

GRAND WATER AND SEWER SERVICE AGENCY IMPACT FEE FACILITY PLAN (IFFP) AND IMPACT FEE ANALYSIS (IFA) 2026

3025 E Spanish Trail Rd
Moab, UT 84532

June 2026

PREPARED BY:
Sunrise Engineering



GRAND WATER AND SEWER SERVICE AGENCY

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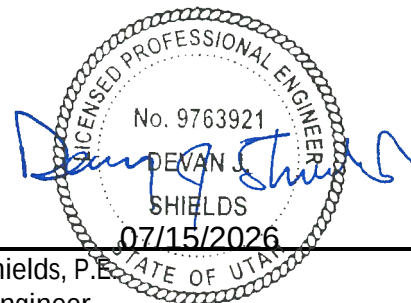
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CERTIFICATION OF IMPACT FEE ANALYSIS BY CONSULTANT

In accordance with Utah Code Annotated, § 11-36a-306, Devan Shields, P.E., on behalf of Sunrise Engineering, makes the following certification:

I certify that the attached impact fee analysis:

1. Includes only the costs of public facilities that are:
 - a. Allowed under the Impact Fees Act; and
 - b. Actually incurred; or
 - c. Projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. Does not include:
 - a. Cost for operation and maintenance of public facilities;
 - b. Costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
3. Offsets costs with grants or other alternate sources of payment; and
4. Complies in each and every relevant respect with the Impact Fees Act.

Dated: 07/15/2026

Sunrise Engineering

By: Devan Shields

1.0 EXECUTIVE SUMMARY

The Grand Water & Sewer Service Agency (GWSSA) commissioned this Impact Fee Facility Plan (IFFP) and Impact Fee Analysis (IFA) to properly allocate a proportional cost of the culinary water, sanitary sewer, and secondary water system improvements to new development. An impact fee is a fee imposed on new development to mitigate the impact of the new development on public infrastructure.

GWSSA is located approximately 1/2 mile south of Moab in Grand County serves a population of approximately 4,100 people. The water and sewer systems system provides culinary water connections for residential, commercial, industrial, and institutional users. The projected annual growth rate for GWSSA is 2%.

Because new growth places an added burden on the existing system and creates the need for new infrastructure, Utah law allows public water suppliers to charge an impact fee to new development. Not all costs associated with system improvements are allocable to future growth. Some system improvements increase the level of service for existing customers. Only the costs associated with those portions of the system improvements which are allocated to future growth may be considered in calculating a reasonable impact fee. Impact fees are assessed per Equivalent Residential Connection, or ERC.

GWSSA plans to construct several improvements to their water and sewer systems within the impact fee planning period of 20 years. A portion of these improvements will provide capacity to serve future growth and will be included in the impact fee analysis herein. After considering each of the improvements with their associated capacity increases and financing terms, this analysis proposes maximum impact fees of \$4,670.48, \$1,197.47, and \$1,036.84 for the culinary water, sanitary sewer, and secondary water systems, respectively, per ERC. GWSSA may choose to assess lower impact fees but may not assess impact fees higher than that justified by these analyses.

2.0 INTRODUCTION

An impact fee is a fee imposed on new development to “mitigate the impact of the new development on public infrastructure.” (Utah Code § 11-36a-102-8(a)). Impact fees are subject to the restrictions within the Fifth Amendment of the U.S. Constitution prohibiting the taking of private property for public use without just compensation. To comply with the U.S. Constitution, an “essential nexus” between the fee imposed and the protected interest must exist, and the fee imposed must be “roughly proportional” to the burden created by the new development. See *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987); and see *Dolan v. Town of Tigard*, 512 U.S. 374 (1994).

The levy of impact fees in Utah is governed by the Utah Impact Fees Act codified as Utah Code § 11-36a. and requires more specific analysis than that required by the U.S. Constitution. Before imposing an impact fee a municipality or public service provider, such as GWSSA, must prepare a written analysis of each impact fee. An impact fee analysis is designed to proportionally allocate to new development that portion of the cost of new facilities that may be required or excess capacity of existing facilities needed to support the development. The impact fee analysis must:

1. Identify the anticipated impact on existing facilities by new development.
2. Identify the anticipated impact on system improvements by anticipated development.
3. Demonstrate how those impacts are reasonably related to the anticipated development.
4. Estimate the proportionate share of costs to be recouped by the impact fee.
5. Identify how the impact fee was calculated. *Id.* at § 304.

Entities imposing impact fees must also prepare an impact fee facility plan unless excepted by statute. An impact fee facilities plan is not required if the municipality’s general plan, under Utah Code 10-9a-401, contains the elements required by the Impact Fees Act. *Id.* at § 301. Municipalities serving less than 5,000 people and charging total impact fees of less than \$250,000 annually are not required to prepare an impact fee facilities plan. However, they must ensure that the impact fees “are based upon a reasonable plan that otherwise complies with the common law and [other sections of the Impact Fees Act].” *Id.* at § 301.

The Utah Supreme Court outlined a set of seven factors which may be considered in determining the reasonableness of an impact fee; these factors are now known as the “Banberry factors.” *Banberry Dev. Corp. v. S. Jordan Town*, 631 P.2d 899, 904 (Utah 1981). However, the Court has subsequently noted that these factors “were merely ‘means to [an] end.’ And the ultimate legal test is whether the impact fees relate to the cost of the benefits conferred on those paying the fees.” *Tooele Assoc. LTD. V. Tooele Town Corp.*, 247 P.3d 371 (Utah 2011) (quoting *Home Builders Ass’n of Utah v. Town of American Fork*, 973 P.2d 425, at ¶20 (Utah 1999)). Nonetheless, this impact fee study will review each of the Banberry factors for the system impact fee. A brief analysis of the Banberry factors is attached to the analysis as Appendix A.

Although the municipality may enact a lower impact fee than that justified by the Impact Fee Analysis, the municipality may not impose a fee higher than that justified in the analysis.

3.0 PURPOSE OF THESE IMPACT FEE ANALYSES

The purpose of these impact fee analyses is to proportionally allocate to new development the cost of excess capacity in existing public facilities and the projected cost of excess capacity to be provided by future system improvements that will be required to provide culinary water, sanitary sewer, and

secondary water to the service areas of these GWSSA systems. A summary of the existing system components with excess capacity is included in later sections of these analyses.

The impact fee calculations here establish the highest share of the cost of these public facilities which may be reasonably allocated to new development.

4.0 METHODOLOGY

The impact fees for these systems are derived primarily from a plan-based method for future planned development. The analyses also consider cost recovery for excess capacity of the current systems. The portion of the impact fee analyses which focus on planned development accounts for estimates of how the system projects will be financed. Should the actual financing of the projects change from the estimated funding terms, the analyses may require updating to ensure the impact fees recommended here do not exceed the appropriate share of development's impacts on the systems.

Impact fees may not be used for maintenance or repair of the existing systems, or for system improvements that increase the level of service to existing system users, unless the improvements provide additional system capacity that directly supports new development. Impact fees may not be used to recoup more than the actual public facility costs incurred or those projected to be incurred "within six years after the day on which each impact fee is paid." Id. at § 306. Also, impact fees must include an offset for grants or other alternative sources of funding and may not include expenses for operation and maintenance or for overhead, unless overhead expenses are calculated using a methodology consistent with generally accepted cost accounting practices and the standards accepted by the Federal Office of Management and Budget for federal grant reimbursement. An impact fee analysis must also identify the cost the new system users would pay through user fees.

Accordingly, these analyses:

1. Determine the actual cost incurred or to be incurred within six years of the date of this report.
2. Set forth existing levels of service.
3. Do not include any general overhead expenditures or costs for the operation of the facilities.
4. Offset for potential grants for proposed projects.
5. Include an analysis of the prior completed projects which remain impact fee eligible.
6. Include a user fee credit to account for portions of projects paid for through user fees.

To determine the proportionate share of the costs allocable to new development, this analysis reviews current and past demographic trends and provides a projection for future growth within the GWSSA service area for the next 20 years. Capacity of the current system and excess capacity of each new system component that will be used in this analysis are based upon data provided by GWSSA and estimates calculated by Sunrise Engineering. Costs of the proposed public facilities are calculated based upon an engineer's opinion of probable costs.

Because water demands and sewer loads of multi-family, industrial, and commercial connections vary widely, excess capacity of system components is expressed in terms of equivalent residential connections (ERCs), sometimes referred to as equivalent residential units (ERUs). An ERC represents average demands for a typical single-family residence. ERCs are different for each type of service connection and are more particularly described in Sections 6.2, 7.2, and 8.2 of this analysis.

The determination of the existing Level of Service (LOS) of the current systems is based upon previous project design capacity as well as minimum standards required by current regulations.

5.0 DEMOGRAPHICS AND PROJECTIONS OF FUTURE DEMAND

GWSSA provides culinary water, untreated agricultural water, and sanitary sewer service to the unincorporated area of Spanish Valley, south of the City of Moab in Grand County, Utah. The culinary water system supplies water to approximately 2,300 culinary connections, some of which are commercial, municipal, and industrial entities. The culinary water system supplies water for both indoor and outdoor use, although a secondary water system is available to a portion of the culinary water users for outdoor watering. Similar projections apply to the sanitary sewer system.

