

total water production. By July 1st over half a billion gallons of treated surface water year to date had been produced.

Thanks to monumental efforts by Hunter Contracting, Jacobs Engineering, and funding from the Arizona Department of Forestry and Fire Management, in 2024 water production will again be able to utilize Inner Basin Spring and Well Water. By July 1st more spring water had been harvested in '24 than all of '23. Surface water production maximization and Inner Basin spring water harvesting should significantly offset the demands placed on both the Lake Mary and Woody Mountain wellfields (and associated aquifers) in 2024 with targets for both wellfields well under 15% of total water produced.

2024 Project Updates

In 2023 Hunter Contracting performed necessary access and egress, road grading, hazard tree removal, multiple Inner Basin pipeline repairs (restoring the carrying capacity and integrity of the pipeline); Inner Basin spring water collection system maintenance and repairs; and nearly half a dozen low water crossing and pipeline protection site repairs and additions including entirely new structures at site A, I, 29a and 32. In 2024 Hunter continues relentlessly with the remaining pipeline protections/low water crossings; including new structures, modifications to existing ones and outright replacements of those destroyed beyond repair from the Pipeline Fire and following monsoon season burn scar runoff.

In 2023 water production completed the rehabilitation of the LMWTP backwash tower, restoring a single point of failure used in surface water production for decades to come. In 2024 water production continues the theme with the rehabilitation of the Buffalo Park (reclaim), Railroad Springs #1 (potable), Kinlani (potable) and Woody Mountain Booster Station Forebay (potable) water storage tank rehabilitations.

In 2024 Water Services also kicks off the design for replacement of the 27" raw surface water pipeline and solicitation for a Construction Manager at Risk (CMAR) for the Lake Mary Water Treatment Plant Sedimentation Basin Rehabilitation Project.

John Nauman asked if any new production wells were planned for the near future. Brian said Fort Tuthill Well #2 is moving forward with design to bring that well into production and staff is working on identifying other locations for new production wells at this time.

B. Northeastern Arizona Indian Water Rights Settlement - Erin Young/Lee Storey

Lee Storey, TSL Law Group announced the Water Rights Settlement Agreement between the Navajo Nation, the Hopi Tribe, the San Juan Southern Paiute Tribe, and a variety of other parties including the City of Flagstaff. This is a monumental achievement and every single party that has approved this settlement agreement has done so unanimously. This is testament to the commitments to the region and to resolve the water right claims.

- RESOLVES NAVAJO, HOPI AND SJSP WATER RIGHTS CLAIMS AND US CLAIMS ON THEIR BEHALF
- NO OBJECTIONS TO CITY'S SURFACE WATER RIGHTS OR EXISTING WELLS AT RED GAP RANCH; ALLOWS COMINGLING

- PARTIES include the United States, State, Navajo, Hopi, SJSP, CAWCD, SRP/SRP Valley, Flagstaff, Winslow, Holbrook, Taylor, Snowflake, Show Low, Eagar, Springerville, St. Johns, APS, (5 Prosser entities), 2 Aztec, ASLD, AzG&F, ADOT, 10 Irrigation districts; and Atkinson Trading (39) (30 trigger Effective Date)

NAIWRSA – Momentous Settlement Agreement

- UNANIMOUS APPROVALS TO DATE:
 - Navajo Nation, Hopi Tribe and San Juan Southern Paiute
 - CAWCD and SRP
 - Flagstaff approved settlement on July 2nd
 - Other party approvals are on-going (39 total)
- LEGISLATION:
 - Senator Kelly & Rep. Ciscomani introduced identical bills on July 8th
 - S.B. 4633: Co-sponsored by Senator Sinema
 - H.B. 8940: Co-Sponsored by Representatives Crane, Schweikert, Grijalva and Stanton
 - House Natural Resource Committee is scheduled July 23
 - Senate Committee not yet scheduled

NAIWRSA – Many steps ahead

- FINALIZE SETTLEMENT TERMS AND EXHIBITS
 - Requires 30 of 39 parties to execute to become effective
- CONGRESSIONAL APPROVAL (authorizing projects)
- AMEND AND RE-EXECUTE THE SETTLEMENT AGREEMENT
- ADJUDICATION COURTS MUST APPROVE
- ENFORCABILITY COMMENCES
- IMPLEMENTATION OVER PERIOD OF YEARS

NAIWRSA Basic Terms:

