

## DRAFT FINAL REPORT



***Squaw Valley Public Service District***  
**Water and Sewer Connection Fees**  
April 2017





April 6, 2017

Mr. Mike Geary  
General Manager  
Squaw Valley Public Service District  
305 Squaw Valley Road  
Olympic Valley, CA 96146

**Subject: Development of the District's Water and Sewer Connection Fees**

Dear Mr. Geary:

HDR Engineering, Inc. (HDR) was retained by the Squaw Valley Public Service District (District) to conduct a study to develop cost-based water and sewer connection fees. Enclosed please find HDR's draft report for this study. The conclusions and recommendations contained within this report should enable the District to implement cost-based water and sewer connection fees that meet the District's growth and financial policy objectives.

This report has been prepared using "generally accepted" financial, rate and fee setting, and engineering principles. The District's financial, budgeting and engineering data were the primary sources for much of the data contained in this report.

HDR appreciates the opportunity to assist the District in this matter. We also would like to thank you and your staff for assistance provided to us during the development of this study.

Very truly yours,  
HDR Engineering, Inc.

A handwritten signature in black ink, appearing to read 'Shawn Koorn', written in a cursive style.

Shawn Koorn  
Associate Vice President



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## Executive Summary

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### Introduction

HDR Engineering, Inc. (HDR) was retained by the Squaw Valley Public Service District (District) to conduct a comprehensive study to review and update the District's water and sewer connection fees. The purpose of connection fees is to recover the costs of public facilities in existence at the time the fee is imposed or for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged. These fees are charged to new customers connecting to the system, or to existing customers increasing their demands (i.e., capacity use).

By establishing cost-based connection fees, the District will be taking an important step in providing adequate infrastructure to meet growth-related needs and, more importantly, providing this required infrastructure to new customers in a cost-based, fair and equitable manner. The District currently has connection fees for both water and sewer services. The current water and sewer connection fees have not been formally updated since 2011. This report provides a summary of the findings, conclusions and recommendations from HDR's water and sewer connection fee study. This report provides the basis for the District to implement cost-based connection fees.

### Summary and Conclusions

Connection Fees must be implemented according to the capacity requirement, or impact, each new customer has on the utility system. By doing so, the connection fee is directly related to the impact the customer places on the system, and to the proportional benefit the customer derives from the service provided.

In very simplistic terms, the District's connection fees are based on the replacement value of the District's existing system, based on costs from the District's Capital Replacement Plan (CRP) report, and future capital infrastructure needed to accommodate future growth, divided by the number of equivalent residential units (ERUs) served by that capacity. The calculations also take into account the financing mechanisms of capital improvements. Based on the sum of the existing and future component costs, the net allowable utility connection fee is determined. "Net" refers to the calculated "gross" connection fee, less any debt service credits. "Allowable" refers to the concept that the calculated connection fees are the District's maximum cost-based charge. The District, as a matter of policy, may charge any amount up to the cost-based connection fee, but not in excess of that amount. Charging an amount greater than the "allowable" connection fee would not meet the nexus test of a cost-based connection fee related to the benefit derived by the customer.

The District charges new customers connecting to the water and sewer systems a one-time connection fee. The fee is intended to reimburse the existing system for their portion of the

system use that has been funded through rates over time on a per equivalent fixture unit (EFU) basis.

For water the EFU is based on equivalent fixture units with a residential customer reflecting up to 30 EFUs (5/8 X 3/4-inch meter) and is presently charged \$8,414. The fee is applied to other customers based on number of EFUs. Presently a 3/4-inch meter size is 31-54 EFUs or \$16,828 and a 1-inch meter or 55-127 EFUs is \$22,087.

To calculate the proposed maximum allowable connection fee for the water and sewer systems, the value of the existing systems were reviewed and developed using a replacement cost new less depreciation expenses. In this way, the existing system was valued at today's value, and reduced to reflect the depreciated value. In addition to the existing system, future improvements related to providing capacity, or service, to new customers connecting to the system were added. As a note, the additional projects were minimal and only reflect the costs of the District's share if it will be part of a developer agreement improvement. In addition, the value of the existing system was reduced to reflect the contributions from developers, or those projects that were not funded by the District. Finally, the fee was reduced to reflect outstanding debt that was used to fund existing system improvements so that customers do not pay twice, once through the connection fee and again through rates. Based on this analysis, which is discussed in more detail later in this report, the maximum allowable water and sewer connection fees can be developed.

Provided in Table ES-1 is a summary of the existing fee for a typical residential customer, and the proposed maximum allowable fee for both the water and sewer systems.

<b>Table ES – 1</b> <b>Existing and Maximum Allowable Water and Sewer Connection Fee</b> <b>(≤ 1-inch Meter)</b>		
<b>Fee Description</b>	<b>Existing Fee [1]</b>	<b>Maximum Allowable [2]</b>
Water Connection Fee	\$8,414	\$10,414
Sewer Connection Fee	1,211	5,627

[1] The existing water fee is based on equivalent fixture units (EFU) for a 5/8 X 3/4-inch meter or minimum of up to 30 EFUs. The existing sewer fee is based on minimum of 22 EFUs.

[2] The maximum allowable fee for water and sewer are based on a meter size ≤ 1-inch meter.

The maximum allowable fee is based on a meter which is ≤ 1-inch meter, which reflects the typical minimum meter size for future customers. The detailed development of the District's water and sewer connection fees are presented in Section 4. Technical appendices are included within this report to document the technical analyses which were undertaken as a part of this study.

## Summary

This report documents the development of the District's water and sewer connection fees. The development of these fees utilized generally accepted engineering and rate and fee principles, while applying District specific planning, asset and customer information. HDR would recommend that the District have its legal counsel review the connection fees before any adjustments are made to ensure compliance with California law.



# Introduction

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## 1.1 Introduction

HDR Engineering, Inc. (HDR) was retained by the Squaw Valley Public Service District (District) to review and update its water and sewer connection fees. The objective of this study is to calculate cost-based connection fees for new customers connecting to the utility system, or those customers requesting additional capacity. These fees provide the means of balancing the cost requirements for utility infrastructure between existing customers and new customers. The portion of existing infrastructure and future capital improvements that will provide service (i.e., capacity) to new customers is included in the calculation of the connection fees. In contrast to this, the District has future capital improvement projects that are related to renewal and replacement of existing infrastructure in service. These infrastructure costs are included within the rates of the water and sewer service fees charged to the District's customers, and are not included within the calculation of the proposed connection fees. By establishing cost-based connection fees the District maintains an approach of having "growth pay for growth" and existing utility customers should, for the most part, be sheltered from the financial impacts of growth.

*"By establishing cost-based connection fees the District maintains an approach of having "growth pay for growth" and existing utility customers should, for the most part, be sheltered from the financial impacts of growth."*

## 1.2 Organization of Report

This report documents the methodology, approach and technical analysis undertaken by HDR and the District to develop the District's water and sewer connection fees. The report is divided into four sections. Section 2 provides a general overview of the development of connection fees and the criteria and general methodology that should be used to calculate and establish cost-based fees. Next, Section 3 provides an overview of the requirements under California law for determining connection fees. Finally, Section 4 reviews the District specific calculations of the cost-based water and sewer connection fees.

## 1.3 Disclaimer

HDR, in its calculation of the water and sewer connection fees presented in this report, has used "generally accepted" engineering and rate and fee making principles. This should not be construed as a legal opinion with respect to California law. HDR recommends that the District have its legal counsel review the connection fees as set forth in this report to ensure compliance with California law.





# Overview of Connection Fees

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## 2.1 Introduction

An important starting point in establishing connection fees is to have a basic understanding of the purpose of these fees, along with the criteria and general methodologies that are used to establish cost-based fees. Presented in this section of the report is an overview of these fees and the criteria and general methodologies that may be used to develop cost-based connection fees.

## 2.2 Defining Connection Fees

The first step in establishing cost-based connection fees is to gain a better understanding of the definition of a system development charge (SDC) (i.e., a connection fee). For the purposes of this report, an SDC or connection fee is defined as follows:

*“System development charges (connection fees) are one-time charges paid by new development to finance construction of public facilities needed to serve them.”<sup>1</sup>*

Simply stated, connection fees are a contribution of capital to reimburse existing customers for the available capacity in the existing system, and help finance planned future growth-related capacity improvements. At some utilities, connection fees may be referred to as system development charges, impact fees, connection charges, plant investment fees, etc. Regardless of the label used to identify them, their objective is the same. That is, these charges are intended to provide funds to the utility to finance all or a part of the existing system or new capital improvements needed to serve and accommodate new customer growth. Absent those fees, many utilities would likely be unwilling to build growth-related facilities (i.e., burden existing rate payers with the entire cost of growth-related capacity expansion).

