is to create an equitable partnership with the San Diego City Council and Mayor on regional wastewater issues~~. in the San Diego region that ensures~~ Through stakeholder collaboration, open dialogue, and data analysis, the partnership seeks to ensure fair rates for participating agencies, concern for the environment, and regionally balanced decisions~~. through data analysis, collaboration among all stakeholders, and open dialogue.~~

METRO JPA Elected Representatives	**METRO ~~T~~AC** Staff
83% Think we are on goal **80%** Think we can improve	**75%** Think we are on goal **80%** Think we can improve
Key Points City of San Diego is slow to bring issues to METRO Commission and METRO JPA City of San Diego decisions are not regionally equitable	**Key Points** Need to work closely with San Diego City Council METRO staff disregard METRO TAC input

Strategic Goals

1. Reduce costs and ensure fair rates
2. Create alignment among ~~the~~ METRO Commission and METRO JPA members
3. Enhance positive and effective relations with the City of San Diego
4. Create and sustain a positive image in the region
5. Identify ways to increase usage of recycled water

METRO JPA Elected Representatives	METRO TAC Staff
67% Think we are on goal 83% Think we can improve 0% Support additional goals	75% Think we are on goal 82% Think we can improve 44% Support additional goals
Key Points Need to focus on public relations	**Key Points** Expand regional water reuse

Financial Oversight

Ensure that costs assessed to METRO JPA member agencies are for appropriate high quality services efficiently delivered by the San Diego Public Utilities Department.

METRO JPA Elected Representatives	METRO TAC Staff
100% Think we are on goal 66% Think we can improve	91% Think we are on goal 36% Think we can improve
Key Points Additional budget details needed	**Key Points** Audit process efficient and effective

Audit Process

Maintain the integrity of the annual audit process to ensure only Metro ~~Wastewater~~ System costs are charged to ~~the JPA member a~~ Participating Agencies.

METRO JPA Elected Representatives	METRO TAC Staff
100% Think we are on goal 60% Think we can improve	100% Think we are on goal 36% Think we can improve
Key Points Good work Inform the public	**Key Points** Audit process is successful

Modified Permit

Diligently support a modified permit- from the USEPA for the ~~Metro Wastewater system~~ Point Loma Wastewater Treatment Plant, which requires renewal every five years. The next permit application must be prepared by 2015 and address performance measures, a modified NPDES permit and a 301(h) Tentative Decision Document (TDD). The modified permit avoids expensive and unnecessary upgrades to secondary treatment which could cost the ~~JPA member a~~ Participating Agencies $200-500 million.

METRO JPA Elected Representatives	METRO ~~T~~TAC Staff
100% Think we are on goal **25%** Think we can improve	**75%** Think we are on goal **73%** Think we can improve
Key Points Need technical briefing from METRO TAC Build bridges with stakeholders Develop plan B	**Key Points** ~~Member a~~ Participating Agencies need to be represented Play active role in negotiations

Recycled Water

The Ocean Pollution Reduction Act requires the City of San Diego to produce and beneficially use 45 million gallons per day of recycled water, and San Diego and the METRO JPA should encourage further development of recycled water as a viable and sustainable water resource. Two exciting avenues toward this initiative are now being pursued; the Indirect Potable Reuse (IPR) Reservoir Augmentation Pilot Study, and the Regional Recycled Water Optimization Study. The latter is now under way and is funded jointly by the City and the ~~PAs~~ Participating Agencies.

METRO JPA Elected Representatives	METRO TAC Staff
83% Think we are on goal **100%** Think we can improve	**91%** Think we are on goal **82%** Think we can improve
Key Points Take leadership role Build political support for IPR Support ~~city's~~ City of San Diego IPR study	**Key Points** Approach should be regional METRO JPA should have formal approval role

Partnerships

Our Mission Statement calls for a partnership with the City of San Diego in managing the ~~Metro Wastewater~~ METRO System. Other partnerships that serve our interests, such as partnering with the San Diego County Water Authority, should also be explored.

METRO JPA Elected Representatives	**METRO TAC** Staff
57% Think we are on goal **66%** Think we can improve	**64%** Think we are on goal **80%** Think we can improve
Key Points Partner with San Diego County Water Authority	**Key Points** Partner with San Diego County Water Authority

Project Oversight

Oversight of the ~~Metro Wastewater~~ METRO System Capital Improvement Program is essential to protecting our investment in these facilities. Oversight starts with our involvement in the Capital Improvement Program planning process.

METRO JPA Elected Representatives	**METRO TAC** Staff
100% Think we are on goal **60%** Think we can improve	**100%** Think we are on goal **50%** Think we can improve
Key Points Need better lead time from ~~city~~ City of San Diego	**Key Points** Start CIP subcommittee Need input on CIP projects before they are approved

Program Oversight

Oversight of the many unique ~~Metro Wastewater~~ METRO System programs such as the wastewater rate case~~,~~ and recycled water rate case~~, and the Bid to Goal program insure~~ ensure our interests are protected.

METRO JPA Elected Representatives	**METRO TAC** Staff
88% Think we are on goal **50%** Think we can improve	**82%** Think we are on goal **55%** Think we can improve
Key Points None	**Key Points** METRO ~~T~~AC needs to be included in planning METRO TAC needs to be include~~d~~ in rate case development

Environmental Stewardship

Taking on a stewardship role in protecting the environment in all METRO Commission and METRO~~/~~JPA activities is our responsibility.

METRO JPA Elected Representatives	**METRO TAC** Staff
100% Think we are on goal **0%** Think we can improve	**100%** Think we are on goal **10%** Think we can improve
Key Points Not aware of any issues	**Key Points** **METRO** JPA and METRO TAC can be forum for ~~member a~~ Participating Agency environmental initiatives

Leadership

We cannot underestimate our ability, as practitioners in wastewater and recycling, to sway public opinion on important issues. Therefore, we have the opportunity to make a significant impact by taking a leadership role on these issues in our region. Example: Support IPR/Reservoir Augmentation.

METRO JPA Elected Representatives	**METRO TAC** Staff
33% Think we are on goal **83%** Think we can improve	**73%** Think we are on goal **73%** Think we can improve
Key Points Promote reuse More public outreach	**Key Points** Need METRO JPA to develop policies Bi-annual METRO TAC update to public agencies Be community leaders for IPR

Public Image

Although not well known, the METRO Commission/ and METRO JPA should be cognizant of its image within the region and to wastewater customers, and take a more focused approach to creating a positive public image.

METRO JPA Elected Representatives	**METRO TAC** Staff
50% Think we are on goal **100%** Think we can improve	**66%** Think we are on goal **56%** Think we can improve
Key Points Low public awareness of METRO JPA Maintain website Press releases	**Key Points** Regional governance only route to higher public awareness Public image not crucial to METRO JPA mission

Legislative

Review and monitor legislation that may have impacts on the ~~Metro Wastewater s~~ METRO System and the PAs and take action to support or oppose.

METRO JPA Elected Representatives	METRO TAC Staff
50% Think we are on goal **75%** Think we can improve	**100%** Think we are on goal **50%** Think we can improve
Key Points No organized effort	**Key Points** Tracking sheet attached to METRO ~~T~~AC agenda Adopt a legislative policy

Regional Governance

The concept of a regional, independent wastewater agency has intriguing possibilities. Initially proposed by the City of San Diego in 1989, the "Special Act District" was approved by the State Legislature in 1992. However, a general lack of commitment on the part of the City of San Diego and the ~~PAs~~ Participating Agencies resulted in the agency becoming nonfunctional in its first year. The Special Act District now exists in name only and meets once per year. ~~to retain grant eligibility status.~~ Its members include: The Cities of Coronado, Del Mar, Imperial Beach, Lemon Grove, National City and Poway, as well as the ~~Lemon Grove Sanitation District and the~~ Otay Water District and Padre Dam Municipal Water District. The ~~PA's~~ Participating Agencies have since proposed a joint study of the issue, but the City of San Diego's Mayor and City Council have been unwilling to consider it. Therefore, this initiative has been shelved.

METRO JPA Elected Representatives	METRO TAC Staff
50% Think we are on goal **50%** Think we can improve	**29%** Think we are on goal **71%** Think we can improve
Key Points East County agencies should form JPA	**Key Points** Water reuse could be argument for regional governance

The Groundwater Replenishment System in Orange County uses a three step advanced treatment process consisting of microfiltration, reverse osmosis and ultraviolet light with hydrogen peroxide to turn wastewater into drinking water for 600,000 Orange County residents everyday. The treated water is used to replenish the groundwater basin -- providing a local, drought-proof water supply. The system is a state-of-the-art model for San Diego County.

2011-2013 METRO JPA STRATEGIC PLAN

The Last Two Years

In the last two years, San Diego County residents faced mandatory water use restrictions and water rate increases exceeding 60% in the midst of severe economic recession. A 2011 public opinion survey conducted by Rae and Parker Research[1] quantified the impact of these concurrent challenges on the public's view of water reuse.

Graphic 3 / Public Opinion in San Diego County

80%	Of respondents support the San Diego County Water Authority's water supply diversification plan.
66%	Of respondents believe it is possible to further treat recycled water used for irrigation to make the water pure and safe for drinking -- an increase of 13% from 2009.
67%	Of respondents strongly or somewhat favor adding advanced treated recycled water to the drinking water supply -- an increase of 39% from 2005.
56%	Of respondents who opposed adding recycled water to the drinking water supply changed their minds when they learned that California drinking water standards are very strict and recycled water would exceed those standards -- an increase of 12% from 2009.
50%	Of respondents who opposed adding recycled water to the drinking water supply changed their minds when they learned that recycled drinking water is used in other U.S. communities -- an increase of 14% over 2009.
51%	Of respondents who opposed adding recycled water to the drinking water supply changed their minds when they learned that recycled drinking water could supply up to 10% of the local water supply -- an increase of 12% over 2009.

[1] *San Diego County Water Authority: 2011 Public Opinion Poll*, Rae and Parker Research, April 2011.

Similarly, key members of San Diego County's business and environmental communities formed the Indirect Potable Reuse Coalition in 2009 to promote indirect potable reuse for the region.

Indirect Potable Reuse Coalition

San Diego County Taxpayers Association	Surfrider Foundation
San Diego Regional Chamber of Commerce	San Diego Coastkeeper
Citizens Coordinate for Century Three	San Diego Audubon Society
Industrial Environmental Association	Friends of Infrastructure
San Diego & Imperial Counties Labor Council	BIOCOM
Building Office Managers Association	Coastal Environmental Rights Foundation
National Association of Industrial and Office Properties	

In a 2010 correspondence to San Diego City Councilman Ben Hueso, the coalition stated that:

> "Recycled water is an important part of water supply portfolio diversification. An adequate supply of water is an essential resource for multi-million dollar research and manufacturing facilities. If San Diego wants to continue to attract and retain these companies, we must aggressively pursue all reliable sources of water to ensure dependable supply at pricing which does not dramatically shift from year to year. [2] "

While rising water rates, driven by environmental mandates in the Delta, are increasing public awareness of San Diego County's water supply issues, they are at the same time increasing the cost competitiveness of water reuse and other alternative water resources. A San Diego County Water Authority cost analysis released in 2010[3] projects rate parity between imported water and regional water resources by 2018.

Graphic 4 / Cost per Acre Foot of Water in San Diego County

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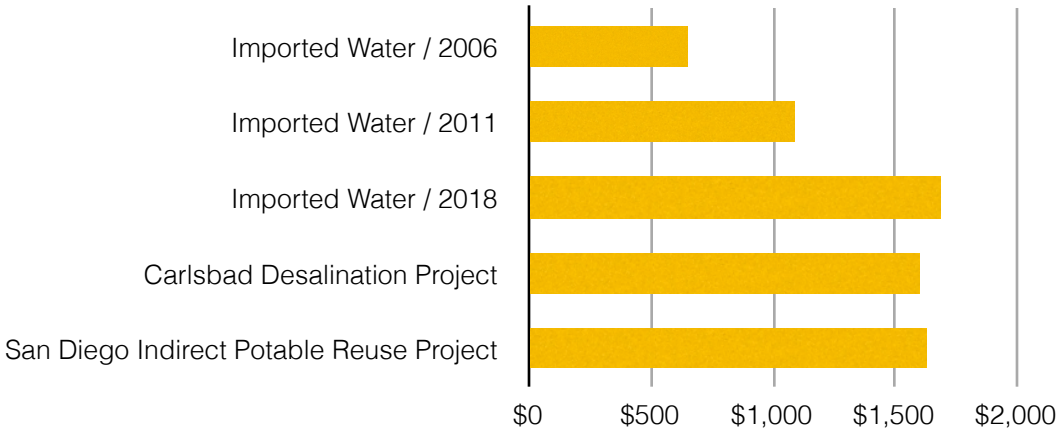
[2] January 25, 2010 correspondence to Ben Hueso, Council President, San Diego City Council, from the Indirect Potable Reuse Coalition.

[3] San Diego County Water Authority, August 2010



Developing Regional Water Resources

While public opinion and cost trends favor the development of water reuse in San Diego County, the extent to which it will be included in regional water supply diversification efforts is unclear. The San Diego County Water Authority, which committed to diversifying the region's water resources following the severe drought that impacted California in the early 1990s and has funded over $3.5 billion in water transfer agreements, regional storage and desalination, considers water reuse to be outside of its mission and mandate. And, while the Authority's

Table 2 / Regional Water Resources and Responsible Parties

	Water	Reuse	
San Diego County Water Authority Retail water agencies	Imported water Water transfers Storage Groundwater Desalination Conservation	Title 22 recycled water Distributed treatment In-pipe treatment Groundwater recharge Reservoir recharge Direct potable reuse	Wastewater agencies Recycled water agencies
Cities & county	Landscaping	Stormwater	Cities & county
Residents Business	Conservation Rainwater harvesting	Graywater Packaged treatment	Residents Business

Board of Directors, comprised of elected representatives from each of the region's 24 retail water agencies, provides ~~inter-agency collaboration~~ regional leadership, and its wholesale water rate provides ~~a vehicle for inter-agency~~ regional funding and cost sharing, the equivalent regional governance structure does not exist for water reuse. ~~for integrated water reuse planning does not exist. The City of San Diego's~~ The METRO ~~wastewater s~~ System only includes ~~15~~ 12 of the region's 22 wastewater agencies, and th~~osee~~ ~~15~~ Participating Agencies ~~agencies~~ are not equal partners with the City of San Diego in the ~~planning~~ governance and management of the system.

Despite these challenges, the City of San Diego is leading the region towards indirect potable reuse with its Water Purification Demonstration Project and Reservoir Augmentation Plan. For San Diego, indirect potable reuse is both an urgent mandate to avoid a USEPA order in 2015 to upgrade the Point Loma Wastewater Treatment Plant, and an opportunity to create a new water supply for the region.

The Next Four Years

Over the next four years, San Diego County's elected representatives, and the residents they represent, will be asked to approve studies, environmental reviews, projects and funding mechanisms that will determine the region's approach to water supply diversification and the future of water reuse.

Table 3 / Statewide and Regional Projects in the Planning Stage

Project	Agency	Projected Cost
Water Bond	State of California	$12 Billion
Delta Conveyance Project	State of California	$12 Billion
Rosarita Beach Desalination Project	San Diego County Water Authority	$500 Million
Camp Pendleton Desalination Project	San Diego County Water Authority	$1.9 Billion
Point Loma Wastewater Treatment Plant Upgrade	City of San Diego METRO ~~member agencies~~ JPA	$3 Billion

Reservoir Augmentation Project	City of San Diego	N / A
North County Water Recycling Project	North County water & wastewater agencies	$175 Million
20 Year Stormwater Management Plan	City of San Diego	$60 Million

The costs shown in Table ~~2~~ 3 will be shared among the agencies participating in each project. The San Diego County Water Authority's share of the projected $12 billion cost to construct water conveyance facilities in the Delta, for example, ~~will~~ is estimated to be $828 million. Most of the projects listed in Table ~~2~~3 will be paid by San Diego County residents and businesses through their water rates and sewer fees. It is not clear what effect a lagging economic recovery will have on the approval of the projects listed in Table ~~2~~3. It is clear, however, that political support among local elected representatives for additional projects and additional increases in the region's water rates and sewer fees will be limited.

Given these conditions -- increased public support for water reuse, its increasing cost competitiveness, ~~and~~ competition for funding with water supply projects already in the planning stage, and the City of San Diego's leadership role -- the METRO JPA is faced with both an opportunity and a deadline to determine the role it wants to play in water reuse. The roles available include financial oversight, technical oversight, public education, ratepayer advocacy and championing potable reuse technology, and the time to act is now. ~~it is imperative that the METRO Joint Powers Authority determine its policy positions and the role it would like to play in managing the region's wastewater, expanding water reuse and diversifying the region's water supply. It is also imperative that the METRO Joint Powers Authority act with urgency, as the projects listed in Table 2 are progressing through the review and approval process.~~

Table 4 / Key Dates

	State Water Bond
Jul 1 2012	Advertising starts
Nov 6, 2012	Election day
	Bay Delta Conservation Plan
Jun 1, 2012	Start of 90 day public review of EIR / EIS
Dec 1, 2012	Release of final version of plan
	Camp Pendleton Desalination Project
Dec 1, 2012	Decision to proceed with EIR / EIS, permitting and preliminary design
	~~IPR~~ Water Purification Demonstration Project
2013	Conclusion of project
	Point Loma Wastewater Treatment Plant Modified Permit
Feb 1, 2015	City of San Diego's deadline to apply for waiver

2011-2013 STRATEGIC GOALS

Strategic Goal 1 >>>
Oversight of METRO System Management and Operations

The METRO JPA and METRO TAC must continue their oversight of the City of San Diego's management and operation of the METRO System on behalf of the Participating Agencies' ratepayers. ~~As the City of San Diego Public Utilities Department expands its scope to include the IPR Demonstration Project and the Reservoir Augmentation Project, the scope of the oversight provided by the METRO Joint Powers Authority and Technical Advisory Committee expands, as well.~~

Strategic Initiatives

~~**Assess 2011 Recycled Water Pricing Study**~~ ~~Analyze and assess the city's results and conclusions from technical, regulatory, financial and political perspectives, and prepare a report for public review and discussion.~~	~~**New**~~
Oversight of Service and Billing Oversee City of San Diego Public Utilities Department to ensure that services provided to METRO member agencies is high quality, efficiently delivered and accurately billed. Assigned To: Finance Committee	**Continuing**
Oversight of Costs and Rates Oversee the City of San Diego's METRO wastewater programs, including sewer fees, recycled water rates and the Bid to Goal program to protect the interests of METRO member agencies. Assigned To: Finance Committee	**Continuing**
Oversight of Capital Improvements Oversee the City of San Diego's METRO wastewater system capital improvement program (CIP), from planning through construction, to protect the investment of METRO member agencies. Assigned To: METRO TAC	**Continuing**
Audit Process Maintain the integrity of the annual audit of the City of San Diego to ensure that only METRO wastewater costs are billed to METRO member agencies. Assigned To: Finance Committee	**Continuing**

Strategic Goal 2 >>>
Oversight of the City of San Diego's Water Reuse Planning

~~The City of San Diego estimates that upgrading Point Loma to secondary treatment, and incorporating indirect potable reuse, will cost $3 billion. Is it technically possible to offload volume from the Point Loma Wastewater Treatment Plant, treat it elsewhere, and avoid an upgrade of the plant?~~

As the City of San Diego expands the scope of its wastewater operations to include the Water Purification Demonstration Project and Reservoir Augmentation Plan, the scope of the oversight provided by the METRO JPA and the METRO TAC expands, as well.

Strategic Initiatives

Oversight of Renewal of USEPA Waiver for Pt. Loma Maintain ongoing technical, financial and regulatory analyses of the strengths, weaknesses, opportunities and threats associated with the renewal process (SWOT analysis) and provide comments to the City and updates to the METRO Commission and METRO JPA as needed. Focus on key questions below. Request METRO JPA involvement in the City's negotiations with environmental groups. Assigned To: METRO TAC	**New**
Oversight of Post-2015 Waiver Planning Maintain ongoing technical, financial and regulatory SWOT analyses and provide comments to the City and updates to the METRO Commission and METRO JPA as needed. Focus on key questions below. Assigned To: METRO TAC	**New**
~~**Assess 2011**~~ **Oversight of** **Recycled Water Pricing Study** ~~Analyze and assess the city's results and conclusions from technical, regulatory, financial and political perspectives, and prepare a report for public review and discussion.~~ Maintain ongoing technical, financial and regulatory SWOT analyses and provide comments to the City and updates to the METRO Commission and METRO JPA as needed. Focus on key questions below. Assigned To: METRO TAC	**New**
Oversight of Recycled Water Optimization Study Maintain ongoing technical, financial and regulatory SWOT analyses and provide comments to the City and updates to the METRO Commission and METRO JPA as needed. Focus on key questions below. Assigned To: METRO TAC	**New**
Participate in San Diego Integrated Regional Water Management Planning Group Cooperate with this group of agencies, which is already developing integrated regional water management strategies and projects, has administrative support from the San Diego County Water Authority, and has access to Proposition 84 grant funds. Assigned To: METRO JPA and METRO TAC	**New**

~~Assess~~ Oversight of Water Purification Demonstration Project ~~Analyze and assess the city's results and conclusions from technical, regulatory, financial and political perspectives, and prepare a report for City of San Diego, public review and discussion.~~ Maintain ongoing technical, financial and regulatory SWOT analyses and provide comments to the City and updates to the METRO Commission and METRO JPA as needed. Focus on key questions below. Assigned To: METRO TAC	**New**
~~Assess~~ Oversight of Reservoir Augmentation Project ~~Analyze and assess the city's results and conclusions from technical, regulatory, financial and political perspectives, and prepare a report for City of San Diego, public review and discussion.~~ Maintain ongoing technical, financial and regulatory SWOT analyses and provide comments to the City and updates to the METRO Commission and METRO JPA as needed. Focus on key questions below. Assigned To: METRO TAC	**New**
~~Assess Renewal of Modified Permit for Pt. Loma~~ ~~Assess city's management of 2015 renewal of modified permit for Pt. Loma from technical, regulatory, financial and political perspective, and prepare a report for City of San Diego, public review and discussion.~~	**~~New~~**
~~Calculate volume to offload from Pt. Loma~~ ~~Calculate the amount of wastewater that must be offloaded from Pt. Loma and treated elsewhere to earn EPA approval? Prepare report for City of San Diego, public review and discussion.~~	**~~New~~**
~~Distributed Treatment Plan~~ ~~Determine feasibility of distributing offloaded volume to other treatment facilities. Can this be accomplished with existing treatment facilities? If not, what is most cost effective combination of new methods and facilities? Should METRO focus on improving the City of San Diego's plans or developing an alternative plan? How would costs and revenues be allocated among agencies? Prepare report for City of San Diego, public review and discussion that addresses technical, regulatory, financial and political challenges and opportunities.~~	**~~New~~**

Water Reuse Plan Develop scenarios that maximizes regional water reuse at different cost levels and integrates wastewater, recycled water, potable reuse, stormwater and graywater strategies. Determine customer segments, and each segment's issues and opportunities. Determine issues and opportunities of involved agencies. Determine if it is better to improve the City of San Diego's reservoir augmentation plan or develop an alternative plan. Determine how costs and revenues would be allocated among agencies. Prepare a report for the City of San Diego, public review and discussion that addresses technical, regulatory, financial and political challenges and opportunities.	**New**
Analyze Model Projects Identify and analyze model projects, and utilize the groundwater recharge, water reuse and integrated regional water management expertise developed by staff involved in Factory 21, the Groundwater Replenishment Project, and the Santa Ana River Watershed in Orange County.	**New**
Meet with Stormwater Managers Meet with city and county stormwater managers, learn about their mandates, the strengths and weaknesses of their individual programs, and the challenges and opportunities associated with an integrated regional approach. Determine cumulative annual spending on stormwater projects, outreach and administration.	**New**
Participate in San Diego Integrated Regional Water Management Planning Group Cooperate with this group of agencies, which is already developing integrated regional water management strategies and projects, has administrative support from the San Diego County Water Authority, and has access to Proposition 84 grant funds.	**New**

Key Questions

Do San Diego's plans

Ensure fair rates for Participating Agencies?

Show concern for the environment?

Reflect regionally balanced decisions?

Will water reuse strategies include

Distributed treatment?

On-site, packaged treatment?

In-pipe treatment?

Natural treatment?

Title 22 recycled water?

Groundwater recharge?

Reservoir recharge?

Direct potable reuse?

Stormwater reuse?

Graywater reuse?

Can costs be reduced by

Integrated planning?

Integrated development?

Integrated administration?

Using existing facilities?

Using non-METRO facilities?

Minimizing conveyance distances?

Minimizing pumping?

Not installing new purple pipe?

New technology?

Process improvement?

Design improvement?

Is San Diego seeking input from

Residents?

Business community?

San Diego County Water Authority?

SANDAG?

Non-METRO wastewater agencies?

Orange County GWRP?

West Basin Water District?

Irvine Ranch Water District?

CA Dept. of Public Health?

State Water Resources Control Board?

Congressional representatives?

Legislative representatives?

Is the goal of the region to

Spend as little as possible to make the Pt. Loma Wastewater Treatment Plant EPA compliant?

Decrease reliance on imported water?

Save money through an integrated approach to sewer, stormwater and flood control?

Achieve environmental goals?

Strategic Goal 3 >>>
Develop Key Partnerships

The leaders of San Diego County's business community and environmental community are concerned about the reliability of the region's imported water supplies and are advocating the development of indirect potable reuse. They want to see water, wastewater and stormwater agencies integrate their efforts. The METRO ~~Joint Powers Authority~~ JPA and ~~Technical Advisory Committee~~ METRO TAC should ~~focus on earning their trust and support.~~ should consider participating in these regional efforts.

~~Key Questions~~

Strategic Initiatives

Market-Based Approach High-tech companies purify water for manufacturing. Can these companies treat their own wastewater? Could it be advantageous for them to do so? What other industries could treat their own wastewater? What volume could this strategy offload from Pt. Loma? Assigned To: METRO TAC	**New**
Orange County Tours Take key partners on guided tours of the Orange County Groundwater Replenishment Project ~~and the Santa Ana River Watershed in Orange County~~ to show them successful, working models of groundwater recharge~~,~~ and indirect potable reuse ~~and integrated regional water management.~~ Consider public affairs staff from Participating Agencies as guides. Assigned To: METRO TAC	**New**
Speakers Bureau ~~Present METRO's regional wastewater management~~ Endorse and explain the City of San Diego's indirect potable reuse planning at meetings of Indirect Potable Reuse Coalition members, other local and regional business groups, the San Diego County Board of Supervisors, and the region's city councils, water boards, legislators and congressional representatives. ~~Until plan is completed, provide progress reports.~~ Solicit advocates. Consider public affairs staff from Participating Agencies to prepare presentations. Assigned To: METRO JPA and METRO TAC	**New**

Meet With Regional Media Leaders ~~Present METRO's regional wastewater management plan.~~ Endorse and explain the City of San Diego's indirect potable reuse planning to owners, publishers and editors of San Diego County's print, television, radio and online media. Until plan is completed, provide progress reports. Request support. Consider public affairs staff from Participating Agencies to prepare presentations and talking points. Assigned To: METRO JPA and METRO TAC	**New**
Regulatory Partnerships ~~Present METRO's regional wastewater management plan.~~ Present and explain the City of San Diego's indirect potable reuse planning to the Regional Water Quality Control Board and San Diego County Department of Environmental Health. Utilize data from, and invite officials to tour Orange County~~ projects~~ GWRP.~~ Invite Board members to tour Orange County projects. Until plan is completed, provide progress reports.~~ Assigned To: METRO JPA and METRO TAC	**New**
Regional Governance (On Hold) Assess feasibility and appropriateness of implementing, governing and managing a distributed treatment plan and regional wastewater management plan in partnership with the City of San Diego. Assess the issues and opportunities associated with activating the Special Act District formed by the legislature in 1992.	**Continuing**

Strategic Goal 4 >>>
Develop Customer Relationships

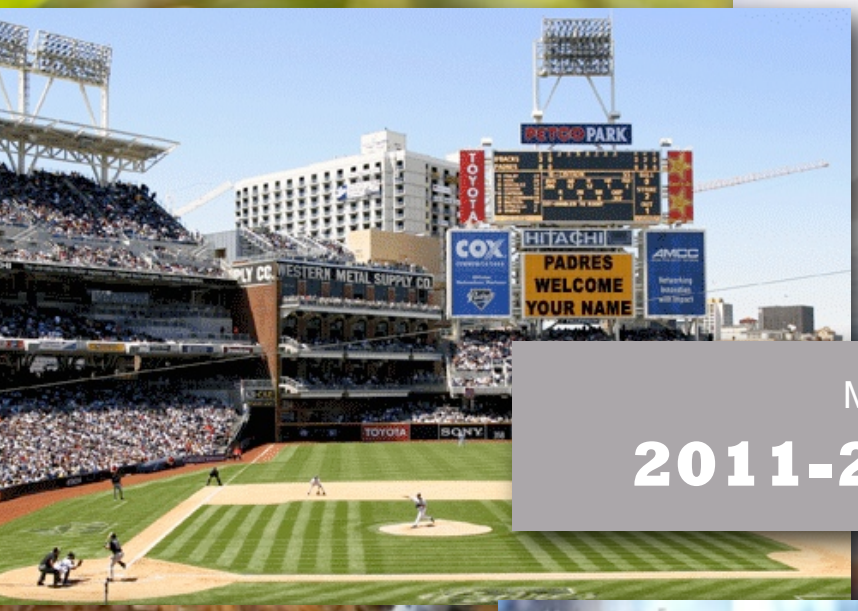
Water and wastewater agencies often consider developing customer relationships optional, and unimportant to their mission of providing water quality, water reliability and sanitation. This malaise, however, leads to customer cynicism and opposition to rate setting and investment in infrastructure. The METRO Joint Powers Authority and Technical Advisory Committee should avoid this mistake.

