



# What's Up With Water? 2025 Edition

May 2025

### What's Up with Water

6th Annual What's Up with Water Webinar: May 15, 2025



#### Where do we get our water and how have things changed over time?

- Four distinct water sources
- Preferential use of sustainable surface water, when available
- Per capita water consumption has decreased over time
- Population has increased





#### We are investing in infrastructure to maintain a safe, reliable, and resilient water system

- Nichols Dam Outlet Works Rehabilitation Project progress
- Other 2024 project highlights
- Planned capital projects
  - Proposed rate increases

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#### Ongoing planning efforts to prepare for many different potential futures

- Long-range water supply
- Catastrophic supply disruption
- Source water protection



#### Outline

- System Overview
  - 3 slides #5-7
- Santa Fe Water Past
  - 6 slides #9-14
- Santa Fe Water Present
  - 5 slides #16-20
- What We Worked On In 2024
  - 12 slides #22-33
- Financials
  - 5 slides #35-39
- Long-Range Planning
  - 4 slides #41-44





#### **Outline to System Overview Transition Slide**

- System Overview
  - 3 slides #5-11
- Santa Fe Water Past
  - 6 slides #13-18
- Santa Fe Water Present
  - 5 slides #20-25
- What We Worked On In 2024
  - 12 slides #27-36
- Financials
  - 5 slides #38-42
- Long-Range Planning
  - 4 slides #44-50

# The System

- 4 Potable Sources
  - Santa Fe River
  - City Wells
  - Buckman Wells
  - BDD
- BDD jointly owned
  - City
  - County
  - Las Campanas
- City diverts SJC water at BDD
- Non-potable resource
- Santa Fe River watershed



#### Santa Fe River

Stored in McClure and Nichols and treated at Canyon Road Water Treatment Plant





#### **City Wells**

#### **Currently 7 active production wells**



- First wells drilled in 1950s
- Wells are mostly along Santa Fe River
- Northwest Well in La Tierra Trails and Agua Fria north of the Indian School are the workhorses

#### **Buckman Wells 1-9**

#### As seen from the Rio Grande looking towards Santa Fe



#### **Buckman Direct Diversion**

Online in 2011

• City, County, and Las Campanas own diversion





• City & County own treatment plant



#### San Juan Chama Project

City diverts Colorado River (San Juan – Chama Project) water directly from Rio Grande



# 2024 Sources of supply



#### **System Overview to SF Water Past Transition Slide**

- System Overview
  - 3 slides #5-11
- Santa Fe Water Past
  - 6 slides #13-18
- Santa Fe Water Present
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- Long-Range Planning
  - 4 slides #44-50

#### CoSF Water Past: A Picture Is Worth...





#### Water Conservation Success



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# Shifting to surface water dominated source of supply





#### **Groundwater Recovery** (our "savings accounts")

- Since shifting to surface water dominated production, our wells have been recovering
- We like to keep our wells in reserve as a "drought proof" backup



#### **Buckman Wells**





#### **Water Resources Indicator**

#### Combination of groundwater availability (40%), surface water availability (30%), and regional drought (30%)



#### **Current Demand and Supply (average of last 14 years)**





#### SF Water Past to Water Present Transition Slide

- System Overview
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- Financials
  - 5 slides #38-42
- Long-Range Planning
  - 4 slides #44-50

#### **2024 City of Santa Fe Water Annual Report**

- Key figures from the 2024 annual report are ٠ included in this presentation.
- Full report: <u>https://santafenm.gov/water</u> ٠



**City of Santa Fe** Alan Webber, Mayor Mark Scott, City Manager

Signe Lindell, Mayor Pro Tem, District 1 Alma Castro, District 1 Carol Romero-Wirth, District 2 Michael Garcia, District 2 Pilar F.H. Faulkner, District 3 Lee Garcia, District 3 Jamie Cassutt, District 4 Amanda Chavez, District 4

**Compiled & Written by** City of Santa Fe Water Staff





#### 2024 Water Production and Use

#### Santa Fe River and Reservoir Operations 2024

#### Average snowmelt

Above average monsoon



#### Santa Fe River and Reservoir Operations 2024

- Average snowmelt
- Above average monsoon

Net spring storage increase of about 1,400 AF

Snowmelt ~3,100 AF, less CRWTP 1,200 AF and river/acequias 500 AF

Remainder of year: ~1,700 AF inflows similar to outflows (CRWTP + river/acequias)



#### **2024 Reservoir Storage**





#### SF Water Present to What We Worked on in 2024 Transition Slide

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## **Capital Projects Status and Funding**

