

# Source Water Protection

Approach and Policies for Source Water Protection and Septic Systems

Diane Agnew, Environmental Manager

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Albuquerque Bernalillo County  
Water Utility Authority

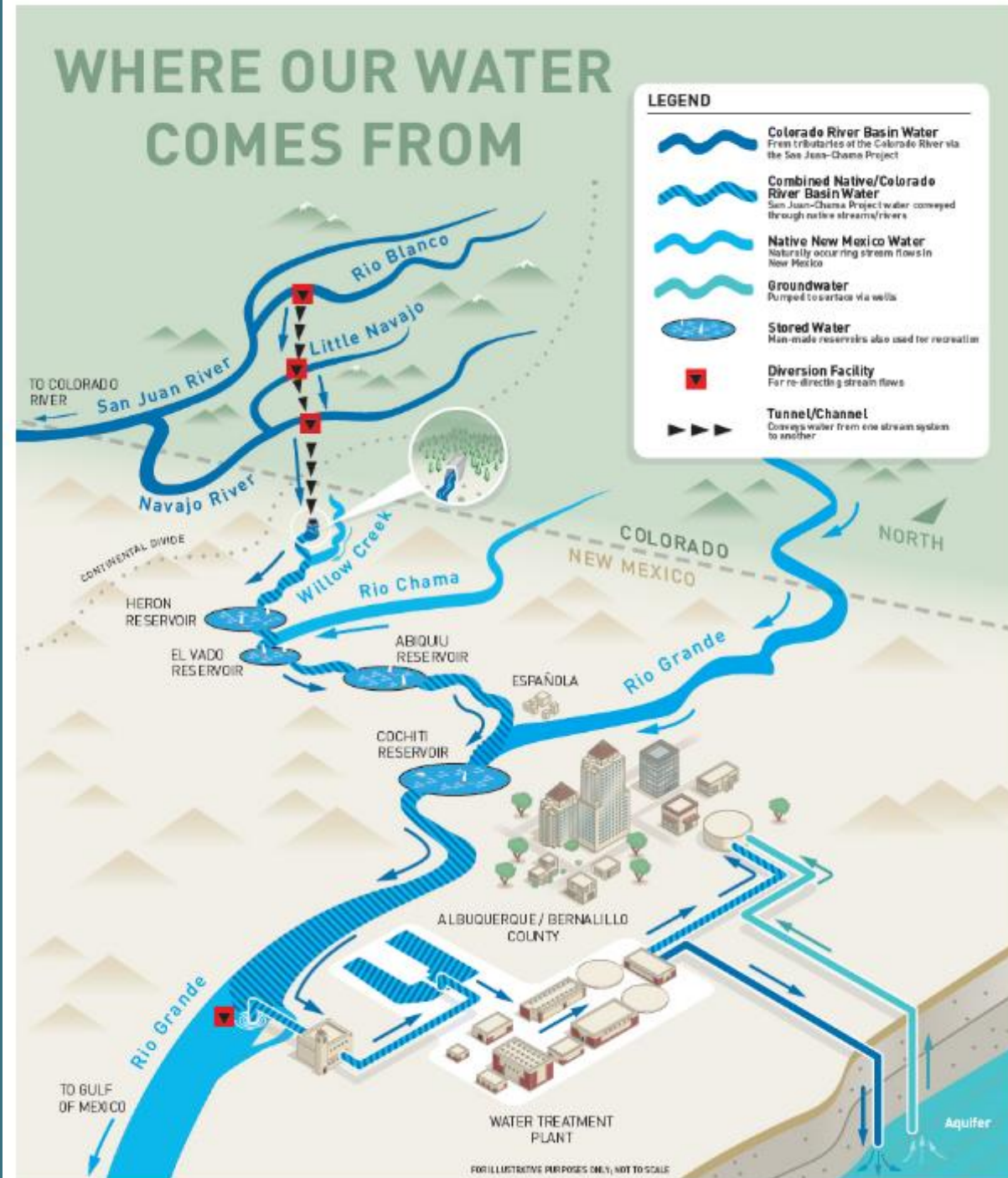


# Source Water Protection

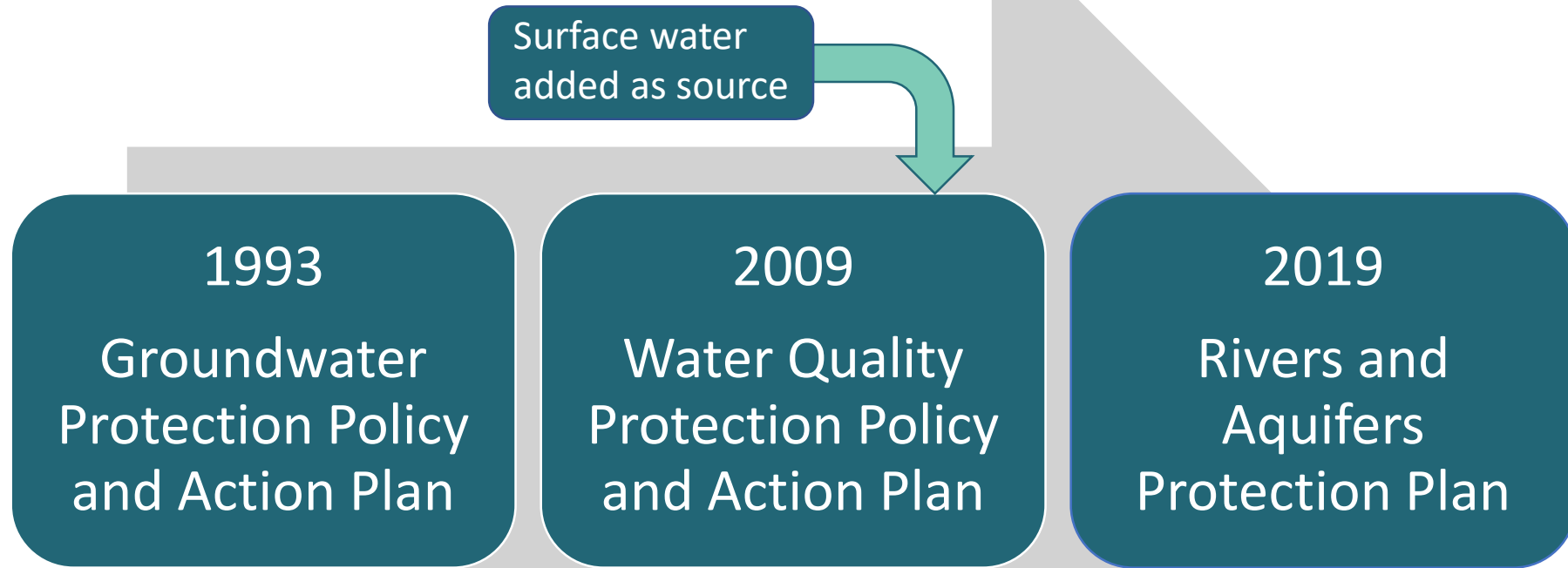
- **Source water** is water from rivers, lakes, etc. (surface water) or underground aquifers (groundwater) that is used to supply drinking water.
- **Source water protection** refers to the policies and actions taken to protect water sources from contamination.



# Where Our Water Comes From



# Source Water Protection Planning Timeline



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# Planning to Protect



What are the threats to our source waters?



What protection measures can reduce/eliminate threats?