Strategic Initiatives

Visual Information Create technical illustrations to show the safety of advanced water treatment, ~~how offloaded volume from Pt. Loma will be treated, why METRO's indirect potable reuse plan will cost less than the City of San Diego's plan, how stormwater can be captured and reused, packaged treatment, and a residential graywater system.~~ Visual information can be used in print, presentations, and on the web. Focus on key questions below. Assigned To: METRO TAC	**New**
Financial Transparency Regional wastewater agencies have difficulty explaining sewer collection and treatment costs to their customers. Developing a simplified, visual explanation of costs is necessary in order to explain cost savings. Focus on key questions below. Assigned To: Finance Committee	**New**
Website & Social Media Develop new website and Facebook page to effectively communicate advantages of ~~METRO's regional wastewater management~~ City of San Diego's plans for offloading Pt. Loma and indirect potable reuse~~plan~~. Use Google Translation to allow viewer to convert pages into their preferred language. Use Twitter to push residents, supporters and media to website for news and new content. Focus on key questions below. Assigned To: METRO TAC	**New**
Orange County Tours Promote guided tours of the Groundwater Replenishment Project and the Santa Ana River Watershed in Orange County. Consider public affairs staff from Participating Agencies as guides. Assigned To: METRO TAC	**New**
"What Not To Flush" Public Outreach Combine information about fats, oils and grease, information about other products that should not be flushed, and information about water reuse to create a single public outreach campaign that raises awareness of ~~regional wastewater management plan~~. water reuse. ~~Utilize~~Consider public affairs staff ~~and funding from METRO member~~ from Participating ~~a~~Agencies. Assigned To: METRO TAC	**Continuing**

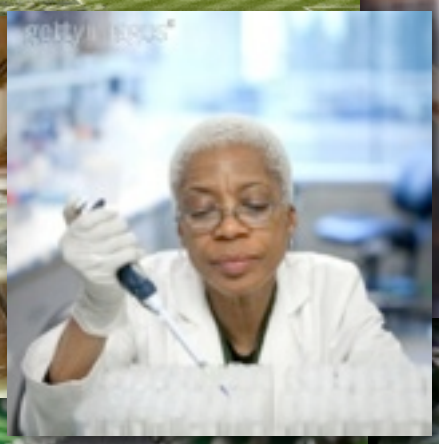


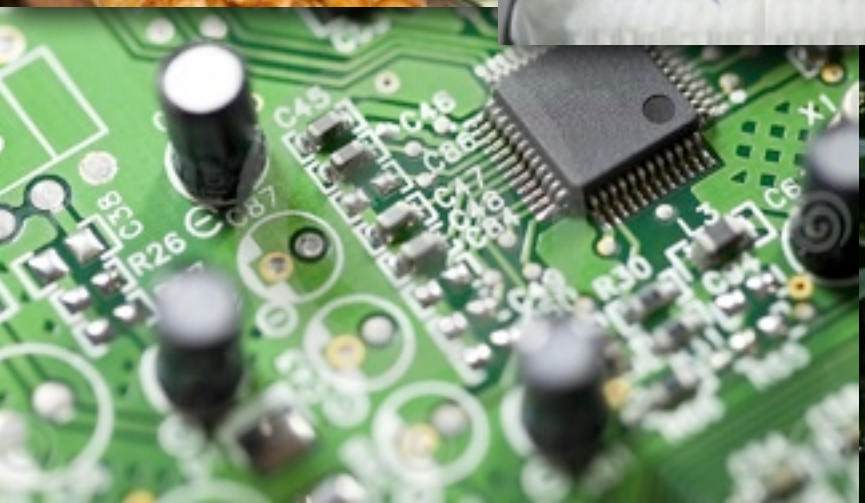


METRO Wastewater Joint Powers Authority

2011-2013 Strategic Plan

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CONTENTS

On average,
urban wastewater is 99.4% water.

WHERE SAN DIEGO'S

WASTEWATER GOES

In 1960, the population of San Diego County topped 1,000,000, five times the population of 30 years earlier, due primarily to World War II and military build-up. The resulting sanitation issues were severe. In the mid-1950s, the San Diego County Department of Public Health ordered a moratorium on homebuilding in inland communities until septic tanks were replaced by sewer systems. By 1960, the discharge of untreated sewage by cities, industry and the military caused the continuous quarantine of San Diego Bay and heavy pollution in Mission Bay.

In 1963, following three years of construction, the City of San Diego's Metropolitan Wastewater System (METROSystem) was put into operation. The system collected wastewater from eight South County and East County communities and the U.S. Navy, treated it at the Point Loma Wastewater Treatment Plant,and discharged it into the ocean three miles offshore.

Today, 27 wastewater agencies collect and dispose of the wastewater generated by San Diego County's 3.5 million residents. The METRO System collects wastewater generated by 13 of those agencies and serves 2.2 million of those residents over a 450 square mile area, treating an average of 180 million gallons of wastewater per day.

Table 1 / Today's METRO Wastewater Agencies

Cities	Special Districts
Chula Vista	Otay Water District
Coronado	Padre Dam Water District
Del Mar	San Diego County Sanitation District
El Cajon	
Imperial Beach	
La Mesa	
Lemon Grove	
National City	
Poway	
San Diego	

Graphic 1 / Map Showing METRO System Member Agencies (Purple Area)

HOW THE METRO WASTEWATER SYSTEM IS GOVERNED AND MANAGED

The METRO System is governed and managed by a coalition of participating cities and special districts pursuant to the *Regional Wastewater Disposal Agreement* signed in 1998 by the City of San Diego and 12 other jurisdictions called the "Participating Agencies" (See Appendix A). Pursuant to the agreement, the Participating Agencies pay their share of the METRO System's operations and maintenance costs -- approximately 35 percent -- based on the wastewater flow from each agency's jurisdiction.

The agreement established the METRO Commission as an advisory body for the City of San Diego and charged the commission with advising the San Diego City Council on matters affecting the METRO system. To that end, the position of the majority of the METRO Commission members must be presented to the City Council. Other than these duties, the commission has no legal powers.

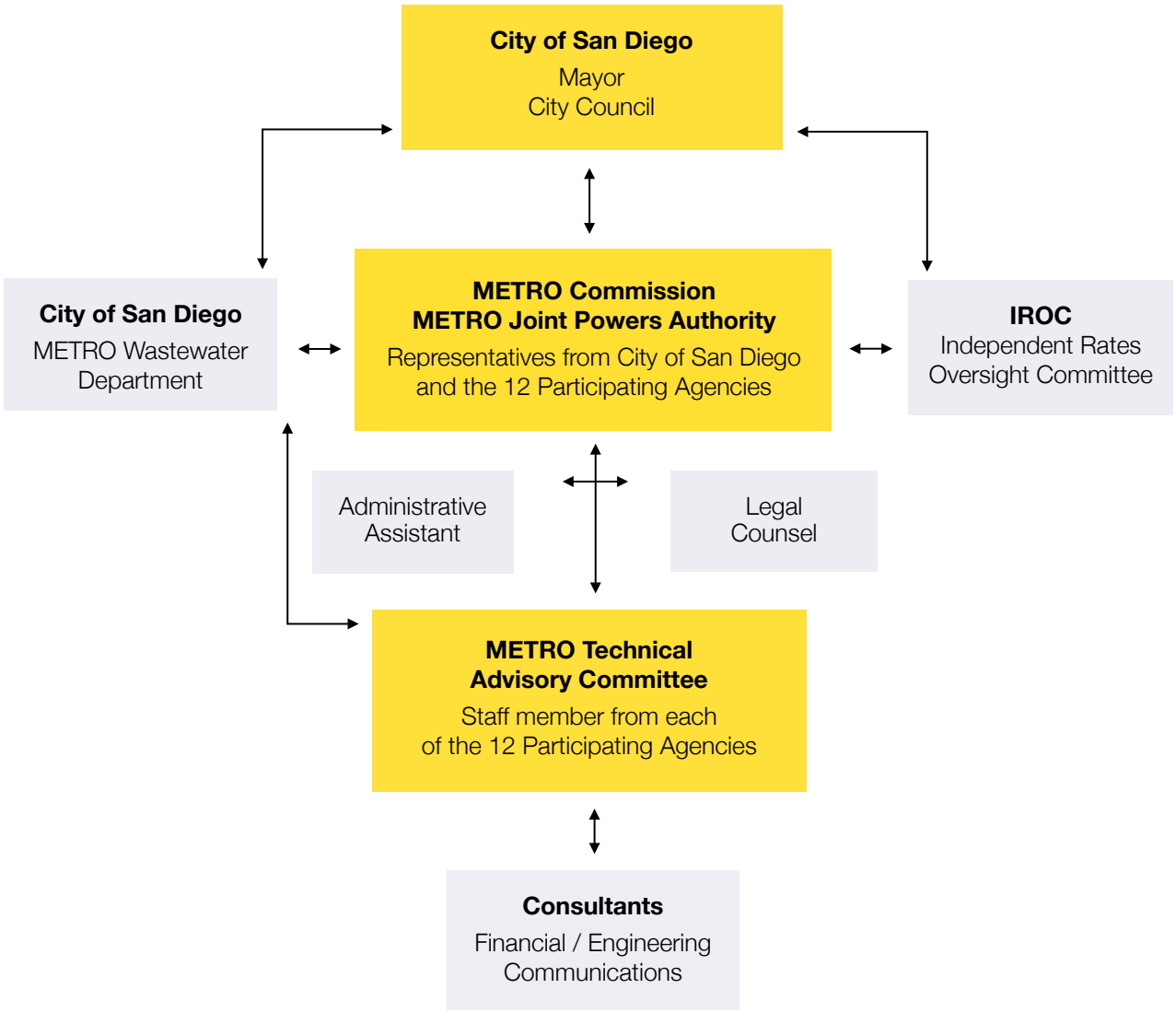
The METRO Wastewater Joint Powers Authority (METRO JPA) was formed later, by the adoption in 2000 of the *METRO Wastewater Joint Power Authority Agreement* (See Appendix B), to give the Participating Agencies the authority to make decisions regarding operations, maintenance, capital improvements and rates. Currently, all Participating Agencies are members of the METRO JPA. Although the commission and the joint powers authority have separate and distinct responsibilities, they are, in fact, represented by the same people. The 12 Participating Agencies each appoint a member of their elected board or council as their representative. Each Commissioner/Director is responsible for informing their agency of METRO System matters and seeking the approval of their board or council as needed regarding METRO System policies and issues.

The METRO Commission and METRO JPA holdmonthly public meetings. Visit www.metrojpa.org for the date, time and location of upcoming meetings.

Mission Statement / METRO JPA

The Metro JPA's mission is to create an equitable partnership with the San Diego City Council and Mayor on regional wastewater issues. Through stakeholder colalboration, open dialogue, and data analysis, the partnership seeks to ensure fair rates for Participating Agencies, concern for the environment, and regionally balanced decisions.

Graphic 2 / METRO Organization Chart



GAP ANALYSIS: 2009-2011
METRO JPA STRATEGIC PLAN

In 2009, the METRO JPA adopted five strategic goals and 12 strategic initiatives to accomplish over the following 24 months. In May of 2011, METRO JPA and METRO Technical Advisory Committee (METRO TAC) members completed a survey and workshop to answer two key questions: "where are we?" and "where do we want to be?" The results of the survey are summarized below. The complete results of the survey, including all comments received, are included with this document as Appendix C.

Mission Statement

The Metro JPA's mission is to create an equitable partnership with the San Diego City Council and Mayor on regional wastewater issues. Through stakeholder collaboration, open dialogue, and data analysis, the partnership seeks to ensure fair rates for participating agencies, concern for the environment, and regionally balanced decisions.

METRO JPA Elected Representatives	**METRO AC** Staff
83% Think we are on goal	**75%** Think we are on goal
80% Think we can improve	**80%** Think we can improve
Key Points City of San Diego is slow to bring issues to METRO Commission and METRO JPA City of San Diego decisions are not regionally equitable	**Key Points** Need to work closely with San Diego City Council METRO staff disregard METRO TAC input

Strategic Goals

1. Reduce costs and ensure fair rates
2. Create alignment among METRO Commission and METRO JPA members
3. Enhance positive and effective relations with the City of San Diego
4. Create and sustain a positive image in the region
5. Identify ways to increase usage of recycled water

METRO JPA Elected Representatives	METRO TAC Staff
67% Think we are on goal 83% Think we can improve 0% Support additional goals	75% Think we are on goal 82% Think we can improve 44% Support additional goals
Key Points Need to focus on public relations	**Key Points** Expand regional water reuse

Financial Oversight

Ensure that costs assessed to METRO JPA member agencies are for appropriate high quality services efficiently delivered by the San Diego Public Utilities Department.

METRO JPA Elected Representatives	METRO TAC Staff
100% Think we are on goal 66% Think we can improve	91% Think we are on goal 36% Think we can improve
Key Points Additional budget details needed	**Key Points** Audit process efficient and effective

Audit Process

Maintain the integrity of the annual audit process to ensure only Metro System costs are charged to Participating Agencies.

METRO JPA Elected Representatives	METRO TAC Staff
100% Think we are on goal 60% Think we can improve	100% Think we are on goal 36% Think we can improve
Key Points Good work Inform the public	**Key Points** Audit process is successful

Modified Permit

Diligently support a modified permit from the USEPA, which must be renewed every five years, for the Point Loma Wastewater Treatment Plant. The next application must be prepared by 2015 and address performance measures, a modified NPDES permit and a 301(h) Tentative Decision Document (TDD). The modified permit avoids expensive and unnecessary upgrades to secondary treatment which could cost the Participating Agencies $200-500 million.

METRO JPA Elected Representatives	**METRO TAC** Staff
100% Think we are on goal **25%** Think we can improve	**75%** Think we are on goal **73%** Think we can improve
Key Points Need technical briefing from METRO TAC Build bridges with stakeholders Develop plan B	**Key Points** Participating Agencies need to be represented Play active role in negotiations

Recycled Water

The Ocean Pollution Reduction Act requires the City of San Diego to produce and beneficially use 45 million gallons per day of recycled water, and San Diego and the METRO JPA should encourage further development of recycled water as a viable and sustainable water resource. Two exciting avenues toward this initiative are now being pursued: the Water Purification Demonstration Project and the Regional Recycled Water Optimization Study. The latter is now under way and is funded jointly by the City and the Participating Agencies.

METRO JPA Elected Representatives	**METRO TAC** Staff
83% Think we are on goal **100%** Think we can improve	**91%** Think we are on goal **82%** Think we can improve
Key Points Take leadership role Build political support for IPR Support City of San Diego IPR study	**Key Points** Approach should be regional METRO JPA should have formal approval role

Partnerships

Our Mission Statement calls for a partnership with the City of San Diego in managing theMETRO System. Other partnerships that serve our interests, such as partnering with the San Diego County Water Authority, should also be explored.

METRO JPA Elected Representatives	**METRO TAC** Staff
57% Think we are on goal **66%** Think we can improve	**64%** Think we are on goal **80%** Think we can improve
Key Points Partner with San Diego County Water Authority	**Key Points** Partner with San Diego County Water Authority

Project Oversight

Oversight of the METRO System Capital Improvement Program is essential to protecting our investment in these facilities. Oversight starts with our involvement in the Capital Improvement Program planning process.

METRO JPA Elected Representatives	**METRO TAC** Staff
100% Think we are on goal **60%** Think we can improve	**100%** Think we are on goal **50%** Think we can improve
Key Points Need better lead time from City of San Diego	**Key Points** Start CIP subcommittee Need input on CIP projects before they are approved

Program Oversight

Oversight of the many unique METRO System programs such as the wastewater rate case and recycled water rate case ensure our interests are protected.

METRO JPA Elected Representatives	**METRO TAC** Staff
88% Think we are on goal **50%** Think we can improve	**82%** Think we are on goal **55%** Think we can improve
Key Points None	**Key Points** METRO AC needs to be included in planning METRO TAC needs to be includedin rate case development

Environmental Stewardship

Taking on a stewardship role in protecting the environment in all METRO Commission and METROJPA activities is our responsibility.

METRO JPA Elected Representatives	**METRO TAC** Staff
100% Think we are on goal **0%** Think we can improve	**100%** Think we are on goal **10%** Think we can improve
Key Points Not aware of any issues	**Key Points** **METRO** JPA and METRO TAC can be forum for Participating Agency environmental initiatives

Leadership

We cannot underestimate our ability, as practitioners in wastewater and recycling, to sway public opinion on important issues. Therefore, we have the opportunity to make a significant impact by taking a leadership role on these issues in our region. Example: Support IPR/Reservoir Augmentation.

METRO JPA Elected Representatives	**METRO TAC** Staff
33% Think we are on goal **83%** Think we can improve	**73%** Think we are on goal **73%** Think we can improve
Key Points Promote reuse More public outreach	**Key Points** Need METRO JPA to develop policies Bi-annual METRO TAC update to public agencies Be community leaders for IPR

Public Image

Although not well known, the METRO Commission and METRO JPA should be cognizant of its image within the region and to wastewater customers, and take a more focused approach to creating a positive public image.

METRO JPA Elected Representatives	**METRO TAC** Staff
50% Think we are on goal **100%** Think we can improve	**66%** Think we are on goal **56%** Think we can improve
Key Points Low public awareness of METRO JPA Maintain website Press releases	**Key Points** Regional governance only route to higher public awareness Public image not crucial to METRO JPA mission

Legislative

Review and monitor legislation that may have impacts on the METRO System and the PAs and take action to support or oppose.

METRO JPA Elected Representatives	**METRO TAC** Staff
50% Think we are on goal **75%** Think we can improve	**100%** Think we are on goal **50%** Think we can improve
Key Points No organized effort	**Key Points** Tracking sheet attached to METRO AC agenda Adopt a legislative policy

Regional Governance

The concept of a regional, independent wastewater agency has intriguing possibilities. Initially proposed by the City of San Diego in 1989, the "Special Act District" was approved by the State Legislature in 1992. However, a general lack of commitment on the part of the City of San Diego and the Participating Agencies resulted in the agency becoming nonfunctional in its first year. The Special Act District now exists in name only and meets once per year. Its members include: The Cities of Coronado, Del Mar, Imperial Beach, Lemon Grove, National City and Poway, as well as the Otay Water District and Padre Dam Municipal Water District. The Participating Agencies have since proposed a joint study of the issue, but the City of San Diego's Mayor and City Council have been unwilling to consider it. Therefore, this initiative has been shelved.

METRO JPA Elected Representatives	**METRO TAC** Staff
50% Think we are on goal **50%** Think we can improve	**29%** Think we are on goal **71%** Think we can improve
Key Points East County agencies should form JPA	**Key Points** Water reuse could be argument for regional governance

The Groundwater Replenishment System in Orange County uses a three step advanced treatment process consisting of microfiltration, reverse osmosis and ultraviolet light with hydrogen peroxide to turn wastewater into drinking water for 600,000 Orange County residents everyday. The treated water is used to replenish the groundwater basin -- providing a local, drought-proof water supply. The system is a state-of-the-art model for San Diego County.

2011-2013 METRO JPA STRATEGIC PLAN

The Last Two Years

In the last two years, San Diego County residents faced mandatory water use restrictions and water rate increases exceeding 60% in the midst of severe economic recession. A 2011 public opinion survey conducted by Rae and Parker Research[1] quantified the impact of these concurrent challenges on the public's view of water reuse.

Graphic 3 / Public Opinion in San Diego County

80%	Of respondents support the San Diego County Water Authority's water supply diversification plan.
66%	Of respondents believe it is possible to further treat recycled water used for irrigation to make the water pure and safe for drinking -- an increase of 13% from 2009.
67%	Of respondents strongly or somewhat favor adding advanced treated recycled water to the drinking water supply -- an increase of 39% from 2005.
56%	Of respondents who opposed adding recycled water to the drinking water supply changed their minds when they learned that California drinking water standards are very strict and recycled water would exceed those standards -- an increase of 12% from 2009.
50%	Of respondents who opposed adding recycled water to the drinking water supply changed their minds when they learned that recycled drinking water is used in other U.S. communities -- an increase of 14% over 2009.
51%	Of respondents who opposed adding recycled water to the drinking water supply changed their minds when they learned that recycled drinking water could supply up to 10% of the local water supply -- an increase of 12% over 2009.

[1] *San Diego County Water Authority: 2011 Public Opinion Poll*, Rae and Parker Research, April 2011.

Similarly, key members of San Diego County's business and environmental communities formed the Indirect Potable Reuse Coalition in 2009 to promote indirect potable reuse for the region.

Indirect Potable Reuse Coalition

San Diego County Taxpayers Association	Surfrider Foundation
San Diego Regional Chamber of Commerce	San Diego Coastkeeper
Citizens Coordinate for Century Three	San Diego Audubon Society
Industrial Environmental Association	Friends of Infrastructure
San Diego & Imperial Counties Labor Council	BIOCOM
Building Office Managers Association	Coastal Environmental Rights Foundation
National Association of Industrial and Office Properties	

In a 2010 correspondence to San Diego City Councilman Ben Hueso, the coalition stated that:

> "Recycled water is an important part of water supply portfolio diversification. An adequate supply of water is an essential resource for multi-million dollar research and manufacturing facilities. If San Diego wants to continue to attract and retain these companies, we must aggressively pursue all reliable sources of water to ensure dependable supply at pricing which does not dramatically shift from year to year. [2]"

While rising water rates, driven by environmental mandates in the Delta, are increasing public awareness of San Diego County's water supply issues, they are at the same time increasing the cost competitiveness of water reuse and other alternative water resources. A San Diego County Water Authority cost analysis released in 2010[3] projects rate parity between imported water and regional water resources by 2018.

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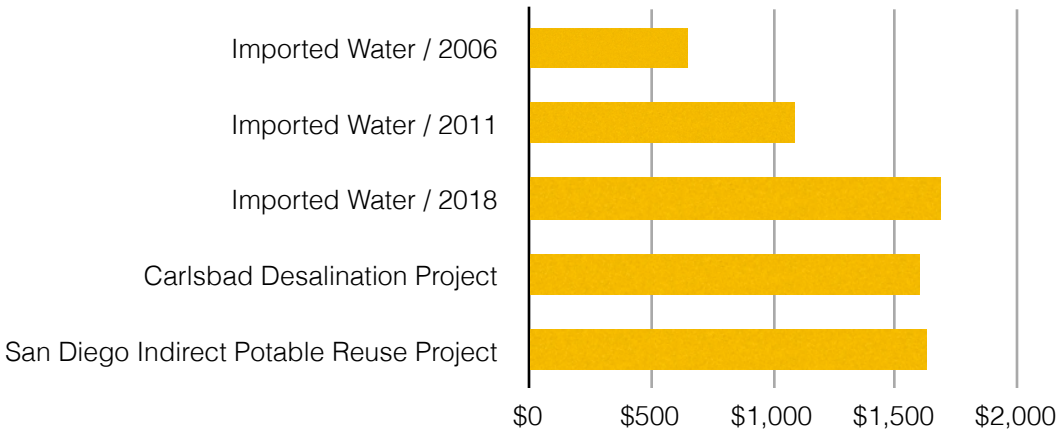
[2] January 25, 2010 correspondence to Ben Hueso, Council President, San Diego City Council, from the Indirect Potable Reuse Coalition.

[3] San Diego County Water Authority, August 2010

Graphic 4 / Cost per Acre Foot of Water in San Diego County



Developing Regional Water Resources

While public opinion and cost trends favor the development of water reuse in San Diego County, the extent to which it will be included in regional water supply diversification efforts is unclear. The San Diego County Water Authority, which committed to diversifying the region's water resources following the severe drought that impacted California in the early 1990s and has funded over $3.5 billion in water transfer agreements, regional storage and desalination, considers water reuse to be outside of its mandate. And, while the Authority's Board of Directors, comprised of elected representatives from each of the

Table 2 / Regional Water Resources and Responsible Parties

	Water	Reuse	
San Diego County Water Authority Retail water agencies	Imported water Water transfers Storage Groundwater Desalination Conservation	Title 22 recycled water Distributed treatment In-pipe treatment Groundwater recharge Reservoir recharge Direct potable reuse	Wastewater agencies Recycled water agencies
Cities & county	Landscaping	Stormwater	Cities & county
Residents Business	Conservation Rainwater harvesting	Graywater Packaged treatment	Residents Business

region's 24 retail water agencies, provides regional leadership, and its wholesale water rate provides regional funding and cost sharing, there is no equivalent regional governance structure for water reuse. The METRO System includes just 13 of the region's 22 wastewater agencies, and the Participating Agencies are not equal partners with the City of San Diego in the governance and management of the system. Despite these challenges, the City of San Diego is leading the region towards indirect potable reuse with its Water Purification Demonstration Project and reservoir augmentation plan. For San Diego, indirect potable reuse is both an urgent mandate to avoid a USEPA order in 2015 to upgrade the Point Loma Wastewater Treatment Plant, and an opportunity to create a new water supply for the region.

The Next Four Years

Over the next four years, San Diego County's elected representatives, and the residents they represent, will be asked to approve studies, environmental reviews, projects and funding mechanisms that will determine the region's approach to water supply diversification and the future of water reuse.

Table 3 / Statewide and Regional Projects in the Planning Stage

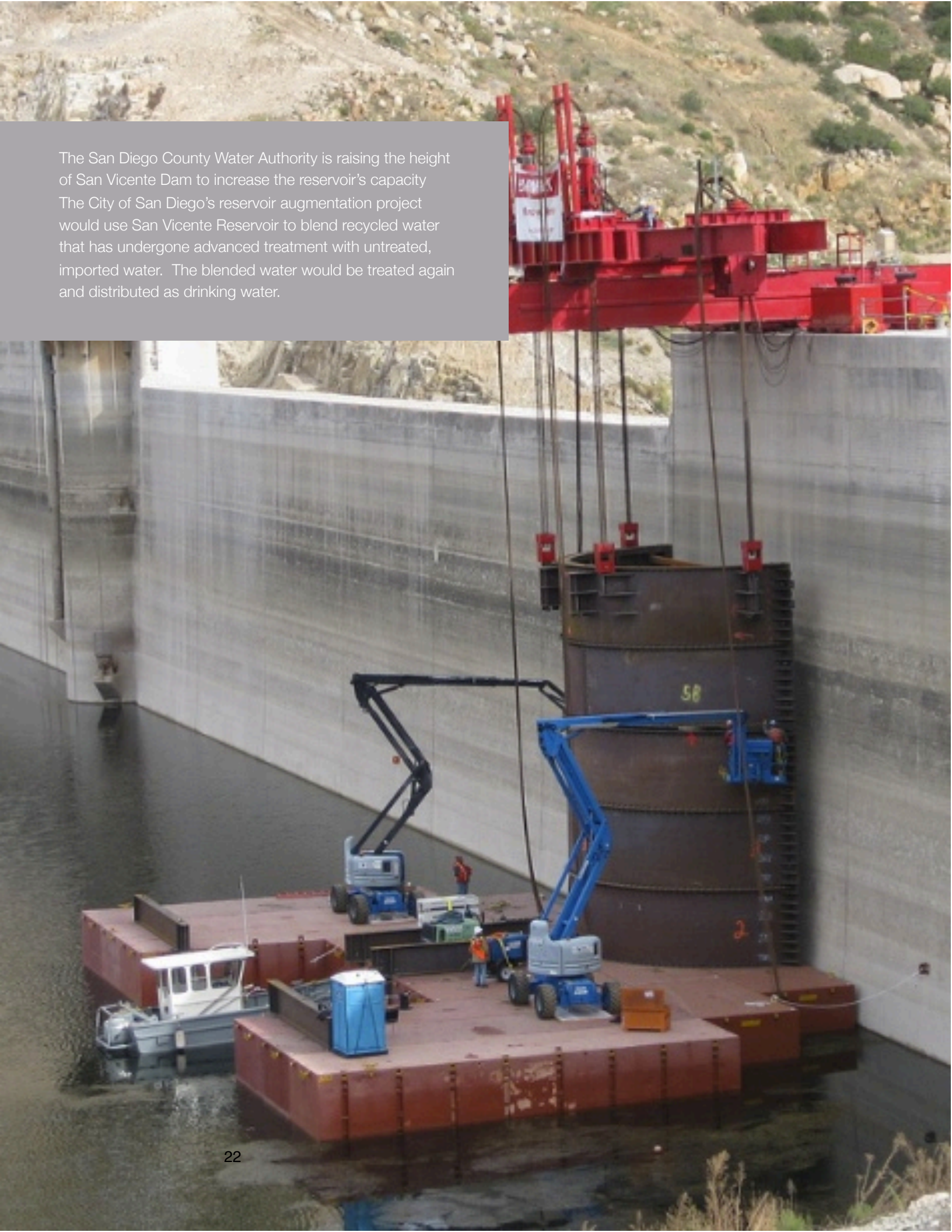
Project	Agency	Projected Cost
Water Bond	State of California	$12 Billion
Delta Conveyance Project	State of California	$12 Billion
Rosarita Beach Desalination Project	San Diego County Water Authority	$500 Million
Camp Pendleton Desalination Project	San Diego County Water Authority	$1.9 Billion
Point Loma Wastewater Treatment Plant Upgrade	City of San Diego METRO JPA	$3 Billion
Reservoir Augmentation Project	City of San Diego	N / A
North County Water Recycling Project	North County water & wastewater agencies	$175 Million
20 Year Stormwater Management Plan	City of San Diego	$60 Million

The costs shown in Table 3 will be shared among the agencies participating in each project. The San Diego County Water Authority's share of the projected $12 billion cost to construct water conveyance facilities in the Delta, for example, is estimated to be $828 million. Most of the projects listed in Table 3 will be paid by San Diego County residents and businesses through their water rates and sewer fees. It is not clear what effect a lagging economic recovery will have on the approval of the projects listed in Table 3. It is clear, however, that political support among local elected representatives for additional projects and additional increases in the region's water rates and sewer fees will be limited.

