Big Bear Area Regional Wastewater Agency

Connection Fee Analysis
December 20, 2010


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December 20, 2010

Ms. Jennifer McCullar
Finance Manager
Big Bear Area Regional Wastewater Agency
121 Palomino Drive
Big Bear Agency, CA 92314

Subject: Regional Sewer Connection Fee

Dear Ms. McCullar:

Enclosed please find HDR's draft report regarding the Big Bear Area Regional Wastewater Agency (Agency) connection fee (CF) for the sewer utility system. The conclusions and recommendations contained within this report should enable the Agency to implement a cost-based connection fee that meets the Agency's objectives.

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

HDR appreciates the opportunity to assist the Agency in this matter. We also would like to thank you for assistance provided to us on this project.

Sincerely,
HDR ENGINEERING, INC.

Shawn Koorn
Associate Vice President/
Project Manager

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Executive Summary

Introduction

HDR Engineering, Inc. (HDR) was retained by the Big Bear Area Regional Wastewater Agency (Agency) to update its sewer connection fee. The purpose of the connection fee is to calculate a cost-based fee for new customers which will bring equity between existing customers and new customers connecting to the Agency's sewer system. By establishing a cost-based connection fee, the Agency is ensuring that each user (both existing and future), pay for an equitable share of the system's capacity.

The current connection fee is based on an analysis completed in September 2003. The fee has been adjusted periodically by the annual change in the Construction Cost Index ("CCI") as published by Engineering News Record. The last increase was July 1, 2009. General industry recommendations are to adjust the fee annually for changes in construction costs and to update the fee every three to five years, or when comprehensive planning documents are updated. The Agency recently completed a draft of the 2010 Sewer Master Plan. This is a long-term planning tool and provides the Agency with an estimate of the capital requirements needed to support the system and takes into consideration future growth, peak flow conditions, and regulatory requirements. The future capital requirements identified in the plan combined with the Agency's existing system costs provide the basis for establishing a cost-based connection fee.

Summary and Conclusions

The connection fee (Fee) is calculated in conformance with "generally accepted" rate making practices and are based on the Agency's sewer system planning and design criteria. A component-by-component approach is taken in developing the fee, as each component can have different planning and design criteria. The calculations also take into account the financing mechanisms of capital improvements. Based on the sum of the component costs, the net allowable utility connection fee is determined. "Net" refers to the "gross" connection fee, net of any debt service credits. "Allowable" refers to the concept that the calculated connection fee is the Agency's cost-based charge. The Agency, as a matter of policy, may charge any amount up to the cost-based connection fee, but not over 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.

Connection fees are determined according to the capacity requirement or impact each new connection has on the utility system and thus, the benefit each derives from the service provided.

The existing Fee and maximum allowable Fee for the sewer utility system, as calculated within this report, for one equivalent dwelling unit (EDU) is presented in Table ES-1.

Table ES – 1 Existing and Maximum Allowable Sewer Connection Fee (1 EDU)	
Existing Fee	**Maximum Allowable**
$3,031.22	$3,670

Agency Board Review

On January 26th, 2011, HDR will present the findings of this study to the Agency's Board. The Board may consider the proposed Fee for final adoption at a later date.

Section 1
Introduction

1.1 Introduction

HDR Engineering, Inc. (HDR) was retained by the Big Bear Area Regional Wastewater Agency (Agency) to review and update the sewer connection fee (Fee). The objective of this study is to calculate a cost-based Fee for new customers connecting to the Agency's sewer system. Connection fees provide the means of balancing the cost requirements for new or excess (growth-related) utility infrastructure between existing customers and new customers. The portion of existing plant and future capital improvements that will provide service (capacity) to new customers is included in the Fee. The portion of existing plant and future capital improvements that benefits existing users, typically included in the rates charged to the Agency's customers, are not included in the Fee. By establishing a cost-based connection fee, the Agency ensures that each user (both existing and future) pays for an equitable share of the system's capacity.

"By establishing a cost-based connection fee, the Agency ensures that each user (both existing and future), pays for an equitable share of the system's capacity.

1.2 Organization of this Report

This report documents the approach that was used to analyze and develop the Agency's Fee. This report is divided into five sections. Section 1 provides an introduction of the study. Section 2 provides perspective on the economics of connection fees. Section 3 provides an overview of connection fees and the criteria and general methodology that should be used to calculate and establish cost-based connection fees. Next, Section 4 provides an overview of the requirements under California State law for determining connection fees. Section 5 presents the Agency-specific calculations of the cost-based Fee.

1.3 Disclaimer

In its calculation of the Fee presented in this report, HDR has used "generally accepted" engineering and ratemaking principles. This should not be construed as a legal opinion with respect to California State law. HDR recommends that the Agency have its legal counsel review the Fee set forth in this report to ensure compliance with California State law.

Section 2
Overview of Utility Industry Practices

2.1 Introduction

Understanding of the purpose and concept of a connection fee and the financial objective of this type of charge is an important starting point in discussing the Agency's continued implementation of connection fees. This section of the report will discuss the concept of connection fees and the "generally accepted" practices of the industry.

2.2 Defining Connection Fees

The first step in establishing a cost-based connection fee is to gain an understanding of the definition of a connection fee or what is also sometimes referred to as a system development charge. A system development charge is defined as follows:

"System development charges are one-time charges paid by new development to finance construction of public facilities needed to serve them."[1]

Simply stated, system development charges or connection fees are a contribution of capital to either reimburse existing customers for the available system capacity, or to help finance future growth-related capacity improvements. At some utilities, connection fees may be referred to as system development charges, capacity charges, impact fees, general facility 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 capital improvements needed to serve (accommodate) new customers.

"Connection fees are capital recovery charges that are generally established as one-time charges assessed against developers or new utility customers as a way to recover a part or all of the cost of system capacity constructed for their use."

2.3 Historical Perspective

Connection fees are capital recovery charges that are generally established as one-time charges assessed against developers or new utility customers as a way to recover a part or all of the cost of system capacity constructed for their use. The main objective of a connection fee is to assess against the benefiting party, their proportionate share of the cost of infrastructure required to provide them service. Stated another way, connection fees imply that new development creates new or additional costs on the system, and the connection fee assesses that cost in an equitable manner to those customers creating the additional cost.

The financing of infrastructure was historically paid for via long-term debt and "pay as you go" rates. Over the last twenty years, however, the use of connection fees as a method of financing growth and infrastructure has risen sharply. To the best of our knowledge, no clear surveys or data exist to show this change. There are, however, a number of examples that highlight this trend. For example, a survey of 67 Florida communities was undertaken in 1986

[1] Arthur C. Nelson, System Development Charges for Water, Wastewater, and Stormwater Facilities, Lewis Publishers, New York, 1995, p. 1.

and 1989. Only fifteen communities used connection charges in 1986. By 1989, the number of communities using connection charges had more than doubled to 32.[2]

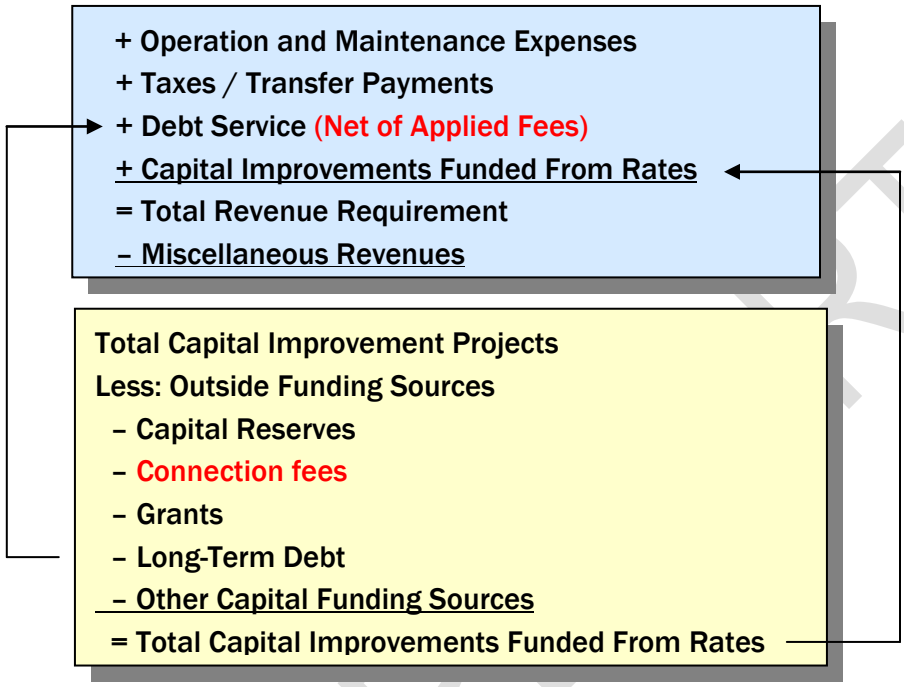
As this funding mechanism gained acceptance, legislatures across the U.S developed legislation to provide utilities with the authority to impose connection fees. Typical legislation provides the approach required to develop the charges and mandates that the charges be used only for growth-related needs and not for current operation and maintenance requirements. At this time, the State of California has specific legislation related to connection fees. This specific legislation regarding the charges provides the Agency with the authority to establish and collect connection fees. Further discussion on the legislation and California code is included in Section 4.