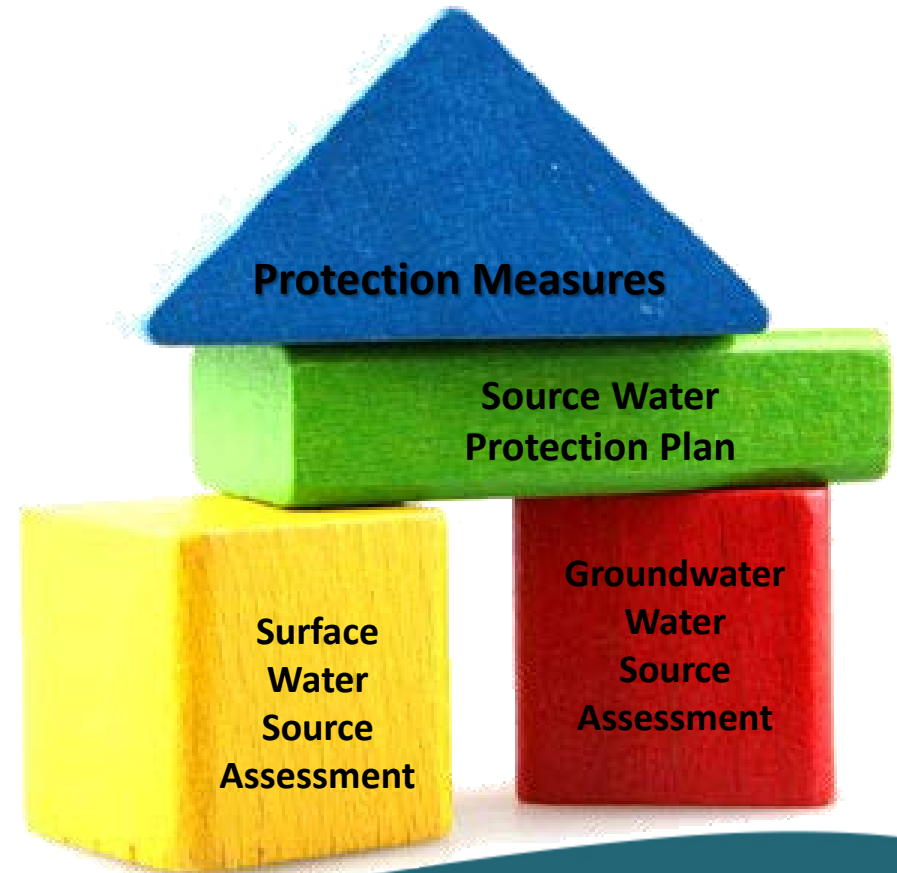
What agencies/entities are involved?



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# Developing a Source Water Protection Plan

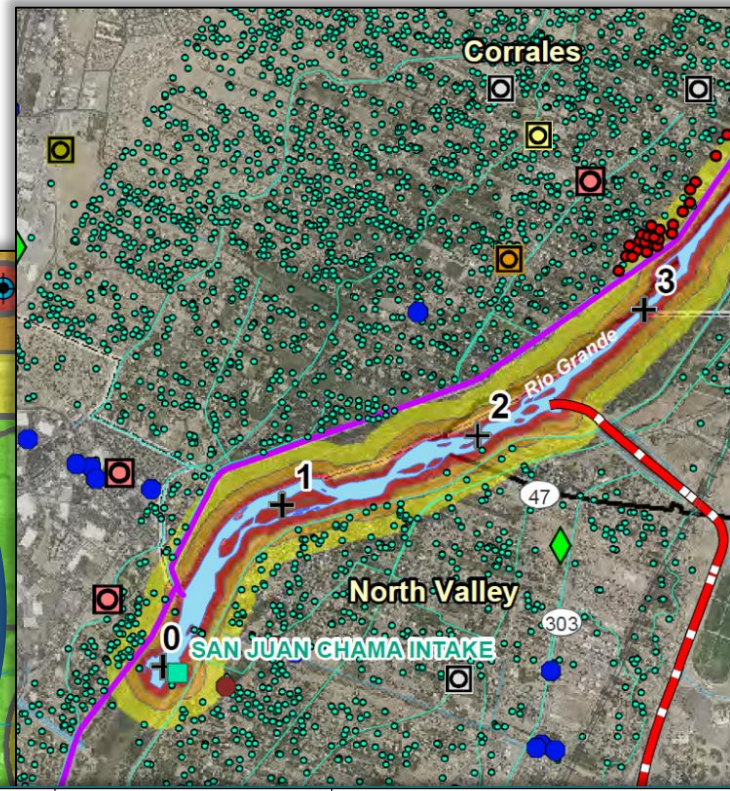
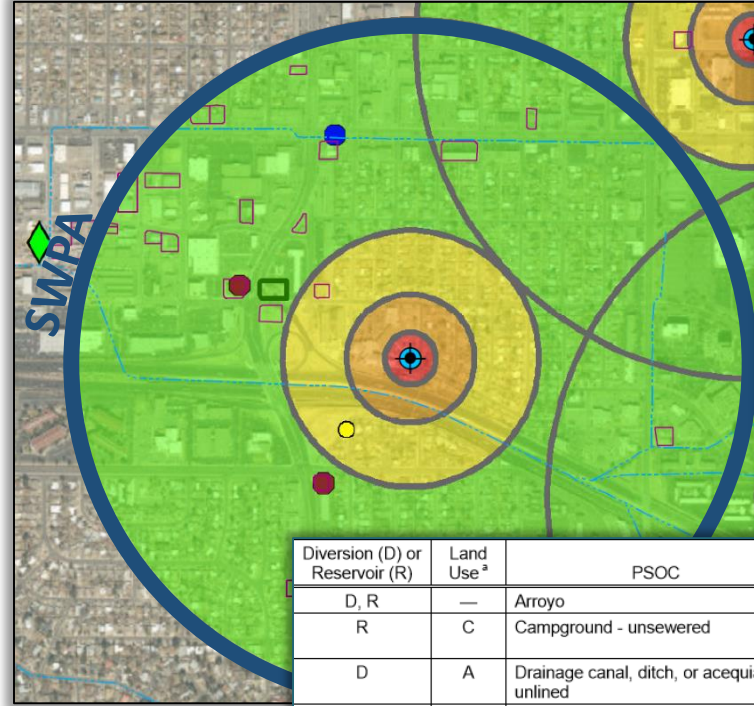
1. Delineate Source Water Protection Areas (SWPAs)
2. Conduct an inventory of potential sources of contamination (PSOCs)
3. Determine susceptibility of water supply source to contamination





