Carlsbad Desalination Project:
Bond Financing Overview and Water Unit Price
Agenda

- Projected Financing and Water Unit Price – November 29, 2013
- Market Conditions and Pricing Strategy
- Actual Financing and Water Unit Price – December 24, 2012
- Market Update and Investor Outreach (JP Morgan)
- Water Unit Build Up Reconciliation (Clean Energy Capital)
Project Bond Financing: not to exceed $840 Million

Plant Term
- 30 years
- Increasing 2.5% annually for rate smoothing
- Electricity Charge 2.0% to 2.38%

Board Approved inc. DSRF and CAP “I”

Interest Rate
- Original Maximum: 6.10%
- Board Modified Maximum: 5.90%

Projected Water Unit Price $2,358/AF (48,000 AF/Year)
$2,100/AF (56,000 AF/Year)
Market Conditions Pre-Pricing

- Tax-exempt municipal yields remain at or near their 10-year and 20-year historical lows
Pricing Strategy

• The Carlsbad transaction will require a strategic pricing plan that will differ from traditional Water Authority transactions

• Consideration of the following will be important:
  - Credit approval, investor due diligence and impact of issues such as force majeure, construction risk mitigation and remedies
  - Establishing comparables (if any)
  - Positioning the credit appropriately and maximizing specialty state benefit
  - Quantifying impact of minimum denominations and QIB restrictions
  - Liquidity premium
  - AMT spread
  - Consistent syndicate messaging and transparency in order flow will be essential
  - Building a substantial order book
  - Determining range of and impact of potential pricing adjustments
  - Evaluating couponing and yield-to-call versus yield-to-maturity trade-offs
Comparable Issues

- No recent directly comparable issues
- “BBB” rated transactions exhibit a fairly wide range of spreads over the last year
- Most recent, larger, long-term “BBB” AMT deals priced at spreads of about +170 to +220
- Generic AMT v. Non-AMT spread is about 40 - 45 bps

### 2012 Comparable Issue Spread Summary

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Final Pricing

- Significant investor outreach and discussion continued
- Other issuers drop out of the market or reduce bond sizing due to declining market conditions and investor uncertainty about fiscal cliff
- Market yields the week after our pricing increase 20 bpi’s which would have increased our debt service $30-$40 million over the life of the bonds
- JP Morgan commits to underwrite $100 Million in bonds
- Carlsbad Desal project closes with lower than expected interest rate in midst of a major market sell-off
Actual Financing & Water Unit Price

- **December 24, 2013:** Project Financing: $733.56 Million
- **Interest Rate:**
  - Actual Maximum AMT: 4.78% (reduced water unit price $151/AF)
  - Actual All-In TIC: 4.90%
- **Results:**
  - Water Unit Price = $2,257/AF (48,000 AF/Year)
  - $2,014/AF (56,000 AF/Year)
  - $200M in avoided debt service costs over the 33 year life of the bonds
  - Increased DSRF and CAP I to protect bond holders
Financing Summary: Water Furnishing Revenue Bonds, Series 2012
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Carlsbad Desalination Project:
Series 2012 Water Furnishing Revenue Bonds – Transaction Overview

Transaction Overview

- On December 13, 2012, J.P. Morgan served as bookrunner for the $733.56 million Series 2012 Water Furnishing Revenue Bonds (the “Bonds”) issued by the California Pollution Control Financing Authority on behalf of the San Diego County Water Authority (the “Water Authority”) and Poseidon Resources (Channelside) LP (the “Company”)
- The Bonds were issued in two series – the Series 2012 Plant Bonds (AMT), obligations of the Company, and the Series 2012 Pipeline Bonds (Non-AMT), obligations of the Water Authority
- The Bonds are rated Baa3 / BBB- by Moody’s and Fitch, respectively
- Proceeds of the Bonds will be used by the Company and the Water Authority to pay a portion of the costs of the Carlsbad Desalination Project, which will be executed by both parties under a public-private partnership (“P3”)
- In addition to the Bonds, the Project is being funded with an equity contribution from Stonepeak Partners

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Carlsbad Desalination Project:
Series 2012 Water Furnishing Revenue Bonds – Investor Marketing Strategy

Marketing Strategy Overview

- Given the unfamiliar technology underlying the Project as well as the complex financing structure and QIBs selling restrictions, J.P. Morgan developed and led an extensive investor marketing program that spanned roughly five weeks and included:
  - **Non-deal roadshow** in Los Angeles, San Francisco, Chicago, and New York to review the San Diego Region’s current water supply and the details of the Project, in which **nine investor firms** participated
  - **Deal-specific roadshow** in New York and Boston to educate investors on the specifics of the financing package, in which **25 investor firms** participated
  - **Pre-recorded NetRoadshow** presentation accessed by **57 unique investor firms**
  - **Sixteen one-on-one calls** between investors and representatives of the Water Authority, Poseidon, and J.P. Morgan’s banking team

Investor Outreach & Transaction Timeline (2012)
## Summary of Investor Participation by Outreach Event

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Carlsbad Desalination Project: Series 2012 Water Furnishing Revenue Bonds – Pre-Pricing Market Conditions

‘Aaa’ MMD from WPA Release to Week Prior to Pricing

Over this period of time, ‘Aaa’ MMD decreased by an average of 28 bps across the curve

Muni Fund Flows from WPA Release to Week Prior to Pricing ($mm)

Source: Lipper FMI, iMoneyNet; Reflects all tax-exempt mutual funds that report on a weekly and monthly basis, excluding tax-exempt money market funds

Source: Municipal Market Data
Market Post: Munis Weaken as Overbought Market Corrects
By TAYLOR RIGGS
Thursday, December 13, 2012
The tax-exempt market continued to weaken Thursday morning, continuing the trend of the week, though traders noted the movement was more a correction than a panicked selloff.
"Weakness persists in the muni market," wrote Dan Toboja, vice president at Ziegler Capital Markets. "The last several days have seen a selloff in munis. Although it's been far from a fire sale there's been about a 10- to 15- basis-point cheapening over the last three trading sessions."

Desalination Project Bonds Head to Market
By KEELEY WEBSTER
Thursday, December 13, 2012
LOS ANGELES – They didn’t plan it that way, but the decade of delay the builders of a seawater desalination plant experienced getting the Carlsbad, Calif. project off the ground landed them in one of the most receptive markets for high-yield municipal bonds in recent history.
The owners of Stamford, Conn.-based Poseidon Resources plan to price the debt through the California Pollution Control Financing Authority Dec. 20. The $781 million in tax-exempt bonds come with ratings of BBB-minus from Fitch Ratings and BaA3 from Moody’s Investors Service.
"It has been a very strong sector of the market," said Craig Brothers, a managing director at Bel Air Investment Advisors Inc. "That is probably another reason they are bringing this deal to market now, because the environment is better than it has ever been."

Market Post: Munis Crumble Under Weight of Supply
By TAYLOR RIGGS
Friday, December 14, 2012
The tax-exempt market struggled to hold up under the weight of supply this week as traders said yields continue to climb.
"Buyers continued pulling bids back and more sellers hit bids off from recent days," wrote Dan Toboja, vice president at Ziegler Capital Markets. "Overall the stability that appeared to be in the market Thursday morning was gone by midday. By the close of trading bids began to slowly flow back into the market."

Market Selloff Doesn’t Hamper Desalination Pricing
By KEELEY WEBSTER
Thursday, December 17, 2012
LOS ANGELES – The builders of a Carlsbad, Calif. seawater desalination plant pulled off a $734 million bond sale at a lower-than-anticipated interest rate in the midst of a massive sell-off in the bond market.
Officials said the historic deal was the first public-private bond financing of a desalination project in the U.S. and only the second large desalination project constructed in the country.
Carlsbad Desalination Project:
Series 2012 Water Furnishing Revenue Bonds – Pricing Week Market Conditions

‘Aaa’ MMD During Pricing Week

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Muni Fund Flows During Pricing Week

- For the week ending December 12th, all municipal bond funds received inflows totaling $2.3 billion and high-yield funds received inflows of $668 million.

- *Even though funds reported inflows in the week leading up to pricing, there was a notable slowing from prior weeks.*

- For the week ending December 19th, municipal bond funds reported their largest outflows since January 2011.

- Outflows totaled $2.3 billion, as 10-year ‘Aaa’ MMD rose by 20 basis points over the week-long reporting period.
  - High-yield funds saw outflows of $939 million.
  - California-specific municipal funds reported $214 million of outflows.