Given these conditions -- increased public support for water reuse, its increasing cost competitiveness, competition for funding with water supply projects already in the planning stage, and the City of San Diego's leadership role -- the METRO JPA is faced with both an opportunity and a deadline to determine the role it wants to play in water reuse. The roles available include financial oversight, technical oversight, public education, ratepayer advocacy and championing potable reuse technology, and the time to act is now.

Table 4 / Key Dates

	State Water Bond
Jul 1 2012	Advertising starts
Nov 6, 2012	Election day
	Bay Delta Conservation Plan
Jun 1, 2012	Start of 90 day public review of EIR / EIS
Dec 1, 2012	Release of final version of plan
	Camp Pendleton Desalination Project
Dec 1, 2012	Decision to proceed with EIR / EIS, permitting and preliminary design
	Water Purification Demonstration Project
2013	Conclusion of project
	Point Loma Wastewater Treatment Plant Modified Permit
Feb 1, 2015	City of San Diego's deadline to apply for waiver



The San Diego County Water Authority is raising the height of San Vicente Dam to increase the reservoir's capacity The City of San Diego's reservoir augmentation project would use San Vicente Reservoir to blend recycled water that has undergone advanced treatment with untreated, imported water. The blended water would be treated again and distributed as drinking water.

2011-2013 STRATEGIC GOALS

Strategic Goal 1 >>>
Oversight of METRO System Management and Operations

The METRO JPA and METRO TAC must continue their oversight of the City of San Diego's management and operation of the METRO System on behalf of the Participating Agencies' ratepayers. .

Strategic Initiatives

Oversight of Service and Billing Oversee City of San Diego Public Utilities Department to ensure that services provided to METRO member agencies is high quality, efficiently delivered and accurately billed. Assigned To: Finance Committee	**Continuing**
Oversight of Costs and Rates Oversee the City of San Diego's METRO wastewater programs, including sewer fees, recycled water rates and the Bid to Goal program to protect the interests of METRO member agencies. Assigned To: Finance Committee	**Continuing**
Oversight of Capital Improvements Oversee the City of San Diego's METRO wastewater system capital improvement program (CIP), from planning through construction, to protect the investment of METRO member agencies. Assigned To: METRO TAC	**Continuing**
Audit Process Maintain the integrity of the annual audit of the City of San Diego to ensure that only METRO wastewater costs are billed to METRO member agencies. Assigned To: Finance Committee	**Continuing**

Strategic Goal 2 >>>
Oversight of the City of San Diego's Water Reuse Planning

As the City of San Diego expands the scope of its wastewater operations to include the Water Purification Demonstration Project and reservoir augmentation plan, the scope of oversight provided by the METRO JPA and the METRO TAC expands, as well.

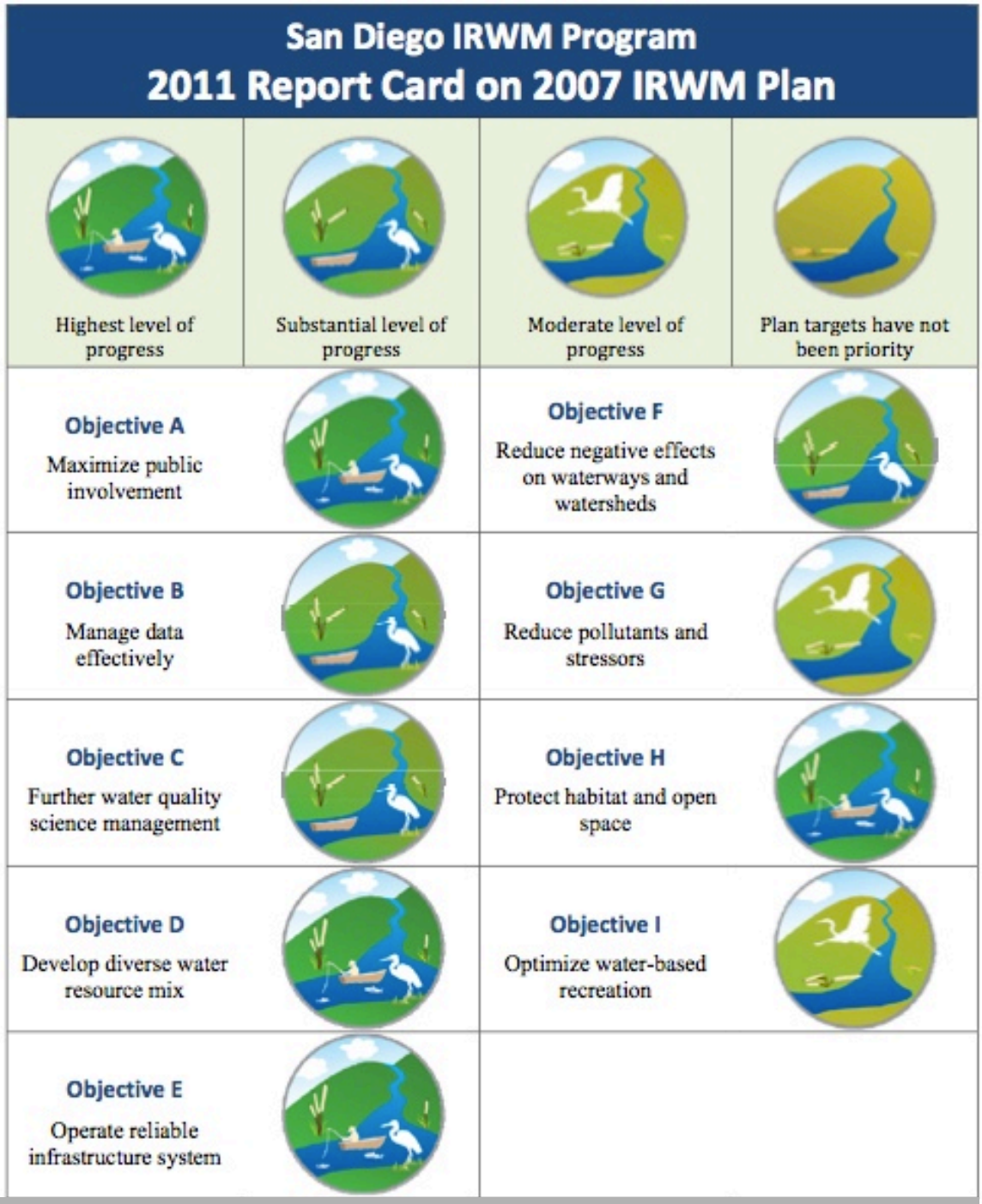
Strategic Initiatives

Oversight of Renewal of USEPA Waiver for Pt. Loma Maintain ongoing technical, financial and regulatory analyses of the strengths, weaknesses, opportunities and threats associated with the renewal process (SWOT analysis) and provide comments to the City of San Diego, METRO Commission and METRO JPA as needed. Focus on key questions below. Request METRO JPA involvement in the City's negotiations with environmental groups. Assigned To: METRO TAC	**New**
Oversight of Post-2015 Waiver Planning Maintain ongoing technical, financial and regulatory SWOT analyses and provide comments to the City of San Diego, METRO Commission and METRO JPA as needed. Focus on key questions below. Assigned To: METRO TAC	**New**
Oversight of Recycled Water Pricing Study Maintain ongoing technical, financial and regulatory SWOT analyses and provide comments to the City of San Diego, METRO Commission and METRO JPA as needed. Focus on key questions below. Assigned To: METRO TAC	**New**
Oversight of Recycled Water Optimization Study Maintain ongoing technical, financial and regulatory SWOT analyses and provide comments to the City of San Diego, METRO Commission and METRO JPA as needed. Focus on key questions below. Assigned To: METRO TAC	**New**

Participate in San Diego Integrated Regional Water Management Planning Group Cooperate with this group of agencies, which is already developing integrated regional water management strategies and projects, has administrative support from the San Diego County Water Authority, and has access to Proposition 84 grant funds. Assigned To: METRO JPA and METRO TAC	**New**
Oversight of Water Purification Demonstration Project Maintain ongoing technical, financial and regulatory SWOT analyses and provide comments to the City of San Diego, METRO Commission and METRO JPA as needed. Focus on key questions below. Assigned To: METRO TAC	**New**
Oversight of Reservoir Augmentation Project Maintain ongoing technical, financial and regulatory SWOT analyses and provide comments to the City of San Diego, METRO Commission and METRO JPA as needed. Focus on key questions below. Assigned To: METRO TAC	**New**

Graphic 5 / Advanced Treatment Process

Microfiltration **Reverse Osmosis** **Ultraviolet Light**



The four goals of the San Diego Integrated Regional Water Management Plan are to optimize water supply reliability, protect and enhance water quality, provide stewardship of natural resources, and coordinate and integrate water resource management. The multi-agency, multi-stakeholder group has secured over $27 million in Proposition 50

Key Questions / Water Reuse

Do San Diego's plans

Ensure fair rates for Participating Agencies?

Show concern for the environment?

Reflect regionally balanced decisions?

Will water reuse strategies include

Distributed treatment?

On-site, packaged treatment?

In-pipe treatment?

Natural treatment?

Title 22 recycled water?

Groundwater recharge?

Reservoir recharge?

Direct potable reuse?

Stormwater reuse?

Graywater reuse?

Can costs be reduced by

Integrated planning?

Integrated development?

Integrated administration?

Using existing facilities?

Using non-METRO facilities?

Minimizing conveyance distances?

Minimizing pumping?

Not installing new purple pipe?

New technology?

Process improvement?

Design improvement?

Is San Diego seeking input from

Residents?

Business community?

San Diego County Water Authority?

SANDAG?

Non-METRO wastewater agencies?

Orange County GWRP?

West Basin Water District?

Irvine Ranch Water District?

CA Dept. of Public Health?

State Water Resources Control Board?

Congressional representatives?

Legislative representatives?

Is the goal of the region to

Spend as little as possible to make the Pt. Loma Wastewater Treatment Plant EPA compliant?

Decrease reliance on imported water?

Save money through an integrated approach to sewer, stormwater and flood control?

Achieve environmental goals?

Strategic Goal 3 >>>
Develop Key Partnerships

The leaders of San Diego County's business community and environmental community are concerned about the reliability of the region's imported water supplies and are advocating the development of indirect potable reuse. They want to see water, wastewater and stormwater agencies integrate their efforts. The METRO JPA and METRO TAC should should consider participating in these regional efforts.

Strategic Initiatives

Market-Based Approach High-tech companies purify water for manufacturing. Can these companies treat their wastewater? Could it be advantageous for them to do so? What other industries could treat their wastewater? What volume could this strategy offload from Pt. Loma? Assigned To: METRO TAC	**New**
Orange County Tours Take key partners on guided tours of the Orange County Groundwater Replenishment Project to show them successful, working models of groundwater recharge and indirect potable reuse. Consider public affairs staff from Participating Agencies as guides. Assigned To: METRO TAC	**New**
Speakers Bureau Endorse and explain the City of San Diego's indirect potable reuse planning at meetings of the Indirect Potable Reuse Coalition, local and regional business groups, San Diego County Board of Supervisors, city councils, water district boards, legislators and congressional representatives. Solicit advocates. Consider public affairs staff from Participating Agencies to prepare presentations. Assigned To: METRO JPA and METRO TAC	**New**
Meet With Regional Media Leaders Endorse and explain the City of San Diego's indirect potable reuse planning to owners, publishers and editors of San Diego County's print, television, radio and online media. Until plan is completed, provide progress reports. Request support. Consider public affairs staff from Participating Agencies to prepare presentations. Assigned To: METRO JPA and METRO TAC	**New**

Regulatory Partnerships Present and explain the City of San Diego's indirect potable reuse planning to the Regional Water Quality Control Board and San Diego County Department of Environmental Health. Utilize data from, and invite officials to tour Orange County GWRP. Assigned To: METRO JPA and METRO TAC	**New**
Regional Governance (On Hold) Assess feasibility and appropriateness of implementing, governing and managing a distributed treatment plan and regional wastewater management plan in partnership with the City of San Diego. Assess the issues and opportunities associated with activating the Special Act District formed by the legislature in 1992.	**Continuing**

Strategic Goal 4 >>>
Develop Customer Relationships

Water and wastewater agencies often consider developing customer relationships optional, and unimportant to their mission of providing water quality, water reliability and sanitation. This malaise, however, leads to customer cynicism and opposition to rate setting and investment in infrastructure. The METRO JPA and METRO TAC should avoid this mistake.

Strategic Initiatives

Visual Information Create technical illustrations to show the safety of advanced water treatment, Visual information can be used in print, presentations, and on the web. Focus on key questions below. Assigned To: METRO TAC	**New**
Financial Transparency Regional wastewater agencies have difficulty explaining sewer collection and treatment costs to their customers. Developing a simplified, visual explanation of costs is necessary in order to explain cost savings. Focus on key questions below. Assigned To: Finance Committee	**New**

Website & Social Media Develop new website and Facebook page to effectively communicate advantages of City of San Diego's plans for offloading Pt. Loma and indirect potable reuse. Use Google Translation to allow viewer to convert pages into their preferred language. Use Twitter to push residents, supporters and media to website for news and new content. Focus on key questions below. Assigned To: METRO TAC	**New**
Orange County Tours Promote guided tours of the Groundwater Replenishment Project and the Santa Ana River Watershed in Orange County. Consider utilizing public affairs staff from Participating Agencies as guides. Assigned To: METRO TAC	**New**
"What Not To Flush" Public Outreach Combine information about fats, oils and grease, information about other products that should not be flushed, and information about water reuse to create a single public outreach campaign that raises awareness of water reuse. Consider utilizing public affairs staff from Participating Agencies. Assigned To: METRO TAC	**Continuing**

Key Questions

How do residents

Know when a large infrastructure project is a good value?

Know that a regional approach is better than local control?

CONCLUSION

Mark Cowin, Director of the California Department of Water Resources, states in the introduction to the 2009 California Water Plan that:

> "With new urgency, regions must develop and implement truly integrated regional water management plans as roadmaps to meeting future water demands in sustainable ways."[4]

The idea that ratepayers and taxpayers can write one check for water supply reliability, sanitation, environmental stewardship and recreational facilities has not yet trickled down to most wastewater departments and employees in California. While the idea is in development in Sacramento and talked about by regional water resources managers, it is not yet a management or operational initiative at most agencies.

Where the idea has been implemented -- like the Orange County Groundwater Replenishment System -- it has been a tremendous success. Now, San Diego County residents, business leaders and environmental leaders support implementation here. They don't want piecemeal approaches. They want sustainability. Where there is demand, there is opportunity.

---

[4] Director's Letter, *2009 Update to the California Water Plan*

Key Questions

How do residents
~~What customer segments will be included in METRO's regional plan?~~
~~What are they willing to pay for?~~
~~How do they k~~Know when a large infrastructure project is a good value?
~~How do they k~~Know that a regional approach is better than local control?
~~What needs to be in a regional wastewater management plan to earn their support?~~
~~Will their support for indirect potable reuse continue if 2012 precipitation levels are high?~~

CONCLUSION

"Mark Cowin, Director of the California Department of Water Resources, states in the introduction to the 2009 California Water Plan that:"

With new urgency, regions must develop and implement truly integrated regional water management plans as roadmaps to meeting future water demands in sustainable ways.[4]

The idea that ratepayers and taxpayers can write one check for water supply reliability, sanitation, environmental stewardship and recreational facilities has not yet trickled down to most of the wastewater departments and employees in California. While the idea is in development in Sacramento and talked about by regional water resources managers, it is not yet a management or operational initiative at most agencies.

Where the idea has been implemented -- like the Orange County Groundwater Replenishment System ~~and the Santa Ana River Watershed in Orange County~~ -- it has been a tremendous success. Now, San Diego County, residents and community, business and environmental leaders support implementation here. They don't want piecemeal approaches. They want sustainability. Where there is demand, there is opportunity.

[4] Director's Letter, *2009 Update to the California Water Plan*

AGENDA ITEM 11
Attachment

DRAFT

SAN DIEGO RECYCLED WATER STUDY – EXECUTIVE SUMMARY

Prepared for
City of San Diego, Public Utilities Department
March 2012

Project No. 137921

This is a draft and is not intended to be a final representation
of the work done or recommendations made by Brown and Caldwell.
It should not be relied upon; consult the final report.

Preface

This Recycled Water Study is the culmination of a two year process to develop a new vision for water reuse in the San Diego region. The Study's alternatives were developed through a participatory process involving work sessions and Stakeholder meetings. The combined contributions of the Stakeholders were invaluable in developing alternatives that considered diverse perspectives, concepts and approaches. This page recognizes the efforts of the Stakeholder participants that contributed substantially to this effort.

Bruce Bell, P.E.
Independent Technical Consultant

Jim Peugh
Independent Rates Oversight Committee (IROC)

Marco Gonzalez
Coastal Environmental Rights Foundation

Toby Roy
San Diego County Water Authority

Dawn Guendert
Surfrider Foundation, San Diego Chapter

Jill Witkowski
San Diego Coastkeeper

Scott Huth
Metropolitan Wastewater Joint Powers Authority

EXECUTIVE SUMMARY

Study Results and Conclusions

Overall, the Integrated Reuse Alternatives presented achieve the Study's goals, provide a bold vision for future water reuse in the Metro Service Area, and provide savings to ratepayers. The Study's Stakeholders provided valuable opinions and diverse viewpoints that added value to the process and the alternatives developed. While water reuse has been evolving in San Diego over the past few decades, the region's master plans have helped guide decision makers with a focus on making good investments, while still being flexible to adapt to future changes. This Study endeavors to continue this tradition and be looked upon as a milestone that helped provide long-term water sustainability to the San Diego region.

What are the Primary Study Results?

- **Alternatives.** Five Integrated Reuse Alternatives were developed based on an extensive, interactive Stakeholder process. Each Alternative includes 83 mgd of new indirect potable reuse and 3 mgd of new non-potable recycled (in addition to 4 mgd of already planned non-potable reuse).
- **Costs.** The Net Cost results for the Alternatives in this Study represent the costs that should be compared to other water sources – particularly imported untreated water. The average Net Costs are:
  - Net Cost assuming direct wastewater savings = $1,200/AF
  - Net Cost assuming above plus salt credit = $1,100/AF
  - Net Cost assuming above plus indirect wastewater savings = $700/AF

What are the Primary Study Conclusions?

- **Achieves Favorable Water Costs.** The reuse costs above are comparable to existing untreated water delivery costs of $904/AF, and are projected to be more economical than future water costs. Imported water costs have risen substantially in the past decade and this trend is projected to continue into the foreseeable future. Therefore, this new water supply will provide safe, affordable water for existing and future generations of San Diegans.
- **Provides Reliability and Local Control.** The new reuse supply reduces the region's reliance on imported water and increases local water supply reliability. Reliable water also promotes a strong San Diego economy and enhances our quality of life. Local reuse is considered an uninterruptable water source – an important trait since our imported water supply crosses great distances and major earthquake faults.
- **Enhances Sustainability.** The reuse solutions are more sustainable and environmentally friendly. They reduce importing water from Northern California and the Colorado River, lowering energy usage and our overall carbon footprint.
- **Improves Water Quality.** The reuse solutions produce additional water quality benefits such as significant regional salinity reductions. Ratepayers will see reduced salinity in the water. Their appliances, water heaters and fixtures will last longer.
- **Empowers Long-term Cost Control.** The solutions increase the City and Participating Agencies' ability to control long-term water and wastewater costs by reducing liability for pending issues such as the California Bay-Delta fix and costly wastewater treatment upgrades.
- **Support.** The solutions are supported by key rate oversight and environmental stakeholders.

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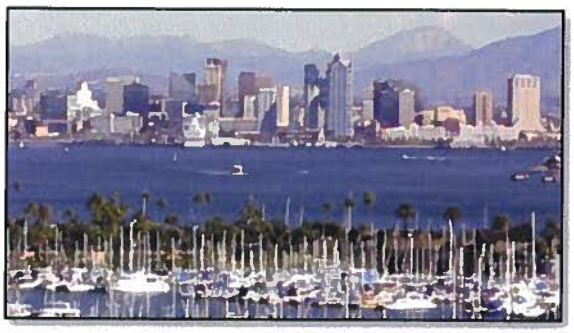
Background

In August 2009, the City of San Diego (City), along with key stakeholders, initiated the Recycled Water Study (Study) as part of a Cooperative Agreement (included in Appendix A). The culmination of the Study is this Recycled Water Study Draft Report (Draft Report), which is intended to serve as a guidance document in helping policy leaders make the important decisions ahead regarding water reuse and the region's water and wastewater infrastructure.

Why Is Water Reuse Important to San Diego?

Water is important to the health, safety, and quality of life of people living in the San Diego region. Historically, the region's 3.1 million residents have received a majority of their water supply from imported sources including the California Bay-Delta (Bay-Delta) and the Colorado River; conveyed via the California Aqueduct and the Colorado River Aqueduct respectively. Currently, 80 percent of the San Diego region's water supply is imported. Local supplies and conservation account for the remaining 20 percent of the total supply. The region's reliance on imported water causes San Diego's water supply to be vulnerable to impacts from shortages and susceptible to price increases. In 2008, water supplied from the Bay Delta was restricted to protect endangered fish species. In addition, drought conditions in Southern California further impacted water supply availability. With the region's population projected to reach 3.9 million people by 2030, demands will increase and strain these limited water supplies. Water reuse has been proven as a safe, reliable, locally controlled and sustainable option for the region.



Water Reuse in San Diego. *Water reuse is an important component in San Diego's water supply portfolio.*

What Other Drivers Affected this Study?

In 2010, the United States (U.S.) Environmental Protection Agency (EPA) allowed the City to continue to operate the Point Loma Wastewater Treatment Plant (Point Loma Plant) as a chemically enhanced primary treatment facility under a modification to its NPDES Permit. The 2010 permit allows the City to operate in this fashion for five years until 2015, when the permit must be renewed. Members of the environmental community (San Diego Coastkeeper and Surfrider Foundation, San Diego Chapter) have traditionally opposed past permit modification issuance and have advocated for converting the Point Loma Plant to full secondary treatment to reduce solids loading into the ocean. However, during the 2008-2010 permit modification process, and in lieu of such opposition, the environmental community entered into a Cooperative Agreement with the City to conduct this Recycled Water Study. In accordance with the Cooperative Agreement, both of these organizations provided their support to the U.S. EPA's decision to grant the modification. The City's responsibility per the Cooperative Agreement is to execute this Study, which is also consistent with the City's long-term goals and objectives.

Water reuse programs provide valuable water supplies by using resources that otherwise are sent to the ocean. The decisions to invest in a water reuse program, or alternative large-scale wastewater system upgrades, will affect the rates, reliability, and regional assets for decades. The fundamental focus of this study was to develop water reuse alternatives and then weigh the alternatives against other options – with particular focus on the water supply benefits and the cost savings through reduced wastewater systems operations and improvements.

What Are Key Terms Used in this Study?

The following key terms are defined due to their frequent use and their importance in understanding the concepts involved in this Study. A more comprehensive glossary is included in the Draft Report.

Water Reuse: Water reuse is a broad term used to describe the process of converting wastewater to a valuable water resource through treatment processes. Water reuse includes non-potable recycled water development and indirect potable reuse involving integration with drinking water supplies.

Non-potable Recycled Water: Synonymous with Non-potable Reclaimed Water, State of California Title 22 Water, and tertiary treated water. Non-potable recycled water is a form of water reuse that includes primary, secondary and tertiary treatment to produce water suitable for a variety of applications, most notably for landscaping irrigation and industrial uses. Further treatment is required for integration with drinking water systems – see indirect potable reuse.

Purified, Advanced Purified, or Advanced Treated Water: Purified, advanced purified, or advanced treated water undergoes advanced treatment processes to convert non-potable recycled water to a highly purified water quality, suitable for augmentation to an untreated drinking water source. Advanced purified water is currently used for indirect potable reuse projects.

Indirect Potable Reuse: Indirect potable reuse is the planned use of advanced purified water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system, or the planned placement of recycled water into a surface water reservoir used as a source of domestic drinking water supply.

Direct Potable Reuse: The planned introduction of advanced purified water either directly into a public water system, or into an untreated water supply, immediately upstream of a water treatment plant.

Wastewater: Wastewater is generally used to describe sewage that comes from homes, industry or businesses. Wastewater is collected and treated at wastewater treatment plants. In San Diego, some wastewater is currently reclaimed as non-potable recycled water; however, the majority is treated and discharged to the ocean. Wastewater is needed for water reuse. Wastewater does not include stormwater in San Diego. Stormwater is collected in separate systems and typically not treated before discharge to streams and the ocean.

Uninterruptible Water Supply: Indirect potable reuse water is considered uninterruptible because it is not influenced by drought, water rights, or other supply interruptions such as the decision to decrease Southern California water supply because of endangered species in the California Bay-Delta.

Untreated Water (sometimes referred to as Raw Water): Water that is collected and stored in local surface water reservoirs and groundwater basins prior to treatment at a potable (drinking) water treatment plant. Untreated water examples include Colorado River water, water from the California Bay-Delta, and runoff from local rainfall.

Potable or Drinking Water: Potable water is water that meets the EPA's Safe Water Drinking Act and California Water Code requirements. Residents and businesses receive potable water at their water meter connection, and its use is unrestricted.

What Is Included in the Study?

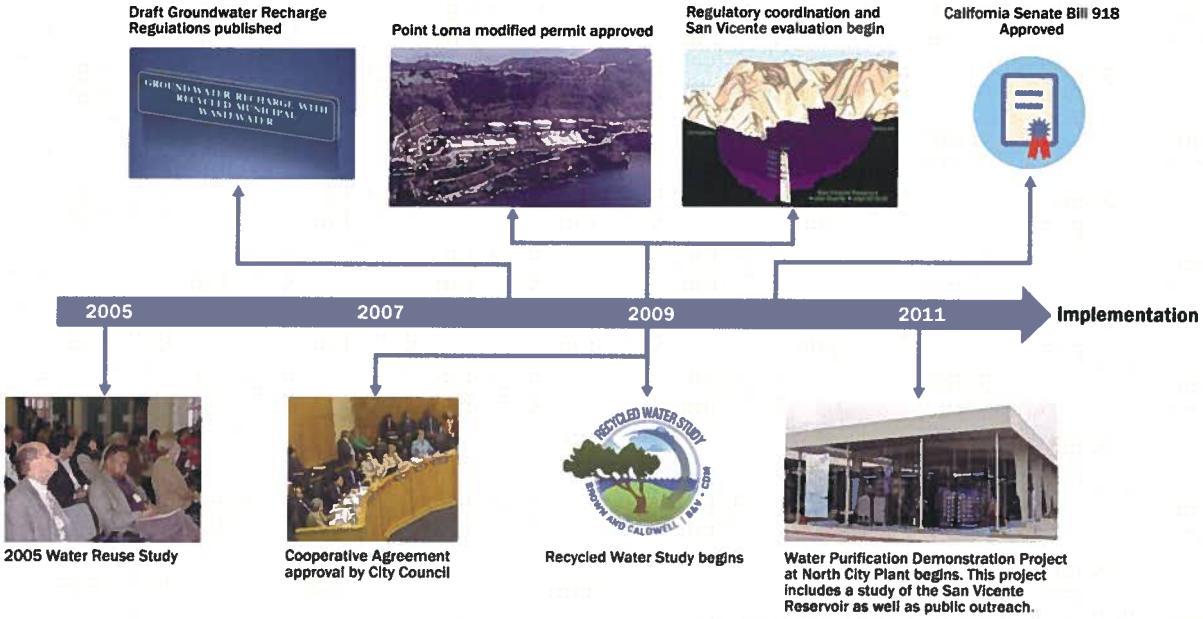
The following provides an overview of the Chapters and Appendices in the Study.