The average annual growth rate for GWSSA over the last 20 years is about 2% with increasing growth rates in recent years. This impact fee analysis relies upon these growth projections to estimate the number of future ERCs that may be served by the proposed water system improvements. The projected 20-year connections growth is provided in Table 5.1.

Table 5.1 GWSSA Projected 20-Year Culinary Water and Sanitary Sewer Connections

Year	Projected Connections
2025	2299
2030	2538
2035	2802
2040	3094
2045	3416

6.0 CULINARY WATER IMPACT FEE ANALYSIS

GWSSA has completed several culinary water projects in the past 20 years. GWSSA also has planned future projects with an estimated total cost of \$5,141,000. This impact fee analysis will first determine what amount, if any, of the cost of the future projects may be allocable to future growth. Future growth for the next 20 years is converted to growth in ERCs. Then the amount allocated to future growth divided by the number of new ERCs over the 20-year period determines the maximum reasonable impact fee for those projects. This analysis will also review excess capacity related to prior culinary projects. The total maximum reasonable impact fee for culinary water is a combination of the amount allocable for future projects and the amount of excess capacity of existing facilities allocable to new growth.

We recommend GWSSA review and update this impact fee analysis every five years.

The existing capacity of the current system and the excess capacity of each component that will be used in the impact fee analysis is based on the data provided by GWSSA's records of previous projects along with project financing. Excess capacity of system components will be expressed in terms of equivalent residential connections (ERC). The determination of the existing Level of Service (LOS) of the current distribution system will be based on the design capacity of both the current system and the planned

projects.

6.1 CURRENT SYSTEM

The most recent available data comes from the 2025 reporting year. GWSSA's culinary system served a total of 2,299 connections, and the total water usage for 2025 was 1,114 acre-feet. The Agency completed culinary projects in 2017 and 2019 which added a 500,000-gallon storage tank and 52,663 linear feet of distribution pipeline to increase the system's capacity to serve additional connections.

6.2 CALCULATION OF AN ERC

One ERC for the culinary system is defined as the amount of culinary water required by an average residential connection. Because an ERC relates to the amount of water required for the average residential connection, use of this term allows commercial, institutional, or other large water users to be equated to a number of residential connections. ERCs are factored into calculations for impact fees, user rates, and other analyses.

GWSSA's system-specific minimum sizing standards, as established by the Utah Division of Drinking Water (DDW), set average indoor and outdoor culinary usage at 159,832 gallons per year per ERC, or approximately 438 gallons per day per ERC. Because commercial, industrial, and institutional connections can be related to residential usage through an ERC, this number can be used to estimate the amount of source, storage, and water rights needed for a system.

The number of ERCs for GWSSA was obtained from the Utah Division of Water Rights (DWRi) reporting page. The DWRi applies its own methodology and multipliers to calculate the total ERCs per water system. The most recent GWSSA ERC data from the DWRi reporting page is from 2025 at 2,805 ERCs and was used as the basis for this analysis.

6.3 PROJECTED DEMAND

The number of culinary water ERCs expected at the end of the planning period can be calculated using the compound interest formula and inserting the projected growth rate, the existing number of culinary water ERCs, and the 20-year planning period for culinary water improvements. A 20-year period and growth rate of 2% was used as follows:

$$\text{Future Connections} = \text{Current Connections} \times (1 + \text{rate})^n$$

$$F = 2,805 \times (1 + 0.02)^{20} = 4,167 \text{ ERCs}$$

Based on 2% growth, GWSSA will have 4,167 ERCs in 2045. New growth within the 20-year period is the difference between the 20-year projection and current ERCs, or 1,362 ERCs.

The projected number of ERCs is shown in Figure 6.3.

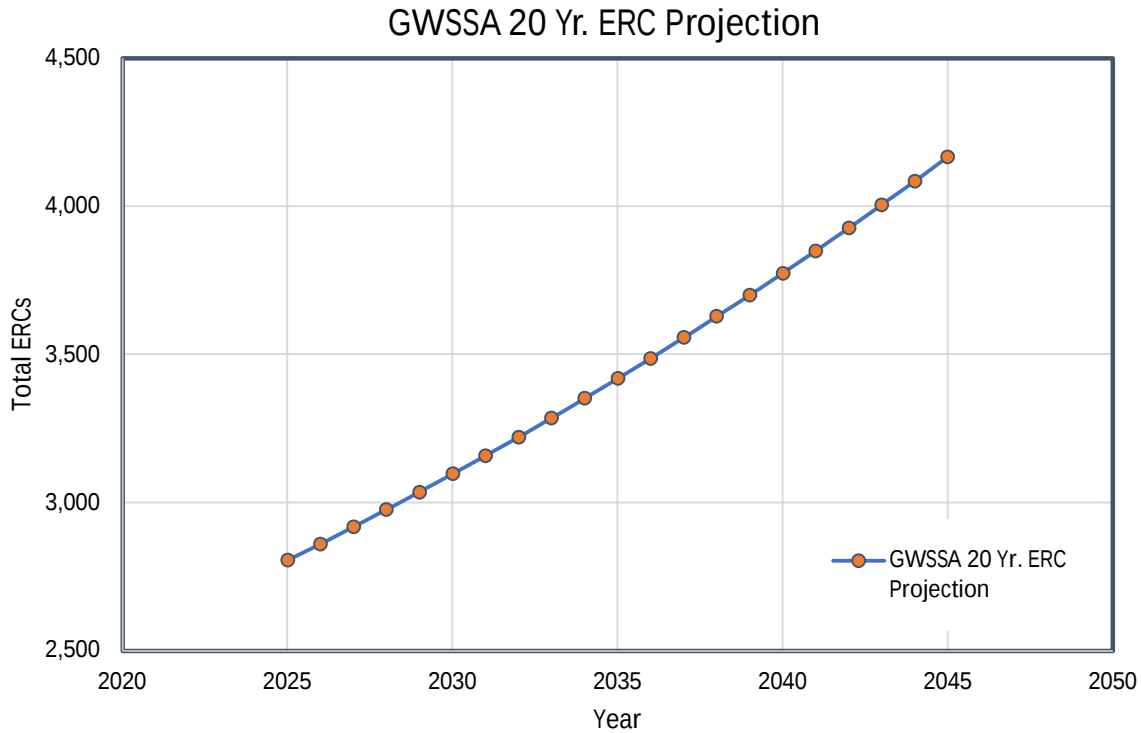


Figure 6.3: Projected Growth by ERCs

6.4 5-POINT ANALYSIS

6.4.1 WATER RIGHT ANALYSIS

The water rights that are owned by GWSSA for culinary water use are listed below in Table 6.4.1.1

Table 6.4.1.1 GWSSA Culinary Water Rights

GWSSA Culinary Water Rights		
W.R. #	Source Type	Ac-Ft
05-3345	George White Wells	50.4
05-148	George White Wells	24.0
05-3343	George White Wells	472.6
05-492	George White Wells	24.0
05-3344	George White Wells	43.6
05-681	George White Wells	92.3
05-475	Spanish Valley/Chapman Well	724.0
05-1062	GW, Spanish Valley/Chapman Well	28.4
05-3656	Spanish Valley/Chapman Well	816.0
05-906	Spanish Valley/Chapman Well	1355.9
05-418	Spanish Valley/Chapman Well	415.2
05-2511	Spanish Valley/Chapman Well	90.0
Total		4136.3

The system-specific minimum sizing standard outlined by the Division of Drinking Water states that GWSSA should have adequate water right to supply each ERC with 438 gallons per day. The existing required water right is calculated as shown below.

Existing Required Water Right:

Total ERC Use

$$2,805 \text{ ERCs} \times \frac{438 \text{ gal}}{\text{ERC day}} \times \frac{365 \text{ day}}{1 \text{ year}} \times \frac{1 \text{ ac-ft}}{325,851 \text{ gal}} = 1,376 \text{ ac-ft}$$

Total Existing Required Water Right	1,376 ac-ft
Total Existing Water Right	4,136 ac-ft
Estimated Existing Water Right Surplus	2,760 ac-ft

GWSSA's water rights exceed current demands by 2,760 ac-ft.

The projected required water right is calculated using the total projected ERCs at the end of a 20-year planning period. The 20-year projected water right is calculated as follows.

20 Yr Required Water Right:

Total ERC Use

$$4167 \text{ ERCs} \times \frac{438 \text{ gal}}{\text{ERC day}} \times \frac{365 \text{ day}}{1 \text{ year}} \times \frac{1 \text{ ac-ft}}{325,851 \text{ gal}} = 2,044 \text{ ac-ft}$$

Total Projected Required Water Right	2,044 ac-ft
Total Existing Water Right	4,136 ac-ft
Projected Water Right Surplus	2,092 ac-ft

GWSSA has a projected surplus of 2,092 ac-ft at the end of the 20-year planning period.

