

Santa Fe Water Resource Planning – The San Juan-Chama Return Flow Pipeline: Frequently Asked Questions

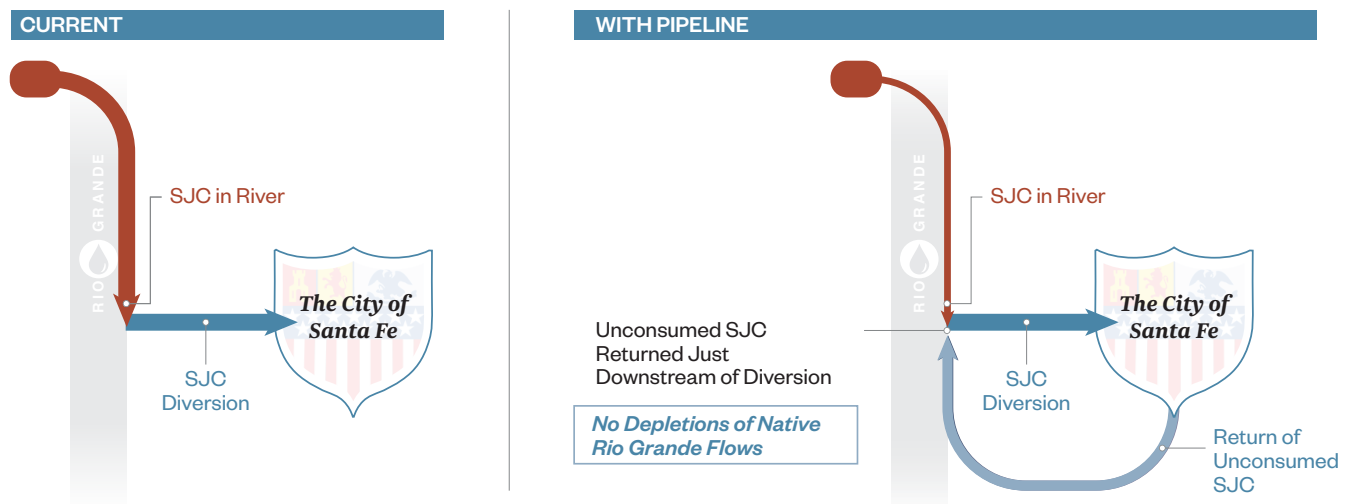
January 2021

Project Overview

What is the San Juan-Chama Return Flow Pipeline? How does it increase the City of Santa Fe's water supply?

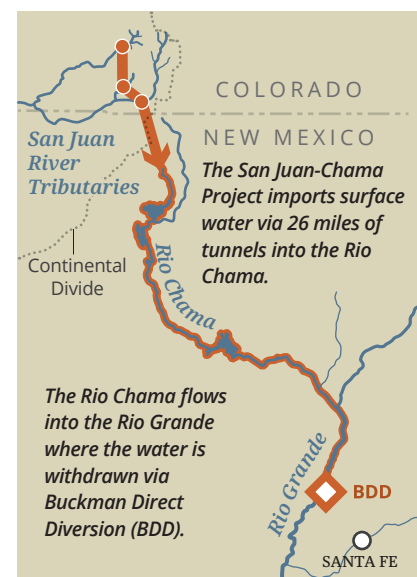
The San Juan-Chama Return Flow Pipeline is a proposed 17-mile pipeline that will return treated, unconsumed San Juan-Chama water from the Paseo Real Water Reclamation Facility back to the Rio Grande. This allows the City to release less water from upstream reservoirs on the Rio Grande, while diverting the same amount of water at the Buckman Direct Diversion (BDD), multiplying our supply of renewable imported surface water without affecting native Rio Grande Flows.

Prioritizing surface water will reduce the need to use groundwater, allowing the aquifer to recharge, while increasing resiliency to drought and wildfires and helping meet the projected future growth in demand.



What is the San Juan-Chama Project?