Report Chapters
Chapter 1 - Study Overview. Provides background and objectives of the San Diego Recycled Water Study, as well as describes the Study process and defines participating Stakeholders and Team Members, Study components, and important terminology used throughout the Report.
Chapter 2 – Water Reuse Need and Related Activities. Presents the dynamic water supply conditions in San Diego and the opportunity to implement water reuse as a local supply through related key studies and activities such as the 2005 Water Reuse Study and 2010 Recycled Water Master Plan Update.
Chapter 3 – Study Process and Evaluation Approach. Describes, in detail, the elements of the participatory Study process and defines the guidelines and criteria against which the potential recycled water opportunities were assessed.
Chapter 4 – Key Facilities, Water Demands and Wastewater Flows. Summarizes the principal elements of San Diego's current water, wastewater, and recycled water infrastructure systems that impact water reuse planning, and provides the related demands and flows from these systems.
Chapter 5 – Non-potable Recycled Water Opportunities. Describes the technical basis and foundation for developing the non-potable recycled water opportunities that were considered in the Study, such as existing and future demands, seasonal considerations, and locations and capacities of existing water recycling facilities.
Chapter 6 – Indirect Potable Reuse Opportunities. Describes the technical basis and foundation for developing the indirect potable reuse opportunities that were considered in the Study, including reservoir augmentation and groundwater recharge, and other potential benefits of indirect potable reuse.
Chapter 7 – Area Concepts. Provides detailed, comparable options, including both non-potable recycled water opportunities and indirect potable reuse opportunities, to develop comprehensive water reuse plans within three key Study areas.
Chapter 8 – Integrated Reuse Alternatives. Evaluates the water reuse concepts presented in Chapter 7 based on Study goals, as well as provides a comparable financial evaluation for key alternatives, including a description of the financial model and its components.

Supporting Information
Glossary. Defines important terminology and acronyms used throughout the Report.
Appendix A – Cooperative Agreement. Provides a copy of the signed agreement between the City of San Diego, the San Diego Coastkeeper, and the San Diego Chapter of the Surfrider Foundation to conduct a Recycled Water Study.
Appendix B – Point Loma Plant Conclusions. Provides conclusions and data on the Point Loma Plant based on the results of the Study, including an allocation of flows and discussion on chemically enhanced primary treatment.
Appendix C – Summary of Regulations That Affect Water, Wastewater and Recycled Water. Provides an overview of the key regulatory considerations for water, recycled water and wastewater, and includes anticipated regulatory criteria related to indirect potable reuse sizing.
Appendix D – California Senate Bill 918. Provides background on State of California Department of Public Health requirements for developing uniform criteria for groundwater recharge, reservoir augmentation and direct potable reuse.
Appendix E –Siting Analysis Documents. Provides siting information on the Harbor Drive, Camino del Rio and Morena sites, City ownership, and an alternatives analysis performed by the City.
Appendix F – Conceptual Cost Estimates for the Integrated Reuse Alternatives. Provides infrastructure sizing and costs for each Integrated Reuse Alternative component.
Appendix G – National Water Resource Institute (NWRI) White Paper on Direct Potable Reuse
Appendix H: Recycled Water Study Cost Methodology FAQ Document – An informative, frequently asked question (FAQ) style document on how the direct and indirect wastewater cost reductions/credits/savings were calculated
Appendix I – Participating Agency White Paper on Reuse Concepts
Appendix J – Comment/Response Form
Appendix K – Conceptual Metro System Flow Schematics. Graphics showing the reuse alternatives and accounting of flows throughout the system.

How Does This Study Fit into Other On-going Efforts?

The overarching objective of this Study is to develop and clearly present integrated reuse alternatives that the public and policy-makers can review and select from to guide the future of the reuse program located within the Metropolitan Sewerage System Service Area. The alternatives were evaluated to meet City, Participating Agency, and Project Stakeholder reuse goals through a 2035 planning horizon. This Study is one part of a comprehensive regional program to evaluate and develop water reuse in San Diego.



Who Participated in the Study?

The Stakeholders for this Project are comprised of the San Diego Coastkeeper, the San Diego Chapter of the Surfrider Foundation, and the Participating Agencies of the Metropolitan Wastewater Joint Power Authority (Metro JPA), who have capacity rights in the Metropolitan Sewerage System pursuant to the provisions of the 1998 *Regional Wastewater Disposal Agreement Between the City of San Diego and the Participating Agencies in the Metropolitan Sewerage System.* The San Diego County Water Authority (SDCWA), the agency that has primary responsibility for water supply planning efforts, and the Independent Rates Oversight Committee are also Stakeholders in the Study. The primary Project Team consisted of City staff from the Public Utilities Department and a consulting team from Brown and Caldwell, Black & Veatch, and CDM.

PROJECT STAKEHOLDERS

Environmental Groups
- San Diego Coastkeeper
- Surfrider Foundation, San Diego Chapter

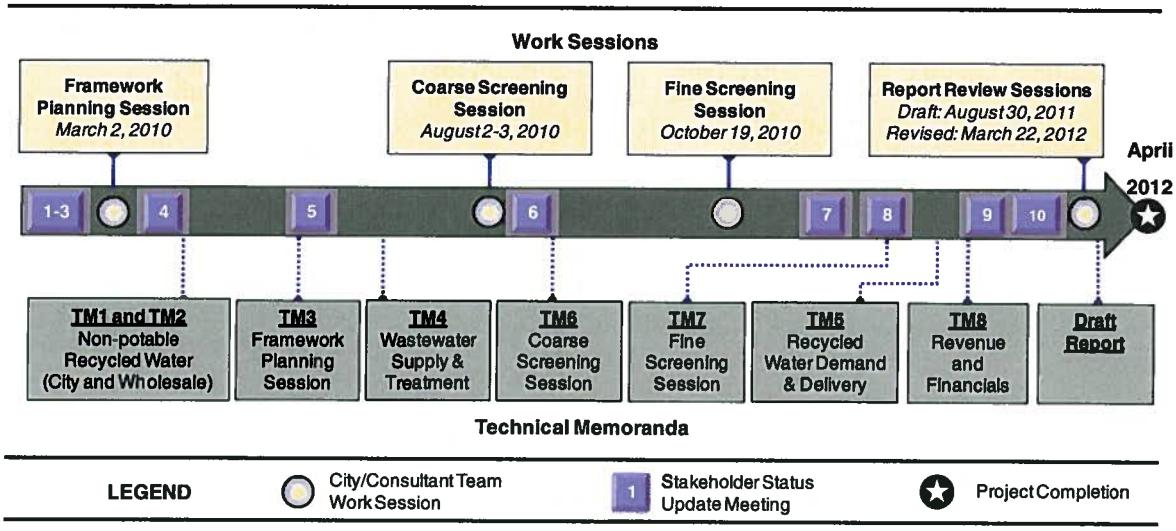
Oversight Groups
- Independent Rates Oversight Committee (IROC)

Regional Water Supplies
- San Diego County Water Authority (SDCWA)

Participating Agency Members
- City of Chula Vista
- City of Coronado
- City of Del Mar
- City of El Cajon
- City of Imperial Beach
- City of La Mesa
- City of National City
- City of Poway
- Lemon Grove Sanitation District
- Otay Water District
- Padre Dam Municipal Water District
- San Diego County Sanitation District
  - Alpine Sanitation District
  - Lakeside Sanitation District
  - Spring Valley Sanitation District
  - Winter Gardens Sewer Maintenance District)

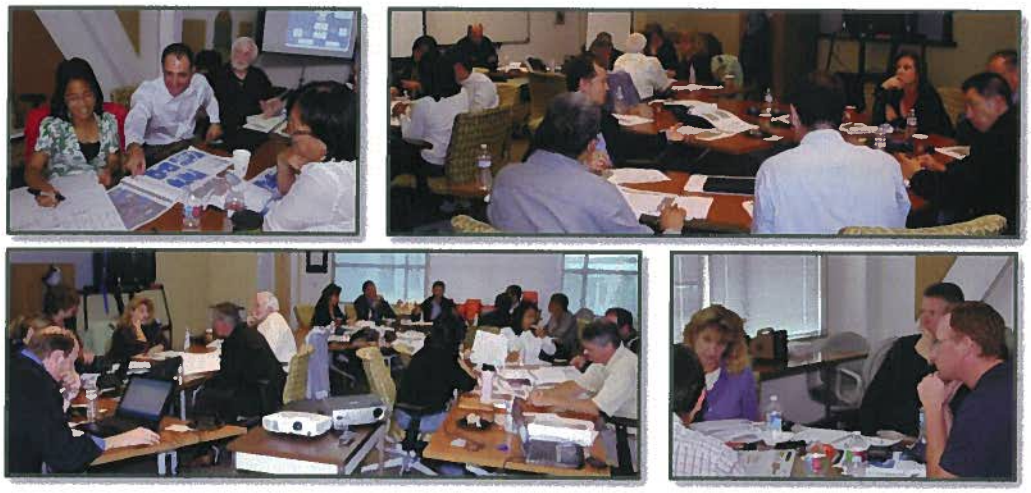
What Was the Study Process?

The Study includes a number of technical evaluations and coordination steps to identify and evaluate reuse alternatives within the City as well as areas served by the Participating Agencies. Throughout the Study, regular Stakeholder Status Update meetings were held to present progress and to receive input and feedback on the activities. Eight technical memoranda were developed to document information.



How Were Alternatives Developed?

Alternatives were developed through a participatory process. Stakeholder Status Update meetings and four work sessions were used to frame, develop, refine, and communicate the Alternatives included in this Study.



Work Sessions. *The Coarse Screening and Fine Screening Sessions included presentations, team exercises, and facilitated discussions. The sessions leveraged the group's creativity and diverse perspectives to improve the quality of the Alternatives presented in the Study.*

What Issues and Opportunities Helped Determine the Water Reuse Target?

Four Measures that Established the Water Reuse Target:

- **Measure 1: Value of Water.** Reliable water supplies are needed for San Diego.
- **Measure 2: Water Quality.** Reuse can improve the ocean water quality. Indirect potable reuse can significantly reduce salinity levels benefiting ratepayers.
- **Measure 3: Project Size vs. Costs.** Water reuse targets should be based on project sizing that considers costs and regulatory limits.
- **Measure 4: Reuse Program Induced Savings.** The water reuse target sizing should consider reduced capital and operating costs in the drinking water and wastewater systems.

The water reuse target, similar to past efforts, was based on Study goals, Stakeholders' input, and findings from preliminary technical analyses. The goal of the 2005 Water Reuse Study was to maximize the available capacities at the North City and South Bay Plants, which coincided with a target of approximately 20 mgd for future water reuse projects. This 2012 Study was initiated with a broader basis: to consider the water reuse goal to be limited *only* by the amount of wastewater available in the Metro Service Area. This is a more comprehensive goal, providing the potential to reuse ten times more flow than previous targets, with approximately 200 mgd projected to be available in the Metro Service Area on an average dry weather year in 2035. During the Study, the following four measures evolved as primary drivers for establishing the water reuse target:

Measure 1: Value of Water. Multiple forces are driving water reuse in Southern California. Water reuse projects produce high-quality, reliable, uninterruptible local water to the region, serving the same purpose as imported untreated water. Imported untreated water rates will continue to rise, and conveyance system improvements will be needed to deliver imported water to the region's water treatment plants - unless the supply is supplemented with new local supplies. Indirect potable reuse can fulfill this need and, over time, do so at lower costs—especially when reduced capital and operating costs at the Point Loma Plant are considered. Savings would likely increase further if the regulatory framework for Direct Potable Reuse is finalized, allowing direct delivery to the region's potable water treatment plants. Based on these considerations, the reuse target for this study, especially the indirect potable reuse portion, should be maximized.

Measure 2: Water Quality Benefits. Two water quality considerations were taken into account in establishing a water reuse target: ocean water quality and imported water salinity. Both are important, and both would be significantly improved through implementation of the water reuse projects identified in this Study. For example, blending advanced purified water with imported water in San Vicente Reservoir and Otay Lakes could reduce salinity levels by 50 percent. On land, the reservoirs that receive the advanced purified water, the residents that use the water, and the soil that is irrigated with the water would benefit from having water with up to half the current salinity levels. Residents would benefit from softer water and extended lives of household appliances such as water heaters, dishwashers, clothes washers and faucets. Ocean water quality would also improve by removing and diverting solids to the Metropolitan Biosolids Center. Based on these considerations, the water reuse target for this Study should be maximized.

Measure 3: Beneficial Project Size versus Costs. Project sizing was considered a limiting factor in developing the water reuse target. Non-potable recycled water projects, while beneficial for targeted areas (such as Otay Water District's planned system expansion), did not have enough demand potential to use a substantial portion of the available wastewater. It also became apparent that developing indirect potable reuse projects to use all wastewater available in the Metro System would not be practical or provide the right balance of costs and benefits. Therefore, the water reuse target based on project constraints and permit considerations was approximately 80 to 120 mgd (upper end based on estimated flow limits to the San Vicente Reservoir and the South Bay Spring Valley No. 8 Diversion total).

Measure 4: Reuse Program Induced Savings, Offsets. San Diego has the potential to create a valuable new water supply cost effectively due to the reuse program's benefit of reducing capital and operating costs in the downstream wastewater system and water quality improvements benefitting the water systems. The largest cost savings generated by the reuse program is reduced capital and operational costs at the Point Loma Plant. Leading up to the Fine Screening Sessions, a reuse/Point Loma offload target of approximately 100 mgd was established to achieve cost savings by avoiding upgrades at the Point Loma Plant. At 100 mgd, and based on dry weather flows, certain treatment processes were avoided. This target was later re-evaluated against a scenario in the City's September 2011 Draft Wastewater Master Plan (which was based on 2050 annual average daily flows including a 10-year return flow event). To meet the larger wet weather flows, the Point Loma and South Bay strategies were adjusted. Point Loma Plant savings decreased with the new scenario. However, South Bay savings increased since the Wastewater Master Plan increased diversions to South Bay (reducing the cost to upgrade these facilities for reuse). Therefore, the Reuse Program costs remained consistent with previous drafts. No changes were made to the reuse targets or the Alternatives.

Point Loma Plant. *The land available at Point Loma Site is constrained, and any upgrades incur high costs.*

Cost Methodology

A detailed financial evaluation was performed for each Integrated Reuse Alternative considered in this Study. The financial evaluation was prepared to ultimately help decision-makers compare the costs of different water reuse approaches and to aid in making decisions about whether to invest in the water reuse system. The guiding principles for the evaluation included:

- **Transparency.** Provide transparent costing of alternatives.
- **Input and Access.** Provide multiple opportunities at workshops and Stakeholder meetings to review, discuss, and debate project costs.
- **Comparative and Comprehensive Alternatives Costs.** Prepare a comparative financial evaluation of the Integrated Reuse Alternatives and include financing costs.
- **Cost Context.** Compare the water reuse alternative costs to other options facing the City and Participating Agencies.

How were costs calculated, and was cost sharing discussed?

The financial evaluation process included the following steps:

- **Unit Costs.** Unit costs were developed from over 50 sources of information, including 23 bid summaries, two agency estimating tools, 14 project cost estimates, actual operating costs, and insight and experience from three national consulting firms.
- **Alternative Costs.** Capital costs and operational and maintenance (O&M) costs were compiled in an interactive model. Costs were thoroughly developed and reviewed in four interactive workshops and a series of status update meetings with the Project Stakeholders.
- **Financial Model Costs.** Capital and O&M costs for each alternative were entered into a net present value (NPV) financial model that included financing costs and other variables. The financial model assumptions were closely coordinated with the City's financial staff to match typical City financing assumptions. The model was also vetted with the project stakeholder group (including the Participating Agencies' independent financial model expert).
- **Cost Framework.** A cost framework for sharing project costs between the City and Participating Agencies was outlined in the Study. Multiple options were outlined based on an interactive workshop with project stakeholders.

How are Costs Presented in the Study?

Costs are presented in dollars per acre feet ($/AF). The costs are broken down into Gross Costs and Net Costs as defined below. Net Costs are broken out further into three tiers or thresholds to provide a breakout for different conditions and to display values at each calculation step. The following summarizes the cost methodology. The resulting Alternative Costs are presented later in this Executive Summary.

What are Gross Costs?

Gross costs include the capital and O&M costs for completing and operating the recycled water projects. The Gross Cost financial evaluation included a sensitivity analysis using the following three variables: project contingencies (ranging from 20 to 40 percent), Grants (ranging from 10 to 30 percent), and Metropolitan Water District/San Diego County Water Authority Local Resource Program (LRP) credits (ranging from $100/AF to $450/AF). The Favorable Scenario assumed the best case (20 percent contingency, 30 percent grants, $450/AF LRP). The Unfavorable Scenario assumed the worst case (40 percent contingency, 10 percent grants, $100/AF LRP). This sensitivity analysis was performed since stakeholder opinions varied on what the proper assumption should be. For the report, the Stakeholder group agreed to use an average of these values.

Gross Cost Variables				
Item	**Description**	**Favorable Scenario**	**Unfavorable Scenario**	**Average**
Grants	To help offset the costs associated with projects, the City can apply for grants to help finance a portion of the capital projects.	30%	10%	20%
Local Resource Programs	To help offset the costs associated with new water projects, the City has participated in the Local Resource Program offered by MWD and the Local Water Supply Development funding provided by the SDCWA (these two programs are collectively referred to herein as the LRP).	$450/acre-foot, 20 years	$100/acre-foot, 20 years	$275/acre-foot, 20 years
Project Contingency	A project contingency was added to the construction costs of all alternatives to account for unanticipated project costs.	20%	40%	30%

What are Net Costs?

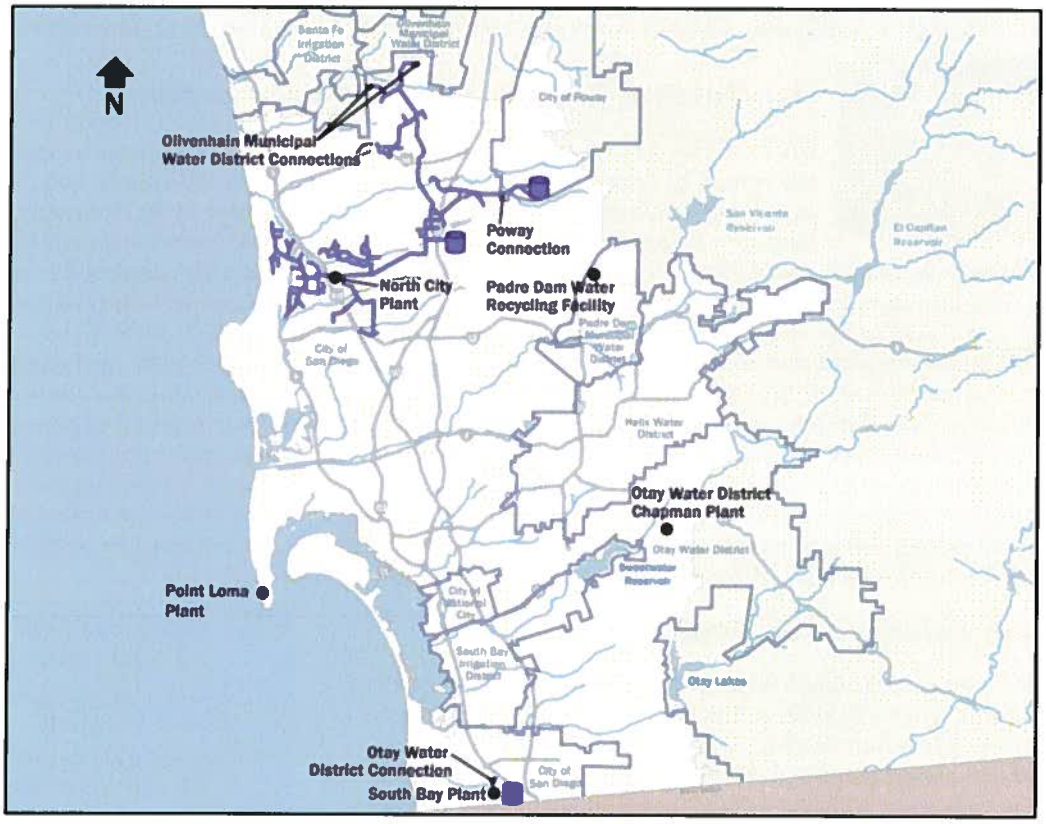
Net Costs are considered "real" or "true" costs for the purposes of comparing reuse projects to imported untreated water and other alternative water sources. Net Costs account for savings, offsets and credits that occur as a result of the reuse projects. For example, constructing a new reuse plant upstream of the Point Loma Plant reduces flows to the Point Loma Plant, resulting in lower capital and operational costs at the Point Loma Plant. These reduced costs are subtracted from the Gross Costs to get the Net Costs or "true" program cost. This is similar to the Orange County Groundwater Replenishment System, which was responsible for substantial savings by avoiding costly outfall improvements. The variables considered with the Net Cost calculations are described in the table on the next page. The Draft Report also includes a Cost Methodology Summary in Appendix H. The Cost Methodology Summary is presented in an informative, frequently asked question (FAQ) format. This document summarizes direct and indirect wastewater savings calculations and includes a graphical comparison of the key wastewater facilities included in this Study with the facilities included in the City's September 2011 Draft Wastewater Master Plan.

Net Cost Variables		
Component	**Description**	**Savings**
Direct Wastewater System Savings (through reduction of flows to downstream facilities)	The Study's Alternatives achieve the goal of offloading flows to the Point Loma Plant, resulting in reduced capital and operating costs at downstream wastewater facilities. The direct wastewater system savings were calculated by comparing: 1) the size of the Point Loma Plant in the City's September 2011 Draft Wastewater Master Plan (adjusted to a secondary treatment option); to 2) the smaller Point Loma Plant size assuming the reuse projects in this Recycled Water Study are implemented. The cost difference is the savings directly attributable to these reuse projects. Key savings include: • Smaller Point Loma Plant facilities (less flow is treated at the Point Loma Plant) • Smaller wet weather equalization basin (less flow reaches the Point Loma Plant) • Less pumping at Pump Station No. 2 (less flow is diverted to the Point Loma Plant) • Less pumping at Pump Station No. 1 (more reuse occurs at the South Bay Plant since more flow is diverted away from Pump Station No. 1)	$557 million (capital savings) $27.6 million/year (operation and maintenance savings)
Indirect Wastewater System Savings (reduced Point Loma costs associated with Maintaining CEPT Operation due to reuse projects)	The Point Loma Plant will either continue to use Chemically Enhanced Primary Treatment (CEPT) or will require upgrades to secondary treatment. This Study does not provide an opinion on whether CEPT or secondary treatment processes should be employed at the Point Loma Plant. However, it is prudent to summarize the reduced Point Loma Plant-related capital and operational costs if CEPT status could be maintained for the remaining Point Loma Plant capacity after reuse projects and with the South Bay Diversion. The indirect wastewater savings are therefore calculated as the avoided secondary treatment costs at the Point Loma Plant.	$463 million (capital savings) $13.0 million/year (operation and maintenance savings).
Salt Reduction Credit (from water quality improvements due to indirect potable reuse)	Similar to the 2005 Water Reuse Study, a salt credit was considered to account for the benefits of salinity reduction in the watershed. The salt credit basis is from the 1999 Salinity Management Study (MWD, USBR). The quantitative credit shown is the financial benefits of extending the life of the municipal treatment systems from having lower salinity levels in the water and wastewater flows. The San Vicente and Otay Lakes Reservoirs could see dramatic reductions in salinity levels from the proposed indirect potable reuse projects. Downstream agency facilities including drinking water treatment plants and the Harbor Drive advanced water purification facilities would benefit from this reduced salinity. In addition to the benefit shown, there is a benefit to water customers, since water heaters, clothes washers, dishwashers, and fixtures will also last longer with lower salinity levels. The combined savings included in the City's 2005 Water Reuse Study was $250/AF. The $100/AF value used in this Study only account for the estimated municipal treatment equipment savings.	$100/acre foot (not including customer savings)
Qualitative Water System Savings	The local, regional and statewide water systems were considered for potential savings from increasing water reuse. Since quantitative costs could not be developed with current available information, qualitative benefits were considered, particularly at the regional and statewide level. The region's local water treatment plants treat water from local runoff (which is limited) and imported untreated water from the SDCWA and MWD (which is subject to cutbacks and higher price fluctuations). Indirect potable reuse projects provide a reliable, uninterruptable untreated water equivalent that would help supply the local water treatment plants that ratepayers have invested in over the past decade. Indirect potable reuse projects may defer or eliminate the need to expand the imported untreated water conveyance system needed to serve these treatment plants. The SDCWA Master Plan (currently underway) may help quantify what these benefits are in future updates to this Study. In addition, Stakeholders emphasized an additional benefit related to the need to fix water supply conditions in the California Bay-Delta (which has the potential for substantial cost impacts for Southern California). Water reuse projects reduce the burden on importing water from the Bay-Delta, providing an additional quantitative benefit for these projects.	Quantitative benefits are speculative, therefore this category is currently considered qualitatively

What is the Existing Recycled Water System?

The City operates two water reclamation plants as part of the Metro System: the North City Plant and the South Bay Plant. Two additional reclamation plants (each separately owned and operated by a Participating Agency and separate from the Metro System) also offload flows before reaching the Metro System. The City also operates a non-potable recycled water system comprised of two service areas—the Northern Service Area and the Southern Service Area—supplied with recycled water from the North City and South Bay Plants, respectively. Three wholesale purchasers of recycled water for the City are located within the service area: City of Poway and Olivenhain Municipal Water District (Northern Service Area) and Otay Water District (Southern Service Area).

Key Components of Recycled Water System			
Reservoir	**Year Commissioned**	**Design Capacity**	**Description**
North City Water Reclamation Plant 	1997	30 mgd	Part of City of San Diego's Metro System. Treats wastewater generated in the Northern San Diego Region, including Cities of Del Mar and Poway, and the communities of Mira Mesa, Rancho Penasquitos, Scripps Ranch, and Rancho Bernardino. Tertiary-treated water is distributed to surrounding communities for irrigation and industrial uses. Excess wastewater ultimately flows to the Point Loma Plant.
South Bay Water Reclamation Plant 	2002	15 mgd	Part of City of San Diego's Metro System. Located in the Tijuana River Valley near the international border. Tertiary-treated wastewater is distributed to surrounding areas for non-potable recycled water use.
Padre Dam Water Recycling Facility 	1967	2.0 mgd	Owned and operated by Padre Dam Municipal Water District and treats wastewater from the City of Santee, portions of the City of El Cajon, and the unincorporated community of Lakeside. Treated wastewater that is not recycled for irrigation and industrial use is discharged to the Santee Lakes and ultimately reaches the San Diego River. Padre Dam, in conjunction with Helix Water District, is evaluating the ability to expand the plant as part of indirect potable reuse project in the El Monte Valley.
Ralph W. Chapman Water Recycling Facility 	1988	1.1 mgd	Owned and operated by Otay Water District. Recycled water is used as irrigation in Eastlake, Otay Ranch, Rancho Del Rey, and other areas of Chula Vista.



Existing Recycled Water Facilities

What Projects Will Affect Future Reuse in San Diego?

The City's 2005 Water Reuse Study recommended an indirect potable reuse project at the North City Plant that would deliver water to the San Vicente Reservoir. To begin implementing this project, the City completed construction of the Water Purification Demonstration Project in 2011 at the North City Plant. This project, and the corresponding hydraulic modeling study, at the San Vicente Reservoir will demonstrate the health, safety, and water quality benefits of indirect potable reuse. A separate project, the San Vicente Dam Raise, is currently underway and will increase the potential for integrated indirect potable reuse projects at this important regional facility.

Water Purification Demonstration Project. *The City's Water Purification Demonstration Project will demonstrate how one million gallons per day can be purified using technology that is able to produce one of the most pristine sources of water available anywhere.*

San Vicente Dam Raise. *The San Vicente Reservoir expansion (architectural rendering shown above) and its integration with regional facilities make this reservoir an ideal candidate for indirect potable reuse.*

What Opportunities Were Considered for the Reuse Solutions?

Non-Potable Recycled Water Opportunities

Since the City has a non-potable system in place, focus was placed on expanding this system by locating new demands. The demands would then be met by expanding the distribution system from an existing plant or by constructing a new treatment facility closer to the demand. Both Citywide (increasing use within the City's service area) and wholesale (increasing supply to agencies adjacent to or already connected to the existing system) were considered through a market assessment. The market assessment showed where potential conversion customers were concentrated (for example, the Rancho Bernardo area). Based on the markets, distribution systems were developed to determine costs. An analysis of the results, including a direct comparison of an alternative both with and without service to the Rancho Bernardo area, showed that the construction costs to dual pipe an existing community and the administrative costs required to permit, coordinate, bill and provide backflow testing were higher than the indirect potable reuse approaches for new areas. Therefore, the non-potable recycled water opportunities carried forward were focused on maximizing the existing system where most economical. The non-potable recycled water demands carried forward can be summarized as the existing demands, planned demands, and future demands (which includes 3 mgd for expanded service from the South Bay Plant occurring between 2026 and 2040).

