

**WILSON ARCH WATER AND SEWER SPECIAL SERVICE DISTRICT
WAWSSSD
RESOLUTION APPROVING STANDBY FEE
RESOLUTION NO. 001.2022**

WHEREAS, in accordance with Utah Code Ann. § 17B-1-643, the Wilson Arch Water and Sewer Special Service District (“WAWSSSD”) demonstrated its need to impose a standby fee during a public hearing held as required by law and allowed any interested person to speak for or against the proposal to impose a standby fee during the public hearing;

WHEREAS, the Rural Community Assistance Corporation (“RCAC”) completed a detailed analysis of the 2023 Tentative Budget, including the proposed standby fee, and concluded that is equitable defensible, and justifiable to all lot owners;

WHEREAS, currently, 18 out of 57 lots are paying for the current water fixed costs and repairs, with no financial reserves to pay for upgrades to the 20 plus year old water system or for breaks, repairs, or replacement of water infrastructure, such as pumps and valves; excluding repairs and upgrades on the West side in 2021 that was paid for by a grant.

WHEREAS, the WAWSSSD Culinary Water System Master Plan that was completed in July, 2022, models and demonstrates that there will be insufficient water storage and pump capacity to meet the needs before full buildout;

WHEREAS, in the WAWSSSD Culinary Water System Master Plan there are 18 current residential connections, with 114 total projected equivalent residential connections in 20 years (ERCs = equivalent residential connections, a typical single-family house);

WHEREAS, the WAWSSSD Culinary Water System Master Plan projects a 5.62% residential growth rate for a full buildout of 51 residential ERCs, and a 12.26% commercial growth rate for a full buildout of 63 commercial ERCs.

WHEREAS, the WAWSSSD Culinary Water System Master Plan estimated projected source (pumping) capacity deficit of 25.83 gpm at full buildout. (Exhibit B)

WHEREAS, the WAWSSSD Culinary Water System Master Plan recommends adding a new well by 2036.

WHEREAS, the WAWSSSD Culinary Water System Master Plan estimated projected storage capacity deficit of 25,600 gallons with the east - west systems connected at full buildout. (Exhibit C).

WHEREAS, the WAWSSSD Culinary Water System Master Plan recommends adding 25,600 gallons (minimum) of storage by the year 2032 (Exhibit D)

WHEREAS, the San Juan County Commission and Southeast District Engineer of the Utah Department of Environmental Quality refers to the design requirements on the east-side system at 500 gpm for two-hours (Exhibit E).

WHEREAS, the WAWSSSD Culinary Water System Master Plan calculates current fire flow on the east side under current peak day demands to be approximately 38.44 gpm. (Exhibit F)

WHEREAS, the Rural Water Association of Utah, using the Utah Division of Drinking Water System Capacity Calculation, calculates a current 41,600 gallon deficit with four permanent residences on the east side (Exhibit G).

WHEREAS, the WAWSSSD Culinary Water System Master Plan is based on a five-point analysis that includes water rights, source capacity (wells and pumps), treatment, storage capacity, and distribution in accordance with the *State of Utah Rules Governing Public Drinking Water Systems (Rules)*.

WHEREAS, the WAWSSSD Culinary Water System Master Plan created a hydraulic water model in order to analyze the capacity of the existing distribution system and model proposed improvements.

WHEREAS, WAWSSSD received a \$1,138,000 SFR loan/grant from the Utah Division of Drinking Water that is 50% to be forgiven and 50% at 0% interest for 30 years, based on the WAWSSSD Culinary Water System Plan to upgrade the water system to meet State culinary and fire codes and meet growth demands;

WHEREAS, the WAWSSSD Culinary Water System Master Plan and WAWSSSD recommend that the immediate Phase 1 improvements within the next 6 years, include: to connect the west and east side water facilities with a new 8" pipe, to upgrade water lines on the east side to comply with fire suppression rules and maintain water pressure, add redundancy and add water meters to current connections A 30,000 gallon storage tank was projected to be needed by 2032. (Exhibit H).

WHEREAS, the Board has determined it to be fair, equitable and necessary to impose a standby fee as provided in this Resolution.