This analysis also looks at water right requirements using the total projected ERCs at the end of a 40-year planning period. Due to the potential for a system to face challenges in acquiring additional water right in a short period of time, a 40-year water right projection can also help communities plan for adjustments to their water rights.

40 Yr Required Water Right:
Total ERC Use

$$6,192 \text{ ERCs} \times \frac{438 \text{ gal}}{\text{ERC day}} \times \frac{365 \text{ day}}{1 \text{ year}} \times \frac{1 \text{ ac-ft}}{325851 \text{ gal}} = 3,037 \text{ ac-ft}$$

Total Projected Required Water Right	3,037 ac-ft
Total Existing Water Right	4,136 ac-ft
Projected Water Right Surplus	1,099 ac-ft

GWSSA has a projected surplus of 1,099 ac-ft at the end of the 40-year planning period.

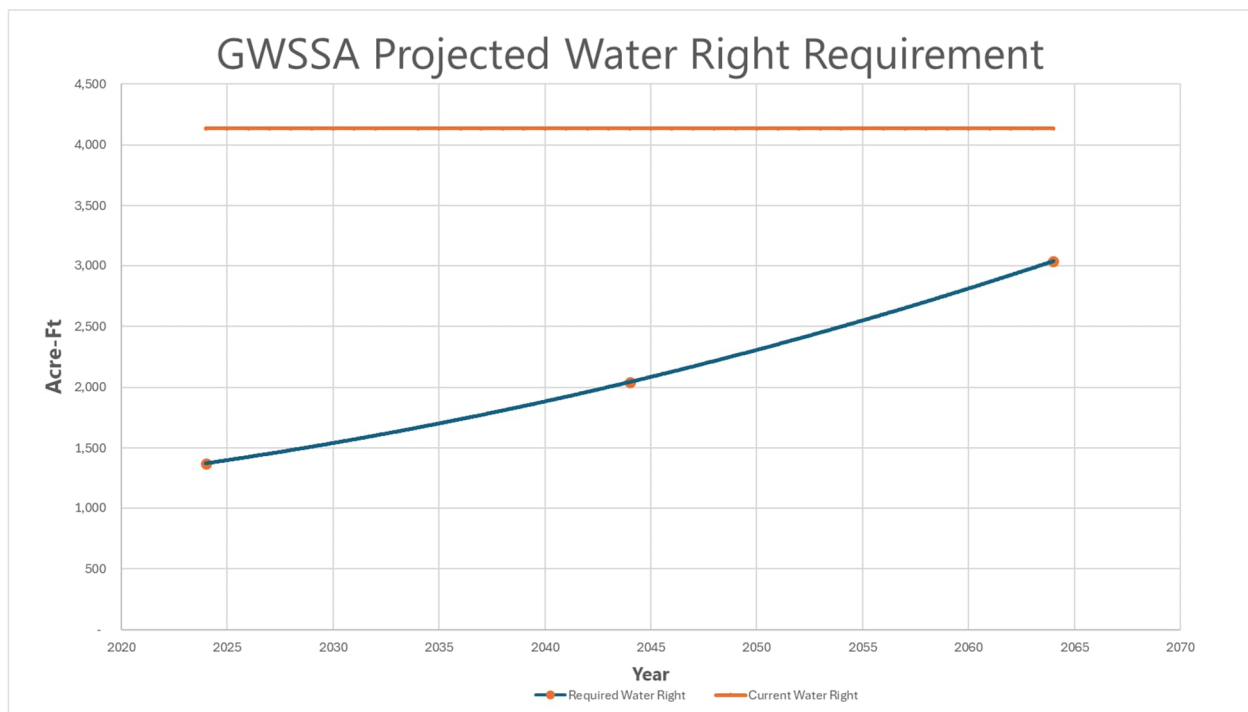


Figure 6.4.1.1 GWSSA Projected Water Right Requirement

These projections are based on the system-specific minimum capacity requirements established by the Utah Division of Drinking Water. Other reports likely use different assumptions for average annual water use for each connection and may reach other conclusions based on those assumptions.

6.4.2 WATER SOURCE CAPACITY

GWSSA's culinary water system is supplied by four wells. The current source capacity can be seen below.

Table 6.4.2.1 GWSSA Source Capacity

GWSSA Culinary Water Sources	
Source	Flow (gpm)
George White Well #4	1,060
George White Well #5	650
Chapman Well	1,350
Spanish Valley Well	225
Total	3,285

Utah Administrative Rule R309, outlined by the State, requires a community to have adequate water source capacity to supply a peak day source demand. The GWSSA specific minimum sizing standards states that GWSSA must supply a peak day source demand of 956 gallons per day per ERC.

Based on the information above, the existing required source capacity is calculated as follows.

Existing Required Source Capacity:

Total ERC Use

$$2,805 \text{ ERCs} \times \frac{956 \text{ gal}}{\text{ERC day}} \times \frac{1 \text{ day}}{24 \text{ hour}} \times \frac{1 \text{ hr}}{60 \text{ min.}} = 1,862 \text{ gpm}$$

Total Existing Required Source Capacity	1,862 gpm
Total Available Source Capacity	3,285 gpm
Estimated Existing Source Capacity Surplus	1,423 gpm

The calculations show that GWSSA has a source capacity surplus of 1,423 gallons per minute.

The projected required source capacity is calculated using the total projected ERCs at the end of a 20-year planning period. The 20-year projected source capacity is calculated as follows.

20 Yr Required Source Capacity

Total ERC Use

$$4,167 \text{ ERCs} \times \frac{956 \text{ gal}}{\text{ERC day}} \times \frac{1 \text{ day}}{24 \text{ hour}} \times \frac{1 \text{ hr}}{60 \text{ min.}} = 2,766 \text{ gpm}$$

Total Projected Required Source Capacity	2,766 gpm
Total Available Source Capacity	3,285 gpm
Projected Source Capacity Surplus	519 gpm

GWSSA has a 20-year projected source capacity surplus of 519 gallons per minute. The system's projected source capacity requirement over the 20-year planning period is shown below in Figure 6.4.2.1.

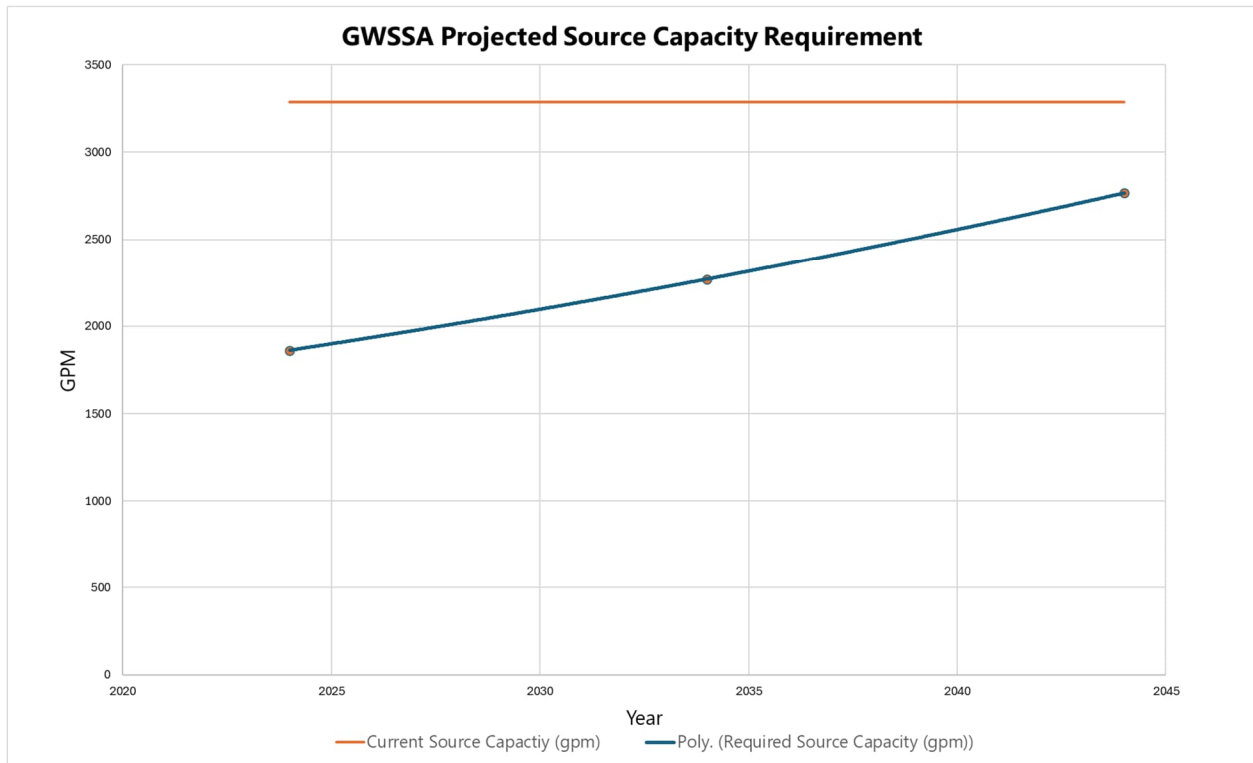


Figure 6.4.2.1 GWSSA Projected Source Capacity Requirement

6.4.3 WATER STORAGE CAPACITY

GWSSA currently has two concrete water storage tanks and one steel tank, with a combined storage capacity of 4.5 million gallons. The individual and combined water storage tank capacities are shown in table 6.4.3.1.