2.4 Connection Fees and "Generally Accepted" Practices

Connection fees are one input into the rate-setting process. Therefore, it is important to understand how, within the context of "generally accepted" utility industry practices, connection fees may be used. In conducting a comprehensive rate study, three interrelated analyses are typically conducted; a revenue requirement analysis, a cost of service analysis, and a rate design analysis. Connection fees are factored into the revenue requirement analysis. A revenue requirement analysis determines the overall funding levels (sources and uses of funds) required for the utility. The revenue requirement methodology used by most municipal utilities is referred to as the "cash basis" approach. Figure 2-1, shown on the next page, provides an overview of the key components of the "cash basis" methodology in developing the revenue requirement.

[2] James C. Nicholas, Arthur C. Nelson and Julian C. Juergensmeyer, A Practitioner's Guide to Development Impact Fees (Chicago: Planners Press, 1991) p. 3.

Figure 2-1
Overview of the 'Cash-Basis" Approach to Establishing Revenue Requirement



Connection fees are legally used to fund growth-related capital, including both capital expenditures and annual debt service associated with growth or expansion related capital projects. In the case of debt service, instead of applying connection fees directly against the capital project, the charges are applied against the annual debt service payments that are directly related to funding facilities built to accommodate capacity expansion and growth. Every dollar applied in this manner causes a corresponding dollar decrease in revenue requirement and the resulting rates. This is an effective method to help minimize rates and match the cost of growth with customer growth or connections, which occur over time. In other words, a utility may build or expand a facility with sufficient capacity to handle growth over the next ten to twenty years. That growth doesn't occur in the first year, but rather, trickles in over a number of years. Therefore, applying the connection fees against the annual debt service associated with the project creates a better matching of the cost incurrence (annual debt service payments) to the actual customer growth (annual connections). However, in using Fees to pay annual debt service on growth-related facilities, it should be recognized that Fee revenues are not a reliable source of funding (cyclical), and over-reliance upon Fees to fund this fixed cost component of the revenue requirement carries risk.

Connection fees are legally used to fund growth-related capital, including both capital expenditures and annual debt service associated with growth or expansion related capital projects."

2.5 Financial Objectives of Connection Fees

Connection fees help utilities achieve a number of different financial objectives, including equity among customers, as opposed to simply producing revenue.

"Therefore, a connection fee is also a form of a financial reimbursement to existing ratepayers who paid for those facilities in advance of the new customer connecting to the system."

Equity among the system's users, both current and future, can be achieved in two ways. First, a connection fee establishes equity by transferring the costs of excess or growth capacity from existing users to new users, the primary beneficiaries that created the need for the excess or growth capacity. For example, assume that a sewer treatment plant is expanded by 5 million gallons per day (MGD) to accommodate future growth and the facility is financed over a 20-year period. Without a connection fee, the existing customers and new customers connecting to the system pay for the debt service associated with the expansion via their rates. The customer that connects to the system in year one will contribute to the cost of that facility for 20 years. In contrast, the customer who connects to the system in year 10 will only contribute to the cost of the facility for ten years, even though the "value" of the capacity was the same for the person connecting in year 1 or year 10.

The second way equity is achieved is when the Fee is calculated it includes a "buy-in" component which is associated with facilities that have been constructed and paid for by past and existing users. Essentially, the new user, at the time of connection, will be charged a Fee that reflects their share of additional capacity already in place. Continuing the example above, after the debt service is fully paid in year 20, and assuming that capacity is still available, a new customer connecting to the system would, in theory, receive their capacity at zero cost, because the debt service is paid in full. All the existing customers connected to the system, over the past twenty years, paid for that customer's capacity. Therefore, a connection fee is also a form of a financial reimbursement to existing ratepayers who paid for those facilities in advance of the new customer connecting to the system.

A properly established Fee implies that a new customer connecting to the system has bought into the system at its current cost. Therefore, from a rate-setting perspective, the utility does not need to have rates for "old" and "new" customers.

Not all communities have connection fees despite the advantages presented in the above discussion. Philosophically, many utilities desire to have a policy of "growth paying for growth." The establishment of connection fees supports the "growth paying for growth" philosophy, and it is achieved by applying the connection fees either directly against the capital cost of the expansion facilities or against the debt service associated with it.

2.6 Summary

This section of the report has provided an overview of the financial objectives associated with connection fees. The intent of this section was to provide the reader with a basic understanding of the intent of connection fees. As a result, when the Agency has policy discussions concerning the implementation of connection fees, the fees can be placed in the proper perspective. The next section of the report will provide an overview of the development of cost-based connection fees.

Section 3
Overview of Connection Fees

3.1 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 methodology that are used to establish cost-based connection fees. This section of the report presents an overview of the connection fee methodology that was used to develop cost-based fees for the Agency.

3.2 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 create fiscal balance between existing customers and new customers so that all customers seeking to connect to the utility's system bear an equitable share of the cost of capacity that is invested in both the existing and any future growth-related expansions. Through the implementation of equitable connection fees, existing customers will not be unduly burdened with the cost of growth.

By updating its cost-based connection fee, the Agency continues an important step in assuring adequate infrastructure to meet growth-related needs while providing this infrastructure to new customers in a cost-based, fair, and equitable manner.

3.3 Connection Fee Criteria

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

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

"The use of system planning criteria is one of the more important aspects in the determination of the connection fee. System planning criteria provide the "rational nexus" between the amount of infrastructure necessary to provide service and the fee to the customer."

Many states and local communities have enacted laws that govern the calculation and imposition of connection fees. These laws must be followed in the development of the connection fees. Most states require a "reasonable relationship" between the fee and the cost associated with providing service (capacity) to the customer. The fees do not need to be mathematically exact, but must bear a reasonable relationship to the cost burden imposed. The utilization of the planning criteria, the actual costs of construction and the planned costs of construction provide the nexus for the reasonable relationship requirement.

The use of system planning criteria is one of the more important aspects in the determination of the connection fees. System planning criteria provides the "rational nexus" between the amount of infrastructure necessary to provide service and the fee to the customer. The rational nexus test requires: (a) establishing a connection fee "nexus" between new development and the existing or expanded facilities required to accommodate new

development, and (b) apportioning appropriate cost to the new development in relation to benefits reasonably received. An example using system planning criteria is the determination that a single-family residential customer or equivalent dwelling unit (EDU) generates an average day dry weather flow of so many gallons per day, per EDU. The connection fee is then calculated on a per EDU basis based on the number of EDUs over the planning horizon. In this way, each new EDU is paying an equitable share of the capacity costs they place on the system. It should be noted that each residential customer is considered one (1) EDU, all other connections are calculated based on the assumed gallons of one EDU and charged accordingly.

One of the driving forces behind establishing cost-based connection fees is that "growth pays for growth." Therefore, connection fees are typically established as a means of having new customers pay an equitable share of the cost of their required capacity (infrastructure). As a result, how the Agency funds the growth related capital projects needs to be taken into consideration. That is, will the projects be financed through existing rates or reserves, or will the projects be financed through long-term debt. Given the Agency's financing criteria or methods, the allocation of costs to existing users and new users eliminates the potential for customers to pay twice for infrastructure – once through connection fees and again through rates. The double payment can occur through the imposition of connection fees and then the requirement to pay debt service through rates for the same projects. The financing criteria also reviews the basis under which main line and collection line extensions were provided and assures that the customer is not charged for infrastructure that was provided (contributed) for growth, or paying for infrastructure that has been paid for by someone else.

