

# **Powder Mountain Water and Sewer Improvement District**

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**Culinary Water Impact Fee Analysis**

**Noticing Draft**

**September 13, 2021**

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## EXECUTIVE SUMMARY

Powder Mountain Water and Sewer District (the District) recently commissioned Gilson Engineering to prepare the *Culinary Water System Impact Fee Facility Plan* (IFFP). The District has also retained CapEx Planning, LLC, (CapEx) to calculate the District's culinary water impact fees in accordance with Utah State Law<sup>1</sup>. An impact fee is a one-time charge to new development to reimburse the District for the cost of developing new culinary water system capacity that will allow development to occur.

The recommended impact fee structure presented in this analysis has been prepared to satisfy the Impact Fees Act, Utah Code Ann. § 11-36-101 et. Seq., and represents the maximum culinary water impact fees that the District may assess within the Water Service Area.

### WATER IMPACT FEE WATER SERVICE AREA

The proposed impact fee Water Service Area for the District includes all area within the District boundaries excluding the Monument and Eden Heights development areas. Areas outside of the Water Service Area plus those that will not connect directly to the District culinary water system will need to construct their own facilities for development. The estimated demand at buildout for the Water Service Area is 744 ERCs and is anticipated to be reached at around 2055. Other development within the District's boundaries that will not connect to the District's culinary water system are not included in the 744 ERCs. A map of the Water Service Area is included in Attachment A.

### WATER LEVEL OF SERVICE

Level of service (LOS) defines the demands that a typical residential user will place on the sanitary sewer system. LOS is defined in terms of an Equivalent Residential Connection (ERC) which represents the average demand of a single-family residence assuming 2.58 persons per connection. The demands of non-residential properties can be expressed as multiples of an ERC based on the gallons per day consumption. The water impact fee level of service is equivalent to 400 gpd per ERC.

The developments included in this Water Service Area have also been granted a reduced source requirement granted by the Division of Water Resources which lowers source requirements per ERC from 800 to 490 gallons per minute (GPM). More detailed discussion on the levels of service used in designing the capital projects can be found in the IFFP Section 2 and in Chapter 2 of this Impact Fee Analysis. The impact fee Water Service Area is primarily a residential area and most new connections will be equivalent to one ERC. Commercial properties may develop and each property will have a number of ERCs assigned to estimate their demand.

The recommended impact fee structure presented in this analysis has been prepared to satisfy the Impact Fees Act, Utah Code Ann. § 11-36a-101 et. seq., and represents the maximum impact fees that the District may assess. As impact fees may only be used to perpetuate the current level of service, the District will be required to use other revenue sources to fund any projects identified in the IFFP that constitute repair and replacement, cure any existing deficiencies, or increase the level of service for existing users.

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<sup>1</sup> Utah Code

## **IMPACT FEE ELIGIBLE COSTS**

The District will need to build approximately \$35.3M (FV) in the future improvements to keep the system operating as required. Of this amount, \$16.4 M are growth-related system improvements that will allow new growth to connect to a safe and reliable culinary water system. Two outstanding bonds plus possible additional bonds support the construction of the improvements described in this document and in the IFFP. A portion of the bond costs will be included in the impact fees as impact fee-eligible costs.

The District will be required to use other revenue sources to fund projects identified in the IFFP that constitute repair and replacement, cure any existing deficiencies, or maintain the existing level of service for current users. These revenues are monthly water user rates, water reservation fees, and other non-operational revenues. Some projects may be required to be funded by developers as exactions in addition to the impact fees. These projects are described later in this document and are very specific to planning for an applicable development’s area. These projects are currently excluded from the impact fees.

## **RECOMMENDED WATER IMPACT FEES PER ERC**

Figure ES.1 shows the maximum legal culinary water impact fee that the District can assess per ERC.

**FIGURE ES.1: MAXIMUM IMPACT FEE Per ERC by System Component**

<b>Units of Measure</b>	<b>Unit</b>	<b>Amount per ERC</b>	<b>Water Impact Fee</b>		
<b>INDOOR A IMPACT FEES</b>					
Source	\$	1,374.52	1.0000	\$	<b>1,374.52</b>
Storage		1,149.12	1.0000		<b>1,149.12</b>
Distribution		14,856.01	1.0000		<b>14,856.01</b>
Pump Stations		7,958.07	1.0000		<b>7,958.07</b>
PROFESSIONAL SERVICES/ CREDITS		(258.23)	1.0000		<b>(258.23)</b>
<b>Total Combined</b>				\$	<b>25,079.49</b>

The District reserves the right under the Impact Fees Act (Utah Code 11-36a-402(1)(c,d)) to assess an adjusted fee to respond to unusual circumstances and to ensure that the impact fees are assessed fairly. The impact fee resolution must include a provision that permits adjustment of the impact fee for a development based upon studies and data submitted by the developer that indicate a more realistic and accurate impact upon the District’s infrastructure. The impact fee formula described in Figure ES.2 for a non-standard user is based upon the user’s anticipated daily flow multiplied by the equivalent ERCs.

**FIGURE ES.2: CALCULATION OF NON-STANDARD CULINARY WATER IMPACT FEE**

<b>Non-Standard Users Impact Fee Formula</b>
Step 1: Average Day Demand divided by 400 gallons = Equivalent ERUs
Step 2: Multiply Equivalent ERUs by Impact Fee per ERU of \$25,079.49

# CHAPTER 1: IMPACT FEE OVERVIEW

## PURPOSE OF AN IMPACT FEE

An impact fee is a payment of money imposed upon new development activity as a condition of development approval to mitigate the impact of new development on public infrastructure. An impact fee recovers the District's capital costs of excess sanitary sewer capacity reserved for new growth and the costs of future projects that add new capacity for growth. The impact fee is assessed directly to a new residential or non-residential development as a condition of receiving a building permit. Impact fees prevent existing users from paying growth-related costs through user rates. Impact fees also provide a mechanism for developers to construct system improvements at their own cost but receive repayment with other developers' impact fees who benefit from the improvements through reimbursement agreements.