NOW, THEREFORE, be it resolved as follows:

1. That WAWSSSD shall impose a standby fee in such amount or amounts and at such times as stated in attached Exhibit "A", which is incorporated herein by this reference.
2. That the standby fee shall be and is effective as of January 1, 2023, and shall thereafter be assessed upon and be due and payable for all Phase 1 lots, whether occupied or unoccupied, within WAWSSSD in accordance with attached Exhibit "A".
3. That all Resolutions and other enactments of the WAWSSSD Administrative Control Board in conflict with this Resolution are, to the extent of such conflict, hereby repealed.

4. That this Resolution shall be effective immediately upon its adoption by the WAWSSSD Administrative Control Board, but the standby fee shall be effective on January 1, 2023 as stated above.

Passed and adopted by the Administrative Control Board of the Wilson Arch Water and Sewer Special Service District this 27th day of December, 2022.

DocuSigned by:

1/7/2023
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Eric Linscheid, Chair


DocuSigned by:

1/7/2023
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Doug Gorman, Clerk

EXHIBIT "A"
WAWSSSD STANDBY FEE

VACANT LOTS: \$215.50 per quarter.

EXHIBIT “B”

Projected Source (wells) Capacity Deficit

Final Wilson Arch Special Service District Culinary Water System Master Plan

4.3 PROJECTED REQUIRED SOURCE CAPACITY

The total projected number of ERCs of each category is used to calculate the required source capacity. As noted above, it will be assumed that the number of residential ERCs that use secondary water for irrigation purposes will remain at zero through the planning period.

The 20-year projected source capacity requirement is calculated as follows:

Projected Required Source Capacity - 20 Yrs						
Residential Use:						
Indoor	51 ERCs	x	$\frac{800 \text{ gpd}}{\text{ERC}}$	x	$\frac{1 \text{ day}}{24 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min.}}$	= 28.33 gpm
Outdoor (Assume 0% of New Indoor)	0 ERCs	x	$\frac{1 \text{ acre}}{3 \text{ ERCs}}$	x	$\frac{3.39 \text{ gpm}}{\text{irr. acre}}$	= 0.00 gpm
Commercial Use:						
Indoor	63 ERCs	x	$\frac{800 \text{ gpd}}{\text{ERC}}$	x	$\frac{1 \text{ day}}{24 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min.}}$	= 35.00 gpm
Outdoor (Assume 0% of ERCs)	0 ERCs	x	$\frac{1 \text{ acre}}{3 \text{ ERCs}}$	x	$\frac{3.39 \text{ gpm}}{\text{irr. acre}}$	= 0.00 gpm
Total Projected Required Source Capacity = 63.33 gpm						
Total Available Source Capacity = 37.50 gpm						
Estimated Projected Source Capacity Deficit = (25.83) gpm						

The calculation above shows that Wilson Arch SSD has a 20-year projected source capacity deficit of 25.83 gpm. Wilson Arch SSD's projected source capacity requirement over the 20-year planning period is shown below in Figure 4.3.1.

Figure 4.3.1: Projected Source Capacity Requirement

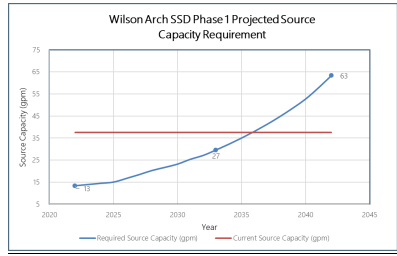


EXHIBIT “C”

Estimated Projected Storage Capacity Deficit

Final Wilson Arch Special Service District Culinary Water System Master Plan

Projected Required Storage Capacity - 20 Yrs

Residential Use:

Indoor
 $51 \text{ ERCs} \times \frac{400 \text{ gal.}}{\text{ERC}} = 20400 \text{ gal.}$

Outdoor (Assume 0% of New Indoor)
 $0 \text{ ERCs} \times \frac{1 \text{ acre}}{3 \text{ ERCs}} \times \frac{2528 \text{ gal}}{\text{irr. acre}} = 0 \text{ gal.}$

Commercial Use:

Indoor
 $63 \text{ ERCs} \times \frac{400 \text{ gal.}}{\text{ERC}} = 25200 \text{ gal.}$