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Carlsbad Desalination Project:
Series 2012 Water Furnishing Revenue Bonds – Final Pricing Scale

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<th>California Pollution Control Financing Authority</th>
<th>Water Furnishing Revenue Bonds, Series 2012</th>
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<tr>
<td>2045</td>
<td>Coupon 5.000%</td>
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Financing Results

- Despite restrictions requiring sales to Qualified Institutional Buyers (“QIBs”) only and a significant market cheapening during pricing, the transaction priced with some of the lowest yields seen in the high-yield municipal infrastructure space to-date
  - Maximum AMT yield was 4.78%
  - Maximum Non-AMT yield was 4.37%
  - All-in TIC for the transaction was 4.90%
  - Total Principal to Total Interest Ratio was 78.21%
  - 24 QIBs participated in the transaction
- In order to support the pricing amidst challenging market conditions, J.P. Morgan deployed a material amount of its own capital

*J.P. Morgan*

Rates as of COB December 13, 2012
Carlsbad Desalination Project:  
Series 2012 Water Furnishing Revenue Bonds – Final Allotments

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<th>Allotments by Investor Type</th>
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<th>Series 2012 Pipeline Bonds</th>
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<td>Bank Trusts 1%</td>
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<td>Bond Funds 61%</td>
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## Carlsbad Desalination Project:
### Series 2012 Water Furnishing Revenue Bonds – Post-Pricing Market Conditions

### ‘Aaa’ MMD Post-Pricing

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### Change from Dec. 14 to Jan. 2

- 0.02
- 0.06
- 0.08
- 0.12
- 0.11
- 0.07
- 0.09
- 0.10
- 0.11
- 0.12
- 0.11
- 0.13
- 0.16
- 0.18
- 0.19
- 0.19
- 0.20
- 0.21
- 0.21
- 0.20
- 0.20
- 0.19
- 0.16
- 0.15
- 0.15
- 0.15
- 0.15

### Muni Fund Flows Post-Pricing

- Following substantial bond fund outflows during the week ending December 19th, outflows persisted for the remainder of 2012.
- Trend of outflows reflected investor uncertainty over the fiscal cliff, 2013 tax rates, and the future effective value of municipal tax exemption.
- For the week ending December 26th, all municipal bond funds reported outflows of $427 million, while high-yield bond funds saw outflows of $261 million.
- Though the first week of 2013 brought slight net inflows, outflows returned during the week ending January 9th.
Carlsbad Desalination Project:
Series 2012 Water Furnishing Revenue Bonds – Concluding Observations

Final Pricing Observations

- In bringing the financing to market, J.P. Morgan conducted an extensive non-deal roadshow to educate potential investors about the Project technology and then followed it with deal-specific meetings that provided a detailed look at the financing package.

- As a result of the thorough marketing efforts, the transaction priced with an All-in TIC of 4.90% – far below the upper limit of 5.90% and lower than the anticipated 5.60%.

- In order to preserve low yields for the Water Authority, J.P. Morgan ultimately took nearly $109 million of the Bonds onto its own balance sheet.

- **Carlsbad Desalination Project financing “by the numbers”:**
  - 3,044 unique formulae in comprehensive project finance model
  - Five cities visited during non-deal and deal roadshow
  - 65 unique investor firms reached during the marketing program
  - 704 pages in final Limited Offering Memorandum
    - 1,258 pages including the WPA and technical appendices
  - 62 closing documents
  - 2 closing dates
Carlsbad Desalination Project

Water Unit Price Reconciliation

Presentation to Administrative & Finance Committee January 24, 2013
### Water Unit Price Reconciliation
#### 2012$/AF at Financial Closing Assuming 48,000 AF/Year

<table>
<thead>
<tr>
<th>Principal Change</th>
<th>Date</th>
<th>Bond Rate (%)</th>
<th>Water Unit Price ($/AF)</th>
<th>Change in Water Unit Price ($/AF)</th>
<th>Cum. Change in Water Unit Price ($/AF)</th>
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</thead>
<tbody>
<tr>
<td>Staff release of WPA</td>
<td>09/26/2012</td>
<td>6.10%</td>
<td>$2,358</td>
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<td>Board approval to increase DSRF and CAPI</td>
<td>11/25/2012</td>
<td>5.90%</td>
<td>$2,356</td>
<td>($2)</td>
<td>($2)</td>
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<td>Capital Budget Revisions</td>
<td>N/A</td>
<td>5.90%</td>
<td>$2,377</td>
<td>$21</td>
<td>$19</td>
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<td>Equity Return Charge Revisions</td>
<td>N/A</td>
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<td>$2,399</td>
<td>$22</td>
<td>$41</td>
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<tr>
<td>Fixed &amp; Variable Operating Charge Revisions</td>
<td>N/A</td>
<td>5.90%</td>
<td>$2,408</td>
<td>$9</td>
<td>$50</td>
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<tr>
<td>Finalization of Bond Rate</td>
<td>12/24/2012</td>
<td>4.78%</td>
<td>$2,257</td>
<td>($151)</td>
<td>($101)</td>
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Water Unit Price Projection

The following chart shows the projected Water Unit Price under two scenarios.

- 48,000 AF
- 56,000 AF
The following matrix summarizes the escalation rates and assumptions for each component of the Water Unit Price:

<table>
<thead>
<tr>
<th>Unit Price Component</th>
<th>WPA Contractual Provision</th>
<th>Staff Modeling Assumption</th>
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</thead>
<tbody>
<tr>
<td>Capital Charge</td>
<td>Fixed at 2.5%</td>
<td>2.5%</td>
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<tr>
<td>Electricity Charge</td>
<td>Linked to SDG&amp;E Rates</td>
<td>2.0% to 2.38%</td>
</tr>
<tr>
<td>Operating Charge</td>
<td>Indexed to San Diego CPI</td>
<td>2.5%</td>
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Fiscal Years 2014 and 2015
Budget Development
Administrative and Finance Committee
January 24, 2013
Overall purpose:
- To solicit input from the Board on the development of the upcoming multi-year budget.

Presentation will:
- Review the framework in which the current multi-year budget for FYs 12&13 was developed
- Highlight accomplishments
- Review key factors that impact the development of the FYs 14&15 budget
- Review upcoming Board schedule
- Seek Board Feedback
Framework of the FYs 12&13 Budget

- Reduced water sales volumes and revenue forecasted
- Deferral of 14 CIP projects ($150 million)
- Reorganization & consolidation for enhanced efficiency
- Managed personnel costs - significant staffing reductions
  - Reduction in positions to reflect the reduced CIP
  - Increased PERS & health benefit employee cost sharing
- Programmatic changes to enhance internal efficiencies and effectiveness
- Seeking service efficiencies with Member Agencies
- Ongoing litigation with MWD on fairness of rate charging methodology and process
- Process Improvements and program refinements during off-budget year
FYs 12&13 Focused on Staffing Costs

- Significant staffing reductions
  - 31.33 positions (FTEs) eliminated in the Budget
- Current MOUs
  - Employees will contribute 8% to fully fund their share of the PERS contribution by the end of the MOU term

- 16% Reduction in FTEs (2008 – 2014)
$260 million in anticipated spending on CIP

Carlsbad Desalination Project
- Water Purchase Agreement approved
- Project Financing closed

Emergency Storage Project (ESP) – San Vicente Dam raised to full height of 337 feet

Lake Hodges Pumped Storage Project fully operational and delivering up to 40 megawatts of electricity
Highlights during FYs 12&13 (cont.)

- Mission Trails to Lake Murray Pipeline Relining Project to replace 3.5 miles of pipe underway

- Solar Panels installed at Water Authority facilities projected to save ratepayers $1.7 million over the next 20 years

- Debt Service Refundings –
  - Completed refundings: $18.7 million in NPV savings
  - Current refunding: $50 million estimated in NPV savings
Factors impacting the development of the FYs 14&15 Budget

- **Environment**
  - Continued reduced water demands and increased water efficiencies
  - Ongoing transition from building to operating organization
  - Slow, long-term economic recovery nationally and regionally
  - Ratepayer fatigue
  - Member agencies experiencing continued fiscal challenges
  - Ongoing major litigation with MWD and on QSA
  - Decision making process on Bay-Delta issues
  - Oversight of Carlsbad Desalination Project Construction and administration of WPA
Factors impacting the development of the FYs 14&15 Budget (cont.)