❖ Navajo Nation

- Right to use and store surface water/groundwater on Navajo Lands; right to effluent generated
- LCR Mainstem, ~ 122,000 AFY
- Recognizes springs, Navajo farms and current acreage
- Upper Basin Colorado River: 44,700 AFY
 - *can lease and use in AZ*
- Lower Basin Colorado River (4th Priority): 3,500 AFY
 - *can lease and use in AZ*
- Lower Basin Cibola water: 100 AFY
- Big Boquillas Ranch in Verde Basin; Gila River Adjudication

❖ Hopi Tribe

- Right to use and store surface water/groundwater on Hopi Tribe; right to effluent generated
- Upper Basin water: 2,300 AFY; *can lease/use in AZ*
- Lower Basin Cibola water: 4178 AFY; *can lease/use in AZ*
- LB Fifth Priority: 750 AFY
- LB Sixth Priority: 1000 AFY

- Provides for pumping at Hopi Hart Ranch within the Buffer Zones

❖ San Juan Southern Paiute

- SJSP reservation established/Treaty approved: 5,400 acres
- Right to use and store surface water/groundwater; effluent
- NTUA to serve and provide 350 AFY bulk water to SJSP
- NOTE: addresses Allottee claims; sets a process for Lands acquired in the future with water subject to State Law (mostly); reporting
- INTER-TRIBAL MANAGEMENT PLAN
- Manages N-Aquifer pumping between Navajo and Hopi
- Manages the 5 northern washes that traverse both reservation

NAIWRSA Basic Terms: Groundwater and Red Gap Ranch

- Establishes two Buffer Zones with pumping restrictions
- BZ1 is two sections south of the Navajo Reservation to NM
- BZ2 is between miles 2 and 6 south and extends to NM
- Existing well capacity allowed inside Zones; no limits outside Zones
- All but one parcel of Red Gap Ranch is within BZ1 and BZ2
- Existing wells to be catalogued by ADWR (capacity or Table 9.4.1)
- RGR in BZ1: 11 wells with capacity of 2,912 AFY
- RGR in BZ2: 16 wells with capacity of 15,803 AFY up to 19,003 AFY

Navajo/Hopi/SJSP Projects (\$5 BILLION)

- lina' ba' –paa tuwaqat'si Pipeline (Lake Powell):
 - \$1.715 Billion (Navajo/Hopi)
- Other pipeline and on-Reservation well projects:
 - \$2.4 Billion (Navajo)
 - \$390 Million (Hopi)
 - \$42 Million (San Juan Southern Paiute)
- Other agricultural/management:
 - \$380 Million (Navajo)
 - \$120 Million (Hopi)
 - \$1.3 Million (San Juan Southern Paiute)
- Total funding of \$5 Billion (trust fund based projects)

NAIWRSA and Red Gap Water Supply Project

- Red Gap Regional Water Supply Project is part of NAIWRSA
- Interest in having access to the Project; particularly Navajo, Hopi and ASLD
- Key Reasons:
 - Water quality is better at Red Gap Ranch
 - More feasible to access Project than drill new wells
 - Areas of the Navajo Nation not easily served
- ADOT intersections identified, Twin Arrows POA
- "Point of Access" is one or more locations where Flagstaff provides access to Water delivered from the Red Gap Ranch Regional Project.
 - ADOT interchanges along Interstate I-40
 - Possible location on Red Gap Ranch allowing Navajo Nation to access better quality water to supplement Leupp

- “Red Gap Ranch Regional Project” is the City-owned and operated infrastructure, pumping and storage facilities, treatment facilities, and POAs necessary for the City to withdraw and deliver Water from Red Gap Ranch and POAs for Municipal Use.
- “Water Supply Contract” means any agreement for Water service required by the City that covers costs i.e., operation, maintenance, energy, replacement, treatment, and capital expenses for the Regional Project, and other agreements regarding scheduling, capacity, reciprocal service, Water treatment, conveyance, temporary or permanent shortages, and other components for Water delivery.

City Council Direction on July 2nd

- Although benefiting the Region, NAIWRSA does not currently provide funding for the Regional Water Supply Project
- Current legislation calls for \$5 Billion in water supply infrastructure for the Navajo Nation, Hopi Tribe and SJSP only
- City supports the water infrastructure needs of the Tribes; and
- City Council directed Staff to seek funding for the Regional Project from available sources, including the NAIWRSA Act

Robert Vane asked if any discussion or Council direction obligate Flagstaff to develop this for municipal water for the City of Flagstaff. Lee said no. It is wisely understood that there is an opportunity to obtain federal funding for the water supply project in the region now. Robert also asked if the agreement prohibits the City from developing the water for sale to the tribes. Either in addition to or instead of its own use. Lee said no and the City can do that.