- SJC Return Flow Project
  - CoSFW received a permit from the OSE in April 2024
  - The 60 percent design deliverable was completed in December 2024
  - Draft Environmental Assessment (NEPA) expected out September 2025
- CoSF has received a commitment for \$12 million in grant funding from Reclamation for the SJC Return Flow Project
- CoSF was recommended for a 2024 New Mexico Water Trust Board grant/loan award of \$15.25 million to support
  - Nichols Dam repair (\$5.5M)
  - CRWTP improvements (\$7.75M)
  - SJC Return Flow Project (\$2M)



Conditions of Approval of Return Flow Plan for SP-4842-RFP		
Application for Return Flow Credit is <i>partially approved</i> as follows:		
Permittee:	City of Santa Fe	
Permit No.:	SP-4842-RFP	
Source:	San Juan-Chama Project ("SJCP") water imported from the Colo Basin, via Upper Rio Grande Surface Waters	rado River
Effective Date:		
Point of Diversion:	Buckman Direct Diversion ("BDD"), located at a point where X feet and Y=1,759,620 feet, NM State Plane, central zone, NAD2	(= 525,982 27
Point of Return:	Proposed return point of pipeline yet to be finalized, the Cit approximately 400 feet downstream of Point of Diversion	y proposes
Purpose of Use:	Municipal	
Place of Use:	Within the boundaries of the City of Santa Fe service areas	
Amount:	5,492.9 afa consumptive use (5,605 afa, minus 2% conveyance	oss)
<ol> <li>These conditions of approval only apply to the return flow credit under Permit SP-4842 Return Flow Plan ("Permit No. SP-4842-RFP"), and do not replace or supersede the conditions set forth in Permit SP-4842, approved November 1, 2006.</li> </ol>		
<ol> <li>Permit No. SP-4842-RFP shall not be exercised to the detriment of other valid existing water rights, in a manner that is contrary to the conservation of water, or detrimental to the public welfare of the State.</li> </ol>		
<ol> <li>Permit No. SP-4842-RFP shall not result in depletions to native Rio Grande flows below the point of return.</li> </ol>		
<ol> <li>Consumptive use of SJCP water shall be limited to 5,492.9 afa, unless an increase of up to 25% if approved by OSE, in which case the annual consumptive amount will be increased by the approved percentage increase.</li> </ol>		
5. The amount of SJCP water returned via the return flow pipeline shall be credited toward increased diversions at BDD. Return flow credit water that is diverted at BDD shall be considered "SJCP Water by Exchange."		
OLE File In: QP-4442.4FP   San Juan-Chuma Return Flow Plan Page 1 of 6 Appleant City of Santa Fe		



### **Nichols Dam Outlet Works Rehab Project**

- Project construction began in July 2024 and will be completed in Fall 2025
- Benefits:
  - Addresses several dam safety issues
  - Will connect the reservoir to the CRWTP with a new, pressurized raw water pipeline
    - Potential for hydroelectricity generation at CRWTP
  - Will improve accuracy to reservoir operations and flexibility to CRWTP operations
    - Accurate metering of water flows to river, acequias, and CRWTP
    - Potential to turn off CRWTP during the winter
  - An aeration system in the reservoir that will allow reduced chemical use at CRWTP







### **Two-Mile Pond Complex Riparian Area Monitoring**

- 2024 monitoring activities:
  - Monthly moisture and vegetation index imagery
  - Monthly riparian area monitoring
  - Continuous streamflow monitoring at 5 locations
- 2024 monitoring findings:
  - The primary water source is shallow groundwater that discharges from the base of Old Stone Dam.
  - The average flow from the base of Old Stone Dam was 0.3 cfs (135 gpm), resulting in constant flow through the downstream standpipe throughout 2024
  - ~259 acre-feet of water flowed through the system in 2024.
  - No change in size to Two-Mile Pond in 2024, although drought conditions caused a significant reduction in soil moisture in the upstream riparian area in September.
  - A healthy diversity of flora and fauna were documented.





#### **Source Water Protection and Thinning Activities**

- Approximately 250 acres were thinned and piled for burning in the upper watershed above McClure as part of ongoing fuels treatment to reduce the severity of wildfire
- CoSF Fire Department's Wildland Division and Forest Stewards Guild thinned and cleared vegetation on 5.9 acres around CoSFW utility infrastructure for wildfire mitigation.







Ella Kasten | USGS New Mexico Landscapes Field Station | NAD 1983 UTM Zone 13N

#### Water Conservation and Outreach

- The Water Conservation Office increased the public outreach efforts for their programs and the City's science and technology-based tools.
- Outreach activities included
  - City's WaterWise program showcased at the 2024 Home Show
  - WaterWise panel held at the Southside library
  - Next Generation Water Summit held in June







#### Water Conservation and Outreach

- Water Resources and Conservation staff presented the latest Water 2100 Long-Range Water Supply Planning Project at two community outreach events
  - Emphasized development of the new STEWaRDS decision model tool
  - The tool is being used to analyze water supply and demand scenarios under the latest climate change hydrology
- The Water Conservation Office revised their annual scorecard outlining their specific activities in preparation for next year's water conservation and drought management plan update





#### A Model for Water Use Efficiency in the West

 In February, Municipal Water Leader, a utility industry magazine called CoSFW "A Model for Water Use Efficiency in the West".