# Source Water Assessments

- Identify source water protection areas
- Evaluate Vulnerability
  - What are the potential sources of contamination?
- Determine Sensitivity
  - Can contamination be mitigated?
- Define Susceptibility
  - Does this source have a high/medium/low likelihood of being impacted?



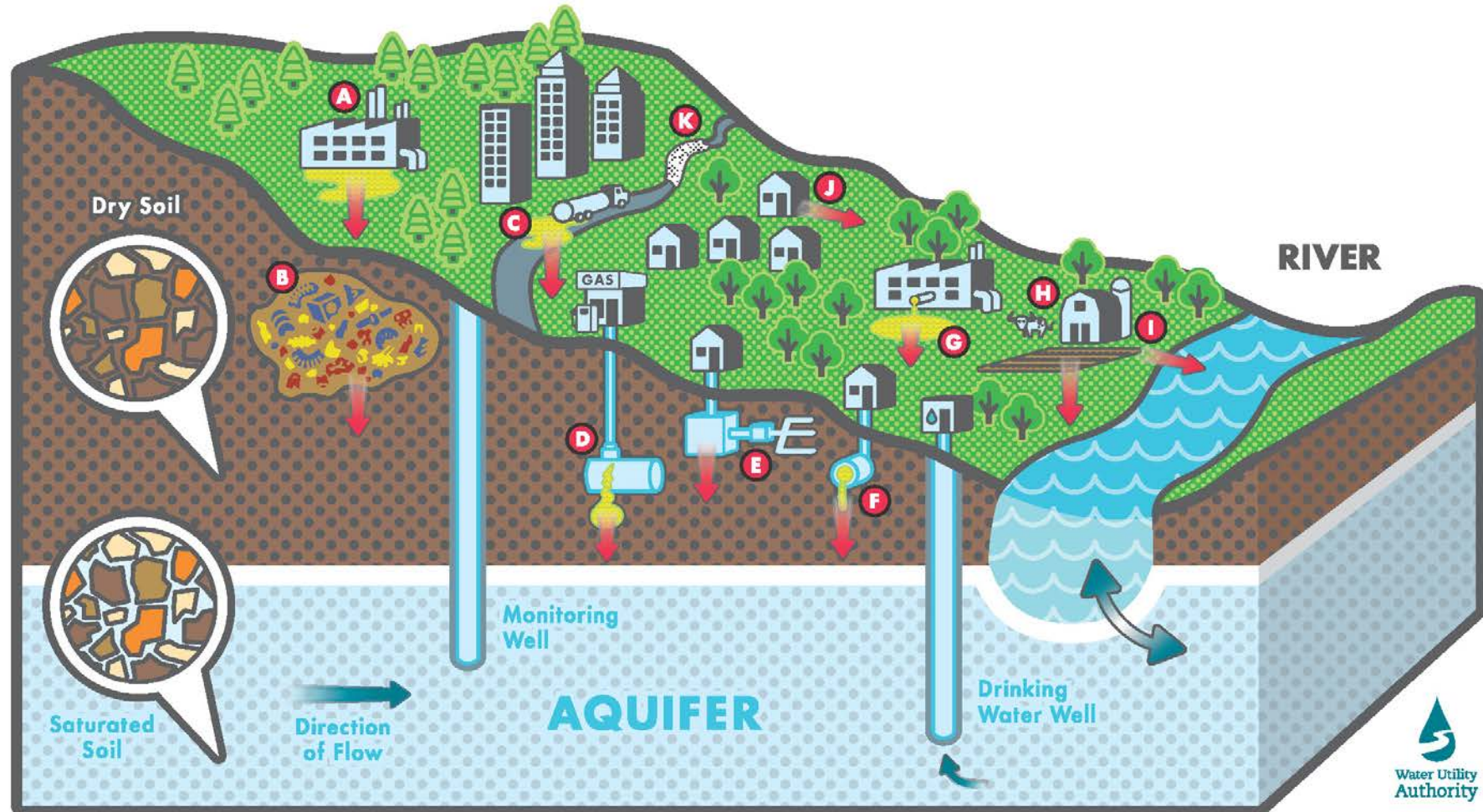
Diversion (D) or Reservoir (R)	Land Use <sup>a</sup>	PSOC	Description	Contaminants of Concern
D, R	—	Arroyo	—	—
R	C	Campground - unsewered	Untreated domestic wastewater	Septage, gasoline, pesticides, organic/inorganic chemicals
D	A	Drainage canal, ditch, or acequia - unlined	Runoff and infiltration	Pesticides, herbicides, fertilizers, nitrate, pathogens
D	A	Farming - irrigated cropland	Runoff and infiltration	Nitrate, ammonia, chloride, fertilizers, pesticides, herbicides
D	C	Golf course	Operations/maintenance	Fertilizers, pesticides, gasoline, automotive wastes, batteries, septage
D	—	North Diversion Channel	—	—
D	M	NPDES Permit - City of Bernalillo/WWTP-001	Operations/maintenance/storage/disposal	Sewage, sewage sludge, metals, pathogens, organic/inorganic chemicals
D	M	NPDES Permit - City of Rio Rancho No. 3	Operations/maintenance/storage/disposal	Sewage, sewage sludge, metals, pathogens, organic/inorganic chemicals
D, R	M	Major road	Public street, thoroughfare, highway, or main road	Gasoline, diesel fuels, metals, storm water runoff, hazardous materials, radiological materials
D, R	—	Private well	—	—
D	C	Railroad yards and tracks	Operations/maintenance/storage	Diesel fuel, pesticides, organic/inorganic chemicals
