Technical
Customer Advisory Committee

AGENDA

Members

Elias Archuleta	Donald T. Lopez
Mark Begay	Anjali Mulchandani
John Fleck	Jill Peterson
Brian Freeman	Mario Nuño-Whelan
Kerry J. Howe	

Public participation for this meeting will be via WebEx video conference. To request login information for this meeting or to submit public comment, contact Jordan Salas at jsalas@abcwua.org or 505-289-3100. Requests for login information and public comment must be submitted before 2:00 PM the date of the meeting.

Thursday, June 5, 2025	**4:00 PM**	**1441 Mission Ave NE Conference Room 204**

1. Call to Order
2. Approval of Agenda
3. Approval of May 1, 2025, Action Summary
4. Public Comment
5. Texas vs New Mexico Update
6. Water System Overview
7. Collection System Overview
8. Water Report
9. Other Business
10. Adjournment

NOTICE TO PERSONS WITH DISABILITIES: If you have a disability and require special assistance to participate in this meeting, please contact the Water Utility Authority Office, Suite 5012, Albuquerque/Bernalillo County Government Center, phone 289-3100, as soon as possible prior to the meeting date.

ABCWUA
Technical Customer Advisory Committee

Rio Grande

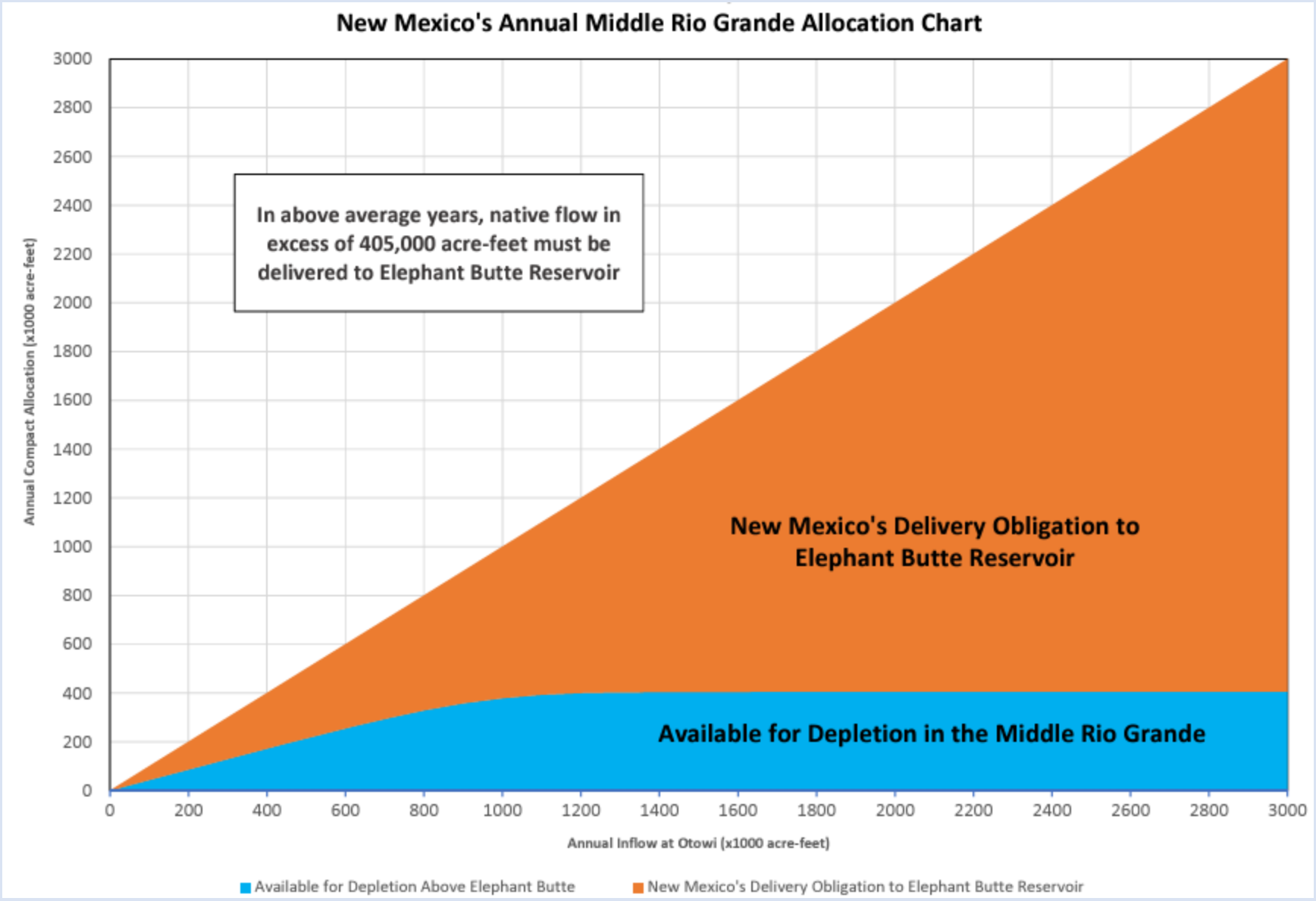
Compact Update

Michelle Hunter
New Mexico Interstate Stream Commission
June 5, 2025

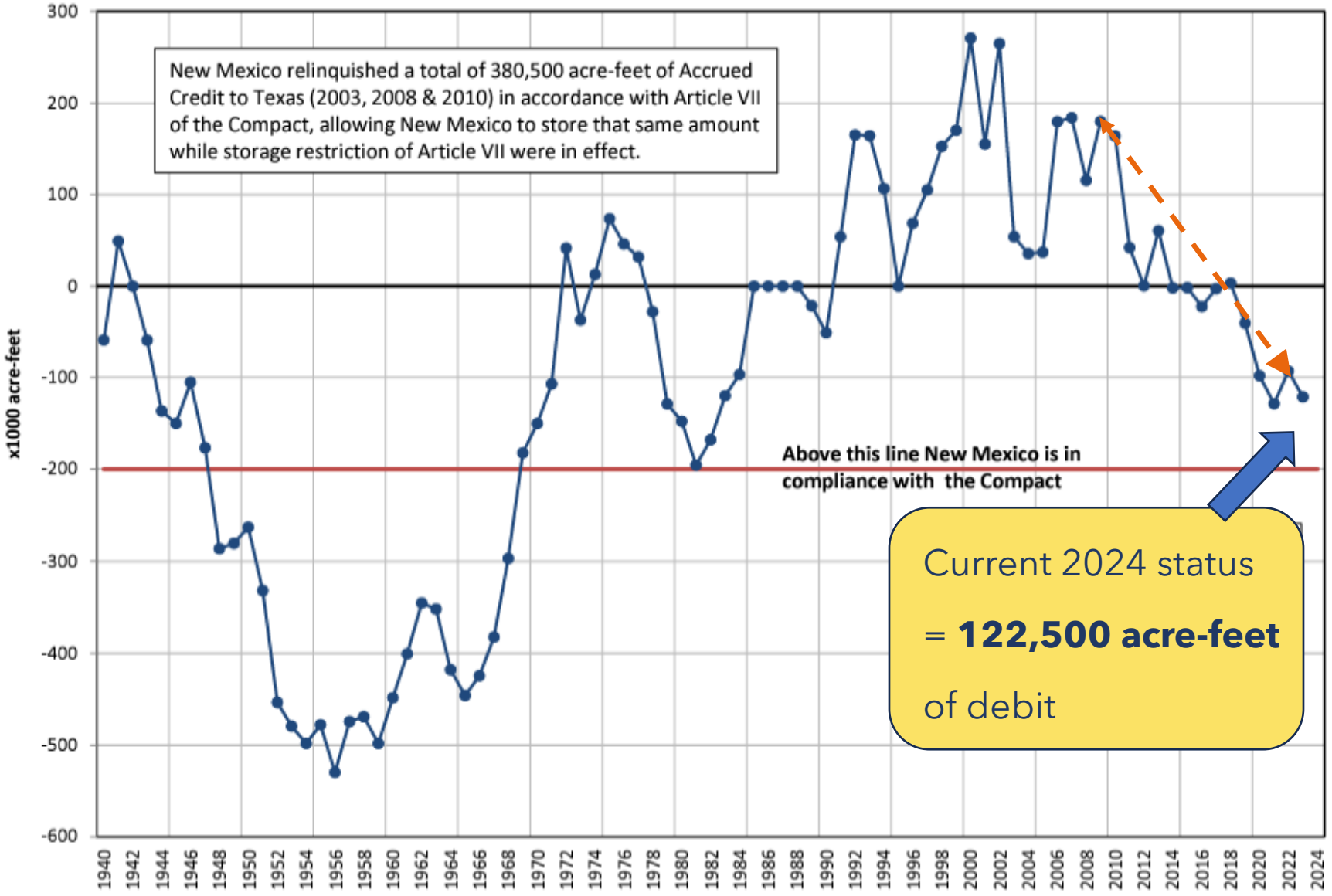
Why is NM's Compact status important?

- State water law is subordinate to a state's obligations under an interstate compact
  - *US Supreme Court, Hinderlider v. La Plata Riv. & Cherry Creek Ditch Co., 304 U.S. 92 (U.S. 1938)*
- Upstream storage of native Rio Grande water for middle valley water users is dependent on compact status
  - *Rio Grande Compact Articles VI and VII*

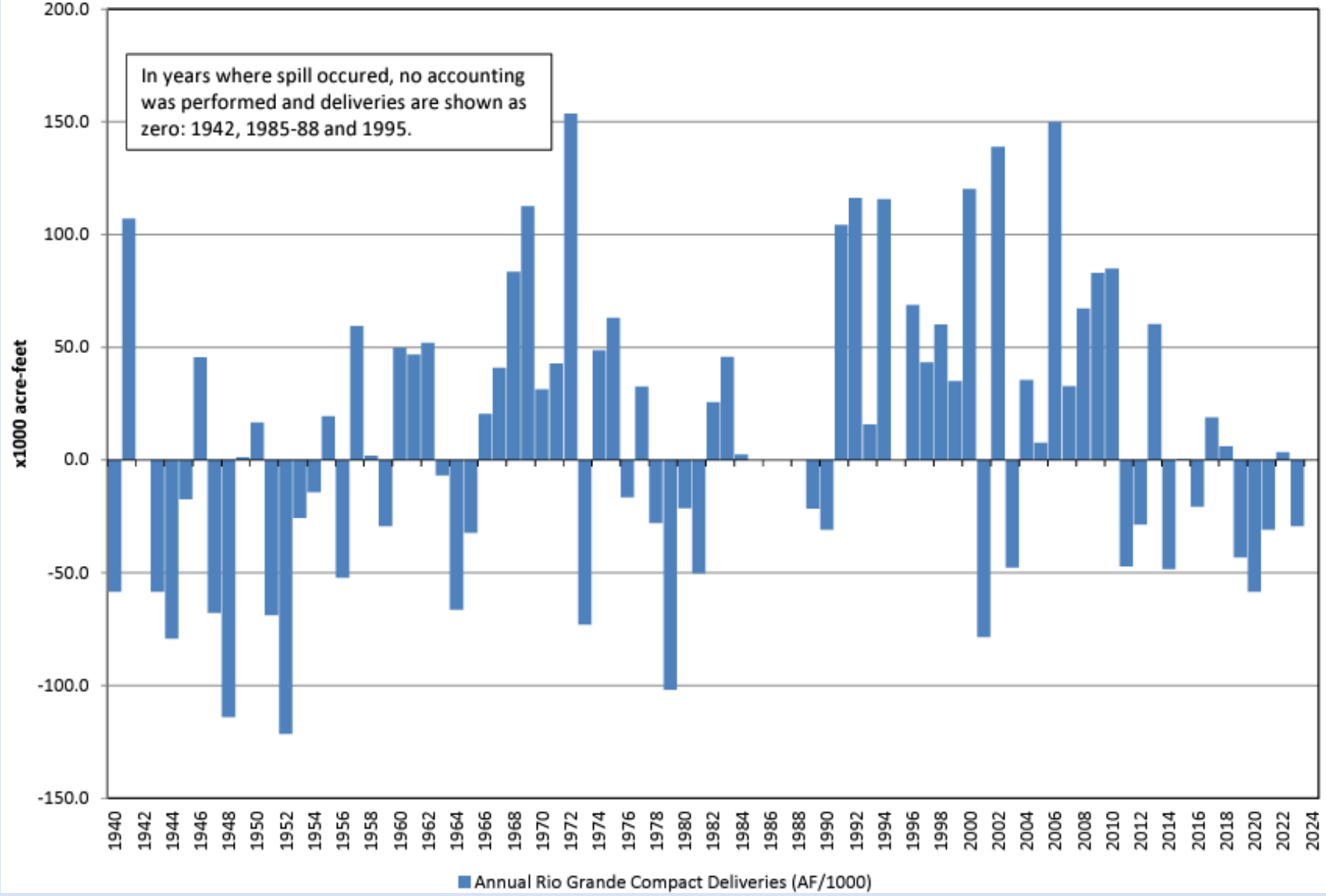
Rio Grande Compact Obligation

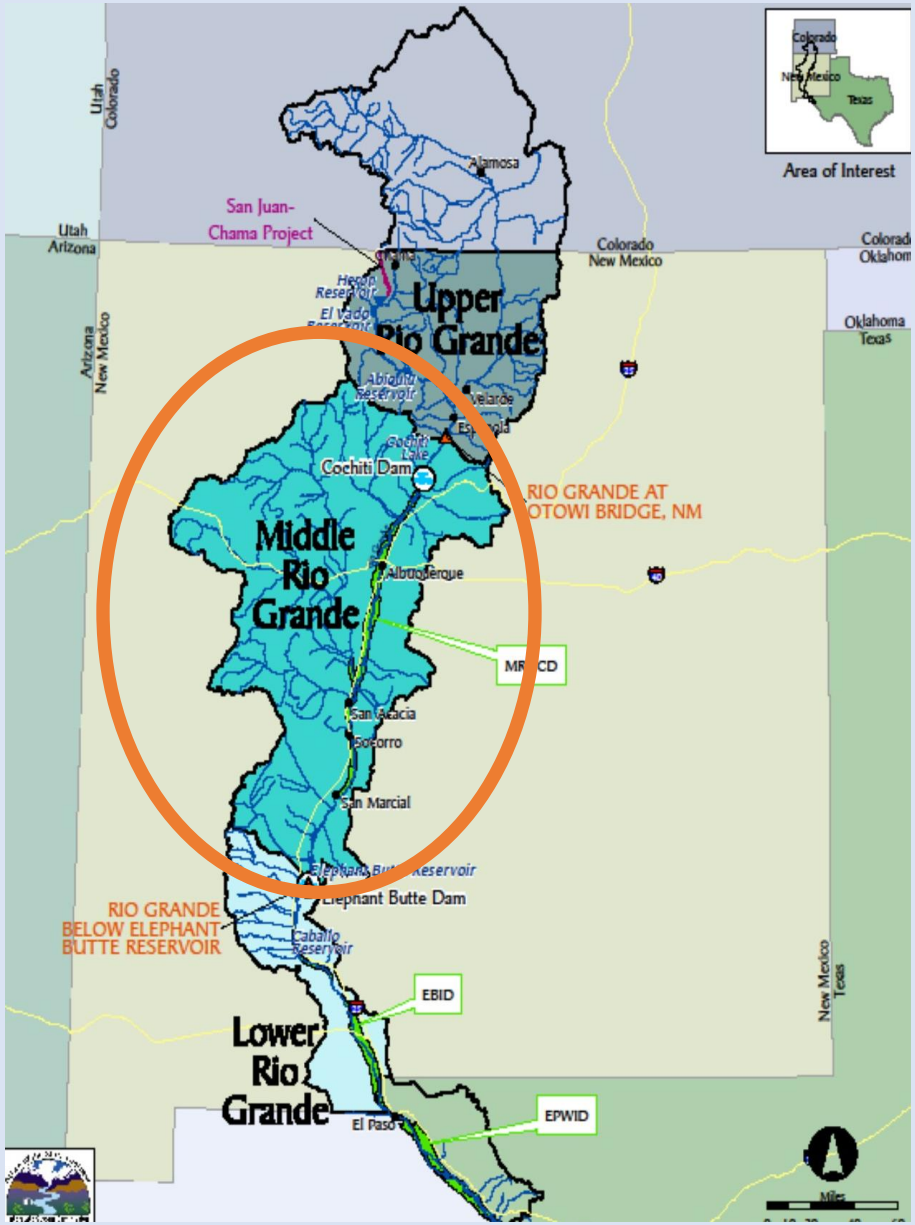


Rio Grande Compact Cumulative Departures 1940 through 2024



Annual Rio Grande Compact Deliveries 1940 through 2023





Middle Rio Grande Investments

$44M in 2023 and 2024 Legislative Sessions is supporting:

- Active Channel Management for Multiple Purposes
  - Conveyance and Habitat
  - Critical Partnerships with Federal Agencies: Reclamation and Army Corps of Engineers
  - Cooperative Agreement with Middle Rio Grande Conservancy District (MRGCD)
- MRGCD's Voluntary Depletion Reduction Program
- Ongoing Delta Channel Maintenance and Sediment Plug Mitigation
- Data, Modeling and Development of Various Management Tools
  - Low Flow Conveyance Channel

Leverages Federal Funding and Partnerships

Need to prepare for:

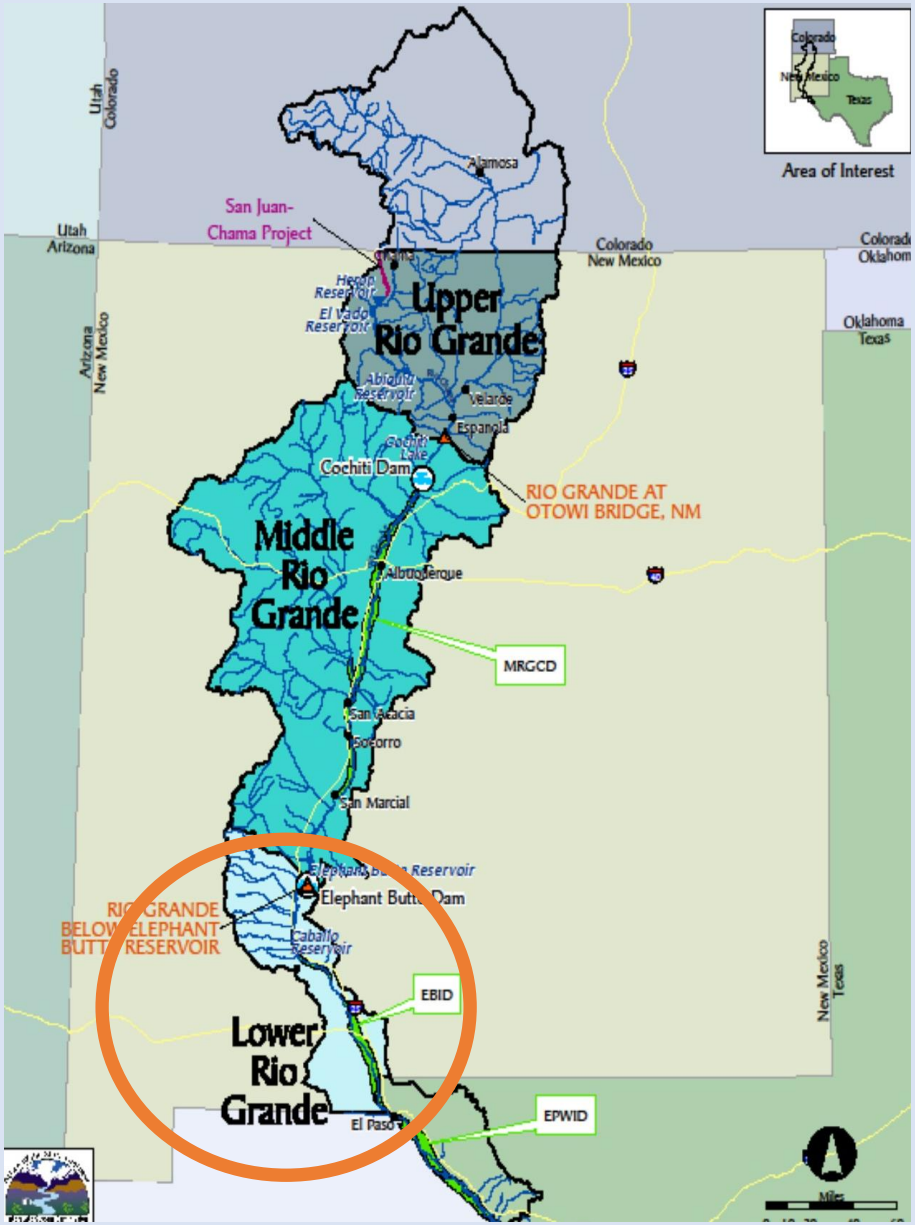
Six Middle Rio Grande Pueblos Water Rights Negotiations and Settlement

More Active Depletions Management

Lower Rio Grande – TX v NM No. 141

The three compacting states proposed a Consent Decree that contained an index obligation quantifying the volume of water to be delivered to Texas as a proportion of releases from Caballo Reservoir. The US opposed the Consent Decree on the grounds that it would dispose of the US' claims without its consent.

- April 20, 2024 – TX and NM presented oral argument at the US Supreme Court
- June 21, 2024 – Court issued a 5-4 decision against the states
- NM continues to take action and collaborate with state, federal and local partners to identify and implement solutions
- May 2025 – NMISC announced the parties have settled in principle



Lower Rio Grande Investments

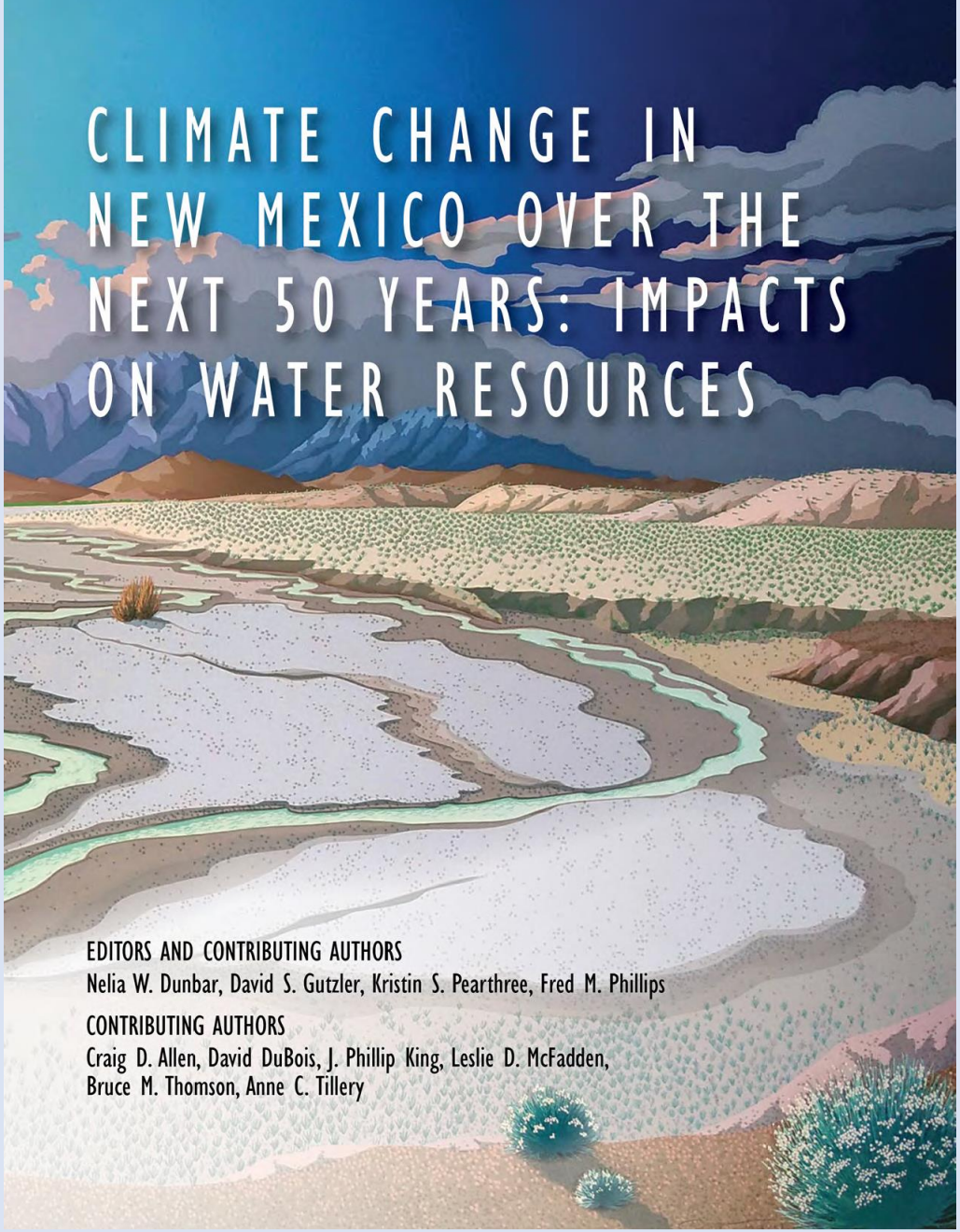
$60M+ in 2023 and 2024 Legislative Session is supporting:

- Depletions Management
  - 2023 Groundwater Conservation Program = $4.6M committed on ~3,000 acres as part of a longer-term groundwater leasing program
  - 2024 enrollment planned
  - Gathering community input towards a potential purchase program
- Implement special projects – aquifer recharge, brackish water, water importation, stormwater management
- Engage with local stakeholders to develop suite of long-term solutions
- Cooperative Agreement with Elephant Butte Irrigation District (EBID)
- Building the NMISC/NMOSE Team

Leverages Federal Funding and Partnerships

Looking into the future:

- We need to plan and prepare for *25% less water* in our rivers and recharging our aquifers by 2070



What Does this Mean?

- Commitment to holistic management and a multipronged approach
- Need for planning and capacity development at all levels
- Build on legislative wins from 2023, 2024, and 2025 legislative sessions
- Continue to work to leverage federal funding

NM's Regulatory Framework is Prepared to Tackle the Challenges Ahead

Conjunctive Management of Surface and Groundwater

- NM has the oldest regulatory regime for conjunctive management in the US – since 1956. NM courts recognize the State Engineer's ability to conjunctively manage surface and groundwater rights to ensure compact compliance, including Rio Grande offset requirements.

  City of Albuquerque v. Reynolds, 1962-NMSC-173, 71 N.M. 428

Active Water Resource Management (AWRM)

- The State Engineer can enforce all laws related to use of water even in the absence of a complete adjudication.
- In addition, the State Engineer can administer based on agreed upon alternative management plans, which can provide for better win-wins.

Strategic Water Reserve

- NM Interstate Stream Commission has ability to support river flows for Compact and species purposes, including owning and leasing water and storage rights.

  NMSA 1978, § 72-14-3.3

Water Security Planning Act

Senate Bill 337 - Passed unanimously.
Will transform and reinvigorate regional water planning in New Mexico.

Ensures Regional Water Planning:

- Involves Robust Public Involvement – including from Major Water Rights Holders
- Is Grounded in the Best Available Data, Science and Models
- Ties to Implementation through Prioritization of Projects for Funding
- Builds Local Capacity

- *Recommendation of the 2022 Water Policy and Infrastructure Task Force, implementation called for by the 50-Year Water Action Plan*

TIME TO WORK TOGETHER

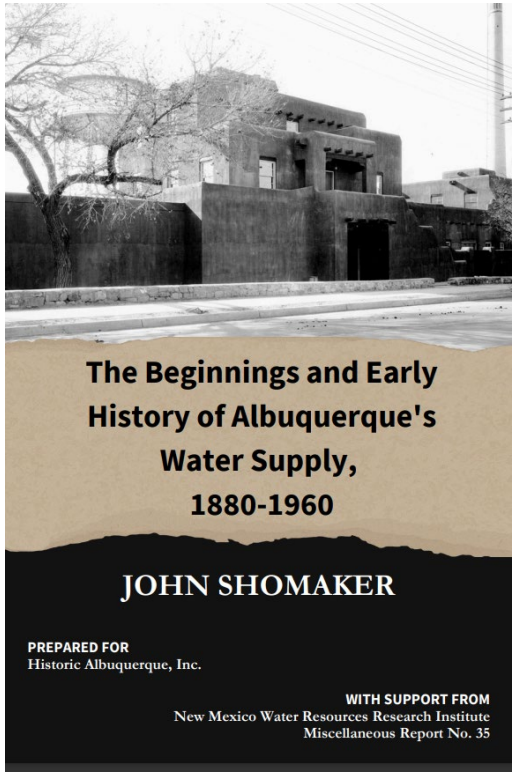
Water System Overview

Agenda

- Water System Background
- Water Supplies
- Water Pumping
- Water Treatment Facilities
- Water Storage / Reservoirs
- Water Distribution

Water System Background

- April 2025 publication by John Shomaker outlines the early days of the Albuquerque Water System.
  - July 20, 1918 City purchases private water company ($400K).
  - New Well Field Growth 1950-1960 - Boom Years!
    - Well expansion: Atrisco (3), Duranes (7), Burton (1), Love (5), Griegos (5), Leyendecker (4), Thomas (4), Vol Andia (6)
  - 1953-1954 marks the start of the current water system configuration with Trunks and Pressure Zones.



Water Supplies

- Two sources of potable water
  - Surface Water
    - San Juan Chama Water Treatment Plant
      - 84 MGD potable water production capacity.
      - 2024 was its 15th year in service.
      - 238+ billion gallons of surface water produced since inception!
  - Groundwater
    - 59 groundwater wells
      - 177 MGD maximum potable water production capacity. Actual availability varies.
      - Installation dating back to the 1950's

Water Pumping

- Conveying the water from supply facilities to customers within our 177 square mile service area
  - Pump Stations
    - 39 potable water pump stations containing 129 booster pumps
    - Horsepower ranges from 25 hp to 600 hp
    - 775 MGD capacity

Water Pumping Discussion

- Time of Day (ToD) PNM rates approved by the PRC on May 17, 2025.
- Most Water Utility Authority PNM accounts fall under rate 11B.
  - Rate 11B will see a ~20% increase
    - Phase 1 – July 2025
    - Phase 2 – April 2026

- Options / Strategy
  - Pump during the day
    - CM / PM and labor schedule disruption
    - Avoid increase motor cycling
    - Water quality impacts

Rate 11B Legacy TOU Hours/Rates vs. TOD Pilot Hours/Rates

		Summer Rates Mon-Fri (Jun-Aug)[1]			
		Legacy TOU Rates		TOD Pilot Rates	
Start	HE	Rate (¢/kWh)	Time Period	Rate (¢/kWh)	Time Period
	1	2.2	Off-Pk	5.1	Off-Pk
	2	2.2	Off-Pk	5.1	Off-Pk
	3	2.2	Off-Pk	5.1	Off-Pk
	4	2.2	Off-Pk	5.1	Off-Pk
	5	2.2	Off-Pk	5.1	Off-Pk
	6	2.2	Off-Pk	5.1	Off-Pk
	7	2.2	Off-Pk	5.1	Off-Pk
	8	2.2	Off-Pk	5.1	Off-Pk
8am	9	17.3	On-Pk	2.5	Super Off-Pk
	10	17.3	On-Pk	2.5	Super Off-Pk
	11	17.3	On-Pk	2.5	Super Off-Pk
	12	17.3	On-Pk	2.5	Super Off-Pk
	13	17.3	On-Pk	2.5	Super Off-Pk
	14	17.3	On-Pk	2.5	Super Off-Pk
	15	17.3	On-Pk	2.5	Super Off-Pk
	16	17.3	On-Pk	2.5	Super Off-Pk
	17	17.3	On-Pk	2.5	Super Off-Pk
5pm	18	17.3	On-Pk	9.9	On-Pk
	19	17.3	On-Pk	9.9	On-Pk
	20	17.3	On-Pk	9.9	On-Pk
8pm	21	2.2	Off-Pk	9.9	On-Pk
	22	2.2	Off-Pk	9.9	On-Pk
10pm	23	2.2	Off-Pk	5.1	Off-Pk
	24	2.2	Off-Pk	5.1	Off-Pk

Water Treatment Facilities

- College Arsenic Treatment
  - 5.2 MGD high arsenic wells treatment capacity (10 MGD potable production with blending)
- Corrales Arsenic Treatment
  - 7.4 MGD potable water treatment capacity located at 3 sites
- Bernalillo County Industrial Park (BCIP) Arsenic Treatment
  - 0.6 MGD capacity
- Volcano Cliffs Arsenic Treatment (in construction)
  - 17 MGD potable water production capacity
  - The project will bring 5 high arsenic wells back online.

Water Treatment Discussion

- The Recent San Juan Chama Reality
  - Low river flows (2020-2025) yield less annual production

- Future Arsenic Treatment
  - Volcano Cliffs
  - Santa Barbara
    - Projected $15M construction costs for 4.3 MGD production
    - Reliance on a 62-year-old well! (1963)

- Other considerations
  - Redrilling wells, possibly within the lower arsenic formation to avoid initial capital expenditure and ongoing O&M costs associated with arsenic treatment

Water Storage

- Reservoirs
  - 62 potable water reservoirs with 247 MG capacity
    - 45 steel reservoirs
    - 17 concrete reservoirs (above ground & buried)
    - 54 reservoirs built from 1923 to 2004
    - 8 reservoirs built from 2005-2023

Water Storage Discussion

- Reservoir Inspections
  - NMED Sanitary Survey requirement
    - Consultant led effort
    - In-house observations

- FY25 Inspections and Reporting
  - Identified Issues
    - Leakage
    - Structural issues - hanging rafter
    - Aging, but in a maintainable condition

- Rehabilitation Funding and Schedule

Water Distribution

- 3,049 miles of transmission and distribution mains ranging from 4” to 48”
  - Predominately PVC and cast-iron water mains
- 37 miles of San Juan Chama pipeline ranging from 30” to 72”
- 18,684 fire hydrants
- 47,386 isolation valves
- 160 pressure reducing valve stations
- 218,364 water accounts / meters / service connections

Questions, Comments, Discussion

Water Authority Collection System Overview

Technical Customer Advisory Committee

June 5, 2025 Presentation

Mark S. Holstad, PE
Chief Engineer
Collection Section Manager

Albuquerque Bernalillo County
Water Utility Authority

Collection System Overview

- Types of Systems
  - Collection Systems
  - Odor & Corrosion Control
- Odor & Corrosion Control
  - Systems
  - Deeper Dive
  - Issues
  - Approach

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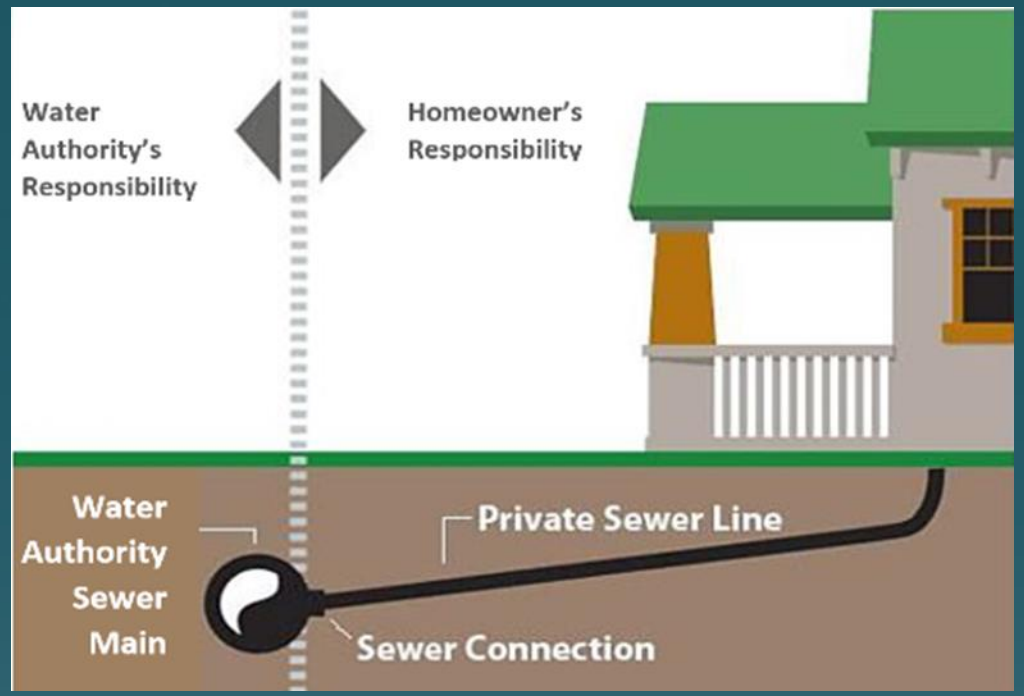
Water Utility Authority

Collection System



The Collection System takes sewage from the customer and delivers it for treatment at the SWRP. The Collection Section addresses everything in between.