## 2.3 Economic Theory and Connection Fees

Connection fees are generally imposed as a condition of service. The objective of a connection fee is not merely to generate money for a utility, but to ensure that all customers seeking to connect to or requiring additional capacity in the utility’s system bear an equitable share of the cost of capacity that is invested in both the existing system and any future growth-related expansions. Through the implementation of fair and equitable connection fees, existing customers should not be unduly burdened with the cost of new development.

By establishing cost-based fees, the District will be taking an important step in providing adequate infrastructure to meet growth-related needs, and more importantly, providing this required infrastructure to new customers in a cost-based, fair, and equitable manner.

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<sup>1</sup> Arthur C. Nelson, System Development Charges for Water, Wastewater, and Stormwater Facilities, Lewis Publishers, New York, 1995, p. 1,

## 2.4 Connection Fee Criteria

In the determination and establishment of the connection fees, a number of different criteria are often utilized. The criteria often used by utilities to establish these fees are as follows:

- Customer understanding
- System planning criteria
- Financing criteria, and
- State/local laws

The component of customer understanding implies that the fee is easy to understand. This criterion has implications on the way that the fees are implemented and assessed to the customer. For water systems, the fee is generally based on specific customer usage (demands) or meter size. For the sewer system, it can be based on the size of the meter, or the amount of flow for one dwelling unit is determined and used to assess the number of equivalent residential units, or ERUs. The other implication of this criterion is that the methodology is clear and concise in its calculation of the amount of infrastructure necessary to provide service.

The use of system planning criteria is one of the more important aspects in the determination of connection fees. System planning criteria provides the “rational nexus” between the amount of infrastructure necessary to provide service and the charge to the customer. The rational nexus test requires that there be a connection (nexus) established between the burden of new development on the existing or new or expanded facilities required to accommodate new or expanded development, and the appropriate apportionment of the cost to the new or expanded development in relation to benefits reasonably received.

*“System planning criteria provides the “rational nexus” between the amount of infrastructure necessary to provide service and the charge to the customer.”*

To comply with the rational nexus test the calculated fees require the following:

1. *“A connection be established between new development and the new or expanded facilities required to accommodate such development. This establishes the rational basis of public policy.*
2. *Identification of the cost of these new or expanded facilities needed to accommodate new development. This establishes the burden to the public of providing new facilities to new development and the rational basis on which to hold new development accountable for such costs. This may be determined using the so-called Banberry factors. [Banberry Development Company v. South Jordan City (631 P.2d 899, Utah 1981)].*
3. *Appropriate apportionment of that cost to new development in relation to benefits it reasonably receives. This establishes the nexus between the fees being paid to finance new facilities that accommodate new development and benefit new development receives from such new facilities.”<sup>2</sup>*

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<sup>2</sup> Ibid, p. 16 and 17.

The first bullet of the rational nexus test requires the establishment of a rational basis of public policy. This implies the planning and capital improvement studies that are used to establish the need for new facilities to accommodate growth. Adopted master plans or facility plans should firmly meet this first test since these plans assess existing facilities and capacity, project future capacity requirements, and determine the future capital infrastructure and new facilities needed to accommodate growth.

The second portion of the rational nexus test discusses the Banberry Factors. In summary, *“consideration must be given to seven factors to determine the proportionate share of costs to be borne by new development:*

- 1. The cost of existing facilities*
- 2. The means by which existing facilities have been financed*
- 3. The extent to which new development has already contributed to the cost of providing existing excess capacity*
- 4. The extent to which existing development will, in the future, contribute to the cost of providing existing facilities used community wide or non-occupants of new development*
- 5. The extent to which new development should receive credit for providing, at its cost, facilities the community has provided in the past without charge to other development in the service area.*
- 6. Extraordinary costs incurred in serving new development*
- 7. The time-price differential inherent in fair comparisons of amount of money paid at different times.”<sup>3</sup>*

The final portion of the rational nexus test is the reasonable apportionment of the cost to new development in relation to benefits it reasonably receives. This is accomplished in the methodology to establish the connection fees, which is discussed in more detail within this section.

One of the driving forces behind establishing cost-based connection fees is that “growth pays for growth.” Therefore, these fees are typically established as a means of having new

*“One of the driving forces behind establishing cost-based connection fees is that “growth pays for growth.”*

customers, and those requiring additional capacity in the utility system, pay an equitable share of the cost of their required infrastructure. The financing criteria for establishing the fees relates to the method used to finance infrastructure on the system and assures that customers are not paying twice for infrastructure – once through the connection fees and again through water or sewer service fees (e.g., rates). The double payment can come in through the imposition of growth-related infrastructure debt service within

a customer’s rates. The financing criteria also reviews the basis under which main line extensions were provided and assures that the customer is not charged for infrastructure that was provided (contributed) by developers.

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<sup>3</sup> Ibid, P. 18 and 19.

Many states and local communities have enacted laws which govern the calculation and imposition of these types of development fees. These laws must be followed in the development of these types of fees. Most statutes require a “reasonable relationship” between the fee charged and the cost associated with providing service capacity to the customer. (California legal requirements are described in Section 3 of this report.) The fees do not need to be mathematically exact, but must bear a reasonable relationship to the cost burden imposed and benefits received. As discussed above, the utilization of the planning and financing criteria and the actual costs of construction and the planned costs of construction provide the nexus for the reasonable relationship requirement.

## 2.5 Overview of the Connection Fee Methodology

In establishing connection fees, there are differing methodologies. The AWWA M-1 Manual discusses three generally accepted SDC methods;

- “The *buy-in method* is based on the value of the existing system’s capacity. This method is typically used when the existing system has sufficient capacity to serve new development now and into the future.
- The *incremental cost method* is based on the value or cost to expand the existing system’s capacity. This method is typically used when the existing system has limited or no capacity to serve new development now and into the future.
- The *combined approach* is based on a blended value of both the existing and expanded system’s capacity. This method is typically used where some capacity is available in parts of the existing system (e.g. source of supply), but new or incremental capacity will need to be built in other parts (e.g., treatment plant) to serve new development at some point in the future.”<sup>4</sup>

For the development and calculation of the District’s connection fees the “combined approach” was used since there is available capacity in the existing system, but the need for future (capacity) expansion. Accordingly, the value of District assets and future projects will be determined and then be divided by the total number of existing and future ERUs. The result will be the maximum allowed total connection fee.

Regardless of the overall methodology selected, a common denominator of the technical analyses is the various steps undertaken. These steps are as follows:

- Determination of system planning criteria
- Determination of equivalent residential units (ERUs)
- Calculation of existing system costs
- Determination of any credits

The first step in establishing connection fees is the determination of the system planning criteria. This implies calculating the amount of water or sewer capacity required by a single-family residential customer. For water systems, water demand per equivalent meter is most often used, since this represents the basis for system design, and subsequent customer

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<sup>4</sup> AWWA M-1 Manual, p 6<sup>th</sup> Edition, p. 265-266.

demands that are placed on the system. The number of existing customers is expressed in equivalent meter units. The American Water Works Association (AWWA) has a standardized method for determining meter equivalency for larger meter sizes. These equivalency factors are based on the maximum safe operating capacity of the meters. Provided below in Table 2-1 is a summary of the meter equivalency factors used to establish the District's equivalent meter units or ERUs.

<b>Table 2 – 1</b> <b>Meter Equivalency Factors</b>		
<b>Meter Size</b>	<b>Safe Operating Capacity (gpm)</b>	<b>Meter Equivalency</b>
≤ 3/4"	20	1.0
3/4"	30	1.5
1"	50	2.5
1- 1/2"	100	5.0
2"	160	8.0
3"	300	15.0
4"	500	25.0
6"	1,000	50.0

For example, a 2-inch meter is the equivalent of eight (8) - 3/4-inch meters based on the safe operating capacity (160 gpm / 20 gpm = 8). These equivalency factors, for each meter size, are then used to develop the proposed water connection fee for customers based on the meter size which reflects the demands they place on the system when compared to a typical single family customer.

For the sewer system, sewer ERUs were developed based on total water ERUs and the ratio of sewer living units to total water living units. This approach provides the needed linkage between the amounts of infrastructure necessary to provide service to a set number of customers.

