

Maximizing a Valuable Resource - IEUA Recycled Water Program

May 1, 2009



Presenters
Amy Jones, IEUA
Mike Matson, RMC



Innovative Solutions for Water and the Environment



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT



Introductions

Presenters

- 💧 **Amy Jones**, Assistant Engineer, IEUA
- 💧 **Mike Matson**, Project Manager, RMC Water and Environment

Other Contributors:

Rich Atwater, CEO/General Manager IEUA

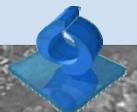
Craig Parker, Manger of Engineering, IEUA

Sylvie Lee, Deputy Manager of Engineering, IEUA

Rich Bichette, Deputy Project Manager, RMC

Special Acknowledgement:

John Bosler, Director of Engineering, CVWD





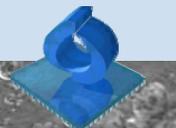
Presentation Topics

💧 **IEUA's 3 -Year RW Business Plan**

- 💧 Intended to be a short-term action plan
 - 💧 Guide IEUA recycled water capital improvement program
 - 💧 Relieve drought impacts in the region

💧 **Case Study**

- 💧 Northeast RW Project
 - 1630 East Recycled Water Pipeline Segment A



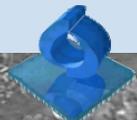
Overview and Goals

Why is large scale Recycled Water use important?



What do we hope you will gain?

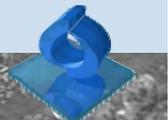
- ◆ An understanding of how to develop and implement a large scale RW program
- ◆ Sense of challenges faced on individual projects



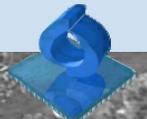
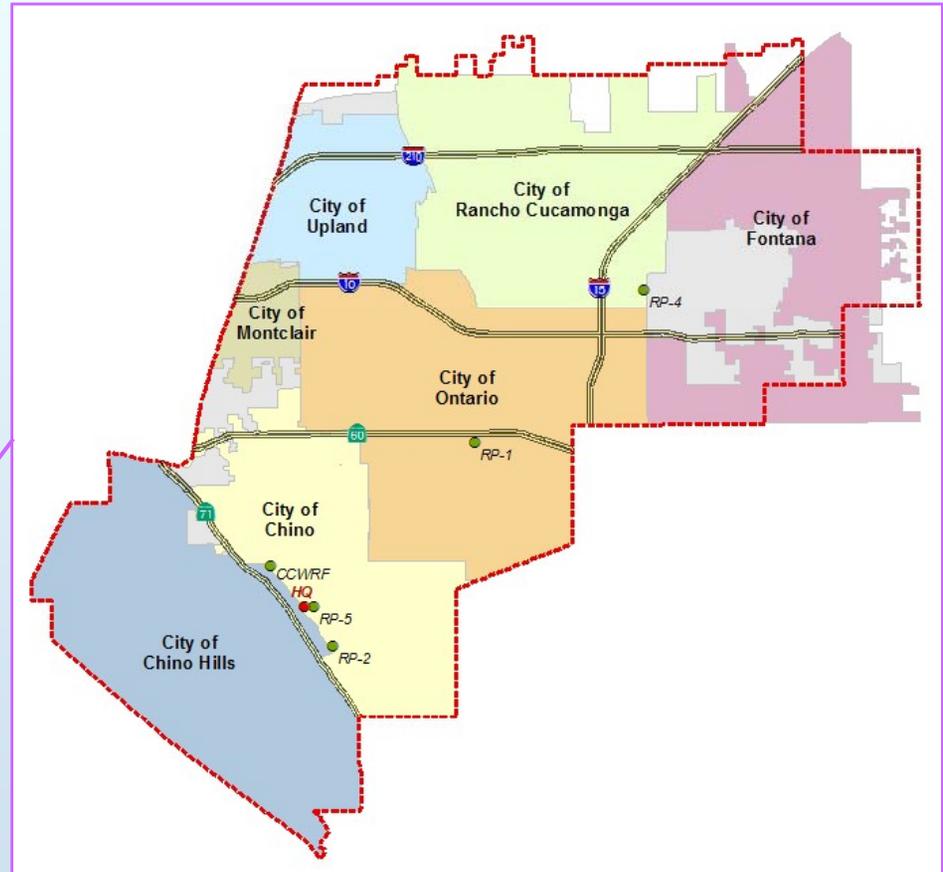
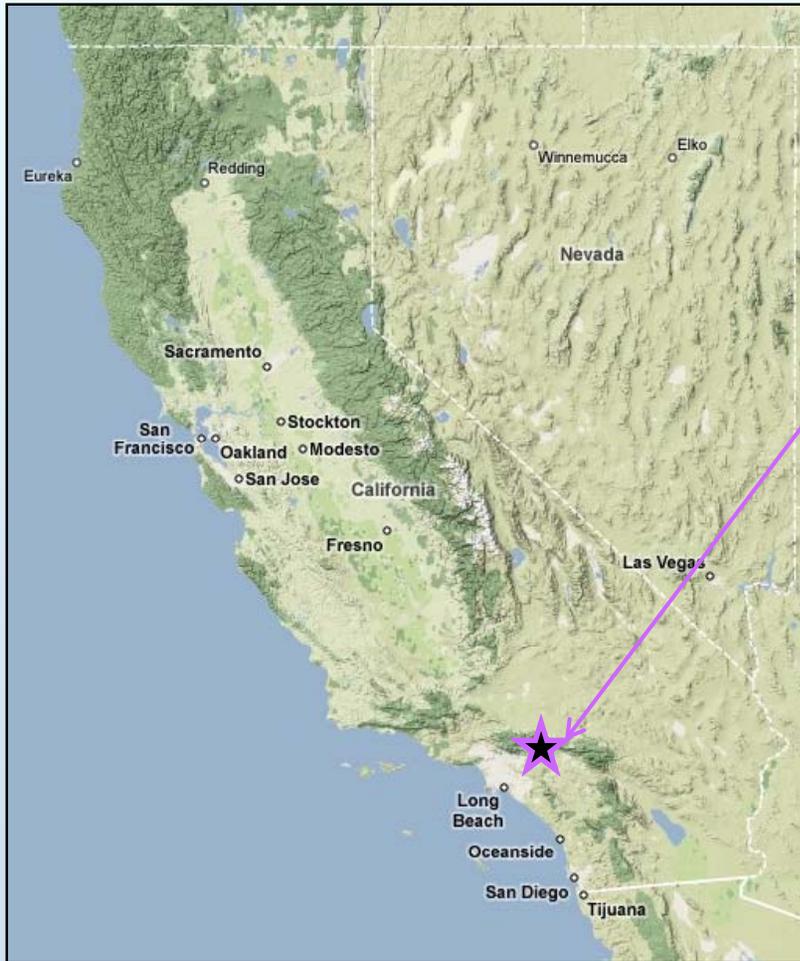