Outdoor (Assume 0% of ERCs)
 $0 \text{ ERCs} \times \frac{1 \text{ acre}}{3 \text{ ERCs}} \times \frac{2528 \text{ gal}}{\text{irr. acre}} = 0 \text{ gal.}$

Fire Protection:

$500 \frac{\text{gal.}}{\text{min}} \times 2 \text{ hr.} \times \frac{60 \text{ min.}}{\text{hr}} = 60000 \text{ gal.}$

Total Projected Required Storage Capacity = 105,600 gal.
Total Existing Storage Capacity = 80,000 gal.
Estimated Projected Storage Capacity Deficit = (25,600) gal.

According to the *Rule's* requirements, Wilson Arch has a projected storage capacity *deficit* of 25,600 gallons at the end of the 20-year planning period. Figure 5.3.1 illustrates the projected required storage capacity.

Figure 5.3.1: Projected Storage Capacity Requirement

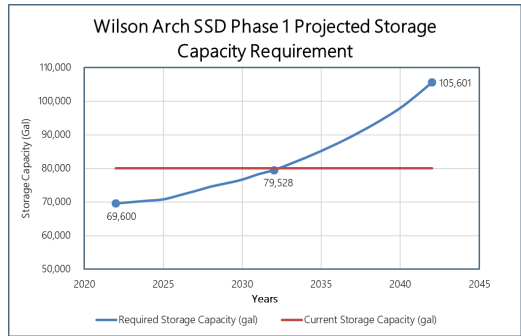


EXHIBIT “D”

Recommended storage capacity improvements

Final Wilson Arch Special Service District Culinary Water System Master Plan

5.4 RECOMMENDED STORAGE CAPACITY IMPROVEMENTS

This analysis recommends the Wilson Arch SSD consider adding additional water storage to their system. Projected storage capacity requirement will reach current storage capacity by the time that Phase 1 buildout is half complete. Wilson Arch SSD needs to add an additional 25,600 gallons (minimum) of storage by the year 2032. The community, located within view of the iconic Wilson Arch, has strong desires to preserve scenery. Therefore, using methods of concealment are a strong priority. Such methods would incur added cost but could include burying the tank or using natural-colored paints. If installed correctly, a buried tank offers safety and protection advantages.

It is recommended an additional 30,000-gallon storage tank be buried and connected to the current 30,000-gallon tanks on the west side. The quantity will increase the total storage to 110,000 gallons, approximately 5% greater than projected need. Fiberglass is recommended for decreased construction costs and its ability to be buried. The useful life will be less than that of a concrete tank, which is an attractive alternative. A buried concrete tank has higher construction cost but would have a longer useful life if installed correctly. Wilson Arch SSD has a very small population despite its projected growth. The ability to raise significant funds now for projected need is smaller than a large municipality. For this reason, greater priority for decreased upfront construction cost is considered. Should Wilson Arch SSD choose to add more than 30,000 gallons of storage this analysis recommends that a concrete tank be chosen. A new fiberglass tank must adhere to all sanitary requirements including but not limited to lid, vent, drain, and overflow requirements. Assuming that the existing tanks were part of the compliant sanitary survey conducted in 2018, the new tank may be of comparable design.

6.0 WATER TREATMENT REQUIREMENTS

The system requires no treatment, and this analysis gives no projections for future treatment requirements.

7.0 DISTRIBUTION SYSTEM ANALYSIS

This report analyzes the Wilson Arch SSD distribution system for compliance with the *Rules*. The analysis is based on a review of the existing system's physical attributes and topography. It also considers outputs from a hydraulic model of the Wilson Arch SSD water system.