- Ensure Water Authority’s Long-Term Success
  - Effort to review and enhance fiscal sustainability
  - Funding allocated to programs/services that provide the best return for its investment
    - Long-term payback – asset management, business plan implementation

- Capital
  - Completion of significant CIP Projects (i.e. San Vicente Dam Raise)
  - Implementation of approved Master Facilities Plan

- Operations
  - Evaluate existing services/programs to ensure resources are allocated to the appropriate priorities
  - Identify alternative service delivery methods to improve service and/or lower costs
## Schedule

### Key Board Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>January 24</td>
<td>Discussion on development of FYs 14&amp;15 Recommended Budget</td>
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<tr>
<td>April 25</td>
<td>Preliminary rate and charge guidance</td>
</tr>
<tr>
<td>May 23</td>
<td>A&amp;F Committee Presentation of Recommended Budget</td>
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<td>Notice of Public hearing for 2014 Rates and Charges</td>
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<tr>
<td>June 11 &amp; 13</td>
<td>Special A&amp;F Committee Meeting – Budget Workshops</td>
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<tr>
<td>June 27</td>
<td>Consideration/Adoption of Recommended Budget</td>
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<tr>
<td></td>
<td>Hold public hearing on 2014 Rates and Charges</td>
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Board Requested Direction

- Provide Board input for consideration into the development of the Fiscal Years 2014 & 2015 multi-year budget.
  - Operational priorities
  - Capital priorities
  - Policy consideration/guidance
Questions for Board

- Are there any other significant drivers that have not been identified?

- Where should the Authority’s efforts be focused for FY 2014 and FY 2015?

- Are there any areas that should receive more or less attention?
San Diego County Water Authority

Authorization of Water Revenue Refunding Bonds, Series 2013A

Administrative and Finance Committee

January 22, 2013
Actively Managing the Water Authority’s Debt Portfolio

Recent Actions

June 2011 – Restructured commercial paper and issued 5yr short-term note

July 2011 – Issued 2011A Bonds refunding portions of the 2002A Certificates


December 2012 – Carlsbad Desalination Plant and Pipeline financing

Looking Ahead

Early February – Refunding of the 2004A

February Board Meeting – Summary of refunding results and overview of Water Authority’s debt portfolio

April Board Meeting – Renew underwriter pool

– Update short-term debt management strategy
Low Interest Rate Environment Persists

• Rates are just off all-time lows
• Slight increased moderated by decreases in recent weeks
• Market volatility expected due to political pressures
• Goal – Access markets in February

*Estimated average life of Series 2013A Revenue Refunding Bonds.
2013A Bonds Transaction Summary

- Not to exceed maximum of $400 million
  - Actual size will depend on market conditions

- Savings expected to be approximately $53 million
  - Annual debt service savings of – $2.4 and $6.6 million

- Recommended method of sale – Negotiated sale
  - Quick access to the markets and flexibility in timing the sale
  - Able to better communicate the impacts of the desal project on the Water Authority’s credit

- Cost of issuance
  - Rating agencies, advisors, legal and other - Est. $600,000
  - Underwriter fees – Est. $390,000

- Underwriting team
  - J.P. Morgan, Citi and Morgan Stanley
Board Action

(1) Adopt a resolution authorizing the Water Authority to issue Water Revenue Refunding Bonds, Series 2013A in an aggregate principal amount not to exceed $400 million for the purpose of refunding 2004 Installment Sale Payments; and

(2) Approve the forms of financing documents, including the Preliminary Official Statement, Indenture, Escrow Agreement, Continuing Disclosure Agreement and Contract of Purchase.
## Series 2013A Transaction Summary*

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<th>Description</th>
<th>Amount</th>
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<td>Dated and Delivery Date</td>
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<tr>
<td>Estimated Series 2013A Par Amount</td>
<td>$287,630,000</td>
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<td>Board Resolution Maximum Par Amount</td>
<td>$400,000,000</td>
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<td>Average Life in Years</td>
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<tr>
<td>Outstanding Series 2004A Principal</td>
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<td>Estimated Series 2004A Refunded Principal</td>
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<td>Series 2004A Refunded Maturities</td>
<td>2019 to 2020</td>
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<td></td>
<td>2023 to 2034</td>
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<tr>
<td>Net PV Savings</td>
<td>$53,294,216</td>
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<tr>
<td>Percentage Savings of Refunded Bonds</td>
<td>15.5%</td>
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<tr>
<td>Gross Annual Savings Range</td>
<td>$2.4MM to $6.6MM</td>
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<tr>
<td>Estimated Series 2013A All-In TIC</td>
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<tr>
<td>Original Refunded Bond TIC</td>
<td>4.8%</td>
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</table>

* Based on market rates as of 1/16/2013. Actual transaction size and PV savings may differ substantially from amounts shown above.
Public Hearing

Mitigated Negative Declaration for the Proposed Pipeline 3 Relining Project - Sweetwater to Lower Otay Reservoir

Water Planning Committee
January 24, 2013
Agenda

- Project Location
- Project Components/Objectives
- Environmental Impacts
- Administrative Actions
- Required Actions/Permits
Project Components/Objectives

- Reline a 5.4-mile segment of Pipeline 3
  - Excavation of 17 access portals
  - Additional access at 10 existing structures

- Rehabilitate pipeline to ensure a safe and reliable water supply for our region’s future.
Environmental Impacts

Biological Resources: Direct temporary impact to Diegan coastal sage scrub, non-native grassland, and other various vegetation communities.

Potential temporary indirect impact to the endangered least Bell’s vireo (noise).

Noise: Temporary noise impact to closest residences.

Temporary noise impact effecting sensitive biological resources as mentioned above.
Environmental Impacts (cont.)

Mitigation: Revegetate diegan coastal sage scrub, non-native grasslands, and disturbed habitats in accordance with Water Authority’s NCCP/HCP permit.

Conducting vegetation removal and noise barrier construction outside the breeding season of protected resident and migratory birds.

Reduce construction noise levels to below significant levels by installing noise control walls/barriers; employing noise attenuation devices/modifications to construction equipment; limiting hours of operation; or using a combination of these measures.
Administrative Actions

December 20, 2012

Notice of Completion sent to State Clearinghouse

Draft MND distributed for public review/comment

Public Notice of Intent posted at County, published in San Diego Daily Transcript, and mailed to property owners

Public comment period begins
Administrative Actions (cont.)

January 24, 2013

- Public Hearing
- Public comment period ends

March 28, 2013

- Anticipated date for presenting recommendations for adoption of Final MND to Board of Directors
Required Actions/Permits

- **Water Authority Board of Directors**
  - Adopt MND, Mitigation Monitoring & Reporting Plan, and approve project

- **City of Chula Vista**
  - Construction Access/Encroachment Easements
  - Traffic Control Permit(s)

- **San Diego Gas & Electric, Otay Water District, County of San Diego**
  - Construction Access/Encroachment Easements

- **Regional Water Quality Control Board**
  - Construction Stormwater Permit
IRWM Grant Approval

Water Planning Committee
January 24, 2013
Proposition 84

$1 Billion for IRWM programs

- Amounts allocated to 11 hydrologic regions
  - “Funding Areas”
- 3 IRWM regions in San Diego funding area

$ in millions

San Diego County Water Authority
Prop 84 Grants for San Diego Region

- $65.5 million: Total Available to SD Region
- $1 million: Planning Grant awarded
- $7.9 million: Round 1 Implementation Grant awarded
- $10.3 million: Round 2 Implementation Grant proposed
- $46.3 million remaining
Project Selection Process

- Project Solicitation
- Project Ranking: Apply RAC approved Selection Criteria to develop Tier 1 and 2 list
- Workgroup Review of Ranked List
- 12 Projects Selected for Interviews
- Workgroup Consensus Recommendation
- RAC Review and Recommendation
Workgroup Results

- 7 recommended projects
  - Total Project Costs: ~$57 million
  - Grant Funds Awarded: ~$9.991 million *

* Excludes $0.309M for Admin
Nutrient Management Project
Santa Margarita Watershed
Proposed Funding: $980K

North San Diego County Regional RW Project
Proposed Funding: $3.45M
(10 projects @ $345K each)