R	M	Septic tank	Wastewater discharge to septic tank/leach field or cesspool	Septage, pathogens, nitrate, ammonia, chloride, heavy metals, household pesticides, herbicides, cleaning agents and solvents, fuels
D	—	Street storm drain	—	—



# Potential Sources of Contamination

## POTENTIAL SOURCES OF GROUNDWATER CONTAMINATION

- |   |                                      |                                       |
|---|--------------------------------------|---------------------------------------|
| <b>A</b> Commercial and Industrial Leaks and Spills | <b>E</b> Septic Tank and Drain Field | <b>I</b> Agricultural Runoff          |
| <b>B</b> Legacy Landfill                            | <b>F</b> Leaking Sewer               | <b>J</b> Urban Runoff                 |
| <b>C</b> Accidental Spills                          | <b>G</b> Industrial Waste Lagoon     | <b>K</b> Road Salt/De-Icing Compounds |
| <b>D</b> Leaking Underground Storage Tank           | <b>H</b> Pesticides and Fertilizers  |                                       |





# 2019 Rivers and Aquifers Protection Plan

## Protection Measures and Actions Identified

- Continue existing programs
- Promote best practices
- Advocate rapid action to prevent or cleanup contamination
- Enhance agency coordination and communication
- Identify policy and ordinance changes







# Policies to Protect

In 2009, the City, County, and Water Authority adopted policies to support protection measures to protect source waters.