Malcolm asked if the Navajo Tribe gets an allocation for free water from Red Gap? Lee said no, there is no allocation amount specified, so it will be mutually beneficial as to what that might be.

Don Bills thanked the group of people involved in the Water Rights. Don believes the City has an pre-existing agreement to pump water up to a certain point with the Navajo Nation. Lee said the negotiated amount is 1000-acre feet a year for the Navajo Nation and the Hopi Tribe was 500-acre feet per year. It does not mention either of those as a limit now and it could be more.

Don asked what the specific amount of water is the City of Flagstaff allow to pump from Zone 1 or 2 for its own use. Lee said about 2900-acre feet a year, and 15,000-acre feet a year from Zone 2 (grandfathered amount). Don said with the significant development in those rural parts of the state in Northern Arizona, they will be required to file either 100-year water supply or assured water supply with AZ Department of Water Resources. Wonders if developers are aware of the fact that there are limits along this corridor? Lee said ADWR will handle and notify anyone who drills a new well in the buffer zone. The water limits are in the Settlement Agreement.

Kurt asked about how long would it take to get this enforceable? Lee indicated it is what Congress will do and it could be a year or even more.

Robert Vane said Council directed staff to seek funding for the Red Gap development so does that constitute it? Shannon said the direction is to seek funding through grants. The decision points to Council if and when the funding becomes available. Council would make that decision of whether to accept funding with multiple decision points. Council Sweet, agreed with Shannon’s answer. Lee added that Congress can act. They can fund all of it, a portion of it, or not fund at all.

C. Red Gap Ranch Water Pipeline Feasibility Study - Erin Young/ Jacobs Engineering

Erin Young, Water Resource Manager introduced the team working on the Red Gap Ranch Water Pipeline Feasibility Study: Brad Hill, Kevin Black, Jeff Miner, and Doug Smith.

Erin noted the Bureau of Reclamation process for evaluating a project such as Red Gap does include an analysis of the need for the community. Doug Smith, Jacob’s Engineering presented a presentation.

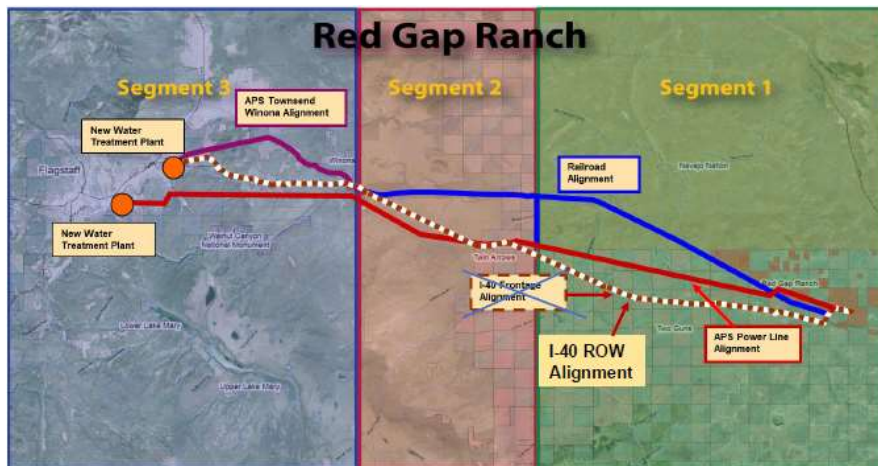
Project History: 2008 – 2024 (Phase 1 & II)