Fail Safe DPR Research
Proposed Funding: $2.11M

Turf Replacement and Ag Efficiency
Proposed Funding: $538K

Chollas Creek Project Phase II
Proposed Funding: $500K

Sustainable Healthy Tributaries
Proposed Funding: $521K

Rural Disadvantaged Community (DAC) Partnership Project-Phase II
Proposed Funding: $1.88M
## Recommended Prop 84-Round 2 Package

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<thead>
<tr>
<th>Project Title</th>
<th>Project Sponsor</th>
<th>Recommended Grant Award</th>
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<td>Failsafe Potable Reuse at the Advanced Water Purification Demonstration Facility</td>
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<td>Rural Community Assistance Corporation (RCAC)</td>
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<td>North San Diego County Regional Recycled Water Project (NSDCRRWP) - Phase II</td>
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<td>Sustaining Healthy Tributaries to the Upper San Diego River and Protecting Local Water Supplies</td>
<td>San Diego River Park Foundation</td>
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<td>Turf Replacement and Agricultural Irrigation Efficiency Program</td>
<td>San Diego County Water Authority</td>
<td>538,000</td>
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<td>Implementing Nutrient Management in the Santa Margarita River Watershed - Phase II</td>
<td>County of San Diego</td>
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<td>Chollas Creek Integration Project - Phase II</td>
<td>Jacobs Center for Neighborhood Innovation</td>
<td>500,000</td>
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</table>
Water Authority Responsibility for IRWM Grant Management

- 3% of $10.3 million allocated to Water Authority for administration ($309,000)
- Enter into a grant agreement with DWR
- Enter into agreements with each local project sponsor
- Ensure properly quarterly reporting and invoicing to DWR
- Collect payment from DWR and disburse to recipients
- Coordinate audits
Staff recommendation

Adopt resolution authorizing General Manager to submit Proposition 84 Integrated Regional Water Management Round 2 implementation grant application
2012 Regional Water Facilities Optimization and Master Plan Update

January 24, 2013
Water Planning Committee
Master Plan Update

Purpose:
◦ Guiding document for new infrastructure investments through the 2035 planning horizon

Objectives:
◦ Optimize existing conveyance system/local treatment plants
◦ Evaluate scope, timing and need of remaining CIP projects
  • Currently budgeted, but not yet constructed
◦ Evaluate need and timing for new infrastructure and supply projects
◦ Integrate potential new desalination supplies into regional treatment and conveyance system
◦ Develop a strategic plan for surface water storage with member agencies
◦ Evaluate renewable energy opportunities
◦ Adapt to changes in future supply/demand conditions
Project Execution Overview

System Network Model
- Assessment of Aqueduct System
- Assessment of current CIP
- Aqueduct System Network Connectivity
- Data Inputs
- Alternatives Evaluation Metrics
- Output Results
- Interactive Planning Tool

Member Agency Coordination
- Reservoir Operations
- Facility Coordination
- Future System Operations
- Peak Demands
- Alternative Evaluation and Recommendations

Infrastructure Alternatives Analysis
- System Constraints
- Asset Management Integration
- Facility Optimization
- System Vulnerability
- New Facilities – Needs and Timing
- Alternatives for Environmental Analysis
- Preferred Alternative Analysis

Supply and Demand Analysis
- UWMP – Mix of Demands and Supplies
- Scenario Strategies
- Member Agency Demand and Hydrology Data
- WA System Future Demands
- WA System Future Supplies
- Peak Demand Analysis

Draft and Final Report
- Identify Preferred Alternative
- Draft Report
- CIP prioritization
- Final Report, PEIR and CAP

New Facilities - Needs and Timing
- Alternatives for Environmental Analysis
- Preferred Alternative Analysis
Master Plan Scenarios
- Built from UWMP scenarios
- Considers single/multiple dry years, limited MWD supplies and local supply mix

Master Plan considerations
- Peak seasonal and daily demand patterns
- Local supply development variability
- Hydrology Data (112 years)
- Climate impacts

Each scenario attempts to explore an aspect of supply and demand uncertainty
Master Plan – Decision Process

Identify Supply Shortages

What is causing the shortage?
- Supply
- Conveyance (facility)

What can be done?

Increase Supplies / Add Facilities
- Imported Water
- Local Supplies
- Reservoir Operation

Key Questions to be answered:
- Reliance on proposed new local supplies
  - IPR/Rosarito Desalination
  - Integration of Camp Pendleton
- Conveyance impacts
- Utilization of infrastructure
  - Treatment Plants
  - Pipelines
  - Reservoirs
- Costs
- Phasing potential
- Sustainability

Identify Existing Capacity (Baseline)
Technical Advisory Committee
   - Review key issues including:
     • Member Agency interests and concerns
     • Local supply projects
     • Infrastructure alternatives
     • Input on evaluation criteria
   - Review facility portfolios and modeling results
   - Review recommended new facility/supply options

Work group for coordinated reservoir operations
Feb. 2013
- Member Agency TAC mtg.
- Issue Notice of Preparation (NOP) to begin CEQA process

Feb. 28, 2013
- Water Planning Committee: Information item on status of Master Plan and related activities

Mar. 14, 2013
- Special Water Planning Committee: Workshop on Master Plan

Mar. 2013
- Member Agency TAC meeting

Mar./Apr. 2013
- Water Planning Committee: Selection of Master Plan preferred alternative & CAP approach

Jul. to Sep. 2013
- Release of Draft Program EIR, CAP and draft Master Plan for 45-day review and comment period

Nov. 2013
- Water Planning Committee: Final Program EIR certification and approval of Master Plan and CAP
Colorado River Basin
Supply and Demand Study

Imported Water Committee
January 24, 2013
Background of Study

- Part of Reclamation program to review major Western river basins
- Funded by Reclamation and Colorado River Basin states
- Participants included resources stakeholders: Native American tribes, conservation groups, recreation and hydroelectric power interests
- Begun in 2010; completed in November 2012
Purpose of Study

Answer two questions:

1. What is the reliability of the Colorado River system to meet basin-wide resources needs through 2060?

2. What are options and strategies to mitigate risks to these resources?

Study does not recommend specific strategy or option to pursue
Colorado River Resources

- Water deliveries for consumptive use
- Electric power generation
- Water quality
- Flood control
- Recreation
- Wildlife and habitat
Basin Study Overview

Study organized into four phases:
1. Assessment of current and future supply
2. Assessment of future demand
3. System reliability analysis
4. Development of strategies and options for balancing supply and demand
Current Demands and Supplies
Future Water Supply Assessment

- Four scenarios for hydrological conditions:
  1. Observed trends
  2. Paleo trends
  3. Observed trends with increased variability
  4. Climate change trends
Future Water Supply Assessment, Cont.

Flow variability by scenario:

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<tr>
<th>Scenario</th>
<th>Average Annual Flow</th>
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<tr>
<td>Observed</td>
<td>15.0 maf</td>
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<tr>
<td>Paleo</td>
<td>14.7 maf</td>
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<tr>
<td>Increased Variability</td>
<td>14.9 maf</td>
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<tr>
<td>Climate Change</td>
<td>13.7 maf</td>
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</tbody>
</table>
Future Water Demand Assessment

- Demand under wide range of scenarios:
  - Economic conditions
  - Population size and demographic trends
  - Agricultural production
  - Social and governance structures
  - Enhanced environment
By 2060, demand increases from 15 maf to (18.1 maf – 20.4 maf)

- Highest projection assumes rapid population growth
- Most of increase is from M&I (74 percent)
- Most of remaining increase is from tribal use and energy production
Historic and Future Demand

FIGURE C-5
Colorado River Basin Historical Use\(^1\) and Future Projected Demand\(^1\), Delivery to Mexico\(^2\), Reservoir Evaporation\(^3\), and Other Losses\(^4\)

![Graph showing historical and projected water usage](image)

"Quantified demand scenarios have been adjusted to include Mexico’s allotment and estimates for future reservoir evaporation and other losses."
System Reliability Assessment

- Ability to meet resource needs through 2060
- Defined metrics for each resource category
  - For water deliveries: consumptive use, shortages and their socioeconomic impacts
- Modeling tools
  - Quantitative measurements of flow, reservoir elevations, storage, diversions and return flows
- Qualitative measurements for socioeconomic impacts
Options to Address Supply and Demand Imbalances

- Four water management portfolios:
  
  1. Long-Term Reliability
  2. Low Impact
  3. Highly Inclusive
  4. Highly Selective: common to 1 and 2
Options to Address Supply and Demand Imbalances, Cont.