IEUA Background

- ◆ IEUA was formed in 1950 to supply supplemental water to the region
- ◆ IEUA expanded to become a regional wastewater treatment agency with domestic and industrial disposal systems
 - ◆ IEUA's service area encompasses 242 square miles in the southwest corner of San Bernardino County and includes the following facilities:
 - ◆ 5 treatment plants with a total treatment capacity of 60 MGD, a compost facility partially owned by LACSD, and several domestic and industrial trunk and interceptor sewer lines
 - ◆ Member agencies include the cities of Chino, Chino Hills, Fontana, Ontario, Montclair and Cucamonga Valley Water District and Monte Vista Water District



IEUA's Service Area Map



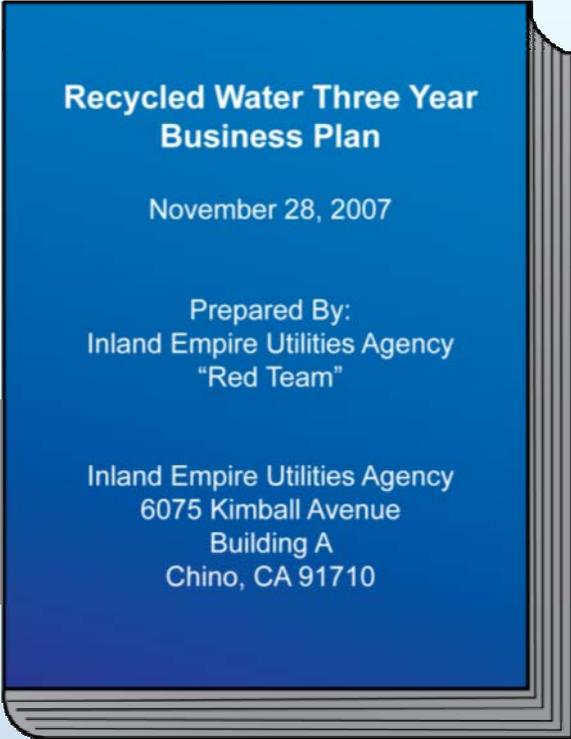


IEUA Recycled Water Program

- ◆ Agency Goal:

“The overall goal of the IEUA Recycled Water Program is to encourage maximum use of the recycled water resource for beneficial purposes, thereby conserving water within the Chino Basin and reducing the dependency on imported water.”

- ◆ In December 2007, IEUA adopted an aggressive 3 -Year Business Plan to increase the use of recycled water within the Agency’s service area

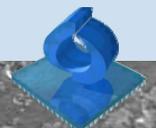


**Recycled Water Three Year
Business Plan**

November 28, 2007

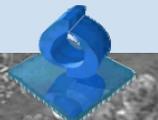
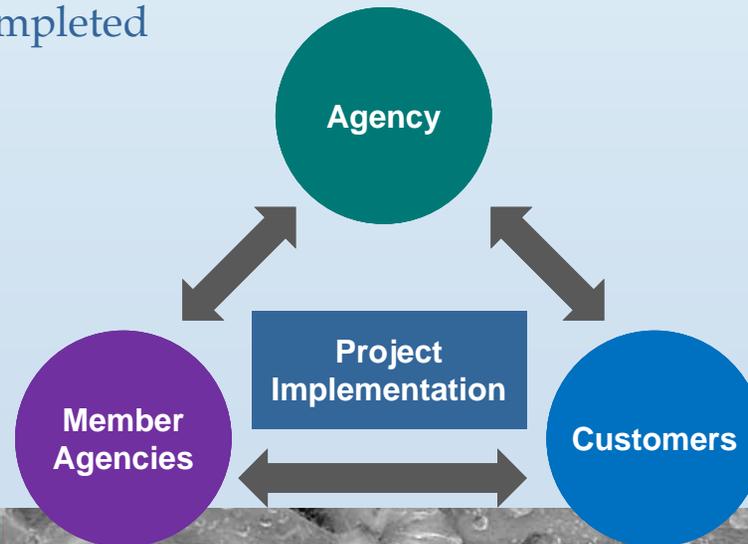
Prepared By:
Inland Empire Utilities Agency
“Red Team”

Inland Empire Utilities Agency
6075 Kimball Avenue
Building A
Chino, CA 91710



3 - Year Business Plan

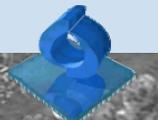
- ◆ Agency “Red Team” was formed to assist with the creation of the 3-Year Business Plan
 - ◆ Included staff from IEUA and its member Agencies
 - ◆ The purpose:
 - ◆ Provide a group that could lead projects through design, construction and permitting phases
 - ◆ Open avenues of communication to aid with construction projects as well as identify new recycled water projects
 - ◆ Ensure that recycled water onsite retrofits are completed when the regional facilities are completed