#### Lead and Copper Rule Compliance and Kudos

- T&D staff assessed and removed the last known instances of lead in the water system, verifying that there were no known lead components, prior to the Lead and Copper Rule Revision going into effect in October 2024.
- CRWTP won the 2024 Good Housekeeping Award from the New Mexico Water and Wastewater Association.



#### **City of Las Vegas Water Deliveries**

- Transmission & Distribution and BDD delivered 1.4 million gallons of water to the City of Las Vegas in 2024, plus 4.8 million gallons in 2025
  - 2024: Flash floods in late June washed ash, silt, and fire debris from the Hermit's Peak/Calf Canyon Fire into the Gallinas River and Bradner Reservoir, upsetting their water treatment process
  - 2025: Issues with pre-treatment turbidity and associated limited treatment plant capacity, combined with water main break, resulted in low system pressure and the need for additional water



#### **Other Planned Capital Projects**

- CRWTP Floc Sed Project (~\$20 M)
  - Design complete
  - Construction to begin in FY2026
- CRWTP Chemical Feed Upgrades (\$9 M)
  - Targeting 30% design in FY2025
- McClure Dam Outlet Works Rehabilitation (~\$20 M)
  - Design will begin in FY2025
  - Construction anticipated to begin in ~FY2028
- SJC Return Flow Project (~\$50 M)
  - OSE permit issued April 2024
  - 60% design completed in December 2024
  - Draft Environmental Assessment issued April 2025









#### What We Worked On In 2024 to Financials Transition Slide

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#### **Financials**

- 6/30/2024 Cash balance: \$77.8 million (M)
- 6/30/2024 Outstanding debt: \$35.8 M
- Projected water revenues FY 2025 through 2030: \$45 to \$69 M/year
- Projected cash expenditures including CIP FY 2025 through 2030: \$40 to \$102 M/year
- Five planned capital projects total over \$100 M, which will drawdown cash reserves, increase debt and potentially lead to rate increases for the first time since 2010.

#### City of Santa Fe Water: Revenues, Cash Expenses, Cash Balance and Debt Fiscal Years Ending June 2022 through June 2030





#### **Historical Realities: Capital Investment in Water System**



#### Need for a water and wastewater rate increase

General cost inflation rose 41% between 2013 and 2024. Large capital projects are necessary for both utilities to continue to provide reliable service. Water rates unchanged since 2013. Wastewater rates have increased once since 2010 (in 2019). Proposed increase to the average residential bill of approximately \$3 per month for 5 years and \$1 per month for an additional 5 years to meet these needs.



## **Historical Realities: Typical Monthly Residential Bill**



Cumulative General Cost Inflation – 41% Cumulative Salaries & Benefits Inflation – 38% Cumulative Construction Cost Inflation – 33%

#### **Projected Typical Monthly Residential Bill: Utility Rates**



Combined monthly bill projected to increase approximately \$13 by FY2030, and \$17 by FY2034 for a residential customer at average usage amounts

#### **Financials to Long-Range Planning Transition Slide**

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#### Long Range Water Resources Planning (City Water Future)



## San Juan-Chama Return Flow Project



Build a new pipeline to take the SJC portion of the City's treated wastewater from the Paseo Real Water Reclamation Facility for discharge to the Rio Grande downstream of the existing BDD.



Receive return flow credit from the New Mexico Office of the State Engineer (OSE) for the unconsumed SJC water that is returned to the Rio Grande, allowing for diversion of additional supply from BDD.



The project will utilize existing water rights and BDD infrastructure. It will increase the City's water supply and our resilience to surface water shortages, drought, climate change, wildfire, and Rio Grande Compact constraints.



# Near term plan: San Juan-Chama Return Flow Project





# Long-Term Planning





## Water 2100: Long-Range Water Supply Planning







## Water 2100 Progress (Calendar Year 2024)

• Modeling / approach

• Presented model and approach to public, December 2024



## Water 2100 Progress (Calendar Year 2024)

- Modeling / approach
  - Presented model and approach to public, December 2024
  - Planning for resilience under a wide range of future conditions
    - Considers extended supply disruptions due to variety of causes (e.g., wildfire)
    - Considers range of climate change hydrology
  - Proposed four "criteria" to define our goals
    - Reliability, sustainability, social, and environmental
- Supply Projections
  - Coordination with and review of USBR/UMASS climate hydrology projections
  - Groundwater analysis: effect of climate change + projecting groundwater level change and associated pumping capacities
  - Next up: plan to present supply projections to public in late 2025