Indirect Potable Reuse Opportunities

Achieving a water reuse target with the potential to use all the Metro Service Area resources reinforced the need to look for larger projects with improved economy of scale. Indirect potable reuse projects provided the needed scope and scale for this purpose. Two types of indirect potable reuse were considered: reservoir augmentation and groundwater recharge. Eleven regional reservoirs were initially considered. Three were advanced for more detailed evaluation: San Vicente Reservoir (with the current dam raise project), Otay Lakes, and Lake Hodges. Eight regional groundwater basins were reviewed, and two were carried forward for more detailed evaluation: El Monte Valley Basin and San Pasqual Basin. Advancing reservoirs/basins was based on the location, costs, potential project sizes, and ability to integrate into the water system.

Benefits of Indirect Potable Reuse

- Maximizes use of existing reclamation capacity
- Reduced capital and operating costs in downstream wastewater systems, particularly the Point Loma Plant
- Less seasonally limited than non-potable recycled water with fixed irrigation demands
- Superior ability to improve water quality by significantly reducing Total Dissolved Solids/Salinity

Successful Southern California Indirect Potable Reuse Projects

Orange County Water District's Groundwater Replenishment System. The Groundwater Replenishment System is the world's largest wastewater purification system for indirect potable reuse and it is located just north of San Diego in Orange County, California. The Orange County Groundwater Replenishment System can produce up to 70 mgd of highly purified recycled water that serves the water demands of nearly 600,000 residents.

Montebello Forebay. Located in Los Angeles County, the Montebello Forebay has been recharged dating back to 1960s. The area is currently recharged with 150,000 acre-feet of local, imported, and recycled water annually. Of the 5.6 million acre feet recharged into the basin since the 1960s, 26 percent was from recycled water sources.

West Coast, Dominguez Gap, and Alamitos Barriers. Los Angeles and Orange Counties also use seawater intrusion barriers to protect and supplement groundwater supplies. Recycled water is injected into wells along these basins to prevent high salinity seawater from reaching the groundwater basin supplies. The injected recycled water also supplements the groundwater that is extracted by wells and serves the drinking water system.

How Were Opportunities Compiled into Area Concepts?

Area Concepts were developed to provide detailed, comparable options for discussion at the Coarse Screening Session and Stakeholder Status Update meetings, and were then refined and compiled into Integrated Reuse Alternatives. The Area Concepts were strategically selected, based on the locations of available wastewater, existing facilities, and delivery points (non-potable recycled water customers, surface water reservoirs, or groundwater basins).

Area Concepts. *Area Concepts were developed for three regions of the Metro Service Area. The Area Concepts were presented at the Coarse Screening Session.*

Opportunities were sized and then pieced together by laying out treatment and conveyance facilities. Cost information was also developed, with pumping costs being a particularly important component because of the variability of pumping costs for indirect potable reuse, non-potable water, and wastewater. The availability of this information allowed Stakeholders to compare the benefits of different approaches within each area. For example, Alternatives that required extensive wastewater pumping (which requires pumping approximately 30-percent more flow than advanced treated water), were identified as having added costs and risks compared to other Alternatives. This point led to development of the Harbor Drive Plant concept later in the Study.

Area Concept Summary

Area	Base Concept Presented at the Coarse Screening Session	Additional Considerations after Stakeholder Review
San Vicente/ North City	• Complete planned non-potable recycled water projects • Maximize indirect reuse of water produced at North City Plant with diversions from – Morena – Mission Valley • Treat and produce water at Mission Gorge • Account for El Monte Valley indirect potable reuse project	• Reduce pumping of wastewater by eliminating diversion of wastewater at Mission Valley • Treat and produce water at Harbor Drive site • Consider both split plant and consolidated plant at Harbor Drive and Mission Valley to minimize site needs • Consider additional costs and complexities related to expanded North City Plant beyond master-planned capacity of 45 mgd
South Bay	• Complete planned non-potable recycled water projects • Wastewater diversions from different locations along the South Metro Interceptor (depending on the option) • Consider serving additional non-potable recycled water demands • Indirect potable reuse of water produced at South Bay Plant	• Consider increased diversion totals by locating the diversion further North at the Spring Valley No. 8 connection
Rancho Bernardo/ San Pasqual	• Rancho Bernardo/I-15 Corridor, non-potable recycled water • San Pasqual indirect potable reuse (two variations)	• Determined that these options do not offload the Point Loma Plant and provide limited benefits to other opportunities • Consider private entities funding a majority of the improvements needed

How Were Area Concepts Refined into Integrated Reuse Alternatives?

Area Concepts were refined into Integrated Reuse Alternatives in the Fine Screening Session. Fine Screening Session participants considered a series of projects to meet the 100 mgd minimum water reuse target. The non-potable recycled water demands and the indirect potable reuse project delivery locations that advanced to the Fine Screening Session are summarized in the two adjacent tables and located as shown on the figure below.

Integrated Alternative Concepts

Legend

Treatment Plant (varies by Alternative)

Non-potable Recycled Water Projects

- NC — North City
- SB — South Bay

Indirect Potable Reuse Projects

- SV — San Vicente Reservoir
- OL — Otay Lakes
- EM — El Monte Groundwater Recharge Project (by others)

Non-potable Recycled Water. Expansion of the non-potable recycled water systems is planned primarily through 2015, with additional growth in South Bay through 2040 based on Otay Water District's projections, as shown below.

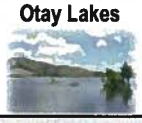
Non-Potable Recycled Water Projected Demands

Map Code	Agency	Existing 2009/2010		Planned 2010-2015		Planned (OWD) 2015-2026		Future (OWD) 2026-2040		Total	
		AFY	mgd	AFY	mgd	AFY	mgd	AFY	mgd	AFY	mgd
North City Plant											
NC	City of San Diego	6,394	5.7	1,959	1.7	0	0.0	0	0.0	8,353	7.4
	City of Poway	428	0.4	323	0.3	0	0.0	0	0.0	751	0.7
	Olivenhain MWD	642	0.6	458	0.4	0	0.0	0	0.0	1,100	1.0
	Total North City	**7,464**	**6.7**	**2,740**	**2.4**	**0**	**0.0**	**0**	**0.0**	**10,204**	**9.1**
South Bay Plant											
SB	City of San Diego	1,539	1.4	-639	-0.6	0	0.0	0	0.0	900	0.8
	Otay Water District	3,209	2.9	1,395	1.2	1243	1.1	3,363	3.0	9,210	8.3
	Total South Bay	**4,748**	**4.2**	**756**	**0.7**	**1,243**	**1.1**	**3,363**	**3.0**	**10,110**	**9.0**
North City and South Bay Plants											
	Total Combined	**12,212**	**10.9**	**3,496**	**3.1**	**1,243**	**1.1**	**3,363**	**3.0**	**20,314**	**18.1**

Notes: See Draft Report Table 5-3 for notes. Demands shown are average annual demands. Reductions in demands for South Bay between 2010 and 2015 are associated with changes at the International Boundary and Water Commission Plant, which will no longer require non-potable recycled water for process uses.

Indirect Potable Reuse. Three surface water augmentation projects and a groundwater recharge project were advanced into the Fine Screening Session. In addition, the El Monte Valley Groundwater Augmentation Project (being planned by others) was assumed to occur and its impacts were taken into consideration.

Indirect Potable Reuse Projects Advanced

Map Code	Reservoir or Basin	Storage Capacity (acre-feet)	Reuse Potential AFY	Reuse Potential mgd	Key Considerations
Surface Water Reservoir Candidates Advanced to the Fine Screening Session					
SV	**San Vicente (w/ Dam Raise)** 	249,358	Up to 100,000	Up to 89	Recommended approach from 2005 Water Reuse Study. The dam raise, scheduled for completion between 2013 and 2014, will increase retention times and indirect potable reuse capacity potential, and provides the ability to distribute water throughout the region and to the largest water treatment plants.
OL	**Otay Lakes** 	49,849	Up to 25,000	Up to 22	Previous recommendation from 2005 Water Reuse Study, proximity to South Bay Plant. Located adjacent to the 33 mgd (2035 capacity) Otay Water Treatment Plant.
Groundwater Augmentation Project by Others Considered					
EM	**El Monte Groundwater** 	10,000 to 50,000	5,000	4.5 to 5.0	The El Monte basin is being evaluated by the Helix Water District and the Padre Dam Municipal Water District for an indirect potable reuse groundwater augmentation project. This project was considered as part of the study since wastewater flows for this project affect downstream wastewater availability in the Metro System. The detailed evaluations recently performed for the El Monte Groundwater Recharge project provided a baseline for extrapolating regulatory requirements and suitability for the other groundwater basins considered.

Notes: See Draft Report Tables 6-1 and 6-3 for notes. Demands shown are average annual demands.

What was the Rationale for Numbering the Integrated Reuse Alternatives?

The following summarizes the numbering system used. Each Alternative includes common South Bay components

Alternatives:

- **"A" Alternatives.** The "A" Alternatives expand the North City Plant to 45 mgd (the site's master-planned capacity) using the Morena Diversion. The added capacity at North City allows the Harbor Drive Plant to be smaller than the "B" Alternatives.
- **"B" Alternatives.** The "B" Alternatives maximize the existing North City Plant capacity at 30 mgd (which occurs once the initial 15 mgd indirect potable reuse project is complete). The smaller total at the North City Plant requires the Harbor Drive Plant to be larger than the "A" Alternatives.

Sub-Alternatives:

- **"1" Sub-Alternatives.** Alternatives "A1" and "B1" differ from the "2" and "3" alternatives by splitting the Harbor Drive water reclamation treatment processes and the advanced purification facility treatment into different sites (the advanced purification processes are located at the Camino Del Rio site described in Chapter 7). This adds a fourth plant site to these alternatives.
- **"2" Sub-Alternative.** Alternatives "A2" and "B2" also relate to the Harbor Drive Plant. The "2" Alternatives place all the Harbor Drive water reclamation and advanced purification treatment processes at a combined plant along Harbor Drive (similar to how the proposed North City and South Bay Plants will be configured). The Harbor Drive Plant in these alternatives is larger, but the operation is efficiently consolidated to a single site.
- **"3" Sub-Alternative.** Alternative "B3" is the same as Alternative "B2", except that it includes a small plant in Mission Gorge to collect, treat, and convey water to the San Vicente Reservoir. This adds a fourth plant, but it is the closest location to the San Vicente Reservoir.

Major Alternatives

"A" Alternatives =
North City at 45 mgd + South Bay with SV8 diversion

"B" Alternatives =
North City at 30 mgd + South Bay with SV8 diversion

Sub-alternatives Based on Siting Elements

"1" Alternatives
split plant between Harbor Drive & Camino del Rio

"2" Alternatives
combined Harbor Drive Plant

"3" Alternative
combined Harbor Drive plant and an additional plant at Mission Gorge

What Elements are Included in the Integrated Reuse Alternatives?

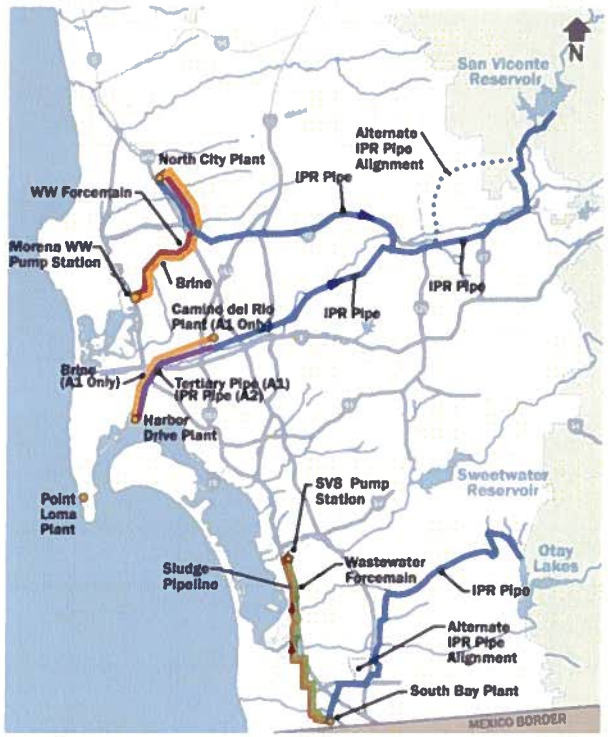
Integrated Reuse Alternatives were formed based on the project goals established by the project Stake-holders, the criteria developed at the Framework Planning Session, the screening work performed at the Coarse Screening Session, and the revision and refinement steps performed at the Fine Screening Session and subsequent Stakeholder Status Update meetings. The following table summarizes the elements included in each Integrated Reuse Alternative.

Integrated Reuse Alternative Summary - Elements Included					
Elements in the Area Concept	**A1**	**A2**	**B1**	**B2**	**B3**
Elements from the North City/San Vicente Area Concept Themes					
Existing non-potable recycled water demands (6.7 mgd)	✓	✓	✓	✓	✓
Planned non-potable recycled water demands (2.4 mgd)	✓	✓	✓	✓	✓
North City Plant w/indirect potable reuse to San Vicente (15.0 mgd)	✓	✓	✓	✓	✓
Morena Diversion w/North City Plant expansion & indirect potable reuse to San Vicente (11.9 mgd)	✓	✓			
Harbor Drive Plant w/indirect potable reuse to San Vicente (capacity varies depending on the Alternative: 40.9 mgd for A1/A2; 52.8 mgd for B1/B2; and 46.0 mgd for B3)	✓	✓	✓	✓	✓
Harbor Drive consolidated WRP/AWPF plant		✓		✓	✓
Harbor Drive WRP/Camino Del Rio AWPF split plant	✓		✓		
Mission Gorge Plant w/ indirect potable reuse to San Vicente (6.8 mgd)					✓
Elements from South Bay Area Concept C2					
Existing non-potable recycled water demands (4.2 mgd)	✓	✓	✓	✓	✓
Planned non-potable recycled water demands (1.8 mgd)	✓	✓	✓	✓	✓
Additional future non-potable recycled water demands (3.0 mgd)	✓	✓	✓	✓	✓
Spring Valley No. 8 Diversion to South Bay (31.1 mgd)	✓	✓	✓	✓	✓
South Bay indirect potable reuse to Otay Lakes (15.0 mgd)	✓	✓	✓	✓	✓
Elements from Other Agencies					
El Monte Groundwater Recharge Project (Helix and Padre Dam Municipal Water Districts)	✓	✓	✓	✓	✓

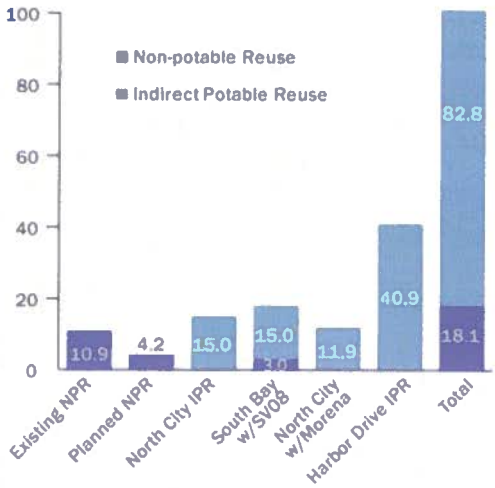
Note: Flows for non-potable recycled water and indirect potable reuse projects are average annual totals based on the output of the plant. Flows for the Spring Valley diversion are based on 2035 Dry Weather Flows. WRP = Water Reclamation Plant; AWPF = Advanced Water Purification Facility

Summary of Integrated Reuse Alternative A1 and A2

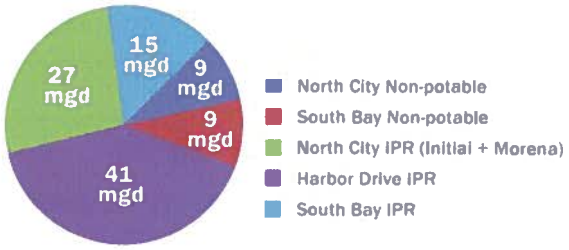
Facility Map



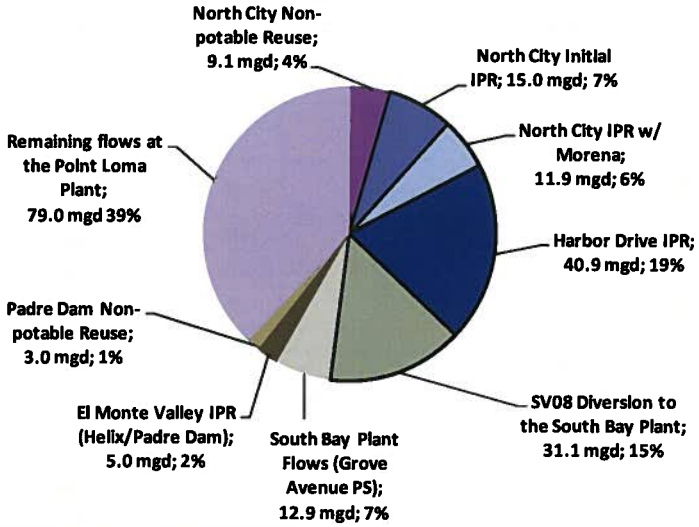
Reuse By Phase



Reuse Per Plant



A1/A2 Allocation of Metro System Flows (2035 Dry Weather Conditions)



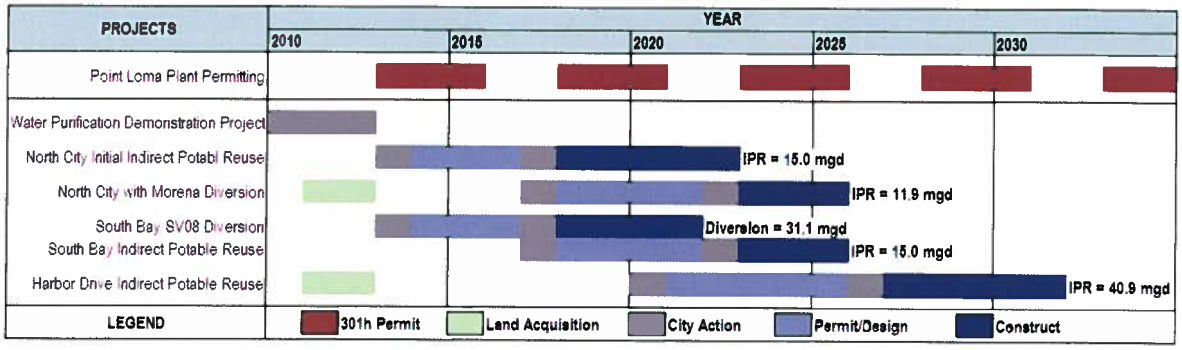
Integrated Reuse Alternatives A1 and A2

(upper left) – Displays the facilities included in Alternatives A1 and A2. A1 differs only in that the advanced treatment processes at the Harbor Drive Plant are located at the Camino del Rio site.

(Above) – The bar chart above includes reuse totals per project and per plant for both non-potable recycled water and indirect potable reuse.

(Left) – The pie chart to the left displays the allocation of Metro System flows estimated for the 2035 dry weather year flow scenario. The black bordered portions represent 99 mgd of offload provided by the facilities included in this Study. Wet weather allocations are presented in Appendix B.

Summary of Integrated Reuse Alternative A1/A2 Summary (Continued)



Alternative A1/A2 Implementation Schedule

Alternative A1/A2 New Water and Point Loma Offloading (Totals in mgd)

Start	New Water (mgd)					Wastewater Offload (mgd)		
	North City	Harbor Drive	Mission Gorge	South Bay	Cumulative	Reuse (N/I South Bay)	Diverted to South Bay	Cumulative
2014	15.0	0.0	-	0.0	15.0	15.0	0.0	15.0
2014	0	0.0	-	0.0	15.0	0.0	31.1	46.1
2018	11.9	0.0	-	0.0	26.9	11.9	0.0	58.0
2018	0.0	0.0	-	18.0	44.9	0.0	0.0	58.0
2021	0.0	40.9	-	0.0	85.8	40.9	0.0	98.9

Note: New water and wastewater offloading totals are based on the reuse projects included in the cost estimates for this Study. The totals do not include the proposed El Monte Groundwater Recharge IPR Project (5 mgd); existing and planned non-potable reuse for the North City Plant (9.1 mgd) and Padre Dam Plant (3.0 mgd); and the Grove Ave. Pump Station (12.9 mgd - which accounts for South Bay non-potable reuse thru 2026). South Bay new water totals include: 15 mgd for IPR and 3 mgd for non-potable reuse (Otay Water District, 2026 to 2040).Point Loma offload totals are based on 2035 Dry Weather Flows. Point Loma offloading due to South Bay is accounted for based on the diversion flows, not the new water created.

Alternative A1/A2 Capital and Annual O&M Costs

Item		2014 North City Initial	2014 South Bay Diversion	2018 Morena	2018 South Bay IPR	2021 Harbor Drive (Alternative A1)	2021 Harbor Drive (Alternative A2)
Incremental Costs	Capital	$410,700,000	$20,700,000	$301,300,000	$455,400,000	$1,000,000,000	$1,012,200,000
	O&M	$17,600,000	$300,000	$13,100,000	$22,700,000	$51,000,000	$50,800,000
Cumulative Costs	Capital	$410,700,000	$431,400,000	$732,800,000	$1,188,200,000	$2,188,200,000	$3,200,400,000
	O&M	$17,600,000	$17,900,000	$31,000,000	$53,600,000	$104,700,000	$155,500,000

Note: Capital & O&M Costs shown above are from the Favorable financial model scenario, and include a 20-percent project contingency.

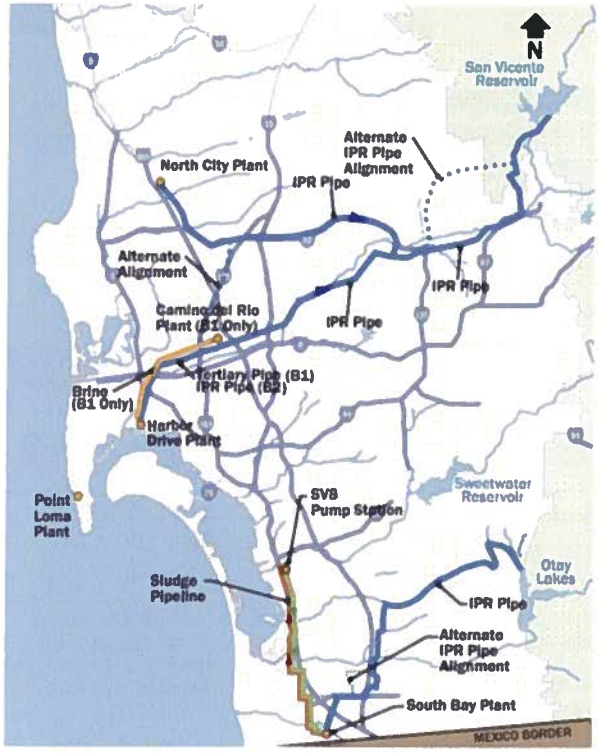
Alternative A1/A2 Reuse Water Cost Summary (2011 $/AF)

Cost Category	Alternative A1	Alternative A2
Gross Costs (Before Avoided Facilities and Other Offset Savings)	$1,900	$1,900
Tier 1 Net Costs (With Direct Wastewater System Savings)	$1,300	$1,300
Tier 2 Net Costs (With Salt Credit Plus Tier 1 Savings)	$1,200	$1,200
Tier 3 Net Costs (With Indirect Wastewater System Savings Plus Tier 1 and Tier 2 Savings)	$800	$800
Existing Untreated Water Costs (for comparison purposes)	$904	$904

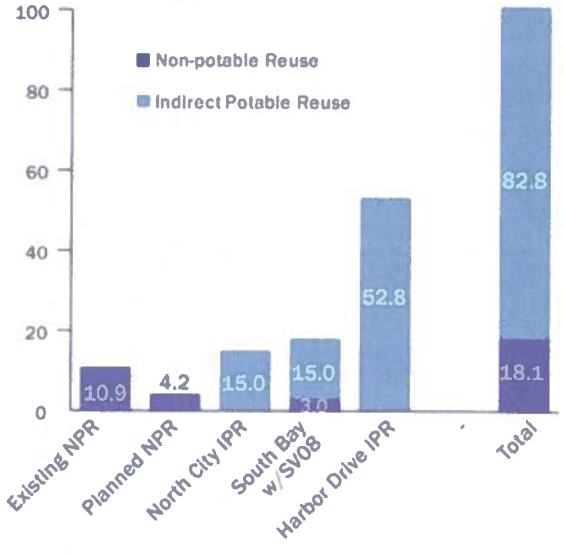
Note: The reuse water cost summary above represents average costs based on the Favorable and Unfavorable financial model scenarios. See Section 8.5 for more details on the financial evaluation and cost descriptions. Tier 1 savings includes wastewater projects no longer necessary due to the reuse projects and offloading included in this Study. Tier 2 savings accounts for savings due to water quality improvements. Tier 3 conceptualizes the savings that could occur if maintaining chemically enhanced primary treatment at the Point Loma Plant was made possible due to the reuse program proposed in this Study. Costs shown above are for comparison of untreated water options, and do not include potable water treatment plant costs.

Summary of Integrated Reuse Alternative B1 and B2

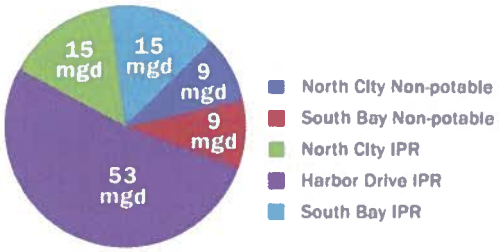
Facility Map



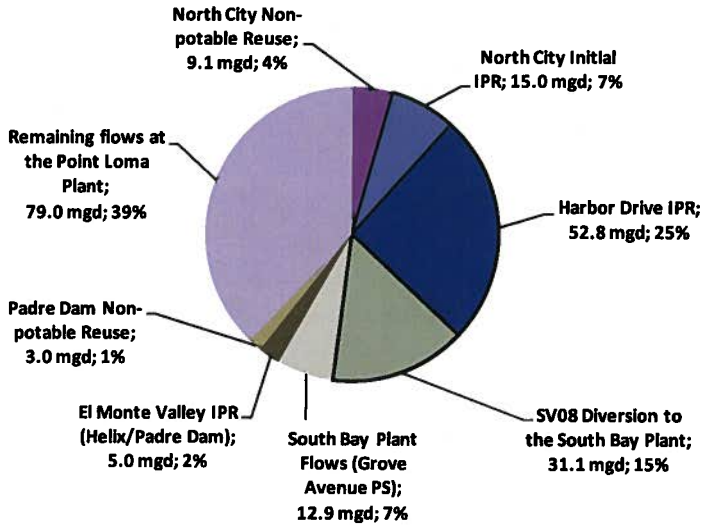
Reuse By Phase



Reuse Per Plant



B1/B2 Allocation of Metro System Flow (2035 Dry Weather Conditions)



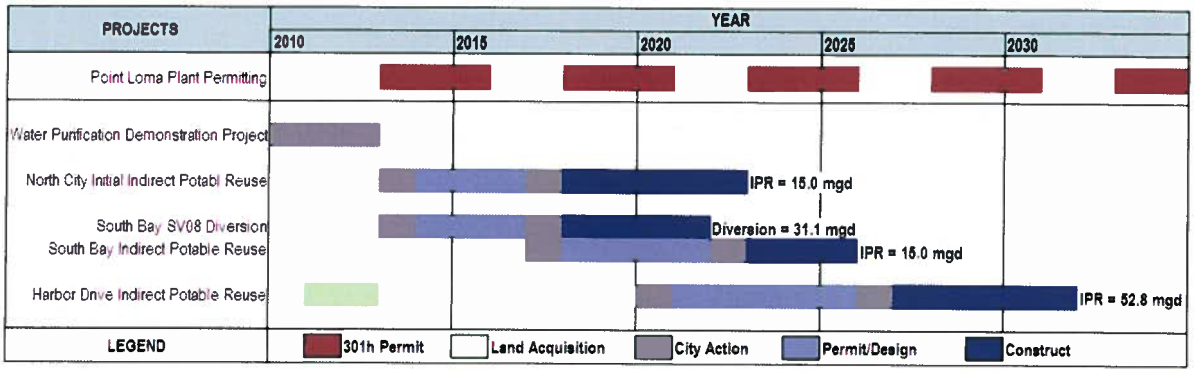
Integrated Reuse Alternatives B1 and B2

(upper left) – Displays the facilities included in Alternatives B1 and B2.B1 differs only in that the advanced treatment processes at the Harbor Drive Plant are located at the Camino del Rio site.

(Above) – The bar chart above includes reuse totals per project and per plant for both non-potable recycled water and indirect potable reuse.

(Left) – The pie chart to the left displays the allocation of Metro System flows estimated for the 2035 dry weather year flow scenario. The black bordered portions represent 99 mgd of offload provided by the facilities included in this Study. Wet weather allocations are presented in Appendix B.