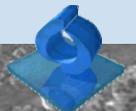
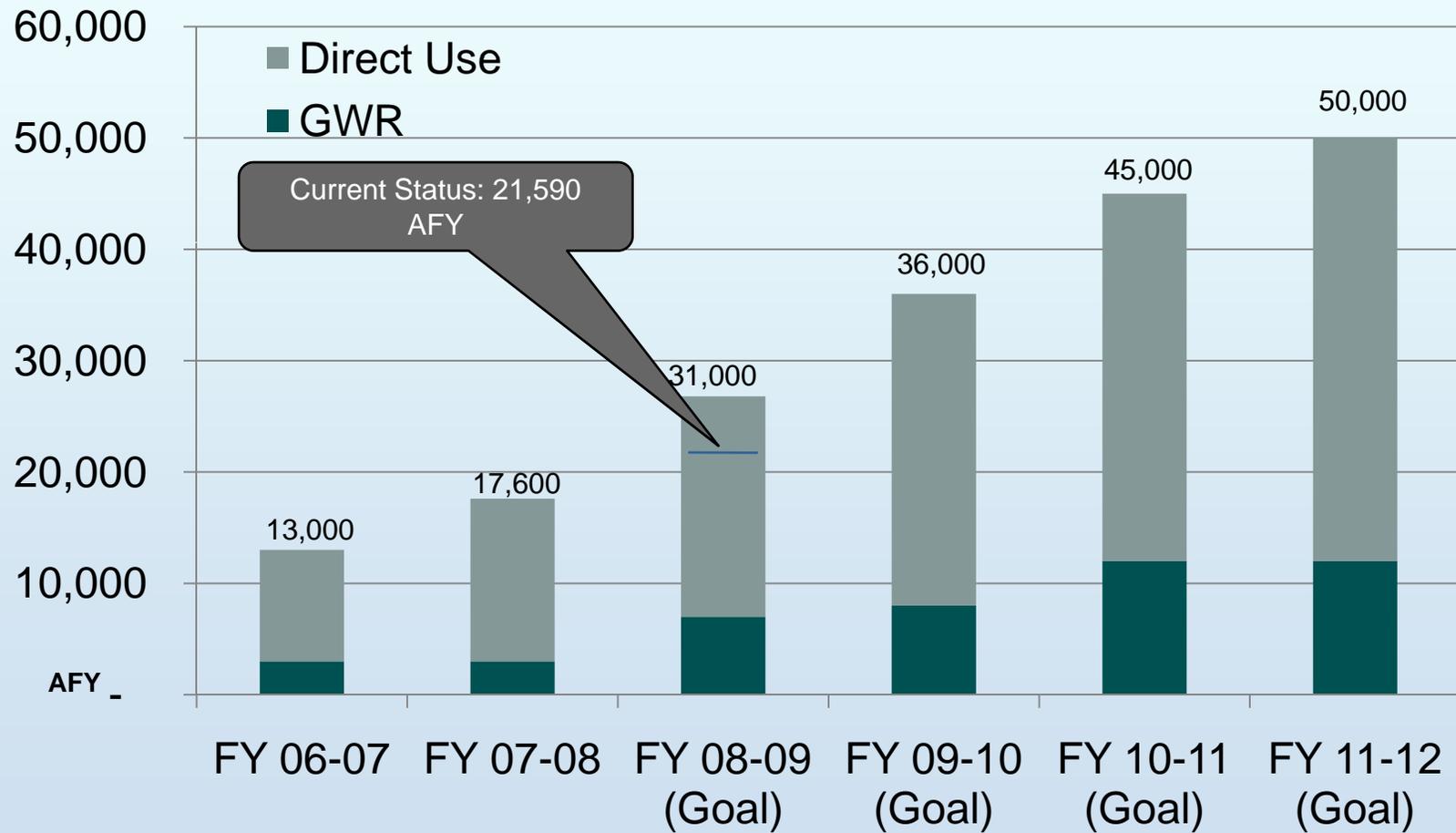
3 - Year Business Plan (cont'd)

Annual recycled water usage goals:

	Year	Connected Demand (AFY)
1	2007/08	17,600
2	2008/09	31,000
3	2009/10	36,000
4	2010/11	45,000
5	2011/12	50,000



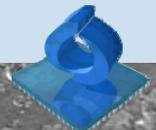
3-Year Business Plan (cont'd)





3-Year Business Plan (cont'd)

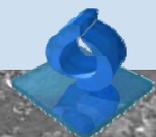
- ◆ **Policies Adopted with the 3 - Year Business Plan in December 2007:**
 - ◆ **Local Laterals:**
 - ◆ Financed either by the Member Agency or by IEUA at 2.5% (or the applicable SRF rate)
 - ◆ **On-Site Retrofits for Public Agency Facilities:**
 - ◆ MWD rebate of \$500 per Acre-Foot of recycle water use
 - ◆ CBWCD rebate of \$500 per Acre-Foot of recycle water use for schools and parks in their service area, not to exceed MWD rebate
 - ◆ IEUA financing of cost not covered by applicable rebates/grants at zero percent for five years
 - ◆ **On-Site Retrofits for Private Facilities:**
 - ◆ IEUA financed at IEUA's cost of funds (approximately 4%)
 - ◆ Term based on percentage of net savings from potable water rates, typically less than 5 years



IEUA Capital Program Overview

RW Project Area	Total Project Cost	SRF Loan	SWRCB Grants	USBR* Grants
Northeast Area (CVWD)	\$40.0 M	\$33.8 M	\$4.2 M	\$10.0 M
Northwest Area (Upland)	\$36.5 M	\$28.5 M	\$4.0 M	\$4.0 M
Southern Area (Chino/Chino Hills)	\$20.3 M	\$17.0 M	\$3.2 M	
Central Area (Ontario & Fontana)	\$11.5 M	\$9.0 M	\$2.3 M	
Total	\$ 108.3 M	\$88.3 M	\$13.7 M	\$14.0 M