Table 6.4.3.1 GWSSA Storage Tank Capacities

Structure	Material	Capacity (Gal)
Tank 1	Steel	1,000,000
Tank 2	Concrete	3,000,000
Tank 3	Concrete	500,000
Total Storage Capacity		4,500,000

GWSSA must meet the minimum sizing standard and requires a minimum storage capacity of 438 gallons per day per ERC. GWSSA's storage capacity must also meet the minimum required fire flow of 1,500 gallons per minute for a duration of two hours.

Based on the above information, the existing required storage capacity is calculated as shown below.

Existing Required Storage Capacity:

Total ERC Use:

Indoor

$$2,805 \text{ ERC's} \times \frac{438 \text{ gal.}}{\text{ERC}} = 1,228,281 \text{ gal.}$$

Fire Protection:

$$\frac{1500 \text{ gal.}}{\text{min}} \times 2 \text{ hr.} \times \frac{60 \text{ min.}}{\text{hr}} = 180,000 \text{ gal.}$$

Total Current Required Storage Capacity 1,408,281 gal.

Total Existing Storage Capacity 4,500,000 gal.

Estimated Existing Storage Capacity Surplus 3,091,719 gal.

GWSSA has an existing storage capacity surplus of 3,091,702 gallons.

Based on the information above and the total number of ERCs, the projected storage capacity requirement for the 20-year planning period is calculated as follows.

20 YR Required Storage Capacity:

Total ERC Use:

Indoor

$$4,167 \text{ ERC's} \times \frac{438 \text{ gal.}}{\text{ERC}} = 1,824,712 \text{ gal.}$$

Fire Protection:

$$\frac{1500 \text{ gal.}}{\text{min}} \times 2 \text{ hr.} \times \frac{60 \text{ min.}}{\text{hr}} = 180,000 \text{ gal.}$$

Total Current Required Storage Capacity 2,004,712 gal.

Total Existing Storage Capacity 4,500,000 gal.

Projected Storage Capacity Surplus 2,495,288 gal.

GWSSA has a 20-year projected storage capacity surplus of 2,495,288 gallons. The system's projected storage capacity requirement over the 20-year planning period is shown below in Figure 6.4.3.1.

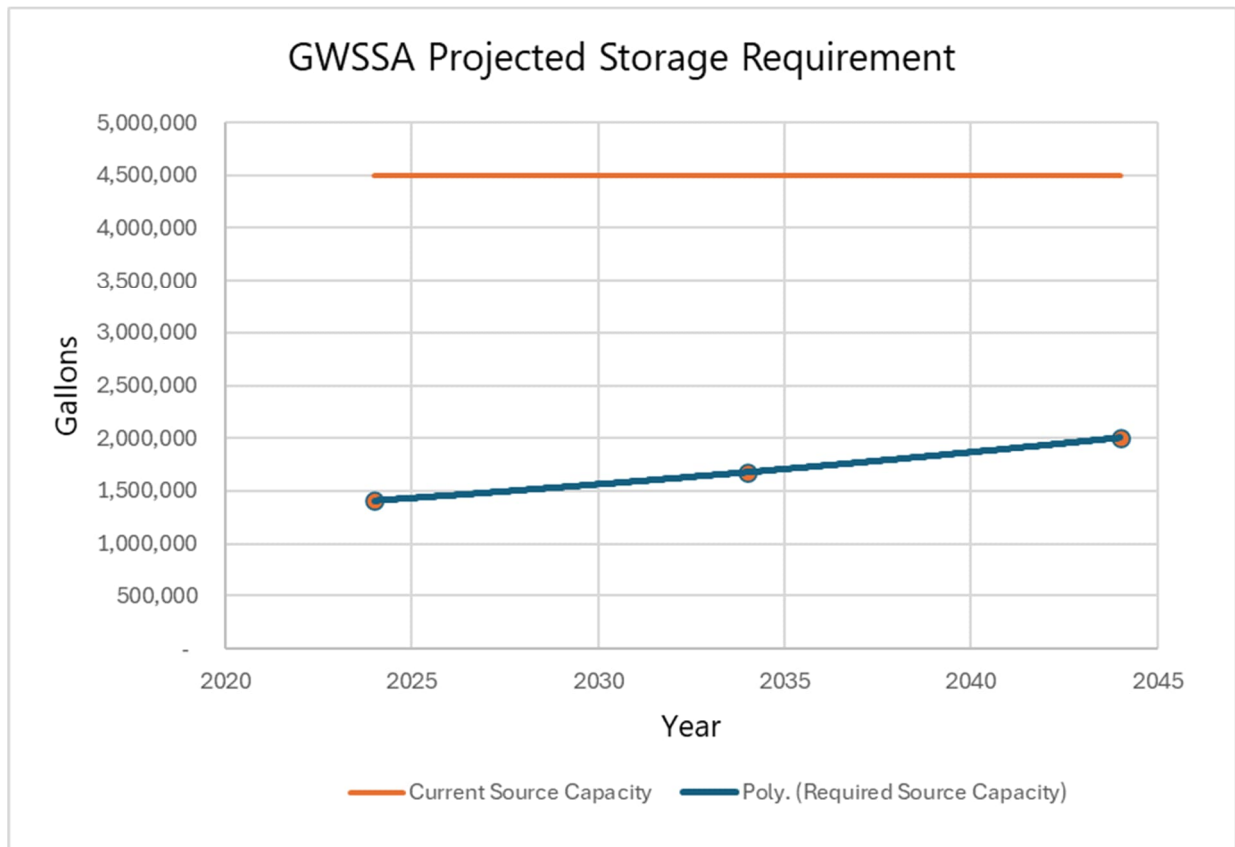


Figure 6.4.3.1 GWSSA Projected Storage Capacity Requirement

6.4.4 WATER TREATMENT REQUIREMENTS

The State of Utah, in accordance the National Safe Drinking Water Act, has adopted “primary” regulations for the protection of public health, and “secondary” regulations related to taste and aesthetics. These regulations are incorporated into R309.

GWSSA’s culinary water is chlorinated at two locations. Water is chlorinated at George White Wells 4 and 5, and at the chlorinator station feeding the line that fills the 3 million gallon storage tank. The GWSSA culinary system currently meets all primary and secondary treatment requirements.

6.4.5 DISTRIBUTION SYSTEM ANALYSIS

The GWSSA distribution system has been analyzed for compliance with R309. The analysis was performed based on a review of the existing system’s physical attributes and topology, along with outputs from the hydraulic model GWSSA maintains.

The culinary distribution system modeling used the “AquaTwin” program. This model calculated the available fire flow for the system which currently meets requirements for fire flow at nearly all locations throughout the system. Recommended improvements to the distribution system are outlined in Section 6.8.

GWSSA's distribution system is currently split into five pressure zones to limit pressure ranges. The distribution system has mains ranging from 2-inch to 16-inch diameter pipe. Most of the distribution mains are PVC pipe.

6.5 EXCESS CAPACITY

Culinary projects completed in 2000, 2001, 2019, and 2021 had excess capacity allocable to future growth. These projects included construction of 3-million gallon and 500,000-gallon concrete storage tanks, the construction of the Chapman and Spanish Valley wells, and the installation of approximately 53,000 linear feet of culinary distribution pipe. The distribution piping sizes were upgraded to provide increased capacity for the system. These projects had excess capacity at the time of construction and continue to have excess capacity allocable to future growth.

At the time of construction for both the 3-million-gallon tank and the 500,000-gallon tank, GWSSA had adequate storage for existing demand. Both tanks provide excess capacity for growth. The excess storage capacity of the tanks is allocable to future growth.

Remaining available capacity in the water system can also be related to the number of future connections the system can serve without additional improvements. Water right, water source, and storage capacity are more readily quantified than treatment and distribution system capacity, though these elements should be monitored as well. Table 6.5.1 shows the total available capacity for water right, source, and storage in terms of ERCs based on the 2025 report and the current system-specific minimum sizing standards from DDW.

Table 6.5.1 Remaining Water System Capacity in ERCs

Category	Remaining Capacity	Unit	Per ERC Requirement	Remaining ERC Capacity
Water Right	2,761	ac-ft	0.49	5,628
Water Source	1,423	gpm	0.61	2,333
Storage	3,091,702	gal.	502	6,159

Of these components, water source capacity is nearest to its current limit but could support an additional 2,333 ERCs before additional sources are needed.

GWSSA should also track approved developments that have not yet been constructed to limit its potential to commit to serving a development that its current resources aren't suited to serve. Table 6.5.2 shows developments that have had designs reviewed but are still under construction or haven't started construction. The total from this list comes to 1,697 ERCs, which would reduce the remaining ERC capacity for water source to 636.