The Utah Impact Fees Act allows only certain costs to be included in an impact fee to fairly assess the true cost of system expansion to new growth. Eligible costs include future and historic projects that have capacity available to serve growth, future or outstanding debt related to these eligible projects, and certain professional expenses related to planning for growth. Project improvements that were built by developers to serve a specific development may not be included in the impact fee. The portion of any system improvement that cures a deficiency or enhances the LOS may not be included.

This impact fee analysis provides documentation that there is a fair comparison, or rational nexus, between the impact fee charged to new development and the impact that growth has on the system.

## IMPACT FEE ELIGIBLE COSTS

The impact fees proposed in this analysis are calculated based upon:

- New capital infrastructure for water source, storage, pumping, and distribution;
- Professional and planning expenses related to the water system; and
- Historic costs of existing improvements that are system improvements, have capacity to serve new development, and have financial records available to determine the original cost of the asset.

Impact fees cannot include the following costs:

- Projects that cure existing deficiencies for existing users;
- Projects that increase the level of service above that which is currently provided;
- Operations and maintenance costs;
- Costs of facilities funded by grants or other funds that the District does not have to repay; and
- Costs of reconstruction of facilities that do not have capacity to serve new growth.

## EQUIVALENT RESIDENTIAL CONNECTION (ERC)

Capacity is measured in terms of an Equivalent Residential Connection, or ERC, which represent the demand that a typical single-family residence would place on the system. Commercial and non-residential developments' demands are estimated based upon ERCs estimated by the District. The impact fee per ERC is multiplied by the estimated number of

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ERCs to determine a total impact fee for a non-residential or multi-unit residential property. The capacity required for each ERC is found in Chapter 2 in this document.

## **PROJECT COSTS AND IMPACT FEE CALCULATIONS**

The proposed impact fees are comprised of the costs of existing and future water capital projects that benefit additional development within the Water Service Area, and professional expenses pertaining to the regular update of the IFFP and impact fee analysis. Two outstanding bonds plus possible additional bonds support the construction of the improvements described in this document and in the IFFP. A portion of the bond costs will be included in the impact fees as impact fee-eligible costs. A fair impact fee is calculated by dividing the cost of existing and future facilities by the number of new ERCs that will benefit from the available, unused capacity. Credits for future bond interest may be added.

# CHAPTER 2: IMPACT FROM GROWTH UPON THE DISTRICT’S FACILITIES AND LEVEL OF SERVICE

## FUTURE WATER DEMAND WITHIN THE WATER SERVICE AREA

Currently there are 132 ERCs that are connected to the water system. An additional 255 ERCs are reserved and have not yet paid impact fees and an additional 357 of ERCs will be future ERUs that will add through buildout. The total buildout count of ERCs for the Water Service Area is estimated to be 744.

**FIGURE 2.1: PROJECTED GROWTH IN ERCS**

<b>Impact Fee SA Culinary Water ERCs</b>	
2020 ERCs - Existing	132
Reserved ERCs - Will Pay Impact Fee	255
Future ERCs - Unreserved Future ERCs	357
<b>Total Service Area ERUs</b>	<b>744</b>

*Source: Culinary Water System Impact Fee Facility Plan*

## LEVEL OF SERVICE ANALYSIS

### *SOURCE LEVEL OF SERVICE*

The IFFP states that the source sizing is based upon Utah State Administrative Rule R309-510-7 and would typically a Peak Daily Demand (PDD) indoor usage of 800 gpd/ERC (0.55 gpm/ERC). However, the State of Utah Division of Drinking Water (DDW) approved a source sizing reduction based on a report dated May 2019. The approved PMWSID PDD reduced source sizing criteria is 490 gpd/ERC. The indoor demands with sizing reduction is applicable to the impact fee Water Service Area. The full Utah DDW PDD and AYD are applicable to future development in the “Eden Heights Development” and “Monument Development”.

**Figure 2.2: Level of Service Standards**

	<b>ERU Demand (GPD)</b>	<b>Distribution (PSI)</b>	<b>Storage (Gal)</b>	<b>Source (GPD)</b>	<b>Supply (GPM)</b>
<b>Average Yearly Demand</b>				89425	89,425.00
<b>Peak Day Demand**</b>	400	20		490	490
<b>Peak Instantaneous Demand</b>		20			
<b>Storage</b>					
Equalization			400		
Fire Flow			1,471		
Emergency			1,471		
State Design Standards (Gal)					

### *STORAGE LEVEL OF SERVICE*

Storage is based upon three standards which are 1) equalization, 2) fire suppression, and 3) emergency storage. Equalization level of service is 400 gpd while fire suppression and emergency storage are both equal to 1,471 per ERC totaling 3,342 total gallons per ERC.

***DISTRIBUTION AND PUMP STATION LEVEL OF SERVICE***

Distribution and pump station levels of service are set to provide 20 PSI of pressure in lines and minimum fire flows per State sizing and design requirements intended to ensure adequate fire protection exists. The cost of distribution and pump stations are higher than other impact fee components as they must be sized to minimum standards regardless of the number of ERCs served.



## CHAPTER 3: CULINARY WATER CAPITAL PROJECTS

The Impact Fees Act allows for the inclusion of various cost components in the calculation of the impact fees. These cost components are the construction costs of growth-driven improvements and appropriate professional services inflated from current dollars to construction year costs. Impact fees can only fund system improvements which are defined as facilities or lines that contribute to the entire system's capacity (system improvement) rather than just to a small, localized area (project improvement).