The "customer understanding" criteria implies that the fee is easy to understand, and has implications for the way that the fee is implemented and assessed. For a wastewater system, the fee is generally based on the projection of wastewater flow for the time period under review. This makes it easy for the customer to understand that the level of the fee is based on the projection of demand (flow) and required service level. The use of an equivalent dwelling unit (EDU) is often used as a measurement of flow and brings wastewater flow from non-residential customers into an equivalent measure with residential customers. An EDU is typically defined as a single family residential unit generating average day dry weather flow and is measured and expressed in gallons per day per EDU. This will be defined for the Agency later in this report. The other implication of this criteria is that the methodology is clear and concise in its calculation of the amount of infrastructure necessary to provide service.

3.4 Overview of the Connection Fee Methodology

There are "generally accepted" methodologies that are used to establish connection fees. Within the "generally accepted" connection fee methodologies, there are a number of different steps undertaken. These steps are as follows:

- Determination of system planning criteria
- Determination of equivalent dwelling units (EDUs)
- Calculation of system component 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 demand (flow) from the single-family residential customer, or EDU. For wastewater systems, average daily flow (wastewater contribution) per EDU is most often used since this total flow represents the impacts imposed by the customer. Average inflow and infiltration (I & I) is often added to the customer's flow

since this represents the total volumetric flow and hence capacity requirement at the treatment plant. In the Agency's case, I&I is included in the metered volumes from the member agencies and is thus inherently included in average daily flow. The average flow per EDU is a very important calculation since it establishes the capacity requirements, or infrastructure cost necessary, to serve a single EDU or customer. For example, if a system is designed to provide service or capacity for demand through the year 2029, then the infrastructure costs are divided by the total EDUs in 2029 to determine the capacity cost per EDU.

Once the number of EDUs at full capacity, and over the capital planning horizon, has been determined, a component by component (e.g. treatment, collection, etc.) analysis is undertaken to determine the connection fee per EDU. The calculation of the connection fee by component includes both historical assets and planned future assets. Historical assets can be valued in a number of different ways. These include original cost plus interest, replacement cost and depreciated replacement cost. For the Agency's Fee, the book value of the assets (original cost net of depreciation) adjusted to 2010 dollars was used. Once the total cost of the existing capital facilities, by component, is determined it is then divided by the number of EDUs at full capacity. Likewise, once the total cost of future capital facilities, by component, is determined it is then divided by the number of new EDUS over the capital planning horizon. The sum of the existing and future capital cost per component determines the cost per EDU.

After each plant component is analyzed and a cost per EDU is determined, the cost per EDU for each of the plant components is added together to determine the "gross connection fee". The "gross connection fee" is calculated before any credits for debt service.

Included in the calculation of the connection fee is the determination of any credits. This is generally a calculation to assure that customers are not paying twice for long-term debt financing, once through connection fees and again through debt service included within the utility rates. A credit is essentially given that represents any outstanding principle on long-term debt associated with the existing capital facilities that is being collected through rates and thus will be paid by existing and future customers through rates. A similar crediting mechanism is also utilized if general obligation or tax revenue has been used to finance the infrastructure.

3.5 Summary

This section of the report discussed the criteria typically used in determining connection fees. In addition, an overview was provided of the "generally accepted" methodology used in calculating connection fees. Given this background, the next section of the report discusses the legal criteria that must be used by the Agency in establishing connection fees.

Section 4
Legal Considerations in Establishing Fees

4.1 Introduction

An important consideration in establishing connection fees are the legal requirements at the state or local level. The legal requirements often establish the methodology around which the charges must be calculated or how the funds must be used. Given that, it is important for the Agency to understand these 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, as it relates to connection 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.

4.2 Requirement under California State Law

In establishing connection fees, an important requirement is that they be developed and implemented in conformance with local laws. In particular, many states have established specific laws regarding the establishment, calculation and implementation of connection fees. The main objective of most state laws is to assure that these fees 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 fees.

The laws for the enactment of connection fees in California are found in the 'Mitigation Fee Act', which is codified as California Government Code 66000-66008, 66010-66011, 66012-66014, 66016-66018.5 and 66020-66025. The Mitigation Fee Act is comprehensive legislation dealing with the various requirements for imposition of connection fees in California. The statutes deal with the requirements for the calculation, accounting, and reporting of the fees and the appeal processes.

"The laws for the enactment of connection fees in California are found in the 'Mitigation Fee Act', which is codified as California Government Code 66000-66008, 66010-66011, 66012-66014, 66016-66018.5 and 66020-66025."

A summary of the relevant statutes required in the calculation of the 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."*

Estimating the reasonable cost to provide the service as outlined in 66013 above, should be completed based on a proportional share determination (i.e., the proportional share of the system costs to provide service).

The Mitigation Fee Act requires that Fees be maintained in a separate account and outlines the requirements for annual accounting of fee collections and expenditures, public hearings to adopt or modify the fee, and protest of the fees.

4.3 Proposition 218 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 of assessment. Of interest in this particular study is the applicability of Proposition 218 to the establishment of connection fees for the Agency.

In Richmond v. Shasta Community Services Dist., 95 Cal. App.4th 1227 (3rd Dist. 2002), the Third City Court of Appeals held that sewer connection fees and development fees are not subject to the procedural or substantive requirements of Proposition 218 and that the fee can be enacted by either ordinance or resolution, based on the local equity requirement.

4.4 Summary

This section of the report has reviewed the legal basis for establishing connection fees and supply fees in California. At the same time, a brief discussion of the applicability of Proposition 218 was provided.

The next section of the report will provide a detailed discussion of the specific calculation of the connection fee for the Agency.

Section 5
Determination of the Sewer Connection Fee

5.1 Introduction

This section of the report presents the key assumptions and details used in calculating the Agency's sewer connection fee. The calculation of the Agency's sewer connection fee based upon Agency-specific accounting and planning information. Specifically, the connection fees are based upon the Agency's fixed asset records, capital improvement plan, and planning data from the *Big Bear Area Regional Wastewater Agency Sewer Master Plan Update, 2010 Draft* (the Sewer System Plan). The Agency provided other financial and accounting information that was used within this analysis.

The connection fees presented in this section of the report should be updated to reflect any changes in the cost and timing of future capital improvements.

5.2 Overview of the Agency's Sewer System

The Agency's service area is regional and includes the entire Big Bear area. The Agency is served by three separate collection systems maintained and operated by the Agency's three member agencies; the City of Big Bear Lake, the Big Bear City Community Services District, and San Bernardino County on behalf of County Service Area 53B. Each Member Agency maintains and operates its collection system and delivers wastewater to the BBARWA interceptor system for transport to the Agency's treatment plant.

The Agency owns and operates a Wastewater Treatment Plant (WWTP) with a hydraulic capacity of 9.6 mgd, and a secondary wastewater treatment capacity of 4.89 mgd. The WWTP is currently operating at about 2.45 mgd. The effluent form the WWTP is discharged to farm lands in Lucerne Valley. The sludge is collected, dewatered and hauled to disposal facilities.

The Agency's system consists of three main lines which are the Lake Pump Station Force Main, the North Shore Interceptor, and the BBARWA Trunk Line. The system also includes four pump stations, three air injection stations, and one metering station. The Agency served approximately 20,310 residential units in 2009 with an assumed occupancy rate of 38%.

Future capital improvements consist of biological treatment capacity expansion, interceptor upgrades, a sludge reduction project, and scheduled asset replacement.

5.3 Present Sewer Connection Fee

The Agency's present sewer connection fee is shown below in Table 5-1.

Table 5-1 Present Sewer Connection Fee		
Type of Use	**Number of EDUs**	**Connection Fee**
Single-Family Dwelling	1	$3,031.22

As shown in Table 5-1, the Agency's sewer connection fee is on a per EDU basis.

5.4 Calculation of the Agency's Sewer Connection Fee

As discussed in Section 2, the process of calculating connection fees is based upon a four-step process. In summary form, these steps are as follows:

- Determination of system planning criteria
- Determination of equivalent dwelling units (EDUs)
- Calculation of the connection fee for system component costs
- Determination of any connection fee credits

Each of these steps is discussed in more detail below.

5.4.1 System Planning Criteria

System planning criteria are used to establish the capacity needs of an equivalent dwelling unit (EDU). Based on the Agency's Sewer System Plan, a volume of 172 gallons per day per full time residential EDU was established. The average daily flow at plant is 2.45 million gallons a day. Table 5-2 provides a summary of the planning criteria used to establish the Agency's sewer connection fees.

Table 5-2 Summary of the Sewer System Planning Criteria	
Planning Criteria Description	
Gallons per Full-Time Residential EDU per day	172.00
Average Daily Flow (MGD)	2.45
2010 EDUs [1]	24,597

[1] EDU's reported at 12/31/09 by the member agencies.