- Early development of M&I and Ag. Conservation
- Importing water from other river basins, local supplies, water reuse, weather modification and tamarisk control
- Portfolios varied by cost, environmental impacts, and long-term reliability
Study Conclusions

- Supply and demand imbalances will grow
- Options are available to mitigate risks
- Tradeoffs between acceptable levels of risk and the cost of developing management options
Bay Delta Portfolio Approach Alternative

Imported Water Committee

January 24, 2013
Water Authority Supports a Delta Fix

- The Water Authority has consistently supported a solution in the Bay Delta that achieves the coequal goals of improving water supply reliability and ecosystem restoration.
- The Water Authority provided crucial support to the effort in the Legislature to pass the 2009 Bay Delta bill package.
Bay Delta Policy Principles

- The Board adopted Bay Delta policy principles in February 2012 and reiterated the principles in adopting the Legislative Policy Guidelines in November 2012.

- The principles include:
  - Encourage a Bay Delta solution that promotes local water supply development.
  - Encourage a Bay Delta solution that is cost-effective when compared to other sources of water reliability.
Bay Delta Policy Principles (Cont.)

- Require independent technical analysis of key elements of the Bay Delta solution, including real urban and agricultural demands for water
- Support “right-sized” facilities to match firm commitments to pay
- Continue to support the co-equal goals of water supply reliability and ecosystem restoration
Bay Delta Policy Principles (Cont.)

- Continue to support the co-equal goals of water supply reliability and ecosystem restoration
- Support a deliberative process that is designed to ensure a meaningful dialog among the various stakeholders
- Improve the ability of water users to divert more water in wet years, when impacts on the ecosystem are less
Bay Delta Policy Principles (Cont.)

- Encourage the development of a statewide water transfer market
- Work with all stakeholders to ensure a meaningful dialog and that water supply and ecosystem restoration processes are conducted in an open and transparent manner
- The current BDCP proposed project is not consistent with these principles
Natural Resources Defense Council contacted a variety of water agencies to seek support for an alternative solution for the Bay Delta

- A conceptual alternative to the current proposed project for the Bay-Delta Conservation Plan called the “Portfolio Approach”
  - Portfolio Approach is designed to produce comparable or better reliability at a lower cost

Water Authority was a signatory, along with a group of water agencies, asking that the NRDC alternative be evaluated in the BDCP
A Smaller Conveyance Project

- Build a single-bore tunnel with a capacity of 3,000 cfs or more, with one intake
  - If needed, more capacity could be added at a later date
- Instead of $14 billion for the current proposed 9,000 cfs double-bore tunnel, estimated cost is $5 billion to $7 billion
Project Operations

- Best available science
- Protect listed species
- “Big gulp, little sip” – Take more water in wet years and less water in dry years
- Develop storage south of the Delta to increase reliability
- Average projected yield: 4.0 to 4.3 million acre feet
Reduced Reliance on Delta through Investments in Local Water Supplies

- Invest in local water supplies that will decrease reliance on the Delta by exporters
- Savings in the cost of the conveyance project could be used to grow local supplies
Improved Water Agency Coordination

- Improve coordination among water agencies to maximize use of water on a regional scale
- Integrated Regional Water Management could play major role
- Water Authority, City, and County of San Diego have an IRWM Plan that could invest increased state funding
New South of Delta Storage

- Add surface water and groundwater storage South of the Delta to improve flexibility and reliability in dry years
- Current proposed project lacks sufficient storage to take advantage of large flows in wet years
  - SWP pumps were halted in 2011 during high flows due to lack of storage capacity
Levee Improvements

- Levee improvements would protect the current and future through-Delta conveyance system from catastrophic failure.
- Levee improvements would provide substantial flood-control and ecosystem benefits to in-Delta interests, potentially lessening resistance to the BDCP.
Delta Floodplain and Tidal Marsh Restoration

- 40,000 acres of targeted floodplain and tidal marsh restoration could provide greater ecosystem benefits at a lesser cost than the larger, less-focused restoration currently proposed.
Integrating Science into Delta Management

- Ensure best use of objective science through adaptive management
- Independent review of science
- Quantified performance objectives
- Governance and adaptive management processes
- Carefully defined roles for various interests in the Delta
Affordability

- The state has not yet made a business case for the current proposed project of 9,000 cfs.
- A smaller conveyance project would free up billions of dollars with a small decrease in water yield.
- Investments in local supplies and storage could provide an additional 1 million acre-feet or more, as well as improved water supply reliability.
Bay Delta Policy Principles

- Encourage a Bay Delta solution that promotes local water supply development
  - Portfolio Approach calls for local supply development as part of a comprehensive Bay Delta solution

- Encourage a Bay Delta solution that is cost-effective when compared to other sources of water reliability
  - Portfolio Approach recognizes that financial resources are not unlimited and outlines a solution that may be more cost-effective

- Require independent technical analysis of key elements of the Bay Delta solution, including urban and agricultural real demands
  - BDCP has not addressed real demands to date, as the Water Authority has consistently urged
Bay Delta Policy Principles

- Support “right-sized” facilities to match firm commitments to pay
  - Analysis of the Portfolio Approach could lead to a better understanding of the right size for the Bay Delta solution

- Continue to support the co-equal goals of water supply reliability and ecosystem restoration
  - Portfolio Approach is intended to be balanced approach to achieving both the co-equal goals

- Support a deliberative process that is designed to ensure a meaningful dialog among the various stakeholders
  - Signers of the January 16 letter, representing 22 percent of the state’s population, are encouraging a wider dialog
Bay Delta Policy Principles

- Improve the ability of water users to divert more water in wet years, when impacts on the ecosystem are less
  - Emphasis on south of Delta storage allows the diversion and storage of more water in wet years

- Encourage the development of a statewide water transfer market
  - Portfolio Approach calls for greater coordination among water agencies to make more effective use of existing facilities, including MWD’s, for moving water to where it is needed

- Work with all stakeholders to ensure a meaningful dialog and that water supply and ecosystem restoration processes are conducted in an open and transparent manner
  - The Water Authority has maintained an open dialog with a diverse array of stakeholders in the Bay Delta solution
Imported Water Committee

Southern California’s Water Supply

January 24, 2013
Overview

- Gordon Hess & Associates, Inc. Report commissioned by the Water Authority in 2010
  - Comparison of Current (2010) and Past Regional Urban Water Management Plan demand forecasts
  - Comparison of MWD forecasts to its member agencies’ forecasts
- Southern California’s local water supply development and projections
- Impact of additional local projects on MWD demand
- Summary
Findings from GHA Study

- MWD forecasted demands 4–5 percent higher than MWD member agencies’ cumulative demand forecasts, under average and multiple dry-year scenarios.

- Under single dry-year scenario, forecasted demands were about 5 percent lower.

- MWD’s RUWMP overall projected demands on MWD have steadily decreased.

- MWD ignored planned local projects that will lower demands on MWD further.

MWD’s 2010 RUWMP overestimated the region’s need for imported water supplies.
MWD RUWMP Demands on MWD Ignores Member Agency Planned Supplies and Potential Projects

Average Year

FY 2012 Demands on MWD
Southern California’s Local Water Supply Development Plans (2012 - 2035)

Up to 1.2 Million Acre-Feet

Does not include 650,000 AF of planned and state-mandated conservation.