Table 6.5.2 Developments Approved but not Completed

Development Project	Address	ERCs	Design Approval Date
Viewgate Terrace	1248 Legacy Dr	44	10/26/2022
Ballard Townhomes	647 S 400 E	26	11/28/2017
Chapman-Novak Subdivision	4575 S Chapman Ln	200	5/6/2025
Meador Drive Townhomes	3981 S Hwy 191	24	1/7/2026
Red Rock Development	Westwater	47	4/9/2021
Red Rock Flats Ph. II	1480 S Hwy 191	59	12/29/2025
Rim Village Ph. 7	Meador	58	1/31/2023
Sandstone	2053 Munseys Dr	15	9/27/2019
Staybridge	938 S Main St	101	5/21/2026
Vista Antigua	4080 Vista Antigua Rd	34	3/6/2019
Walking Horse Subdivision	4329 E Sunny Acres Ln	3	9/17/2021
Abbey Subdivision Ph. I	1241 E Powerhouse Lane	31	1/27/2022
Aggie Subdivision Ph. II	1261 Casarina Dr	24	2/17/2023
Arroyo Crossing	2022 Spanish Valley Drive	150	10/11/2019
Desert River Credit Union HQ	1099 US-191	3	6/5/2025
Jasper at Mill Creek	1477 S Mill Creek Dr	78	1/5/2024
Peak View	3640 Spanish Valley Drive	96	5/6/2020
Puesta Del Sol	3481 E Arena Roja	9	5/5/2021
Sage Creek at Moab	2331 Mesa Rd	60	5/8/2018
Watchman Estates	3373 S Watchman Trl	4	12/13/2016
The Cooperative	1717 S Main	144	5/21/2026
Cloud Rock		247	

6.6 NEW NEAR-TERM PROJECTS

GWSSA plans to commission culinary water projects at a total estimated cost of \$5,141,000. Not all these projects will be completed within the next six years. Table 6.8.2 contains a detailed list of projects to be completed and designates which of those projects will be commissioned within the next six years. The total capital value of projects to be commissioned within the next six years is \$2,235,000.

GWSSA is currently in the process of completing the Holyoak Water Improvements Project for a projected cost of \$967,000. A portion of this project is impact fee eligible.

The remaining portion of the projects will increase level of service for a portion of the current connections, increase fire flow, and provide the capacity to serve new growth. A comprehensive list of proposed projects, allocable costs, ERCs served, and cost per ERC is included in Table 6.8.2.

6.7 ALLOCABLE COSTS

Only costs allocable to future growth may be included in an impact fee. As stated in section 6.5, prior completed projects remain impact fee eligible due to remaining capacity. The total cost of these past improvements is \$10,950,000, and some of these costs are still allocable to future growth. The storage

tanks can likely serve an additional 1,115 ERCs. The additional capacity of the wells is 900 ERCs and the total cost of the wells was \$996,161.

Most of the planned improvements will provide an increased level of service for a portion of the existing ERCs and provide additional system capacity to support growth over the 20-year planning period. A hydraulic analysis of the system showed that of the 2,497 ERCs in 2024, 175 ERCs had insufficient pressure and/or fire flow capacity. The planned improvements will increase the level of service to these 175 ERCs by providing increased system pressures and fire flow capacity, and will also serve the 1,362 future ERCs that are anticipated during the 20-year planning period.

6.8 IMPACT FEE CALCULATION

The impact fee calculation divides the total eligible cost by the total number of ERCs anticipated to be served by the improvement.

This analysis calculates the eligible cost for the past improvements with excess capacity by taking the total allocable project cost and subtracting a proportionate share of previously collected impact fees.

For the past projects including the tanks, wells, and distribution lines, the total cost is \$10,949,865. The number of ERCs served by the projects varies project to project. The 3-million-gallon storage tank has remaining capacity for 1115 ERCs at a total impact fee eligible cost of \$636,289 – the cost per ERC being \$570.66. The wells have capacity to serve about 900 additional ERCs based on the projections in section 6.5 at a total impact fee eligible cost of \$68,254 – the cost per ERC being \$75.84. The Phase I and Phase II water improvement projects have capacity to serve a combined 542 and 1213 ERCs at a total impact fee eligible cost of \$1,918,824 – the cost per ERC being \$1,840.80.

The total impact fee for the past projects with excess capacity is \$2,510.80 as shown in Table 6.8.1.

Table 6.8.1 Past Improvements with Excess Capacity

PAST IMPROVEMENTS W/EXCESS CAPACITY	Cost	Previous Impact Fees Collected	% Allocable to New Growth	Eligible Cost	Additional ERCs Served	\$/ERC
3M Gallon Concrete Storage Tank (2000)	\$1,132,755	\$496,465.50	100%	\$636,289	1115	\$570.66
Chapman & Spanish Valley Wells	\$996,161	\$927,907.20	100%	\$68,254	900	\$75.84
Water Rights Analysis	\$55,771	\$47,710.80	100%	\$8,060	343	\$23.50
GWSSA Water Project Ph. I (2019)	\$4,893,372	\$1,850,202.90	43%	\$253,947	542	\$468.27
GWSSA Water Project Ph. II (2021)	\$3,871,806	\$0.00	43%	\$1,664,877	1213	\$1,372.53
TOTAL	\$10,949,865					\$2,510.80

For planned projects, the calculation is similar with a percentage of the projects increasing or maintaining the level of service for existing connections so only a portion of those projects' costs is impact fee eligible.

Table 6.8.2 shows each of the planned projects, the percent allocable to future growth, the number of ERCs served by each project, the cost of each improvement, grant portion assumed for each improvement, principal and interest payments for each improvement, and the impact fee per ERC for that portion of the project. The total impact fee for planned culinary projects is \$2,357.10.

Table 6.8.2 Planned Improvements

RECOMMENDED IMPROVEMENTS - IMPACT FEE ELIGIBLE	Cost	Grant	Principal + Interest	w/in 6 years	% Allocable to New Growth	Eligible Cost	ERCs Served	\$/ERC
IMPACT FEE ANALYSIS	\$38,000	\$0	\$38,000	Y	100%	\$38,000	292	\$130.14
HOLYOAK WATERLINE IMPROVEMENTS	\$967,450	\$0	\$1,366,531	Y	87%	\$1,189,687.42	1213	\$980.78
ANGEL ROCK RD - HWY 191 CROSSING 8" PIPE & G.V.	\$128,595	\$25,719	\$181,641	Y	87%	\$158,134.83	1213	\$130.37
8" LINE - W HIGHLAND RD	\$396,370	\$79,274	\$559,876	Y	87%	\$487,422.21	1213	\$401.83
REPLACE EXIST. PRV STATION - MURPHY LN	\$251,300	\$50,260	\$354,963	Y	87%	\$309,027.47	1213	\$254.76
8" LINE - CEDAR HILLS LN	\$453,109	\$90,622	\$640,021	Y	87%	\$557,195.34	1213	\$459.35
8" LINE - SINDA HEIGHTS	\$125,616	\$0	\$0	N	87%	\$0.00	1213	\$0.00
8" LINE - LULU LN	\$119,577	\$0	\$0	N	87%	\$0.00	1213	\$0.00
8" LINE - FRANCIS DR	\$485,615	\$0	\$0	N	87%	\$0.00	1213	\$0.00
8" LINE - ROCKY RD	\$255,480	\$0	\$0	N	87%	\$0.00	1213	\$0.00
8" LINE - PLATEAU DR	\$125,180	\$0	\$0	N	87%	\$0.00	1213	\$0.00
8" LINE - TERRACE DR	\$304,798	\$0	\$0	N	87%	\$0.00	1213	\$0.00
8" LINE - COYOTE CIR	\$141,068	\$0	\$0	N	87%	\$0.00	1213	\$0.00
8" LINE - REDCLIFF RD	\$271,151	\$0	\$0	N	87%	\$0.00	1213	\$0.00
8" LINE - TIERRA DEL SOL	\$191,263	\$0	\$0	N	87%	\$0.00	1213	\$0.00
8" LINE - PRICKLY PEAR CIR	\$114,951	\$0	\$0	N	87%	\$0.00	1213	\$0.00
8" LINE - SPANISH VALLEY DR - LAKE LN TO HEAVEN AVE	\$809,414	\$0	\$0	N	87%	\$0.00	1213	\$0.00
TOTAL	\$5,140,938					\$2,701,467.26		\$2,357.10

The maximum impact fee that GWSSA may reasonably assess new ERCs, before considering credits, is the total of the past project eligible cost per ERC plus the total of the future project eligible cost per ERC which comes to \$4,867.90.

6.9 CREDITS

Because a portion of monthly usage rates may be used to service debt payments for current infrastructure, a reasonable impact fee may account for the portion paid by new users to past debt service payments. To calculate the per ERC credit requires a calculation of average contribution per ERC to the debt service payments or project cost over the course of the payment term for the system.

In past impact fee analyses, GWSSA has accounted for service payments of customers added covering a portion of debt and bond payments allocable to future growth. For past projects and some of the planned

projects, GWSSA will maintain loans to fund portions of the projects. SE estimates that portions of the projects may be grant-eligible. The remainder of the projects assume some financing. For this analysis, the project team assumed typical USDA Rural Development loan terms of 3.13% interest over 40 years. As new ERCs are added to the system, the portion of user fees allocated to debt-service payments will decrease. On average, new ERCs will contribute to debt-service payments for 8.84 years.