### EXISTING ASSETS

Only future capital project costs have been included in the impact fee calculation as none of the existing infrastructure cost is considered impact fee qualifying for the following reasons:

- **Production:** The District is currently utilizing the Hidden Lakes Well; however, Hidden Lakes has been built by SPM and the District is essentially borrowing capacity in the well until the Cobabe Well project is complete.
- **Storage:** The District is using Hidden Lake Tanks which were constructed by SPM and will ultimately function as a project improvement for the SPM Water Service Area and Timberline Tanks which is an older improvement and no construction records exist to determine the original cost of constructing the Timberline Tanks.
- **Distribution:** The majority of the impact fee Water Service Area is served by 4" lines which are deficient and need to be upsized. No portion of the existing 4" lines has been included in the impact fee calculation. The portion of each future distribution project which is impact fee eligible has been included in the future capital projects list.

### FUTURE CULINARY WATER CAPITAL PROJECTS

In the next ten years, the District anticipates building various distribution lines, source, storage, and other projects which will add capacity to accommodate new growth. All construction estimates have been prepared in 2021 dollars. As shown in Figure 3.1, project costs were sorted by whether they will meet 10-year impact fee qualifying demand, beyond ten-year demand, or whether any portion is non-qualifying (which included portions of the project that will be utilized by existing users). The costs of historic capital projects are defined in the corresponding IFFP prepared by Gilson Engineering.

**FIGURE 3.1: FUTURE CULINARY WATER CAPITAL PROJECT COSTS**

Project	2021 Construction Cost	Construction Cost with Inflation	10 Year Impact Fee Qualifying Cost	Beyond 10 Year		% to Impact Fees
				Impact Fee Qualifying Cost	Non Impact Fee Qualifying	
Source	\$ 5,164,568	\$ 6,709,954	\$ 764,001	\$ -	\$ 5,945,953	11%
Storage	2,794,000	3,772,864	703,263	-	3,069,601	19%
Distribution	15,337,366	18,886,127	9,564,305	-	9,321,822	51%
Pump Stations	7,015,478	5,952,576	5,363,741	-	588,835	90%
Other	45,000	53,220	53,220	-	-	100%
<b>Totals</b>	<b>\$ 30,356,412</b>	<b>\$ 35,374,741</b>	<b>\$ 16,448,530</b>	<b>\$ -</b>	<b>\$ 18,926,211</b>	

### ***IMPACT FEE ANALYSIS UPDATES***

As development occurs and capital project planning is periodically revised, the future lists of capital projects and their costs may be different than the information utilized in this analysis. For this reason, it is recommended that the District will perform updates to the IFFP and impact fee analysis periodically. It is difficult to predict the exact timing so a small portion may be spent on impact fee issues over the next ten years totaling \$58K or equivalent to \$17K per update if an update were performed every three years. The cost of preparing the current analyses has been included in the impact fee calculations.

### **BOND DEBT SERVICE AND GRANT FUNDS**

Powder Mountain has two outstanding bonds and will issue a third bond by the end of 2021. The debt service tables in the Appendices summarize the outstanding and expected debt issues and their proportions to different culinary water system systems. The cost of issuance for this bond has been included in the impact fee calculation.

## CHAPTER 4: PROPORTIONATE SHARE ANALYSIS

The Impact Fees Act requires the impact fee analysis to estimate the proportionate share of the cost for existing and future capacity that will be recouped. The impact fee must be based on the historic costs and reasonable future costs of the system. This chapter will show in Figure 4.1 that the proposed impact fee for system improvements is reasonably related to the impact on the water system from new development activity.

The proportionate share analysis considers the manner of funding utilized for existing public facilities. Historically the District has funded existing infrastructure with sources including the following:

- Property Tax Revenues
- User Rates
- Division of Drinking Water Grant
- Bond Proceeds

In the future, the District will rely upon property tax revenues and user rate revenues to fund the operations and maintenance of the system. Some rate revenues may be used to pay the debt service of the bonds in years when impact fee revenues are insufficient to cover the impact fee eligible portion of the annual payment. However, if rate revenues are used to pay what should be funded through impact fees (due to a shortfall in impact fee revenues), then the rate fund will be repaid with impact fees as impact fee revenue become available.

Although the District has utilized grants in the past, additional grants are not anticipated. However, if they are received, future impact fees will be discounted according to the size of grant and what it will be intended to fund.

### ***WATER RESERVATION FEES***

The District charges a reservation fee to connections that have been approved but not fully connected. These fees are collected to recover the costs of maintaining the system so that the system is in good condition and ready to serve once the connection is made.

### ***DEVELOPER CREDITS/ FUNDING***

If a project included in the Impact Fee Facilities Plan (or a project that will offset the demand for a system improvement that is listed in the IFFP) is constructed by a developer, then that developer is entitled to a credit against impact fees owed. (Utah Impact Fees Act, 11-36a-304(2)(f)). There are currently no situations within the impact fee Water Service Area that would entitle a developer to a credit.

### ***TIME-PRICE DIFFERENTIAL***

Utah Code 11-36a-301(2)(h) allows for the inclusion of a time-price differential in order to create fairness for amounts paid at different times. To address the time-price differential, this analysis includes an inflationary component to account for construction inflation for future projects. Projects constructed after the year 2021 will be calculated at a future value with a 3% inflation rate. All users who pay an impact fee today or within the next ten years will benefit from projects to

be constructed and included in the fee.

## **MAXIMUM LEGAL CULINARY WATER IMPACT FEES PER ERC**

As shown in Figure 4.1, the maximum legal impact fee per ERC is calculated to be \$25,079.49. This fee is the combination of individual fees for the components of water source, storage, distribution and professional fees. Each fee for individual components is based upon the historic and future costs divided by the total and available capacities. This results in a very precise impact fee per ERC and complies with the Impact Fees Act.