Once the number of equivalent residential units or capacity components for the system is determined, a component-by-component system analysis is undertaken to determine the portion of the connection fee attributable in dollars per equivalent residential unit. In this process, the existing assets must be valued. Existing assets may be valued in a number of different ways. These methods may include the following:

- ✓ Original Cost (OC)
- ✓ Original Cost Less Depreciation (OCLD)
- ✓ Replacement Cost New (RCN)
- ✓ Replacement Cost New Less Depreciation (RCNLD)

Given these four different methods for valuing the assets, the selection of the valuation method certainly arises. The American Water Works Association M-1 manual notes the following concerning these various generally accepted valuation methods:

*“Using the OC and OCLD valuations, the [connection fee] reflects the original investment in the existing capacity. The new customer “buys in” to the capacity at the OC or the net book value cost (OCLD) for the facilities and as a result pays an amount similar to what the existing customers paid for the capacity (OC) or the remaining value of the original investment (OCLD).*

*Using the RCN and the RCNLD valuations, the [connection fee] reasonably reflects the cost of providing new expansion capacity to customers as if the capacity was added at the time the new customers connected to the water system. It may be also thought of as a valuation method to fairly compensate the existing customers for the carrying costs of the excess capacity built into the system in advance of when the new customers connect to the system. This is because, up to the point of the new customer connecting to the system, the existing customers have been financially responsible for the carrying costs of that excess capacity that is available to development.”<sup>5</sup>*

As a point of reference for this study, the District’s water and sewer connection fee analysis will use a RCNLD methodology for all assets. The District’s assets will be valued at replacement value based on the District’s CRP report. The future capital infrastructure needed to accommodate future growth will be based on the District’s current capital plan. The existing infrastructure and future expansion projects are then added to the total cost component. This total future cost is divided by the total equivalent residential units to determine the “gross connection fee”. Based on the sum of the existing and future component costs, the net allowable utility connection fee is determined. “Net” refers to the calculated “gross” connection fee, net of any debt service credits. “Allowable” refers to the concept that the calculated connection fees are the District’s maximum cost-based charge. The District, as a matter of policy, may charge any amount up to the cost-based connection fee, but not in excess of that amount. Charging an amount greater than the “allowable” connection fee would not meet the nexus test of a cost-based connection fee related to the benefit derived by the customer.

## 2.6 Summary

This section of the report has provided an overview of connection fees; the basis for establishing cost-based fees, considerations in establishing the fees, the burden development places on the system and the technical or analytical steps typically taken in the development of the fees. In the development of the District’s connection fee study, the issues identified in this section of the report have been addressed and will be discussed in more detail in later sections of the report. The next section of the report provides a brief overview of the legal considerations in establishing connection fees as they relate to California law.

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<sup>5</sup> Ibid., p. 268



# Legal Considerations in Establishing Connection Fees

## 3.1 Introduction

An important consideration in developing connection fees is any legal requirements at the state or local level. The legal requirements often provide the authority to establish the fees, but also may provide a general methodology around which the connection fees must be calculated or how the funds must be used. Given that, it is important for the District to understand these legal requirements and develop and adopt fees which comply with those legal requirements. This section of the report provides an overview of the legal requirements for establishing connection fees under California law. A discussion of the applicability of Proposition 218 and Proposition 26, as it relates to these fees is also provided.

The discussion within this section of the report is intended to be a summary of our understanding of the relevant California law as it relates to establishing connection fees. It in no way constitutes a legal interpretation of California law by HDR.

## 3.2 Requirements Under California Law

Many states have specific laws regarding the establishment, calculation and implementation of connection fees. The main objective of most state laws is to assure that these charges are established in such a manner that they are fair, equitable and cost-based. In other cases, state legislation may have been needed to provide the legislative powers to the utility to establish the charges.

The laws for the enactment of connection fees in California are codified in California Government Code sections 66013, 66016, and 66022, which are interspersed within the ‘Mitigation Fee Act.’ The Mitigation Fee Act is comprehensive legislation dealing mainly with connection fees, although the above sections set forth the various requirements for imposition of connection fees in California: calculation of the fees, noticing, accounting and reporting requirements, and processes for judicial review. Although contained within the Mitigation Fee Act, connection fees are not development fees.

*“The laws for the enactment of connection fees in California are found in California Government Code sections 66013, 66016, and 66022 within the ‘Mitigation Fee Act.’”*



A summary of the relevant statutes required in the calculation of connection fees is as follows:

*“66013 (a) Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount of the fee or charge imposed in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue.”*

*“66013 (b) (3) ‘Capacity charge’ means a charge for facilities in existence at the time a charge is imposed or charges for new facilities to be constructed in the future that are of benefit to the person or property being charged. . . .”*

In addition to the determination of “the estimated reasonable cost of providing the service for which the fee is imposed,” California law also requires the following:

- That notice (of the time and place of the meeting, including a general explanation of the matter to be considered) and a statement that certain data is available be mailed to those who filed a written request for such notice;
- That certain data (the estimated cost to provide the service and anticipated revenue sources) be made available to the public;
- That the public agency provide an opportunity for public input at an open and public meeting to adopt or modify the fee; and
- That revenue in excess of actual cost be used to reduce the fee creating the excess.

The basic principle that needs to be followed under California law is that the charge be based on a proportionate share of the costs of the system required to provide service and that the requirements for adoption and accounting be followed in compliance with California law.

### **3.3 Propositions 218 and 26 and Connection Fees**

In 1996, the voters of California approved Proposition 218, which required that the imposition of certain fees and assessments by municipal governments require a vote of the people to change or increase the fee or assessment. Of interest in this particular study is the applicability of Proposition 218 to the establishment of connection fees for the District.

In *Richmond v. Shasta Community Services Dist.*, 32 Cal.4th 409 (2004), the California Supreme Court held that water connection fees are not “assessments” under Proposition 218 because they are imposed only on those who are voluntarily seeking water service, rather than being charged to particular identified parcels, and therefore such fees are not subject to the procedural or substantive requirements of Proposition 218. Additionally, the court held that a connection fee is not a development fee. The court also held that such fees can properly be enacted by either ordinance or resolution.



In November 2010 the voters of California passed Proposition 26, an initiative based state constitutional amendment, which provided a new definition of the term “tax” in the California Constitution. Under Proposition 26 a fee or charge imposed by a public agency is a tax unless it meets one of seven exceptions. Connection fees fall within exception 2 – i.e., it is a charge imposed for a specific government service. Provided that a connection fee does not charge one fee payor more in order to charge another fee payor less (i.e., a cross-subsidy), and it does not exceed the reasonable costs to the local government of providing the service, then the fee is not a tax within the meaning of Proposition 26. Under Proposition 26, the local government bears the burden of proving, by a preponderance of the evidence, that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor’s burdens on, or benefits received from, the governmental activity.

### **3.4 Summary**

This section of the report has provided an overview of the legal requirements under California law for the establishment of connection fees. As was noted above, an important legal requirement is that the fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed. The following section of the report provides the District’s calculation of the water and sewer connection fees, and provides the basis for the establishment of reasonable cost based fees. Again, HDR’s summary of the legal requirements in no way constitutes a legal interpretation of California law by HDR. HDR recommends that the District’s legal counsel review the development of the proposed water and sewer connection fees.



# Determination of the District's Water and Sewer Connection Fees

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## 4.1 Introduction

This section of the report presents the details and key assumptions in the calculation of the District's water and sewer connection fees. The calculation of the District's water connection fees is based on District specific accounting and planning information. Specifically, the connection fees are based on the District's capital replacement plan which details the value of the assets; the District's current capital improvement plans; existing equivalent residential units (ERUs) and the projection of future ERUs. As was noted in Section 2 of this report, the District's planning documents and projections of future ERUs provide the required support for a "rationally based public policy" to support the imposition of cost-based connection fee.

To the extent that the cost and timing of future capital improvements change, then the connection fees presented in this section of the report should be updated to reflect the changes.

## 4.2 Overview of the District's Water and Sewer System

Squaw Valley Public Service District was formed in 1964, consists of a 15 square miles, and serves the community of Olympic Valley in Eastern Placer County, California. Olympic Valley was the site of the 1960 Olympic Winter Games. The original wells and pipes in the Valley were built by the State of California to service the games and many of these original facilities are still in use today. Olympic Valley's primary industry is winter snow sports and related services and the area is a major tourist destination. Year-round population in the Valley is estimated to be approximately 1,000 people, with a maximum overnight population of approximately 7,000. During the peak winter holiday period; the daily population can swell to 25,000.

The Squaw Valley PSD provides services for 39 commercial entities and 1,569 residential units. Commercial customers consist of the ski resort, hotels, schools, churches and many winter sports service businesses. Privately held Squaw Valley Mutual Water Company provides water in the Valley for approximately 281 residential customers.

### 4.3 Current Water Connection Fees

The District's current water connection fee are based on the size of meter, and equivalent fixture units or EFUs. The District's current water connection fees are shown below in Table 4-1.