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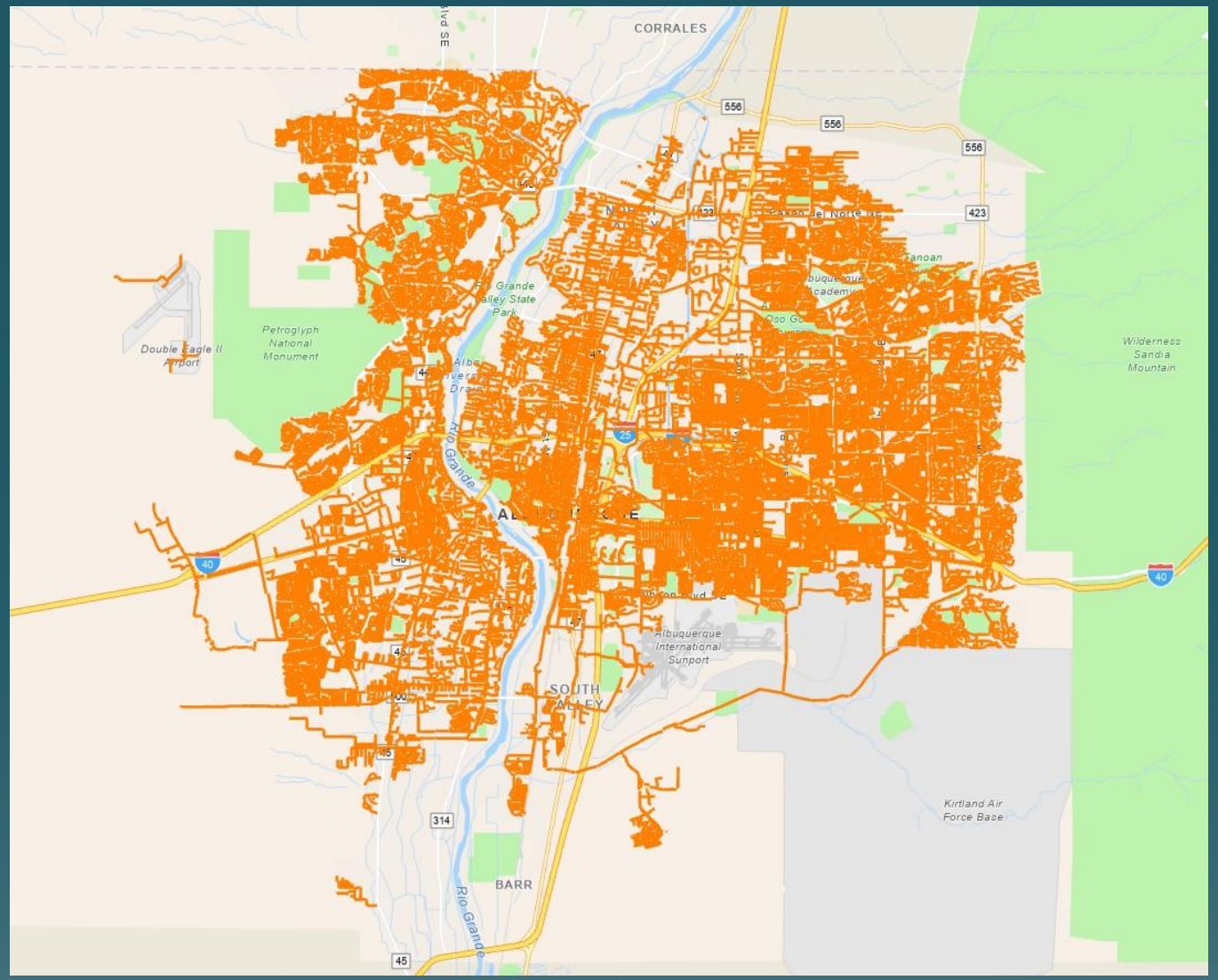
Types of Pipe Systems*

* In the Water Authority's Collection System

- Gravity (2,300 mi.)
- Force Mains (44.3 mi.)
- Vacuum (249 mi.)
- Low Pressure – grinder (6.2 mi.)



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Gravity Is Best

Pulse Flow – Steep & Flat

Dead End Lines (SLN-1)
1987 PVC

S = 6.51%

S = 0.40%

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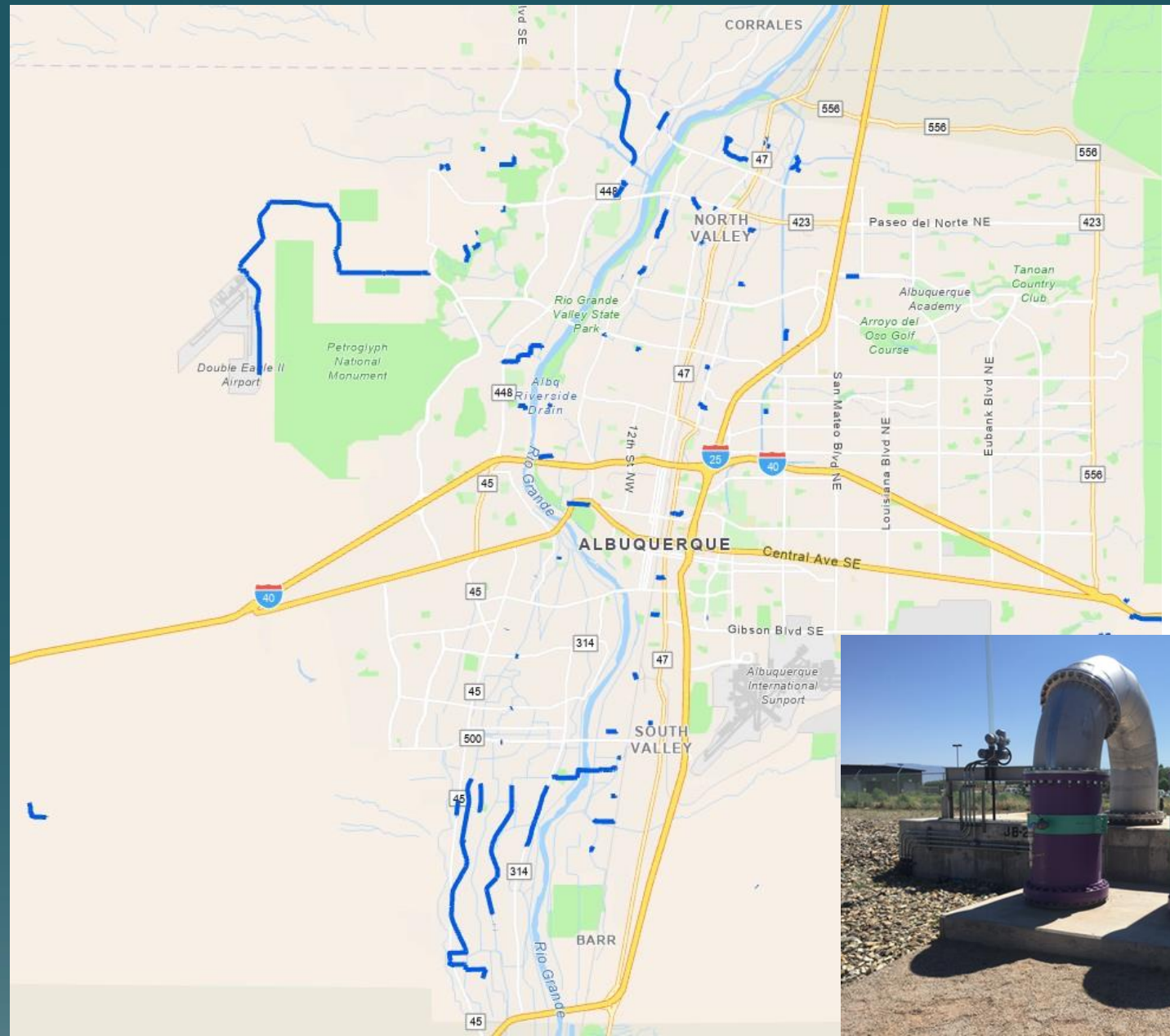
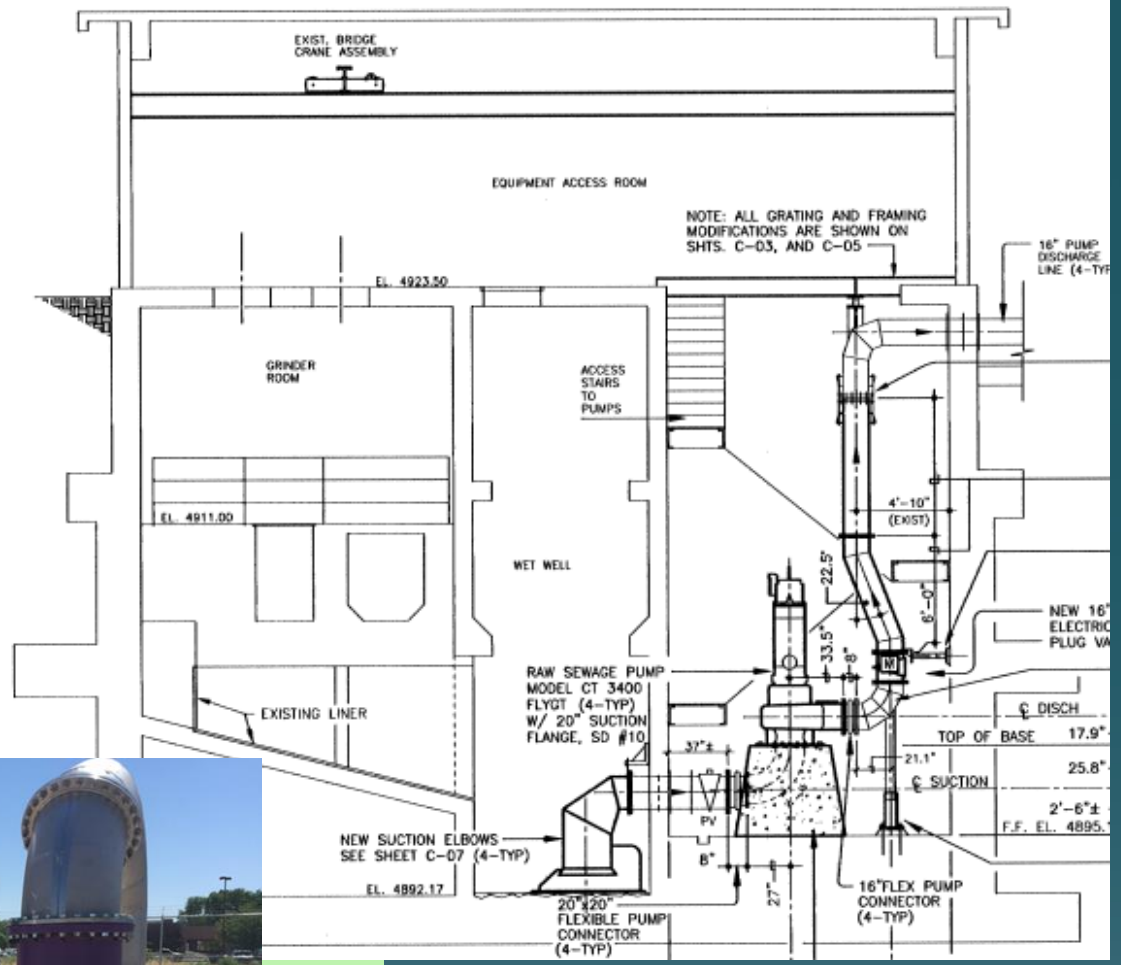
Water Utility Authority

Lift Stations & Force Mains





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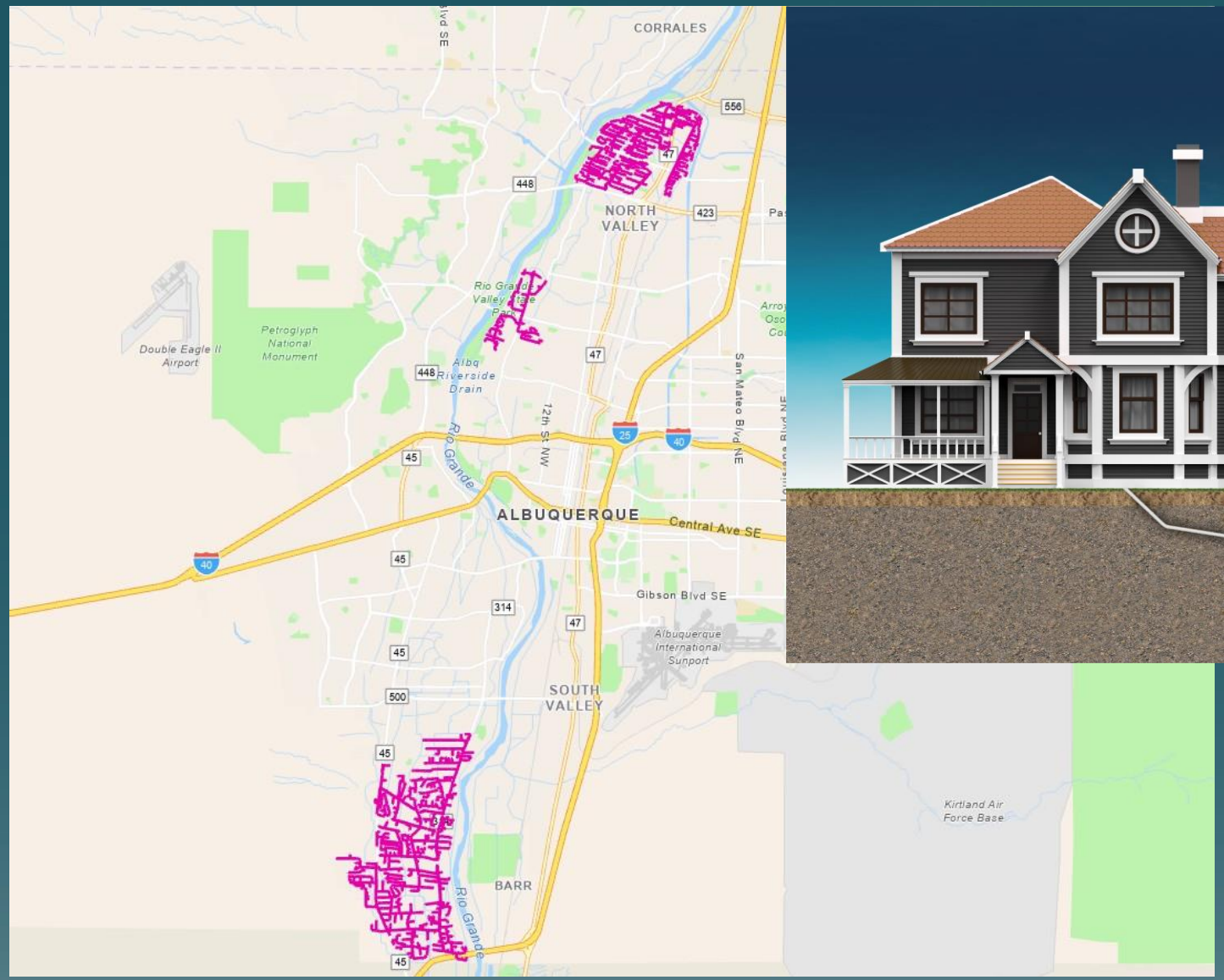
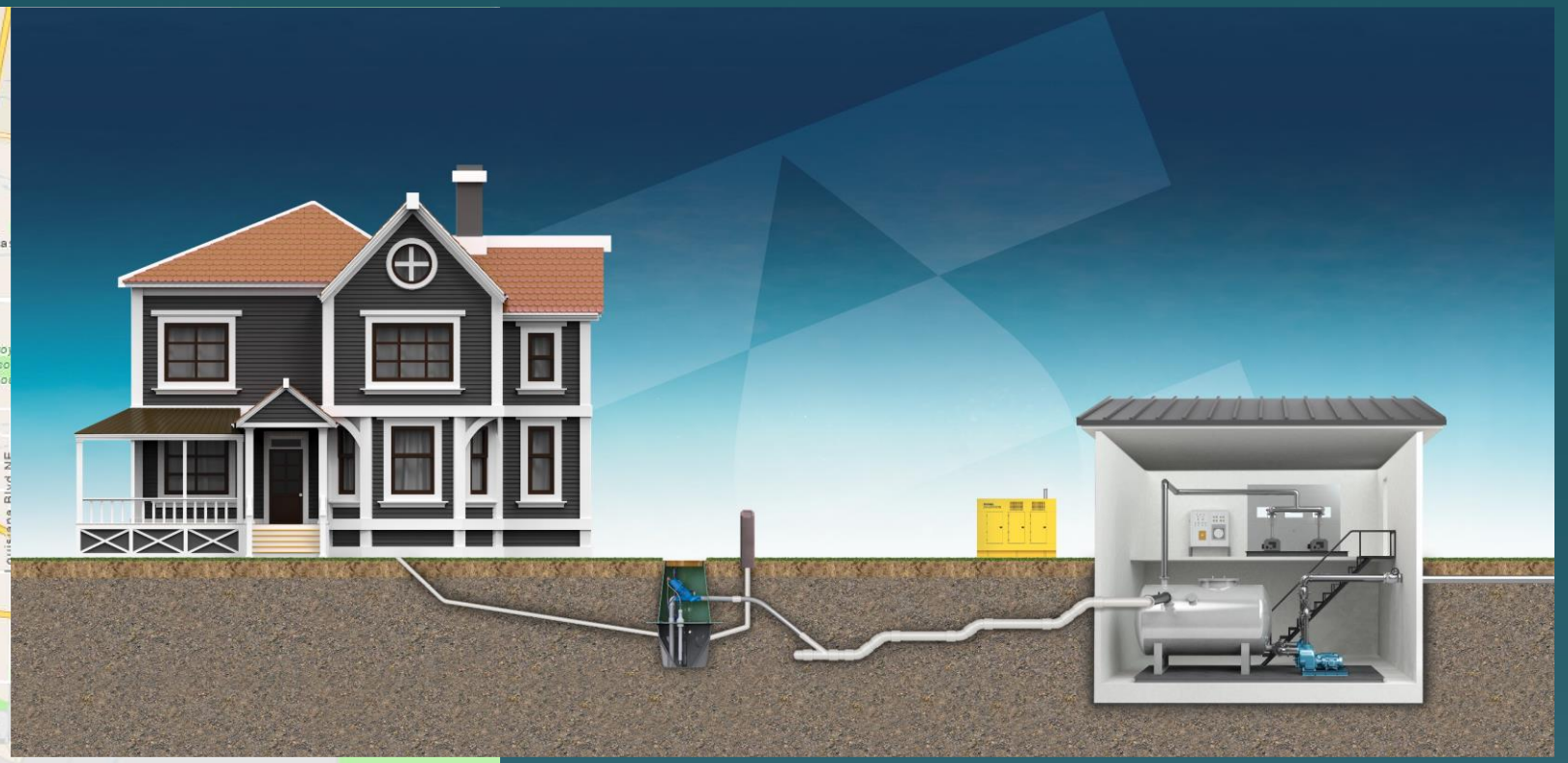
Vacuum Systems