**FIGURE 4.1: WATER IMPACT FEE PROPORTIONATE SHARE**

<b>Component</b>	<b>Total Cost to Component</b>	<b>% That will Serve Ten Year Demand</b>	<b>Dollar Amount that will Serve Ten Year Demand</b>	<b>Total Capacity (ERC)</b>	<b>Impact Fee per ERC</b>
Source	\$ 7,388,034	11%	\$ 841,207	612	\$ 1,375
Storage	3,772,864	19%	703,263	612	1,149
Distribution	18,886,127	53%	10,012,950	674	14,856
Pump Stations	5,952,576	90%	5,363,741	674	7,958
Other	53,220	100%	53,220	674	79
Debt Service Credit	-				(337)
<b>Totals</b>	<b>\$ 36,052,821</b>		<b>\$ 16,974,381</b>		<b>\$ 25,079.49</b>

# CHAPTER 5: CULINARY WATER IMPACT FEE CALCULATION

## DETERMINATION OF RESIDENTIAL AND NON-RESIDENTIAL IMPACT FEES

Figure 5.1 shows the maximum legal impact fee that the District can assess per ERC. Residences are assessed a sanitary sewer impact fee equivalent to one ERC which assumes the typical demand of 258 gallons per day. Non-residential connections will be assessed a sanitary sewer impact fee according to their number of ERCs based on gallons per day demand.

**FIGURE 5.1: MAXIMUM IMPACT FEE SCHEDULE**

Units of Measure	Unit	Amount per ERC	Water Impact Fee
<b>INDOOR A IMPACT FEES</b>			
Source	\$ 1,374.52	1.0000	\$ 1,374.52
Storage	1,149.12	1.0000	1,149.12
Distribution	14,856.01	1.0000	14,856.01
Pump Stations	7,958.07	1.0000	7,958.07
PROFESSIONAL SERVICES/ CREDITS	(258.23)	1.0000	(258.23)
<b>Total Combined</b>			<b>\$ 25,079.49</b>

### *NON-STANDARD DEMAND ADJUSTMENTS*

The District reserves the right under the Impact Fees Act (Utah Code 11-36-402(1)(c,d)) to assess an adjusted fee to respond to unusual circumstances and to ensure that the impact fees are assessed fairly. The impact fee ordinance must include a provision that permits adjustment of the impact fee for a particular development based upon studies and data submitted by the developer that indicate a more realistic and accurate impact upon the District’s infrastructure.

The impact fee formula shown below in Figure 5.2 for a non-standard user is based upon the anticipated annual water demand of that particular user.

**FIGURE 5.2: CALCULATION OF NON-STANDARD IMPACT FEE**

<b>Non-Standard Users Impact Fee Formula</b>
Step 1: Average Day Demand divided by 400 gallons = Equivalent ERUs
Step 2: Multiply Equivalent ERUs by Impact Fee per ERU of \$25,079.49

## **APPENDICES: CERTIFICATION AND IMPACT FEE CALCULATIONS**

In accordance with Utah Code Annotated, 11-36a-306(2), CapEx Planning, LLC, makes the following certification: CapEx Planning, LLC, certifies that the attached impact fee analysis:

1. includes only the cost 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. costs of operation and maintenance of public facilities;
  - b. cost of 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;
  - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement;
3. offset costs with grants or other alternate sources of payment; and
4. complies in each and every relevant respect with the Impact Fees Act.

CapEx Planning, LLC, makes this certification with the following caveats:

1. All of the recommendations for implementations of the Master Plan/Impact Fee Facilities Plan (IFFP) made in the IFFP or in the impact fee analysis are followed in their entirety by District staff and Board in accordance to the specific policies established for the Water Service Area.
2. If all or a portion of the IFFP or impact fee analysis are modified or amended, this certification is no longer valid.
3. All information provided to CapEx Planning, LLC, its contractors or suppliers is assumed to be correct, complete and accurate. This includes information provided by the District and outside sources.

Dated: 9/13/2021

CapEx Planning, LLC

## Appendix A: ERC Projections for Culinary Water

CURRENT AND FUTURE ERCs FOR THE CULINARY WATER SERVICE AREA

Culinary Water Impact Fee Analysis

A B C D E F G H I

TABLE A.1: GROWTH PROJECTIONS

Year	Population	Growth Rate	Total Impact Fee Service Area ERCs	Impact Fee Indoor A Service Area ERCs	Impact Fee Indoor A Service Area PDD(gpm)	Total Storage (Gal)	Indoor Source (PDD)	Annual Demand (AFY)
2020	304		132	132	45	952,800	45	36
2021	327	8%	142	141	48	956,800	48	39
2022	350	7%	152	153	52	960,800	52	42
2023	373	7%	162	162	55	964,800	55	44
2024	396	6%	172	174	59	968,800	59	47
2025	430	9%	187	188	64	1,874,800	67	51
2026	465	8%	202	203	69	1,880,800	72	55
2027	499	7%	217	218	74	1,886,800	77	60
2028	534	7%	232	232	79	1,892,800	82	64
2029	568	6%	247	247	84	1,898,800	87	68
2030	603	6%	262	262	89	1,904,800	89	72
2031	649	8%	282	276	94	1,912,800	97	76
2032	695	7%	302	291	99	1,920,800	105	80
2033	741	7%	322	306	104	1,928,800	112	84
2034	787	6%	342	324	110	1,936,800	121	88
2035	833	6%	362	338	115	1,944,800	128	93
2036	879	6%	382	382	130	1,952,800	130	105
2037	925	5%	402	403	137	1,960,800	137	110
2038	971	5%	422	424	144	1,968,800	144	116
2039	1,017	5%	442	441	150	1,976,800	150	121
2040	1,063	5%	462	462	157	1,984,800	157	127
2041	1,109	4%	482	482	164	1,992,800	164	132
2042	1,155	4%	502	503	171	2,000,800	171	138
2043	1,201	4%	522	524	178	2,008,800	178	143
2044	1,247	4%	542	541	184	2,016,800	184	149
2045	1,293	4%	562	562	191	2,024,800	191	154
2046	1,339	4%	582	582	198	2,032,800	198	160
2047	1,385	3%	602	603	205	2,040,800	205	165
2048	1,431	3%	622	624	212	2,048,800	212	171
2049	1,477	3%	642	641	218	2,056,800	218	176
2050	1,523	3%	662	662	225	2,064,800	225	182
2051	1,569	3%	682	682	232	2,072,800	232	187
2052	1,615	3%	702	703	239	2,080,800	239	193
2053	1,661	3%	722	724	246	2,088,800	246	198
2054	1,707	3%	742	741	252	2,096,800	252	204
2055	1,711	0%	744	744	253	2,097,600	253	204