<b>Table 4-1 Current Water Connection Fees by EFU</b>		
<b>Meter Size</b>	<b>Number of EFUs</b>	<b>Water Connection Fee</b>
5/8"	30 EFUs	\$8,414
3/4"	31-54 EFUs	16,828
1"	55-127 EFUs	22,087

[1] – District Connection Fees effective 10/10/2011

### 4.4 Calculation of the Allowable Water Connection Fees

As was discussed in Section 2, the process of calculating the water connection fees is based on a four-step process. These steps are as follows:

1. Determination of system planning criteria
2. Determination of equivalent residential units (ERUs)
3. Calculation of the connection fees for system costs
4. Determination of any connection fee credits

Each of these areas is discussed in more detail below.

#### 4.4.1 Water System Planning Criteria

System planning criteria typically involves calculating the amount of water required by a single-family residential customer and forms the basis for system design. The American Water Works Association (AWWA) has a standardized method for determining demand factors for larger meter sizes. The number of equivalent meters can be determined based on AWWA demand factors.

The number of customers by meter size was based on data from the District's utility billing system as of December 2015. Table 4-2 shows a summary of the District's 2015 water service customers by meter size.

**Table 4-2**  
**2015 Water Existing Number of Meter**

Meter Size	Residential	Residential (Multi-Unit))	Commercial	Irrigation	Total
≤ 3/4"	167	316	11	28	522
3/4"	117	11	3	5	136
1"	34	2	4	7	47
1-1/2"	--	4	6	5	15
2"	--	6	13	16	35
3"	--	1	3	0	5
4"	--	1	3	0	5
6"	--	<u>1</u>	<u>0</u>	<u>--</u>	<u>1</u>
<b>Total</b>	<b>318</b>	<b>343</b>	<b>40</b>	<b>61</b>	<b>762</b>

The total number of water service customers by meter size as of December 2015 is 762 units.

#### 4.4.2 Equivalent Meter Units

For system planning the number of existing customers, by meter size, is converted to the total number of equivalent residential units (ERUs). This provides the total number of ERUs on the current system and reflects the total demands placed on the system regardless of the size of the meter. This is an important point as the District does not specifically know what type (class) of customer, or size of meter, will connect to the system in the future. Rather, the District is able to develop a projection of demands and resulting capacity needs based on the projection of the ERU's.

To determine the number of ERUs on the current system, the AWWA meter demand factor (See Table 2-1) and the current number of meters by size (Table 4-2) are used. The number of dwelling unit equivalents or equivalent meters can be determined based on a single-family demand factor by meter size. Table 4-3 shows the 2015 water service customers by meter size converted to a single-family meter equivalency.

**Table 4-3  
2015 Water Equivalent Meters**

<b>Meter Size</b>	<b>AWWA Meter Equivalency</b>	<b>Total Customers by Meter Size</b>	<b>Total Equivalent Meters</b>
≤ 3/4"	1.00	522	522
3/4"	1.50	136	204
1"	2.50	47	118
1-1/2"	5.00	15	75
2"	8.00	35	280
3"	15.00	5	75
4"	25.00	5	25
6"	50.00	<u>1</u>	<u>50</u>
<b>Total</b>		<b>762</b>	<b>1,349</b>

The total number of equivalent meters for the District is 1,349 units. This total will be used in determination of the total water equivalent units.

The projected total water ERUs to the year 2026 were based on the Water Supply Assessment 2015 Update, Table 4.2 Single Family growth. This table showed an annual growth rate of 0.6%. The 0.6% annual growth rate was used to project ERUs from 2016 to 2026. The District's total equivalent meters of 1,349 were projected to be 1,441 in 2026 based on this assumption. Exhibit 1 of the water Technical Appendix details this calculation.

#### **4.4.3 Calculation of the Water Connection Fee by Components**

The next step of the analysis is to review the major functional system infrastructure to determine the connection fee for the system. In calculating the connection fees for the District, existing infrastructure, debt service for existing facilities, and future capital improvements relating to expansion were included. The methodology used to calculate each of these components is described below.

**EXISTING OR BUY-IN COMPONENT** – To calculate the value of the existing assets for the buy-in component, the District's methodology considered the replacement cost of each asset based on the District's capital replacement plan. The replacement cost of each asset was then depreciated for the remaining useful life (i.e., replacement cost less depreciation). A replacement cost method "is appropriate when the system has been completely built out, or possesses substantial excess capacity to accommodate new development on a fill-in basis."<sup>6</sup>

<sup>6</sup> Arthur C. Nelson, System Development Charges for Water, Wastewater, and Stormwater Facilities, Lewis Publishers, New York, 1995, P. 77

The District provided a listing, as part of the capital replacement plan, for the various existing components and their installation dates of the water system infrastructure. As was noted, there are different methods for valuing existing assets. In this case, a replacement cost new, less depreciation method was used. To accomplish this, the replacement value of the District's existing system was based on costs from the District's CRP report. Then, based on the installation date for each asset and an estimated useful life provided by the District, the replacement cost for each asset was depreciated.

Given the value of the assets, the next step was to determine the portion of the project costs that were deemed eligible to be included in the calculation of the connection fee. Within this study contributions (i.e., donated or contributed assets) were also excluded from the calculation of the connection fee. This is an important point, as the District did not fund these improvements and they are therefore "backed out" of the fee and not included.

The final value of the assets was reduced by the amount of future principal on the debt associated with the assets as the principal will be recovered via the debt component within the District's current rates. As described below (see Debt Service Component discussion), the remaining principal portion of the debt associated with the assets was deducted from the total eligible asset value prior to calculating the connection fee. This inclusion of a "debt service credit" avoids double charging the customer for the asset value in the existing or buy-in component of the connection fee, and also in the debt service component of the rates. The principal portion of the debt service balance on existing assets is removed from the value prior to calculating the buy-in portion of the fee.

**DEBT SERVICE COMPONENT** - In addition to the buy-in component, a debt service component was also developed. This component accounts for any remaining (outstanding) principal for debt used to fund existing assets. By segregating the debt service costs, the cost can be clearly identified and calculated appropriately. To avoid double-counting of the assets financed with debt, the future principal associated with those assets was deducted from the existing infrastructure value.

The District has two outstanding issues for both the water and sewer system. They are the Facility Loan and the Snow Blower loan. The Water fund is responsible for 32.5% of the debt service on the two issues. The total debt service eligible is \$1.5 million for water. Further detail can be seen on Exhibit W-8 of the Water Technical Appendix.

**FUTURE COMPONENTS** – An important requirement for a connection fee study is the connection between the anticipated future growth on the system and the required facilities needed to accommodate that growth. For purposes of this study, the District's most current Capital Improvement Plan (CIP) for a ten year planning period was provided and District staff reviewed capital improvements which were growth related. The Pressure Zone 1A project was estimated to be 66.7% growth related and the East Booster Pump Station Replacement was estimated to be 33.3% growth related. At the current time, the District is discussing developer agreements for future improvements to the system to serve specific areas, or customers. This specifically relates to future wells which will be developer funded and are not included in the fee. Other CIP projects will also be included in developer agreements and are excluded from the

calculation of the fee. Should the District participate, or fund, portions of these CIP projects, the connection fee analysis should be updated to reflect the District funded portion. Capital improvements that were growth-related totaled \$433,150. Exhibit 2 of the Water Technical Appendix contains the details of this portion of the fee.

#### 4.5 Net Allowable Water Connection Fees

Based on the sum of the component costs calculated above, the net allowable water connection fee was determined. “Allowable” refers to the concept that the calculated connection fees provided in Table 4-4 are the District’s cost-based water connection fees. The District, as a matter of policy, may charge any amount up to the allowable connection fee, but not in excess of that amount. Charging an amount greater than the allowable water connection fee would not meet the nexus test of a cost-based connection fee. Details are provided in the Water Technical Appendix.

<b>Table 4-4</b> <b>Summary of Allowable Water Connection Fee (\$/ERU)</b>	
	<b>Total “Allowable” Water Connection Fee</b>
<b>Existing Plant (RCNLD)</b>	
Total Source Plant	\$2,092,584
Total Pumping Plant	102,180
Total Storage Plant	845,547
Total Transmission & Distribution Plant	5,397,813
Total Existing General Plant	<u>6,608,931</u>
Total Existing Plant	\$15,047,055
Less: Outstanding Debt Principal	<u>(\$474,163)</u>
<b>Total Existing Plant</b>	<b>\$14,572,892</b>
<b>Future Plant</b>	
Total Transmission & Distribution Plant	\$166,750
Total Pumping Plant	<u>266,400</u>
<b>Total Future Plant</b>	<b>\$433,150</b>
<b>Total Existing and Future Plant</b>	<b>\$15,006,042</b>
Total ERUs [1]	1,441
<b>Net Allowable Water Connection Fee (\$/ERU)</b>	<b>\$10,414</b>

[1] The total ERUs are based on Water Supply Assessment 2015 Update, Table 4.2 Single Family growth (0.6%+ annual growth rate, 2016 to 2026).