Historical Timeline

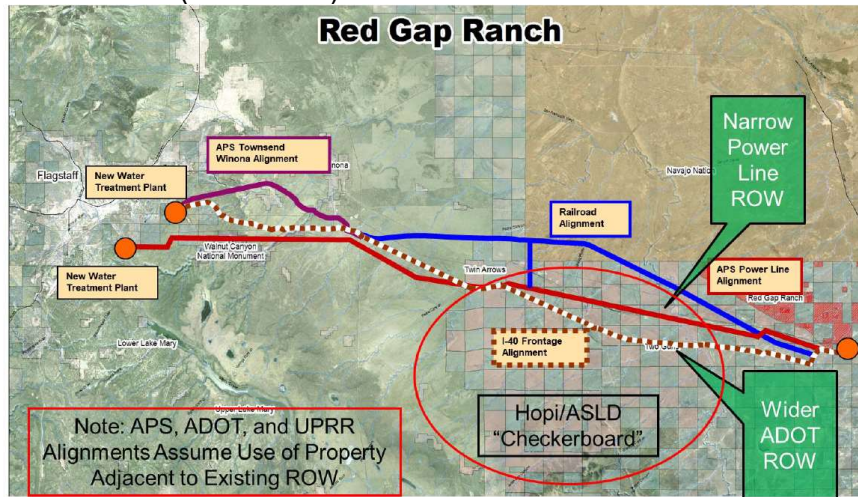
Item	Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
Phase I Study		█	█																
Begin Phase II Field Work				█															
Stop Work for ROW Evaluation				*															
Evaluate Southern Alignment					█														
Pursue ADOT IGA					█	█	█	█	█										
ADOT IGA Signed										*									
Coordinate ADOT IGA Design Criteria											█	█	█	█	█	█	█	█	█
Evaluate Segment 3												█	█						
Resume Phase II Field Work											█	█	█	█	█	█	█	█	█
Phase II Engineering Work													█	█	█	█	█	█	█
Phase II Technical Workshop															*				
Prepare Phase II Draft Report																█	█	█	█
Presentation to Water Commission and City Council (Future)																			█

The Intergovernmental Agreement with ADOT was signed in 2016. This started the process of Phase 2, which is now complete, and the draft report is available. This is a draft form, so Jacobs had to do some work on Phase 3 as a result of that.

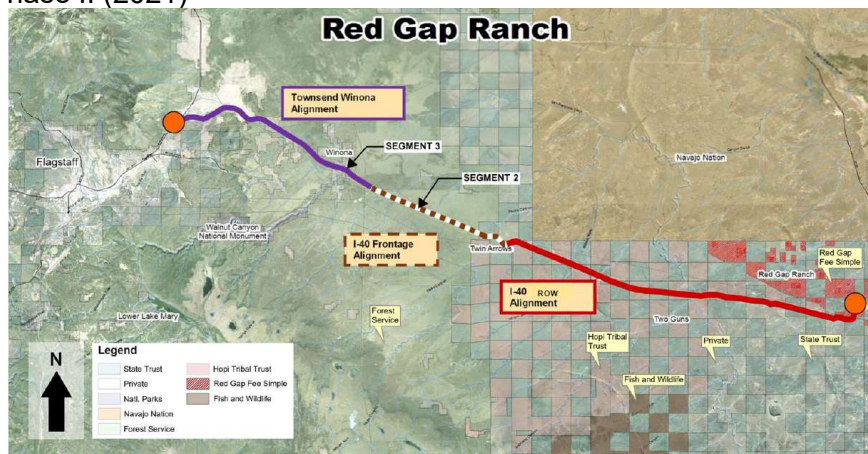
Phase 1 – Alignments Studied



Changing to the I-40 Corridor (2009-2016)



Alignment for Phase II (2021)



ADOT Coordination

Items:

- Intergovernmental Agreement (IGA) updates
 - Emergency response plan
 - Traffic mitigation cost
- Design Criteria
 - ADOT engineering responses
 - Finalize criteria for final design
 - Minimum cover issue

Right of Way

Land Ownership Research

- Investigate in all 3 segments
- Ownership has changed since Phase 1
- Pipeline alignment has shifted
- Determined to find out if there were barriers
- Determined to give the ability to anticipate land acquisition costs
- Majority of ASLD Right-of-Way has been acquired

Phase II

Design:

- Pipeline Sizing, Materials, and Backfill
 - Sizing review
 - Materials
 - Geotechnical
 - Trench Section

Pipeline Sizing

- Capacity 12,000 acre-feet/yr (AFY)
- Deliver water in 7 months (April 1st to October 31st)
- Daily flow rate:
 - 12,750 gallons per min (gpm)
 - 18.6 million gallons per day (mgd)
 - 7-month delivery schedule basis
- Economic size of 30-inch diameter
- Anticipated annual supply growth of 160 AFY
- Pipeline can accommodate 16,000 AFY by adding 2 months to delivery

Pump Material Recommendation: Welded Steel Pipe

Geotechnical Investigation Purpose

Test Pit Locations

Geotechnical Field Exploration / Geotechnical Investigation Results

Soil Type

Pump Stations

- Pump Station Nomenclature:
 - A: Red Gap Ranch
 - B: Two Guns
 - C: Twin Arrows
 - D: Townsend Winona Road
- Pump stations sized to lift 18.4 million gallons per day (MGD) to next downstream (uphill) pump stations
- Pressure break tanks at end of each pumped segment

