Why We Are Cool:
Riverside Public Utilities in Action

Santa Ana River Watershed Conference 2014
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RPU Background & Demographics

We are Owned by the Customers We Serve

• Municipal Water Utility Established 1913
  – 72 square mile service area
  – 275,000 population served
  – 67,000 metered connections

• Municipal Electric Utility Established 1895
  – 84 square mile service area
  – 302,000 population served
  – 103,000 metered connections
Water System Today

- 74 active wells in four groundwater basins
- 11 treatment plants
- 3 wholesale connections to WMWD/MWDSC
- 8 emergency inter-ties (fire and backup)
- 16 storage tanks – 120 MG capacity
- 41 booster pumping stations
- 900+ miles pipeline (4” – 72”)

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RPU Water Supply

• 100% groundwater since 2008
  – Pump from adjudicated basins
    • San Bernardino
    • Colton/Rialto
    • Riverside North
    • Riverside South

• Pro-active engagement with groundwater cleanup

• Active participants in basin-wide activities
Geographic diversity enhances supply reliability.
Future Water Demand

<table>
<thead>
<tr>
<th>Year</th>
<th>Demand - AFY</th>
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<tbody>
<tr>
<td>2000</td>
<td>60,000</td>
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<tr>
<td>2005</td>
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<td>2010</td>
<td>75,000</td>
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<tr>
<td>2020</td>
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<tr>
<td>2025</td>
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<td>2030</td>
<td>125,000</td>
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<tr>
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Shortage / Need
Developed Resources
RPU Future Water Supply

• Estimated 30,000+ AFY gap from present supply
• Three prong approach to “fill the gap”:
  – Water Use Efficiency
  – Recycled Water
  – Storm Water Capture
• Goal is long term “water independence”
RPU Future Water Supply

Estimated 2035 Water Portfolio

- 81,000 AF Current Groundwater
- 30,000 AFY Gap
- 500 AFY Current Recycled
- 10,000 AFY Water Use Efficiency
- 3,600 AFY Recycling
- 16,400 AFY Storm Water Capture
Future Water Supply - Efficiency

• Behavioral modification
  – WaterSmart
  – School education
  – Consumer outreach

• Rebates & incentives
  – Turf rebate
  – WBICS
  – Landscape audits
  – Indoor incentives
Future Water Supply - Recycling

- **Landscape substitution**
  - Purple Pipe
  - Focus around treatment plant
  - Design to maximize future opportunities

- **Groundwater recharge**
  - Partnerships with other agencies
  - Maximize ecological benefits

- **Direct potable reuse**
  - Long-term future!
Future Water Supply – SW Capture

- **Large scale**
  - Conjunctive Use with other agencies
  - Riverside North Aquifer Storage & Recovery
  - Pellessier Ranch Recharge Project

- **Small scale**
  - Repurpose local detention basins
  - Parkway conversions
  - Urban stream restoration
Water-Energy Nexus

• Johnson Foundation Recommendations*
  – Proactively manage energy demand
  – Enhance energy efficiency & bolster alternative generation
  – Shift to clean power sources
  – Leverage resource recovery opportunities
  – Shape Federal & State policy
  – Engage in community development & resilience planning


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Water-Energy Nexus

• Riverside’s actions:
  – Water Energy Management Master Plan
  – Embedded energy and GHG profiles
  – Shifted most well production to time of use
  – Implemented demand response protocols
  – 1st in nation Lucid PowerPipe (in-conduit turbine)
  – Planned 3.4 MW Solar PV for well fields
  – Recycled water use at power plant
  – Integrated Urban Water Management Planning
  – Water Portfolio Management Principles
Resilience through Water Portfolio Policy Principles

- Minimize operational reliance on imported water
  - Insulate community from state-wide water pressures

- Annually exercise groundwater export rights
  - Balance water quality, financial, legal, and basin management interests

- Conjunctive management of water supply
  - Surface, ground, and recycled water

- Monetize unused and expiring local water rights

- Ensure water supply availability
  - Local, imported, and conserved water
Resilience through Property Portfolio Policy Principles

- Provide a framework for decision making
  - Strategically evaluate and value land assets
  - Maximize water supply portfolio options
  - Consider in broad financial context
  - Hedge present and future requirements
- Leverage relationship with electric utility
- Maintain real options
Envisioning a Resilient Future

• Integrated Urban Water Management
  – New Relationships
    • Customers
    • City Public Works
    • County Flood Control
    • Other water agencies
  – Conjunctive Use
    • "Post-judgment" considerations – move beyond constraints
    • Water banking
    • Reuse
Envisioning a Resilient Future

• Pro-active ecology management
  – Watershed wide view
  – Responsible stewards

• Climate implications
  – Adaptive Response

• Financial considerations
  – Rates, reserves, and rating agencies
  – Advanced technology
  – Changing and adaptive workforce
Questions?

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