Airvac Installation 101 (October 2021

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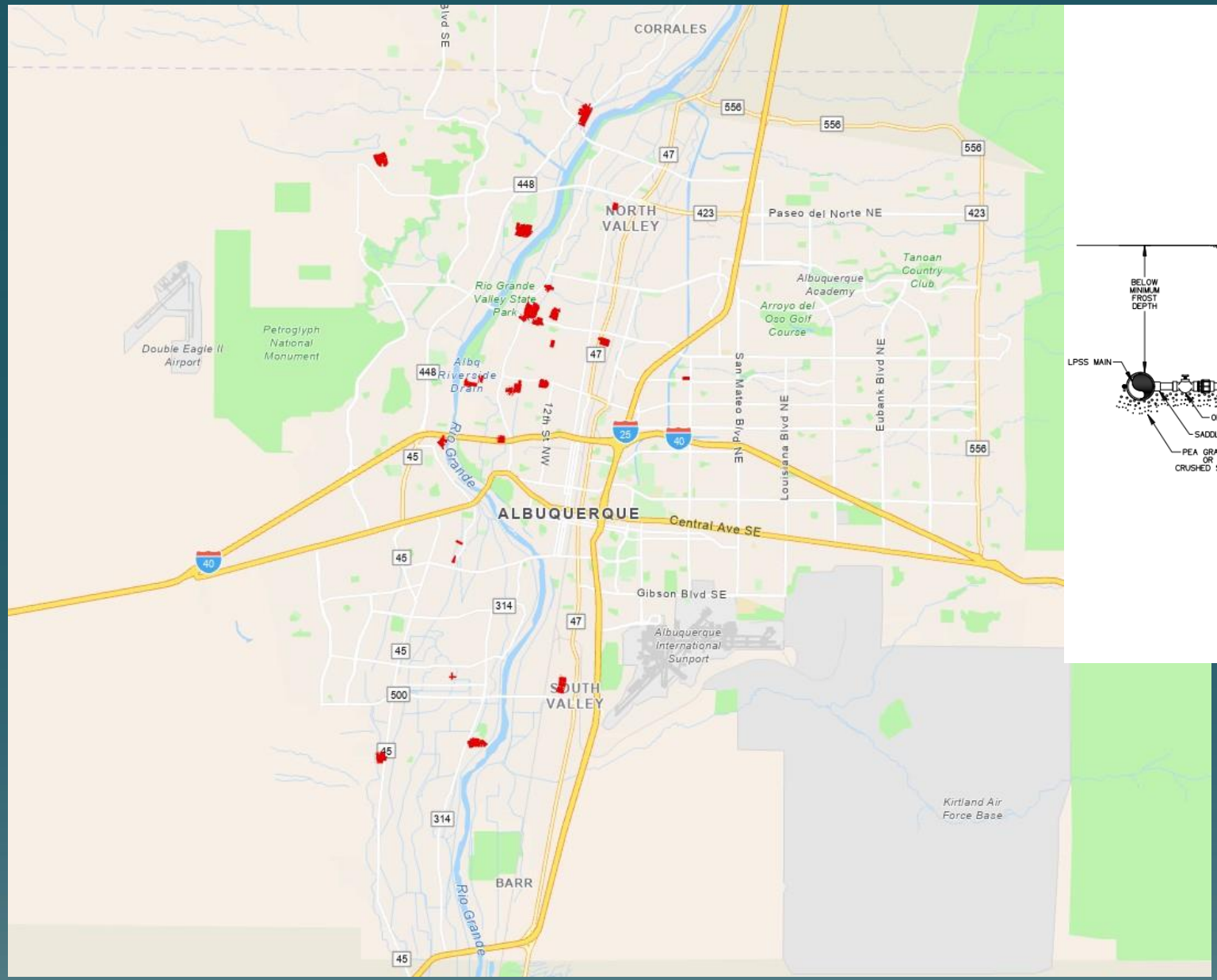
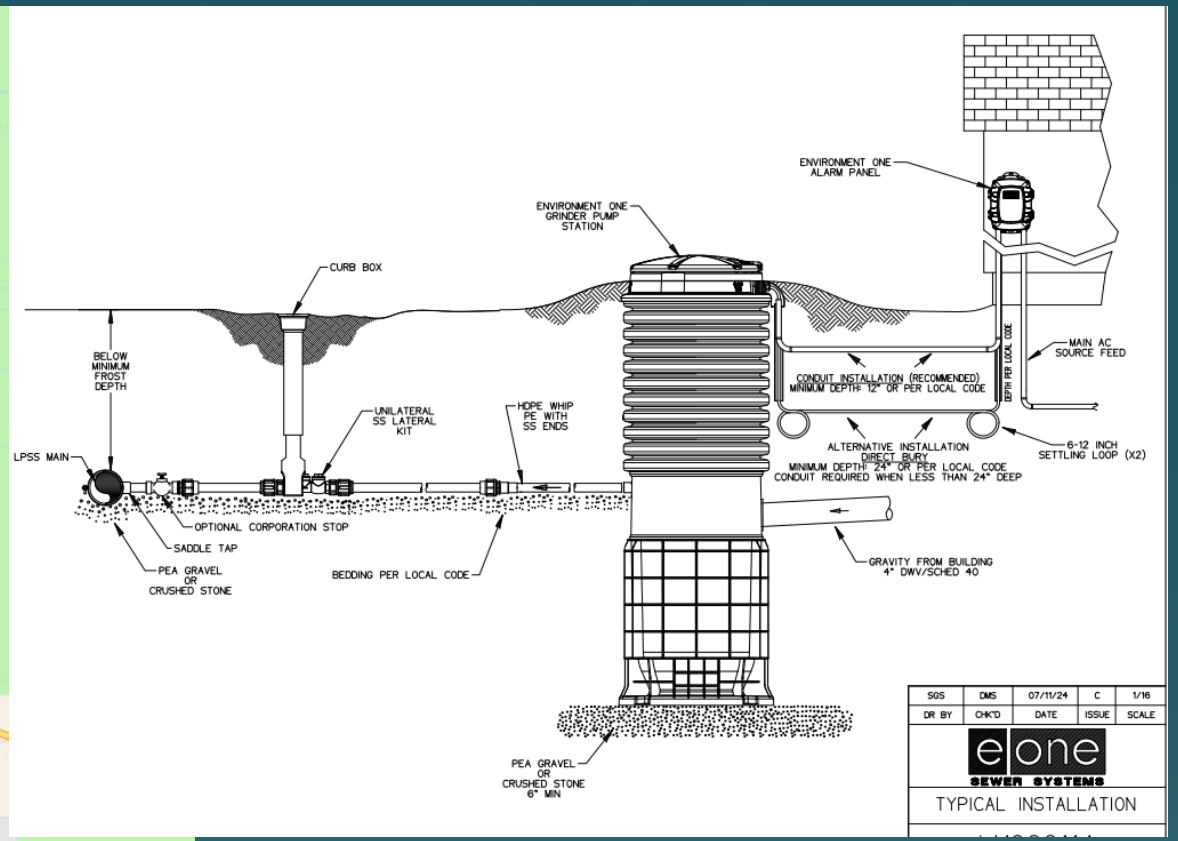
Low Pressure (Grinder)





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Types of Odor & Corrosion Systems*

* In the Water Authority's Collection System

Liquid Phase

- Prevent formation or release of H2S

Air Phase

- Extract & treat
- Prevent large/small over pressurization
- Block small over pressurization

Air phase treatment is less expensive for odor control

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Where is This Odor Coming From?

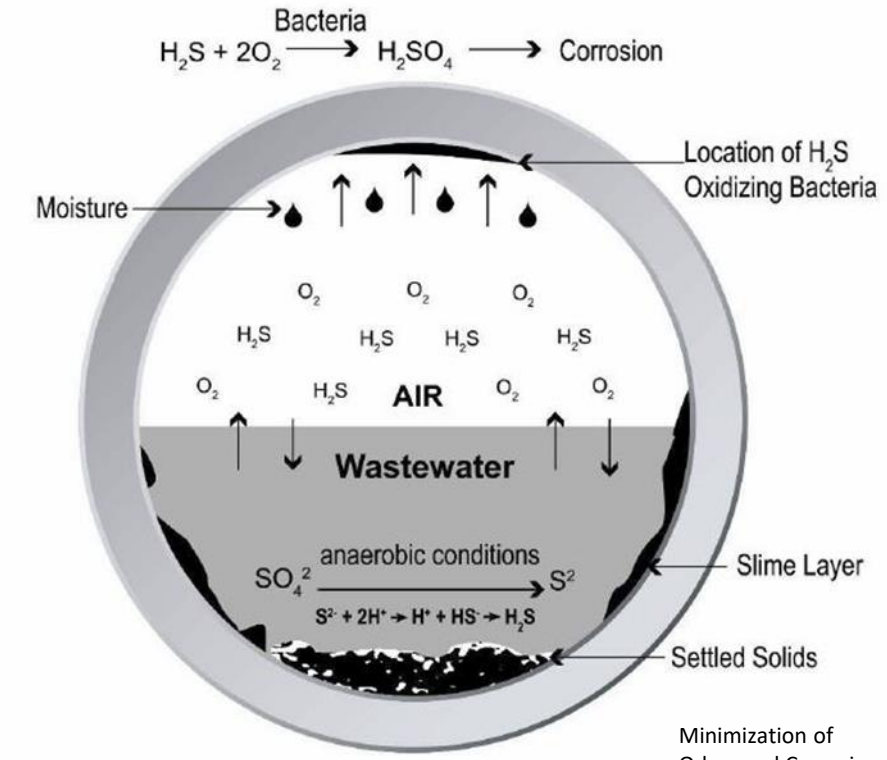

Figure 7-3. Sulfide Transformations in a Gravity Sewer.

Minimization of Odors and Corrosion in Collection Systems Phase 1

A lot of biofilm. 250 acres or ~1,670 tons or a herd of 4,600 adult elk.

$$SO_4^{=} + 2\,C + H_2O \xrightarrow{\text{bacteria}} 2\,HCO_3^{-} + H_2S$$

EPA 1985

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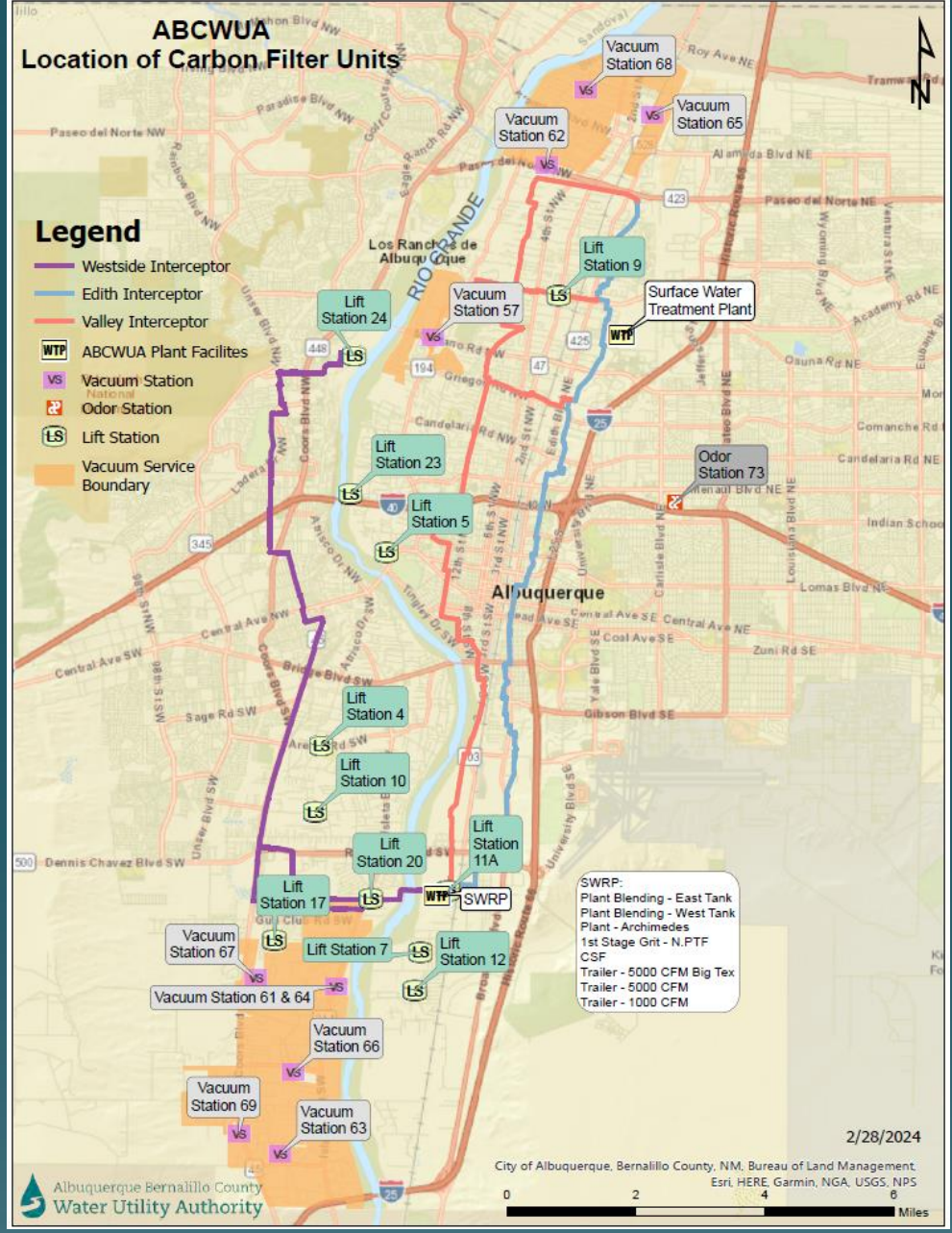
Air Phase - Carbon



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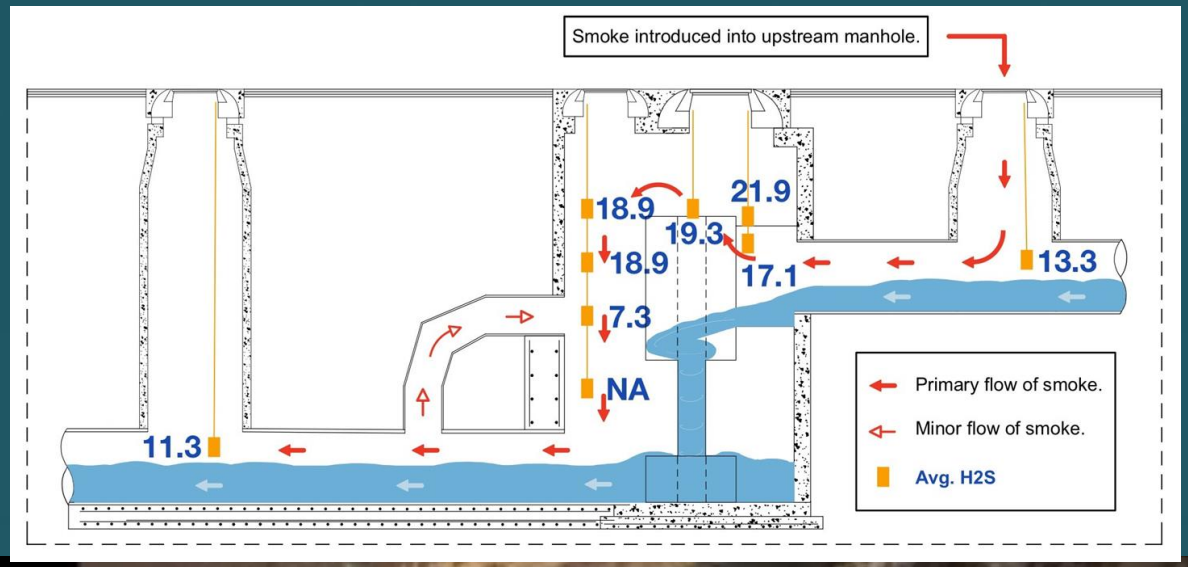
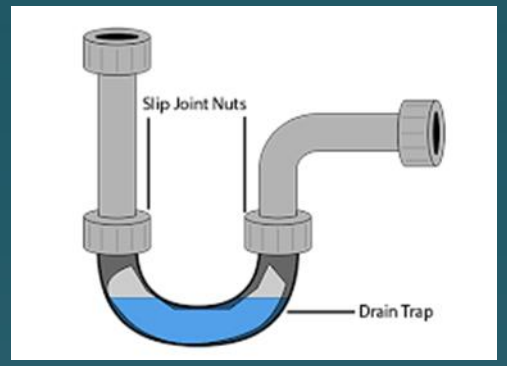
Prevent Pressurization