* Pending approval of funding



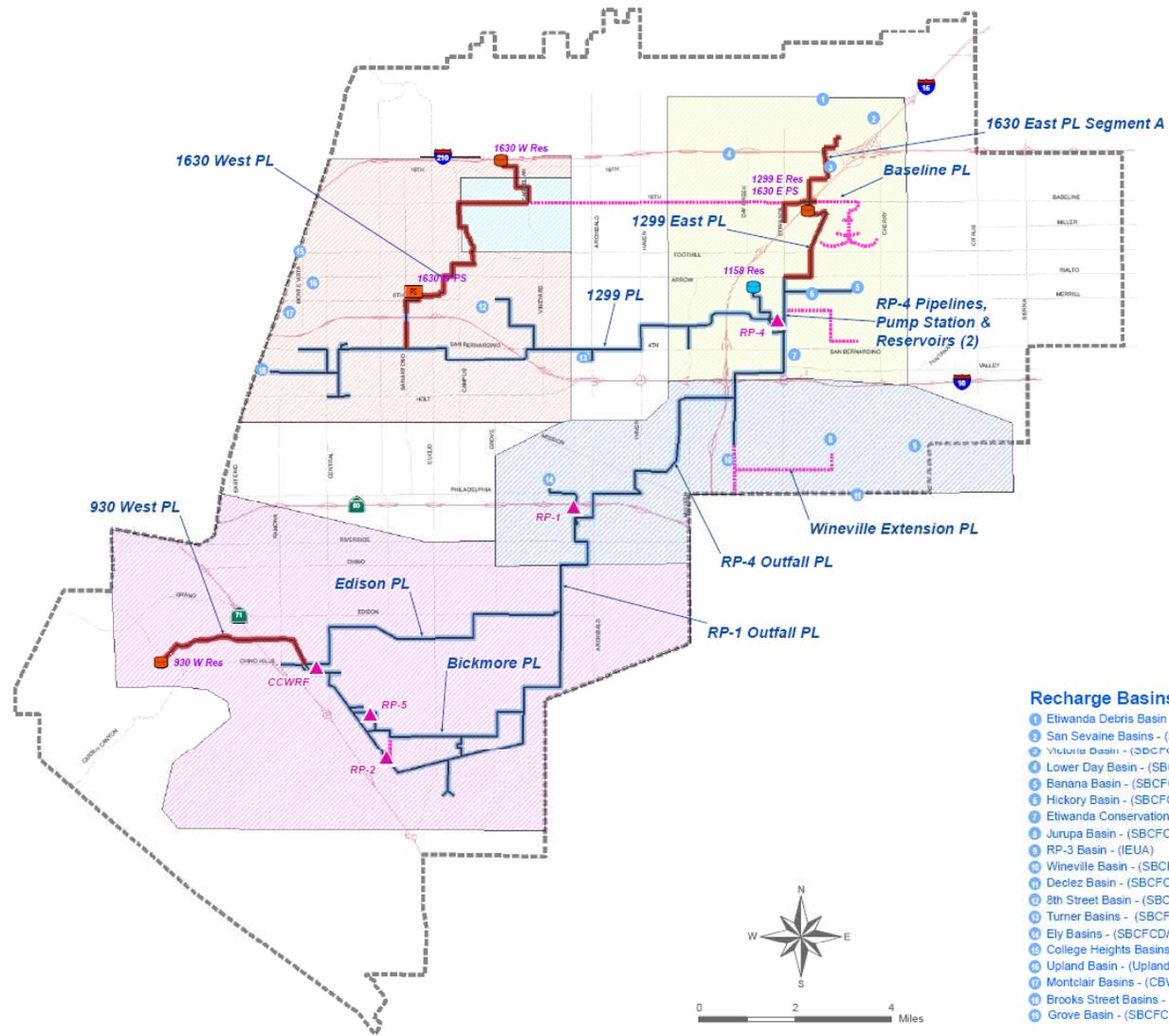
IEUA Capital Program Map

Recycled Water Capital Projects Business Plan

March 2009

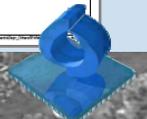
Legend

- ▲ Treatment Plant
 - ⊖ Reservoir
 - ⊞ Pump Station
- Project Status Legend Key**
- Planning
 - Bid
 - Design
 - Construction
 - Operating
- Project Areas**
- Central
 - Northeast
 - Northwest
 - Red Hill
 - South



Recharge Basins (Owners)

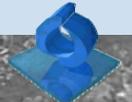
- 1 Etowanda Debris Basin - (SBCFCD)
- 2 San Seavaine Basins - (SBCFCD)
- 3 Victoria Basin - (SBCFCD)
- 4 Lower Day Basin - (SBCFCD)
- 5 Banana Basin - (SBCFCD)
- 6 Hickory Basin - (SBCFCD)
- 7 Etowanda Conservation Basins - (SCE)
- 8 Jurupa Basin - (SBCFCD)
- 9 RP-3 Basin - (IEUA)
- 10 Wineville Basin - (SBCFCD)
- 11 Declez Basin - (SBCFCD)
- 12 8th Street Basin - (SBCFCD)
- 13 Turner Basins - (SBCFCD/CBWCD)
- 14 Ely Basins - (SBCFCD/CBWCD)
- 15 College Heights Basins - (CBWCD)
- 16 Upland Basin - (Upland)
- 17 Montclair Basins - (CBWCD)
- 18 Brooks Street Basins - (CBWCD)
- 19 Grove Basin - (SBCFCD)