Estimated On Line Date
- Green: 2012 - 2015
- Blue: 2016 - 2020
- Orange: 2021+
- Black: Projects completed in two phases

County Boundaries
- Red

MWD Member Agency Boundaries
- Blue

San Diego County Water Authority
sdcwa.org  4677 Overland Ave. • San Diego, California • 92123-1233
<table>
<thead>
<tr>
<th>County</th>
<th>Water Agency</th>
<th>Project</th>
<th>New Supply (AF)</th>
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<tr>
<td>San Diego</td>
<td>Oceanside</td>
<td>Mission Basin Desalter</td>
<td>5,600</td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td>Otay Water District</td>
<td>Rosarito Beach Desalination</td>
<td>28,000</td>
<td>After 2020</td>
</tr>
<tr>
<td></td>
<td>San Diego County Water Authority</td>
<td>Water Purification Project</td>
<td>16,800 - 89,600</td>
<td>2020 - 2035</td>
</tr>
<tr>
<td></td>
<td>San Diego County Water Authority</td>
<td>Carlsbad - Seawater Desalination Project</td>
<td>56,000</td>
<td>2020</td>
</tr>
<tr>
<td></td>
<td>San Diego County Water Authority</td>
<td>MCB Camp Pendleton - Seawater Desalination Project</td>
<td>56,000 - 168,000</td>
<td>After 2020</td>
</tr>
<tr>
<td></td>
<td>Sweetwater Authority</td>
<td>Reynolds Desalination Facility Phase II</td>
<td>5,200</td>
<td>2020</td>
</tr>
<tr>
<td></td>
<td>Various</td>
<td>Projects under 5,000 acre-feet combined</td>
<td>32,962</td>
<td>2012 - 2025+</td>
</tr>
<tr>
<td>Ventura</td>
<td>Calleguas Municipal Water District</td>
<td>Oxnard GREAT Program</td>
<td>15,500</td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td>Calleguas Municipal Water District</td>
<td>Camarosa Santa Rosa Basin Desalter</td>
<td>5,040</td>
<td>2020</td>
</tr>
<tr>
<td></td>
<td>Calleguas Municipal Water District</td>
<td>South Las Posas Desalter</td>
<td>5,000</td>
<td>2020</td>
</tr>
<tr>
<td></td>
<td>Various</td>
<td>Projects under 5,000 acre-feet combined</td>
<td>11,018</td>
<td>2012 - 2025+</td>
</tr>
</tbody>
</table>

This project list was developed based upon projects identified in each agency's 2010 Urban Water Management Plan and includes 415,000 acre-feet of planned projects as well as nearly 800,000 acre-feet of additional potential projects identified by the agencies. Of the up to 1.2 million acre-feet of supplies, MWD has incorporated only 103,000 acre-feet in its 2010 Regional Urban Water Management Plan to offset demands on MWD.
Examples of Member Agency Planned Supplies Not Included in MWD’s 2010 RUWMP

<table>
<thead>
<tr>
<th>Local Supply</th>
<th>Included in Member Agency UWMP Future Supply</th>
<th>Included in MWD’s RUWMP</th>
<th>Annual Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Beach – Seawater Desalination</td>
<td>Yes</td>
<td>No</td>
<td>5,000 AF beginning in 2025</td>
</tr>
<tr>
<td>SDCWA – Carlsbad Seawater Desalination</td>
<td>Yes</td>
<td>No</td>
<td>56,000 AF beginning in 2016</td>
</tr>
<tr>
<td>West Basin – Seawater Desalination</td>
<td>Yes</td>
<td>No</td>
<td>21,500 AF beginning in 2020</td>
</tr>
<tr>
<td>Los Angeles Aqueduct – Difference in Supply Assumptions</td>
<td>Yes</td>
<td>No</td>
<td>28,000 AF in 2015 decreasing to 14,000 AF in 2035</td>
</tr>
<tr>
<td>LADWP Water Transfers</td>
<td>Yes</td>
<td>No</td>
<td>40,000 AF beginning in 2015</td>
</tr>
<tr>
<td>Total</td>
<td>Yes</td>
<td>No</td>
<td>136,500 to 150,500 AF/YR</td>
</tr>
</tbody>
</table>
Southern California – Need realistic assessment of demand

- In an era of declining sales and member agency reduction in water purchases, MWD:
  - Is continuing to approve new subsidies, which further reduces water sales
    - Since adopting its IRP Update in October 2010, MWD has approved funding for 11 Local Resources Projects, ultimately yielding an estimate 67,325 acre-feet annually, and obligating MWD to up to $295 million in project financing
  - Is proposing expensive water supply development projects to generate unneeded water
Who will pay?

- Need to connect willingness to spend with willingness and commitment to pay
  - Represented by real, enforceable contracts
  - So far, San Diego is the only member agency willing to do that

- MWD rate structure has fatal flaw in the assumptions about who will pay for a Delta Fix

- San Diego is placed at unreasonable risk under MWD rate structure
  - Water Authority remains largest purchaser of MWD water
Going Forward

- MWD must revisit its demand forecast and determine best course to meet demands
- MWD must tie its resource planning/implementation strategy with member agencies’ local supply development plans
- MWD must connect willingness to pay and firm commitment
Gregory Canyon Chronology

• October 1994: Board adopted neutral position on Prop C - General Plan change for Gregory Canyon Landfill

• 1999 to present: Staff has provided extensive comments to various project EIRs, landfill permit applications, etc.

• 2004 Solid Waste permit requires Gregory Canyon enter into a written agreement with the Water Authority regarding the protection or relocation of the First Aqueduct.
November 2004: Board did not take a position on Prop B - Repeal of Prop C

February 2005: Board approval required for any Water Authority permit issued to Gregory Canyon

April 23, 2009: Board directs staff to send RWQCB letter (sent April 28)

April 29, 2009: RWQCB staff workshop on Gregory Canyon waste discharge permit
Gregory Canyon Chronology (cont)

- July 8, 2009: Water Authority staff submits letter to RWQCB outlining water quality and aqueduct concerns with Tentative Order for Gregory Canyon.

- June 2011: Scouring study submitted to Water Authority for review.

- May 2012: Water Authority staff and Gregory Canyon reach agreement on scouring issues.
Summary of July 8 Letter

• Plan has not been submitted to address potential impacts to aqueduct caused by:
  ▪ Access roads
  ▪ Streambed alteration
  ▪ Possible blasting
  ▪ Landfill leachate and gas
  ▪ Slope instability
  ▪ Impacts to landfill from pipeline rupture

• Will our pipelines need to be realigned or protected in place?
Summary of July 8 Letter (cont)

- Impacts to regional resources (San Luis Rey River and its watershed)
  - Leachate and landfill gas
  - Adequacy of landfill liner
  - Changes to groundwater flow
  - Impacts to wells and future water supply
Time Gap Examples

April ’07  GCL “hired” CH2MHiII. WA stated the need for GCL to prepare an Operating Plan and Blasting Study.

April ‘09  A letter was sent to WA stating that CH2MHiII was retained by GCL

April ’11  WA was notified that Kleinfelder had been hired by GCL as their consultant - requested WA to review their scope of work
Time Gap Examples (cont.)

2009  Need for scour study identified
Nov ‘09  WA sent a letter to GCL requesting $35,000 to review scour study
June ‘11  Scour study received by WA
July ’11  WA received $31,000 check from GCL
May ‘12  Scour analysis completed and accepted
GCL Permits

- CalRecycle/LEA (Local Enforcement Agency)
  - Solid Waste Facility Permit – issued August 1, 2011
- SWRCB/RWQCB
  - Construction Storm water permit – NOI to enroll September 2010
  - Waste Discharge Requirements – pending
  - Section 401 certification – pending
- USACoE
  - Section 404 individual permit - pending
  - Section 7 ESA & Section 106 SHPO consultation – pending
- CDFG
  - Streambed Alteration Agreement for SLR bridge - issued December 2009
  - 2081 ESA permit – pending
- County of San Diego
  - Grading/building permits - pending
- SDCWA
  - Encroachment permit & Construction permit - languishing
Next Steps (March 2012)

- Complete scour analysis review received 6/11/11 (WA) and modify as needed (GCL) - completed
- Aqueduct relocation plan (GCL)
- Revised blasting analysis (GCL)
- Encasement design for permanent vehicle crossings (GCL)
- Temporary bridge design for temporary vehicle crossings (GCL)
- Detailed construction and operating plans for the landfill (GCL)

Note: WA has been requesting this information since 2007.
Legislation

- SB 833 introduced and passed both houses
- Limited construction of landfills near a waterway or Native American sacred site
- Vetoed by Governor Brown October 10, 2011
U.S. Army Corps of Engineers
Draft EIS
Proposed Project Description

- 308 acre landfill on a 1,770 acre site
- Bridge across San Luis Rey River
- Widening portion of SR76 (landfill access)
- Ancillary facilities (toll booth, recycle drop-off, etc.)
- Double composite liner, leachate and gas collection
- Soil borrow/stockpile areas, internal haul roads
- Perimeter drainage channels, retention basins
- Water storage and treatment tanks
- Relocate SDG&E transmission towers
- 1,313 acres dedicated as open space
Aqueduct Relocation “Option”

- Project proposes to leave aqueduct in place

BUT

- Allows for limited relocation as an “option”
  - South side of river only
  - 3,200 feet of 72” diameter steel pipe
  - 150 foot wide ROW
  - 12 foot wide patrol road
  - No construction schedule identified
Gregory Canyon Site Plan
Major Issues

