

HIGHLIGHTS OF FLAGSTAFF'S WATER SUPPLIES AND IMPORTATION PROJECTS

1881	<u>Old Town Spring</u> : Developed as Flagstaff's first water supply located adjacent to Mars Hill as railroad approaches Flagstaff.
1884	<u>Inner Basin Springs</u> : Mayor Abineau in partnership with the Santa Fe Railroad began the City's first water importation project from outside incorporated limits using a 12 mile, six-inch clay pipeline.
1887	<u>O'Neill Springs</u> : Arizona Lumber & Timber Company developed a pipeline to import water from the springs near Kachina Village for lumber mill operations.
1905	<u>Lower Lake Mary Dam</u> : Arizona Land & Timber Company constructed a dam and pipeline as the City's second water importation project from outside incorporated limits. Capacity of reservoir is 8,617 acre feet.
1914	<u>Shultz Pass Water Storage</u> : Santa Fe Railroad constructed a 50-million gallon storage reservoir to hold Inner Basin water.
1921	<u>Switzer Canyon & Fort Valley Dams</u> : City explored siting dams in Switzer Canyon or an imported supply from a dam in Fort Valley.
1925	<u>Purchase of Inner Basin Water Rights & Infrastructure</u> : City voted to purchase the Inner Basin water rights and infrastructure from the Santa Fe Railroad and also included approvals to fund the installation of a new 14-inch pipeline and a second 52-million gallon storage reservoir.
1930s	<u>Well Field Development</u> : City drilled 26 local wells on the City owned Clark Ranch (Coconino Estates).
1941	<u>Upper Lake Mary Dam and Water Treatment Plant</u> : City's third importation project was to construct the dam, pipeline and water treatment plant to store, treat and deliver surface water directly to Flagstaff.
1951	<u>Upper Lake Mary Dam Height Increase</u> : The dam was raised an additional 10 feet to its current height with a capacity of 16,575 acre feet.
1952	<u>Leupp Importation Project</u> : City explores plans to use a proposed El Paso Gas Line trench to also include a water pipeline to import groundwater from the Navajo Reservation near Leupp. The project would deliver 1 million gallons per day but required a \$1.8 million water revenue bond while the City could only bond for \$730,000.
1954	<u>Woody Mountain Well Field</u> : The City began to develop its fourth water importation project outside its incorporated limits. The first Woody Mountain well was drilled in 1954.
1962	<u>Lake Mary Well Field</u> : City expanded its use of groundwater by starting to drill wells in the C-aquifer in the Lower Lake Mary watershed, another imported supply.
1963	<u>Lake Mary Water Treatment Plant</u> : A new 8 million gallon per day (MGD) treatment plant was constructed adjacent to the original 1941 facility.

1966	<u>Effluent Reuse</u> : City of Flagstaff enters into a 25-year reuse agreement with the Bill Johnston Golf Properties, Inc., (later becoming the Continental Golf Courses) for 2 million gallons a day of effluent water.
1969	<u>Central Arizona Project Water Supply</u> : City Manager Leland McPherson submitted a letter of interest to the Arizona Water Commission to import 15,040 acre-feet of Colorado River water.
1972	<u>Harshbarger and Carollo Report</u> : Report summarized variety of water resource development projects that had been explored by the City: <ul style="list-style-type: none"> • <i>Upper East Clear Creek Well Development (Importation)</i> • <i>Canyon Diablo Well Field Development (Importation)</i> • <i>Redwall Aquifer Well Field Development</i> • <i>Expansion of Inner Basin Project (Importation upgrades)</i> • <i>Effluent Reuse (City chose this option)</i> • <i>Mogollon Mesa Project – Wilkins Dam (Importation)</i> • <i>Lake Mary Lining</i> • <i>Weather Modification (Importation)</i>
1973	<u>100-Year Water Adequacy Designation</u> : City was designated as having an Adequate Water Supply for the first time by the State of Arizona Water Commission.
1975	<u>Central Arizona Project Water Supply</u> : City declined to submit a new application to obtain Central Arizona Project water expressing concerns that entering into an agreement without knowing whether an exchange for Verde River or Blue Ridge Reservoir water could be timely negotiated.
1975	<u>Wildcat Hill WWTP Expansion</u> : Continental Country Club began to receive reclaimed water for the golf courses from the newly expanded plant.
1990	<u>Water Conservation</u> : City Council adopted its first water conservation ordinance.
1997	<u>Well Field Expansion</u> : City began drilling wells in the C-aquifer within its incorporated limits.
2001	<u>Regional Land Use and Transportation Plan</u> : City implements first land use plan allowing for water resource planning efforts.
2003	<u>Water Emergency Declared</u> : Drought triggered the City Manager to enact the City's Water Availability Strategies when Upper Lake Mary was not available to meet peak customer demand. The declaration lasted 156 days and elevated through Level 3 (Water Emergency) of 4 levels.
2003	<u>Conservation Plan</u> : City adopts a Water Conservation Program to reduce water usage and to enforce the City Code.
2004	<u>Water Bond Election</u> : Citizens voted 71% to approve a \$15M Bond for water rights and/or water development.