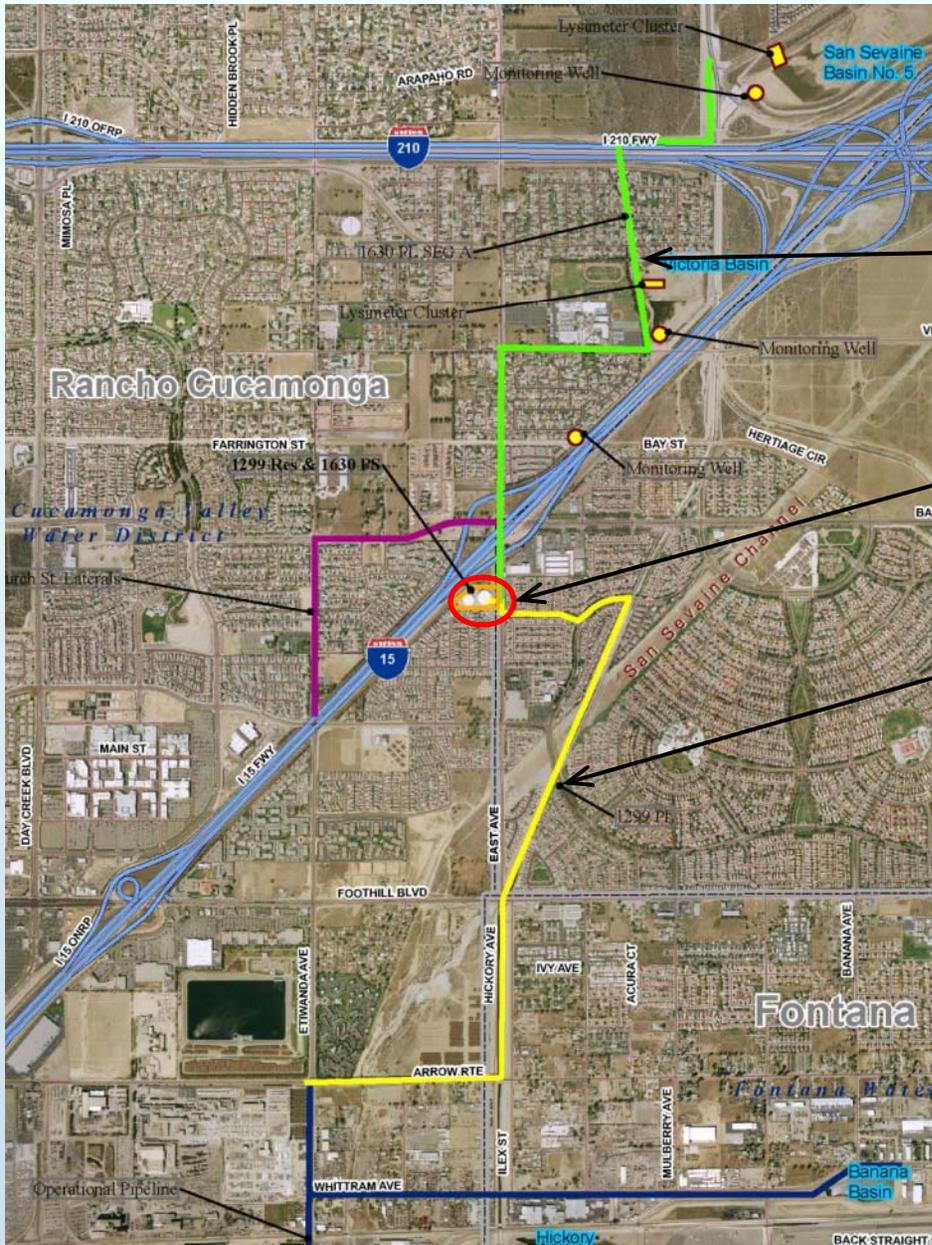
Upcoming Northeast Area Projects

- The Northeast Area project primarily serves recycled water to CVWD service area in the Cities of Fontana and Rancho Cucamonga. Estimated connected demand is 10,120 AFY

Project	Design	Construction Completion	Project Budget	Actual Cost To Date	Status
1299 E Pipeline	Completed	Jun 2010	\$11.2 million	\$438,000	Bid Period
1299 E Reservoir & 1630 E PS	Completed	Jun 2010	\$13.6 million	\$834,000	Bid Period
1630 E Pipeline, A	Completed	Jun 2010	\$12.8 million	\$1,346,000	Bid Period
Monitoring Wells & Lysimeters	Completed	Jan 2010	\$1.5 million	\$66,000	Ready to Bid Pending Funding



Northeast Area Map



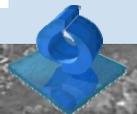
1630 East Recycled Water Pipeline Segment A