Source: Culinary Water System Impact Fee Facility Plan prepared by Gilson Engineering

TABLE A.2: CULINARY WATER ERCs

Impact Fee SA Culinary Water ERCs	
2020 ERCs - Existing	132
Reserved ERCs - Will Pay Impact Fee	255
Future ERCs - Unreserved Future ERCs	357
<b>Total Service Area ERUs</b>	<b>744</b>

Source: Culinary Water System Impact Fee Facility Plan

A B C D E F G H I



# Appendix B: Culinary Water Level of Service (LOS) Analysis

Average Day, Peak Day, and Peak Instantaneous Demand Definitions

	A	B	C	D	E	F
1	<b>TABLE B.1: WATER LOS PER ERU</b>					
2		<b>ERU Demand</b>	<b>Distribution</b>	<b>Storage</b>	<b>Source</b>	<b>Supply</b>
3		<b>(GPD)</b>	<b>(PSI)</b>	<b>(Gal)</b>	<b>(GPD)</b>	<b>(GPM)</b>
	<b>Average Yearly Demand</b>				89425	89,425.00
10	<b>Peak Day Demand**</b>	400	20		490	490
11	<b>Peak Instantaneous Demand</b>		20			
12	<b>Storage</b>			-		
13	Equalization			400		
14	Fire Flow			1,471		
15	Emergency			1,471		
16	<b>State Design Standards (Gal)</b>					
20						
21						
22						
23						
24						

**Appendix C: Culinary Water Ten Year Capital Projects**  
 Culinary Water Impact Fee Analysis

Culinary Water Impact Fee Analysis

A B C D E F G H I J K L M N O P Q R S T

**TABLE C-1: WATER CAPITAL PROJECTS**

Project	% Impact Fee Qualifying 10 Year	% Impact Fee Qualifying Beyond 10 Year	% Non-Impact Fee Qualifying	Year to be Constructed/ Start Dates	Year to be Constructed/ End Dates	2021 Construction Cost	Construction Cost with Inflation	10 Year Impact Fee Qualifying Cost	Beyond 10 Year Impact Fee Qualifying Cost	Non Impact Fee Qualifying	Inflation Rate*	
											2021	2022
<b>Source</b>												
Hidden Lake Well	80%	0%	20%	Existing	Existing							1.00%
Cobbabe Well	82%	0%	18%	2022	2022	63,500	65,405	53,632	-	11,773		
Pizzel Spring #1	82%	0%	18%	2023	2023	285,750	303,152	248,588	-	54,567		
Pizzel Spring #2	82%	0%	18%	2026	2026	285,750	331,263	271,635	-	59,627		
Pizzel Spring #3	82%	0%	18%	2021	2021	231,888	231,888	190,148	-	41,740		
Bloomington Well (SPM)	100%	0%	0%	2022	2022							
Lake Point Well (SPM)	0%	100%	0%	2020	2020	2,148,840	2,148,840	2,803,749	-	2,803,749		
Cache Side Well (SPM)	0%	0%	100%	2032	2032							
<b>Source Totals</b>						<b>\$ 5,164,568</b>	<b>\$ 6,709,954</b>	<b>\$ 764,001</b>	<b>\$ -</b>	<b>\$ 5,945,953</b>		
<b>Storage</b>												
Timberline Tank (60,000 gallon)	80%	0%	20%	Existing	Existing							
Timberline Tank #2 (20,000 gallon)	80%	0%	20%	Existing	Existing							
Hidden Lake Tank (415,000 gallon)	80%	0%	20%	Existing	Existing							
5th Patrol Pressure Tank (7,500 gallon)	80%	0%	20%	Existing	Existing							
Proposed Tank 6 - Top Tank (Hidden Lake)	82%	0%	18%	2025	2025	762,000	857,638	703,263	-	154,375		
Proposed Tank 7 - Eden Heights	0%	0%	100%	2030	2030							
Proposed Tank 8 - Summit 1	0%	0%	100%	2035	2035							
Proposed Tank 9 - Monument	0%	0%	100%	2035	2035							
<b>Storage Totals</b>						<b>\$ 2,994,000</b>	<b>\$ 3,772,864</b>	<b>\$ 703,263</b>	<b>\$ -</b>	<b>\$ 3,069,601</b>		
<b>Distribution</b>												
Project A: Pizzel Water Improvements	82%	0%	18%	2021	2022	826,283	838,677	687,715,282	-	150,962		
Project B: Top Mountain System	85%	0%	15%	2022	2022	1,374,111	1,309,338	1,027,938	-	346,173		
Project C: Lower Valley Water System	0%	0%	100%	2030	2030	3,949,573	5,555,606	-	-	5,555,606		
Project D: Upper Zones Water Improvements (Alternate Source)	89%	0%	11%	2031	2037	6,818,051	8,931,627	7,399,542	-	922,085		
Project E: Water System Improvements Upgrade	39%	0%	61%	2021	2024	1,111,568	1,162,596	449,111	-	713,485		
Project F: Water System Improvements (Maintenance)	0%	0%	100%	2025	2030	1,457,325	1,768,282	-	-	1,768,282		
<b>Distribution Totals</b>						<b>\$ 15,337,366</b>	<b>\$ 18,886,127</b>	<b>\$ 9,564,305</b>	<b>\$ -</b>	<b>\$ 9,321,822</b>		
<b>Pump Stations</b>												
Pumphouse #1 (2021)	82%	0%	18%	2021	2021	738,730	738,730	605,758	-	132,971		
Pumphouse #2 (2021)	82%	0%	18%	2021	2021	738,730	738,730	605,758	-	132,971		
Pumphouse #3 (2021)	82%	0%	18%	2021	2021	738,730	738,730	605,758	-	132,971		
Pumphouse #4 (2021)	82%	0%	18%	2021	2021	684,488	684,488	561,280	-	123,208		
Pumphouse #5 (2022)	85%	0%	15%	2022	2022	431,800	444,754	378,041	-	66,713		
Lake Point (Future)	100%	0%	0%	2038	2038	1,144,000	1,307,275	-	-	1,307,275		
Cache Side (Future)	100%	0%	0%	2040	2040	2,540,000	2,599,869	-	-	2,599,869		
<b>Pump Stations Totals</b>						<b>\$ 7,015,478</b>	<b>\$ 9,592,576</b>	<b>\$ 5,363,741</b>	<b>\$ -</b>	<b>\$ 5,888,835</b>		
<b>Other</b>												
Impact Fee Updates	100%	0%	0%	2021	2032							
<b>Other Totals</b>						<b>\$ 45,000</b>	<b>\$ 53,220</b>	<b>\$ 53,220</b>	<b>\$ -</b>	<b>\$ -</b>		
<b>Total Culinary Water Projects</b>						<b>\$ 30,356,412</b>	<b>\$ 35,374,741</b>	<b>\$ 16,448,530</b>	<b>\$ -</b>	<b>\$ 18,926,211</b>		