As previously discussed, certain system facilities may be planned and sized around different planning criteria. Therefore, the system planning criteria shown above were used for different plant components to determine the cost per EDU for that specific plant component.

5.4.2 Equivalent Dwelling Units

The planning horizon of this analysis was 2010 to 2029, which corresponds with the planning period of the Sewer System Plan. As part of this study, a projection of new EDUs per year was determined, along with the total number of EDUs in 2029. This information was based on the data provided in the Agency's current rate study and reported by the Member Agencies. EDUs are projected to be 24,637 in 2011 and are projected to grow less than 1% annually to 27,822

in 2029. A projection of EDUs at full capacity of the treatment plant and collection system was also calculated for the existing infrastructure cost, or "buy-in" component of the Fee. A summary of the EDUs for 2011 and 2029 are presented below in Table 5-3. Details of the EDU projection are provided in Exhibit 1 of the Technical Appendix.

Table 5-3
Sewer System Equivalent Dwelling Units

Description	Calculated EDUs
Equivalent Dwelling Units – 2011	24,637 EDUs
Equivalent Dwelling Units – 2029	27,822 EDUs

Given the development of the total EDUs for each year of the planning period, the focus can shift to the calculation of the connection fee for each plant component. This aspect of the analysis is discussed below.

5.4.3 Calculation of the Sewer Connection Fee by Major System Component

The next step of the analysis is to review each major functional component of plant in service and determine the sewer connection fee for that component. In calculating the Fee a combined approach is used considering both 1) existing plant assets, and 2) future capital improvements:

Existing Capacity or "Buy In"

The value of existing plant assets represents the current value of the plant's capacity. This value is divided among all potential users of the system at full capacity, and represents the proportional cost of system capacity or the "buy-in of current costs" at the time of connection.

Allocation of Future Capital Improvements

The value of the future capital improvements through the planning period represents the cost of future capacity needed to meet the demands of new connections. This value is divided by new connections during the planning period and represents an "allocation of future costs" at the time of connection.

Each of the above calculations was determined by major component of the Agency's sewer system. These were as follows:

- Treatment
- Collection
- General Plant

A brief discussion of the Fee calculated for each of the sewer plant components is provided below.

TREATMENT –To determine the Fee associated with the treatment plant, the existing system was reviewed, as well as those planned treatment facility improvements identified in the Agency's capital improvement plan. The cost of the existing treatment facility less accumulated depreciation (book value) of $12.7 million was escalated to 2010 dollars resulting in a total of $19.6 million in existing treatment facility assets. Future replacements of existing facilities

through the planning period were excluded from the existing treatment facility assets to avoid double counting the costs associated with this capacity[3]. The HUD grant funding in 1995 of $750,000 for oxidation ditch three (backup treatment) was also deducted from the treatment facility asset value as it represents the cost of treatment capacity not paid for by the system users, neither current nor future, and should not be included in the buy in portion of the Fee. In addition, the existing treatment facility assets were reduced by the portion of outstanding principle used to finance the existing treatment facility assets and in which the repayment is funded through rates. The principal portion of the debt outstanding is deducted to ensure that customers aren't paying twice for their share of the existing facility capacity, once through the Fee and again through rates. This resulted in total eligible existing treatment facility of $12.7 million. This amount divided by the number of EDUs at full capacity, resulted in a connection fee for the existing treatment facility of $447 per EDU.

Future treatment facility improvements through 2029 are $11.5 million of which $6.6 million are growth or excess capacity related. The future improvements related to growth or excess capacity were based on Agency staff analyses. The $6.6 million was then divided by total new EDUs from 2010 to 2029 resulting in an allocated cost of $2,035 per EDU.

The existing and future treatment facility capacity costs combine to total $2,482 per EDU. Calculation details are provided in Exhibit 2 of the Technical Appendix.

COLLECTION –The value of the existing collection system less accumulated depreciation (book value) is approximately $900,000. This amount was escalated to 2010 dollars resulting in a total of $1.9 million. The existing collection system assets that are being replaced by future projects were excluded from the existing collection system assets to avoid double counting the costs associated with this capacity[3]. The value of the collection system assets was divided by the number of EDUs at full plant capacity, resulting in a connection fee for existing collection plant of $61 per EDU.

Future collection system capital improvements were reviewed to determine the projects or percentage of projects that were related to growth or excess capacity. The future improvements related to growth or excess capacity were based on Agency staff analyses. Total future collection improvements are $5.9 million, of which $3.0 million are related to growth or excess capacity. This amount was then divided by the number of EDUs added from 2010 to 2029, resulting in an allocated cost of $932 per EDU.

The existing and future collection system capacity costs combine to total $993 per EDU. Calculation details of the collection plant are provided in Exhibit 3 of the Technical Appendix.

GENERAL PLANT – The value of the existing general plant, adjusted for accumulated depreciation was escalated to 2010 dollars resulting in a total of $3.3 million. The existing general plant was then reduced by the portion of outstanding principle used to finance the existing general plant assets and in which the repayment is funded through rates. The principal portion of the debt outstanding is deducted to ensure that customers aren't paying twice for their share of the existing plant capacity, once through the Fee and again through rates. The total eligible

[3] The Fee includes an allocation of costs associated with future capital improvement costs. If some of the existing plant is being replaced during the planning period, than the connection fee will already include an allocation of this capacity cost and thus, the plant asset being replaced should not be included in the buy-in calculation.

existing plant was divided by the number of EDUs in 2029, resulting in a connection fee for existing general plant of $104 per EDU.

Future general plant capital improvements were reviewed to determine the projects or percentage of projects that were growth related. The future improvements related to growth or excess capacity were based on Agency staff analyses. The growth-related portion of future general plant was determined to be $287,000. This total was then divided by the number of EDUs added from 2010 to 2029, resulting in an allocated cost of $89 per EDU.

The existing and future general plant capacity costs combine to total $193 per EDU. Calculation details of the general plant are provided in Exhibit 4 of the Technical Appendix.

5.5 Net Allowable Connection Fee

Based on the sum of the component costs calculated above, the net allowable connection fee can be determined. "Net" refers to the "gross" connection fee, net of any debt service credits. "Allowable" refers to the concept that the calculated connection fee shown in Table 5-4 is the Agency's cost-based connection fee. The Agency, as a matter of policy, may charge any amount up to the allowable connection fee, but not over 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. A summary of the calculated net allowable sewer connection fee for the Agency is shown below in Table 5-4.

Table 5-4
Calculated Net Allowable Sewer Connection Fee ($/EDU)

Plant Component	Calculated Connection Fee ($/EDU)
Treatment	$2,482
Collection	993
General Plant	193
Net Allowable Fee	$3,668
Net Allowable Fee Rounded	**$3,670**

The net allowable fee for one EDU is $3,668. For ease in administration and in customer understanding it is recommended that the fee be rounded to $3,670 for implementation. This compares to the Agency's current connection fee of $3,031.22 for one EDU, or an increase of $639/EDU. Calculation details of the net allowable connection fee for the Agency are shown in Exhibit 5 of the Technical Appendix.

5.6 Key Assumptions

In developing the connection fee for the Agency, a number of key assumptions were utilized. These are as follows:

- The Agency's asset records were used to determine the existing plant assets.
- The Agency provided the capital improvement plan (CIP) for future improvements, and adjusted projects based on current information.
- The Agency determined the portion of future improvements that were growth-related.

5.7 Implementation of the Connection Fee

The methodology used to calculate the connection fee takes into account the cost of money, interest charges, and inflation. The capital plan included inflationary costs in the development of future project costs. Therefore, HDR recommends that the Agency adjust the connection fees each year by the difference between the inflation rate used in the capital improvement plan and the actual rate of inflation in any given year. The most frequently used source to escalate connection fees is the *Engineering News-Record (ENR) Construction Cost Index (CCI),* which tracks changes in construction costs. This method of escalating the Agency's connection fee should be used for no more than a 4 to 5-year period. After this time period, HDR recommends that the Agency update the fees based on the actual cost of infrastructure and any new planned facilities that would be contained in an updated Master Plan, Capital Improvement Plan, or Facilities Plan.

5.8 Consultant's Recommendation

Based on our review and analysis of the Agency's sewer system, HDR recommends the following:

- The Agency should revise and update its connection fee to a rate that is no greater than the net allowable connection fee as set forth in this report adjusted annually for the difference between the annual inflation rate and the escalation of capital projects in the Sewer System Plan.
- The Agency should update the actual calculations for the connection fees based on the methodology approved by the resolution or ordinance setting forth the methodology for connection fees at such time when a new capital improvement plan, public facilities plan, comprehensive system plan, or a comparable plan is approved or updated by the Agency, or every five years.