1299 East Reservoir
1630 East Pump Station

1299 East Recycled Water Pipeline

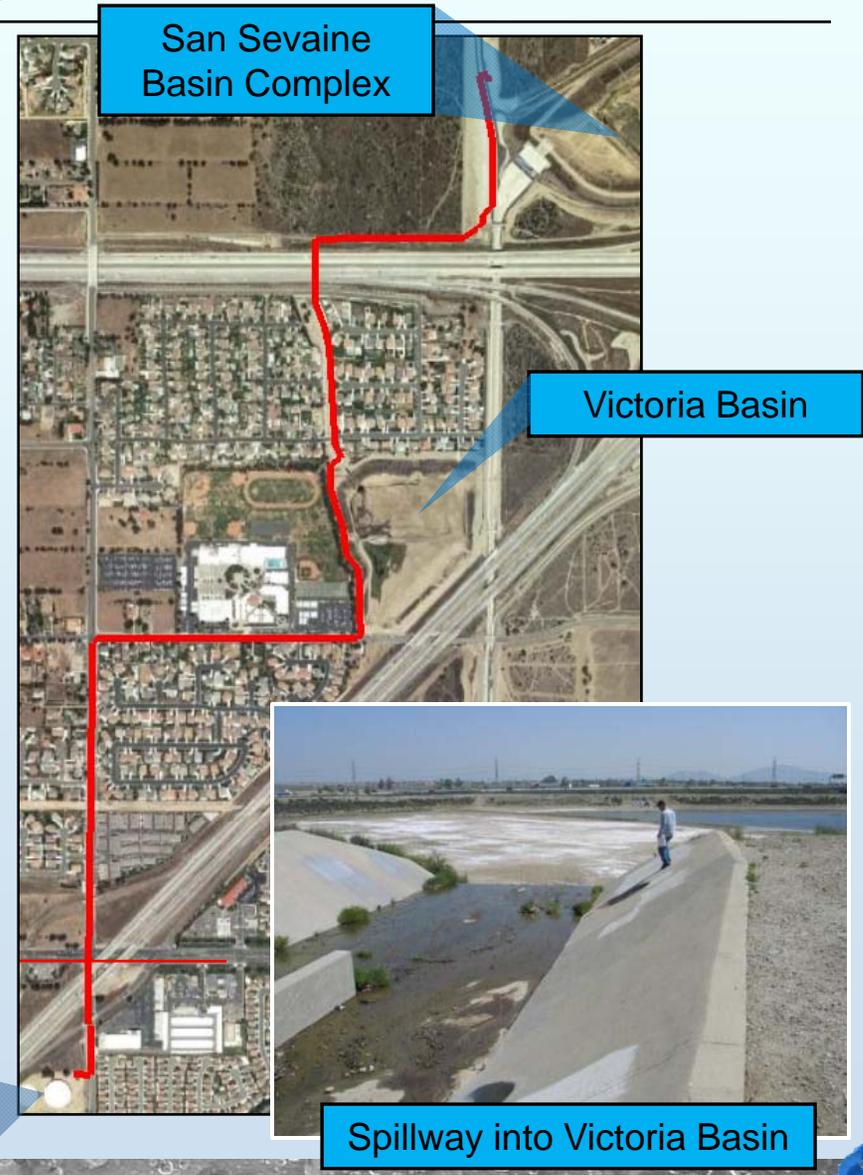
Legend

-  Regional Plants
-  Freeways
-  Cities Boundaries
-  Operational Pipeline
-  1630 pl Seg A
-  Church St. Laterals
-  1299 Zone Pipeline
-  1299 Reservoir and 1630 Pump Station



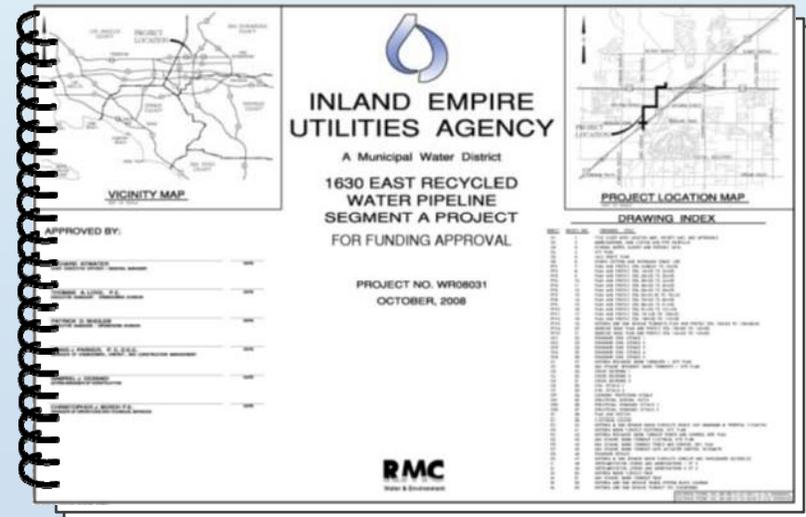
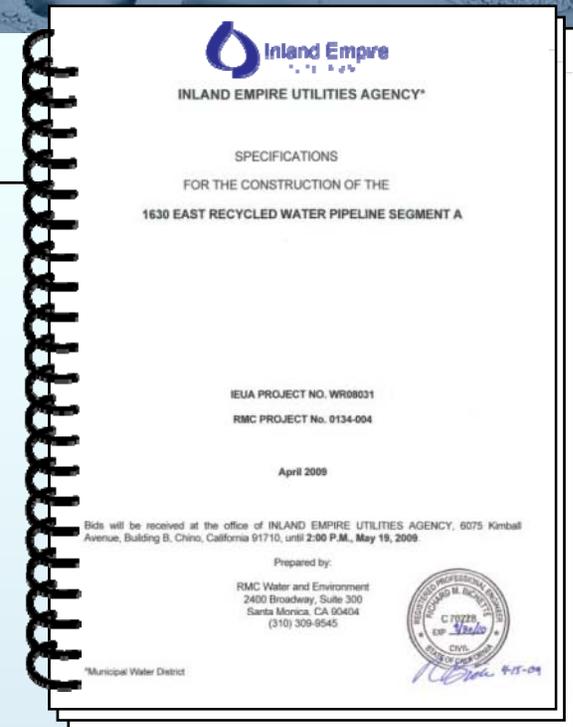
1630 East Segment A Pipeline - Overview

- ◆ 2 miles of **36-inch** pipe From 1630 E Pump Station to San Sevaine Basin
- ◆ Two GW recharge basin turnouts
 - ◆ Victoria - 1,040 AFY
 - ◆ San Sevaine - 8,670 AFY
- ◆ Initial *Fast Track* Schedule –
 - ◆ Start design February 2008
 - ◆ Complete construction March 2009



Where are we today?

- ◆ Project is out to bid
 - ◆ Construction expected to be complete June 2010
- ◆ Five separate construction permits are in hand
 - ◆ County of San Bernardino Flood Control District
 - ◆ Caltrans (I-15 and I-210 Crossings)
 - ◆ City of Rancho Cucamonga
 - ◆ City of Fontana
 - ◆ MetroLink



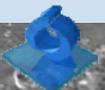
How did we get here?