• Local Surface and Ground Water Resources
  ▪ Highly engineered liner design is hard to refute
  ▪ Quality liner installation will be crucial
  ▪ Failure increases strain on imported supplies
  ▪ Does not identify funding for new supplies or facilities

• Existing and Future Aqueduct Protection
  ▪ Physical damage (blasting, excavation, corrosion)
  ▪ Right of Way (road/drainage crossings, mitigation, stockpiles)
  ▪ Limited relocation as “optional” project component
Draft EIS Review Schedule

• Public Hearing January 31, 2013 @ 6PM
  California Center for the Arts
  340 North Escondido Blvd.
  Escondido, CA 92025

• Written Comments due April 15, 2013

• Document can be viewed at:
  http://www.spl.usace.mil/Missions/Regulatory/ProjectsPrograms.aspx
Staff Recommendation

Authorize the General Manager to send the U.S. Army Corps of Engineers comments regarding the Draft Environmental Impact Statement for the Gregory Canyon Landfill
Project Delivery Work Group

Engineering & Operations Committee
January 24, 2012
The Project Delivery Work Group was formed in September 2012 to:

1. Review how the Water Authority designs and constructs its projects
2. Review alternative project delivery methods
3. Make recommendations to the Board on changes to current practices and policies as appropriate.
Procurement Methods
- Design-Bid-Build
- Design-Build
- Design-Build-Operate
- Emergency Contracts
- Sole Source
- Job Order Contracts (JOC)
- Construction Manager at Risk
- Multiple Award Construction Contract (MACC)
- Design Sequencing
- Multiple Prime Contracting
Water Authority Examples

- Design-Bid-Build (70)
- Design-Build (3)
- Design-Build-Operate (1)
What was Discussed:

Water Authority Project Standards

- Project Management Manual
- Design Manual
- Drafting Manual
- Construction Management Manual
- Field Inspection Manual
- Emergency Repair Manual
What was Discussed:

- **Gate Process:**
  A staff policy/procedure to ensure the success of the CIP by requiring projects to pass through “Gates” at select times during a project life.

- **What is a “Gate”?**
  A point in the project schedule where the team signs off and notifies the Gate Group, a select committee of Senior Managers, that all work and deliverables have been completed on specific milestones.

- **Gate Group Composition**
  - Finance (Controller)
  - Water Resources (Env./Fac. Planning)
  - Engineering (Engr./ROW/Survey)
  - POC (Public Outreach)
  - O&M (Asset Mgt/CIP)
  - General Manager
Gate Process

Planning
- Gate 1: Project Initiation (20 deliverables)

Design
- Gate 2: Design Initiation (10 deliverables)
- Gate 3: Preliminary Design (6 deliverables)
- Gate 4: Mid-Point Design (6 deliverables)
- Gate 5: Final Design (12 deliverables)

Construction
- Gate 6: Beneficial Occupancy (5 deliverables)
- Gate 7: Approval - Go to Board for NOC (9 deliverables)

Post-Construction
- Gate 8: Project Closeout (15 deliverables)
Gate Process

Before proceeding to next Gate:

- All deliverables must be complete
- All Project Team members must sign off that the Gate has been satisfied
- A Senior Manager must sign off that the Gate has been satisfied
- Gates must be approved by the Gate Committee
What was Discussed:

Other Items

- Economic Factors Affecting Contractor Bids
- Unit Pricing of Estimated Quantity Items
- Reimbursement for Inspection Costs
- PLA relationship to Insurance/Bonding Costs
**What was Discussed:**

**Overall Change Orders**

<table>
<thead>
<tr>
<th>All Projects (Includes Active)</th>
<th>Last 5 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Original Contract Value</td>
<td>$787.4 M</td>
</tr>
<tr>
<td>Total Change Order Amount</td>
<td>$47.8 M</td>
</tr>
<tr>
<td>Change Order Percent of Completed Projects &amp; WIP (Active Projects)</td>
<td>6.1%</td>
</tr>
</tbody>
</table>
What was Discussed:

Overall Change Orders w/o Lake Hodges or San Vicente Pipeline

<table>
<thead>
<tr>
<th>All Projects (Includes Active) - Without Hodges and SV Pipeline</th>
<th>Last 5 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Original Contract Value</td>
<td>$519.4 M</td>
</tr>
<tr>
<td>Total Change Order Amount</td>
<td>$7.5 M</td>
</tr>
<tr>
<td>Change Order Percent of Completed Projects &amp; WIP (Active Projects)</td>
<td>1.4%</td>
</tr>
</tbody>
</table>
Construction vs. Non-Construction Costs

Average CIP Project Construction vs. Non-Construction Costs

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Construction</th>
<th>Non-Construction</th>
<th>Land Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipelines</td>
<td>78.5%</td>
<td>18.4%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Pump Stations</td>
<td>70.3%</td>
<td>29.1%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Flow Control Facilities</td>
<td>72.7%</td>
<td>27.2%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Pipeline Relining</td>
<td>81.9%</td>
<td>17.9%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Olivenhain Dam</td>
<td>71.5%</td>
<td>26.1%</td>
<td>2.4%</td>
</tr>
<tr>
<td>LH Pipeline, Main Tunnel (DB)</td>
<td>65.3%*</td>
<td>33.9%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Treatment Plant (DBO)</td>
<td>87.3%*</td>
<td>12.6%</td>
<td>1.1%</td>
</tr>
<tr>
<td>All Projects</td>
<td>76.2%#</td>
<td>21.4%</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

*Includes final design costs and design support services during construction.
# Construction Costs average for large water/wastewater CIP = 73.0% (2005 AACE International Transactions EST. 08)
What was Discussed:

San Diego Regional Construction Procurement Committee

- **Objective** - To form a regional construction procurement committee to coordinate the bidding of major infrastructure projects for large CIP programs within the region, discuss market issues and material shortages, and share ideas for improving public agency construction procurement processes.
<table>
<thead>
<tr>
<th>Agencies Participating on Construction Procurement Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of SD</td>
</tr>
<tr>
<td>Caltrans</td>
</tr>
<tr>
<td>SD Airport</td>
</tr>
<tr>
<td>Port of SD</td>
</tr>
<tr>
<td>SDSU</td>
</tr>
<tr>
<td>ACEC</td>
</tr>
<tr>
<td>ASCE</td>
</tr>
<tr>
<td>SDCOC</td>
</tr>
<tr>
<td>APWA</td>
</tr>
</tbody>
</table>
Nob Hill Gate Schedule

- Gate 1 – Project Initiation – February 2012
- Gate 2 – Draft EIR – February 2014
- Gate 3 – Preliminary Design – July 2014
- Gate 4 – Mid-point Design – October 2014
- Gate 5 – Final Design – March 2015
- Gate 6/7 – Beneficial Occupancy/Construction Completion – September 2016
- Gate 8 – Project Closeout – April 2017
Work Group Recommendation

- During the last half of 2013, provide the E&O Committee a presentation on the Gate Process and how it guides a capital project through the various project phases.

- Use the Nob Hill project as an example of how the Gate Process works. Provide Gate information at the time of each Board action on the project, and provide information presentations at key gates that don’t require Board action.