5.9 Summary

The sewer connection fees developed and presented in this section of the report are based on the planning and engineering design criteria of the Agency's sewer system, the value of the existing assets, future capital improvements, and "generally accepted" ratemaking principles. Adoption of the proposed connection fee will provide multiple benefits to the Agency and will create equitable and cost-based charges for new customers connecting to the Agency's sewer system.

Technical Appendix

Big Bear Area Regional Wastewater Agency
Exhibit 1
Sewer Connection Fee
Development of EDUs

EDU = Equivalent Dwelling Unit (amount used in a typical household)

Gallons per EDU per day [1]	**172**
Average Daily Flow (MGD) [2]	**2.45**
2010 EDU's [3]	**24,597**

Year	Growth Rate	EDUs	Additional EDUs per Year [4]	Total New EDUs
2011	0.2%	24,637	40	40
2012	0.3%	24,717	80	120
2013	0.4%	24,827	110	230
2014	0.5%	24,962	135	365
2015	0.6%	25,122	160	525
2016	0.6%	25,282	160	685
2017	0.7%	25,462	180	865
2018	0.7%	25,642	180	1,045
2019	0.7%	25,822	180	1,225
2020	0.8%	26,022	200	1,425
2021	0.8%	26,222	200	1,625
2022	0.8%	26,422	200	1,825
2023	0.8%	26,622	200	2,025
2024	0.8%	26,822	200	2,225
2025	0.7%	27,022	200	2,425
2026	0.7%	27,222	200	2,625
2027	0.7%	27,422	200	2,825
2028	0.7%	27,622	200	3,025
2029	0.7%	27,822	200	3,225

Notes:
[1] 172 Gallons per day per full time EDU based on draft of 2010 BBARWA Sewer Master Plan; page 3-10.
[2] Average daily flow at plant of 2.45 mgd based on draft of 2010 BBARW Sewer Master Plan; page 3-7.
[3] EDUs based on actual 2009 Year End EDU Member Agency Count
[4] Escalation rate based 2010 BBARWA Sewer Master Plan.

Big Bear Area Regional Wastewater Agency
Exhibit 2
Sewer Connection Fee
Determination of Sewer Connect Fee for Treatment Plant

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2010 Cost [1]	Percent Connection Fee Eligible [2]	Connection Fee Eligible
Existing Treatment							
	Effluent Disposal Assets						
2002	Pipeline	$84,689	$17,820	$66,869	$91,218	100%	$91,218
1979	Pipeline	1,247,874	1,164,605	83,269	237,405	100%	237,405
1987	Pipeline	42,063	23,840	18,223	36,432	100%	36,432
1989	Pipeline	54,565	28,647	25,918	49,589	100%	49,589
1992	Pipeline	149,542	68,543	80,999	143,334	100%	143,334
2009	Pipeline	220,051	5,501	214,550	222,270	100%	222,270
1979	Piping	24,500	15,190	9,310	26,544	100%	26,544
1989	Piping	262,500	137,820	124,680	238,551	100%	238,551
1979	Material, Installatio	100,600	100,600	0	0	0%	0
1984	Irrigation Wheel Lin	16,767	13,549	3,218	6,951	0%	0
1987	Sprinkler System	9,922	6,530	3,392	6,780	100%	6,780
1988	Irrigation System	45,142	28,973	16,169	31,689	100%	31,689
1989	Sprinkler System	81,275	46,735	34,540	66,086	100%	66,086
1989	Pumphouse Enclo	24,393	13,275	11,118	21,272	100%	21,272
1979	Overflow Structure	8,000	4,960	3,040	8,667	0%	0
1979	Control Structure	10,000	6,200	3,800	10,834	0%	0
1979	Pond	794,668	615,874	178,794	509,755	100%	509,755
1986	Disposal Site Modi	78,000	45,825	32,175	66,202	100%	66,202
1989	Standby Pipe Mod	14,734	7,744	6,990	13,373	0%	0
1992	Monitoring Wells	112,643	67,276	45,367	80,281	100%	80,281
1979	Reservoir	81,400	50,468	30,932	88,190	0%	0
1989	Install Pump, etc.	20,300	10,665	9,636	18,436	100%	18,436
1986	Pipeline	5,484	3,131	2,353	4,842	100%	4,842
1986	Pipeline	1,183,432	695,299	488,133	1,004,358	100%	1,004,358
2009	Outfall Line	78,078	1,301	76,777	79,539	100%	79,539
2010	Monitoring Wells R	12,815	0	12,815	12,815	0%	0
2010	Less Disposal and Transfers	(50,177)	(27,070)	(23,107)	(23,107)	100%	(23,107)
	Total Effluent Disposal Assets	$4,713,259	$3,153,300	$1,559,959	$3,052,306		$2,911,476
	Flow Measuring Devices						
2008	Auxiliary Flow Met	$17,524	$2,629	$14,895	$15,594	0%	$0
1996	Effluent Flow Mete	5,010	4,732	278	434	0%	0
2002	RAS Flow Meter	8,259	4,542	3,716	5,070	0%	0
2002	WAS Meter	5,350	2,913	2,437	3,324	0%	0
1997	Flow Meter CSD/C	8,753	7,637	1,116	1,705	0%	0
2006	Portable Flow Mete	55,915	18,328	37,587	42,661	100%	42,661
2001	2 - 14" ABB Magm	20,818	19,257	1,561	2,187	0%	0
2004	BB Flow Meter and	29,204	10,871	18,333	22,458	0%	0
2007	CSA Flow Meter	10,157	1,806	8,352	9,243	0%	0
	Total Flow Measuring Devices	$160,989	$72,714	$88,275	$102,674		$42,661
	Land						
1979	CSD Original Trea	$78,641	$0	$78,641	$224,212	100%	$224,212
1979	BBLSD Original Tr	23,557	0	23,557	67,163	100%	67,163
1979	Lucerne Valley 320	399,000	0	399,000	1,137,582	100%	1,137,582
1992	120 Palomino Driv	90,280	0	90,280	159,757	100%	159,757
1994	121 Palomino Driv	151,578	0	151,578	249,498	100%	249,498
2001	Landscape 122 Pa	19,870	0	19,870	27,837	100%	27,837
2002	Landscape 122 Pa	13,447	0	13,447	18,343	100%	18,343
2004	Landscape 121 Pa	18,750	0	18,750	22,968	100%	22,968
2004	Landscape Admin	21,700	0	21,700	26,582	100%	26,582
	Total Land	$816,823	$0	$816,823	$1,933,942		$1,933,942
	Treatment Plant						
1986	Valves and Gates	$18,000	$10,575	$7,425	$15,277	100%	$15,277
1986	Painting, Coating, R	8,300	6,506	1,794	3,691	100%	3,691
1986	Structure	139,500	65,565	73,935	152,125	100%	152,125
1979	Painting	5,300	5,300	0	0	100%	0
1986	Protective Coating	800	631	169	347	100%	347
2006	Roof	15,130	2,522	12,608	14,310	100%	14,310
2007	Concrete Floor	29,659	4,078	25,581	28,310	100%	28,310
1979	Structure	47,793	29,632	18,161	51,780	100%	51,780
1979	Structure	235,921	235,921	0	0	0%	0
1979	Structure	109,046	67,609	41,437	118,140	0%	0
2008	Structure	6,547	273	6,274	6,568	100%	6,568
1999	Memcor Filter	25,000	13,750	11,250	16,438	100%	16,438
2001	UV Disinfection Un	15,910	7,095	8,815	12,349	100%	12,349

Big Bear Area Regional Wastewater Agency
Exhibit 2
Sewer Connection Fee
Determination of Sewer Connect Fee for Treatment Plant