7.1 COMPUTER MODEL OF THE DISTRIBUTION SYSTEM

The project team modeled the existing Wilson Arch SSD culinary water distribution system using InfoWater, a hydraulic modeling program. The project team created the hydraulic model using existing maps of the system and information obtained from Wilson Arch SSD representatives. The model simulates scenarios including average day conditions, peak instantaneous demand, and peak day demand under fire flow conditions. During the fire flow analysis, the program calculates the maximum design fire flow at each of the nodes on the system without causing the residual

EXHIBIT "E"
**Wilson Arch Development Fire Flow Requirements for East & West-Side
Development**
San Juan County Commission, Southeast District Engineer of the Utah Department of
Environmental Quality
Paragraph 3



SAN JUAN COUNTY COMMISSION

Kenneth Maryboy	Chairman
Willie Grayeyes	Vice-Chair
Bruce Adams	Commissioner
Kelly Pehrson	Administrator

February 26, 2019

Scott Hacking, P.E.
Southeast District Engineer
State of Utah, DEQ
28 S. 100 E.
Price, Utah 84078

**RE: Wilson Arch Development Fire Flow Requirements for West-Side
Development**

Mr. Hacking:

We are of the understanding that the state is working with Phil Glaze and his consultant, Jones and DeMille, to approve the west-side water system at Wilson Arch. Along with that approval, a design fire flow needs to be designated for that system.

As we understand, the Wilson Arch east-side water system was originally approved by the state with the design fire flow requirement of 500 gpm for 120 minutes with 30,000 gallons of storage. In 2008, a memo from the county indicates that it would accept a designed fire flow requirement of 100 gpm for the west-side development with a storage requirement of 12,000 gallons. After reviewing this memo, the county is no longer willing to stand by this assertion.

San Juan County has determined that it is willing to accept the same standard for the west-side system as was accepted in 2003 on the east-side system - 500 gpm fire flow for two-hours. With the caveat that if any commercial property is developed on the west-side that the fire flow be rated at a minimum of 1,500 gpm for two-hours. However, with that said, the county is willing to allow the west-side system to grow by an additional three (3) homes before the public water system of eight (8) residences is reached and the above-stated fire flow requirements are required to be met.

Please contact me with any questions or concerns. Thank you for your attention to this matter.

Sincerely,

Kelly Pehrson
San Juan County Chief Administrator

cc: 2019 Correspondence File

EXHIBIT "G"

Division of Drinking Water - Water System Capacity Calculation Sheet

Rural Water Association of Utah

Division of Drinking Water – Water System Capacity Calculation Sheet (Last Update 3/30/2017)						
Enter the green cells only						
System Name: Wilson Arch System Number: 70050						
1.1 Indoor Water Use						
Number of residential connections: 4						
Number of other connections: 2 ERCS of other connections: 0.0						
Total Equivalent Residential Connections (ERCs): 4.0						
MIN. REQUIREMENTS FOR BIDDING WATER USE						
Source	Storage					
gal/ERC Total (gpm)	Galons/ERC Total (gallons)					
2.2	400 1,600					
1.2 Outdoor Water Use						
Is the drinking water used for outdoor irrigation? 0						
Percentage of Residential ERCs using DW for irrigation: 0%						
Average irrigated acreage per residential connection: 0.00						
Total irrigated acreage of other connections (park, school, etc.): 0.00						
Total irrigated acreage of other connections (park, school, etc.): 0.00						
MIN. REQUIREMENTS FOR IRRIGATION USE						
Source	Storage					
gal/ERC Total (gpm)	Galons/ERC Total (gallons)					
2.2	400 1,600					
1.3 Fire Flow Water Use						
Does the water system provide fire protection? Yes						
Maximum fire flow demand (in gpm) for water system or pressure zone: 100						
Maximum fire suppression duration (in hours) for water system or pressure zone: 2						
Required Fire Suppression Storage (in gallons): 40,000						
2. Summary of Water System Capacity Requirements						
MINIMUM REQUIREMENTS FOR WATER SYSTEM						
Source (min + max)	Storage (min + max)					
gal/ERC Total (gpm)	Galons/ERC Total (gallons)					
2.2	400 1,600					
2.1 Does this system have adequate source capacity (per R209-510-7)?						
This source capacity assessment is a general overall system calculation. It may not reflect the variations in individual areas or pressure zones.						
Required Source Capacity	2.2 gpm					
Existing Source Capacity	12.0 gpm					
Source Capacity Deficit	None					
Existing % of Total Req'd	545.0%					
2.2 Does this system have adequate storage capacity (per R209-510-8)?						
This storage capacity assessment is a general overall system calculation. It may not reflect the variations in individual areas or pressure zones.						
Total Required Storage	61,000 gal					
Existing Storage Capacity	20,000 gal					
Storage Capacity Deficit	41,000 gal					
Required Fire Storage	60,000 gal					
Is storage deficiency applicable due to fire storage? YES						
Existing % of Total Req'd	32.8%					
3. Transient PWS Indoor Water Use – ERC Calculation (see R209-510 Tables 510-1, 2, 3 & 4 for other facility types)						
MINIMUM REQUIREMENTS FOR INDOOR USE						
Facility Type	Source	Storage	ERCs/acre or pad	ERCs/acre or pad	Total # of acre/pads	ERCs
Modern Recreation Camp	10	0	30	0	0.00	0.0
Semi-Developed Camp w/ flush toilets	20	0	10	0	0.00	0.0
Semi-Developed Camp w/ flush toilets	5	0	2.5	0	0.00	0.0
RV Park	N/A	100	N/A	50	0.13	0.0
Number of people per camp site						
Source (min + max)	Storage (min + max)	ERCs/acre or pad	Vehicle service	ERCs		
7	3.5	0.5	0.0	0.0		
4. Data Input for Calculating ERCs, Source and Storage						
4.1 Proposed ERCs Calculation (optional)						
Total Projected ERCs: 4						
Existing Residential Connections: 0						
Disputed Future ERCs (min + max): 0						
4.2 Summary - Existing Sources (min + max) with below						
Total Existing Source Capacity (in gpm): 12						
4.3 Summary - Existing Storage Tanks (min + max)						
Total Existing Storage Cap. (in gallons): 20,000						