To calculate a reasonable credit, the impact fee eligible annual debt service for each year is divided by the number of ERCs served for each year through the 20-year planning period. The average portion of user fees used for debt service on impact fee eligible projects during the planning period is \$22.33 annually as shown in Appendix B. The credit is then calculated by multiplying the average portion of annual user fees by the average years an ERC will pay user fees during the planning period. Thus, the calculated credit (detailed further in Appendix B) is as follows:

$$\text{User Rate Credit} = \$22.33 \times 8.84 \text{ years} = \$197.42$$

6.10 RECOMMENDED CULINARY WATER IMPACT FEE

The total impact fee allowable for culinary water is the sum of the allocable costs for excess system capacity and new projects minus the calculated user rate credit. The maximum recommended impact fee for culinary projects is \$4,670.48.

Table 6.10 Culinary Water Impact Fee Calculation

Culinary Water Impact Fee Calculation	
Past Improvement Impact Fee	\$2,510.80
Planned Projects Impact Fee	\$2,357.10
Annual Service Payments Credit	-\$197.42
Total Culinary Water Impact Fee	\$4,670.48

7.0 SANITARY SEWER IMPACT FEE ANALYSIS

This impact fee analysis will determine the proportionate costs of excess capacity provided by previous and future projects that are allocable to future growth. Impact fee calculations may also include the proportionate costs of existing facilities and components that currently have excess capacity. GWSSA should review and update this impact fee analysis every five years.

The existing capacity of the current system and the excess capacity of each component that will be used in the impact fee analysis is based on the data provided GWSSA. Excess capacity of system components will be expressed in terms of equivalent residential connections (ERCs). The determination of the existing Level of Service (LOS) of the current collection system will be based on the design capacity of both the current system and the planned projects.

7.1 CURRENT SYSTEM

GWSSA's current sanitary sewer collection system serves a total of 2,805 ERCs, similar to the culinary water system. The main along Highway 191 also carries sewer loads from the San Juan Spanish Valley Special Service District, but those are accounted for separately. The Agency completed projects from 1996 to 2020 which added capacity. The current collection system is sufficient to support the current

population, meaning any proposed project will be 100% allocable to future growth.

GWSSA currently charges an impact fee of \$2,039 per ERC for sanitary sewer.

7.2 CALCULATION OF AN ERC

Due to the wide variance of water use in residential, commercial, industrial, and institutional connections and similar to the culinary water analysis, an equivalent residential connection (ERC) is used. An Equivalent Residential Connection (ERC) is defined as the amount of wastewater collected from an average residential connection. ERCs are factored into calculations for impact fees, user rates, and other analyses as required for design purposes.

For this impact fee analysis, equating projected typical sanitary sewer loads from various types of sewer services to a number of residential connections is based on water use analysis from GWSSA's service and other locations across the state. Exhibit 1 in Appendix C is derived from data published in the Moab City Sewer Impact Fee Facilities Plan and Impact Fee Analysis (2017). The table in Exhibit 1 will be used as a guideline by the GWSSA manager to determine the number of ERCs a proposed connection will be assigned.

7.3 EXCESS CAPACITY

The Hwy 191 – Extension to San Juan County project completed in 2020 had excess capacity allocable to future growth. Both this project and the 2020 Sewer Improvements that focused on increasing capacity in sections of the main north of the extension to San Juan County had excess capacity at the time of construction.

GWSSA records show that all the impact-fee eligible costs for these improvements as calculated in the 2018 impact fee analysis have been recouped through sanitary sewer impact fees collected after the 2018 impact fee update. The lines continue to have capacity to serve additional connections but will not be included as impact fee eligible expenses for this reason.

GWSSA maintains a hydraulic model for the sanitary sewer collection network. Use of the model allows for projections of pinch points in the system that need to be addressed and can serve to gauge impacts proposed developments have within each area of the system.

Table 7.3.1 below shows the developments that have been reviewed but are not yet completed, along with the number of ERCs the plans for each include. As new developments come online and additional projects are considered, the impact to the system can be evaluated. The GWSSA collection system includes three main interceptors that collect sewer flows from other mains and connect to Moab City sewer interceptors. Each interceptor serves a different subbasin. The impact each development has on the collection system must be evaluated based on which subbasin the development will connect to.

Table 7.3.1 Proposed Developments and Status

Development	Address	ERCs	Sewer Basin	Construction Status	Design Approval
Viewgate Terrace	1248 Legacy Dr	44	3	Pending	10/26/2022
Ballard Townhomes	647 S 400 E	26	1	Pending	11/28/2017
Chapman-Novak	4575 S Chapman Ln	200	1	Pending	5/6/2025

Red Rock Development	Westwater	47	1	Pending	4/9/2021
Red Rock Flats Ph. II	1480 S Hwy 191	59	3	Pending	12/29/2025
Rim Village Ph. 7	Meador Dr	58	1	Pending	1/31/2023
Sandstone	2053 Munseys Dr	15	1	Pending	9/27/2019
Staybridge	938 S Main St	101	3	Pending	5/21/2026
Vista Antigua	4080 Vista Antigua Rd	34	1	Pending	3/6/2019
Walking Horse	4329 E Sunny Acres Ln	3	1	Pending	9/17/2021
Henry Shaw Hotel	836 S Main St	186	3	Pending	6/24/2026
Cloud Rock		247	1	Pending	8/27/2008
Meador Drive Townhomes	3981 S Hwy 191	24	1	Under Construction	1/7/2026
Abbey Ph. I	1241 E Powerhouse Lane	31	2	Under Construction	1/27/2022
Aggie Ph. II	1261 Casarina Dr	24	3	Under Construction	2/17/2023
Arroyo Crossing	2022 Spanish Valley Drive	150	1	Under Construction	10/11/2019
Desert River Credit Union HQ	1099 US-191	3	3	Under Construction	6/5/2025
Jasper at Mill Creek	1477 S Mill Creek Dr	78	1	Under Construction	1/5/2024
Peak View	3640 Spanish Valley Drive	96	1	Under Construction	5/6/2020
Puesta Del Sol	3481 E Arena Roja	9	1	Under Construction	5/5/2021
Sage Creek at Moab	2331 Mesa Rd	60	3	Under Construction	5/8/2018
Watchman Estates	3373 S Watchman Trl	4	1	Under Construction	12/13/2016
The Cooperative	1717 S Main	144	3	Under Construction	5/21/2026

Table 7.3.2 compiles the total ERCs in projects still pending or under construction by subbasin. The majority of the new ERCs fall in subbasin 1, which serves most of the area along Spanish Valley Drive and discharges to a Moab City main near the Grand High School tennis courts. There are also several projects falling in subbasin 3 along the highway. Few new ERCs are projected for subbasin 2.

Table 7.3.2 Proposed Developments by Sewer Collection Subbasin

Subbasin	Location	ERCs Pending/Under Construction
1	Jr High	991
2	High School	31
3	Hwy 191	621

As projects are completed and as developers propose new projects GWSSA can monitor capacity currently available in each subbasin based on hydraulic modelling data. This will allow timing of proposed improvements to be adjusted as necessary to stay ahead of potential capacity shortfalls.

7.4 NEW NEAR-TERM PROJECTS

GWSSA plans to commission sanitary sewer projects at a total estimated cost of \$2,741,350 to be completed within the next six years. Additional projects will be required to meet the projected sanitary

sewer loads through the 20-year planning period. Table 7.6.1 outlines the projects to be completed within the next six years. The projects to be commissioned within the next six years will be 100% allocable to new growth.

The first proposed project will increase capacity along Highway 191 and allow for additional new sanitary sewer connections in developments along Highway 191 and within the San Juan Spanish Valley Special Service District (SJSVSSD).

The next proposed project is connecting the Spanish Valley Drive sub-basin with the Hwy 191 sub-basin via a pump skimming station. The pump skimming station will be able to alleviate high loads on the Spanish Valley Drive interceptor line and transfer it to a larger line that will be able to handle larger flows.

Other projects anticipated outside the next six years but should be considered include upsizing creek crossings throughout the system.

7.5 ALLOCABLE COSTS

Only costs allocable to future growth may be included in an impact fee. As stated in section 7.3, no portions of the prior completed projects remain impact fee eligible despite remaining capacity.

As stated above in section 7.4, 100% of the proposed projects will serve future growth. The costs of the projects, along with anticipated financing costs, are 100% allocable to future growth.

The proposed projects include a system improvement along Highway 191 that will benefit growth throughout both GWSSA and SJSVSSD. The projected cost of this project is \$1,629,790. Assuming 30% of the project funding comes from grant or other sources and a 20-year loan at 3% interest, the total anticipated cost for the project is \$1,533,665. Based on model analysis results, this proposed improvement will provide capacity for 7,400 additional ERCs between the GWSSA and SJSVSSD service areas served by this line. Because of the planned connection between the Spanish Valley Drive sub-basin and the Hwy 191 sub-basin as mentioned in section 7.4, this analysis lowers the projected system capacity increase for future growth for the Hwy 191 Improvements down to 2,500 ERCs.

