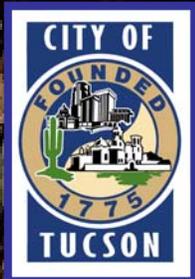


# Tucson Water's Planning and Engineering Sections

*Patricia Eisenberg – Administrator*

Presented to:

**Citizens' Water Advisory Committee**  
**November 4, 2009**



# City of Tucson Water Department

## Office of the Director

Customer  
Services

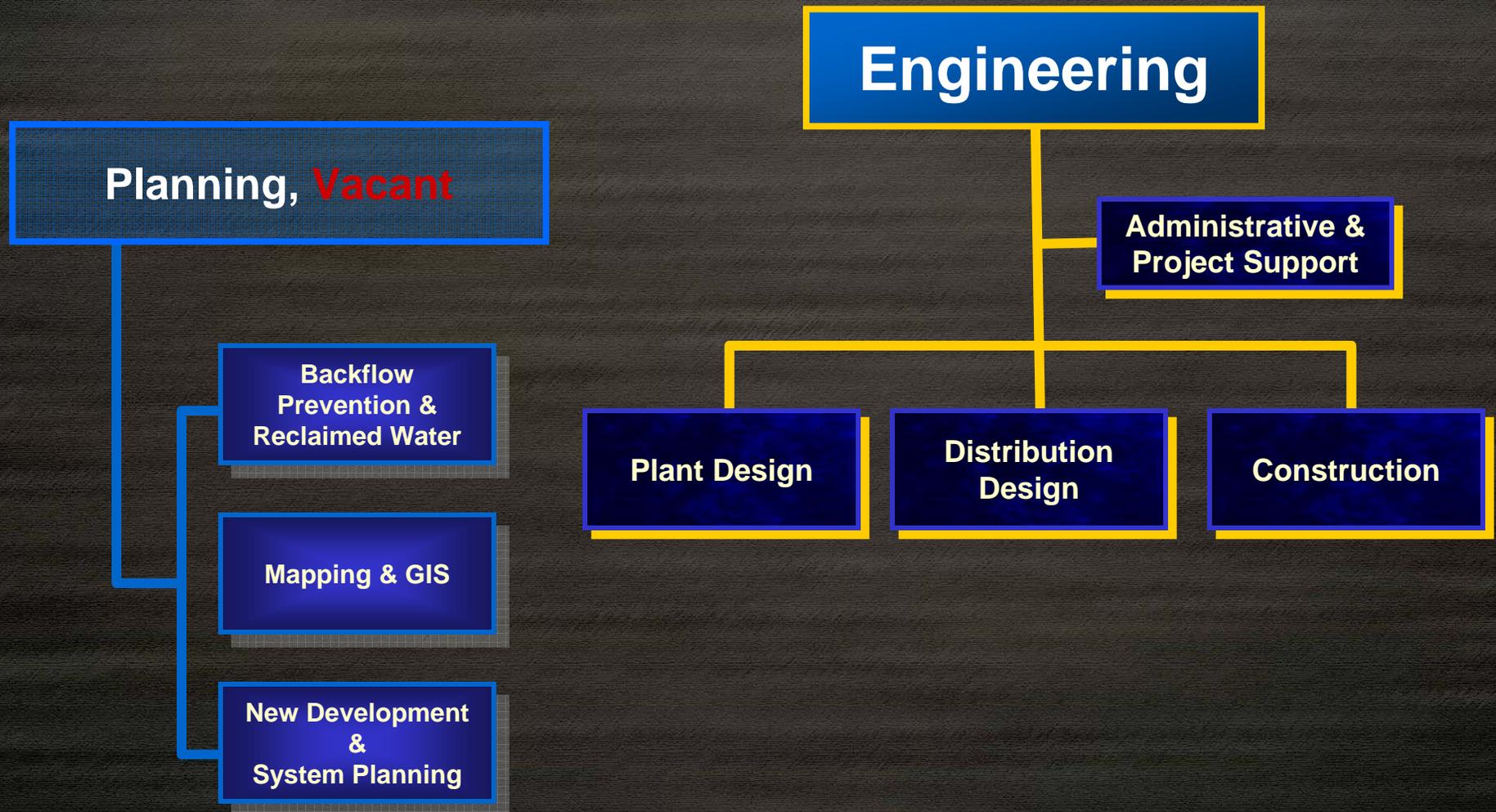
Business  
Services

Operations  