\*SMA - Summit Number Mountains. Not included in the impact fee service area  
 \*Based on 20 years average cost of inflation using ENR and net of interest earnings

Project	2021 Construction Cost	Construction Cost with Inflation	10 Year Impact Fee Qualifying Cost	Beyond 10 Year Impact Fee Qualifying Cost	Non Impact Fee Qualifying	% to Impact Fees
Source	\$ 5,164,568	\$ 6,709,954	\$ 764,001	\$ -	\$ 5,945,953	11%
Storage	2,994,000	3,772,864	703,263	-	3,069,601	19%
Distribution	15,337,366	18,886,127	9,564,305	-	9,321,822	51%
Pump Stations	7,015,478	9,592,576	5,363,741	-	588,835	90%
Other	45,000	53,220	-	-	-	100%
<b>Totals</b>	<b>\$ 30,356,412</b>	<b>\$ 35,374,741</b>	<b>\$ 16,448,530</b>	<b>\$ -</b>	<b>\$ 18,926,211</b>	

Project	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
<b>Source</b>																
Hidden Lake Well																
Cobbabe Well		65,405														
Pizzel Spring #1			303,152													
Pizzel Spring #2							331,263									
Pizzel Spring #3	231,888															
Bloomington Well (SPM)																
Lake Point Well (SPM)															2,803,749	
Cache Side Well (SPM)																2,974,497
<b>Subtotal</b>	<b>\$ 231,888</b>	<b>\$ 65,405</b>	<b>\$ 303,152</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 331,263</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,803,749</b>	<b>\$ -</b>	<b>\$ 2,974,497</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Storage</b>																
Timberline Tank (60,000 gallon)																
Timberline Tank #2 (20,000 gallon)																
Hidden Lake Tank (415,000 gallon)																
5th Patrol Pressure Tank (7,500 gallon)																
Proposed Tank 6 - Top Tank (Hidden Lake)						857,638										
Proposed Tank 7 - Eden Heights																994,237
Proposed Tank 8 - Summit 1																1,920,989
Proposed Tank 9 - Monument																
<b>Subtotal</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 857,638</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,920,989</b>
<b>Distribution</b>																
Project A: Pizzel Water Improvements	413,141	425,536														
Project B: Top Mountain System		1,209,338														
Project C: Lower Valley Water System																858,883
Project D: Upper Zones Water Improvements (Alternate Source)																884,649
Project E: Water System Improvements Upgrade	277,892	286,229	294,815	303,660												
Project F: Water System Improvements (Maintenance)																
<b>Subtotal</b>	<b>\$ 691,033</b>	<b>\$ 1,921,103</b>	<b>\$ 294,815</b>	<b>\$ 303,660</b>	<b>\$ 273,372</b>	<b>\$ 281,573</b>	<b>\$ 290,020</b>	<b>\$ 298,721</b>	<b>\$ 307,683</b>	<b>\$ 1,175,796</b>	<b>\$ 884,649</b>	<b>\$ 2,484,256</b>	<b>\$ 2,558,784</b>	<b>\$ 2,635,547</b>	<b>\$ 2,714,614</b>	<b>\$ 1,770,501</b>
<b>Pump Stations</b>																
Pumphouse #1 (2021)	738,730															
Pumphouse #2 (2021)	738,730															
Pumphouse #3 (2021)	738,730															
Pumphouse #4 (2021)	684,488															
Pumphouse #5 (2022)						444,754										
Lake Point (Future)																
Cache Side (Future)																
<b>Subtotal</b>	<b>\$ 2,900,678</b>	<b>\$ 444,754</b>	<b>\$ 202,101</b>	<b>\$ 208,164</b>	<b>\$ 214,409</b>	<b>\$ 220,842</b>	<b>\$ 227,467</b>	<b>\$ 234,291</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 640,330</b>
<b>Other</b>																
Impact Fee Updates	3,750	3,863	3,978	4,098	4,221	4,347	4,478	4,612	4,750	4,893	5,040	5,191				
<b>Subtotal</b>	<b>\$ 3,750</b>	<b>\$ 3,863</b>	<b>\$ 3,978</b>	<b>\$ 4,098</b>	<b>\$ 4,221</b>	<b>\$ 4,347</b>	<b>\$ 4,478</b>	<b>\$ 4,612</b>	<b>\$ 4,750</b>	<b>\$ 4,893</b>	<b>\$ 5,040</b>	<b>\$ 5,191</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Capital Projects</b>	<b>\$ 3,827,349</b>	<b>\$ 2,435,124</b>	<b>\$ 804,047</b>	<b>\$ 515,922</b>	<b>\$ 1,349,640</b>	<b>\$ 838,025</b>	<b>\$ 521,965</b>	<b>\$ 537,624</b>	<b>\$ 312,433</b>	<b>\$ 4,978,675</b>	<b>\$ 889,689</b>	<b>\$ 5,463,944</b>	<b>\$ 2,558,784</b>	<b>\$ 2,635,547</b>	<b>\$ 5,275,932</b>	<b>\$ 2,430,040</b>

