California WaterFix – Finance & Cost Allocation

MWDOC-MET Directors’
Joint Board Workshop
September 6, 2017

Board Review Process
- Process
  - White Papers
  - Workshop
  - Board Action
- Three white papers
  - Infrastructure
  - Operations
  - Finance & Cost Allocation
- Focus of today
Focus of Today

- What are the cost allocation principles & assumptions?
- What is the financing plan?
- How does it impact Metropolitan’s costs and water rates?
- What is the cost of project alternatives?
**California WaterFix Cost Allocation**

- **Key Principles**
  - Beneficiaries Pay
  - Costs follow water

- **Key Financing Assumptions**
  - 55% SWP / 45% CVP split
  - 26% – Metropolitan’s share
  - 40-year bond term
  - 4%, 6%, 8% bond rate scenarios (current market rate ~ 3.9%)
  - Capital costs are debt financed
  - Operation & maintenance costs are paid as incurred

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**California WaterFix SWP Contractor Beneficiaries**

- 5 Non-Beneficiaries (2.8%)
  - Upper Feather River
  - North Bay Area

- 24 Beneficiaries (97.2%)
  - South Bay Area
  - San Joaquin Valley
  - Central Coast
  - Southern California
What is the financing plan?

California WaterFix
Capital Cost Share

- **Central Valley Project**
  - $7.5 billion (45% share)

- **State Water Project**
  - $9.2 billion (55% share)

- **Capital & Mitigation**
  - $16.7 billion

1. In 2017 dollars

- **Metropolitan Water District**
  - $4.3 billion (26% share of total)
**State Water Project**

**Current Financing Approach**

- **Revenue Bond**
- **Bond Proceeds**
- **Debt Service Payments**
- **Bond Investors**

**Issue:** DWR validation action affects revenue bond issuance

- **Construction Cost**
- **SWP Contractors**
- **$**
- **$**
- **SWP Bill**

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**California WaterFix**

**DWR Court Filed Validation Action**

- Judicial proceeding to affirm a public agency’s authority over finance matters (e.g. issuance of bonds)
- Common practice for public agencies to file validation action for major bond issuances & significant public financing actions
- DWR filed a validation with Sacramento County Superior Court regarding its authority to issue revenue bonds for California WaterFix
- Marketability of bonds affected during validation proceeding
State Water Project
Financing Approach During Validation Action

- DWR Revenue Bond
  - Bond Proceeds
  - Debt Service Payments
- JPA Revenue Bond
  - Bond Proceeds
- SWP Bill
  - Construction Cost
  - SWP Contractors
  - Bond Proceeds
  - Bond Investors

How does it impact Metropolitan costs and water rates?
## California WaterFix

### Capital Cost

<table>
<thead>
<tr>
<th>ITEM</th>
<th>2014 ($ Billions)</th>
<th>2017 ($ Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conveyance Facility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Construction</td>
<td>9.5</td>
<td>10.4</td>
</tr>
<tr>
<td>• Contingency for construction (~36%)</td>
<td>3.4</td>
<td>3.7</td>
</tr>
<tr>
<td>• Program Mgmt.</td>
<td>Construction Mgmt.</td>
<td>Engineering</td>
</tr>
<tr>
<td>• Land acquisition (includes 20% contingency)</td>
<td>.15</td>
<td>.16</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>14.9</td>
<td>16.3</td>
</tr>
<tr>
<td><strong>Mitigation</strong></td>
<td>.37</td>
<td>.40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$15.3 B</td>
<td>$16.7 B</td>
</tr>
</tbody>
</table>

### Operations & Maintenance

<table>
<thead>
<tr>
<th>ITEM</th>
<th>2014 ($ M/yr.)</th>
<th>2017 ($ M/yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conveyance Facility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Facility Operations &amp; Maintenance¹</td>
<td>20.0</td>
<td>21.9</td>
</tr>
<tr>
<td>• Power¹</td>
<td>6.6</td>
<td>7.2</td>
</tr>
<tr>
<td>• Capital Replacement²</td>
<td>13.7</td>
<td>15.0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>40.3</td>
<td>44.1</td>
</tr>
<tr>
<td><strong>Mitigation</strong></td>
<td>18.6</td>
<td>20.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$58.9 M/yr.</td>
<td>$64.4 M/yr.</td>
</tr>
</tbody>
</table>

¹. When project is fully operational
Year of Completion
= $703 M/yr. (in nominal $)
= $438 M/yr. (in 2017 $)

Cost Impact Summary
in 2017 Dollars

<table>
<thead>
<tr>
<th>State Water Project Share</th>
<th>Base Case 4% Interest</th>
<th>6% Interest Scenario</th>
<th>8% Interest Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWP Total Annual Costs (Capital + O&amp;M)</td>
<td>$438 M</td>
<td>$567 M</td>
<td>$709 M</td>
</tr>
<tr>
<td>Metropolitan’s Share Annual Project Cost</td>
<td>$207 M</td>
<td>$268 M</td>
<td>$334 M</td>
</tr>
<tr>
<td>Total Costs (47.13% of SWP)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolitan’s Cost Impact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolitan’s Overall Cost Increase ¹</td>
<td>13%</td>
<td>17%</td>
<td>21%</td>
</tr>
<tr>
<td>Annual Cost Increase (spread over 15-yr)</td>
<td>0.9%</td>
<td>1.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Average Cost Increase per AF ²</td>
<td>$122/AF</td>
<td>$157/AF</td>
<td>$196/AF</td>
</tr>
</tbody>
</table>