&  
Maintenance

Planning  
&  
Engineering

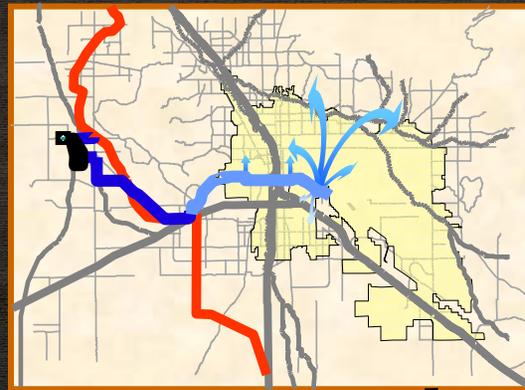
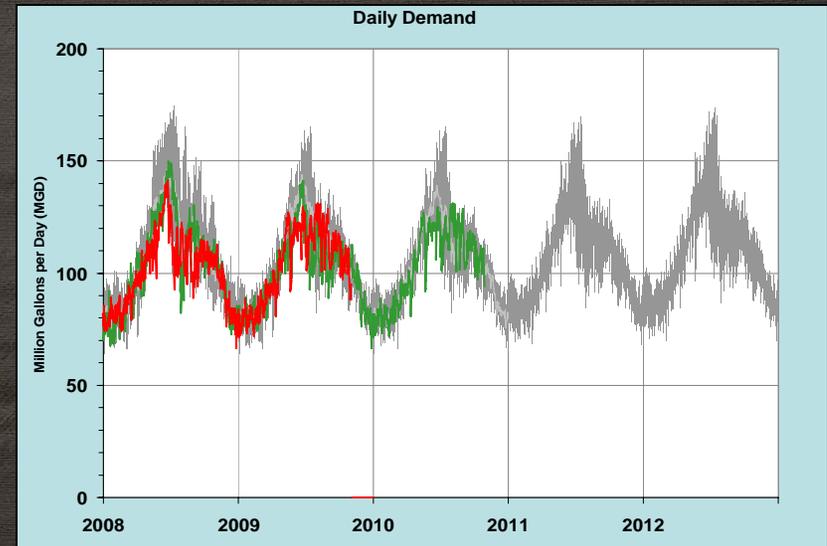
Water Quality  
Management

# Where we are in the Organization



# System Planning

- 💧 Long range planning
- 💧 Water system analysis
- 💧 Model maintenance
- 💧 Database maintenance
- 💧 Map preparation
- 💧 System troubleshooting
- 💧 Cost analysis