◆ Success Factors

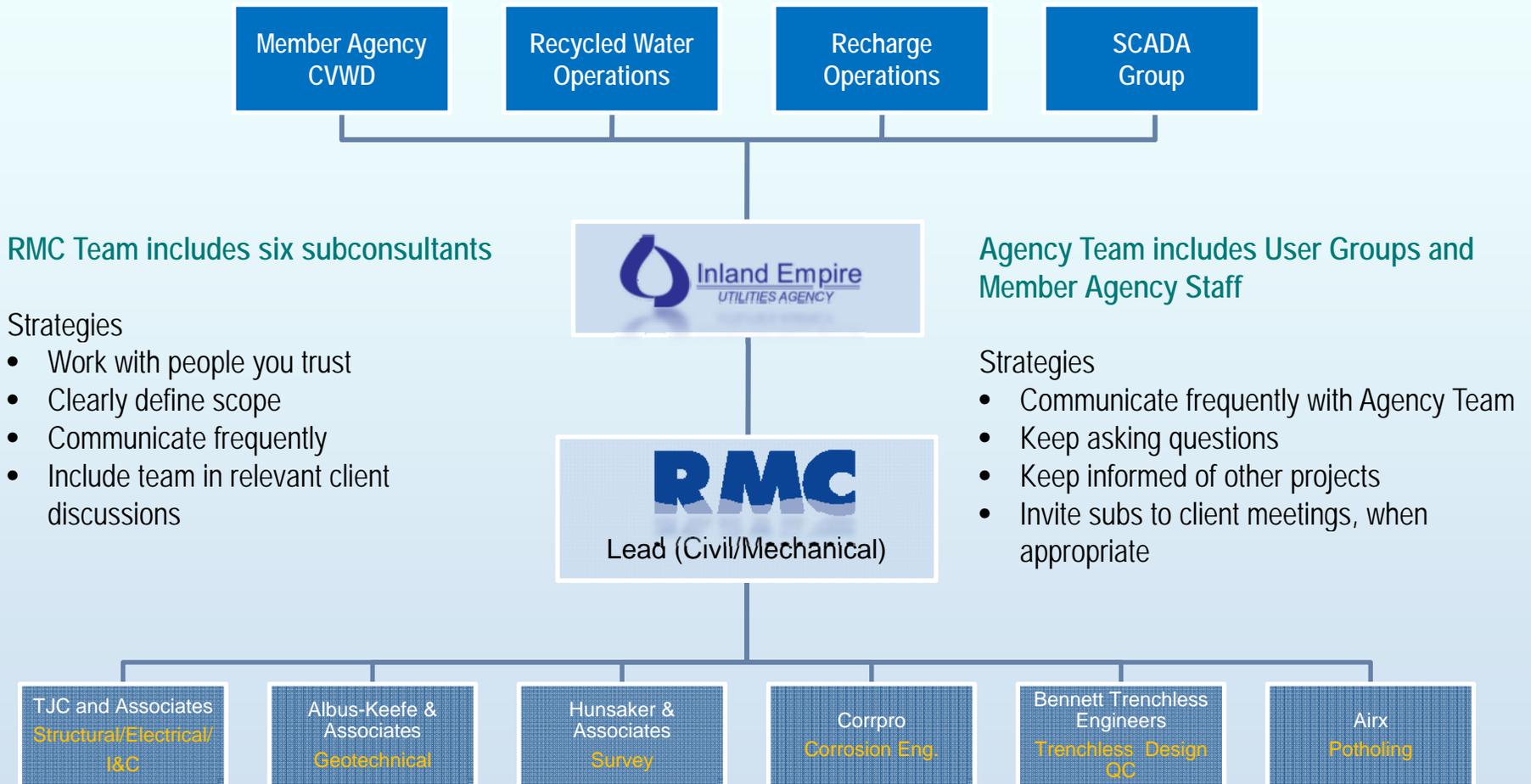
- ◆ Integrated team approach during design
- ◆ Thorough utility research and potholing program
- ◆ Early permitting coordination

◆ Challenges

- ◆ Permitting process
- ◆ Environmental mitigations
- ◆ Potholing Program permits
- ◆ Funding approvals



Success~ Integrated Design Team Approach



**Lesson Learned –
Communicate, because things change!**

Slide 19

mm7

Put Agency Team on top mirroring RMC team. IEUA logo as Project Owner on line above RMC. CVWD 1299 Pipeline Designers; CVWD 1630PS designers; recharge Operations Group; REcycled Water Operatons Group; Contruction Group (Groups are all IEUA, so put smaller logo in those boxes.

mmatson, 4/26/2009

Success~ Utility Coordination

11 utility agencies in the project area

Strategies

- ◆ Identify a real contact early - name and number, email.... (not just a general number)
- ◆ Coordinate (during conceptual planning)
- ◆ Field check
- ◆ Send plans at each phase and ask for verification - even if they have already verified their location.



Lesson Learned – Most agencies will appreciate your diligence! (though some might get annoyed..)

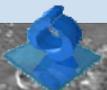
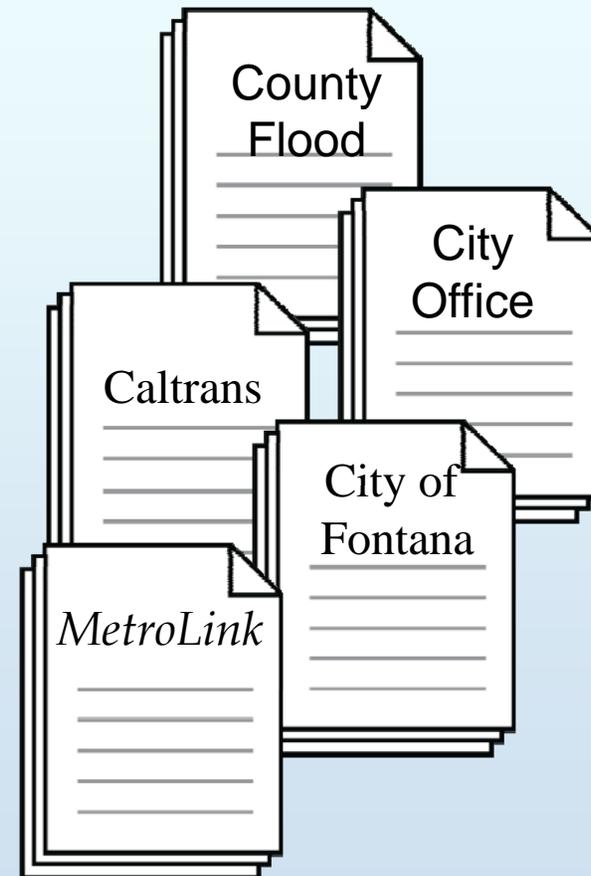
Success~ Early Permitting Coordination

Five Permits were needed for construction

Strategies

- **Identify a real contact early - name and number, email....** (not just a general number)
- Meet with permitting agency contacts to understand their concerns
- Mitigate through design and field verify

Lesson Learned – Permitting process can take unexpected turns



Challenges ~ Caltrans Permitting

Two freeway crossings (CALTRANS)