Summary of Integrated Reuse Alternative B1 and B2 (Continued)



Alternative B1/B2 Implementation Schedule

Alternative B1/B2 New Water and Point Loma Offloading (Totals in mgd)

Start	New Water (mgd)					Wastewater Offload (mgd)		
	North City	Harbor Drive	Mission Gorge	South Bay	Cumulative	Reuse (N/I South Bay)	Diverted to South Bay	Cumulative
2014	15.0	0.0	-	0.0	15.0	15.0	0.0	15.0
2014	0.0	0.0	-	0.0	15.0	0.0	31.1	46.1
2018	0.0	0.0	-	18.0	33.0	0.0	0.0	46.1
2021	0.0	52.8	-	0.0	85.8	52.8	0.0	98.9

Notes: New water and wastewater offloading totals are based on the reuse projects included in the cost estimates for this Study. The totals do not include the proposed El Monte Groundwater Recharge IPR Project (5 mgd); existing and planned non-potable reuse for the North City Plant (9.1 mgd) and Padre Dam Plant (3.0 mgd); and the Grove Ave. Pump Station (12.9 mgd - which accounts for South Bay non-potable reuse thru 2026). South Bay new water totals include: 15 mgd for IPR and 3 mgd for non-potable reuse (Otay Water District, 2026 to 2040).Point Loma offload totals are based on 2035 Dry Weather Flows. Point Loma offloading due to South Bay is accounted for based on the diversion flows, not the new water created.

Alternative B1/B2 Capital and Annual O&M Costs

Item		2014 North City Initial	2014 South Bay Diversion	2018 South Bay IPR & 3 mgd non-potable	2021 Harbor Drive (Alternative B1)	2021 Harbor Drive (Alternative B2)
Incremental Costs	Capital	$340,700,000	$20,700,000	$455,400,000	$1,159,900,000	$1,168,300,000
	O&M	$17,300,000	$300,000	$22,700,000	$61,200,000	$60,500,000
Cumulative Costs	Capital	$340,700,000	$361,400,000	$816,800,000	$1,976,700,000	$1,985,100,000
	O&M	$17,00,000	$17,600,000	$40,300,000	$101,500,000	$100,800,000

Note: Capital & O&M Costs shown above are from the Favorable financial model scenario, and include a 20-percent project contingency.

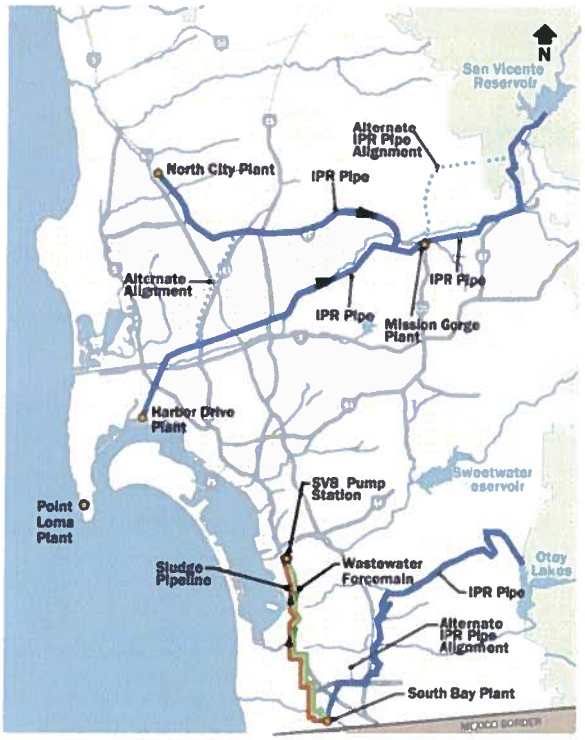
Alternative B1/B2 Unit Cost Summary (2011 $/AF)

Cost Category	Alternative B1	Alternative B2
Gross Costs (Before Avoided Facilities and Other Offset Savings)	$1,700	$1,700
Tier 1 Net Costs (With Direct Wastewater System Savings)	$1,100	$1,100
Tier 2 Net Costs (With Salt Credit Plus Tier 1 Savings)	$1,000	$1,000
Tier 3 Net Costs (With Indirect Wastewater System Savings Plus Tier 1 and Tier 2 Savings)	$600	$600
Existing Untreated Water Costs (for comparison purposes)	$904	$904

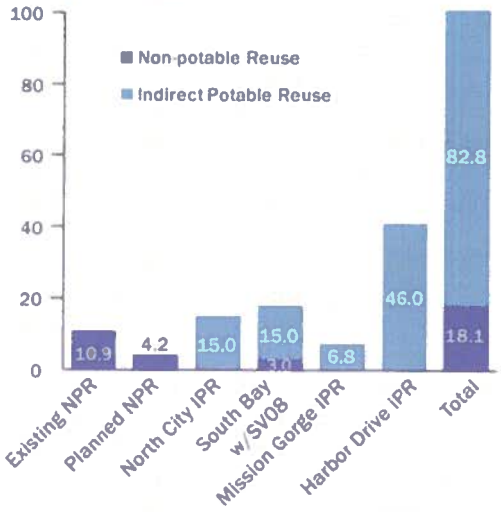
Note: The reuse water cost summary above represents average costs based on the Favorable and Unfavorable financial model scenarios. See Section 8.5 for more details on the financial evaluation and cost descriptions. Tier 1 savings includes wastewater projects no longer necessary due to the reuse projects and offloading included in this Study. Tier 2 savings accounts for savings due to water quality improvements. Tier 3 conceptualizes the savings that could occur if maintaining chemically enhanced primary treatment at the Point Loma Plant was made possible due to the reuse program proposed in this Study. Costs shown above are for comparison of untreated water options, and do not include potable water treatment plant costs.

Summary of Integrated Reuse Alternative B3

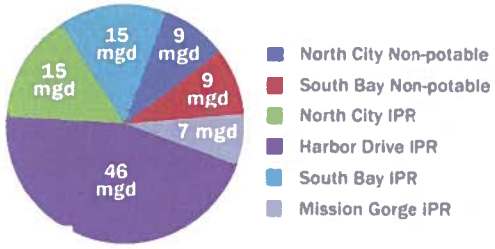
Facility Map



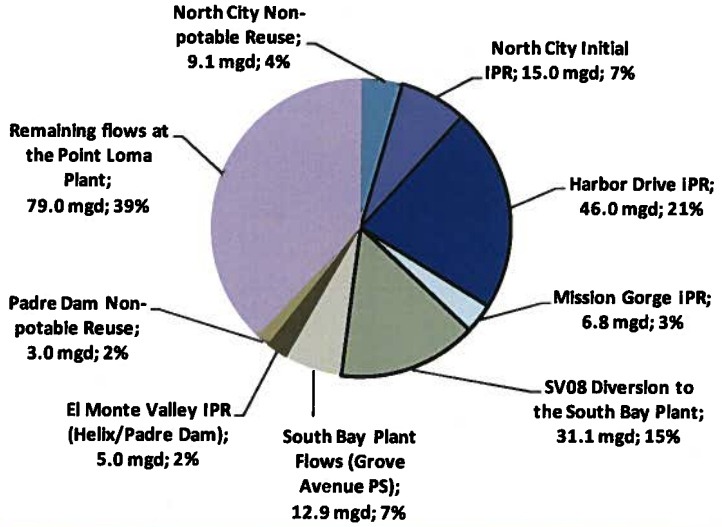
Reuse by Phase



Reuse Per Plant



B3 Allocation of Metro System Flows (2035 Dry Weather Conditions)



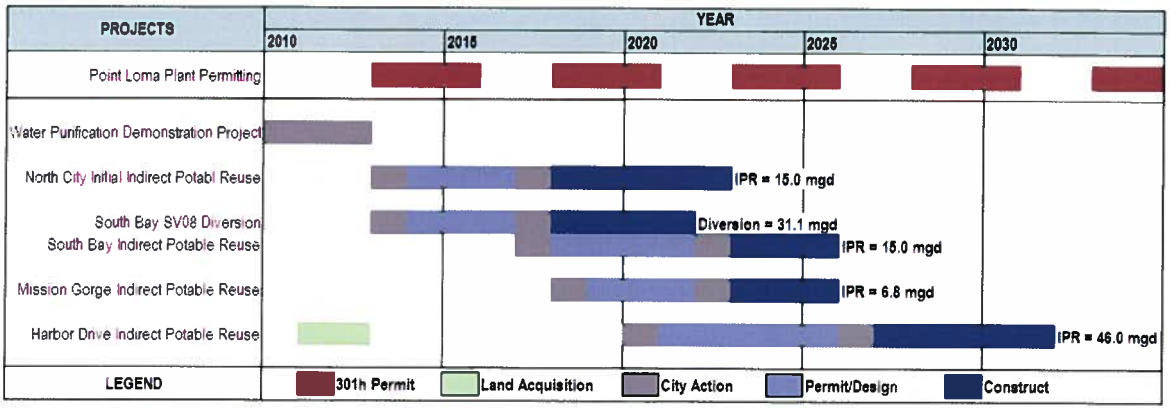
Integrated Reuse Alternative B3

(upper left) – Displays the facilities included in Alternative B3. The Mission Gorge Plant is the only difference between this Alternative and Alternative B2.

(Above) – The bar chart above includes reuse totals per project and per plant for both non-potable recycled water and indirect potable reuse.

(Left) – The pie chart to the left displays the allocation of Metro System flows estimated for the 2035 dry weather year flow scenario. The black bordered portions represent 99 mgd of offload provided by the facilities included in this Study. Wet weather allocations are presented in Appendix B.

Summary of Integrated Reuse Alternative B3 (Continued)



Alternative B3 Implementation Schedule

Alternative B3 New Water and Point Loma Offloading (Totals in mgd)

Start	New Water (mgd)					Wastewater Offload (mgd)		
	North City	Harbor Drive	Mission Gorge	South Bay	Cumulative	Reuse (N/I South Bay)	Diverted to South Bay	Cumulative
2014	15.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0
2014	0.0	0.0	0.0	0.0	15.0	0.0	31.1	46.1
2018	0.0	0.0	0.0	18.0	33.0	0.0	0.0	46.1
2019	0.0	0.0	6.8	0.0	39.8	6.8	0.0	52.9
2021	0.0	46.0	0.0	0.0	85.8	46.0	0.0	98.9

Note: New water and wastewater offloading totals are based on the reuse projects included in the cost estimates for this Study. The totals do not include the proposed El Monte Groundwater Recharge IPR Project (5 mgd); existing and planned non-potable reuse for the North City Plant (9.1 mgd) and Padre Dam Plant (3.0 mgd); and the Grove Ave. Pump Station (12.9 mgd - which accounts for South Bay non-potable reuse thru 2026). South Bay new water totals include: 15 mgd for IPR and 3 mgd for non-potable reuse (Otay Water District, 2026 to 2040).Point Loma offload totals are based on 2035 Dry Weather Flows. Point Loma offloading due to South Bay is accounted for based on the diversion flows, not the new water created.

Alternative B3 Capital and Annual O&M Costs

Item		2014 North City Initial	2014 South Bay Diversion	2018 South Bay IPR & 3 mgd non-potable	2019 Mission Gorge	2021 Harbor Drive
Incremental Costs	Capital	$332,600,000	$20,700,000	$455,400,000	$279,000,000	$1,073,200,000
	O&M	$17,300,000	$300,000	$22,700,000	$13,500,000	$55,000,000
Cumulative Costs	Cumulative Capital Cost	$332,600,000	$353,400,000	$808,800,000	$1,087,800,000	$2,160,900,000
	Cumulative O&M Cost	$17,300,000	$17,600,000	$40,300,000	$53,700,000	$108,700,000

Note: Capital & O&M Costs shown above are from the Favorable financial model scenario, and include a 20-percent project contingency.

Alternative B3 Unit Cost Summary (2011 $/AF)

Cost Category	Alternative B3
Gross Costs (Before Avoided Facilities and Other Offset Savings)	$1,900
Tier 1 Net Costs (With Direct Wastewater System Savings)	$1,300
Tier 2 Net Costs (With Salt Credit Plus Tier 1 Savings)	$1,200
Tier 3 Net Costs (With Indirect Wastewater System Savings Plus Tier 1 and Tier 2 Savings)	$800
Existing Untreated Water Costs (for comparison purposes)	$904

Note: The reuse water cost summary above represents average costs based on the Favorable and Unfavorable financial model scenarios. See Section 8.5 for more details on the financial evaluation and cost descriptions. Tier 1 savings includes wastewater projects no longer necessary due to the reuse projects and offloading included in this Study. Tier 2 savings accounts for savings due to water quality improvements. Tier 3 conceptualizes the savings that could occur if maintaining chemically enhanced primary treatment at the Point Loma Plant was made possible due to the reuse program proposed in this Study. Costs shown above are for comparison of untreated water options, and do not include potable water treatment plant costs.

What are the Alternative Costs and How Do They Compare with Other Water Supply Costs?

The Integrated Reuse Alternative costs are summarized in the table below. The table includes a tiered breakout of summary level costs based on the Gross Costs and Net Costs categories described earlier in this Executive Summary. As shown, the costs for A1, A2 and B3 are nearly identical to each other, and slightly higher than B1 and B2. For the A1/A2 comparison to B1/B2, the increased costs occur mainly due to the additional wastewater facilities and pumping needed to divert flows from Morena to the North City Plant. For the B3 comparison to B1/B2, B3 adds an additional plant and does not have the same economy of scale that the B1 and B2 Alternatives have. Implementation steps are included later in this Chapter, which include steps to further develop the Alternatives and look for additional cost savings.

Cost Summary (2011 $/AF)

Alternative	Average Gross Costs	Net Costs		
		Tier 1 w/Direct Wastewater System Savings	Tier 2 w/Salt Credit(Water Quality Benefit)	Tier 3 w/Indirect Wastewater Savings (maintaining CEPT operation)
A1: North City 45 mgd; Split Harbor Dr. AWPF	$1,900	$1,300	$1,200	$800
A2: North City 45 mgd; Consolidated Harbor Dr. AWPF	$1,900	$1,300	$1,200	$800
B1: North City 30 mgd; Split Harbor Dr. AWPF	$1,700	$1,100	$1,000	$600
B2: North City 30 mgd; Consolidated Harbor Dr. AWPF	$1,700	$1,100	$1,000	$600
B3: North City 30 mgd; Consolidated Harbor Dr. AWPF; Mission Gorge AWPF	$1,900	$1,300	$1,200	$800

Notes:

- *All Alternatives include South Bay with the Spring Valley No. 8 Diversion*
- *Direct and Indirect wastewater system savings based on a comparison between the City's September 2011 Draft Wastewater Master Plan and the reduced wastewater facility sizing and pumping required as a resulted of the projects included in this Recycled Water Study (see Appendix H).*
- *Totals are in 2011 dollars (ENR Los Angeles Index value of 10,051.30, June 2011) and are based on a net present value analysis using a detailed financial model.*

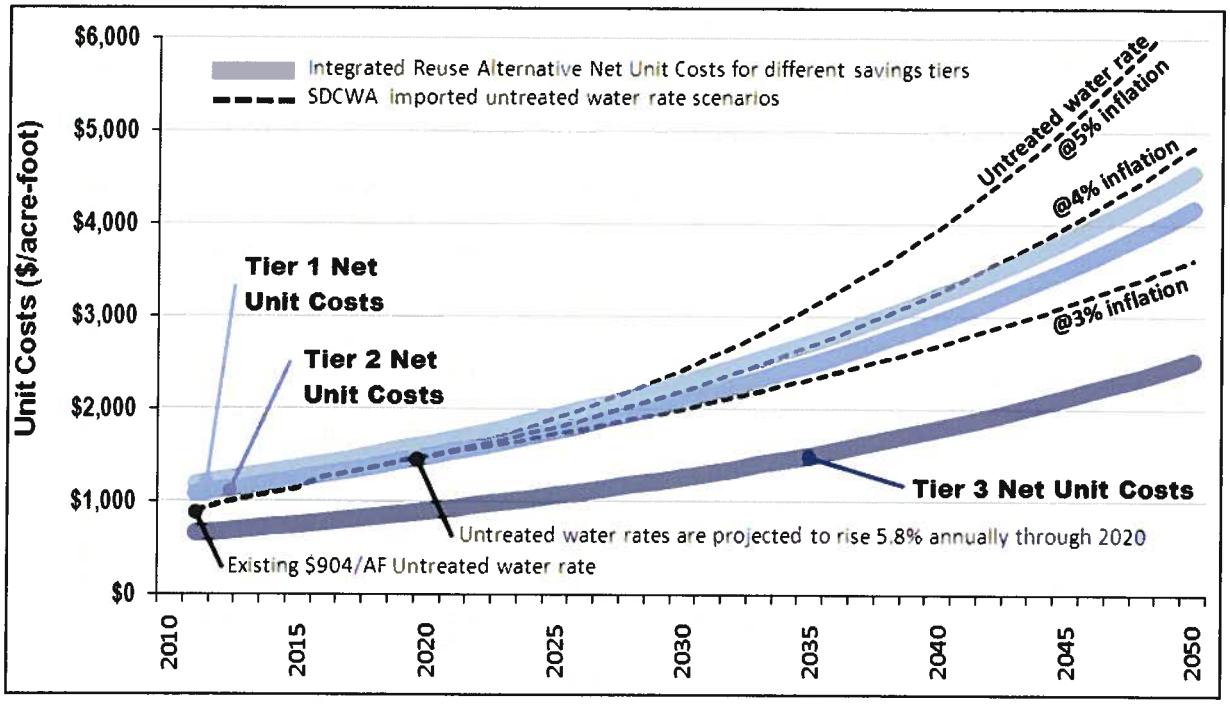
Key Study Conclusion

The Alternative Net Costs represent the costs that should be compared to other water sources – particularly imported untreated water. The average costs of the Alternatives above are:

- Cost assuming direct wastewater savings = $1,200/AF
- Cost assuming above plus salt credit = $1,100/AF
- Cost assuming above plus indirect wastewater savings = $700/AF

These costs compare well to the existing untreated water cost of $904 per acre foot, and are more economical than most other new water supply concepts being proposed.

The Study Alternative's Net Costs were extrapolated based on a 3.5-percent inflation rate and compared to projected imported untreated water rate as shown in the figure below. The 2011 SDCWA municipal and industrial untreated water rate for the City was $904 per acre foot. The existing rate was inflated through 2020 based on the "low-rate" scenario values provided by the SDCWA in April 2011 (which averages to a 5.8 percent annual increase). Beyond 2020, the untreated water cost projections were split into three scenarios showing 3-, 4- and 5-percent inflation scenarios (shown as dashed lines). These scenarios compare well to the Net Costs of the Study's Alternatives (shown as solid lines). The Study's Net Costs shown are the average of all the Study Alternatives and an average of the Favorable and Unfavorable scenario (i.e., the lower cost B1/B2 Alternatives and the favorable scenario would lower the reuse costs further). As shown, the average Tier 1 and Tier 2 cost curves have Net Costs lower than two of the untreated water rate scenarios. If the Tier 3 savings are attributed to the projects in this Study, the program would have significantly lower Net Costs than all three untreated water rate scenarios. An additional consideration is the long-term effects that other local water projects and reduced demands are causing to MWD/SDCWA rates. As purchases decline, rates must increase to cover fixed costs. This is likely to cause imported water costs to inflate faster than locally controlled projects. Overall, the conclusion of this analysis supports the water reuse program proposed in this Study.



Comparison of the Study's Unit Costs for New Water to the Cost of Imported Untreated Water

The Integrated Reuse Alternative Net Costs compare well to projected untreated water rates. Untreated water rates are projected to rise 5.8 percent through 2020 and there remain many uncertainties regarding future costs associated with the Bay-Delta fix and imported water.

What Were the Other Considerations for Each Alternative?

The Integrated Reuse Alternatives were evaluated during the Fine Screening Session and subsequent Stakeholder Status Update meetings. Each Integrated Reuse Alternative provides common and distinct benefits, as summarized below.

Integrated Reuse Alternative Comparative Summary

Alternative	Institutional Complexity	Technical Complexity	Treatment Plants	Wastewater Diversions	Key Infrastructure Siting and Complexity Considerations
A1	Med	High (Morena Diversion/Split Split Plant Harbor Drive-Camino del Rio)	4 North City, South Bay, Harbor Drive (WRP) w/ Camino del Rio (AWPF)	2	• Smallest area requirement at the Harbor Drive site • Challenging siting at Camino del Rio site • Challenging siting and operation of the Morena Wastewater Diversion Pump Station • Most pumping of all alternatives due to Morena Diversion • Increased costs due to added brine line
A2	Med	Med/High (Morena Diversion)	3 North City, South Bay Harbor Drive	2	• Reduced Harbor Drive Plant siting needs compared to the "B" alternatives • Challenging siting and operation of the Morena Wastewater Diversion Pump Station
B1	Med	Med/High (split Plant Harbor Drive-Camino del Rio)	4 North City, South Bay, Harbor Drive (WRP) w/ Camino del Rio (AWPF)	1	• Reduced Harbor Drive Plant siting needs compared to B2 • Minimal wastewater pumping • Challenging siting at the Camino del Rio site • Reduced ability to phase • Increased costs due to added brine line
B2	Med	Med	3 North City, South Bay, Harbor Drive	1	• Largest area requirement at the Harbor Drive site • Least cost option • Minimal wastewater and tertiary water pumping • Reduced ability to phase
B3	High (Harbor Drive site & Mission Gorge site)	High (4th Water Reclamation Plant/ Advance Water Purification Facility at Mission Gorge)	4 North City, South Bay, Harbor Drive, Mission Gorge	1	• Multiple agency collaboration could drive further economy of scale benefits • Allows for additional phasing opportunities • Closest plant to San Vicente Reservoir reduces overall pumping • Mission Gorge site requires interagency agreements and administration costs • Mission Gorge Plant is relatively small due to limited tributary wastewater flows. It does not have an economy of scale benefit and reduces some economy of scale benefit at the Harbor Drive Plant • Larger upstream treatment at Mission Gorge Plant impacts downstream water quality at Harbor Drive Plant • Reduced flows/concentrated waste downstream of Mission Gorge Plant may create maintenance issues

Notes:

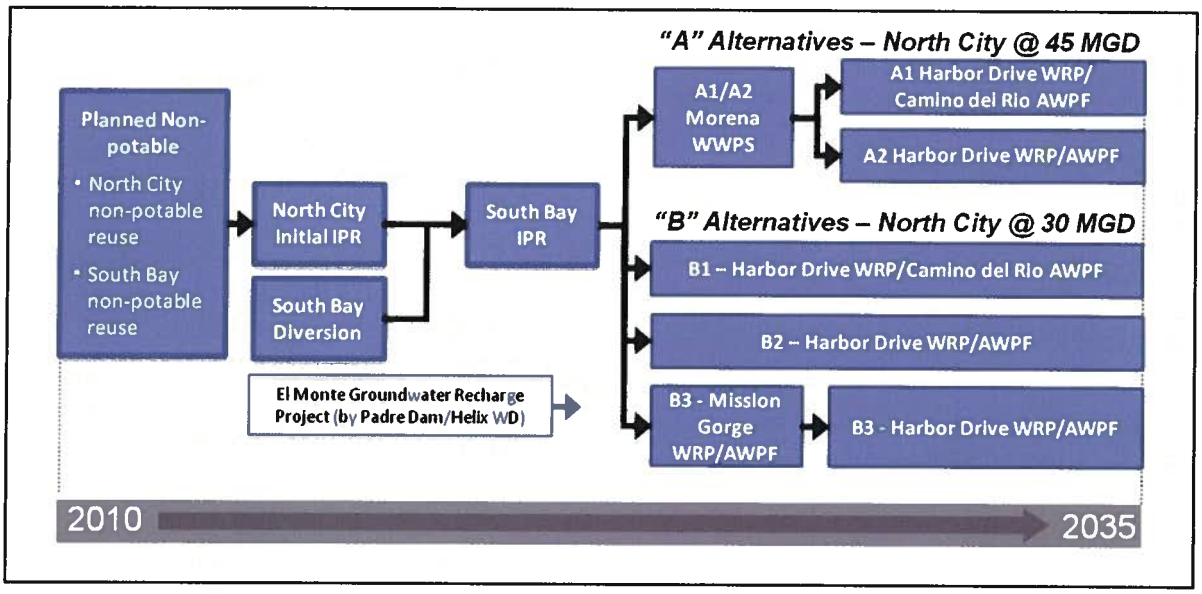
- *Alternative A1 and B1 include a split Harbor Drive Plant at the Harbor Drive site and Camino Del Rio site. Although these facilities work together, they were considered separate treatment plant sites in the table above.*
- *Wastewater Diversions can include the Morena diversion to the North City Plant and the Spring Valley No. 8 Diversion to the South Bay Plant. These diversions require wastewater pump stations.*
- *South Bay facilities not included above since common to all Alternatives.*

Why is Adaptability Important?

The implementation of this reuse plan will need to be adaptable to anticipated and unanticipated needs. Adaptability may be triggered based on financial constraints, changes in regulatory requirements, institutional coordination issues, favorable or unfavorable political and community support, and technical issues. The project implementation proposed below provides a number of key actions to help implement this reuse program and maximize adaptability to changing conditions.

How Will the Projects be Implemented?

Implementing the Integrated Reuse Alternatives involves a step-by-step process as shown in the figure below. Although part of the implementation process includes common elements regardless of the alternative, it is important to note that the latter steps are affected by these earlier phase projects. Therefore, implementation considerations are important even during the first phase projects.



Recycled Water Study Project Implementation Summary

The implementation plan summarizes the basic roadmap to complete the reuse plan.

What are Specific Implementation Steps Needed Directly Following this Study?

Achieving the benefits identified in this report requires an investment. Some of these investments have already been started, such as the Water Purification Demonstration Project now operating at the North City Plant. To proceed to the next steps in this study, additional investments will be needed to plan and develop the program to a level of detail that can be designed, permitted and constructed. These investments are referred to as program implementation steps. The following two pages organize and summarize these key implementation steps into an Implementation Checklist.

IMPLEMENTATION CHECKLIST: REGULATORTY, INSTITUTIONAL, POLICY, FINANCE

Water Purification Demonstration Project/Permitting. The Water Purification Demonstration Project (Demonstration Project) and the San Vicente flow modeling are key steps of the public involvement and regulatory permitting processes to confirm the health and safety of the new water supply. The following summarizes these key implementation steps:

- Obtain Advanced Water Purification Facility water quality and San Vicente limnology model final results
- Provide on-going public involvement and community outreach
- Coordinate with CDPH and the Regional Water Quality Control Board on processes and permitting (whether through uniform criteria being developed by CDPH or project specific criteria)
- Promote advocacy by Stakeholder groups with CDPH and the Regional Water Quality Control Board

Mayor and City Council. Support from the Mayor and City Council is essential to implement such an important program. While the reuse program appears to offer substantial cost savings to ratepayers (compared to upgrading the Point Loma Plant), support from policymakers to advance the program will be needed. The following summarizes these key Mayor and City Council implementation steps:

- Obtain Independent Rates Oversight Committee support
- Obtain Natural Resources and Culture Committee approval.
- Obtain stakeholder advocacy support of the Study by the Metro JPA, Independent Rates Oversight Committee, environmental groups, and other interested parties.
- Obtain City Council approval.
- Coordinate implementation with broader water policy issues and programs

Metro JPA Approval. As partners in the Metro System, support from the Metro JPA is also essential to implement such an important program. Support from JPA policymakers is needed to advance the program. The following summarizes these key Metro JPA implementation steps:

- Finalize the cost sharing framework, as summarized below. This includes policy and legal issues, costs and consensus.
- Promote stakeholder advocacy in support of the Study by the City, Independent Rates Oversight Committee, environmental groups, and other interested parties.
- Obtain Policymaker approval to support the Study and the reuse program.