Project	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
<b>Source</b>																
10 Year Qualifying	\$ 190,148	\$ 53,632	\$ 248,585	\$ -	\$ -	\$ 271,635	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Beyond 10 Year Qualifying																
Non-Qualifying	41,740	11,773	54,567			59,627				2,803,749	2,974,497					
<b>Subtotal</b>	<b>\$ 231,888</b>	<b>\$ 65,405</b>	<b>\$ 303,152</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 331,263</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,803,749</b>	<b>\$ 2,974,497</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Storage</b>																
10 Year Qualifying						703,263										
Beyond 10 Year Qualifying																
Non-Qualifying																
<b>Subtotal</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 857,638</b>										

# Appendix D: Water Debt Issuances

## Culinary Water Impact Fee Analysis

	A	B	C	D	E	F	G	H	
1									1
2	<b>TABLE D.1: DEBT</b>								2
3		<b>Series 2018 (No Interest)</b>		<b>Series 2020</b>		<b>Series 2021 Bond</b>			3
4	<b>Year</b>	<b>Principal</b>	<b>Interest</b>					<b>Fiscal</b>	4
5	2018	\$ -	\$ -	\$ -	\$ -			\$ -	5
6	2019	20,000	-	-	-			20,000	6
7	2020	20,000	-	-	-			20,000	7
8	2021	20,000	-	-	-			20,000	8
9	2022	20,000	-	42,000	15,880		25,000	102,880	9
10	2023	20,000	-	42,000	15,460	75,000	25,000	177,460	10
11	2024	42,000	-	42,000	15,040	75,000	24,250	198,290	11
12	2025	42,000	-	43,000	14,620	76,000	23,500	199,120	12
13	2026	42,000	-	43,000	14,190	77,000	22,740	198,930	13
14	2027	42,000	-	44,000	13,760	78,000	21,970	199,730	14
15	2028	42,000	-	44,000	13,320	79,000	21,190	199,510	15
16	2029	47,000	-	45,000	12,880	79,000	20,400	204,280	16
17	2030	47,000	-	45,000	12,430	80,000	19,610	204,040	17
18	2031	47,000	-	46,000	11,980	81,000	18,810	204,790	18
19	2032	47,000	-	52,000	11,520	82,000	18,000	210,520	19
20	2033	47,000	-	53,000	11,000	83,000	17,180	211,180	20
21	2034	48,000	-	53,000	10,470	83,000	16,350	210,820	21
22	2035	48,000	-	54,000	9,940	84,000	15,520	211,460	22
23	2036	48,000	-	54,000	9,400	85,000	14,680	211,080	23
24	2037	48,000	-	55,000	8,860	86,000	13,830	211,690	24
25	2038	48,000	-	56,000	8,310	87,000	12,970	212,280	25
26	2039	48,000	-	56,000	7,750	88,000	12,100	211,850	26
27	2040	48,000	-	57,000	7,190	88,000	11,220	211,410	27
28	2041	48,000	-	57,000	6,620	89,000	10,340	210,960	28
29	2042	48,000	-	58,000	6,050	90,000	9,450	211,500	29
30	2043	48,000	-	58,000	5,470	91,000	8,550	211,020	30
31	2044	48,000	-	59,000	4,890	92,000	7,640	211,530	31
32	2045	48,000	-	60,000	4,300	93,000	6,720	212,020	32
33	2046	48,000	-	60,000	3,700	<b>94,000</b>	5,790	211,490	33
34	2047	48,000	-	61,000	3,100	95,000	4,850	211,950	34
35	2048	48,000	-	61,000	2,490	96,000	3,900	211,390	35
36	2049		-	62,000	1,880	97,000	2,940		36
37	2050		-	63,000	1,260	98,000	1,970		37
38	2051		-	63,000	630	99,000	990		38
39	<b>Total Debt Service</b>	<b>\$ 1,265,000</b>	<b>\$ -</b>	<b>\$ 1,400,000</b>	<b>\$ 260,620</b>	<b>\$ 2,500,000</b>	<b>\$ 417,460</b>	<b>\$ 5,543,180</b>	39
	A	B	C	D	E	F	G	H	