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2010 Cost [1]	Percent Connection Fee Eligible [2]	Connection Fee Eligible
1979	Structure	165,910	105,257	60,653	172,926	100%	172,926
1979	Structure	223,141	153,719	69,422	197,927	100%	197,927
2000	Building Expansion	338,137	73,889	264,247	376,530	100%	376,530
2002	Office Conversion	13,218	2,374	10,843	14,792	100%	14,792
1994	Storage Bins	8,453	5,269	3,184	5,241	0%	0
2003	Operations Buildin	59,365	8,311	51,054	67,395	100%	67,395
1994	Building	74,474	30,722	43,752	72,016	100%	72,016
2003	Other	67,114	9,696	57,418	75,797	100%	75,797
2004	Retention	30,534	6,921	23,613	28,925	100%	28,925
2008	Building	181,009	12,855	168,153	176,040	100%	176,040
1986	Building	304,311	150,403	153,908	316,673	100%	316,673
1986	Roofing, Sheet Me	12,400	11,656	744	1,531	100%	1,531
1986	Polymer Sys	35,000	35,000	0	0	100%	0
1979	Metal Gate	6,100	3,782	2,318	6,609	100%	6,609
1986	Metal Work, Concr	68,020	31,969	36,051	74,176	100%	74,176
1991	Cover	12,687	4,695	7,992	14,634	100%	14,634
2007	Building and Doors	285,109	14,731	270,378	299,221	100%	299,221
2007	HVAC, Ducting	108,399	11,201	97,198	107,566	100%	107,566
1979	Piping	675,599	523,710	151,889	433,047	100%	433,047
1986	Piping	520,851	306,011	214,840	442,044	100%	442,044
1986	Auxiliary Pump 3 -	16,500	11,079	5,421	11,155	0%	0
2001	Auxiliary Pump 2 -	10,653	9,144	1,509	2,114	0%	0
2007	Painting	27,000	2,325	24,675	27,307	100%	27,307
2007	Plumbing	26,004	3,359	22,645	25,061	0%	0
2007	Signs	965	166	799	884	100%	884
2007	Piping - Cannibal B	76,000	3,927	72,073	79,762	100%	79,762
2006	Auxiliary Pump 1 -	8,739	1,124	7,615	8,643	100%	8,643
1979	Effluent Pump 3 - 1	4,756	4,756	0	0	0%	0
1979	Effluent Pump 5 - 1	6,417	6,417	0	0	0%	0
1996	Effluent Pump 2 - 4	7,865	7,559	306	477	0%	0
2004	RAS Pump 1 - 3: 7.5	15,561	6,311	9,250	11,331	0%	0
2004	RAS Pump 4 - 7.5	13,921	5,491	8,430	10,326	0%	0
2006	Effluent Pump 1 - 4	11,591	2,833	8,758	9,940	0%	0
2006	RAS Pump 1 - 7.5	10,177	2,657	7,520	8,535	0%	0
2006	RAS Pump 2 - 7.5	10,177	2,657	7,520	8,535	0%	0
2006	RAS Pump 3 - 7.5	10,177	2,657	7,520	8,535	0%	0
2006	RAS Pump 4 - 7.5	10,177	2,657	7,520	8,535	0%	0
2007	Effluent Pump 4 - 1	17,280	3,072	14,208	15,724	0%	0
2008	Effluent Pump 6 - 1	24,575	2,594	21,981	23,012	0%	0
1986	Scum and Tank Dr	6,500	4,369	2,131	4,384	0%	0
2007	In-Plant Sewer Pum	5,163	1,119	4,044	4,476	0%	0
2008	In-Plant Sewer Pum	5,207	723	4,484	4,694	0%	0
2005	Belt Feed Pump - 3	12,384	3,922	8,462	9,907	0%	0
2007	Submersible Pump	2,748	473	2,275	2,518	0%	0
1979	Flash Mixer	5,500	3,410	2,090	5,959	0%	0
1979	Clarifier 1	90,150	55,893	34,257	97,670	0%	0
1979	Clarifier 2	90,150	55,893	34,257	97,670	0%	0
1986	Gear Reducer, Driv	51,000	51,000	0	0	0%	0
1979	Bar Screen, Grit Ae	50,141	38,871	11,270	32,132	0%	0
1988	Carbon Tower	75,795	41,689	34,106	66,842	0%	0
1998	Grit Washer	28,514	16,516	11,998	17,929	0%	0
2007	Wash Press	85,969	13,970	71,999	79,680	0%	0
1979	Original Equipmen	171,829	106,534	65,295	186,162	0%	0
1993	Cover	120,694	41,639	79,055	133,277	100%	133,277
1990	Sandblast, Paint C	21,071	13,696	7,375	13,822	100%	13,822
1979	Original Equipmen	171,029	106,038	64,991	185,295	0%	0
1993	Cover	120,694	41,640	79,054	133,276	100%	133,276
1990	Sandblast, Paint C	21,071	13,696	7,375	13,822	100%	13,822
1986	Original Equipmen	573,450	269,523	303,928	625,346	100%	625,346
1993	Cover	120,694	41,640	79,054	133,276	100%	133,276
1986	Valves and Gates	5,207	3,059	2,148	4,420	100%	4,420
1979	Original Equipmen	255,055	158,166	96,889	276,239	100%	276,239
1979	Painting, Ball Chec	5,843	5,843	0	0	100%	0
1991	Bearings	7,559	4,662	2,898	5,306	100%	5,306
1979	Brush Aerator Pad	73,625	73,625	0	0	0%	0
1979	Original Equipmen	302,905	187,801	115,104	328,171	100%	328,171
1979	Painting, Ball Chec	5,843	5,843	0	0	100%	0

Big Bear Area Regional Wastewater Agency
Exhibit 2
Sewer Connection Fee
Determination of Sewer Connect Fee for Treatment Plant

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2010 Cost [1]	Percent Connection Fee Eligible [2]	Connection Fee Eligible
1991	Bearings	7,559	4,662	2,897	5,305	100%	5,305
1979	Brush Aerator Pad	73,625	73,625	0	0	0%	0
1997	Original Equipmen	1,819,909	473,176	1,346,733	2,058,019	100%	2,058,019
1999	Shaft Mount Reduc	8,127	8,127	0	0	0%	0
1979	Original Structure	8,652	8,652	0	0	100%	0
2002	Asphalt Drying Bed	38,025	11,788	26,237	35,791	100%	35,791
1986	Belt Filter Press Dr	15,500	12,146	3,354	6,900	0%	0
1986	Belt Filter Press Fr	46,500	36,425	10,075	20,730	100%	20,730
1991	Sludge Hopper Mo	18,768	11,578	7,190	13,166	100%	13,166
1999	Arison 560 Polyme	9,237	6,825	2,412	3,524	0%	0
1999	Polyblend Unit Bel	5,839	4,120	1,719	2,512	0%	0
2001	Polyblend Unit DA	6,117	3,841	2,276	3,189	0%	0
2000	Belt Press Rollers	44,867	14,458	30,409	43,331	100%	43,331
2005	Sludge Belt Conve	26,852	8,354	18,498	21,656	0%	0
2007	Polyblend Unit Bac	6,568	1,423	5,145	5,694	0%	0
1994	Polyblend Unit Bac	5,607	5,607	0	0	0%	0
1986	Dissolved Air Flota	81,682	38,396	43,286	89,063	100%	89,063
2997	Cannibal Equip Pro	1,649,000	85,198	1,563,802	1,563,802	100%	1,563,802
2007	Cannibal Equip Ot	713,854	92,206	621,648	687,962	62%	429,289
2007	Cannibal Interchan	847,000	43,762	803,238	888,925	100%	888,925
2007	Cannibal Interchan	531,659	68,673	462,986	512,376	100%	512,376
2004	Solar Bee	19,826	7,490	12,336	15,111	0%	0
2000	Hot Water Circulat	16,150	7,807	8,344	11,889	100%	11,889
1987	Electric Hoist	8,865	4,993	3,872	7,740	100%	7,740
2006	Natural Gas Cataly	10,181	4,497	5,685	6,452	0%	0
1996	Bar Grating	5,054	4,774	280	437	100%	437
2003	Gear Reducer	8,708	1,452	7,255	9,578	100%	9,578
1999	Self Support Tank	5,962	2,544	3,418	4,995	100%	4,995
2003	Docks Horseshoe	15,341	5,497	9,844	12,995	0%	0
2003	Storage Ponds Mo	1,174,305	406,114	768,191	1,014,081	100%	1,014,081
2004	Emissions Analyze	8,077	4,847	3,230	3,957	100%	3,957
2005	Emissions Tester	11,669	6,418	5,251	6,148	0%	0
2009	AQMD Certified Em	10,753	986	9,767	10,118	0%	0
2010	Effluent Pump 5 - 1	18,582	0	18,582	18,582	100%	18,582
2010	RAS Pump 1 - 7.5	3,896	46	3,850	3,850	100%	3,850
2010	RAS Pump 4 - 7.5	3,811	45	3,765	3,765	100%	3,765
2010	Effluent Pump 4 - 1	8,596	0	8,596	8,596	100%	8,596
2010	LEB Plans and Spe	2,977	0	2,977	2,977	100%	2,977
2004	Less Disposals and Transfers	(54,487)	(29,102)	(25,385)	(31,096)	100%	(31,096)
	Total Treatment Plant	$13,884,276	$4,835,118	$9,049,157	$13,096,692		$11,681,742
	Power Generation						
2003	Waukesha	$535,425	$149,919	$385,506	$508,903	100%	$508,903
2004	Waukesha Retenti	30,534	6,921	23,613	28,925	100%	28,925
2008	Cummins	737,132	68,799	668,333	699,679	100%	699,679
2008	Cummins Retentio	16,881	1,576	15,305	16,023	100%	16,023
2008	Cummins Electric a	16,570	967	15,604	16,336	100%	16,336
1979	Diesel Engine Gen	45,500	45,500	0	0	100%	0
2009	Waukesha Rebuild	114,502	3,053	111,448	115,459	100%	115,459
	Total Power Generation	**$1,496,543**	**$276,734**	**$1,219,808**	**$1,385,324**		**$1,385,324**
Total Existing Treatment		**$21,071,889**	**$8,337,867**	**$12,734,022**	**$19,570,938**		**$17,955,144**
Capital Contributions Credit							
1995	Grant Funding [3]	$750,000	$0	$750,000	$1,215,445	100%	$1,215,445
Total Contributions Credit		$750,000			$1,215,445		$1,215,445
2010	**Less: Existing Long-Term Debt Principal**	$4,028,761	$0	$4,028,761	$4,028,761	100%	$4,028,761
Subtotal Existing Treatment		**$16,293,129**	**$8,337,867**	**$8,705,262**	**$14,326,733**		**$12,710,938**
Total EDUs at Plant Capacity [4]							**28,430**
Existing Treatment - $/EDU							**$447**