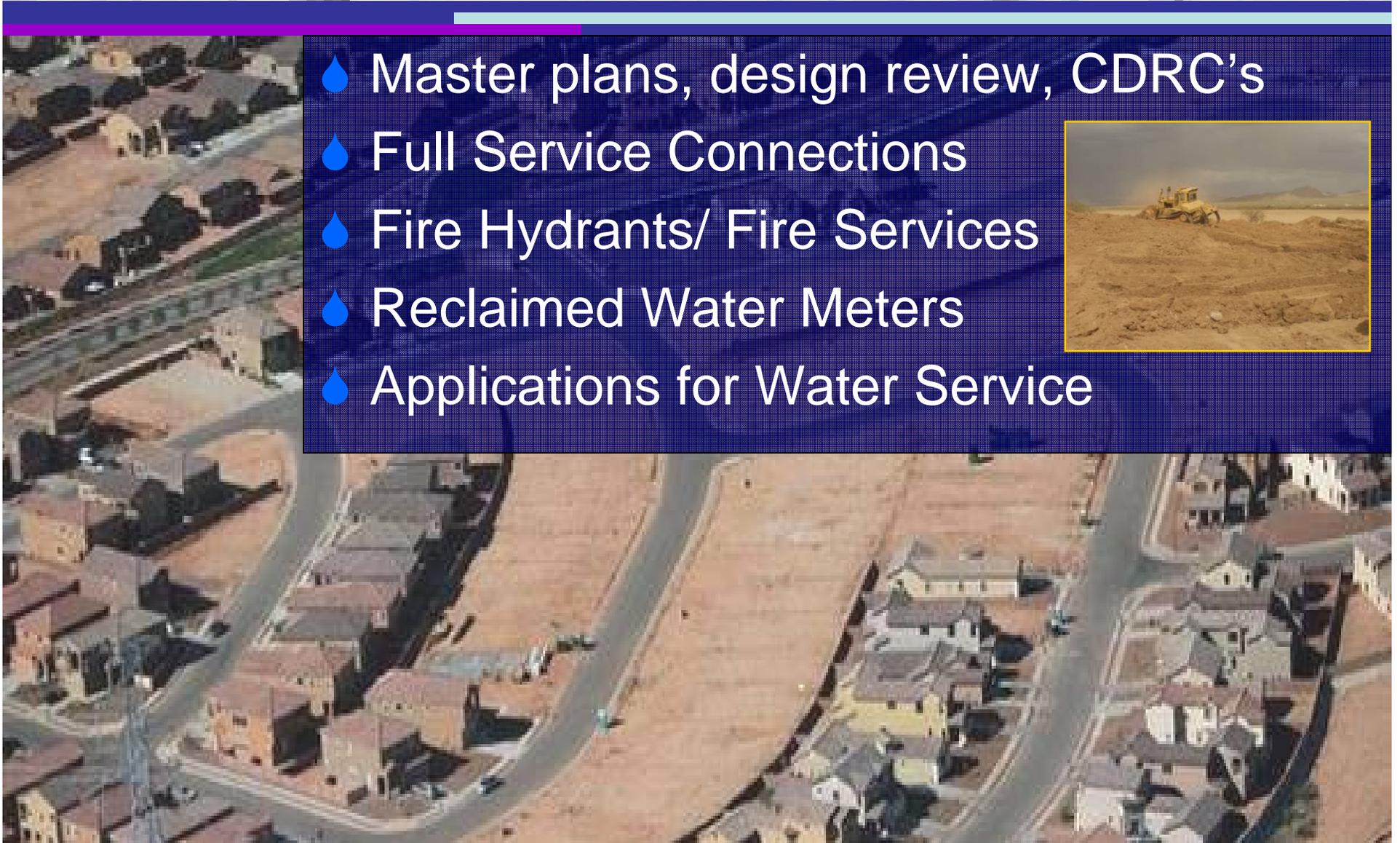


# Troubleshooting System Problems



# New Area Development

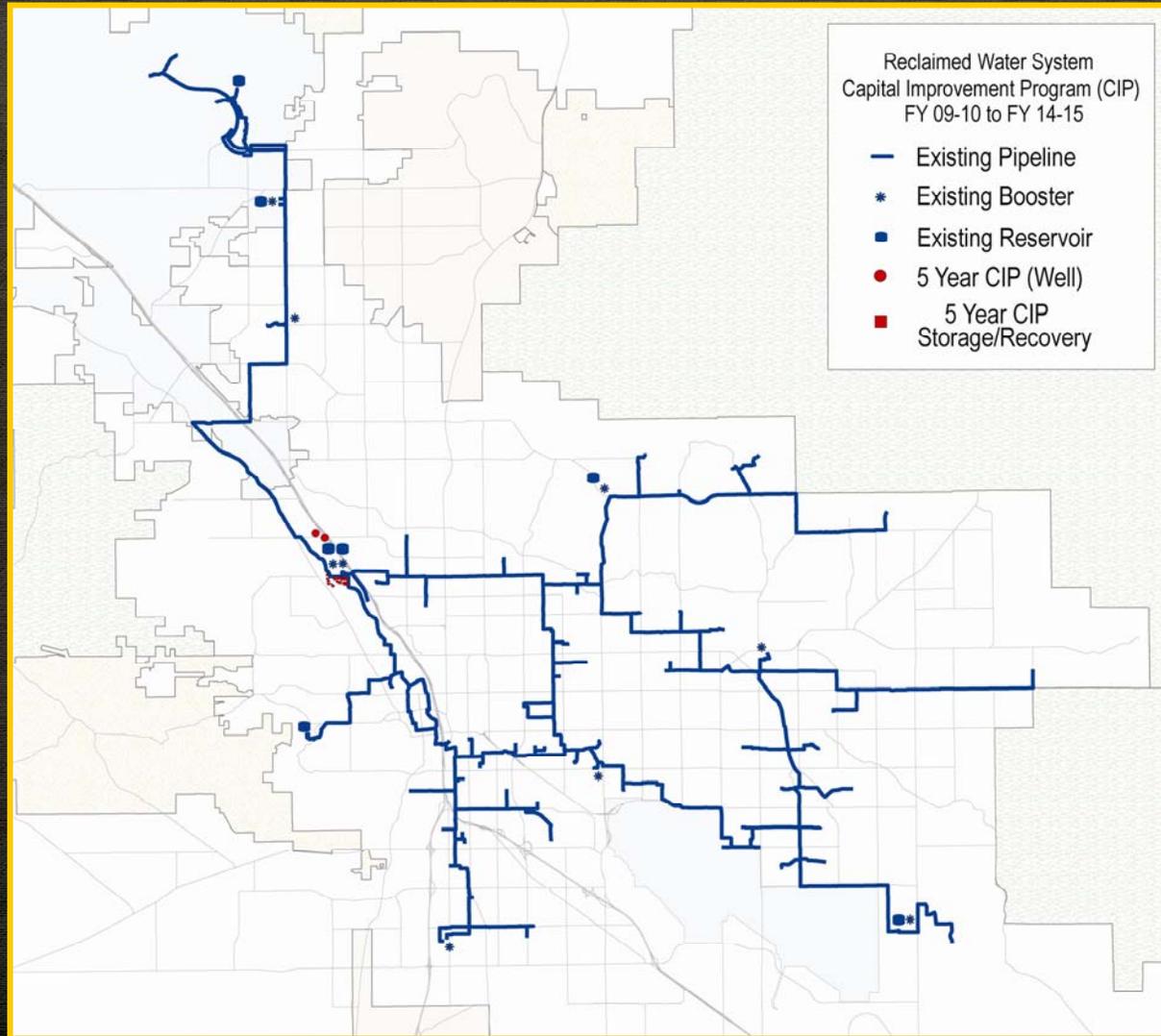
- 💧 Master plans, design review, CDRC's
- 💧 Full Service Connections
- 💧 Fire Hydrants/ Fire Services
- 💧 Reclaimed Water Meters
- 💧 Applications for Water Service