# Appendix E: Impact Fee Credit Calculation

Culinary Water Impact Fee Analysis

TABLE E.1: CALCULATION OF CREDITS

Year	Projected Future ERCs	Project Cost Benefitting Future ERCs	Bond Interest Benefitting Future ERCs	Total Debt Interest Cost to Future	Credit per ERC
2021	132	11.39%	40,880	40,880	35.17
2022	141	11.39%	40,460	40,460	32.63
2023	153	11.39%	39,290	39,290	29.25
2024	162	11.39%	38,120	38,120	26.83
2025	174	11.39%	36,930	36,930	24.23
2026	188	11.39%	35,730	35,730	21.61
2027	203	11.39%	34,510	34,510	19.36
2028	218	11.39%	33,280	33,280	17.41
2029	232	11.39%	32,040	32,040	15.70
2030	247	11.39%	30,790	30,790	14.19
2031	262	11.39%	29,520	29,520	12.84
2032	276	11.39%	28,180	28,180	11.61
2033	291	11.39%	26,820	26,820	10.49
2034	306	11.39%	25,460	25,460	9.48
2035	324	11.39%	24,080	24,080	8.47
2036	338	11.39%	22,690	22,690	7.64
2037	382	11.39%	21,280	21,280	6.34
2038	403	11.39%	19,850	19,850	5.61
2039	424	11.39%	18,410	18,410	4.95
2040	441	11.39%	16,960	16,960	4.38
2041	462	11.39%	15,500	15,500	3.82
2042	482	11.39%	14,020	14,020	3.31
2043	503	11.39%	12,530	12,530	2.84
2044	524	11.39%	11,020	11,020	2.40
2045	541	11.39%	9,490	9,490	2.00
2046	562	11.39%	7,950	7,950	1.61
2047	582	11.39%	6,390	6,390	1.25
2048	603	11.39%	4,820	4,820	0.91
2049	624	11.39%	3,230	3,230	0.59
2050	641	11.39%	1,620	1,620	0.29
<b>Total</b>		<b>\$ 3.42</b>	<b>\$ 681,850.00</b>	<b>\$ 681,853.42</b>	<b>337.20</b>

A B C D E F G

# Appendix F: Culinary Water Impact Fee Per ERC

## Culinary Water Impact Fee Analysis

TABLE F.1: IMPACT FEE CALCULATION

	A	B	C	D	E	F
	TABLE F.1: IMPACT FEE CALCULATION					
1	Component	Total Cost to Component	% That will Serve Ten Year Demand	Dollar Amount that will Serve Ten Year Demand	Total Capacity (ERC)	Impact Fee Cost per ERC
2	<b>Source</b>					
3	Future 10 Year Capital Project	\$ 6,709,954	11.39%	\$ 764,001	612	\$ 1,248
4	Future Source Related Debt	-	11.39%	-	612	-
5	Existing Source	-			612	-
6	Existing Source Related Debt	678,080	11.39%	77,207	612	126
7	<b>Source Subtotal</b>	<b>\$ 7,388,034</b>		<b>\$ 841,207</b>		<b>\$ 1,374.52</b>
8						
9	<b>Storage</b>					
10	Future 10 Year Capital Project	\$ 3,772,864	18.64%	\$ 703,263	612	\$ 1,149
11	Future Storage Related Debt	-	18.64%	-	612	-
12	Existing Storage Projects	-	0.00%	-	612	-
13	Existing Storage Related Debt	-	0.00%	-	612	-
14						
15	<b>Storage Subtotal</b>	<b>\$ 3,772,864</b>		<b>\$ 703,263</b>		<b>\$ 1,149.12</b>
16						
17	<b>Distribution</b>					
18	Future 10 Year Capital Project	\$ 18,886,127	50.64%	\$ 9,564,305	674	\$ 14,190
19	Future Distribution Related Debt	-	50.64%	-	674	-
20	Existing Distribution Projects	-	0.00%	448,645	674	666
21	Existing Distribution Related Debt	-	0.00%	-	674	-
22						
23	<b>Distribution Subtotal</b>	<b>\$ 18,886,127</b>		<b>\$ 10,012,950</b>		<b>\$ 14,856.01</b>
24						
25	<b>Pump Stations</b>					
26	Future 10 Year Capital Project	\$ 5,952,576	90.11%	\$ 5,363,741	674	\$ 7,958
27	Future Pump Stations Related Debt	-	90.11%	-	674	-
28	Existing Pump Stations Projects	-	0.00%	-	674	-
29	Existing Pump Stations Related Debt	-	0.00%	-	674	-
30						
31	<b>Pump Stations Subtotal</b>	<b>\$ 5,952,576</b>		<b>\$ 5,363,741</b>		<b>\$ 7,958.07</b>
32						
33	<b>Other</b>					
34	Future 10 Year Capital Projects		0.00%		-	
35	Future Other Related Debt to	-	0.00%	-	674	-
36	Existing Other Projects	-	0.00%	-	674	-
37	Existing Other Related Debt	-	0.00%	-	674	-
38						
39	<b>Other Subtotal</b>	<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>
40						
41	<b>PROFESSIONAL SERVICES/ CREDITS</b>					
42	Credit for Projects Benefitting Existing Users					\$ (337.20)
43	Debt Service Credit	53,220	100.00%	53,220	674	\$ 78.96
44	<b>Professional Services/Credit</b>	<b>53,220</b>		<b>53,220</b>		<b>(258.23)</b>
45						
46	<b>Total Impact Fee Per ERC</b>	<b>\$ 36,052,821</b>		<b>\$ 16,974,381</b>		<b>\$ 25,079.49</b>

A B C D E F

# Appendix G: Maximum Culinary Water Impact Fees

## Culinary Water Impact Fee Analysis

	A	B	C	D
1	TABLE G.1: Culinary Water Impact Fee			
2	<b>Units of Measure</b>	<b>Unit</b>	<b>Amount per ERC</b>	<b>Water Impact Fee</b>
3	<b>INDOOR A IMPACT FEES</b>			
4	Source	\$ 1,374.52	1.0000	\$ 1,374.52
5	Storage	1,149.12	1.0000	1,149.12
6	Distribution	14,856.01	1.0000	14,856.01
7	Pump Stations	7,958.07	1.0000	7,958.07
8	PROFESSIONAL SERVICES/ CREDITS	(258.23)	1.0000	(258.23)
9	<b>Total Combined</b>			\$ <b>25,079.49</b>

	A	B	C	D
10	TABLE G.2: NON-STANDARD IMPACT FEE CALCULATION			
11	<b>Non-Standard Users Impact Fee Formula</b>			
12	Step 1: Average Day Demand divided by 400 gallons = Equivalent ERUs			
13	Step 2: Multiply Equivalent ERUs by Impact Fee per ERU of \$25,079.49			
14				
15				