Big Bear Area Regional Wastewater Agency
Exhibit 2
Sewer Connection Fee
Determination of Sewer Connect Fee for Treatment Plant Future Treatment [5]

	2011 TO 2016			2017 TO 2029			
	Total Project	% Connection Fee Eligible	$ Connection Fee Eligible	Total Project	% Connection Fee Eligible	$ Connection Fee Eligible	TOTAL
Treatment Plant Equipment							
Structures:							
Load Equalization Basin - Legal & Engineering	$114,493	67%	$76,329	$0	42%	$0	$76,329
Load Equalization Basin - Construction	1,842,500	67%	1,228,333	0	42%	0	1,228,333
Clarifier 4 - Construction & Engineering	0	0%	0	2,204,473	100%	2,204,473	2,204,473
Sludge Building - Reroofing Sheet Metal	50,000	63%	31,250	0	42%	0	31,250
Admin Building - HVAC Boiler and Controls	0	0%	0	356,187	42%	149,599	149,599
Storage Bins	0	0%	0	18,317	42%	7,693	7,693
Plumbing - Cannibal Building	0	0%	0	48,458	42%	20,352	20,352
Treatment Equipment							
Clarifier 1	0	0%	0	458,997	42%	192,779	192,779
Clarifier 2	0	0%	0	458,997	42%	192,779	192,779
Gear Reducer, Dreive Motor, Scum Sweep	0	0%	0	181,554	42%	76,253	76,253
Carbon Tower	0	0%	0	248,978	42%	104,571	104,571
Bar Screen	0	0%	0	131,504	42%	55,232	55,232
Grit Aeration, Air Lift Difuser	0	0%	0	48,388	42%	20,323	20,323
Grit Washer	0	0%	0	54,149	42%	22,743	22,743
Wash Press B.S.	0	0%	0	157,532	42%	66,163	66,163
Wash Press/ Grit New	113,805	76%	86,492	0	42%	0	86,492
Miscellaneous Equipment							
AQMD Emission Tester	0	0%	0	14,710	42%	6,178	6,178
Natural Gas Catalyst	13,786	0%	0	18,528	42%	7,782	7,782
Pumping Equipment:							
Clairifer 3 - Scum and Tank Drain Pump - 10 HP	0	0%	0	18,814	42%	7,902	7,902
Cannibal Building - Submersible Pump - 15 HP	0	0%	0	4,417	42%	1,855	1,855
Auxillary Pump Building - Pump 2 and 3	0	0%	0	69,680	42%	29,266	29,266
Main Pump Building -	0	0%	0	0	0%	0	0
RAS Pumps Rebuild, Air Lift Difuser	15,750	37%	5,802	65,242	42%	27,402	33,204
Effluent Pumps - Main Pump Building	45,284	57%	25,876	167,775	42%	70,466	96,342
Oxidation Ditches - In plant Sewer Pumps (2) - Ditch 1	0	0%	0	23,157	42%	9,726	9,726
Sludge Building - Belt Feed Pump	0	0%	0	19,764	42%	8,301	8,301
Storage - Docks Horshoe Pond	0	0%	0	29,346	42%	12,325	12,325
Processing Equipment:							
Brush Aerator Paddles, Housing Fan, Bridge	255,262	63%	159,539	262,920	42%	110,426	269,965
Arison 560 Polymer Unit	14,961	63%	9,351	23,309	42%	9,790	19,141
Polyblend Unit DAF	10,040	63%	6,275	0	42%	0	6,275
Polyblend Unit Belt Press	9,741	62%	6,088	0	42%	0	6,088
Polyblend Unit Backup 1 and 2	10,175	62%	6,359	26,103	42%	10,963	17,322
Cannibal Equipment	0	0%	0	436,051	42%	183,141	183,141
Painting - Ditch #1 and #2	31,319	51%	15,979	0	42%	0	15,979
Shaft Mount Reducer - Ditch #3	13,892	63%	8,683	34,773	42%	14,605	23,288
Expansion of Sludge Drying Beds	76,806	0%	0	0	42%	0	0
Solar Bee	0	0%	0	31,773	42%	13,345	13,345
Solar Drying Engeineering, Const & Equip	0	0%	0	2,120,382	42%	890,560	890,560
Sludge Belt Conveyor and Bearings	0	0%	0	42,477	42%	17,840	17,840
Belt Filter Press Drive Motors	0	0%	0	38,701	42%	16,254	16,254
Total Treatment Plant Equipment	$2,617,814		$1,666,356	$7,815,456		$4,561,086	$6,227,441
Effleunt Disposal Assets							
Storage:							
Monitoring Wells Rehabilitation	$0	0%	$0	$22,253	42%	$9,346	$9,346
Standby Pipe Mod 2" Air Vacs	0	0%	0	48,813	42%	20,501	20,501
Reservoir	0	0%	0	414,446	42%	174,067	174,067
Structures:							
Overflow Structure	0	0%	0	40,733	42%	17,108	17,108
Control Structure	0	0%	0	50,915	42%	21,384	21,384
Irrigation:							
Well Drag Sprinkler	0	0%	0	167,795	42%	70,474	70,474
Irrigation Wheel Line	0	0%	0	54,939	42%	23,074	23,074
Total Effluent Disposal System	$0		$0	$799,894		$335,955	$335,955
Flow Measuring Devices							
RAS Flow Meter	$0	0%	$0	$13,546	0%	$0	$0
WAS Meter	0	0%	0	8,779	0%	0	0
BB Flow Meter and Software	0	0%	0	48,099	0%	0	0
CSA Flow Meter	0	0%	0	16,327	0%	0	0
Total Influent Flow Meter	18,190	0%	0	0	0%	0	0
Auxillary Flow Meter	0	0%	0	27,662	0%	0	0
Lucerne Valley - two - 14" Magmeters	28,316	0%	0	42,407	0%	0	0
Effluent Flow Meter	9,569	0%	0	12,263	0%	0	0
Flow Meter CSD/CSA - OAC	15,896	0%	0	20,372	0%	0	0
Total Flow Measuring Devices	$71,971		$0	$189,455		$0	$0
Power Generating Equipment							
Cummins Rebuild	$125,000	0%	$0	$228,773	0%	$0	$0
Waukesha Rebuild	67,697	0%	0	258,187	0%	0	0
New Generator	0	0%	0	581,637	0%	0	0
Total Power Generating Equipment	$192,697		$0	$1,068,597		$0	$0
Total Future Treatment	**$2,882,482**		**$1,666,356**	**$9,873,402**		**$4,897,041**	**$6,563,397**
Subtotal Future Treatment Plant							**$6,563,397**
New EDUs 2011-2029 [6]							**3,225**
Future Treatment Plant - $/EDU							**$2,035**
Total Treatment Connection Fee per EDU							**$2,482**

Notes:
[1] Based on ENR 20 City Average Dec Values
[2] Values other than 100% represent existing assets replaced with future projects for the capital planning period.
[3] Third ditch HUD grant funding in 1995. $750,000 plus BBARWA match for a $1.5 million backup treatment facility.
[4] Number of EDUs Based on 4.89 MGD total plant capacity and 172 gpd/EDU.
[5] Future projects from Big Bear Area Regional Wastewater Agency capital improvement plan.
[6] Based on the number of EDU's during the capital planning period, or through 2029.