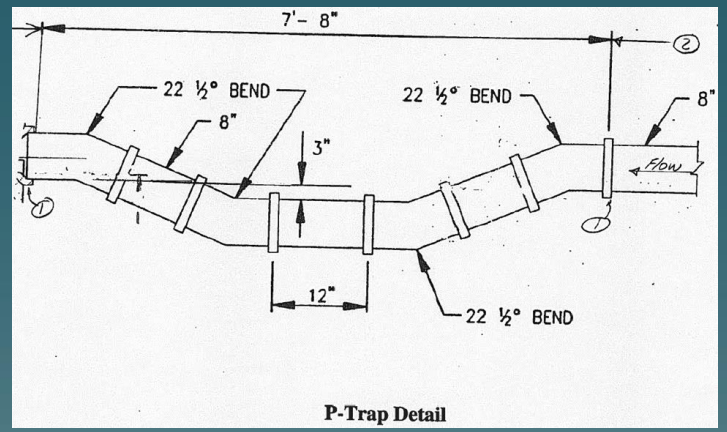


Usefulness of P-traps

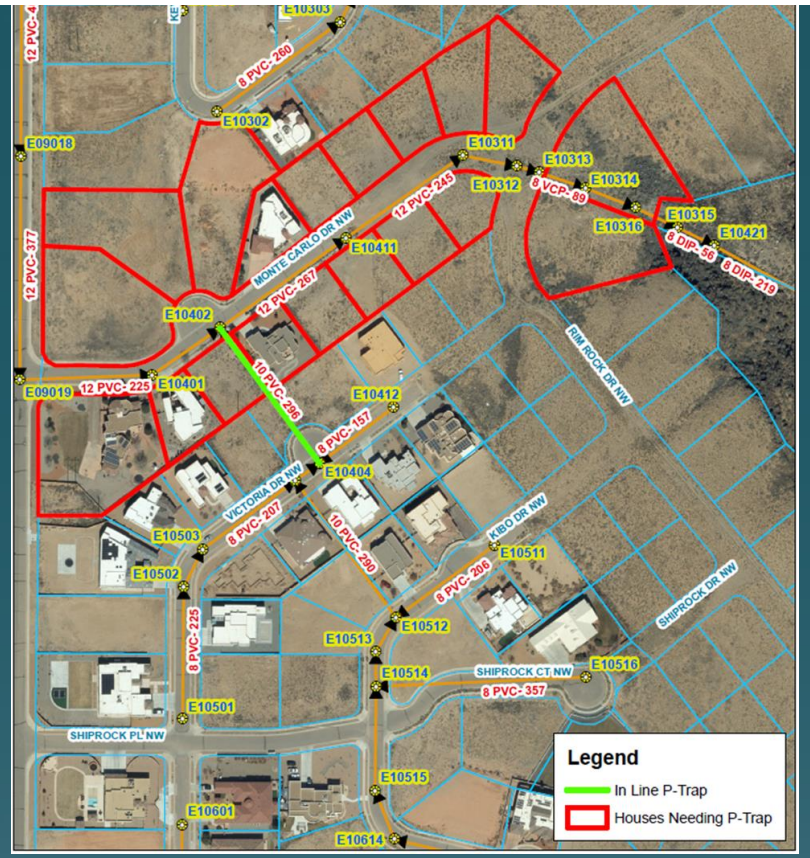
- No chronic odor complaints
- Utilizing traps wherever we can
- No chemical costs
- Work every time (but only where trapping is answer)
- Relatively low O&M

Vendor Installed Liquid Phase	$542,000
Air Phase Odor Control	$478,000
Authority Installed Liquid Phase	$333,000
Authority Installed P-Traps	$88,000





P-Trap Detail



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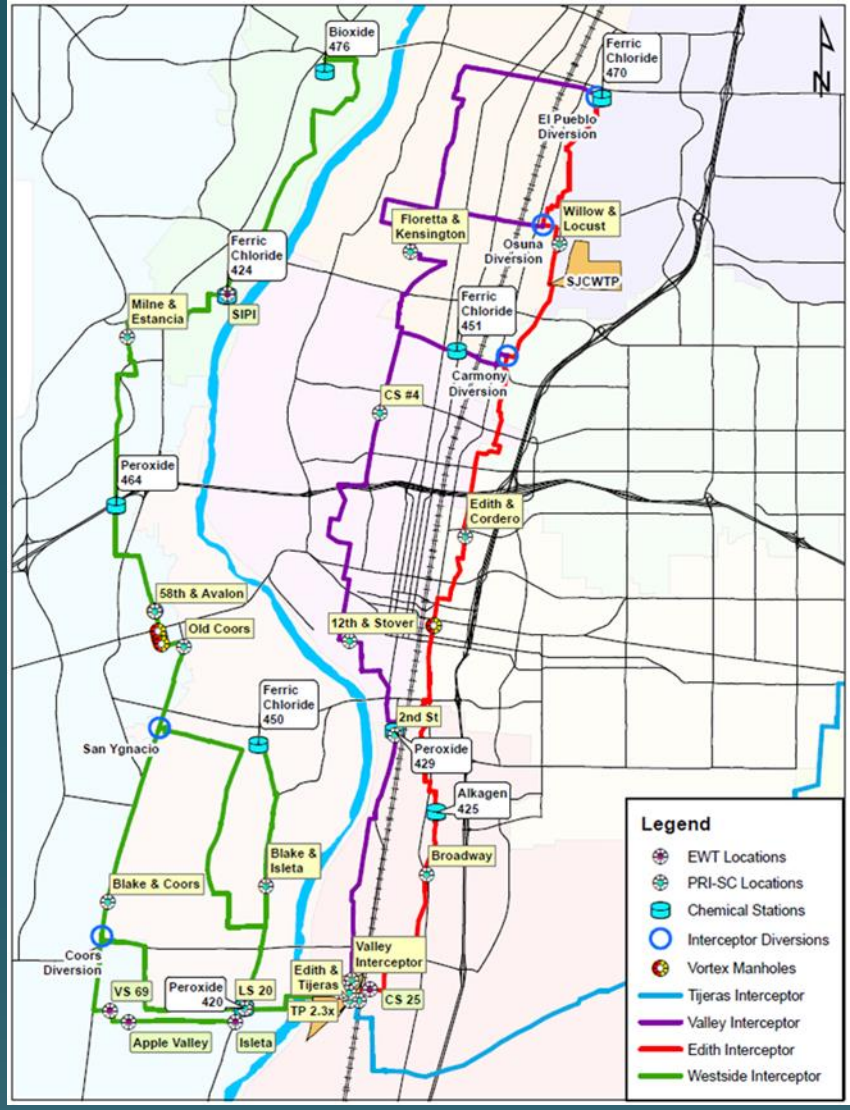
More About Our System

- Holistic
- Consider SWRP & SWTP
- Complex treatment program



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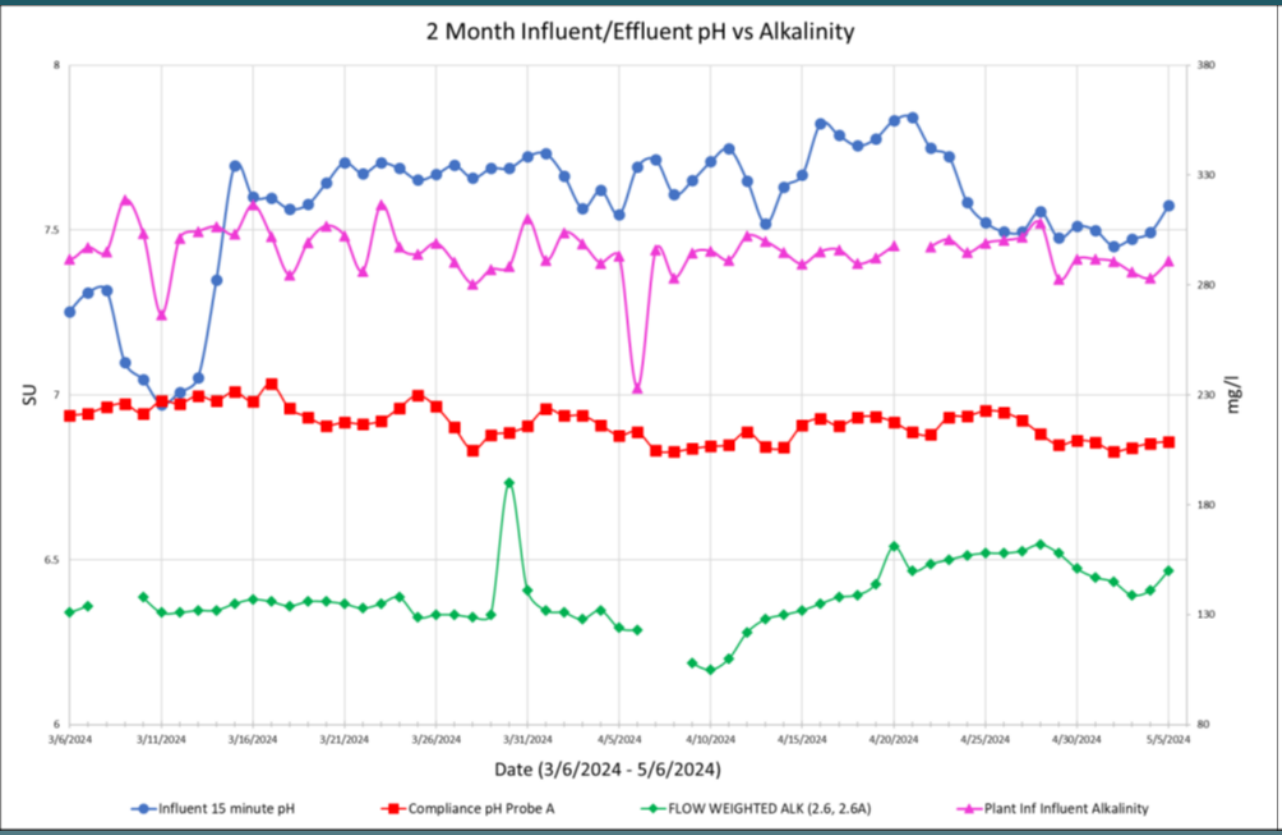
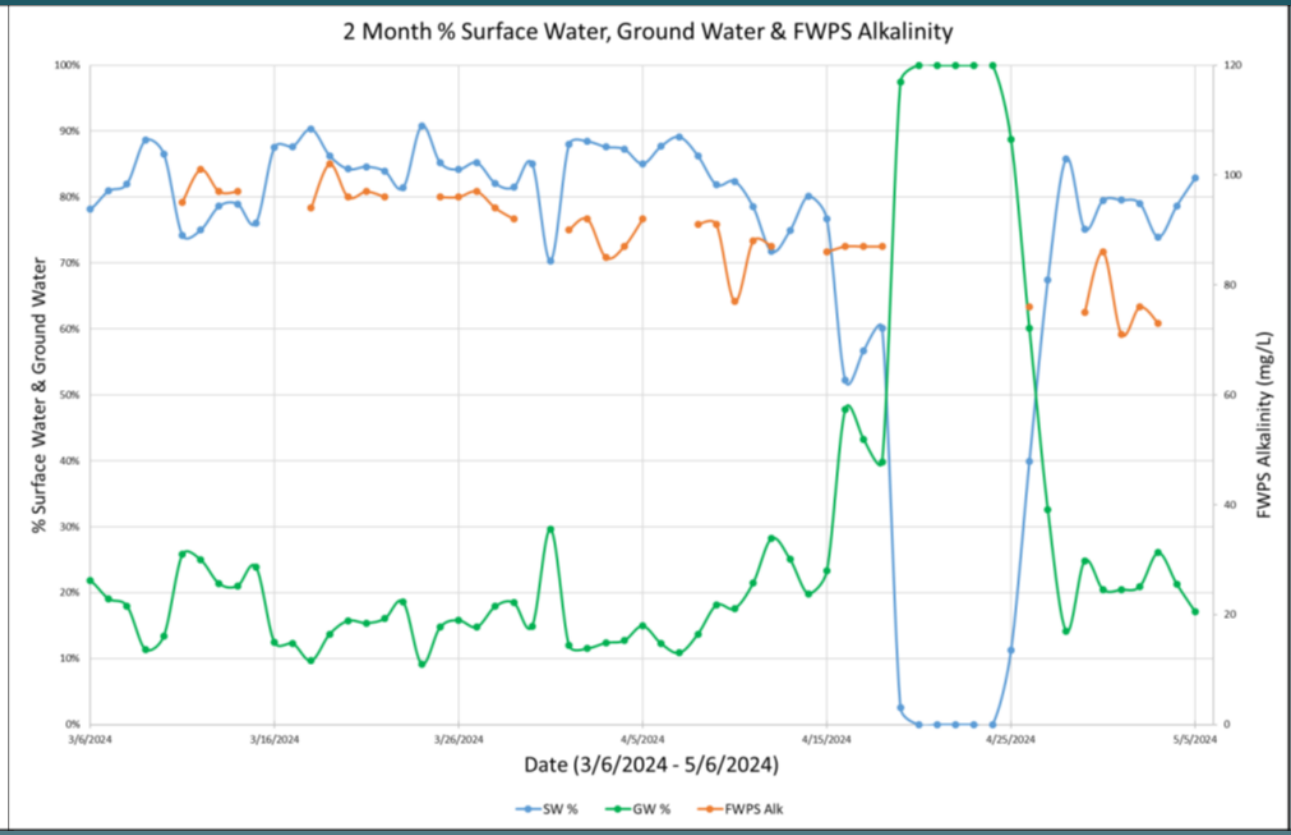
Sewage Quality to/from SWRP

- Targets are pH and alkalinity
- pH >= 6.6 (Permit limit)
- Effluent Alkalinity ~ 130 mg/L (O&M staff)





Chemical Costs Outpacing Inflation

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Chemical Expenses Rapidly Increase

- FY24 = $7.1MM
- FY23 = $6.5MM
- FY22 = $4.4MM
- FY21 = $4.9MM Reduced Hydroxides

- FY20 = $5.0MM
- FY19 = $4.1MM
- FY18 = $3.5MM
- FY17 = $2.6MM Increased for SWRP
- FY16 = $2.0MM

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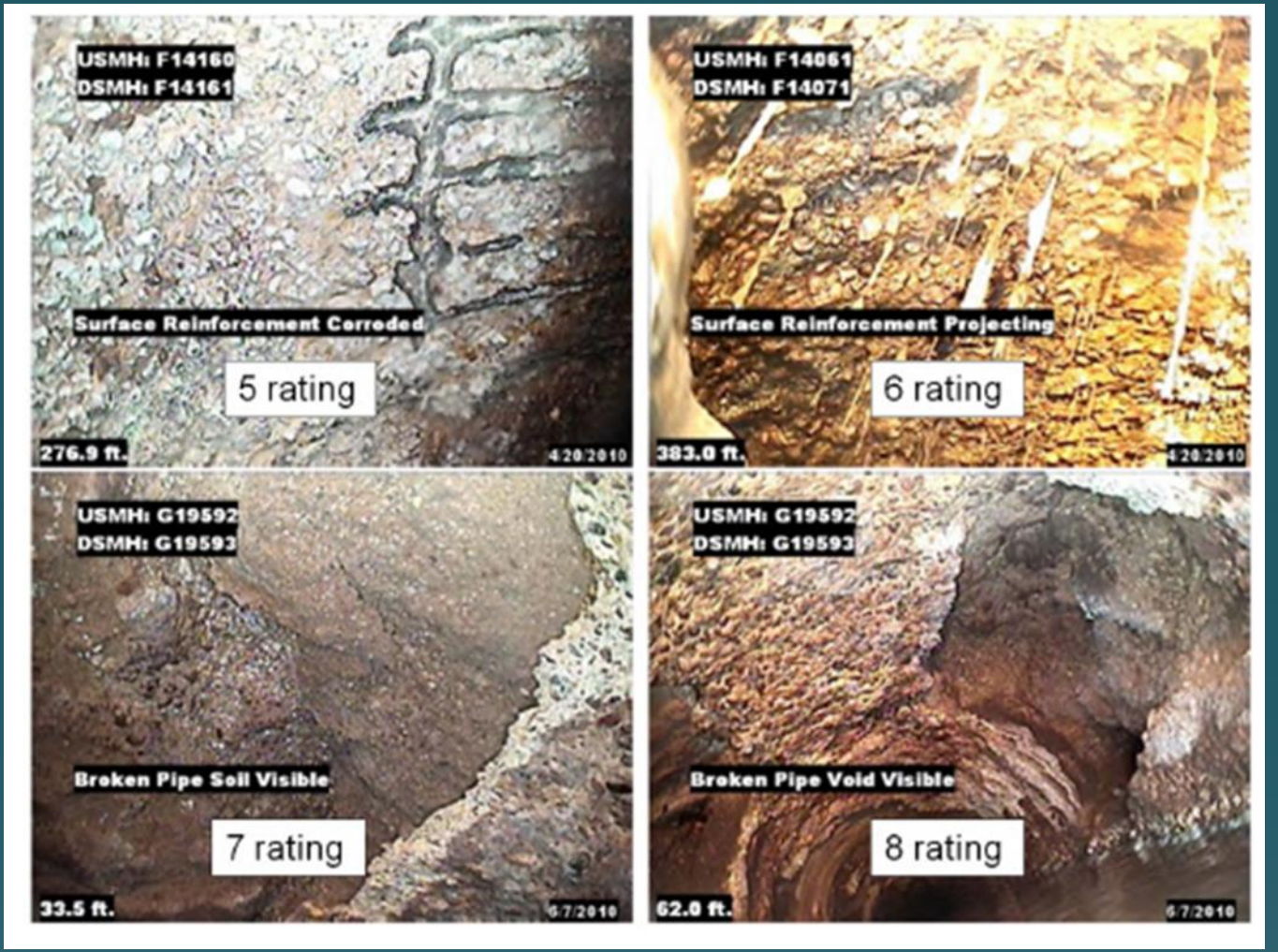
What Will We Do?