As can be seen in Table 4-4, the calculated water connection fee was determined to be \$10,414 per ERU. These fees are stated as one (1) ERU or a ≤ 1-inch meter. As a note, the application of the water connection fee is proposed to be implemented on a per meter size basis rather than the current fixture unit approach. This approach will simplify the application and not rely on

the need to count, and monitor, fixture units of customers. The ERU definition has also been set to now be less than or equal to a 1-inch meter. The District has implemented a policy for fire requirements that the standard meter size will start at a 1-inch meter.

Table 4-5 provides a summary of the calculated and allowable water connection fees by meter size. The meter equivalency shown in Table 4-5 has been adjusted to reflect the standard meter size for the District at a 1-inch meter.

<b>Table 4-5</b> <b>Summary of Allowable Water Connection Fee by Meter Size</b>		
<b>Meter Size [1]</b>	<b>Meter Equivalency [2]</b>	<b>Water Connection Fee</b>
1"	1.0	\$10,414
1- 1/2"	2.0	20,828
2"	3.2	33,325
3"	6.0	62,484
4"	10.0	104,140
6"	20.0	208,280

[1] Connection fees for meters  $\geq$  2-inch meters may be calculated by the District on a case by case basis.

[2] Meter equivalency set to 1-inch meter equivalency.

As can be seen in Table 4-5, the Water Connection Fee is \$10,414 for a 1-inch meter. The connection fee varies based on the safe maximum operating capacity of the customer's meter. The capacity charges for the larger meter sizes are determined by multiplying the capacity charge for a 1-inch meter by the meter equivalency factors (i.e., relative capacities). As noted, the connection fee for meter sizes 2-inch or greater will be reviewed and calculated by the District. This review is necessary to ensure that the flow assumptions for the customers with larger meters reflect the base assumptions of an ERU and the customer is not imposing greater capacity demands on the system.

## 4.6 Key Water Assumptions

In the development of the District's water connection fees, a number of key assumptions were utilized. These are as follows:

- The water connection fees were developed on the basis of the District's planning documents, anticipated future connections (ERUs), and the needed capital improvements to serve those future connections.
- The assumed equivalent residential unit was adjusted from a  $\leq$  3/4-inch meter to a 1-inch meter. This revised definition of an ERU is based on District policy.
- The District's asset records were used to determine the existing infrastructure assets and their value. Assets were valued based on the District's Cost Recovery report data in 2016 dollars.
- The analysis excluded prior developer contributions from the analysis.



- The District provided financial records related to future water debt service payments.
- The District provided the most recent water CIP for future expansion improvements over a ten year planning period.
- The District determined the portion of future improvements that were growth-related.
- The base year for the CIP was assumed at 2016.
- The calculation of the debt credit component included current outstanding principal on existing assets.

## 4.7 Current Sewer Connection Fees

The District's current sewer connection fee is based on a minimum equivalent fixture unit (EFU) of 22 EFUs. The District's current sewer connection fees are shown below in Table 4-6.

<b>Table 4-6</b> <b>Current Sewer Connection Fee Based (EFUs)</b>	
<b>Number of EFUs</b>	<b>Sewer Connection Fee</b>
22 or less EFU minimum	\$1,211
Additional EFUs (per EFU)	\$55

[1] – District Connection Fees effective 10/10/2011

## 4.8 Net Allowable Sewer Connection Fees

The sewer connection fee was based on the same methodology as the water connection fee. In calculating the sewer connection fees for the District, existing infrastructure costs, debt service for existing facilities, future capital improvements relating to expansion were included. The methodology used to calculate each of these components is described below.

**EQUIVALENT ERUs** – The water total ERUs were based the equivalent meter calculation of the District's existing meters and projected to 2026 based on the Water Supply Assessment 2015 Update, Table 4.2 Single Family growth. This table showed an annual growth rate of 0.6%. The 0.6% annual growth rate was used to project ERUs from 2016 to 2026. The sewer ERUs were developed based on the total water ERUs and the ratio of sewer living units to total water living units which equals 1,277 ERUs (1,357 water X (1,533 sewer living/1,629 total water living) = 1,277). Exhibit 1 in the Sewer Technical Appendix provides the assumptions used to develop the sewer ERUs.

**EXISTING OR BUY-IN COMPONENT** – To calculate the value of the existing assets for the buy-in component, the District's methodology considered the replacement cost of each asset as developed in the CRP report. The replacement cost of each asset was then depreciated for the remaining useful life (i.e., replacement cost less depreciation).

The District provided an asset listing for the various existing components and their installation dates. The replacement value of the District's existing system was based on costs from the

District's CRP report. Based on the installation date for each asset and an estimated useful life provided by the District, the replacement cost for each asset was depreciated. Existing facilities funded by developers, or not funded by the District, were excluded from the connection fee as these contributions do not reflect the investment made by the District.

The inclusion of a "debt service credit" avoids double charging the customer for the asset value in the existing or buy-in component of the connection fee, and also in the debt service component of the rates. The principal portion of the debt service balance on existing assets is removed from the value prior to calculating the buy-in portion of the fee.

**DEBT SERVICE COMPONENT** - This component accounts for the principal on existing assets. By segregating the debt service costs, the cost can be clearly identified and calculated appropriately. To avoid double-counting of the assets financed with debt, the future principal associated with those assets was deducted from the existing infrastructure value.

The District has two outstanding issues for both the water and sewer system. They are the Facility Loan and the Snow Blower loan. The Sewer fund is responsible for 17.5% of the debt service on the two issues. The total debt service eligible is \$255,378 for sewer. Further detail can be seen on Exhibit 5 of the Sewer Technical Appendix.

**FUTURE COMPONENTS** – An important requirement for a connection fee study is the connection between the anticipated future growth on the system and the required facilities needed to accommodate that growth. For purposes of this study, the District's most current Capital Improvement Plan (CIP) for a ten year planning period was provided and District staff reviewed capital improvements which were growth related. The Truckee River Siphon project was estimated to be 55.0% growth related and the Sewer Flow Meters was estimated to be 100.0% growth related. Future projects may also be funded through developer agreements. As a result, none of these projects have been included in the development of the fee. Should the District participate, or fund, portions of these CIP projects, the connection fee analysis should be updated to reflect the District funded portion. Capital improvements that were growth-related totaled \$1,145,000. Exhibit 2 of the Sewer Technical Appendix contains the details of this portion of the fee.

**Table 4-7**  
**Summary of Allowable Sewer Connection Fee (\$/ERU)**

	<b>Total “Allowable” Sewer Connection Fee</b>
<b>Existing Plant (RCNLD)</b>	
Total Collection Plant	\$3,957,573
Total Existing General Plant	<u>2,808,980</u>
Total Existing Plant	\$6,766,553
Less: Outstanding Debt Principal	<u>(\$255,378)</u>
<b>Total Existing Plant</b>	<b>\$6,511,175</b>
<b>Future Plant</b>	
Total Collection Plant	<u>\$1,145,000</u>
<b>Total Future Plant</b>	<b>\$1,145,000</b>
<b>Total Existing and Future Plant</b>	<b>\$7,656,175</b>
Total ERUs [1]	1,361
<b>Net Allowable Sewer Connection Fee (\$/ERU)</b>	<b>\$5,627</b>

[1] Total ERUs based on Water Supply Assessment 2015 Update, Table 4.2 Single Family growth (0.6%+ annual growth rate, 2016 to 2026).

Based on the sum of the component costs calculated above, the net allowable sewer connection fee were determined. “Allowable” refers to the concept that the calculated connection fees shown on Table 4-7 are the District’s cost-based sewer connection fees. The District, as a matter of policy, may charge any amount up to the allowable connection fee, but not in excess of that amount. Charging an amount greater than the allowable sewer connection fee would not meet the nexus test of a cost-based connection fee. Details of the calculation are provided in the Sewer Technical Appendix.

As can be seen in Table 4-7, the calculated sewer connection fee was determined to be \$5,627 per ERU. Similar to the water connection fee, the proposed application of the sewer connection fee is on the customer water meter size. These fees are stated as one (1) ERU or a ≤ 1-inch meter.

Table 4-8 provides a summary of the calculated and allowable sewer connection fees by meter size.