- Provide the Board information regarding past project performance (e.g. change orders)
Presentation Overview

- Background
- Project Purpose and Scope
- Project Schedule/ Cost
- Procurement Method
- Performance Specification
- Staff Recommendation
San Marcos Vent Modifications Project

Project Purpose

- Maintain treated water delivery in P3 south of the Desal product water connection during the relining of P3, which is scheduled to start in Summer of 2014

Scope of Work

- Construct weir structure, P4
- Construct interconnect between P3 and P4
San Marcos Vent Structure
San Marcos Vent Project Schedule

- Proposed Schedule
  - Advertise – March 2013
  - Board Award - Contract – May 2013
  - Project Completion – Spring 2014

- Total Budget $ 3.3 Million
Procurement Method

Design-Build Delivery

- Reduces overall project schedule by combining contracts and allowing construction phase to initiate early with design
- Assigns a single-source responsible party for designing and constructing the project
- Introduces efficient and effective design and construction considerations
- Places risk of completing the project within the schedule and agreed upon cost on Design-Build contractor
Performance Specification

- Capacity of the weir structure & interconnect shall meet max flows and be designed to require minimal maintenance
- Minimal unknowns associated with design conflicts
- Proposals shall include a constructability component to address construction under live pipe conditions in Pipeline 4
- Pipelines 3 and 4 are treated water pipelines; appropriate protection and disinfection shall be required
- Project and system hydraulic impacts shall be performed as part of the design-build process
- The selection of the best value proposer will be based on a weighted scoring system considering experience, project approach and price
Staff Recommendation

Authorize the General Manager to approve the Design-Build Performance Specification for the San Marcos Vent Desalination Modifications Project, and return to a future Board Meeting to Award a Design-Build Contract to the most qualified firm.
Raised Dam
Work on Top of Dam
Outlet Tower / Crest Control Building
Carpi Liner Installation
Marina Area
Grading
Upcoming Activities

- Completion of Package 3 - Summer 2013
- Complete Package 5 Marina Construction - Summer of 2014
- Complete Filling to Height of Existing Dam
- Complete Package 4 Bypass Pipeline Construction - Summer of 2015
- Begin Filling to Full Height of Raised Dam
## Change Orders Executed under General Manager’s Authority

<table>
<thead>
<tr>
<th>Change Orders for Acceptance</th>
<th>Credit</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differing Site Conditions</td>
<td>$18,993</td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td>$264,865</td>
<td></td>
</tr>
<tr>
<td>Design Modifications</td>
<td></td>
<td>$180,184</td>
</tr>
<tr>
<td>Net Total Credit</td>
<td>$65,688</td>
<td></td>
</tr>
</tbody>
</table>
Marina Area
Interim SWPPP Improvements

Installed Marina Storm Drain Discharge Points

Interim Storm Water Conveyance System and Sediment Basins

Raised Dam Water Level El. 760
Construction Contract Summary

- Original Contract: $140.2M
- Net Change Orders to Date: $0.41M
- Percentage Increase: 0.6%
Accept Shimmick/Obayashi Joint Venture Change Orders 28, 29 and 32 through 36 for a credit of $65,688; and authorize the General Manager to execute a change order for up to $500,000 for interim storm water conveyance improvements, increasing the authorized contract amount from $140,681,794.70 to $141,116,106.70.
Online Residential Water Use Calculator

Legislation, Conservation and Outreach Committee
January 24, 2013
Background

- December 2010 - Board directed staff to focus on five “core” activities

1. Residential surveys
2. K-12 educational programs
3. Landscape audits
4. MWD device-based incentive programs
5. Development of “how to” resource tools
How to Resource Tool

- Residential Water Use Calculator
- Goals
  - Provide tool for public to assess indoor and outdoor residential water use
  - Identify opportunities to save water
  - Available 24 hours a day, seven days a week
Residential Water Use Calculator

- Objectives

  - Educate homeowners about their water use
  - Inspire to make changes in behavior, fixtures, and landscape
  - Make homes more water efficient
  - Help member agencies meet SBX 7-7 targets
**Residential Water Use Calculator**

- Agreement with Alliance for Water Efficiency to customize its existing water use calculator for San Diego region

- **Funding Sources**

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hans and Margaret Doe Charitable Trust Grant</td>
<td>$10,000</td>
</tr>
<tr>
<td>Water Authority</td>
<td>$10,000</td>
</tr>
<tr>
<td><strong>Total budget</strong></td>
<td><strong>$20,000</strong></td>
</tr>
</tbody>
</table>
Residential Water Use Calculator

- Calculates indoor and outdoor water use
- Includes water saving tips
- Provides detailed information on:
  - Toilets
  - Clothes washers
  - Outdoor landscape
  - Faucets
  - Much more…

San Diego County Water Authority
Residential Water Use Calculator

Let's Get Started!
Click an area on the home to input how much water you use, and learn how you can conserve water there. Answer for yourself only, and assume you are in your home for a 24-hour cycle.

My Daily Usage
Roll over for results

Percent Complete

Areas to Complete
Roll over for number of questions
Residential Water Use Calculator

How much water do you use?

Using water in the bathroom
Click on one of the question marks to see if this is where your water is going.

How much water do you use in the bathroom?

The typical person in my household takes _____ showers per week at home.

4

Next Question
## Results

### How much water do you use?

Click an area on the home to input how much water you use, and learn how you can conserve water there.

### Water Calculator Results

<table>
<thead>
<tr>
<th>Category</th>
<th>My House</th>
<th>Average House</th>
<th>Water-Wise House</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toilet use</td>
<td>14590</td>
<td>21170</td>
<td>12210</td>
</tr>
<tr>
<td>Clothes washer use</td>
<td>9860</td>
<td>10150</td>
<td>9360</td>
</tr>
<tr>
<td>Shower use</td>
<td>8810</td>
<td>14450</td>
<td>8810</td>
</tr>
<tr>
<td>Faucet use</td>
<td>10500</td>
<td>12540</td>
<td>10500</td>
</tr>
<tr>
<td>Leaks</td>
<td>8240</td>
<td>10300</td>
<td>8240</td>
</tr>
<tr>
<td>Other/Miscellaneous use</td>
<td>3490</td>
<td>3490</td>
<td>1000</td>
</tr>
<tr>
<td>Bathtub use</td>
<td>5900</td>
<td>1490</td>
<td>5400</td>
</tr>
<tr>
<td>Dishwasher use</td>
<td>1330</td>
<td>1250</td>
<td>1330</td>
</tr>
<tr>
<td>INDOOR WATER USE</td>
<td>61790</td>
<td>63040</td>
<td>45940</td>
</tr>
<tr>
<td>HOT WATER USE</td>
<td>18410</td>
<td>24750</td>
<td>13510</td>
</tr>
</tbody>
</table>

Learn about how the Water Calculator works [here](#).

**Carbon Footprint:**

lbs. CO2/year
Partnership Agreement with SDG&E for Water and Energy Efficiency Programs

Legislation, Conservation and Outreach Committee
January 24, 2013
Background

- Increased focus on relationship between water use and embedded energy
- California Public Utilities Commission directing energy utilities to partner with water agencies
- Water Authority and SDG&E have partnered for over 20 years
Partnership Activities

- **Showerhead Distributions**
  - Distributed more than 500,000 low-flow showerheads

- **Pre-Rinse Spray Valve Installations**
  - Self-closing valves installed in more than 300 restaurants
Partnership Activities

- **High-Efficiency Clothes Washers (HEWs)**
  - Installed more than 100,000 residential HEWs
  - Installed more than 9,100 commercial HEWs

- **Energy Efficiency Assessments for Water Agencies**
  - No-cost assessments performed on 103 water agency facilities
Partnership Activities

- *Water-Energy Pilot Program*
  - Evaluated embedded energy use in four programs
    - Comprehensive water/energy audits
    - Managed landscape program
    - Retrofits of sites from potable water to recycled water
    - Detention facility retrofits
New Partnership Activities

- Proposed partnership activities require execution of a formal agreement
- Agreement allows implementation of three new water and energy efficiency programs
New Partnership Activities

- **WaterSmart Landscape Efficiency Program**
  
  Reduces water use at sites with multiple acres of irrigated landscape through audits and water management services
New Partnership Activities

- Leak Loss Detection Program
  - Provides top-down water audits of retail water agency distribution systems
  - No cost to member agencies
  - Identifies opportunities to implement pressure management measures
New Partnership Activities

- Detention Facility Retrofits Program
  - Saves water and embedded energy through the installation of water-efficient devices
  - Modeled after previous pilot program
  - County of San Diego will provide financial and in-kind services
### Funding Sources

<table>
<thead>
<tr>
<th>Program</th>
<th>SDG&amp;E</th>
<th>Water Authority</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>WaterSmart Landscape Efficiency</td>
<td>$260,000</td>
<td>$100,000</td>
<td>$360,000</td>
</tr>
<tr>
<td>Leak Loss Detection</td>
<td>$285,280</td>
<td>$0</td>
<td>$285,280</td>
</tr>
<tr>
<td>Detention Facility Retrofits</td>
<td>$134,000</td>
<td>$50,000</td>
<td>$184,000</td>
</tr>
<tr>
<td>Totals</td>
<td>$679,280</td>
<td>$150,000</td>
<td>$829,280</td>
</tr>
</tbody>
</table>

- CPUC will perform evaluation upon program completion
Staff Recommendation

Authorize the General Manager to execute an agreement with SDG&E to implement water and energy efficiency programs.