The San Juan-Chama Project diverts water from three headwater streams of the San Juan River in southern Colorado and delivers the imported water into the Chama River in New Mexico, which flows into the Rio Grande. The City has a permanent contract to divert 5,260 acre-feet of San Juan-Chama Project water per year at the Buckman Direct Diversion. This is a significant amount of water that should be fully utilized, as the City's current demand for potable water is approximately 8,500 acre-feet per year.



<https://www.santafenm.gov/water>

IMPORTED SOURCES

Surface Water



Environmental Considerations

How will the San Juan-Chama Return Flow Pipeline affect the lower Santa Fe River?

The pipeline will reduce discharges from the City's Paseo Real Water Reclamation Facility to the lower Santa Fe River (LSFR). The City will return only unconsumed, imported, San Juan-Chama water. We will continue to release native water to the lower Santa Fe River which will support riparian areas and downstream irrigation uses.

How will the San Juan-Chama Return Flow Pipeline affect flows in the Rio Grande?

The proposed pipeline redirects imported water only and will have no effect on Native Rio Grande flow. The City will account for the amount of water diverted at the Buckman Direct Diversion and the amount returned to ensure that there is no impact to native surface water flows in the Rio Grande; the additional water returned to the Rio Grande will be offset by a similar reduction in San Juan-Chama water released from upstream reservoirs.

The formal permitting process will evaluate any effects and provide the public an opportunity to offer input. The City will meet all permit conditions for discharges to the Santa Fe River and the Rio Grande, protecting both water quality and flows.

How does this project affect other users on the Rio Grande?

This project has no net impact on native Rio Grande flows. Moreover, the City currently requires developers to buy native Rio Grande rights from farmers downstream of Cochiti to offset pumping impacts on the Rio Grande from our Buckman Wells. In other words, the growth of Santa Fe currently depends on moving water off of farms and into our wellfield.

The City believes that implementation of the pipeline project may eliminate the need for these transfers, leaving more water in the river to flow to farms downstream of Cochiti with associated benefits of those flows to the river and the agricultural systems downstream.

How does this project affect energy use and the City's carbon footprint?

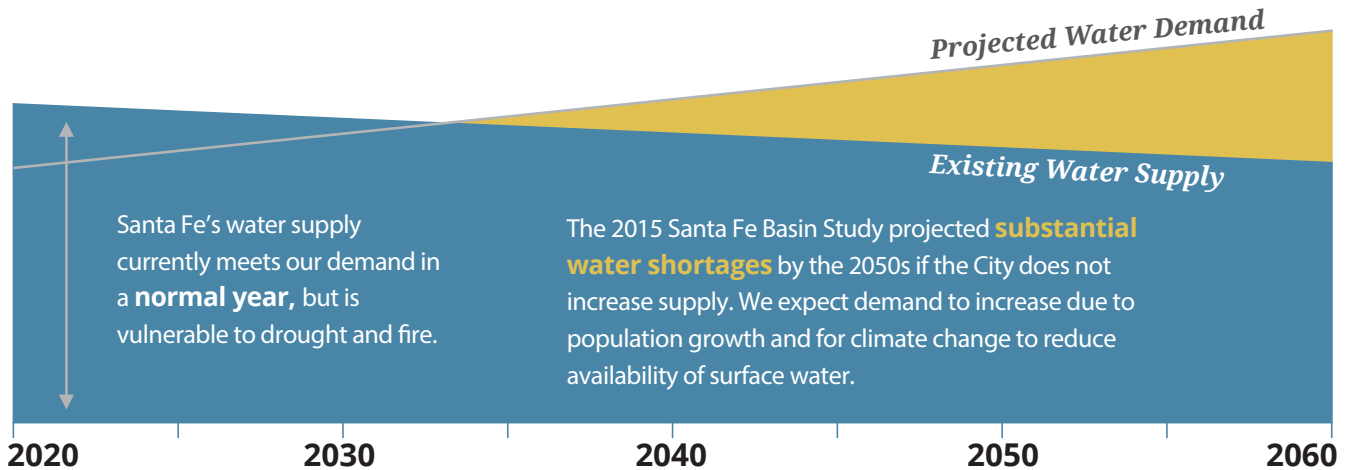
The pipeline project will require return flows be pumped uphill approximately 250 feet in the first 6 miles of pipeline, after which they will flow downhill approximately 1,075 feet over the next 11.5 miles of pipeline. The initial uphill pumping requires energy, as does pumping Rio Grande water up to the Buckman Direct Diversion Water Treatment Plant (BDDWTP). To mitigate this energy use, the City is exploring inline hydropower generation to take advantage of the elevation drop from the City's Paseo Real Water Reclamation Facility to the Rio Grande. Power produced would be used nearby at the pump stations that lift river water to the BDDWTP.