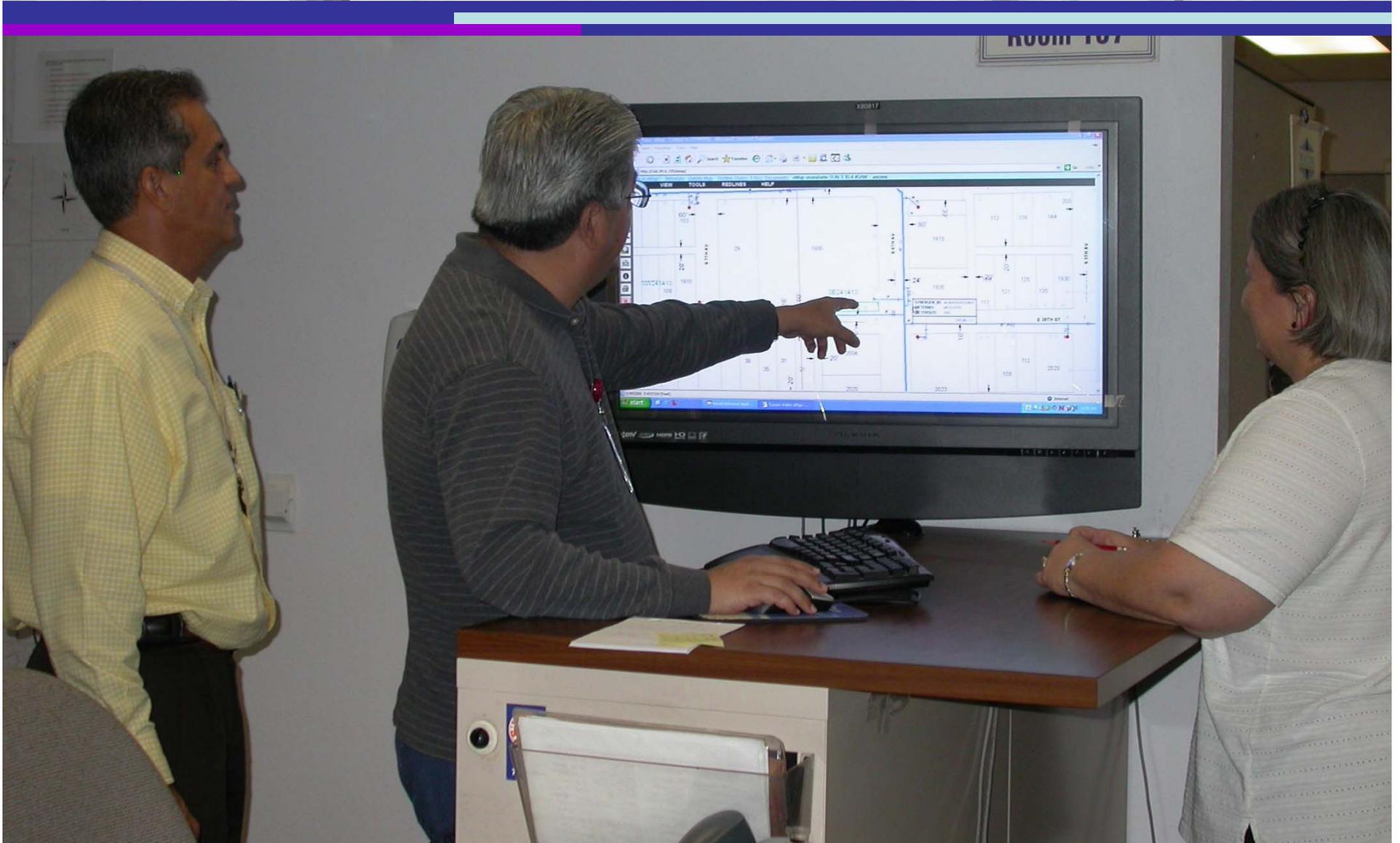
# Backflow / Reclaimed

- Monitor backflow database records
- Record backflow prevention assembly test
- Prepare and mail compliance letters
- Issue backflow prevention assembly permits
- Conduct site surveys, site inspections, and spot tests
- Discontinue service