The pump skimming station has a projected cost of \$1,182,000, and assuming 30% of the project funding comes from grant or other funding sources the total eligible cost for the project is \$1,112,286. This project will improve system capacity estimated at an increase of 2,500 ERCs.

A portion of the costs for this impact fee analysis is also included as an eligible expense at \$30,400, along with a proposed feasibility study for the interconnection of the basins served by the Highway 191 interceptor and the Spanish Valley Drive interceptor at \$65,000. For both reports the number of ERCs served assumes updates or adjustments will be needed in five years, so the calculation takes 292 as the number of ERCs projected to be added over a 5-year period at 2% growth.

7.6 IMPACT FEE CALCULATION

The impact fee calculation divides the total allocable cost by the total number of ERCs served by the improvement. The allocable costs are shown in Table 7.6.1. The table shows the planned projects, the percent allocable to future growth, the number of ERCs served by the project, the cost of the improvements, grant portion of the improvements, principal and interest totals for the improvements, and the impact fee per ERC for each project. The total impact fee for planned projects is \$1,385.09.

The table also shows the anticipated breakdown of ERCs to be served by the improvements. The previous analysis differentiated separate recommended impact fees for the GWSSA and SJSVSSD service areas because of how the extension to San Juan County was funded. This analysis found no need to recommend separate impact fee amounts for the different service areas.

Table 7.6.1 Future Improvements with Excess Capacity

RECOMMENDED IMPROVEMENTS - IMPACT FEE ELIGIBLE	Cost	Grant/Other Funding Sources	Principal + Interest	% Allocable to New Growth	Eligible IF Cost	ERCs Served	\$/ERC
Highway 191 - 12"	\$1,629,790	\$488,937	\$1,533,665	100%	\$1,533,664.83	2500	\$613.47
Spanish Valley Dr – Hwy 191 Pump Skimming Station	\$1,182,000	\$354,600	\$1,112,286	100%	\$1,112,286	2500	\$444.91
Impact Fee Analysis	\$30,400			100%	\$30,400.00	292	\$104.11
Basin Interconnect Feasibility Study	\$65,000			100%	\$65,000.00	292	\$222.60
TOTAL					\$2,741,350.36		\$1,385.09

The maximum impact fee that GWSSA may reasonably assess to new ERCs, before considering credits, is the total of the past project eligible cost per ERC plus the total of the future project eligible cost per ERC which totals \$1,385.09.

7.7 CREDITS

Because a portion of future monthly usage rates may be used to service debt payments for current and proposed infrastructure, a reasonable impact fee may account for the portion paid by new users to debt service payments. To calculate the per-ERC credit, an estimation of average contribution per ERC to the debt service payments over the course of the planning period is made.

As new ERCs are added to the system, the portion of individual user fees allocated to debt service payments will decrease, and the amount of collected impact fees that are available to offset the debt service payments will increase. On average through the planning period, new ERCs will contribute to debt service payment for 8.84 years as shown in Appendix B. The calculation of the average years of payment, projected impact fees that are collected and allocated to paying down the debt service, and the average annual portion of user fees are included as Appendix B. It should be noted that additional impact fee eligible projects and debt service may be incurred within the planning period, and the impact fee analysis should be updated as these projects occur.

To calculate a reasonable credit, the impact fee eligible annual debt service for each year is divided by the number of ERCs served for each year through the 20-year planning period. The average portion of user fees used for debt service on impact fee eligible projects during the planning period is \$21.22 annually as shown in Appendix B. The credit is then calculated by multiplying the average portion of annual user fees by the average years an ERC will pay user fees during the planning period. Thus, the calculated credit (detailed further in Appendix B) is as follows:

$$\text{User Rate Credit} = \$21.22 \times 8.84 \text{ years} = \$187.62$$

7.8 RECOMMENDED SANITARY SEWER IMPACT FEE

The total impact fee allowable for sanitary sewer is the sum of the allocable costs for excess system capacity and new projects minus the calculated user rate credit. The recommended sanitary sewer impact fee is outlined in Table 7.8.1. For the GWSSA and SJSVSSD service areas, the total impact fee equals \$1,385.09 minus the credit of \$187.62 for a recommended impact fee of \$1,197.47.

Table 7.8.1 GWSSA Sanitary Sewer Impact Fee Calculation

GWSSA Sanitary Sewer Impact Fee Calculation	
Planned Projects Impact Fee	\$1,385.09
Annual Service Payments Credit	-\$187.62
Total Sanitary Sewer Water Impact Fee	\$1,197.47

7.9 MOAB CITY IMPACT FEE

In addition to impact fees assessed by GWSSA, new connections to the sanitary sewer system are also charged impact fees to account for impacts to the collection and treatment systems of Moab City. Based on Moab City's 2023 Sewer Impact Fee Facilities Plan and Impact Fee Analysis, this includes a fees for treatment and collection system that total \$1,361 per ERC. For some customer types, the Moab City ERC calculation varies for flow and treatment impacts. New sanitary sewer connections in the SJSVSSD service area may also be subject to impact fees assessed by SJSVSSD.

8.0 SECONDARY WATER IMPACT FEE ANALYSIS

This impact fee analysis will determine the proportionate cost of excess capacity provided by previous and future projects that are allocable to future growth for the secondary water system. Impact fee calculations may also include the proportionate costs of existing facilities and components that currently have excess capacity. As with the other analyses, GWSSA should review and update this impact fee analysis every five years.

The existing capacity of the current system that will be used in this Impact Fee Analysis will be based on the data provided by GWSSA's records of previous projects. Excess capacity of system components will be expressed in terms of equivalent residential connections (ERCs). The determination of the existing Level of Service (LOS) of the current distribution system is based on observations from the past several years of operation.

8.1 CURRENT SYSTEM

According to data provided by GWSSA, there are currently 122 residential connections on the secondary water system. There are no active agricultural or commercial connections, and all future growth on the system will consist of adding new residential connections.

Sources for the secondary water system include Ken's Lake, which has a current storage capacity of 2,820 acre-feet, and two wells known as the Beeman and Corbin wells. The potential service area for the irrigation system, without installation of booster pump stations, is limited to the area northwest of Ken's Lake below an elevation of approximately 4,930 ft. This provides approximately 40 psi subject to the lake

level.

The system is at capacity when there is no more available water in the lake. Typically, the system uses all of the available lake water each year, which shows that the existing demand is roughly equal to the available source. New growth in the system will need increased source capacity to cover increased demand. This analysis assumes current secondary water system is sufficient to support the existing connections, so proposed projects that increase source capacity will be 100% allocable to future growth.

8.2 CALCULATION OF AN ERC

One ERC for the secondary water system is defined as the amount of water used by an average residential connection. For this impact fee analysis an ERC is based on an average lot size of 1/4 acre and an average peak monthly usage of approximately 40,100 gallons. ERCs are factored into calculations for impact fees, user rates, and other analyses.

8.3 PROJECTED DEMAND

Several future developments may bring additional connections to the GWSSA secondary water system over the 20-year planning period. The proposed project in section 8.5 would add secondary water source to facilitate expansion of the secondary distribution to most of the GWSSA service area. Based on GWSSA's growth projections it is anticipated that as many as 3500 new secondary ERCs could be added to the system by the end of the planning period. Planned projects should be designed to accommodate up to 3500 new ERCs.

8.4 EXCESS CAPACITY

The GWSSA secondary water system is sufficient to serve the current connections. This analysis assumes the system is currently at capacity as the annual source requirement is roughly equal to the available source. The system does not have additional excess capacity. GWSSA does not have costs for development of existing secondary water sources with excess capacity that could be assessed to new connections.

8.5 NEW NEAR-TERM PROJECTS

GWSSA plans to commission a secondary water project with an estimated GWSSA cost share of \$78,000 to be completed within the next six years. The project includes creating a diversion at the Colorado River, which will greatly increase the capacity of the system. The system is projected to provide up to 4,500 gallons per minute which would support an additional 4,761 ERCs.

Another project GWSSA plans to commission is an irrigation well pump test program, which is projected to optimize and increase production of the wells by an anticipated 20%. This would allow an increase in the number of connections the system could serve by 159 connections.

A portion of the impact fee analysis costs is also included as an eligible cost. The number of ERCs served by this analysis is an estimate of the ERCs that could be added to the system within the next five years, until the next impact fee update. Because the increase in number of connections will include both new development in the area and potential expansion of the secondary system to existing developed area, this analysis uses a conservative estimate of 100 new ERCs to be added to the secondary system within the next five years.

GWSSA also plans to purchase a new irrigation well within the next five years to increase their source capacity. Though specific details of the well to be purchased are unknown, this analysis assumes the new well's capacity at 500 gallons per minute. Based on this assumption the new well would be able to supply secondary water to an additional 529 ERCs.

8.6 ALLOCABLE COSTS

The costs associated with the projects described above are considered 100 percent allocable to new growth because the improvements will provide additional capacity for future developments within the service area.