**Table 4-8**  
**Summary of Allowable Sewer Connection Fee by Meter Size**

<b>Meter Size <sup>[1]</sup></b>	<b>Meter Equivalency <sup>[2]</sup></b>	<b>Sewer Connection Fee</b>
1"	1.0	\$5,627
1- 1/2"	2.0	11,254
2"	3.2	18,006
3"	6.0	33,762
4"	10.0	56,270
6"	20.0	112,540

[1] Connection fees for meters  $\geq$  2-inch meters may be calculated by the District on a case by case basis.

[2] Meter equivalency set to 1-inch meter equivalency.

As can be seen in Table 4-8, the Sewer Connection Fee is \$5,627 for a 1-inch meter or less. The connection fee varies based on the size of the customer's meter. The capacity charges for the larger meter sizes are determined by multiplying the capacity charge for a 1-inch meter by the meter equivalency factors (i.e., relative capacities). Similar to the water connection fee for those connections with a meter size greater than 2-inch will be reviewed by the District to ensure that the capacity reflects the assumptions used to establish the sewer connection fee.

## 4.9 Key Sewer Assumptions

In the development of the District's sewer connection fees, a number of key assumptions were utilized. These are as follows:

- The sewer connection fees were developed on the basis of the District's planning documents, anticipated future connections and the needed capital improvements to serve those future connections.
- The assumed equivalent residential unit was adjusted from a  $\leq$  3/4-inch meter to a 1-inch meter. This revised definition of an ERU is based on District policy.
- The District's asset records were used to determine the existing infrastructure assets and their value. Assets were valued based on the District's capital replacement plan data in 2016 dollars.
- Contributions were excluded from the analysis and calculation of the sewer connection fee.
- The District provided financial records related to future sewer debt service payments.
- The District provided the most recent sewer CIP for future expansion improvements over a ten year planning period.
- The District determined the portion of future improvements that were growth-related.
- The base year for the CIP was assumed at 2016.
- The calculation of the debt credit component included current outstanding principal on existing assets.

## **4.10 Implementation of the Proposed Water and Sewer Connection Fees**

HDR would recommend that the District adjust the water and sewer connection fees on an annual basis using the Engineering News Record Construction Cost Index (ENR-CCI) to reflect the cost of interest and inflation. This method of escalating the District's fees should be used for no more than a five-year period. After five years, HDR recommends that the District update the water and sewer connection fees based on the actual cost of infrastructure and any new planned facilities that would be contained in an updated master plan or CIP.

## **4.11 Consultant Recommendations**

Based on our review and analysis of the District's fees, HDR provides the following recommendations:

- The District should revise and update its water and sewer connection fees to the calculated maximum allowable water and sewer connection fees shown in this study. The fees are applicable for any new customers connecting to the water and sewer system, or an existing customer requesting/requiring additional capacity. The adopted water and sewer connection fees shall not exceed the calculated fees as set forth in this report.
- The District should make periodic (annual) adjustments to the water and sewer connection fees based on changes in the Engineering News Record Construction Cost Index.
- The District should update the actual calculations for the water and sewer connection fees based on the methodology as approved by the resolution or ordinance setting forth the methodology for water and sewer connection fees at such time when a new CIP, facilities plan, master plan or a comparable plan is approved or updated by the District for the water or sewer systems.

## **4.12 Summary**

The development of the water and sewer connection fees by HDR utilized generally accepted engineering and rate and fee making principles, while applying District specific planning, asset and customer information. HDR would recommend that the District have its legal counsel review the water and sewer connection fees and this report before any adjustments are made to ensure compliance with California law.



## Technical Appendices

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## Water Connection Fee



**Squaw Valley**  
**Water Connection Fee**  
**ERU Projections**  
**Exhibit 1**

<b>Summary Totals</b>	<b>ERUs</b>
2016 adjusted from 2015 totals (1)	1,357
Projected 2026 ERUs (2)	1,441
Add'l ERUs 2016 - 2026	84

<b>Year</b>	<b>ERUs (2)</b>	<b>Add'l ERUs</b>
2016	1,357	
2017	1,365	8
2018	1,373	8
2019	1,382	8
2020	1,390	8
2021	1,398	8
2022	1,407	8
2023	1,415	8
2024	1,424	8
2025	1,432	9
2026	1,441	9

**Notes:**

- (1) - Calculated using existing meters and AWWA meter equivalencies.  
(2) - ERU growth based on Water Supply Assessment 2015 Update,  
on Table 4.2 Single Family growth (0.6% annual growth rate).



Squaw Valley  
Water Connection Fee  
Capital Improvement Projects  
Exhibit 2

	Total 2016\$ (1)	Connection Fee Eligible	Cost 2016\$
<b>Future Source Related Assets</b>			\$0 0
	<b>\$0</b>		<b>\$0</b>
<b>Future Storage Related Assets</b>			\$0 0
	<b>\$0</b>		<b>\$0</b>
<b>Future Transmission / Distribution Related Assets</b>			
Pressure Zone 1A	\$250,000	66.7%	\$166,750 0
	<b>\$250,000</b>		<b>\$166,750</b>
<b>Future Pumping Related Assets</b>			
East Booster Pump Station Replacement	\$800,000	33.3%	\$266,400 0
	<b>\$800,000</b>		<b>\$266,400</b>
<b>Future General Plant Assets</b>			\$0 0
	<b>\$0</b>		<b>\$0</b>
<b>Total Future Capital Improvements</b>	<b>\$1,050,000</b>		<b>\$433,150</b>
<b>Notes:</b>			

(1) - Future assets based on District ten-year capital plan. Future 6 wells will be developer paid and are not included.

Squaw Valley  
Water Connection Fee  
Source  
Exhibit 3

Base Year: 2016

Page 1 of 1

Date Acquired	Asset	Replacement Cost New (1)	Depreciation Percent	Connection Fee Eligible	RCNLD (2)
<b>Existing Source Related Assets</b>					
	Horizontal Wells	\$250,000	51.0%	100.0%	\$122,500
	Wells	4,020,579	51.0%	100.0%	1,970,084
	<b>Total Existing Source Related Assets</b>	<b>\$4,270,579</b>			<b>\$2,092,584</b>
	<b>Current + Future (2026 ERUs)</b>				<b>1,441</b>
	<b>Existing Source Related Buy-in (\$ / ERU )</b>	<b>\$2,963.62</b>			<b>\$1,452.17</b>
	<b>Total Source Related Buy-in (\$ / ERU)</b>	<b>\$2,963.62</b>			<b>\$1,452.17</b>
<b>Future Source Related Assets</b>					
	0	\$0		0%	\$0
	0	0		0%	0
	<b>Total Future Source Related Assets</b>	<b>\$0</b>			<b>\$0</b>
	<b>Current + Future (2026 ERUs)</b>				<b>1,441</b>
	<b>Future Source Related Expansion (\$ / ERU)</b>				<b>\$0.00</b>
	<b>Total Future Source Related Expansion (\$ / ERU)</b>				<b>\$0.00</b>
<b>Total Source - Related Buy-in and Expansion (\$ / ERU)</b>					
		<b>\$2,963.62</b>			<b>\$1,452.17</b>

**Notes:**

- (1) - Replacement cost based on District Capital Replacement Plan (CRP) Report.  
(2) - Methodology is Replacement Cost New Less Depreciation (RCNLD).

Squaw Valley  
Water Connection Fee  
Pumping  
Exhibit 4

Base Year 2016

Page 1 of 1

Date Acquired	Asset	Replacement Cost New (1)	Depreciation Percent	Connection Fee Eligible	RCNLD
<b>Existing Pumping Related Assets</b>					
	Zone 3 Booster PS	\$196,500	48.0%	100.0%	\$102,180
	<b>Total Existing Pumping Related Assets</b>	<b>\$196,500</b>			<b>\$102,180</b>
	Current + Future (2026 ERUs)				1,441
	Existing Pumping Related Buy-in (\$ / ERU )	\$136.36			\$70.91
	<b>Total Pumping Related Buy-in (\$ / ERU)</b>	<b>\$136.36</b>			<b>\$70.91</b>
<b>Future Pumping Related Assets (2)</b>					
	East Booster Pump Station Replacement	\$800,000		33.3%	\$266,400
	0	0		0.0%	0
	<b>Total Future Pumping Related Assets (2)</b>	<b>\$800,000</b>			<b>\$266,400</b>
	Current + Future (2026 ERUs)				1,441
	Future Pumping Related Expansion (\$ / ERU)				\$184.87
	<b>Total Future Pumping Related Expansion (\$ / ERU)</b>				<b>\$184.87</b>
	<b>Total Pumping - Related Buy-in and Expansion (\$ / ERU)</b>	<b>\$321.24</b>			<b>\$255.78</b>

**Notes:**

- (1) - Replacement cost based on District Capital Replacement Plan (CRP) Report.  
(2) - Future plant based on District 10-year capital plan.