# Reclaimed Water System



# Mapping / GIS



# Mapping/GIS Work

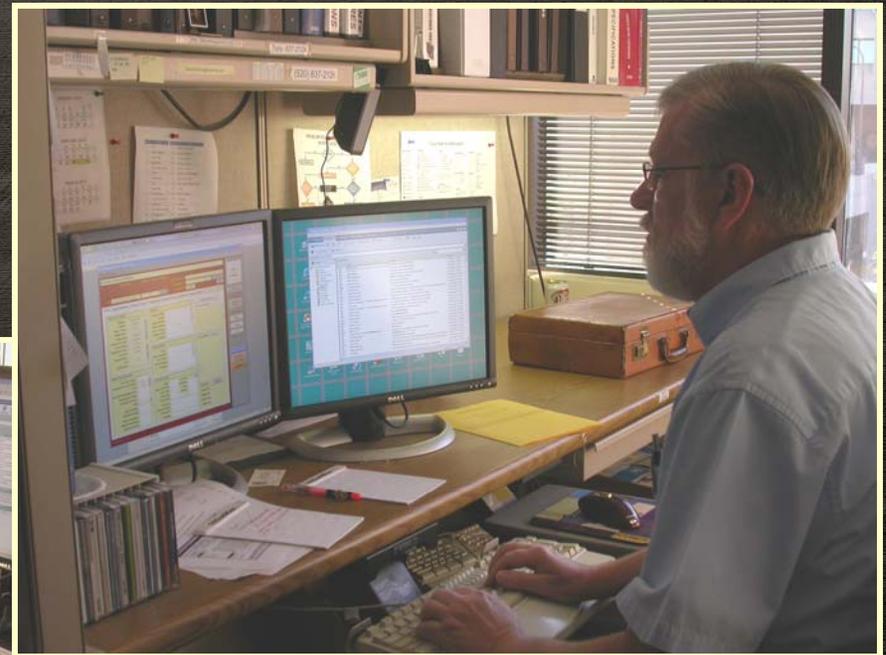
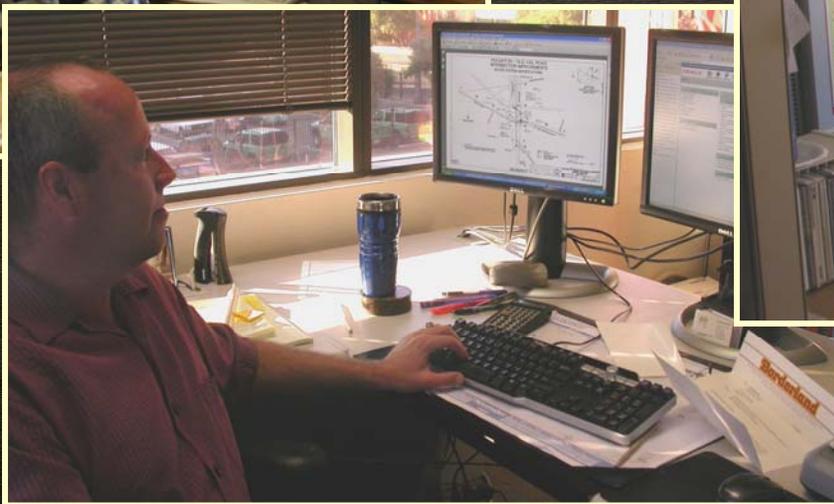
- Update valve maps and township maps
- Calculate system pressures for Zanjeros and the billing office
- Plot and digitize all as-built water plans
- Provide contract and map documents for consultants, water staff, other city staff
- Research issues for water and city staff
- Scan and archive all permanent records

# Distribution Design

- Design and oversee construction of potable and nonpotable transmission mains, distribution mains, collector pipelines from wells, casing extensions under railroad tracks
- Work with roadway agencies to assure water standards are met by contractors
- Obtain easements, environmental and archaeological clearances, regulatory agency approvals
- Assist O&M with engineered solutions