Financials. Fiscal responsibility is important for all parties. For Metropolitan Wastewater System ratepayers, there is an important choice required regarding whether to fund this water reuse plan or fund the alternative improvements at the Point Loma Plant. The following summarizes key financial implementation steps:

- Finalize cost share framework concepts and agreements
- Provide comparative financial analyses with other sources (if desired)
- Determine/develop policy on local resource program funding from SDCWA/MWD.
- Seek out and apply for grants.
- Develop of rate impacts
- Develop a detailed financing plan
- Provide funding and staff to move forward with the program implementation, including the activities needed for near-term and long-term projects

IMPLEMENTATION CHECKLIST: TECHNICAL

Technical/Other. Implementing the reuse plan will require technical evaluations and engineering. The following summarizes these key technical implementation steps:

- North City treatment. Determine the North City treatment approach (existing filters, feed source, recovery rates, improvements to the treatment processes upstream of the filters, the fate of the electrodialysis reversal unit's, and other technical design parameters.
- Non-potable reuse demands and wastewater flow confirmation. Continue to evaluate non-potable reuse demands and use trends; and wastewater flow generation. These totals will be important to finalize the size of indirect potable reuse projects.
- Point Loma permitting. Continue permitting coordination amongst Stakeholders as part of the Point Loma Plant 301h Modified Permit process.
- New facility siting. Develop detailed siting studies for new pump stations and treatment plants, including evaluation and confirmation of availability of the Harbor Drive and Camino del Rio North sites.
- Wastewater treatment pilot testing. Test treatment strategies and high rate systems to develop area-specific design values.
- New conveyance facility alignments. Perform alignment studies for new conveyance facilities.
- SV8 Diversion to South Bay. Update the SV8 Pump Station Predesign and Sweetwater River crossing concept (with possible evaluation of constructing solids handling facilities at the South Bay Plant in lieu of diverting to the Point Loma Plant). Coordinate efforts between the Recycled Water Study needs and the September 2011 Draft Wastewater Master Plan (or any updates) needs.
- South Bay Plant. Continue discussion and coordination on South Bay Plant issues, including on-going evaluations regarding whether to treat biosolids produced at the South Bay Plant at a dedicated facility instead of continuing to send it to the Point Loma Plant and the MBC for treatment.
- South Bay indirect potable reuse delivery. Perform detailed evaluation of the South Bay Plant expansion including pump station and delivery pipeline to Otay Lakes.
- Otay Lakes operation. Perform an Otay Lakes operational evaluation in relation to local runoff and indirect potable reuse operation to confirm flow rates and optimal project sizing. Develop a hydraulic model similar to those developed for the San Vicente Reservoir to determine seasonal hydraulic patterns within the Otay Lakes system.
- Joint Project Evaluation. Identify opportunities of joint projects, such as brine pipelines or indirect potable reuse delivery pipelines coordinated with other regional projects.
- Mission Gorge Plant Evaluations. Coordinate further discussion and evaluation on the merits of a joint plant with Padre Dam Municipal Water District in the Mission Gorge area (conceptualized in Alternative B3).
- Groundwater updates. Complete groundwater studies including evaluation of the San Diego Formation and San Diego River system for possible inclusion into future master planning efforts. Update the status of other County groundwater studies including San Pasqual and Padre Dam Municipal Water District's studies.
- Waste stream recovery. Evaluate waste stream efficiency and recovery analysis to evaluate ways to further minimize waste streams.

- San Vicente regulatory limits and operational coordination. Perform San Vicente analysis to evaluate maximum potential indirect potable reuse. If it is limited, determine options such as further evaluation of the San Diego formation or integration with other reservoirs. Coordinate reuse operational activities with other San Vicente operations after the dam raise is complete.
- Regulatory update on minimum reservoir capacities. Check assumptions on smaller sized reservoirs (Lakes Murray and Miramar) once indirect potable reuse reservoir augmentation regulations are finalized.
- SDCWA Coordination. Coordinate with SDCWA on their Master Plan (currently underway), broader water policy support at the state level, and possible regional collaboration involving funding.
- Peak Wet Weather Flow strategies. Continue to evaluate fail-safe disposal strategies under wet weather conditions, including equalization, live stream discharge, and CEPT-secondary effluent blending at the Point Loma Plant.

Where Can I Find More Information on Water Reuse in the City?

Website. The Public Utilities Department maintains useful information on the City's website. See below for more information.

Recycled Water Home Page. The City's Recycled Water homepage includes extensive information on water reuse, rules and regulations, information on the existing system, and frequently asked questions. The website address is: http://www.sandiego.gov/water/recycled/

Water Reuse Homepage. The Water Reuse homepage includes links to the 2005 Water Reuse Study, the Water Purification Demonstration Project, and the Full Scale Reservoir Augmentation Page. The website address is: http://www.sandiego.gov/water/waterreuse/

General Information. If you are interested in learning more about recycled water, the City's Public Utilities Department can be contacted at (619) 533-7572 or e-mail at water@sandiego.gov.

Community Presentations. Recycled water professionals are available to speak to your community group, organization, special interest club or service organization. They are qualified to deliver their expertise, answer your recycled water questions, and will customize a presentation to meet the needs of your group. To schedule a speaker, simply call our Speakers Bureau Hotline at (619) 533-6638 at least two weeks prior to your program date. Or, you may e-mail requests to waterspeakers@sandiego.gov.

Who Can I Contact for More Information on this Study?

The project team consisted of City staff from the Public Utilities Department, and a consulting team from Brown and Caldwell, Black & Veatch, and CDM.

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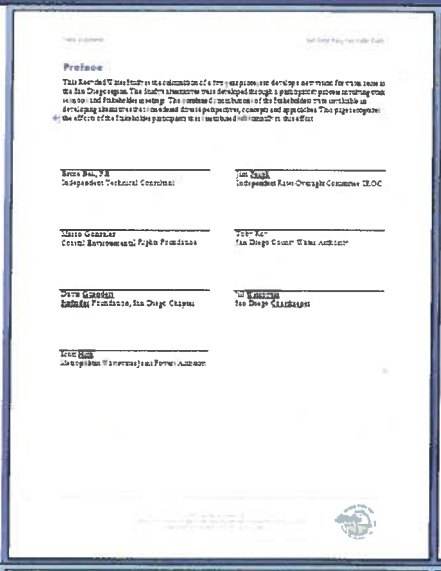
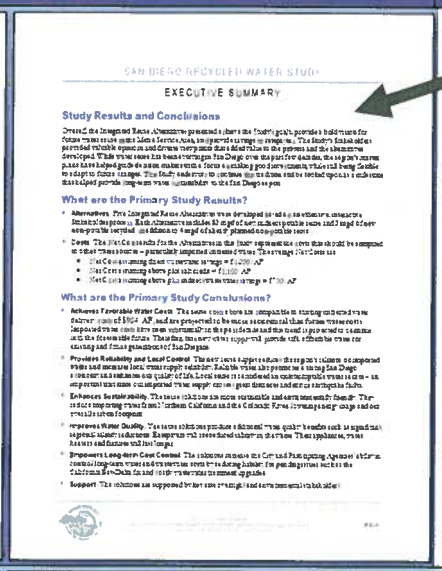
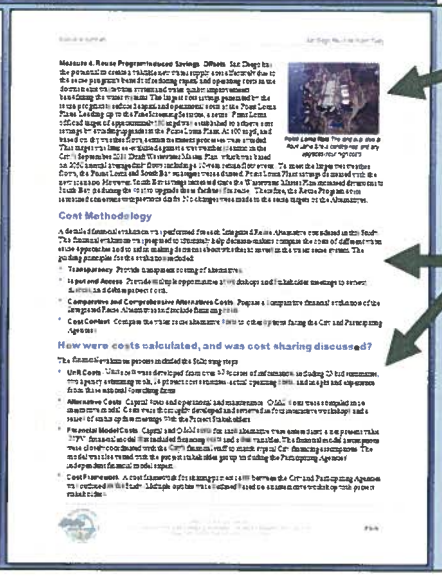
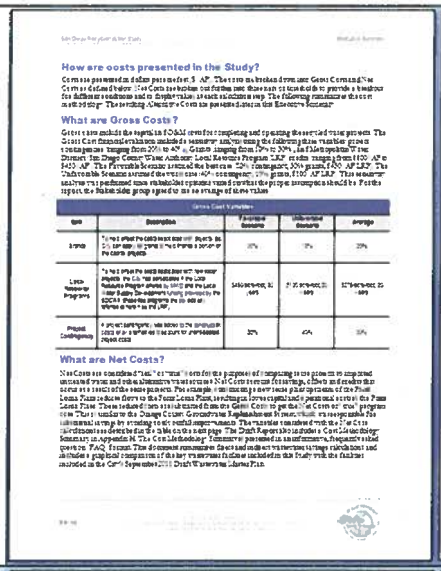
BACK COVER

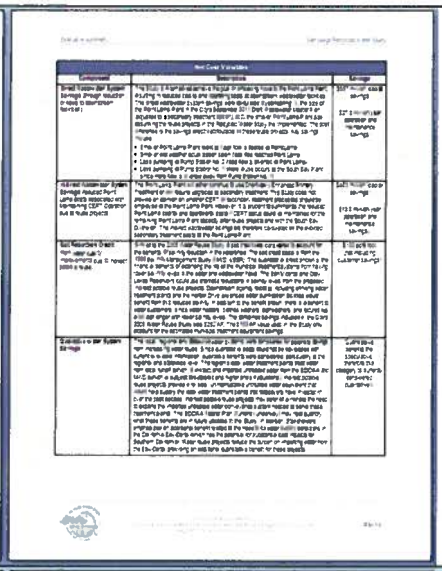
ATTACHMENT 1 – SUMMARY OF CHANGES TO THE EXECUTIVE SUMMARY

The Following summarizes the material changes made to the March 5, 2012 Recycled Water Study Executive Summary:

Page	Comment
 	**ES-1 (right page)** • The conclusion section (previously brief and at the end) was moved to the start of the Executive Summary and expanded based on Stakeholder comments
 	**ES-9 (right page)** • The Measure 4 Reuse Target was updated based on the new wastewater comparison. • Cost methodology was edited and moved up earlier to this location and the following pages per Stakeholder comments.

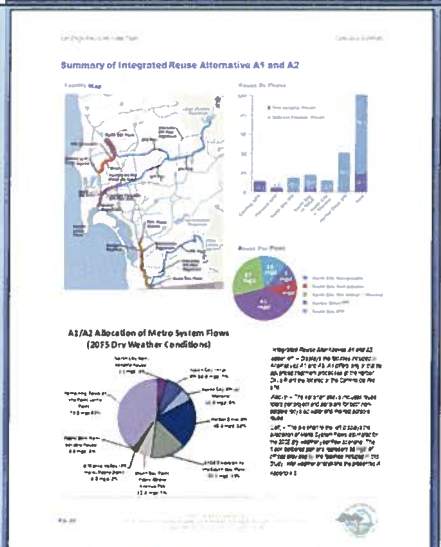
ATTACHMENT 1 – SUMMARY OF CHANGES TO THE EXECUTIVE SUMMARY

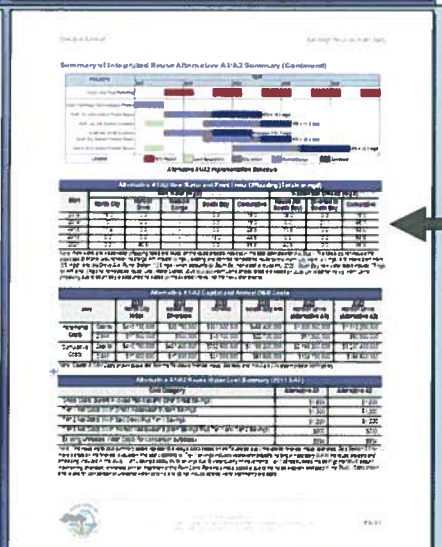




ES-10/11

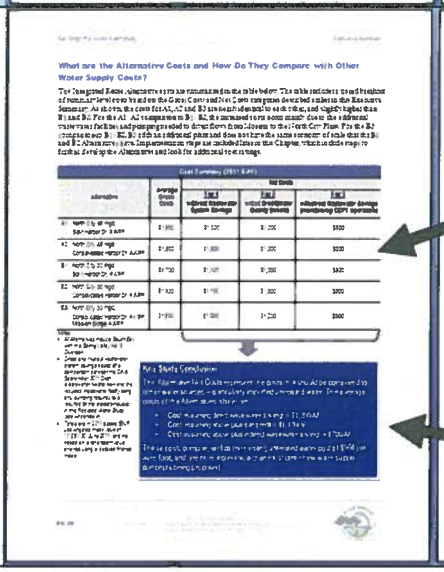
- Improved cost methodology language and updated tables were moved forward to this location.

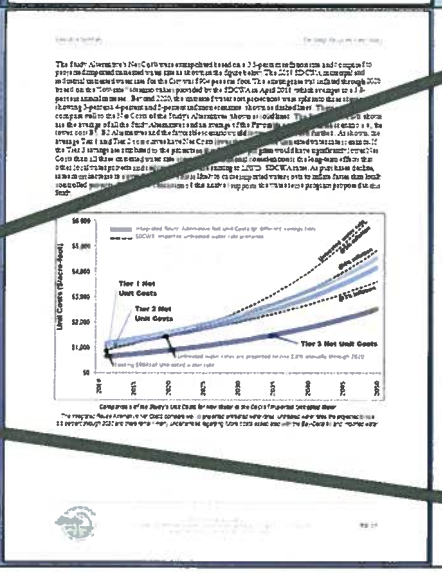




ES-20/21 (also typical for 22/23 & 24/25)

- The two page summaries were updated.
- The top table was restructured for better clarity.
- Notes added per Stakeholder comments.

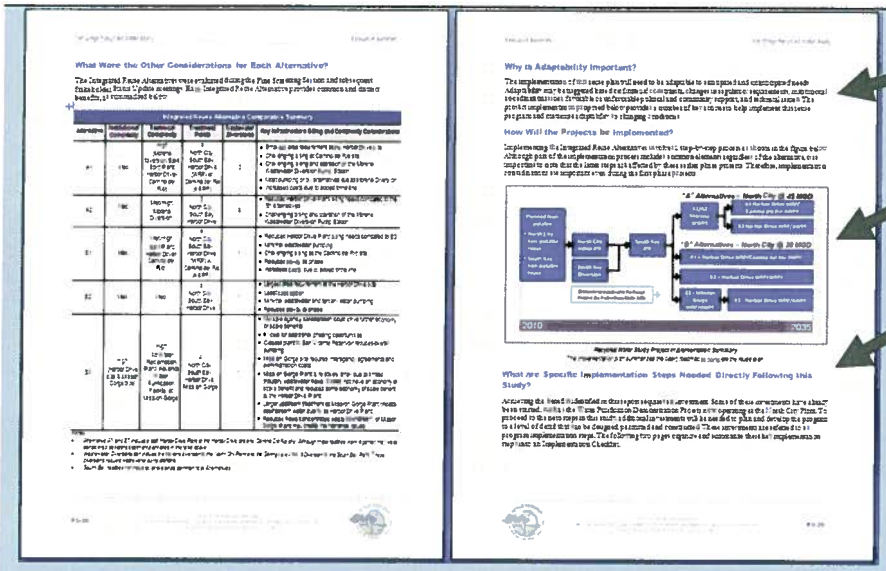




ES-26 (left page)

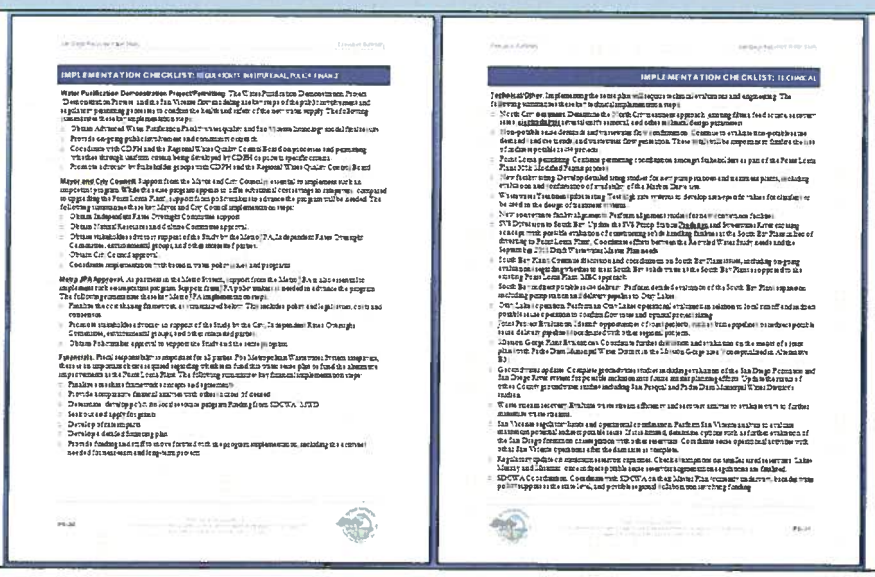
- The cost summary table was updated and gross costs were simplified to just use the average value.
- The Net Costs are nearly identical. The Gross Costs are lower. Reference the attached FAQ sheet (also in Appendix H).
- Key summary box edited for clarity

ATTACHMENT 1 – SUMMARY OF CHANGES TO THE EXECUTIVE SUMMARY



ES-29 (right page)

- Adaptability text pulled in from Draft Report
- Implementation graphic updated per Draft Report
- New implementation task intro per Review Meeting Stakeholder comment
- Elimination of Metro Diversion summary to keep water focus. Dry weather diversion summaries are included in the two page summaries on Pages ES 20-25. Wet weather diversion summary is in the Draft Report, Appendix B.



ES-30/31

- Updated to match the Draft Report, with a number of edits based on the Report Review Meeting.
- Modified format to checklist approach

ATTACHMENT 2 – SUMMARY OF CHANGES TO THE DRAFT REPORT

The following summarizes the material changes made to the March 5, 2012 Recycled Water Study Draft Report:

No.	Section	Item	Revision Summary
1	1.2	Figure 1-1	Infrastructure figure replaced with agency figure. Metro infrastructure Figure still included in Chapter 4.
2	1.3	Stakeholder Box	County of San Diego reorganized and new naming provided based on recent consolidation Still listed separately to represent current JPA membership.
3	1.4	Figure 1-2	Updated to reflect September 2011 to March 2012 revisions.
4	4.4.2		This section was added to explain the wastewater flow projections and how they were used in this Study. A summary table listing the wastewater flows and their application to this Study is included.
5	5.3	Future Non-potable reuse	New edits based on Stakeholder comments
6	6.2	IPR Benefits	New edits based on Stakeholder comments/last two bullet points added
7	6.4	Direct Potable Reuse	Added language based on Stakeholder comment. Referenced NWRI paper and added it to the Appendix
8	7.4	Table 7-2	Revised notes, including clarification on flow conditions (coordinated with Section 4.4.2)
9	7.5	Table 7-5	Revised notes, including clarification on flow conditions (coordinated with Section 4.4.2). Table revisions to clarify and align with Chapter 4 Tables per Stakeholder comment.
10	7.5.3		This section was added to summarize how the wet weather flow effected planning for facilities in the South Bay.
11	8.1.1 – 8.1.4	Reuse Target	Clarification edits throughout these sections.
12	8.1.5		This section was modified to describe the change in the planning effort as a result of the updated flow projections.
13	-	Previous Draft Table 8-1	The Point Loma Capacity and Treatment Threshold table was deleted as it is no longer relevant based on comparing the reuse projects to the September 2011 Draft Wastewater Master Plan.
14	8.2	Alternative Numbering	Minor edits to clarify that the same South Bay approach is used for all Alternatives.
15	8.2.1	Figure 8-2	This figure and the related footnotes were updated based on the new approach to compare the Reuse Program to the September 2011 Draft Wastewater Master Plan

16	8.2.1	Table 8-2	This table was restructured to clarify the data. The table and the related footnotes were updated based on the new approach to compare the Reuse Program to the September 2011 Draft Wastewater Master Plan
17	8.2.1	Table 8-3 and 8-4	The table and the related footnotes were updated based on the new approach to compare the Reuse Program to the September 2011 Draft Wastewater Master Plan
18	8.2.2	Figure 8-4	This figure and the related footnotes were updated based on the new approach to compare the Reuse Program to the September 2011 Draft Wastewater Master Plan
19	8.2.2	Table 8-5	This table was restructured to clarify the data. The table and the related footnotes were updated based on the new approach to compare the Reuse Program to the September 2011 Draft Wastewater Master Plan
20	8.2.2	Table 8-6 and 8-7	The table and the related footnotes were updated based on the new approach to compare the Reuse Program to the September 2011 Draft Wastewater Master Plan
21	8.2.3	Figure 8-6	This figure and the related footnotes were updated based on the new approach to compare the Reuse Program to the September 2011 Draft Wastewater Master Plan
22	8.2.3	Table 8-8	This table was restructured to clarify the data. The table and the related footnotes were updated based on the new approach to compare the Reuse Program to the September 2011 Draft Wastewater Master Plan
23	8.2.3	Table 8-9 and 8-10	The table and the related footnotes were updated based on the new approach to compare the Reuse Program to the September 2011 Draft Wastewater Master Plan
24	8.4 - 8.4.3		Misc minor edits to clarify and to address Stakeholder comments
25	8.4.4		Section edits to improve clarity and to coordinate with new comparison to the September 2011 Draft Wastewater Master Plan.
26	8.4.5		Section edits to improve clarity. Table 8-14 revised to include simplified average Gross Costs. Table edits to improve clarity. Key conclusion call out box revised to improve clarity. Net cost discussions and resulting cost conclusion text revised to improve clarity and to address Stakeholder comments.
27	8.4.5	Table 8-15 and 8-16	Updated with new results based on comparison to the September 2011 Draft Wastewater Master Plan.
28	8.5		Adaptability section moved before Implementation and integrated with Implementation.
29	8.5.1	Figure 8-9	Revised Figure per Stakeholder comments
30	8.5	8.5.2 thru 8.5.6	Edits per the Report Review Meeting and Stakeholder comments.

31	App B	This Appendix was revised to summarize the evaluation of the Point Loma Plant and the potential effects the implementation of the Reuse Alternatives would have on the plant.
32	App G	This Appendix was added to provide the reader with information on the latest research regarding direct potable reuse.
33	App H	This Appendix was added to provide Stakeholders with an overview of the changes resulting from the updated flow projections and how it affected the Reuse Alternatives.
34	App I	This Appendix was added to provide the reader with the reuse concepts developed by the Metro JPA members.
35	App J	This Appendix was added to provide a record of Stakeholder comments and how they were addressed.
36	App K	This Appendix was added to provide the reader with a conceptual overview of the system flows for each of the Reuse Alternatives.

Recycled Water Study Cost Methodology Summary

Frequently Asked Questions (FAQs) Format

The following information was prepared as a guide to aid in understanding the financial evaluation of alternatives in the Recycled Water Study. The financial evaluation was prepared to ultimately help decision-makers compare the costs of different water reuse approaches and to aid in making decisions about whether to invest in the water reuse system. The guiding principles for the evaluation included:

- Provide transparent costing of alternatives.
- Provide multiple opportunities at workshops and Stakeholder meetings to review, discuss, and debate project costs.
- Prepare a comparative financial evaluation of the Integrated Reuse Alternatives that includes financing costs.
- Compare the water reuse alternative costs to other options facing the City and Participating Agencies

Q. How were costs calculated, and was cost sharing discussed?

A. The financial evaluation process included the following steps:

- **Unit Costs.** Unit costs were developed from over 50 sources of information, including 23 bid summaries, two agency estimating tools, 14 project cost estimates, actual operating costs, and insight and experience from three national consulting firms.
- **Alternative Costs.** Capital costs (including engineering, administration, legal, land acquisition, environmental and construction management costs) and operational and maintenance (O&M) costs were compiled in an interactive excel model. Costs were thoroughly developed and reviewed in four interactive workshops and a series of status update meetings with the Project Stakeholders.
- **Financial Model Costs.** Capital and O&M costs for each alternative were entered into a net present value (NPV) financial model that included financing costs and other variables (described below). The financial model assumptions were closely coordinated with the City's financial staff to match typical City financing assumptions. The model was also vetted with the project stakeholder group (including the Participating Agencies' independent financial model expert).
- **Cost Framework.** A cost framework for sharing project costs between the City and Participating Agencies was outlined in the Study. Multiple options were outlined based on an interactive workshop with project stakeholders.

ATTACHMENT 3 – COST METHODOLOGY FAQ

Q. How are costs presented in the Study?

A. Costs are presented in $/acre feet (AF). Four tiers or thresholds are presented to provide a breakout for different conditions and to display values at each calculation step. The following summarizes the thresholds:

- **Gross Costs.** Gross costs include the capital and O&M costs for completing and operating the recycled water projects. The Gross Cost evaluation included a sensitivity analysis with a Favorable and Unfavorable scenario (see related question/answer below). The final Gross Costs include an average of these scenarios based on discussion and agreement with the Study's stakeholder group.
- **Tier 1 Net Costs – Direct Wastewater System Savings (Point Loma Related Savings).** Since the reuse projects offload flows going to Point Loma, there are savings that should be credited. These savings include:
  - Smaller Point Loma Plant secondary facilities (less flow is treated at Point Loma)
  - Smaller wet weather equalization basin (less flow reaches Point Loma)
  - Less pumping at Pump Station No. 2 (less flow is diverted to Point Loma)
  - Less pumping at Pump Station No. 1 (more reuse occurs at the South Bay Plant since more flow is diverted away from PS1)
- **Tier 2 Net Costs - Salt Credit Benefit.** This credit is $100/AF and accounts for significant salinity reductions in the water, wastewater and reuse systems caused by the advanced purification elements of the reuse projects. This directly benefits municipal systems. There is an additional homeowner and business benefit which is not included in this value.
- **Tier 3 Net Costs - Indirect Wastewater Savings (Maintaining CEPT).** Completing these reuse project will significantly reduce Point Loma discharges. Conceptually, this reduction may be sufficient to meet mass emission targets and maintain the Point Loma Plant as a Chemically Enhanced Primary Treatment (CEPT) Facility. While this study does not establish an opinion on whether this approach should be taken, it does quantify the savings that occurs if this reuse program allows maintaining CEPT status at Point Loma. The breakout of this specific threshold is particularly important since there appears to be differing opinions on this issue between the Study's stakeholders.

Q. What were the Favorable and Unfavorable Scenarios?

A. The Gross Cost financial evaluation included a sensitivity analysis that used different assumptions for the following three variables: project contingencies (ranging from 20% to 40%), Grants (ranging from 10% to 30%), and Metropolitan Water District/Water Authority Local Resource Program (LRP) credits (ranging from $100/AF to $450/AF). The Favorable Scenario assumed the best case (20% contingency, 30% grants, $450/AF LRP). The Unfavorable Scenario assumed the worst case (40% contingency, 10% grants, $100/AF LRP). This sensitivity analysis was performed since stakeholder opinions varied on what the proper assumption should be. For the report, the Stakeholder group agreed to use an average of these values.

Q. How were the Net 1 Direct Wastewater System Savings Calculated?

A. The latest savings calculations were revised between October 2011 and January 2012 to coordinate the efforts of this Study with the City's September 2011 Wastewater Master Plan, which included updated flow projections. The cost savings are based on a comparison between the Recycled Water Study and the Wastewater Master Plan. One key adjustment to the Wastewater Master Plan was adjusting it to provide a comparable secondary treatment option. Backup tables regarding these calculations are provided as Table 1 and 2. A comparative figure is included as Figure 1.

Q. How are South Bay Reuse Costs Calculated?

A. South Bay reuse costs were calculated by including the costs required to upsize the treatment facilities and bypass system beyond the improvements planned in the City's September 2011 Wastewater Master Plan. The comparative Figure 1 displays the responsibilities between the Wastewater Master Plan and the Recycled Water Study. The Table below provides a comparison between the Master plan and RWS in regards to South Bay. The incremental cost used in the cost analysis is based on the flow differential shown in this Table. Three major facilities are affected by this cost split: the South Bay Plant treatment systems through secondary processes, and the pump station and force main that diverts wastewater southward from the Spring Valley No. 8 connection (SV08) to the South Bay Plant. (also reference: "Why are the updated Gross Costs Lower?" below)

Facility	Total Planned (mgd)	Wastewater Master Plan (mgd)	Recycled Water Study (mgd)
South Bay Plant treatment; SV08 Diversion Pump Station; SV08 Forcemain	47 mgd (average) 133 mgd (peak)	21 mgd (average) 103 mgd (peak)	26 mgd (average) 30 mgd (peak)

Q. Why are the updated Gross Costs lower? (see next page for cost summary)

A. The Gross Costs are lower than earlier drafts and are now closer to the net costs. The reductions are related to how the South Bay costs are accounted for. Previously, the Gross Cost category of the Recycled Water Study carried all the costs to upgrade the South Bay system. Then, in the Tier 1 Net Costs, facilities attributable to the wastewater system were subtracted (or credited) from the Recycled Water Study costs. The new approach is more straightforward in that the Recycled Water Study only carries the differential South Bay costs (i.e. it does not add then subtract the same facilities). The costs included in this revision include 26 mgd of South Bay treatment capacity and the Study's fair-share cost of the SV08 Pump Station and Forcemain (also reference: "How are South Bay Reuse Costs Calculated?" above). The revised costs do not include a sludge pipeline since the reuse projects do not change the amount of sludge produced in the system.

ATTACHMENT 3 – COST METHODOLOGY FAQ

Q. Are the Net 1 Point Loma Cost Savings credited to the Reuse Study Overstated?

A. The Point Loma cost savings were thoroughly discussed and coordinated with wastewater planning staff. It was concluded that only indirect potable reuse should be considered during the critical wet weather event scenario. No non-potable reuse is assumed to be occurring within the City, Padre Dam or Otay Water District. While non-potable demands are significantly reduced during wintertime and wet weather events, the assumption to not include any non-potable production likely means the savings are understated. Also, the reduction in flows through Pump Station No. 1 and No. 2 would likely reduce pump maintenance and replacement costs in addition to power. Only power savings are currently credited to the reuse projects, which is another element that may in fact be understated.

Q. Are there other reuse project savings not included?

A. It is likely that there are material water system savings that may occur as a result of completing the reuse projects. Completing the proposed reuse projects reduces the need to import water. Reducing imported water may reduce the City's liability in pending California Bay-Delta improvements. The reuse projects may also decrease the need to expand conveyance facilities to deliver imported untreated water to the City. Since these impacts are not yet clear, the Study captures these as qualitative considerations. Quantitative values were not applied to the estimates to avoid overstating cost savings from speculative avoided facilities.