Climate Change

How will climate change affect our future water supply challenges?

Studies on climate change indicate a likely reduction in available surface water and potential increase in demand. Common vulnerabilities such as wildfire, water quality, and drought – all of which are predicted to increase with climate change – could reduce available water supplies even further and are projected to lead to significant shortages by the 2050s if we take no action.



How do we address climate change and those challenges long term?

Saving groundwater for future drought and fully utilizing our current surface water supplies positions us with a robust portfolio of future water supply options. In the near term, the most cost-effective way to save groundwater and increase our resilience to drought is to fully utilize the San Juan-Chama water **we already own**.

The San Juan-Chama Return Flow Pipeline will allow us to fully and efficiently use our existing San Juan-Chama water without building new treatment or diversion infrastructure. It will also help enable aquifer recharge, maintain the Living River in Santa Fe, and facilitate future supply options like potable reuse.

In the long term, our regular long range water planning cycle incorporates the most up-to-date projections available, enabling us to adjust our operations and capital spending as necessary to maintain a safety buffer in our available supply.

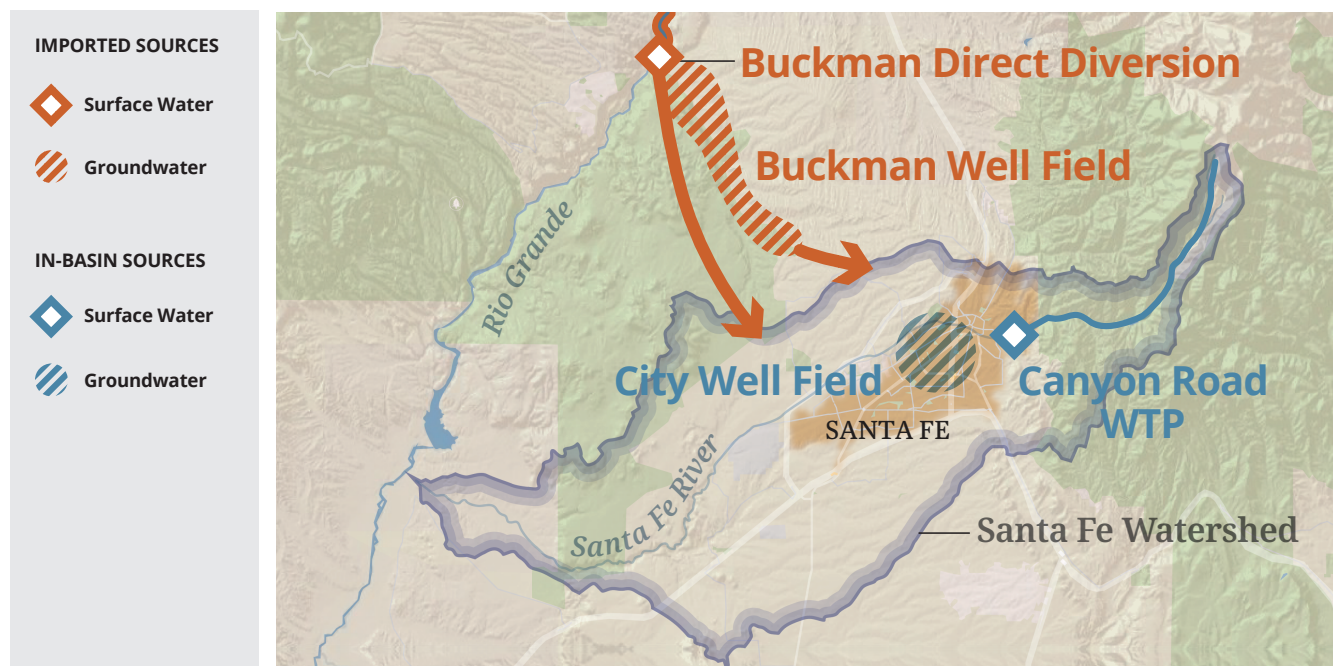
Water Management Strategies

What is imported water and why do we use it?

The Santa Fe watershed contains available sources of both surface water and groundwater, but these sources cannot supply enough water to meet the combined demands of the City and County. Meeting demand has long meant importing water from outside the Santa Fe watershed and we currently import both surface water (via the BDD) and groundwater (via the Buckman Well Field).



Santa Fe's Four Water Supply Sources



What happens in a drought? Is relying on the Buckman Direct Diversion (BDD) putting us at greater risk?

No. Using more water from the BDD when it is available allows our groundwater supplies to naturally recharge, increasing their supply and availability during drought. This is how the pipeline project increases our overall system reliability, by saving our drought-resistant water supplies for greater use during drought.

What will the City do if the San Juan-Chama Return Flow Pipeline does not fully meet our future needs?

The City has implemented an ongoing planning process that strives to proactively plan for the future, including changing conditions – whether due to increases in population or changes in supply due to climate change or unforeseen conditions.