- Many things
- Examine chemical efficiencies & replacement options
- Develop corrosion-management strategy



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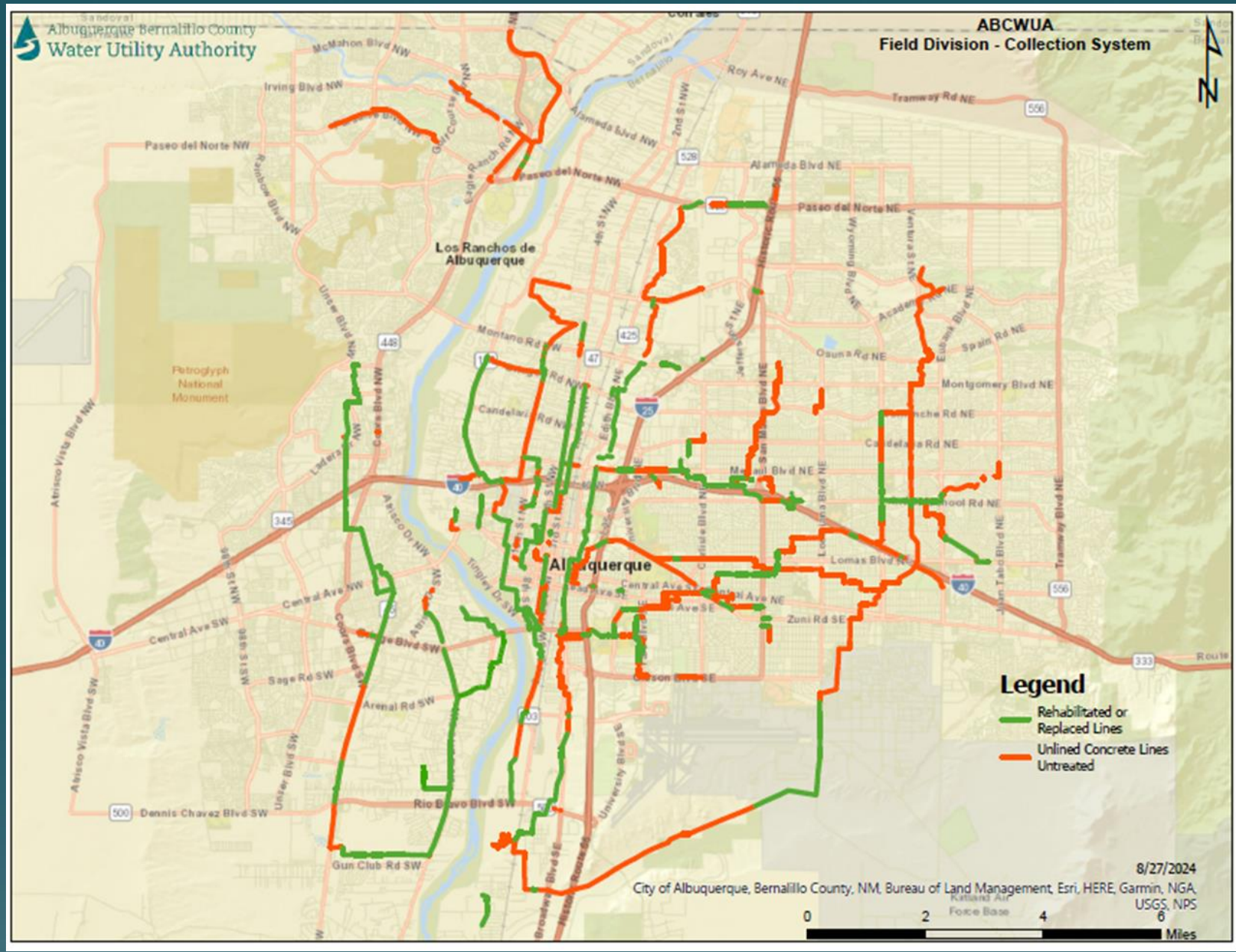
Concrete Interceptors

- 58.65 miles rehabbed to date
- 73.04 miles to be rehabbed

- At $25/inch-dia/LF
- $329.8MM to be done



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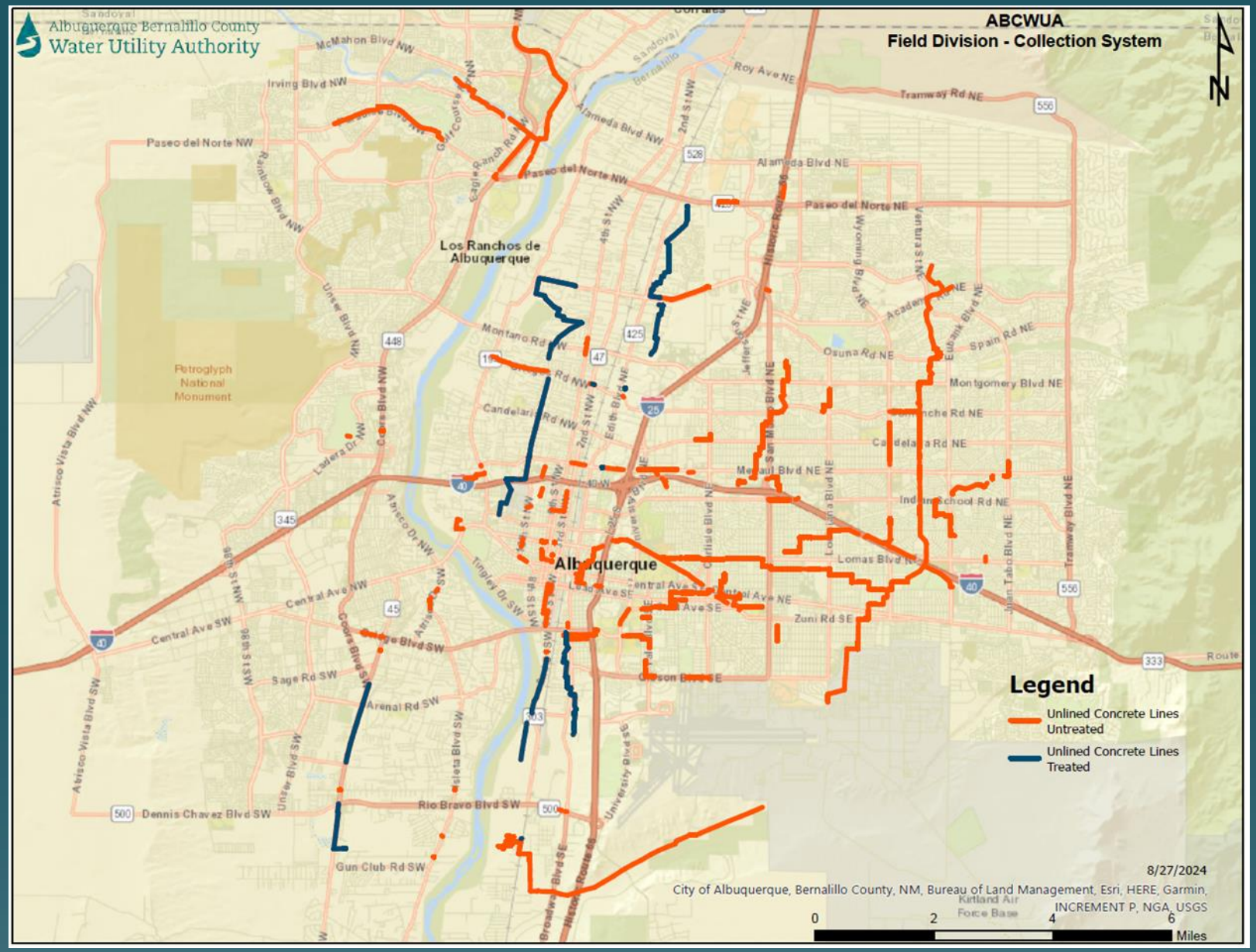
Remaining Interceptors to Rehab

- Rehab Cost ($25/in-dia/LF)
- Treated = $98.5MM
- Untreated = $231.3MM
- Total = $329.8MM
- Rehab Lengths
- Treated = 14.7 miles
- Untreated = 58.4 miles
- Total = 73.0 miles



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Perspective

Ramped up rehab program

5-year cycle concrete interceptor CCTV program (started FY2018)

Getting handle on collapses

New (Pilot) Program*

Decrease chemical dosing

Allow increased corrosion (compared to an odor control program)

Check condition every 5 years

***Real world application. May change!**

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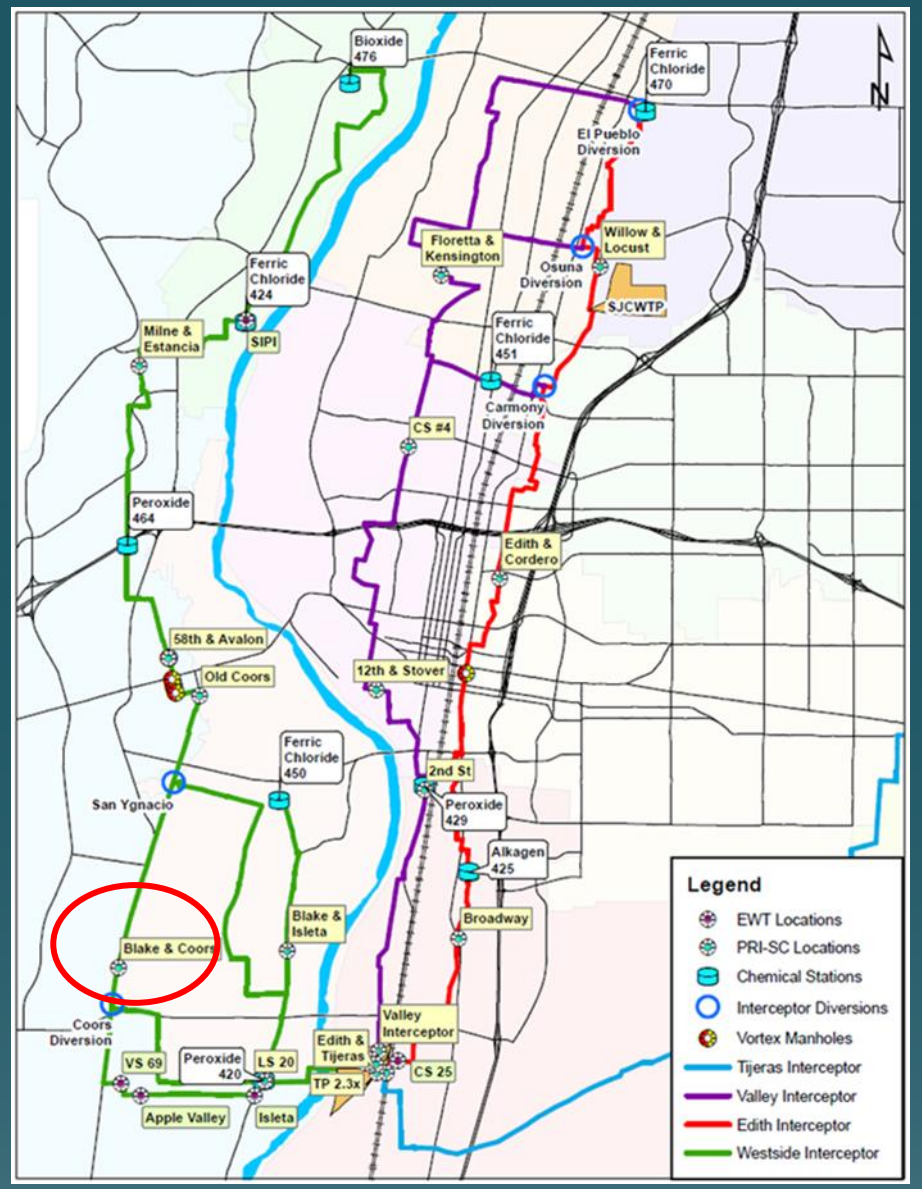
Results

- Reduced chemical feeds starting *1-1-2024*
- Evaluate Blake & Coors
- Rich data set
- Most downstream concrete line

In *8* months

- *$500,000* chemical savings
- Average H2S increased from *24* to *27* ppm



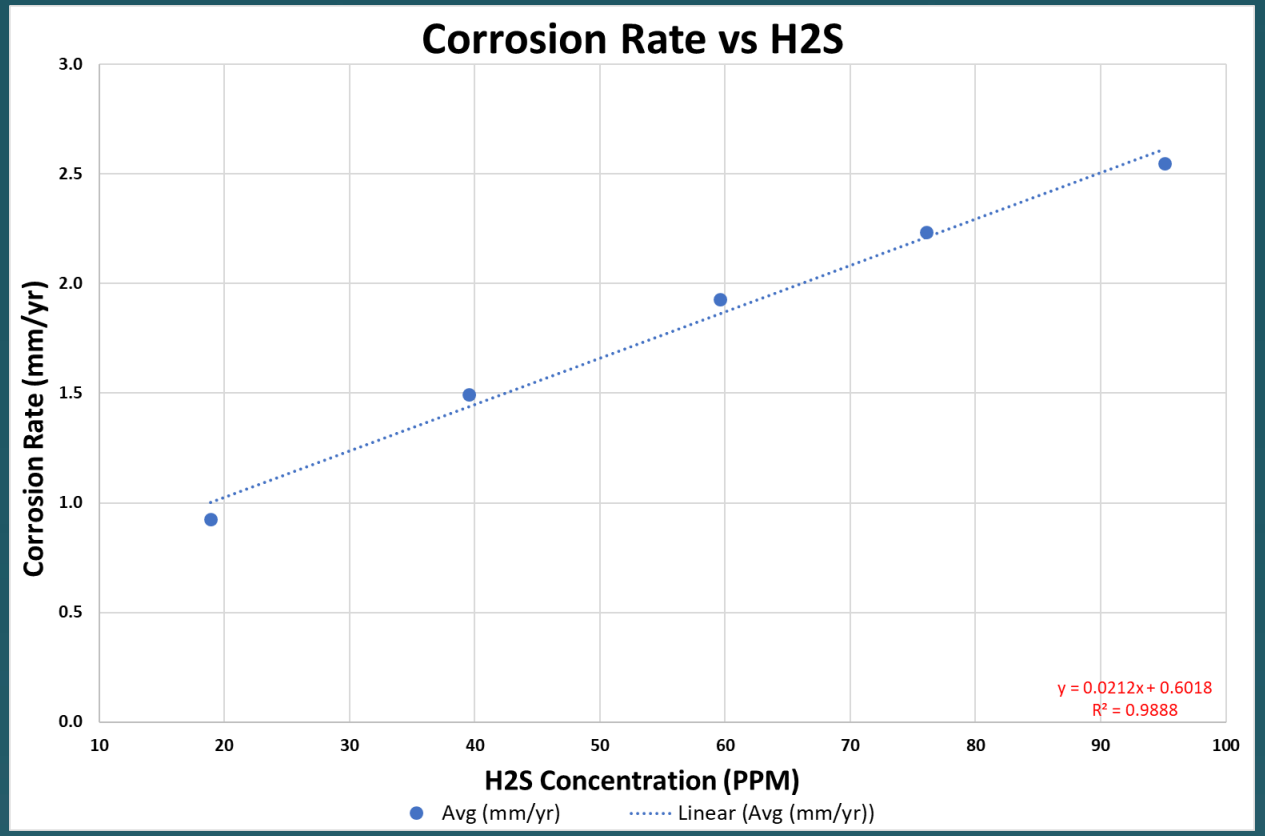
Albuquerque Bernalillo County
Water Utility Authority

Estimated Impact

Previous annual average H2S = *28* ppm

Average During *Jan-1 to Aug-25*

- 2023 = *24* ppm
- 2024 = *27* ppm



Average Annual Corrosion = *1.20* mm/yr (0.05 in/yr)

2023 (portion) Rate = *1.11* mm/yr (0.04 in/yr)

2024 (portion) Rate = *1.18* mm/yr (0.05 in/yr)

Over 5 years = 0.01 inches more corrosion (0.23 vs. 0.22)

Utilize Mega-WATS to compute corrosion rates at various H2S levels

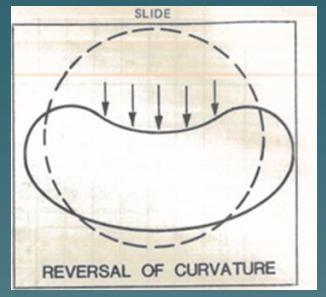
Albuquerque Bernalillo County Water Utility Authority

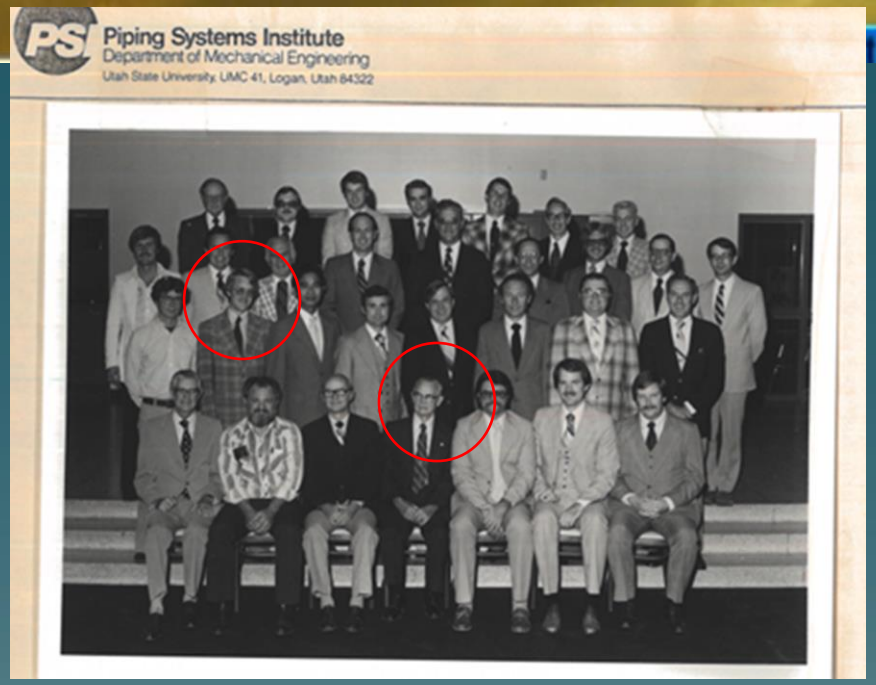
Aren't You Worried About Collapses?