Squaw Valley  
Water Connection Fee  
Storage  
Exhibit 5

Base Year: 2016

Page 1 of 1

Date Acquired	Asset	Replacement Cost New (1)	Depreciation Percent	Connection Fee Eligible	RCNLD
<b>Existing Storage Related Assets</b>					
	Tanks	\$2,161,911	60.9%	100.0%	\$845,547
	<b>Total Existing Storage Related Assets</b>	<b>\$2,161,911</b>			<b>\$845,547</b>
	Current + Future (2026 ERUs)				1,441
	Existing Storage Related Buy-in (\$ / ERU )	\$1,500.29			\$586.78
	<b>Total Storage Related Buy-in (\$ / ERU)</b>	<b>\$1,500.29</b>			<b>\$586.78</b>
<b>Future Storage Related Assets</b>					
	0	\$0		0.0%	\$0
	0	0		0.0%	0
	<b>Total Future Storage Related Assets</b>	<b>\$0</b>			<b>\$0</b>
	Current + Future (2026 ERUs)				1,441
	Future Storage Related Expansion (\$ / ERU)				\$0.00
	<b>Total Future Storage Related Expansion (\$ / ERU)</b>				<b>\$0.00</b>
	<b>Total Storage - Related Buy-in and Expansion (\$ / ERU)</b>	<b>\$1,500.29</b>			<b>\$586.78</b>

**Notes:**

(1) - Replacement cost based on District Capital Replacement Plan (CRP) Report.

Squaw Valley  
Water Connection Fee  
Transmission & Distribution  
Exhibit 6

Base Year: 2016

Page 1 of 1

Date Acquired	Asset	Replacement Cost New (1)	Depreciation Percent	Connection Fee Eligible	RCNLD
<b>Existing Transmission &amp; Distribution Related Assets</b>					
	Mains (2)	\$11,505,634	50.0%	50.0%	\$2,876,409
	Meters	236,210	50.0%	0.0%	0
	Laterals (2)	7,782,113	50.0%	64.8%	2,521,404
		-----			-----
	<b>Total Existing Transmission &amp; Distribution Related Assets</b>	<b>\$19,523,957</b>			<b>\$5,397,813</b>
	<b>Current + Future (2026 ERUs)</b>				<b>1,441</b>
	<b>Existing Transmission &amp; Distribution Related Buy-in (\$ / I</b>	<b>\$13,548.89</b>			<b>\$3,745.88</b>
	<b>Total Transmission &amp; Distribution Related Buy-in (\$ / ERU</b>	<b>\$13,548.89</b>			<b>\$3,745.88</b>
<b>Future Transmission &amp; Distribution Related Assets</b>					
	Pressure Zone 1A	\$250,000		66.7%	\$166,750
	0	0		0.0%	0
		-----			-----
	<b>Total Future Transmission &amp; Distribution Related Assets</b>	<b>\$250,000</b>			<b>\$166,750</b>
	<b>Current + Future (2026 ERUs)</b>				<b>1,441</b>
	<b>Future Transmission &amp; Distribution Related Expansion (\$ / ERU)</b>				<b>\$115.72</b>
	<b>Total Future Transmission &amp; Distribution Related Expansion (\$ / ERU)</b>				<b>\$115.72</b>
<b>Total Transmission &amp; Distribution - Related Buy-in and Expansion</b>					
		<b>\$13,664.61</b>			<b>\$3,861.60</b>

**Notes:**

(1) - Replacement cost based on District Capital Replacement Plan (CRP) Report.

(2) - Mains assumed 50% developer contributed. Laterals 35.2% contributed based on pipes > 8" or 64.8% eligible (100% -35.2% = 64.8%)

Squaw Valley  
Water Connection Fee  
General Plant  
Exhibit 7

Base Year: 2016

Page 1 of 1

Date Acquired	Asset	Replacement Cost New (1)	Depreciation Percent	Connection Fee Eligible	RCNLD
<b>Existing General Plant Related Assets</b>					
	Hydrants	\$1,323,200	44.2%	100.0%	\$738,305
	Gate / BF Valves	955,793	47.2%	100.0%	504,664
	ARV / BO Valves	173,750	50.4%	100.0%	86,106
	PRV	115,500	45.3%	100.0%	63,179
	Equipment	6,200	100.0%	100.0%	0
	Shared Expenses - 305 (2)	5,078,125	25.0%	100.0%	3,808,594
	Shared Expenses - 1810 (2)	1,877,445	25.0%	100.0%	1,408,084
	<b>Total Existing General Plant Related Assets</b>	<b>\$9,530,013</b>			<b>\$6,608,931</b>
	<b>Current + Future (2026 ERUs)</b>				<b>1,441</b>
	<b>Existing General Plant Related Buy-in (\$ / ERU</b>	<b>\$6,613.47</b>			<b>\$4,586.35</b>
	<b>Total General Plant Related Buy-in (\$ / ERU)</b>	<b>\$6,613.47</b>			<b>\$4,586.35</b>
<b>Future General Plant Related Assets</b>					
	0	\$0		0.0%	\$0
	0	0		0.0%	0
	<b>Total Future General Plant Related Assets</b>	<b>\$0</b>			<b>\$0</b>
	<b>Current + Future (2026 ERUs)</b>				<b>1,441</b>
	<b>Future General Plant Related Expansion (\$ / ERU)</b>				<b>\$0.00</b>
	<b>Total Future General Plant Related Expansion (\$ / ERU)</b>				<b>\$0.00</b>
<b>Total General Plant - Related Buy-in and Expansion (\$ / I</b>		<b>\$6,613.47</b>			<b>\$4,586.35</b>

**Notes:**

(1) - Replacement cost based on District Capital Replacement Plan (CRP) Report.

(2) - Shared general plant is 50% Fire / 50% Water & Sewer; split is 65% Water / 35% Sewer or 32.5% Water (50% \* 65% = 32.5%)

Squaw Valley  
Water Connection Fee  
Debt Service Component  
Exhibit 8

Year	Principal	Interest	Total Debt	ERUs (1)	\$ / ERU	Basis
<b>Facility Loan</b>						
FY 16/17	\$79,909	\$44,914	\$124,823			
FY 17/18	82,570	41,969	124,540			
FY 18/19	85,320	38,926	124,246			
FY 19/20	88,161	35,782	123,943			
FY 20/21	91,097	32,533	123,630			
FY 21/22	94,130	29,175	123,306			
FY 22/23	97,265	25,706	122,971			
FY 23/24	100,504	22,122	122,625			
FY 24/25	103,851	18,418	122,268			
FY 25/26	107,309	14,590	121,899			
FY 26/27	110,882	10,635	121,518			
FY 27/28	114,575	6,549	121,123			
FY 28/29	118,390	2,326	120,716			
	<u>\$1,273,962</u>	<u>\$323,646</u>	<u>\$1,597,608</u>	<b>1,441</b>	<b>\$884.08</b>	<b>Current + Future (2026 ERUs)</b>
		Water =	<b>32.5%</b>		<b>\$287.33</b>	
<b>Snow Blower</b>						
FY 16/17	\$185,000	\$4,533	\$189,533			
	<u>\$185,000</u>	<u>\$4,533</u>	<u>\$189,533</u>	<b>1,441</b>	<b>\$128.38</b>	<b>Current + Future (2026 ERUs)</b>
		Water =	<b>32.5%</b>		<b>\$41.72</b>	
<b>Total Debt Service Credit</b>					<b>\$329.05</b>	

**Notes:**

(1) - The 50% of shared general plant is split 65% water and 35% sewer or 32.5% water (50% X 65% = 32.5%).