# Roadway Agency Modification Work

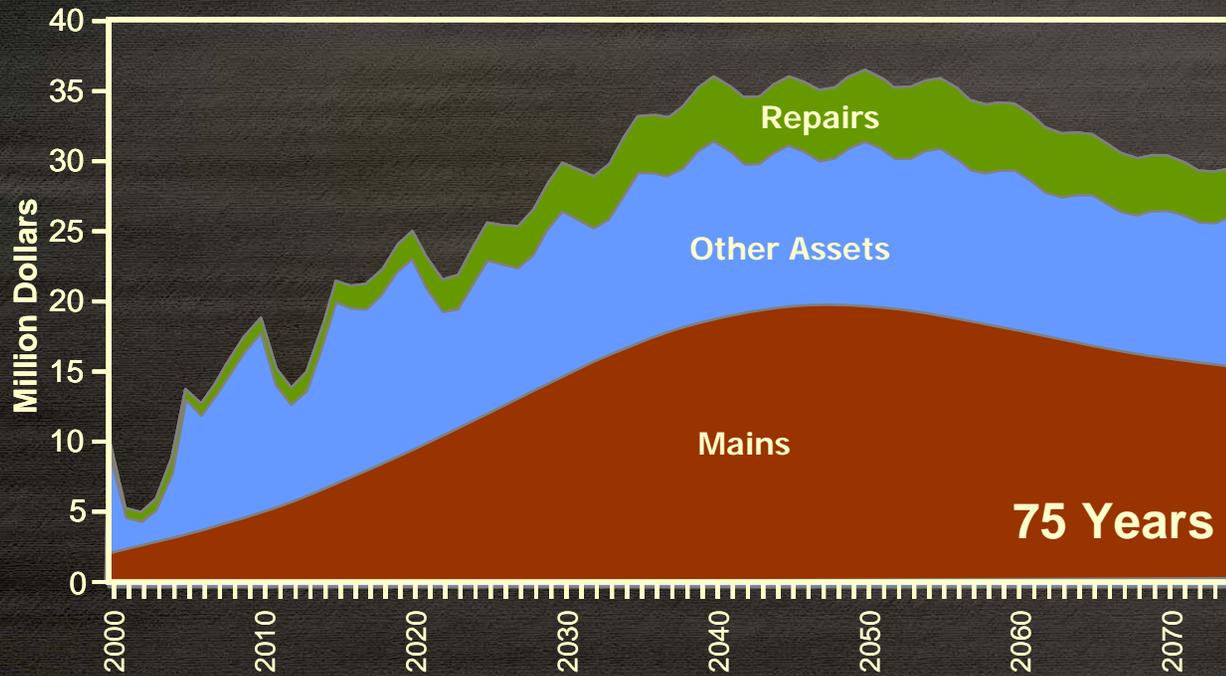
- Receives 30 new submittals a month for project coordination, plan review, or construction inspection.