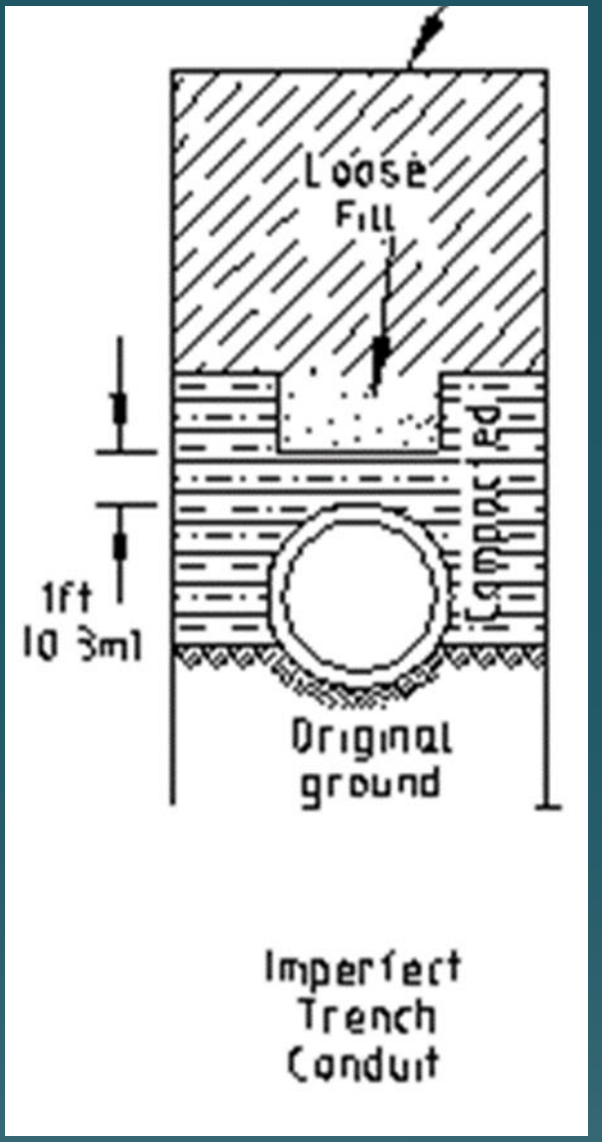
Albuquerque Bernalillo County
Water Utility Authority

Imperfect Ditch / Soil Arching (It Is Real)

https://www.ccee.iastate.edu/alumni-friends-industry-partners/hall-of-fame/merlin-g-spangler/







http://onlinemanuals.txdot.gov/TxDOTOnlineManuals/TxDOTManuals/hyd/installation_conditions.htm

Albuquerque Bernalillo County Water Utility Authority

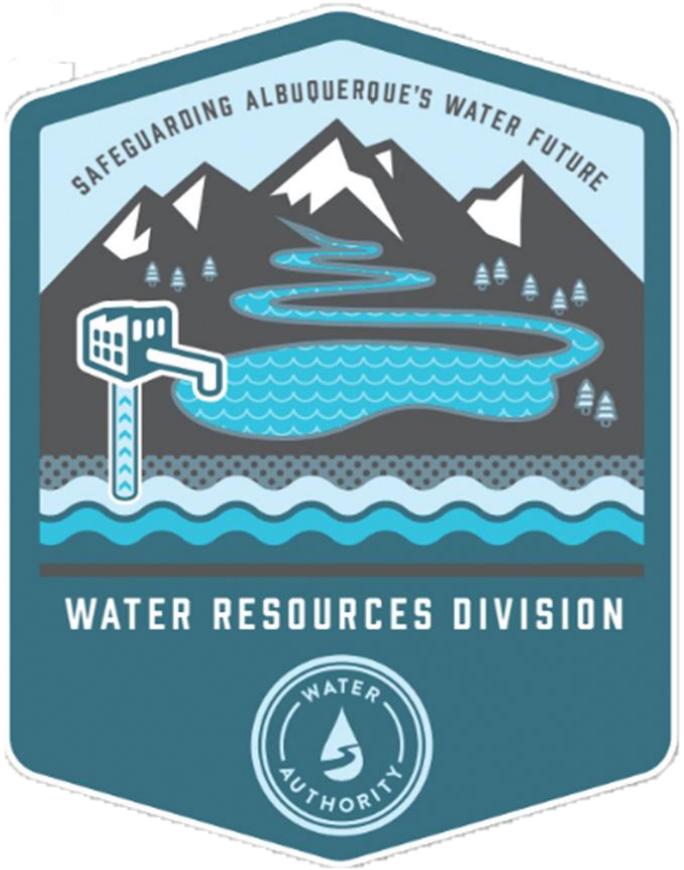
Corrosion Management Strategy

- If we save $2MM/year in chemicals
- In five years, we have funding for a nice rehab project
- And we are monitoring pipe conditions

Albuquerque Bernalillo County
Water Utility Authority

Questions

What do think of a corrosion management approach versus rehabbing more quickly?

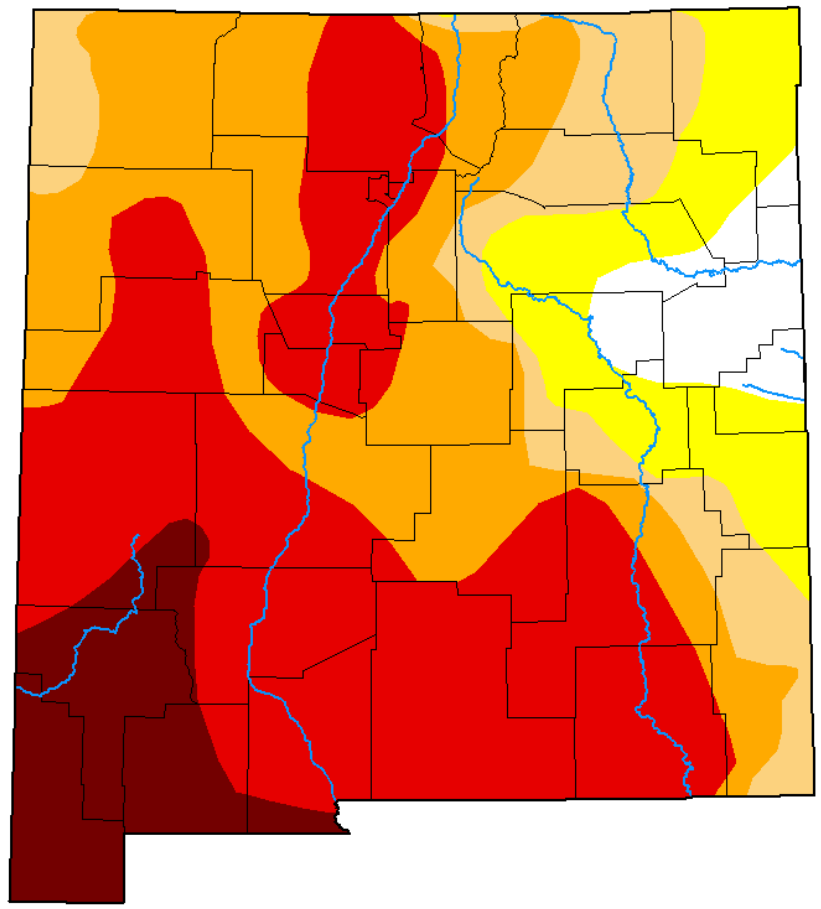


Water Resources Division

Water Report

Amos Arber
Water Conservation Program Manager

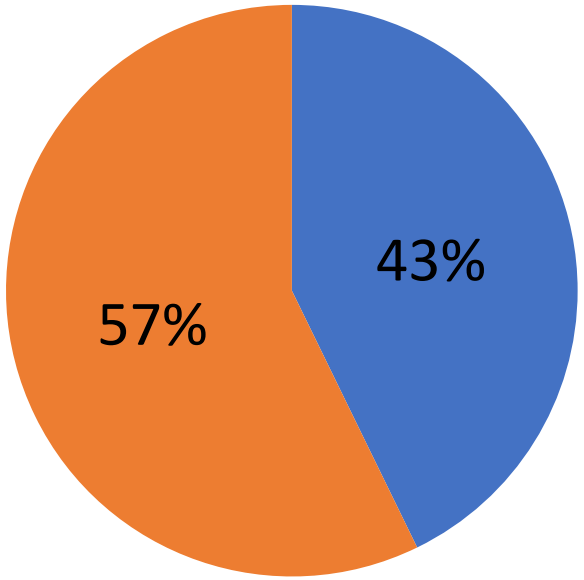
SUPPLY METRICS SNAPSHOT



D0 D1 D2 D3 D4

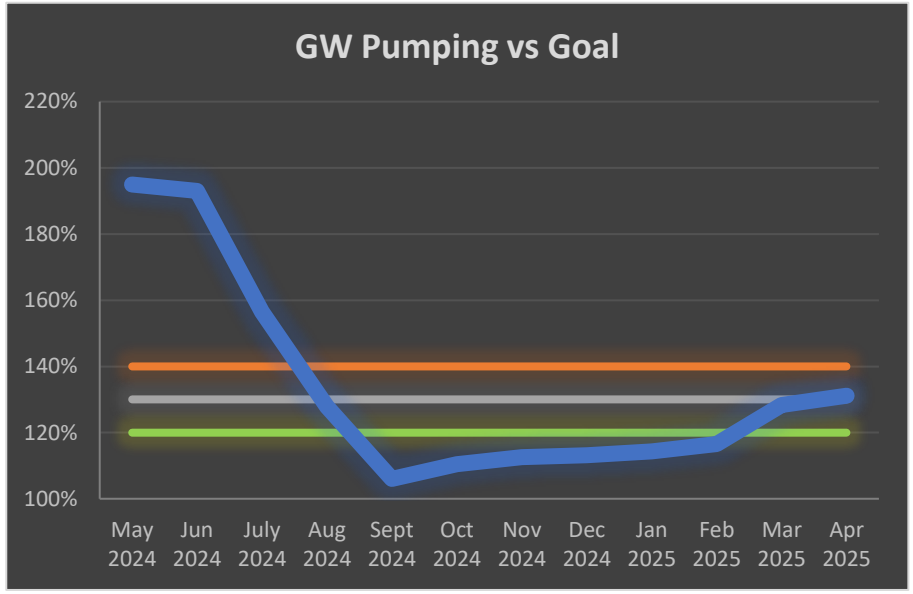
Water Authority
Drought Stage: 0

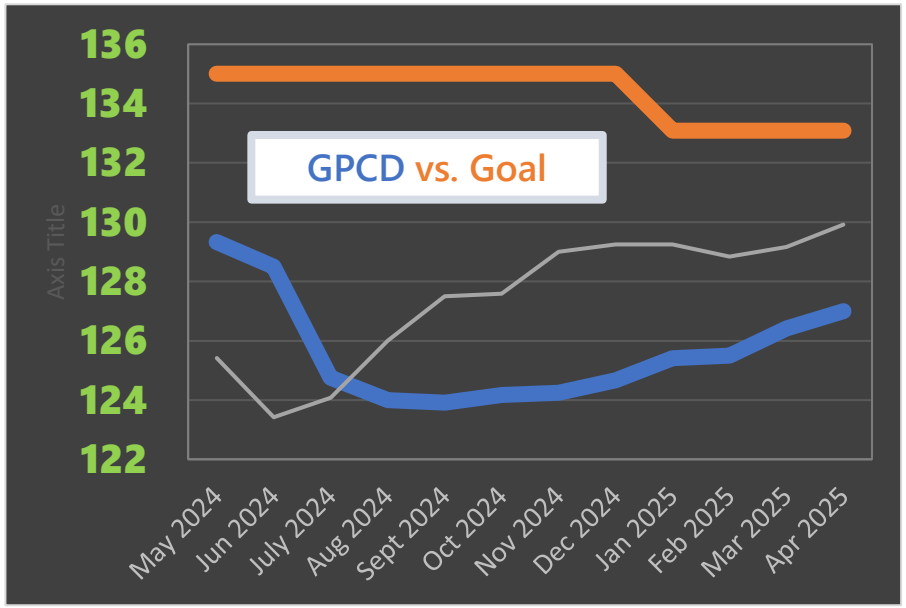
May 2025
(April Demand Data)