# Source Water Protection Policies – Septic Systems

➤ “Establish methods of managing or controlling land use in areas that present special risks to surface water quality.” (Policy G, Surface Water)

➤ “Prioritize areas of known or potential septic tank contamination, and aggressively pursue expansion of wastewater collection and treatment facilities.” (Policy B, Groundwater)

➤ “The City, County, and WUA shall prohibit or control the releases of substances having the potential to degrade groundwater quality.” (Policy A, Groundwater)

➤ “Encourage dialog on groundwater quality issues among the City, County, WUA, and urban land planners.” (Policy E, Groundwater)



# Water Authority Sanitary Sewer Connection Programs

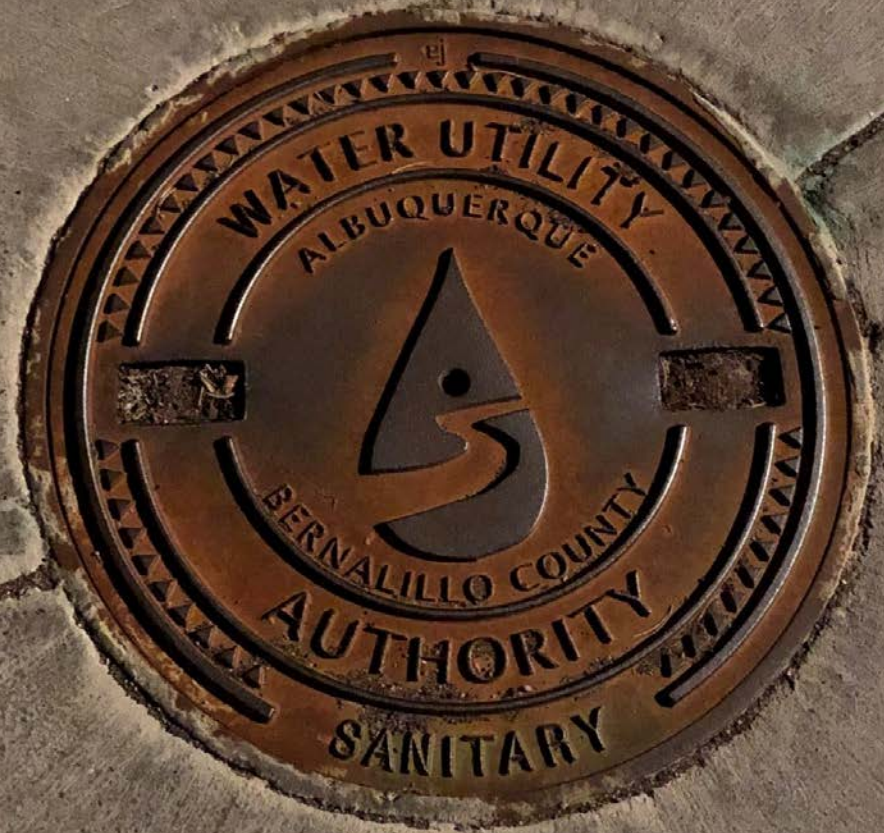
- \$120 million spent by Water Authority, City, County, State, and Federal agencies
  - \$11.7 million from NMED grant extended sewer in the South Valley
  - Additional funds for low-income connections throughout service area
- Water Authority contributes 2/3 of funding for the PIPE program with Bernalillo County
  - Total \$4.3 million contributed (\$6.4 million in total) with 240 sewer connections since 2008
  - Example of agency collaboration
  - Flagship program in NM
  - Covers up to \$4,500 in plumbing costs for connecting to municipal sewer lines
  - Qualification based on number of person in household and combined income



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# Water Authority Agency Communication

- Review and public comment on proposed policies and ordinances, including the County wastewater ordinance changes
- Participation in PIC meetings
- Coordination and communication with agencies, including City and County





# Connection Points

- Source water assessments support existing policies to reduce number of septic tanks for source water protection
- Proposed wastewater ordinance changes create more pathways for properties to continue to use septic systems
- Septic systems in floodplains, including along arroyos, are known to have increased risks to surface water and groundwater
- Need for consistent and clear approach for all property owners that encourages protective solutions for source waters





# Summary

- Implementation of existing source water protection policies will continue to protect sources
- Aggressively pursuing wastewater connections a key component of protecting groundwater and surface water
- Evaluating need for additional program support for sanitary sewer connections
- Water Authority will continue to work with local, state, and federal partners



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**Questions?**