Electrical Supply – Typical Pump Station

Solar Power

Pump Station Design Considerations

- 3 duty + 1 standby
- 6.12 MGD per pump (18.36 MGD firm)

Pump Station	TDH (psi)	Brake Horsepower	Motor Horsepower
Red Gap Ranch	≈ 220	657	700
Two Guns	≈ 270	807	900
Twin Arrows	≈ 235	702	800
Townsend-Winona	≈ 356	1,064	1,250

- Variable Frequency Drives (VFDs) assumed for more accurate flow control

Telemetry and Control

Control Schemes

Water Treatment Plant Considerations

Red Gap Estimates Water Quality

Constituent	Red Gap Ranch	Primary MCL	Secondary MCL
pH	7 to 7.5	6.5 to 8.5	-
TDS (mg/L)	500 to 970	-	500 mg/L
Calcium (mg/L)	69 to 110	-	-
Sulfates (mg/L)	140 to 300	-	250 mg/L
Chlorides (mg/L)	21 to 200	-	250 mg/L
Hardness (mg/L)	170 to 370	-	-
Alkalinity (mg/L)	150 to 210	-	-

Environmental and Permitting

Public Outreach Process – Phase II Report

- Water Commission Briefing – July 18, 2024
- City Council Briefing -TBD (possibly September)
- Public Comment Meeting – TBD
- Initiate USBR Participation – July 2024
- Coconino Plateau Water Advisory Council (CPWAC) -TBD

Opinion of Probable Construction Cost (OPCC)

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Class 4 Estimate Summary	
Pipeline Component	\$254.5M
Pump Station Component	\$68.3M
Total Cost (Pipeline + Pump Station)	\$322.8M
Water Treatment Plant Component (Membrane)	\$98.8M
Total Cost (Pipeline + Pump Station + Treatment)	\$421.6M

Assumptions

- 2023 dollars
- OPCC Level 4 (Feasibility) – Approx 10% design
- Contingency: 20%
- Overhead power cost not included
- RGR wellfield and collection system not included
- Solar power array(s) not included
- No phasing, full build
- Matches Phase II report assumptions
- No blending considered if treatment requirements are reduced
- No consideration of Settlement Agreement terms or components:
 - Additional phasing
 - Points of delivery
 - Reduced water treatment

Robert Vane asked what the logic was on the seven-month pumping schedule. Doug indicated that the thought was the delivery schedule was to coincide with the high season water demand in the city. This decision was made in 2009. Brad Hill added that the operation and to integrate will be made later, assuming if the City wants to move forward. The operation decision influences the pipe sizing.

Malcolm added he does not see the project getting funded with the high price. Kurt said the project is viable as a city water source depending on where money comes from. Kevin Black commented that they do not have a cost of delivering water yet, but these do get funded through various federal programs. There should be an understanding of the cost of delivery in the Phase III report.

Robert indicated that Water Services and Council ultimately needs to compare this with other alternatives.

Kurt indicated that the Commission and staff need focus and to make decisions about the water supply. To phase in more water and look at alternatives. Kevin added that the Bureau has a number of grants and programs for funding. They are deeply engaged at this time in DPR. The Bureau's process requires a full vetting and investigation of alternatives to compare and contrast to determine cost, cost benefits, economic viability in order to be able to secure federal funding.

John Nauman said it would be nice to have an operation cost of delivering water in terms of power. To get a day-to-day delivery and factor that in.

That Commission thanked the team for their presentation.

V. OLD BUSINESS

Don Bills said he researched data centers and the extreme water use. Water demand and energy that some data centers use is about 300,000 gallons per day or about. This is about 110 million gallons per year, 336-acre feet per year, which equal to the water demand of 100,000 homes. The power needs to cool the plant is 30-kilowatt hours per day to run servers of the swamp coolers or air conditioning units. Obviously, water use is needed to cool off the plants, but this does not require for fresh water to cool down the service. We know they can't use saline or salt water. This is something to think about in case it develops in Northern Arizona.

Robert requested a presentation on the scope of work on the Water Treatment Master Plan in the future.

VI. INFORMATIONAL ITEMS TO/FROM THE CHAIR, COMMISSION OR STAFF

VII. ADJOURNMENT

Meeting adjourned at 6:33 p.m.