Q. How are alternative costs dealt with?

A. There are five (5) refined alternatives in the Recycled Water Study. The cost thresholds described above (Gross, Net 1, Net 2, and Net 3) are included for each of the five alternatives.

Q. What are the current cost estimates for the alternatives, based on the recent coordination efforts with the September 2011 Wastewater Master Plan?

A. The following table summarizes the updated study costs. The Net Costs are nearly identical to the 2011 Draft presented to the Stakeholder group (described further in a question below).

Cost Tier	Average of all Alternatives (A1, A2, B1, B2, B3)		Average of Least Cost Alternatives (B1, B2)	
	January 2012 (NEW)	August 2011 (PREVIOUS)	January 2012 (NEW)	August 2011 (PREVIOUS)
Gross Cost	$1,800	$2,200	$1,700	$2,100
Tier 1 Net Costs: Point Loma Savings	$1,200	$1,200	$1,100	$1,100
Tier 2 Net Costs: Salt Credit	$1,100	$1,100	$1,000	$1,000
Tier 3 Net Costs: Maintaining CEPT	$700	$700	$600	$500

Notes:

- Net Cost tiers include savings from the previous step.
- Gross Cost values represent the average of the favorable and unfavorable scenarios, which varied the project contingency, grants and LRP credit values.

ATTACHMENT 3 – COST METHODOLOGY FAQ

Q. Why are the updated Net Costs the same or slightly lower than the previous results?

A. The Net costs are nearly identical in all cases. There are competing issues that led to this result. The main influencer is related to increased design flows for the Point Loma Plant, which causes the Point Loma Plant to be larger than previous versions of this Study. The larger plant means the initial Recycled Water Study goal of avoiding more expensive Biological Aerated Filter (BAF) treatment processes cannot be achieved. Even though the Point Loma Plant size increased and BAF was not avoided, the costs increased proportionally between the Wastewater Master Plan and the Recycled Water Study. Since the Net 1 and Net 3 Costs are based on the differential savings between these two studies, little change occurred.

Q. Are these results considered favorable?

A. These results are considered very favorable for the following reasons:

- The reuse costs are comparable to existing untreated water delivery costs of $904/AF. Raw water costs are projected to rise substantially in the future
- The new reuse supply reduces the region's reliance on imported water and increases local water supply reliability
- The reuse solutions are more sustainable and environmentally friendly
- The reuse solutions produce additional water quality benefits such as significant regional salinity reductions
- The solutions increase the City and Participating Agencies' ability to control long term costs (both water supply and wastewater disposal)
- The solutions are supported by environmental stakeholders

Table 1 – Point Loma Avoided Cost Calculation Summary

SUMMARY OF WASTEWATER SYSTEM SAVINGS DUE TO REUSE PROJECTS

TYPE	COMPONENT	SAVINGS	KEY
Capital Cost Savings (Total)	Smaller secondary capacity needed at the Point Loma Plant (143 mgd vs. 240 mgd)	$434,447,915	1
	7 million gallon smaller Wet Weather Equalization Basin	$123,000,000	3
	Subtotal Capital Cost	***$557,447,915***	
O&M Savings (Annual)	Lower Point Loma Plant flows (Primary and Secondary) (143 mgd vs. 240)	$18,654,416	1
	Less pumping from Pump Station No. 2 to the Point Loma Plant (-73 mgd)	$2,200,000	4
	Less pumping from Pump Station No. 1 to Pump Station No. 2 (-26 mgd)	$600,000	5
	7 million gallon smaller Wet Weather Equalization Basin	$6,150,000	3
	Subtotal Annual O&M Cost Avoided	***$27,604,416***	
Tier 1 Wastewater Savings (input into the Financial Model)	**Avoided Capital**	**$557,447,915**	Sum of items above
	Avoided O&M	**$27,604,416**	
Tier 3 CEPT Related Savings (input into the Financial Model)	**Avoided Capital**	**$463,323,028**	2
	Avoided O&M	**$12,986,956**	

see Attachment 2

see Attachment 2

see Attachment 2

Notes:

- Savings do not include non-potable production during wet weather events.
- Pumping cost savings are for power savings only. Other O&M savings are not included.

= *Key corresponding to related cost detail table and comparative figure*

Table 2- Point Loma Costs at Different Capacities

POINT LOMA PLANT COST SUMMARY		Recycled Water Study		Wastewater Master Plan w/Secondary	Avoided Costs	
		A	B	C	D	E
		143/320 MGD		240/413 MGD	Net 1	Net 3
Cost Item		SECONDARY	CEPT Only	SECONDARY	Column C - Column A	Column A - Column B
CAPITAL COST						
Raw Construction (Labor, Mtl & Equip)		$234,795,720	$105,128,406	$441,070,171	$206,274,451	$129,667,315
Other Cost		$180,061,976	$81,357,451	$337,683,030	$157,621,054	$98,704,525
Contractor General Conditions	10.00% of construction cost					
Contractor OH/P	10.00% of construction cost					
Sales Tax	8.75% of construction cost					
Material Shipping and Handling	2.00% of construction cost					
Start-up, Training & Contr. O & M	2.00% of construction cost					
Construction Contingency	40.00% of construction cost					
Construction Cost(Raw Construction + Other)		$414,857,696	$186,485,857	$778,753,201	$363,895,505	$228,371,839
Soft Costs		$165,943,079	$74,594,343	$311,501,281	$145,558,202	$91,348,736
COMNET	10.00% of construction cost					
Engineering, Legal and Administration	20.00% of construction cost					
Construction Management	10.00% of construction cost					
Subtotal (Construction + Soft)		$580,800,775	$261,080,200	$1,090,254,482	$509,453,707	$319,720,575
Other Associated Projects						
Additional Power		$39,504,836	$0	$67,390,602	$27,885,766	$39,504,836
Sludge Booster Pump Station Construction		$0	$0	$1,206,059	$1,206,059	$0
Environmental Mitigation		$2,323,814	$2,323,814	$2,323,814	$0	$0
Existing PSB Upgrades		$104,097,618	$104,097,618	included in estimate	N/A	$0
TOTAL CAPITAL COST		**$726,727,042**	**$263,404,014**	**$1,161,174,957**	**$434,447,915**	**$463,323,028**
ANNUAL O&M		**$18,842,645**	**$5,855,688**	**$37,497,060**	**$18,654,416**	**$12,986,956**
Labor						
Maintenance (@ 4% of Equipment Capital)					1	2
Power (@ $0.11/kWh)						
Chemicals						
Electrical & Instrumentation						

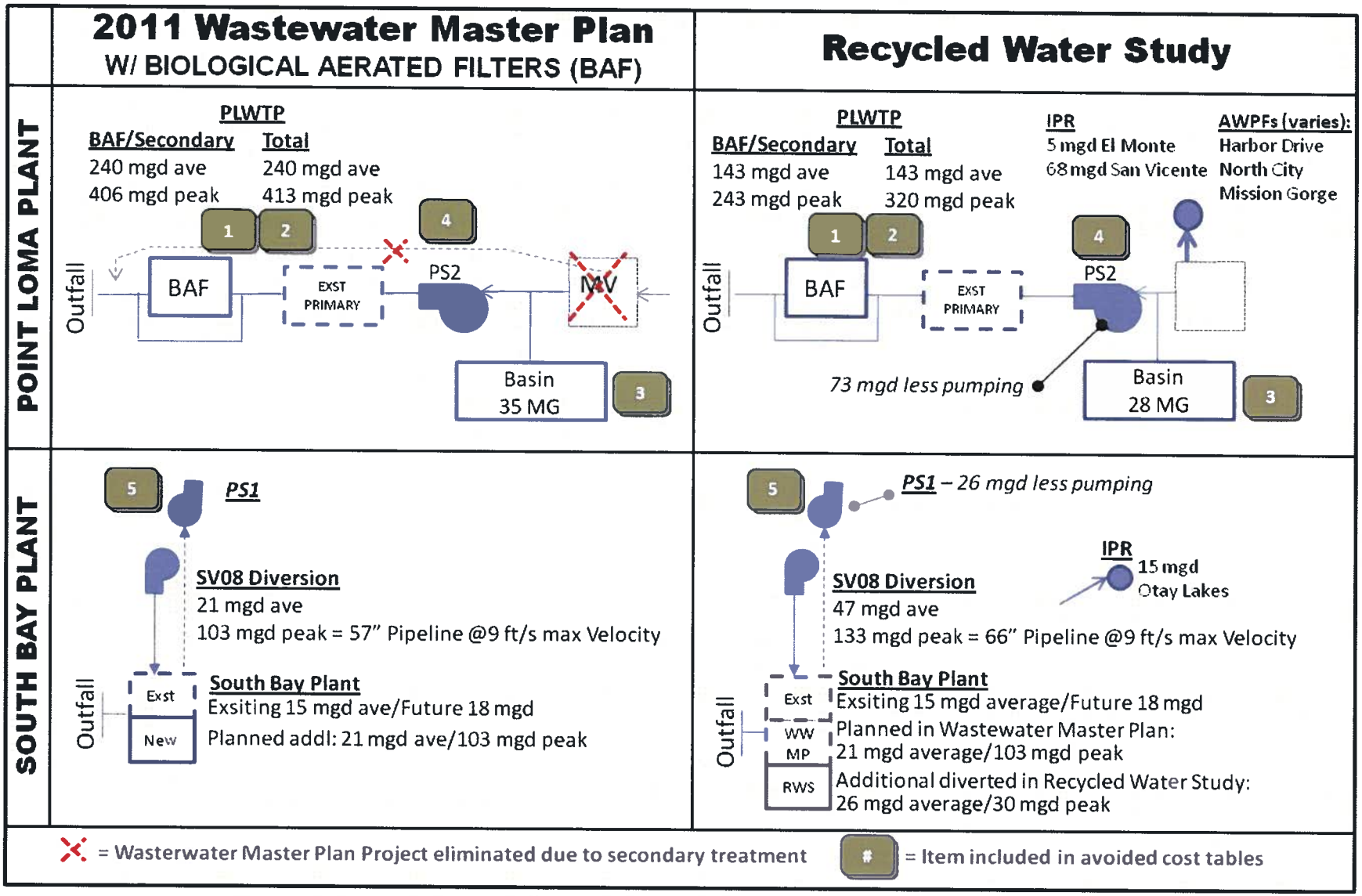
See Attachment 1

Notes:

(a) 373 mgd peak flow assumes 35 Mgal EQ Basin in Place; 390 mgd peak flow assumes 28 Mgal EQ Basin in place

(b) Avoided includes all facilities associated with secondary treatment that is unnecessary if CEPT is allowed

Figure 1. Comparison between Wastewater Master Plan and Recycled Water Study Facilities



City of San Diego
Recycled Water Study Report
Review Comments

NO.	REFERENCE	COMMENT	ACTION

AGENDA ITEM 13
Attachment

PADRE DAM MUNICIPAL WATER DISTRICT
MASS BALANCE CORRECTION ISSUE
MARCH 8, 2012

Padre Dam Municipal Water District (Padre Dam), a Participating Agency (PAs) in the City of San Diego Metropolitan Wastewater System (Metro), currently averages 5 million gallons per day (mgd) of sewage generated within its service area. Forty percent of the wastewater (approximately 2 mgd) is conveyed to the Padre Dam Water Recycling Facility (PDWRF); the balance goes to the City of San Diego (City) Metro system for treatment and disposal. Sludge generated at the PDWRF is also discharged to the Metro system.

In late 2010 Padre Dam performed a Metro Billing Formula review. As part of the billing formula review it was discovered that in addition to the agreed upon billing formula that included sewage flow and strength data from flow meter PD1B the sludge loads from PDWRF were also calculated in a separate "mass balance" billing worksheet prepared by the City and then added to Padre Dam's Metro billing. Thus Padre Dam was being charged twice for the sludge they discharged into the Metro system: with the PD1B flow meter data and then a second time by adding in the mass balance figures.

This double charge of sludge loads from the mass balance worksheet has created an over payment to the City for solids since 1998. In addition, Padre Dam had picked up a larger share of the regional returns and centrate since fiscal year 1998 due to the double charge for the sludge.

The City of San Diego staff has agreed that the double charge since fiscal year 1998 does exist and has gone back and recalculated the amount owed to Padre Dam. Attached to this report is the most recent schedule developed by City staff showing the Padre Dam financial impact of the double charge to be $12.4 million from 1998 to 2009.

Now that this billing error has been discovered, and verified by San Diego and the PAs, the PAs and City of San Diego need to determine how it should be corrected. The remaining issue that needs to be resolved is that of the time period that should be used to calculate the repayment. The easiest way to correct the situation would be if the PAs and San Diego agree to an identical repayment time period. Here are two potential repayment scenarios:

1. Assume a 4 year statute of limitations, the repayment period could go back 4 years from the date of the error notification (November 2010). An important element of the statute of limitations will be the discussion of tolling. Historically, it should be four years back on financial books that have been closed.
2. Go back to 1998 which would correct the entire amount.

The PAs do not have ready access to legal counsel due to the conflict of interest the JPA attorney has with this issue. The JPA attorney has suggested that each PA could consult their own attorney or that possibly a group of the PAs attorney's could form to review this matter and advise the members. The JPA attorney also stated that this is an individual billing issue between each PA and the City as all Pas have separate contracts with the City.

Master Summary Reconciliation

Padre Dam Mass Balance Corrections Calculations

Agency	FY 2009	FY 2008	FY 2007	FY 2006	FY 2005	FY 2004	FY 2003	FY 2002	FY 2001	FY 2000	FY 1999	FY 1998	Total All Years	Recycled Water Revenue Credit [1]	Total All Years with Recycled Water Credit	Statue of Limitations FY 2008 - FY 2009 w/o Recycled Water Credit [2]	Statue of Limitations FY 2008 - FY 2009 w/ Recycled Water Credit [2]
City of Chula Vista	$583,549	$102,100	$116,698	$87,312	$93,442	$94,998	$111,074	$79,738	$58,184	$38,286	$56,012	$16,120	$1,437,513	($306,326)	$1,131,187	$685,649	$379,323
City of Coronado	($268,991)	$8,661	$11,504	$8,141	$9,356	$9,736	$11,001	$8,685	$6,998	$4,651	$10,291	$3,116	($176,851)	($47,735)	($224,586)	($260,330)	($308,065)
City of Del Mar	($31,815)	$4,241	$4,889	$4,277	$4,200	$4,546	$5,304	$4,334	$3,311	$2,050	$3,706	$1,224	$10,267	($12,879)	($2,612)	($27,574)	($40,453)
East Otay Mesa	($1,166)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($1,166)	($14,676)	($15,842)	($1,166)	($15,842)
City of El Cajon	($372,876)	$45,914	$48,441	$38,293	$40,954	$41,222	$48,878	$42,410	$33,543	$23,696	$44,026	$12,425	$46,926	($160,239)	($113,313)	($326,962)	($487,201)
City of Imperial Beach	$270,921	$12,033	$13,277	$11,395	$11,453	$12,567	$13,675	$10,913	$8,175	$5,559	$11,967	$3,395	$385,330	($55,148)	$330,182	$282,954	$227,806
City of La Mesa	$194,044	$26,209	$28,484	$22,226	$23,184	$23,629	$27,412	$20,917	$15,234	$10,974	$22,938	$7,615	$422,866	($102,658)	$320,208	$220,253	$117,595
Lakeside/Alpine	$51,192	$16,174	$17,959	$15,185	$15,509	$16,548	$18,764	$15,875	$12,620	$8,878	$16,699	$4,984	$210,387	($71,059)	$139,328	$67,366	($3,693)
City of Lemon Grove	$83,900	$10,786	$12,915	$9,828	$10,751	$11,884	$12,762	$10,899	$8,308	$5,723	$10,273	$2,841	$190,870	($44,440)	$146,430	$94,686	$50,246
The City of National City	($439,007)	$24,962	$31,131	$28,219	$27,946	$29,415	$33,207	$27,425	$20,551	$14,046	$27,531	$5,854	($168,720)	($109,921)	($278,641)	($414,045)	($523,966)
Otay Water District	($175,691)	$10,448	$11,307	$9,749	$9,126	$10,212	$11,256	$8,774	$6,701	$3,506	$6,464	$1,083	($87,065)	($18,907)	($105,972)	($165,243)	($184,150)
Padre Dam Water District	($2,604,253)	($1,023,808)	($1,167,525)	($960,678)	($1,080,016)	($1,104,835)	($1,292,525)	($1,035,662)	($800,304)	($549,240)	($504,706)	($251,843)	($12,375,395)	($91,389)	($12,466,784)	($3,628,061)	($3,719,450)
City of Poway	$553,823	$17,216	$17,141	$13,962	$16,533	$17,763	$19,858	$16,117	$12,146	$8,407	$16,800	$5,130	$714,896	($86,559)	$628,337	$571,039	$484,480
Spring Valley	$1,049,480	$29,962	$33,605	$28,109	$32,598	$31,196	$39,047	$29,489	$20,971	$16,201	$71,913	$12,019	$1,394,590	($152,003)	$1,242,587	$1,079,442	$927,439
Wintergardens	$97,881	$3,950	$4,202	$3,449	$3,690	$3,920	$4,437	$3,629	$2,627	$1,896	$4,773	$1,157	$135,611	($19,206)	$116,405	$101,831	$82,625
City of San Diego	$1,009,009	$711,154	$815,970	$680,532	$781,274	$797,196	$935,853	$756,454	$590,938	$405,364	$201,313	$174,880	$7,859,937	$1,293,145	$9,153,082	$1,720,163	$3,013,308
TOTAL	$0	$2	($2)	($1)	$0	($3)	$3	($3)	$3	($3)	$0	$0	($4)	$0	($4)	$2	$0
San Diego County Sanitation District Total	$1,197,387	$50,086	$55,766	$46,743	$51,797	$51,664	$62,248	$48,993	$36,218	$26,975	$93,385	$18,160	$1,739,422	($256,944)	$1,482,478	$1,247,473	$105,852

[1] Recycled Water Revenue Includes Interest

[2] Notification of Issue November 17, 2010 (FY 2011). Per San Diego City AttorneyStatute of Limitations is 4 contract years or FY2008 to FY2011

AGENDA ITEM 14
Attachment

MetroTAC
2011/12 Work Plan

MetroTAC Items	Description	Subcommittee Member(s)
Advanced Water Purification Demonstration Project	San Diego engaged CDM to design/build/operate the project for the water repurification pilot program. *2/8/11: Equipment arrived 3/2011; tours will be held when operational (June/July 2011 timeframe*). 2/12: Tours are available. San Diego whitepaper on IPR distributed to Metro TAC members.	Al Lau
Fiscal Items	The Finance committee will continue to monitor and report on the financial issues affecting the Metro System and the charges to the PAs. The debt finance and reserve coverage issues have been resolved. Refunds totaling $12.3 million were sent to most of the PA's.10/26/11: 2010 will be the first year where the PAs will be credited with interest on the debt service reserve and operational fund balances. Interest will be applied as an income credit to Exhibit E when that audit is complete.	Greg Humora Karen Jassoy Karyn Keese
Recycled Water Revenue Issue	Per our Regional Wastewater Agreement revenues from SBWTP are to be shared with PA's. 4/11: City has agreed to pay out revenue to Wastewater Section and PA's credit will be on the Exhibit E adjustments at year end Open issues: Capacity reservation lease payments and North City Optimized System Debt service status. 12/11: Letter sent to San Diego regarding outstanding recycled water revenue issues.	Scott Huth Scott Tulloch Karyn Keese
Water Reduction - Impacts on Sewer Rates	The MetroTAC wants to evaluate the possible impact to sewer rates and options as water use goes down and consequently the sewer flows go down, reducing sewer revenues. Sewer strengths are also increasing because of less water to dilute the waste. We are currently monitoring the effects of this. 2/2011:wastewater revenues are declining due to conservation and flow reductions and agencies are re-prioritizing projects to be able to cover annual operations costs	Eric Minicilli Bob Kennedy Karyn Keese
"No Drugs Down the Drain"	The state has initiated a program to reduce pharmaceuticals entering the wastewater flows. There have been a number of collection events within the region. The MetroTAC, working in association with the Southern California Alliance of Publicly-owned Treatment Works (SCAP), will continue to monitor proposed legislation and develop educational tools to be used to further reduce the amount of drugs disposed of into the sanitary sewer system. 8/2010: County Sheriff and Chula Vista have set up locations for people to drop off unwanted medications and drugs.4/11: *Local law enforcement has taken a proactive role and is sponsoring drug take back events. 3/11: TAC to prepare a position for the board to adopt; look for a regional solution; watch requirements to test/control drugs in wastewater.* 10/26/11: A prescription drug take back day is scheduled for 10/29/11. Goto www.dea.gov to find your nearest location.	Greg Humora
Flushable Items that do not Degrade	Several PAs have problems with flushable products, such as personal wipes, that do not degrade and cause blockages. MetroTAC is investigating solutions by other agencies, and a public affairs campaign to raise awareness of the problems caused by flushable products. We are also working with SCAP in their efforts to help formulate state legislation to require manufacturers of products to meet certain criteria prior to labeling them as "flushable." Follow AB2256 and offer support.	Eric Minicilli

MetroTAC Items	Description	Subcommittee Member(s)
Grease Recycling	To reduce fats, oils, and grease (FOG) in the sewer systems, more and more restaurants are being required to collect and dispose of cooking grease. Companies exist that will collect the grease and turn it into energy. MetroTAC is exploring if a regional facility offers cost savings for the PAs. The PAs are also sharing information amongst each other for use in our individual programs. *3/11: get update on local progress and status of grease rendering plant near Coronado bridge*	Eric Minicilli
Padre Dam Mass Balance Correction	11/11: Padre Dam has been overcharged for their sewage strengths since 1998. Staff from City of San Diego presented a draft spreadsheet entitled Master Summary Reconciliations Padre Dam Mass Balance Corrections Calculation. Rita Bell and Karyn Keese were elected to review the documentation and report back to Metro TAC. 2/12: Audit complete. Item added as Standing to Metro TAC agenda.	Rita Bell Karyn Keese
Recycled Water Study	As part of the secondary waiver process, San Diego agreed to perform a recycled water study within the Metro service area. That study is currently underway, and MetroTAC has representatives participating in the working groups. TM #8 Costs estimates are out and PAs provided comments on TM#8 and have asked for a technical briefing. 10/16/11: Final draft of report is due out in November 2011.1/12: Final draft of report is due in March 2012.*3/12: Final draft available for comments until 3/19/12*	Scott Huth Al Lau Scott Tullock Karyn Keese Jennifer Duffy
Recycled Water Rate Study	San Diego is working on a rate study for pricing recycled water from the South Bay plant and the North City plant. Metro TAC, in addition to individual PAs, have been engaged in this process and have provided comments on drafts San Diego has produced. We are currently waiting for San Diego to promulgate a new draft which addresses the changes we have requested. 10/26/11: draft study still not issued	Karyn Keese Rita Bell
Metro JPA Strategic Initiatives	Metro TAC to develop success measures for the JPA strategic initiatives and suggest a schedule to complete certain items. 1/12: Paula de Sousa requested the Board Secretary to provide all past policy decisions.	Dan Brogadir Karyn Keese Paula de Sousa
Salt Creek Diversion	9/2010: OWD, Chula Vista and San Diego met to discuss options and who will pay for project; Chula Vista and OWD are reviewing options. 2/2011: OWD and PBS&J reviewed calculations with PUD staff; San Diego to provide backup data for TAC to review. This option is also covered in the Recycle Water Study.10/26/11: Back-up information has still not been received from staff.	Roberto Yano Bob Kennedy Karyn Keese Rita Bell
Recycled Water Study Cost Allocation	A small working group was formed to discuss options to allocate PLWTP offset project costs among the water and wastewater rate payers; Concepts will be discussed at TAC and JPA Board in near future.	Roberto Yano Al Lau Karyn Keese
Board Members' Items		
Rate Case Items	1/12: San Diego is in the process of hiring a consultant to update their rate case. As part of that process, Metro TAC and the Finance Committee will be monitoring the City's proposals as they move forward.	Karyn Keese
Exhibit E	Metro TAC and the Finance Committee are active and will monitor this process. Individual items related to Schedule E will come directly to the Board as they develop.	Karen Jassoy Karyn Keese
Future bonding	Metro TAC and the Finance Committee are active and will monitor this process. Individual items related to bonding efforts will come directly to the Board as they develop. 10/26/11: San Diego is issuing an RFP for a cost of service study to support a future bond issue potentially in mid-2013. Kristin Crane to sit on the selection panel.	Karen Jassoy Karyn Keese Kristen Crane

MetroTAC Items	Description	Subcommittee Member(s)
Changes in water legislation	Metro TAC and the Board should monitor and report on proposed and new legislation or changes in existing legislation that impact wastewater conveyance, treatment, and disposal, including recycled water issues	Paula de Sousa
Role of Metro JPA regarding Recycled Water	As plans for water reuse unfold and projects are identified, Metro JPA's role must be defined with respect to water reuse and impacts to the various regional sewer treatment and conveyance facilities *2/12: Scott Huth removed as member due to new position. JPA/Metro TAC needs to appoint a new representative.*	Karyn Keese
Border Region	Impacts of sewer treatment and disposal along the international border should be monitored and reported to the Board. These issues would directly affect the South Bay plants on both sides of the border. *2/12: This Item does not have a champion. Should we remove?*	
IROC Performance Audits	Work with IROC to identify areas to be audited; participate in audit process. 8/20/10: provide the top 5 areas to audit by September IROC meeting.	Augie Caires

Completed Items	Description	Subcommittee Member(s)
Debt Reserve and Operating Reserve Discussion	In March 2010, the JPA approved recommendations developed by Metro JPA Finance Committee, MetroTAC, and the City of San Diego regarding how the PA's will fund the operating reserve and debt financing. MetroTAC has prepared a policy document to memorialize this agreement. **Project complete: 4/10**	Scott Huth Karyn Keese Doug Wilson
State WDRs & WDR Communications Plan	The Waste Discharge Requirements (WDRs), a statewide requirement that became effective on May 2, 2006, requires all owners of a sewer collection system to prepare a Sewer System Management Plan (SSMP). Agencies' plans have been created. We will continue to work to meet state requirements, taking the opportunity to work together to create efficiencies in producing public outreach literature and implementing public programs. **Project complete: 5/10.** 2/12: State has proposed new WDR regulations. Metro TAC will not reopen but Dennis Davies will stay on top of the issue.	Dennis Davies
Ocean Maps from Scripps	Schedule a presentation on the Sea Level Rise research by either Dr. Emily Young, San Diego Foundation, or Karen Goodrich, Tijuana River National Estuarine Research Reserve **Project complete: 5/10**	Board Member Item
Secondary Waiver	The City of San Diego received approval from the Coastal Commission and now the Waiver is being processed by the EPA. The new 5 year waiver to operate the Point Loma Wastewater Treatment Plant at advanced primary went into effect August 1, 2010. **Project complete 7/10**	Scott Huth
Lateral Issues	Sewer laterals are owned by the property owners they serve, yet laterals often allow infiltration and roots to the main lines causing maintenance issues. As this is a common problem among PAs, the MetroTAC will gather statistics from national studies and develop solutions. 4/11: There has been no change to the issue. We will continue to track this item through SCAP and report back when the issue is active again. **Efforts closed 3/11**	Tom Howard Joe Smith
"Power Tariff"	Power companies are moving to a peak demand pricing scheme which negatively impacts PAs with pump stations and other high energy uses. MetroTAC wants to evaluate the new legislation and regulations, and to identify and implement cost savings efforts for the PAs. (8/2010): John Helminski at the City of San Diego is working on a sustainability project for CoSD 3/11: Prepare a position paper for the JPA board to consider 4/11: John Helminski no longer works for the City. Request update from Paula.5/31/11: Roberto Yano met with SCAP representatives. Each agency should meet with their SDG&E representative to determine if there are special programs or incentives they can qualify for .Per SCAP there is no new legislation.10/26/11: We will continue to track this item through SCAP and report back when the issue is active again.	Tom Howard Paula de Sousa Roberto Yano

Completed Items	Description	Subcommittee Member(s)
SDG&E Rate Case	SDG&E has filed Phase 2 of its General Rate Case, which proposes a new "Network Use Charge" which would charge net-energy metered customers for feeding renewable energy into the grid as well as using energy from the grid. The proposal will have a significant impact on entities with existing solar facilities, in some cases, increases their electricity costs by over 400%. Ultimately, the Network Use Charge will mean that renewable energy projects will no longer be as cost effective. SDG&E's proposal will damage the growth of renewable energy in San Diego County. A coalition of public agencies has formed to protest this rate proposal.2/12: PUC has not accepted SDG&E's filing. Metro TAC move to close this item. Will continue to monitor this.	Paula de Sousa
Metro JPA Strategic Plan	2/2011: committee to meet 2/28/11 to plan for retreat to be held on 5/5/11 Retreat held and wrap up presented to the Commission at their June Meeting. JPA strategic planning committee to meet to update JPA Strategic Plan and prepare action items. 1/12: Draft strategic plan reviewed by Board and referred to Metro TAC for input. MetroTAC has created a subcommittee to work on this project. 2/12: Metro TAC has completed their final review. Forwarded to Commission.	Augie Caires Ernie Ewin