Groundwater Production

Surface Water Production

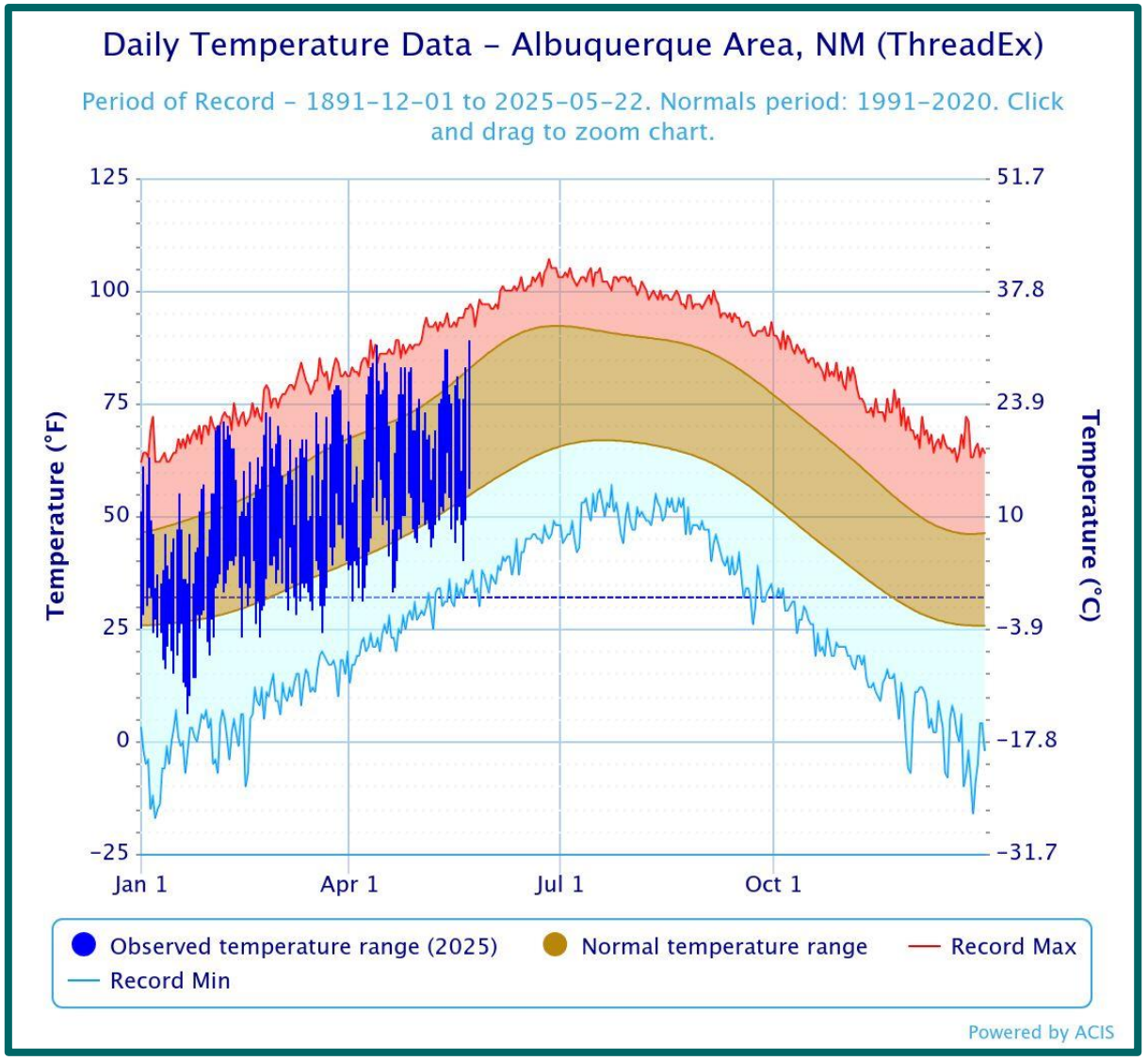


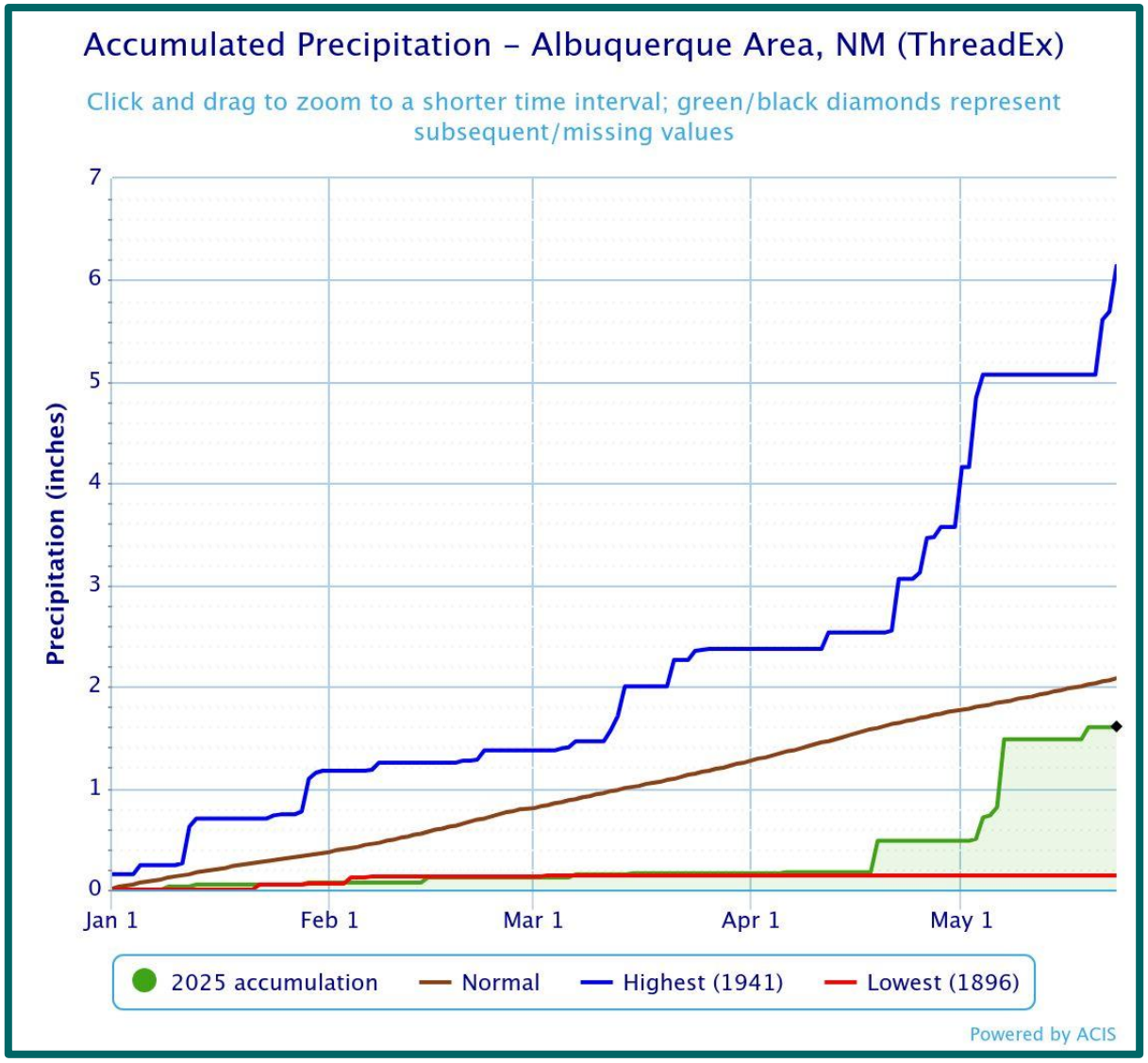


Drought Stages

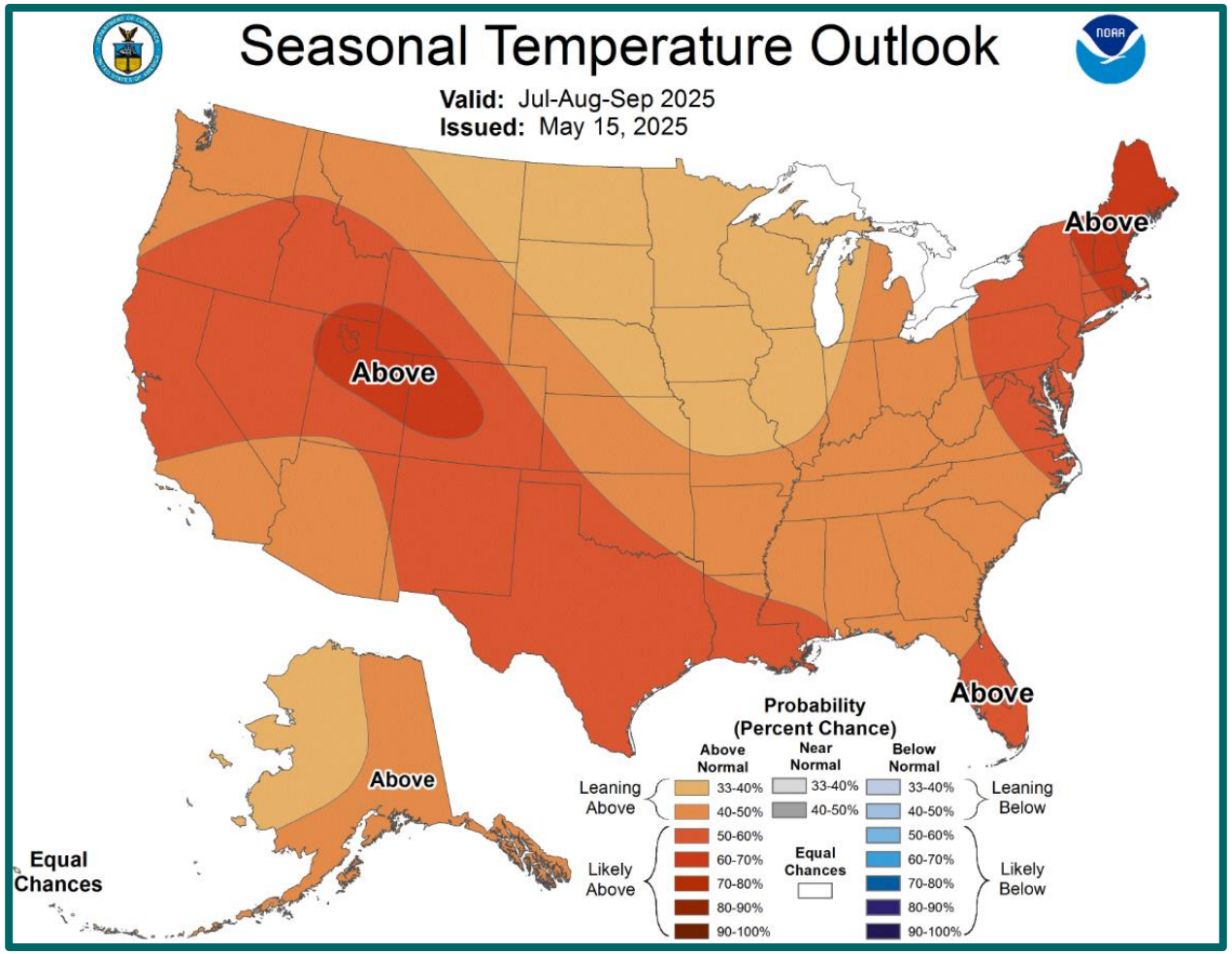
Groundwater Production / GPCD	DSCI ≥ 300	Less than 120% of the Annual GW Production Goal	Between 120% and 130% of GW Production Goal	Between 130% and 140% of GW Production Goal	More than 140% of the GW Production Goal
0 to < 2 GPCD over the goal	Stage 0	Stage 0	Stage 0	Stage 0	Stage 1
2-4 GPCD over the goal	Stage 0	Stage 0	Stage 1	Stage 1	Stage 2
4-6 GPCD over the goal	Stage 0	Stage 0	Stage 1	Stage 2	Stage 3
> 6 GPCD over the goal	Stage 0	Stage 1	Stage 2	Stage 3	Stage 3

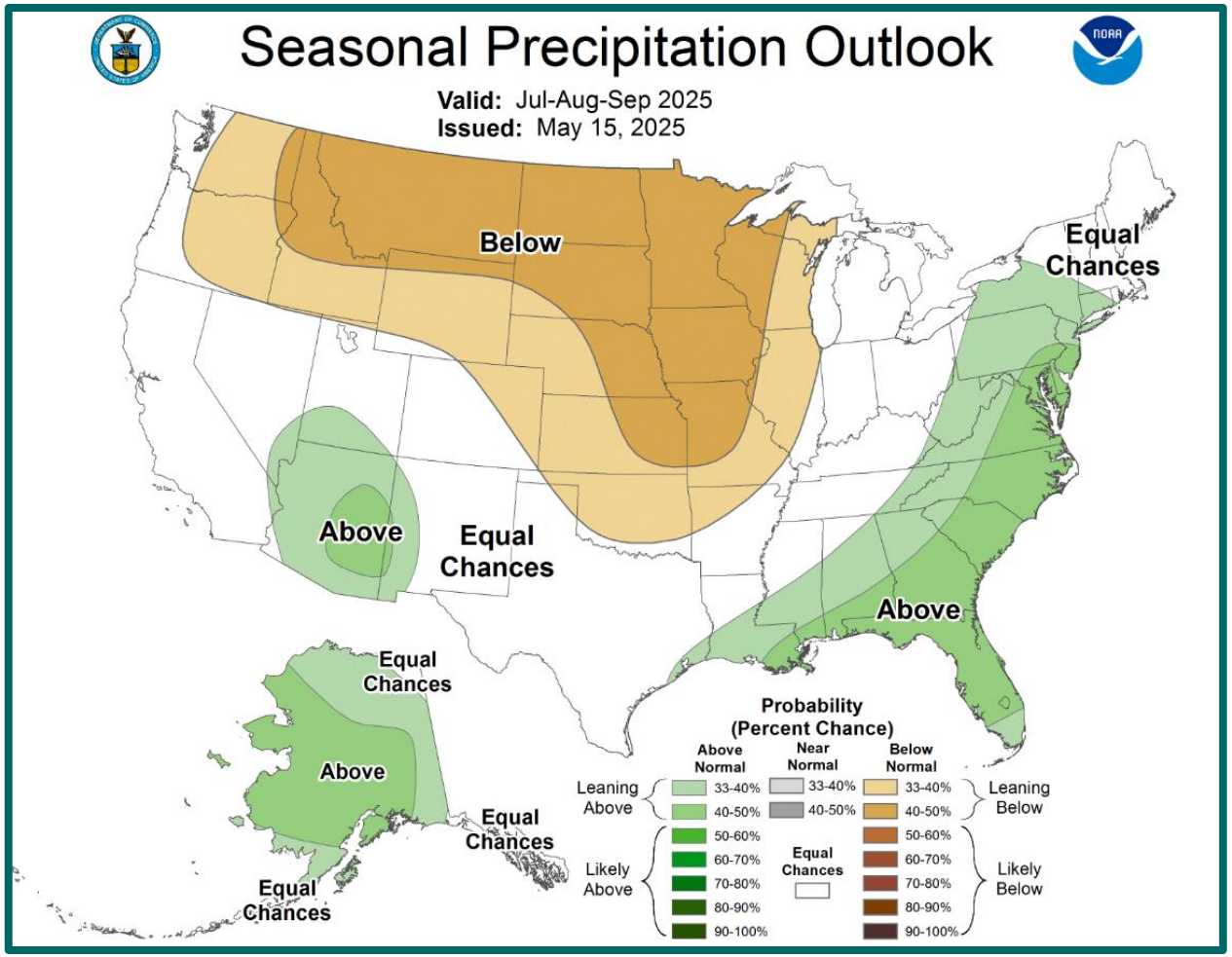
Temperature and Precipitation



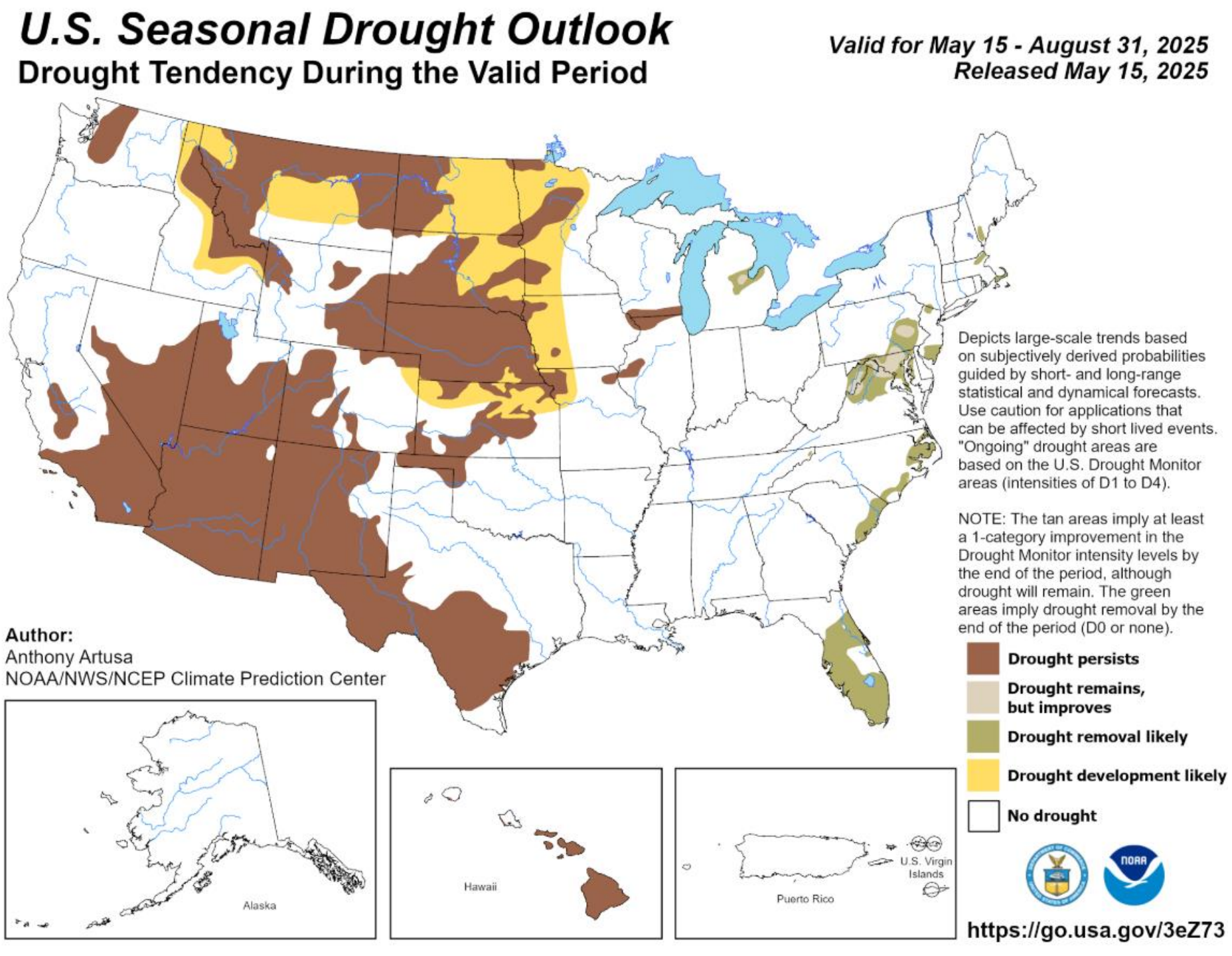


Seasonal Outlook





Drought Outlook



Weather the Drought Rebate Classes

April 18,2025/ May 2,2025/May 16/2025

REGISTRATION PAGE VIEWS: 1,602

REGISTERED: 274

NEWSLETTER SIGN-UPS: 157

Next Classes:

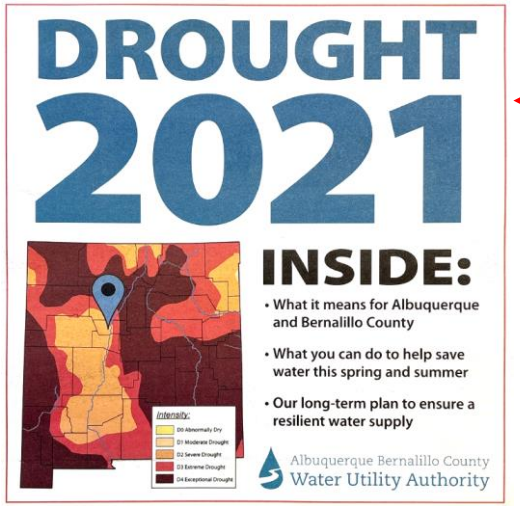
- June 13
- June 20
- July 11
- July 25

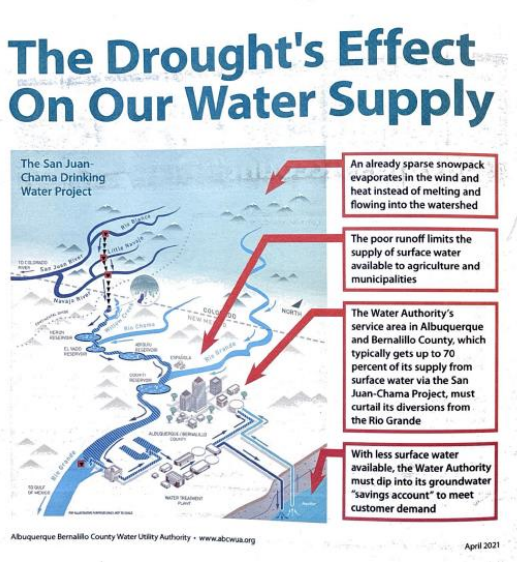
Governor's Executive Order on Drought and Severe Fire Conditions - May 22, 2025

Possible actions in response to Executive Order 2025-210:

1. Create 'Drought Insert' for Albuquerque Journal (and other publications)
2. Update Water Waste Compliance communications with drought language
3. 20% Increase in the number of monthly letters sent to residential customers in the top 5% of water users
4. Generate and distribute letters to commercial customers (regular meters) within the top 5% of water users
5. Generate and distribute letters to customers (regular meters) who have exceeded Tier 3 usage.
6. Generate and distribute letters to customers (regular meters) who have exceeded Tier 3 usage for at least three consecutive years.

Drought Insert Example





Questions?