

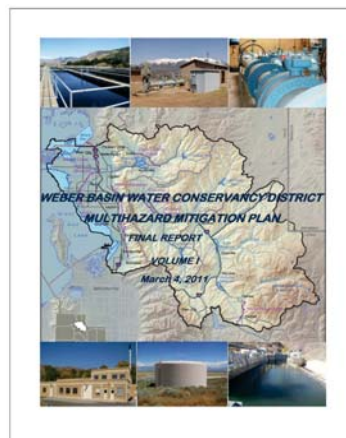
## Financing Mitigation at Water and Wastewater Utilities

### Topics:

1. Mitigation Planning: 1<sup>st</sup> step to funding
2. Benefit-Cost Analysis
3. Prioritize Projects for Funding
4. Case Studies in Financing Mitigation in UT
5. Other Tips

## 1. Mitigation Planning: 1<sup>st</sup> step to funding

- Mitigation Planning as related to Capital Improvement Planning
- Connect in with Local Mitigation Planner/Engineer
- FEMA Grants for Mitigation Planning
  - Weber (\$123K), Mountainland (\$75K), Five Counties (\$79K), CUWCD (\$115K), Murray (\$25K), Granite (\$50K), Saratoga (\$25K)

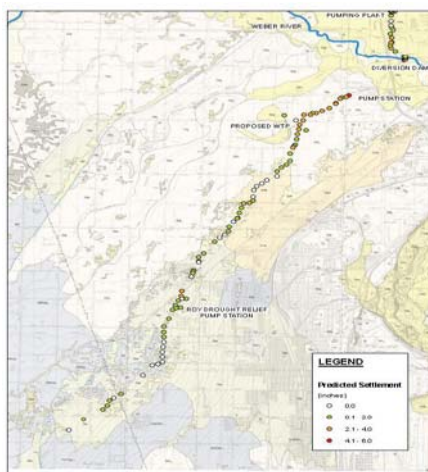


## Mitigation Planning (continued)

- Get mitigation projects and costs listed in local mitigation plan:

In Utah, a multi-hazard mitigation project (for floods earthquakes, droughts) was eligible for funding because it was listed in the local mitigation plan. Recently, the project was funded.

Project was shovel ready and Mitigated Multiple Hazards.



LAYTON CANAL  
2475 yr. Return Period  
Seismic Event

## 2. Benefit-Cost Analysis (BCA)

- Key to getting funding
  - BCA at least \$1 benefit to \$1 investment – FEMA likes higher ratio
- Complex and performed for each item
- Includes damage to equipment and loss of revenue
- Includes economic damage to community
  - \$45/person/day without full wastewater services\*
  - \$103/person/day without drinking water services\*



\*FEMA BCAR-Standard Economic  
Values Methodology V6 Dec 2011

**Example:  
BCA to Seismically Retrofit  
a Critical  
Backwash Tank**



WSWTP 1955 BKW Tank, Weber South Water Treatment Plant, South Ogden, Utah, Weber

Structure Type: Utility      Historic Building: No      Contact: John Masek  
Benefits: \$2,322,100      Costs: \$287,697      BCR: 8.07

Mitigation	Hazard	BCR	Benefits	Costs
Strengthen Structural	Damage-Frequency Assessment	8.07	\$2,322,100	\$287,697

### 3. Prioritize Projects with Funding in Mind

Based on:

- Size/cost (e.g., smaller projects may get funded with leftover available funds)
- High Benefit-Cost Analysis (BCA)
- Urgent issue with large consequences for utility
- Emphasis by Funding Agencies

## 4. Case Studies in Financing Mitigation Projects

Weber County Water Basin:  
 Mitigation type  
 Projects at 40 MGD plant: All  
 in Mitigation Plan

- 1 Seismic Retrofit of Piping
- 2 Seismic Retrofit of Equipment
- 3 Seismic Retrofit of Basins: Next



### Weber Basin Water District: Ten Year Natural Hazard Mitigation Project Plan (17 projects prioritized)

Project Priority	Description	Hazard Mitigated	Cost Estimate	Status
1	Seismic Retrofit Treatment Plant	Earthquake, Wildfire	\$1000K (FEMA)	completed
2	Seismic Retrofit Wells Transformer, Pumps	Earthquake, Wildfire, Drought	\$120K (FEMA)	completed
3	Seismic Retrofit Culinary Wells	Earthquake	\$320K	completed
4	Retrofit canal to accommodate lateral spreading	Earthquake, Flood, Landslide, Drought	TBD (BR)	
5	Retrofit Water Tanks	Earthquake, Flood, Wildfire	\$3,400K	partially completed

## 5. Other keys to get mitigation funding

- Thoroughly document project details & BCA
  - Murray School District
- Promote importance of project to:
  - Local officials & mitigation planning staff
  - State primacy or environmental agencies
  - State hazard mitigation officers
  - Community/public
- Highlight projects that address several hazards
- Leverage multiple funding sources (FEMA/BR/SRF)