The impact fee eligibility and cost per ERC per project calculations are shown in Table 8.7.1

8.7 IMPACT FEE CALCULATION

The impact fee calculation is calculated by dividing the total allocable cost by the total number of ERCs served by the improvement.

Table 8.7.1 shows the planned projects, the percent allocable to future growth, the number of ERCs served by the project, the cost of the improvements, principal and interest totals for the improvements, and the impact fee per ERC for each project. The total impact fee for planned projects is \$1,036.84.

The maximum impact fee that GWSSA may reasonably assess to new ERCs, before considering credits, is the total of any past project eligible cost per ERC plus the total of the future project eligible cost per ERC. Because there are no eligible costs for past projects in this case, the maximum impact fee before considering credits is \$1,036.84 per ERC for new connections to the secondary water system.

Table 8.7.1 Planned Projects with Excess Capacity

RECOMMENDED IMPROVEMENTS - IMPACT FEE ELIGIBLE	Cost	Principal + Interest	% Allocable to New Growth	Eligible IF Cost	ERCs Served	\$/ERC
Colorado River Diversion	\$78,000	\$78,000	100%	\$78,000	4761	\$16.38
Irrigation Well Pump Test/Upgrade	\$60,000	\$60,000	100%	\$60,000	159	\$377.36
Impact Fee Analysis	\$7,600	\$7,600	100%	\$7,600	100	\$76.00
Purchase New Existing Well	\$300,000	\$300,000	100%	\$300,000	529	\$567.10
TOTAL				\$445,600		\$1,036.84

8.8 CREDITS

We anticipate no loans or debt payments for the projects shown above, so no credits will be applied to this impact fee.

8.9 RECOMMENDED SECONDARY WATER IMPACT FEE

The total impact fee allowable for secondary water is the sum of the allocable costs for excess system capacity and new projects minus the calculated credit. The maximum recommended impact fee for the secondary water system is \$1,036.84.

9.0 CONCLUSION AND RECOMMENDATIONS

Sunrise Engineering recommends the maximum reasonable impact fee for GWSSA's culinary water, sanitary sewer, and secondary water systems as \$4,670.48, \$1,197.47, and \$1,036.84, respectively, per ERC as indicated in the previous sections. The impact fees are in addition to connections fees.

Before enacting the actual impact fees, GWSSA should take into consideration the relationship between impact fees and future growth. An impact fee can influence the growth in a community. Higher impact fees discourage growth, while lower impact fees encourage growth but provide reduced funds per ERC and require that growth be subsidized by user rates. The actual enacted impact fee should reference the calculated impact fee as the basis of the enacted fee to comply with State law and still meet funding requirements.

A residential connection represents 1 ERC, and no residential or commercial connection should pay less than the amount of impact fee charged for a residential connection. The impact fee charged for non-residential connections should equal the amount of the impact fee set for a residential customer times the estimated ERC equivalent of the proposed facility.

The impact fees that are adopted based on these analyses should be charged to new connections until any of the following events occur:

1. New system improvements (other than those included in previous sections of this report) are anticipated within six years and become eligible for inclusion in the impact fee calculation.
2. The impact fee analysis is otherwise reviewed and updated. The recommended frequency for updates is every five years.
3. The excess capacity of the existing system facilities that are included in this analysis is expended.
4. The impact fee eligible portion of the costs outlined here are fully recouped through collected impact fees.

GWSSA has experienced increasing growth over the past two decades and continual growth is expected. These impact fee analyses will help the Agency apportion the costs of system improvements and capacity expansion to the new growth that the improvements will serve.

APPENDIX A:
ANALYSIS OF BANBERRY FACTORS

Banberry Factors Analysis

Utah Code Ann. 11-36a-304(2) requires that the following factors, also known as the Banberry Factors be considered as applicable in order to verify that the proportionate share of the costs of public facilities are reasonable related to the new development activity.

1. *The cost of each existing public facility that has excess capacity to serve the anticipated development resulting from the new development activity:*

The cost of each existing public facility that has excess capacity to serve the anticipated development resulting from new development activity is discussed in Section 6.5 for GWSSA's culinary system

2. *The cost of system improvements for each public facility:*

The costs of projected system improvements for the GWSSA's culinary water system are discussed in the same section as the cost of facilities with excess capacity.

3. *Other than impact fees, the manner of financing for each public facility, such as user charges, special assessments, bonded indebtedness, general taxes, or federal grants:*

Each public facility with excess capacity has been funded in part by loans, part by self-funding, and another portion by grant. This analysis only included debt and self-funding of projects in calculating the impact fees.

4. *The relative extent to which development activity will contribute to financing the excess capacity of an system improvements for each existing public facility, by such means as user charges, special assessments, or payment from the proceeds of general taxes:*

Currently, only assessed impact fees are used to finance the excess capacity of system improvements. A credit is calculated for future projects based on an estimated funding plan. The credit analysis may be found in section 6.8 of this analysis. It is again noted that this impact fee analysis should be reviewed and updated regularly to ensure that the fees remain applicable and fair.

5. *The relative extent to which development activity will contribute to the cost of existing public facilities and system improvements in the future:*

It is not currently anticipated that development activity will contribute to the cost of existing public facilities and future system improvements outside of the allocable costs of current excess capacity and future projects as discussed within this analysis.

6. *The extent to which the development activity is entitled to a credit against impact fees because the development activity will dedicate system improvements or public facilities that will offset the demand for system improvements, inside or outside the proposed development:*

New development activity should be allowed a credit against impact fees to the extent that the development activity dedicates system improvements or public facilities that offset the demand for system improvements. However, no such dedications have been proposed and none are currently planned. GWSSA must address this issue if and when a developer proposes to dedicate new system improvements to offset the demand for the agency to provide those improvements.

7. *Extraordinary costs, if any, in servicing the newly developed properties:*

This factor is not currently applicable to this impact fee analysis.

8. *The time-price differential inherent in fair comparisons of amounts paid at different times:*

The time-price differential of amounts paid at different times related to the impact fee is influenced not only by inflation, but also by the amount that is paid towards the system costs through user fees over time. For this purpose, Sections 6.9 and 7.7 recommend a user fee credit if any portion of user fees is used to service debt/bond payments. It is not considered feasible to update the impact fee on an annual basis to account for the time price differential of amounts paid at different times. In order to ensure that the time-price differential associated with impact fees paid at different times is limited, GWSSA should review and update this impact fee analysis at least once every five years.

APPENDIX B:
CALCULATION OF USER FEE CREDIT

CALCULATION OF THE AVERAGE YEARS THAT NEW CONNECTIONS WILL PAY USER FEES WITHIN THE 20 YEAR PLANNING PERIOD				
Year	ERCs	New ERCs	Years Remaining in Planning Period	Total Years (Years Remaining x New ERCs)
2024	2497	0	20	0
2025	2547	50	19	949
2026	2598	51	18	917
2027	2650	52	17	883
2028	2703	53	16	848
2029	2757	54	15	811
2030	2812	55	14	772
2031	2868	56	13	731
2032	2926	57	12	688
2033	2984	59	11	644
2034	3044	60	10	597
2035	3105	61	9	548
2036	3167	62	8	497
2037	3230	63	7	443
2038	3295	65	6	388
2039	3361	66	5	329
2040	3428	67	4	269
2041	3496	69	3	206
2042	3566	70	2	140
2043	3638	71	1	71
2044	3710	73	0	0
		1213	Total Years	10731
	Average Years (Total Years/New ERC's)			8.84

CALCULATION OF THE AVERAGE ANNUAL PORTION OF THE USER FEE PAID TO PLANNED PROJECTS AND THE USER FEE CREDIT			
Year	ERC's	Annual Eligible Project Debt Service	Portion of User Fee to Planned Projects
2024	2497	\$ 67,490.94	\$ 27.03
2025	2547	\$ 67,490.94	\$ 26.50
2026	2598	\$ 67,490.94	\$ 25.98
2027	2650	\$ 67,490.94	\$ 25.47
2028	2703	\$ 67,490.94	\$ 24.97
2029	2757	\$ 67,490.94	\$ 24.48
2030	2812	\$ 67,490.94	\$ 24.00
2031	2868	\$ 67,490.94	\$ 23.53
2032	2926	\$ 67,490.94	\$ 23.07
2033	2984	\$ 67,490.94	\$ 22.62
2034	3044	\$ 67,490.94	\$ 22.17
2035	3105	\$ 67,490.94	\$ 21.74
2036	3167	\$ 67,490.94	\$ 21.31
2037	3230	\$ 67,490.94	\$ 20.89
2038	3295	\$ 67,490.94	\$ 20.48
2039	3361	\$ 67,490.94	\$ 20.08
2040	3428	\$ 67,490.94	\$ 19.69
2041	3496	\$ 67,490.94	\$ 19.30
2042	3566	\$ 67,490.94	\$ 18.92
2043	3638	\$ 67,490.94	\$ 18.55
2044	3710	\$ 67,490.94	\$ 18.19
(A) Average Portion of Annual User Fee to Planned Projects			\$22.33
(B) Average Years of Payment			8.84
User Fee Credit			\$197.42