2005	<u>City Purchases Red Gap Ranch</u> : \$7.9M for 8,500 acres of deeded property with two water production wells and ~15,000 acres of Arizona State Lands with grazing leases.
2006	<u>North Central Arizona Water Supply Study</u> : USBR funded an Appraisal level report of findings with the Coconino Plateau Water Advisory Council. Report evaluated the following imported supplies for the project partners, including Flagstaff: <ul style="list-style-type: none"> • Lake Powell – Colorado River • Lake Mead – Colorado River • Red Gap Ranch • Redwall-Mauv Aquifer
2008	<u>Red Gap Pipeline Alignment Feasibility Study</u> : City hires JACOBS Engineering to conduct a 3-Phase Study to include a proposed alignment, conceptual pipeline, booster pump and reservoir design.
2009	<u>JACOBS Phase I Report</u> : Jacobs completed first technical report that identified a preferred alignment for a future Red Gap Ranch pipeline water supply project.
2011	<u>Red Gap Well Drilling</u> : City drills 10 additional municipal wells at Red Gap Ranch.
2011	<u>100-Year Water Adequacy Designation Modification #1</u> : Arizona Department of Water Resources approves modification to the City's Designation to include Red Gap Ranch pumping of 16,500 AF/year.
2011	<u>Water Resources Master Plan-Draft</u> : Staff completes the City's water resources master plan that defined the community's long-term water needs based upon land uses within the Regional Plan and existing zoning.
2012	<u>Water Resources Sustainability Study</u> : The City hired AMEC Environmental to conduct a study for the City's municipal water supplies, which included its first comprehensive computer groundwater modeling effort (aka, the Flagstaff Model). The purpose was to demonstrate hydrologically, what water supplies can support existing and future water needs for 100-years.
2012-2015	<u>U.S. Bureau of Reclamation Grant Funded 3-Part Study</u> : City obtained a \$300,000 grant from the USBR to conduct a Biological Resource Evaluation, Cultural Resources Inventory and a Groundwater Resources computer groundwater modeling study in collaboration with the Navajo Nation. The modeling study evaluated what impacts, if any, pumping from Red Gap Ranch and the proposed Navajo Leupp well field will have on the 3-Canyon area of Chevelon, Clear Creek and the Little Colorado River.
2013	<u>100-Year Water Adequacy Designation – Modification #2</u> : ADWR approves a second modification of the City's Designation to include Red Gap Ranch and all other water supplies that demonstrated hydrologically, which water supplies can support existing and certain (but not all) anticipated future water needs for 100-years.

2014	<u>Water Policies</u> : City Council adopts its first comprehensive set of water policies known as the Principals of Sound Water Management.
2014	<u>Flagstaff Regional Plan 2030</u> : City implements updated comprehensive land use plan after significant public input and allows City to plan for anticipated future water demands.
2016	<u>Red Gap Ranch Pipeline Alignment Feasibility - Funding</u> : City Council authorized funding for JACOBS to complete Phases II & III technical reports.
2016	<u>I-40 ADOT Right-of-Way</u> : Arizona Department of Transportation and the City enter an Intergovernmental Agreement regarding the use of the I-40 corridor as a location for a future water supply pipeline from Red Gap Ranch.
2017	<u>Water Supply Alternative Options and Costs</u> : City hired Carollo Engineers to complete a planning-level water supply capital and operational cost alternatives, including indirect and direct reuse options.
2018	<u>Water Reclamation Feasibility Study</u> : City hired Brown & Caldwell Engineers to develop planning-level costs to implement advanced treatment of reclaimed water to drinking water standards at both Wildcat Hill and Rio de Flag Water Reclamation Plants. Purpose was to assist the City in understanding costs to upgrade each plant should it elect to implement direct potable reuse to augment its water supplies.
2020	<u>Water Services Strategic Plan – 2025</u> : This plan developed by Division staff focuses on the future by identifying the top 10 major decisions, their risks and needed financial investment and opportunities that are likely to arise within the five (5) year time horizon.
2020	<u>Water Conservation Strategic Plan</u> : The City hired Maddaus Water Management to determine the appropriate investment in conservation-derived water savings to ensure that conservation dollars are invested in strategies that provide the best return on investment.
2020	<u>Reclaimed Water Master Plan</u> : The City hired Brown & Caldwell to conduct a master planning effort to determine the future management of the City's uncommitted reclaimed water.
2024	<u>NAIWRSA</u> : The City signs the Northeastern Arizona Indian Water Rights Settlement Agreement (“NAIWRSA”) to resolve water rights claims of the Navajo Nation, Hopi Tribe and San Juan Southern Paiute Tribe in the Little Colorado River Adjudication. Governor executes NAIWRSA making it effective among the parties. Congressional approval of NAIWRSA is required.
2024	<u>Regional Project/BOR</u> : City seeks funding to further the Red Gap Ranch Regional Water Supply Project. City initiates BOR technical assistance. Governor Hobbs and Senator Kelly send letters of support to the Commissioner of the BOR to engage in Appraisal Level Study at Red Gap Ranch.

2025	<u>NAIW RSA Update</u> : NAIW RSA legislation is reintroduced. Congressional approval pending.
2025	<u>JACOBS Phase II Report</u> : Jacobs completes second technical report with conceptual design for the Regional Project.
2025	<u>Water Demand Analysis</u> : City hires Arizona Water Buffalo, LLC to conduct analysis of future demands with water resiliency and redundancy factors
2025	<u>Regional Project Value Planning</u> : BOR initiates Value Planning Study with City and Navajo Nation; participants begin draft scope of work for Appraisal Study.