Squaw Valley  
Water Connection Fee  
Allowable Water Connection Fees  
Exhibit 9

Component	Calculation Results (1)		
	Existing	Future	Total
Source	\$1,452.17	\$0.00	\$1,452.17
Pumping	70.91	184.87	255.78
Storage	586.78	0.00	586.78
Transmission & Distribution	3,745.88	115.72	3,861.60
General Plant	4,586.35	0.00	4,586.35
Debt Service	(329.05)	N/A	(329.05)
<b>Total</b>	<b>\$10,113.04</b>	<b>\$300.59</b>	<b>\$10,413.63</b>

Net Water Connection Fee ≤ 1" Meter [Rounded] **\$10,414**

Current Water Connection Fee **\$8,414**

Difference **\$2,000**

Meter Size	Ratio	Cost (2)
1" Meter	1.00	\$10,414
1.5" Meter	2.00	20,828
2" Meter	3.20	33,325
3" Meter	6.00	62,484
4" Meter	10.00	104,140
6" Meter	20.00	208,280

**Notes:**

(1) - Methodology is Replacement Cost New Less Depreciation (RCNLD)

(2) - Connection Fee for meters ≥ 2" may be calculated by the District on a case by case basis





## Sewer Connection Fee



Squaw Valley  
Sewer Connection Fee Study  
ERU Projections  
Exhibit 1

Summary Totals	ERUs
2016 adjusted from 2015 totals (1)	1,277
Projected 2026 ERUs (2)	1,361
Add'l ERUs 2016 - 2026	84

Year	ERUs (2)	Add'l ERUs
2016	1,277	
2017	1,285	8
2018	1,293	8
2019	1,302	8
2020	1,310	8
2021	1,318	8
2022	1,327	8
2023	1,335	8
2024	1,344	8
2025	1,352	9
2026	1,361	9

**Notes:**

- (1) - Sewer ERUS developed based on total Water ERUS from water connection study and the ratio of sewer living units to total water living units.  $(1,357 \times (1,533/1,629))$ .
- (2) - ERU growth based on Water Supply Assessment 2015 Update, on Table 4.2 Single Family growth (0.6% annual growth rate).

Squaw Valley  
Sewer Connection Fee Study  
Capital Improvement Projects  
Exhibit 2

	Total 2016\$ (1)	Connection Fee Eligible (2)	Cost 2016\$
<b>Future Collection Related Assets</b>			
Truckee River Siphon	\$1,900,000	55.0%	\$1,045,000
Sewer Flow Meters	100,000	100.0%	100,000
	<u>\$2,000,000</u>		<u>\$1,145,000</u>
<b>Future General Plant Related Assets</b>			
	<u>\$0</u>		<u>\$0</u>
<b>Total Future Capital Improvements</b>	<b>\$2,000,000</b>		<b>\$1,145,000</b>

**Notes:**

(1) - Future assets based on District ten-year capital plan.

(2) - Siphon project is 45% Capital Replacement Plan (CRP) and 55% CIP related.

Squaw Valley  
Sewer Connection Fee Study  
Collection  
Exhibit 3

Base Year: 2016

Page 1 of 1

Date Acquired	Asset	Replacement Cost New (1)	Depreciation Percent	Connection Fee Eligible	RCNLD
<b>Existing Collection Related Assets</b>					
	Gravity Mains	\$12,841,443	53.0%	50.0%	\$3,018,041
	Laterals (2)	1,051,313	47.0%	50.0%	278,725
	Manholes	2,926,555	54.8%	50.0%	660,807
	Cleanouts	485,000	12.9%	0.0%	0
	Flow Meters	389,915	80.0%	0.0%	0
<b>Total</b>		<b>\$17,694,225</b>			<b>\$3,957,573</b>
	<b>Current + Future (2026 ERUs)</b>				<b>1,361</b>
	<b>Existing Collection Related Buy-in (\$ / ERU )</b>	<b>\$13,003.93</b>			<b>\$2,908.52</b>
	<b>Total Collection Related Buy-in (\$ / ERU)</b>	<b>\$13,003.93</b>			<b>\$2,908.52</b>
<b>Future Collection Related Assets</b>					
	Truckee River Siphon	\$1,900,000		55.0%	\$1,045,000
	Sewer Flow Meters	100,000		100.0%	100,000
	<b>Total Future Collection Related Assets</b>	<b>\$2,000,000</b>			<b>\$1,145,000</b>
	<b>Current + Future (2026 ERUs)</b>				<b>1,361</b>
	<b>Future Collection Related Expansion (\$ / ERU)</b>				<b>\$841.49</b>
	<b>Total Future Collection Related Expansion (\$ / ERU)</b>				<b>\$841.49</b>
<b>Total Collection - Related Buy-in and Expansion (\$ / ERU)</b>		<b>\$13,845.41</b>			<b>\$3,750.01</b>

**Notes:**

- (1) - Replacement cost based on District Capital Replacement Plan (CRP) Report.  
(2) -Main/Laterals assumed 50% developer contributed.

Squaw Valley  
Sewer Connection Fee Study  
General Plant  
Exhibit 4

Base Year: 2016

Page 1 of 1

Date Acquired	Asset	Replacement Cost New (1)	Depreciation Percent	Connection Fee Eligible	RCNLD
<b>Existing General Plant Related Assets</b>					
	Shared Expenses - 305 (2)	2,734,375	25.0%	100.0%	\$2,050,781
	Shared Expenses - 1810 (2)	1,010,932	25.0%	100.0%	758,199
<b>Total</b>		<b>\$3,745,307</b>			<b>\$2,808,980</b>
	<b>Current + Future (2026 ERUs)</b>				<b>1,361</b>
	Existing General Plant Related Buy-in (\$ / ERU)	\$2,752.52			\$2,064.39
	<b>Total General Plant Related Buy-in (\$ / ERU)</b>	<b>\$2,752.52</b>			<b>\$2,064.39</b>
<b>Future General Plant Related Assets</b>					
	0	\$0		0%	\$0
	0	0		0%	0
	<b>Total Future General Plant Related Assets</b>	<b>\$0</b>			<b>\$0</b>
	<b>Current + Future (2026 ERUs)</b>				<b>1,361</b>
	<b>Total Future General Plant Related Expansion (\$ / ERU)</b>				<b>\$0.00</b>
<b>Total General Plant - Related Buy-in and Expansion (\$ / ERU)</b>		<b>\$2,752.52</b>			<b>\$2,064.39</b>

**Notes:**

(1) - Replacement cost based on District Capital Replacement Plan (CRP) Report.

(2) - Shared general plant is 50% Fire / 50% Water & Sewer; split is 65% Water / 35% Sewer or 17.5% Sewer (50% X 35% = 17.5%)

Squaw Valley  
Sewer Connection Fee Study  
Debt Service Component  
Exhibit 5

Year	Principal	Interest	Total Debt	ERUs (1)	\$ / ERU	Basis
<b>Facility Loan</b>						
FY 16/17	\$79,909	\$44,914	\$124,823			
FY 17/18	82,570	41,969	124,540			
FY 18/19	85,320	38,926	124,246			
FY 19/20	88,161	35,782	123,943			
FY 20/21	91,097	32,533	123,630			
FY 21/22	94,130	29,175	123,306			
FY 22/23	97,265	25,706	122,971			
FY 23/24	100,504	22,122	122,625			
FY 24/25	103,851	18,418	122,268			
FY 25/26	107,309	14,590	121,899			
FY 26/27	110,882	10,635	121,518			
FY 27/28	114,575	6,549	121,123			
FY 28/29	118,390	2,326	120,716			
	<u>\$1,273,962</u>	<u>\$323,646</u>	<u>\$1,597,608</u>	<b>1,361</b>	<b>\$936.27</b>	<b>Current + Future (2026 ERUs)</b>
		Sewer =	<b>17.5%</b>		<b>\$163.85</b>	
<b>Snow Blower</b>						
FY 16/17	\$185,000	\$4,533	\$189,533			
	<u>\$185,000</u>	<u>\$4,533</u>	<u>\$189,533</u>	<b>1,361</b>	<b>\$135.96</b>	<b>Current + Future (2026 ERUs)</b>
		Sewer =	<b>17.5%</b>		<b>\$23.79</b>	
<b>Total Debt Service Credit</b>					<b>\$187.64</b>	

**Notes:**

(1) - The 50% of shared general plant is split 65% water and 35% sewer or 17.5% sewer (50% X 35% = 17.5%).

Squaw Valley  
Sewer Connection Fee Study  
Allowable Sewer Connection Fees  
Exhibit 6

Component	Calculation Results (\$ / ERU) (1)		
	Existing	Future	Total
Collection	\$2,908.52	\$841.49	\$3,750.01
General Plant	2,064.39	0.00	2,064.39
Debt Service	(187.64)	N/A	(187.64)
<b>Total</b>	<b>\$4,785.27</b>	<b>\$841.49</b>	<b>\$5,626.76</b>

**Net Sewer Connection Fee [Rounded]                      \$5,627**

**Current Sewer Connection Fee                              \$1,211**

**Difference    \$4,416**

Meter Size	Ratio	Cost (2)
1" Meter	1.00	\$5,627
1.5" Meter	2.00	11,254
2" Meter	3.20	18,006
3" Meter	6.00	33,762
4" Meter	10.00	56,270
6" Meter	20.00	112,540

**Notes:**

(1) - Methodology is Replacement Cost New Less Depreciation (RCNLD)

(2) - Connection Fee for meters ≥ 2" may be calculated by the District