The pipeline project will not be the last supply project the City needs, but it – in addition to helping meet our foreseeable needs – also provides a foundation for future strategies. For example, it could be adapted to support a potable reuse program because it brings water near the advanced treatment facilities at the Buckman Regional WTP.

<https://www.santafenm.gov/water>



Aquifer Recharge

Is the City also considering Aquifer Storage and Recovery (also called Groundwater Storage and Recovery)?

The City comprehensively evaluated aquifer storage and recovery during our last planning cycle. Based on the findings of that study, which determined that the return flow pipeline produces the most backup supply at the best cost, the City will not be pursuing aquifer storage and recovery as a main source of supply in the near term. However, the City will continue to review aquifer storage and recovery options as part of our overall portfolio.

The top co-benefit of the San Juan-Chama Return Flow Pipeline is that it allows for passive aquifer recharge, letting them recharge naturally while we use other water that we already own. This is a key element of the City's strategy for sustainable groundwater use. In addition to letting our aquifer recharge, it will also ease pressure on our native surface water –the upper Santa Fe River supplies from Nichols and McClure Reservoirs.

This makes upper Santa Fe River water more available to support Living River flows and natural recharge of the aquifer through town. These more natural approaches avoid the need for much more expensive and energy- and chemical-intensive advanced treatment of reclaimed water that would be required to meet New Mexico Environment Department standards for recharging potable aquifers with reclaimed water.

Our planning process will help us determine if and when we may want to reconsider aquifer recharge with reclaimed water.

Process Considerations

How has public input been received?

The City has held a series of public forums since 2017 regarding water reuse and water supply planning. In the past 14 months, the City hosted two large public engagement meetings, and continued to engage stakeholders on return flow strategy.

As part of our long-term planning process, we also hosted six public meetings over the past 14 months and conducted a water resources survey in the fall of 2020 that encouraged all customers and residents to share their input.

What future opportunities will there be for public input?

Public input will be actively solicited as part of:

- NEPA - environmental permitting processes for the San Juan-Chama Return Flow Pipeline
- New Mexico Office of the State Engineer permitting
- City's ongoing long-range water supply planning efforts