Exhibit “H”

Table 8.11 Summary of Immediate Phase 1 Improvements Final Wilson Arch Special Service District Culinary Water System Master Plan

- Install a new 8-inch PVC pipe connecting the east side to the west side. Location for that pipe is flexible but could be placed following the property lines of parcel G, under Highway 191, and along the southern line of lot 19. The line should avoid Tract C-1 which is a leech field.
- Replace the existing 6-inch and 4-inch PVC pipe with 8-inch PVC starting at the new east-west connection. It should run approximately 1,100 ft up along the eastern edge of Lots 20, 18, 21, and 23. Line replacement should terminate at the property line of Lots B-1 and B-2.
- Install a new booster pump on the east side in parallel with the existing Sta-Rite pump and replace the outdated Munro pump on the east side with one of equal capacity. Addition of a pump producing a maximum flow rate of 215 gpm at 100 ft of head is shown by the model to provide minimum hydraulic requirements. Further pump and control system specifications and are not given in this report. If the Munroe pump was recently replaced by a similarly sized Berkley pump it may stay and the new pump should be added in parallel.
- Pressure reducing valves are to be installed on residential connections at nodes exceeding 90 psi, as seen in Exhibit 6. This includes current and future connections.
- Install water meters on existing connections and install new fire hydrants.

Table 8.1.1 below shows the estimated costs of the recommended immediate improvements for years 2022-2028. Complete engineer’s opinions of probable costs for these improvements are provided in Appendix B.

Table 8.1.1 Summary of Immediate Phase 1 Improvements

WILSON ARCH SSD IMMEDIATE PHASE 1 IMPROVEMENTS	
IMPROVEMENT	EST. COST
INSTALL METERS ON NEW AND EXISTING CONNECTIONS	\$100,300
PUMP CAPACITY INCREASE	\$80,000
NEW 8" AND 4" LINES	\$203,300
REPLACE EXISTING 4" AND 6" PVC PIPE WITH 8"	\$157,150
MOBILIZATION (10%)	\$55,000
CONTINGENCY (20%)	\$119,150
INCIDENTALS & PROFESSIONAL SERVICES	\$162,500
TOTAL	\$877,400

8.1.2 Future Improvements for Phase 1 Development

Storage Tank- Wilson Arch SSD will need to add 25,600 gallons (minimum) of culinary water storage by the year 2032 to accommodate projected growth of Phase 1 development. Location for this tank is optimal near the existing tanks on the west side. Burying the tank will incur added cost but will add a degree of security and will fall best in line with the community’s goal to preserve scenery.