(1) Based on Metropolitan’s 2017/18 Revenue Requirement of $1.574 M
(2) Based on Metropolitan’s 2017/18 sales budget of 1.70 million acre-feet
**Metropolitan Cost Impact**

- **Calculation Method and Assumptions**
  - Annual cost increase to Metropolitan = $207 Million (Base Case)
  - 2017/2018 Budgeted Water Sales = 1.7 Million AF
  - Cost impact per acre-foot = Annual Cost / 1.7 Million AF

- **Cost Impacts**
  - **Base Case 4% Interest**
    - $122 per AF = $207M / 1.7 Million AF
  - **6% Interest Case**
    - $157 per AF = $268M / 1.7 Million AF
  - **8% Interest Case**
    - $196 per AF = $334M / 1.7 Million AF

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**California Water Fix**

Comparison to 10-Year Financial Forecast

- **MWD 10-Year Financial Forecast**
  - Includes CA WaterFix & conservatively accounts for interest rate variations

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Costs are compared against a 10-year financial forecast, with scenarios accounting for interest variations.
What is the cost of project alternatives?

**WaterFix Marginal Cost**

at South Delta Pumps

- **Calculation Method and Assumptions**
  - Estimated incremental WaterFix supply = 1.3 MAF
  - Metropolitan incremental supply (26%) = 337 TAF
  - Annual cost to Metropolitan = $207 Million
  - Marginal cost = (Annual cost / 337 TAF)

- $613 per AF = ($207M / 337 TAF)
**WaterFix Marginal Cost**

*Delivered & Treated to MWD Service Area*

**Calculation Method and Assumptions**
- Marginal cost of WaterFix at Delta pumps = $613/AF
- Marginal cost to convey & treat SWP supply = $227/AF
  - Power for transportation = $197/AF
  - Variable treatment costs = $30/AF
- Marginal cost in MWD Service Area
  - Marginal Costs at Delta Pumps + Power & Variable Treatment

\[ \text{$840 per AF = $613 + $227} \]

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**Alternative Resource Costs**

*Member Agency Examples*

**California WaterFix**
- Delivered & Treated\(^1\) $840/AF

**Recycled Water**
- Edward C. Little Water Recycling Facility\(^2\) $1,739/AF
- Local Resources Program (avg. of projects)\(^3\) $2,240/AF
- San Diego Pure Water Project\(^4\) $1,975 – $2,375/AF

**Seawater Desalination**
- Carlsbad Desalination Project\(^5\) $2,412/AF

**Groundwater Recovery**
- Local Resources Program (avg. of projects)\(^3\) $1,157/AF

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1. WaterFix in 2017 dollars; includes costs to deliver and treat water to MWD’s Service Areas (Power=$197/AF; Variable treatment=$30/AF)
2. Unit cost from LRP FY2013/14 reconciliation with grants
3. Project unit cost from the Local Resources Program FY13/14 reconciliation; grants included in cost in 2013 dollars
4. Unit costs in 2011 dollars and before grants or netting out avoided costs (from the June 14, 2012, SDCWA Board presentation); in 2011 dollars
5. Estimated unit cost from the June 2017 SDCWA Board presentation; in 2017 dollars
### Household Impacts

**WaterFix**

**Calculation Method and Assumptions**
- Residential water use = ~70% of total regional water use
- Metropolitan’s service area = ~6.2 million occupied households
- Household impact calculation:
  - Monthly Impact = (Annual Cost x .70) / 6.2 million / 12 months

**Household Impacts**
- **Base Case**
  - $1.90 = ($207M x .70) / 6.2 Million / 12
- **6% Interest Case**
  - $2.50 = ($268M x .70) / 6.2 Million / 12
- **8% Interest Case**
  - $3.10 = ($334M x .70) / 6.2 Million / 12

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### Water Supply Alternatives

**Average Cost Impact**

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Average Cost Impact</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Household¹</td>
</tr>
<tr>
<td>California WaterFix</td>
<td>$1.90 / month</td>
</tr>
<tr>
<td>Recycling Focus</td>
<td>$4.50 / month</td>
</tr>
<tr>
<td>Desalination Focus</td>
<td>$6.90 / month</td>
</tr>
</tbody>
</table>

¹. Household impact based on 6.2 million occupied residential households in MWD Service area, 70% residential / 30% industrial split

². Based on Metropolitan’s 2017/18 Revenue Requirement of $1.574 million
Summary

- California WaterFix is consistent with Board principles that costs follow water and beneficiaries pay
- Finance plan utilizes the existing State Water Contract structure and a Finance JPA
- Cost impact is already factored into the existing Metropolitan 10-Year Financial Forecast
- California WaterFix compares favorably to the costs of other alternative supply projects

California WaterFix Board Review

<table>
<thead>
<tr>
<th>Topic</th>
<th>Board/Committee Meeting</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>Special Committee on Bay-Delta Water Planning and Stewardship</td>
<td>Jul 10</td>
</tr>
<tr>
<td>Operations</td>
<td>Special Committee on Bay-Delta Water Planning and Stewardship</td>
<td>Jul 25</td>
</tr>
<tr>
<td>Finance/Cost Allocation</td>
<td>Special Committee on Bay-Delta Water Planning and Stewardship</td>
<td>Aug 14</td>
</tr>
<tr>
<td>Board Questions &amp; Follow Up</td>
<td>Special Board Meeting</td>
<td>Sep 26</td>
</tr>
<tr>
<td>Board Action</td>
<td>Special Board Meeting</td>
<td>Sep 26</td>
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