# Transmission Main Design/Const.



# Main Replacement Design/Construction



Source: AWWA 2001



# Recharge Design & Construction



**Sweetwater  
Recharge Facility**

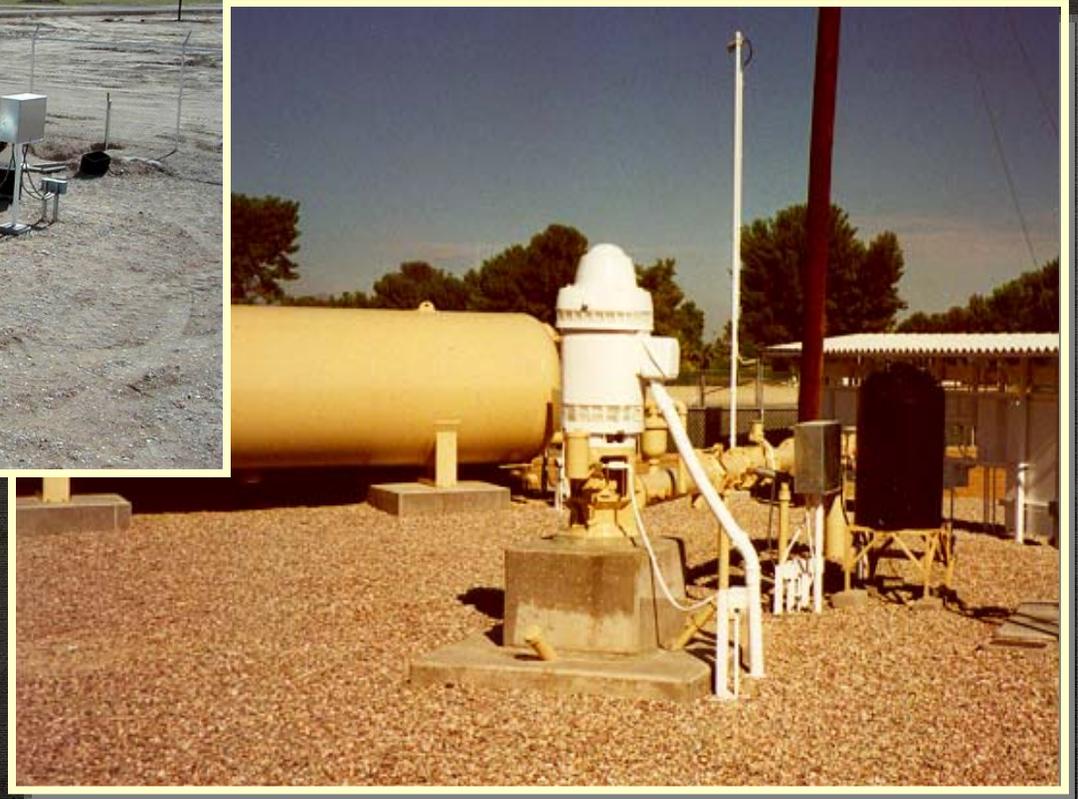
**CAVSARP  
&  
SAVSARP**



# Plant Design

- Design and oversee construction of well equipping, reservoirs, boosters, facility modifications, disinfection upgrades, hydro and backwash tanks, treatment facilities, control valve stations, basin controls
- Work with General Services on larger facilities like East Side Service Center
- Troubleshoot wells with O&M, WRM
- Design for power, instrumentation&control

# Well Equipping



# Reservoir Design & Construction



# Booster Design and Construction



# Booster Design & Construction

- The City of Tucson has sixteen main pressure zones and many more small zones, in addition to isolated water systems.
- Every zone needs to deliver water to customers at an acceptable pressure.
- Currently there are 145 potable boosters in the system, and 12 nonpotable boosters.

# Instrumentation and Control Design



# Construction Inspection



# Professional Land Surveying

- 💧 Verifying land ownership
- 💧 Staking easements, property lines, construction limits, plan details
- 💧 Determining extent of encroachments



# Administrative/Project Support



# Admin/Project Support Work

- Process construction plans and specifications prior to bid and during the bid process
- Process A&E contracts
- Process contract changes & JOCs
- Review and process vendor payments
- Order computers, furniture, phones, & equipment and manage vehicle use
- Develop and monitor operating budget
- Assist with HR-related needs

# Working Together Within P&E

- Plant Design and Distribution Design share drafting needs as work ebbs, flows
- Plant Design works with WRM on well equipping and well performance
- Construction provides survey for all P&E
- All sections assist Mapping/GIS with research
- APS supports all P&E sections

# Working Together with Other Divisions

- Work with Water Quality Management on disinfection and pH requirements
- Work with O&M on valve issues , prioritizing mains for replacement, land survey needs
- Work with Business Services on miscellaneous fees, operating and capital budgets, research
- Work with Customer Service on customer issues
- Work with PIO on neighborhood issues

# Questions?



## Planning and Engineering Sections

*Patricia Eisenberg – Administrator*

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