I-210 (trenchless)



I-15 (open cut - under)

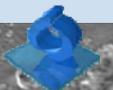
Caltrans concern - open cut under I-15

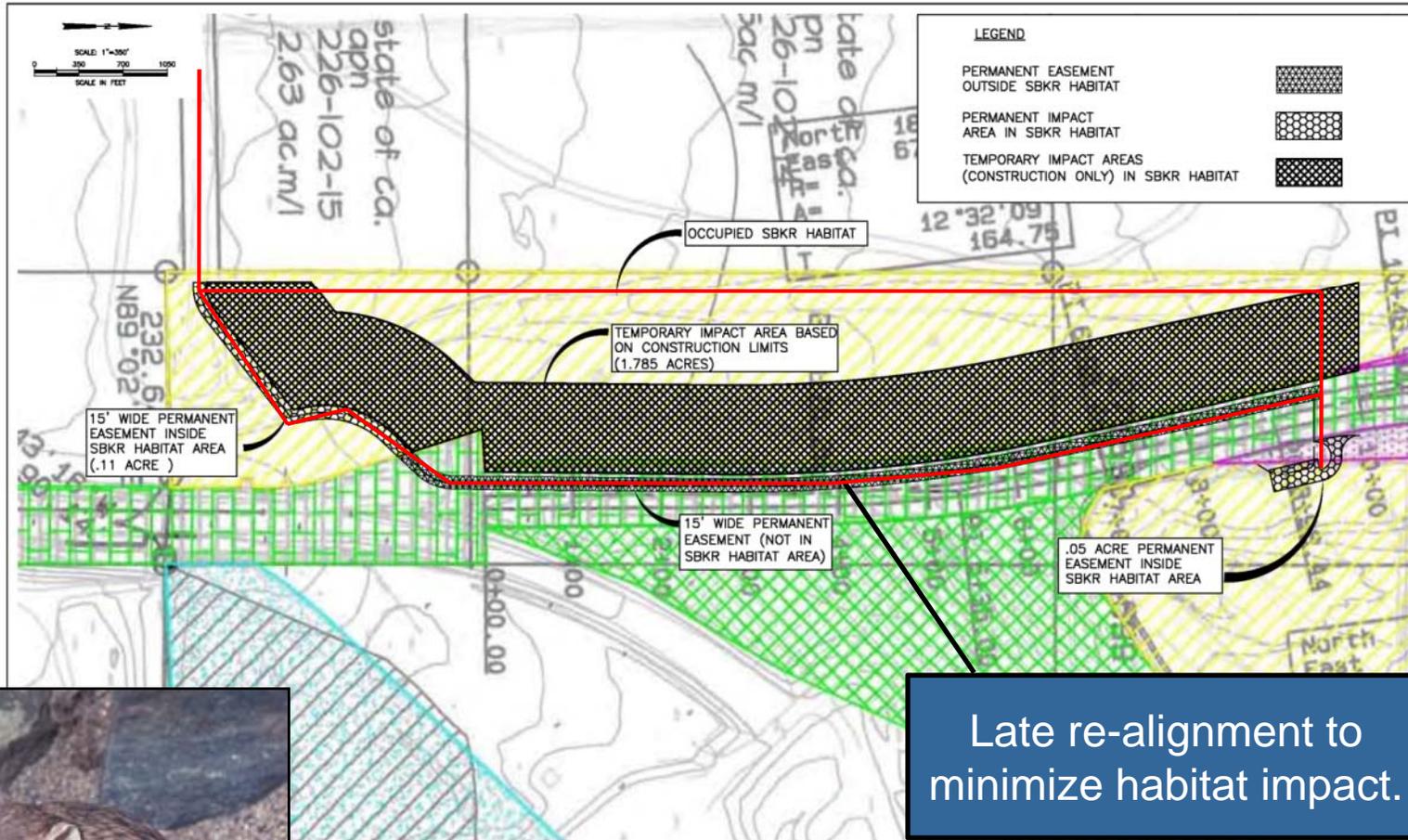
- 60-day initial review
- 60-day final review

Lesson Learned - Plans are never perfect on first round; expect >120 day for permit.

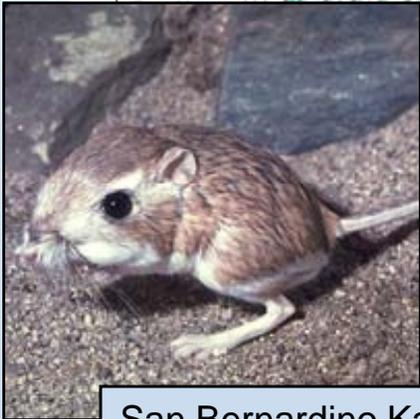
Challenges - Environmental

Does this look like habitat ?



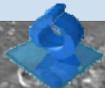


Late re-alignment to minimize habitat impact.



San Bernardino Kangaroo Rat (endangered)

Lesson Learned – Don't mess with the SBKR.



Challenges - Potholing Permits

71 utilities were potholed

City concerns - restoration

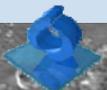
- Initial application May 2008
- **Permit received October 2008**

Caltrans permit

- Initial application May 2008
- **Permit received February 2009**



Lesson Learned – Design team and Agency need to support pothole permitting process

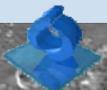


Other Challenges



Lesson Learned – If you don't hear back from a permitting agency, keep calling. They may have misplaced your file!

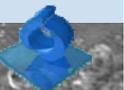
- Southern California Regional Rail Authority (MetroLink) R/W Crossing
 - Application - May 2008
 - **Approval – September 2008 (approved same day upon phone call)**
- Funding
 - SRF Funding has its own challenges (value engineering, timelines, etc)
 - SWRCD has streamlined the process





Conclusions

- ◆ Large scale recycled water programs are essential in California's current water supply environment
- ◆ Implementation of recycled water programs must include a range of stakeholders
- ◆ Fast tracking of linear projects can be subject to delays
- ◆ Integrated approach to project implementation allows flexibility to deal with external delays



Questions?