Big Bear Area Regional Wastewater Agency
Exhibit 3
Sewer Connection Fee
Determination of Connection Fee for Collection Plant

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2010 Cost [1]	Percent Connection Fee Eligible [2]	Connection Fee Eligible
Existing Collection Plant							
	Interceptor System						
1979	LPS Structure	$435,635	$435,635	$0	$0	0%	$0
1992	Wet Well Building L	18,000	10,800	7,200	12,741	100%	12,741
1979	NSPS 1	106,657	66,127	40,530	115,553	100%	115,553
1979	NSPS 2	113,657	70,467	43,190	123,137	100%	123,137
1979	NSPS 3	129,657	80,387	49,270	140,472	100%	140,472
1997	Submersible Pump	9,497	8,231	1,266	1,935	0%	0
2000	Submersible Sewa	14,576	5,102	9,474	13,500	0%	0
2000	Submersible Pump	14,071	9,302	4,768	6,794	0%	0
2006	Submersible Pump	14,947	4,152	10,795	12,253	0%	0
2008	Back-up Pump - 12	43,244	6,006	37,238	38,984	100%	38,984
1996	Back-up Pump Fai	7,089	6,815	274	427	0%	0
2007	Force Main-LPS C	42,969	3,939	39,030	43,194	100%	43,194
1979	Force Main	1,253,383	971,372	282,011	804,038	100%	804,038
2000	Force Main	34,789	8,480	26,309	37,488	100%	37,488
2001	Force Main	164,204	35,235	128,968	180,679	100%	180,679
1979	North Shore	108,969	84,470	24,499	69,847	100%	69,847
1979	Main Trunk	185,306	144,808	40,498	115,462	0%	0
2007	Main Trunk	176,974	17,697	159,277	176,268	100%	176,268
2010	LPS Plans, Specs,	3,936	0	3,936	3,936	100%	3,936
	Total Interceptor Plant	**$2,877,560**	**$1,969,027**	**$908,534**	**$1,896,710**		**$1,746,339**
Total Existing Collection Plant		**$2,877,560**	**$1,969,027**	**$908,534**	**$1,896,710**		**$1,746,339**
Capital Contributions Credit							
2010	Grant Funding	$0	$0	$0	$0	100%	$0
Total Contributions Credit		**$0**			**$0**		**$0**
Total Existing Collection Plant		**$2,877,560**	**$1,969,027**	**$908,534**	**$1,896,710**		**$1,746,339**
Total EDUs at Plant Capacity [3]							**28,430**
Existing Collection Connection Fee per EDU							**$61**

Big Bear Area Regional Wastewater Agency
Exhibit 3
Sewer Connection Fee
Determination of Connection Fee for Collection Plant

Future Collection [4]	**2011 TO 2016**			**2017 TO 2029**			
	Total Project	**% Connection Fee Eligible**	**$ Connection Fee Eligible**	**Total Project**	**% Connection Fee Eligible**	**$ Connection Fee Eligible**	**TOTAL**
Interceptor System							
Structures:							
LPS Legal and Engineering	$114,493	43%	$48,660	$0	42%	$0	$48,660
LPS Construction	1,915,960	43%	814,284	0	42%	0	814,284
Pumping Equipment							
Back-up Fairbanks 15HP Pump Station #1	10,366	64%	6,647	49,585	42%	20,826	27,473
Submersible Pumps	0	0%	0	208,148	42%	87,422	87,422
Pipeline:							
Manholes	48,000	56%	26,704	0	42%	0	26,704
Main Trunk	356,114	56%	198,116	0	42%	0	198,116
North Shore Interceptor Sliplining	500,000	74%	370,558	0	42%	0	370,558
15 Inch Gravity Sewer Pipeline	0	0%	0	866,306	100%	866,306	866,306
8 Inch Gravity Sewer Pipeline	0	0%	0	552,350	100%	552,350	552,350
18 Inch Gravity Sewer Pipeline	24,726	56%	13,756	0	42%	0	13,756
Total Interceptor System	$2,969,659		$1,478,725	$1,676,389		$1,526,904	$3,005,629
Total Future Collection	**$2,969,659**		**$1,478,725**	**$1,676,389**		**$1,526,904**	**$3,005,629**
New EDUs 2011-2029 [5]							3,225
Future Collection Connection Fee per EDU							**$932**
Total Collection Connection Fee per EDU							**$993**

Notes:
[1] Based on ENR 20 City Average Dec Values
[2] Values other than 100% represent existing assets replaced with future projects for the capital planning period.
[3] Number of EDUs Based on 4.89 MGD total plant capacity and 172 gpd/EDU.
[4] Future projects from Big Bear Area Regional Wastewater Agency capital improvement plan.
[5] Based on the number of EDU's during the capital planning period, or through 2029.

Big Bear Area Regional Wastewater Agency
Exhibit 4
Sewer Connection Fee
Determination of Connection Fee for General Plant

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2010 Cost [1]	Percent Connection Fee Eligible	Connection Fee Eligible
	Administration Building						
2004	Original Structure	$1,571,995	$239,074	$1,332,921	$1,632,779	100%	$1,632,779
2004	Grading, Roofing	165,850	33,631	132,219	161,964	100%	161,964
2004	Skylights	8,000	1,947	6,053	7,415	100%	7,415
2004	HVAC	221,000	53,777	167,223	204,842	100%	204,842
2004	Irrigation, Signs	10,810	6,576	4,234	5,186	100%	5,186
	Total Administration Building	**$1,977,655**	**$335,005**	**$1,642,650**	**$2,012,186**		**$2,012,186**
	Other Tangible Plant						
2004	Asphalt and Paving	$50,186	$10,178	$40,008	$49,009	100%	$49,009
1986	Asphalt and Paving	24,800	$19,431	5,369	11,046	100%	11,046
2007	Asphalt and Paving	111,235	$9,579	101,656	112,501	100%	112,501
1986	Asphalt and Paving	1,168	$915	253	521	100%	521
2003	Asphalt and Paving	39,940	$8,876	31,064	41,008	100%	41,008
2004	Asphalt and Paving	41,249	$8,135	33,114	40,563	100%	40,563
2006	Asphalt and Paving	8,431	$1,054	7,377	8,373	100%	8,373
2007	Asphalt and Paving	13,903	$1,197	12,706	14,061	100%	14,061
2008	Asphalt and Paving	29,498	$2,212	27,285	28,565	100%	28,565
2008	Asphalt and Paving	108,437	$8,051	100,387	105,095	100%	105,095
2003	Asphalt and Paving	11,170	$2,513	8,657	11,428	100%	11,428
2004	Asphalt and Paving	11,700	$2,210	9,490	11,625	100%	11,625
2003	Asphalt and Paving	9,255	$2,084	7,171	9,466	100%	9,466
1979	Asphalt and Paving	1,391	$1,391	0	0	100%	0
1979	Asphalt and Paving	1,391	$1,391	0	0	100%	0
1979	Asphalt and Paving	1,392	$1,392	0	0	100%	0
	Total Transportation Equipment	**$465,146**	**$80,608**	**$384,537**	**$443,260**		**$443,260**
	Studies and Maps						
1996	80-Acre Dike Stud	$7,484	$7,484	$0	$0	100%	$0
2000	Long Range Facilit	364,981	364,981	0	0	100%	0
2003	Capacity Report	49,800	49,800	0	0	100%	0
2003	Connection Report	15,000	15,000	0	0	100%	0
2004	Compliance Repor	11,993	11,993	0	0	100%	0
2004	Sludge Handling	77,895	21,747	56,149	68,780	100%	68,780
2007	User Fee Rate Stu	23,141	16,822	6,319	6,993	100%	6,993
2008	Waste Disposal Ra	7,072	2,947	4,125	4,319	100%	4,319
1995	Outfall Line Plans	15,175	5,627	9,548	15,473	100%	15,473
2006	Outfall Line Map	31,507	4,201	27,306	30,992	100%	30,992
2010	Less Disposals and Transfers	(503,264)	(427,124)	(76,140)	(76,140)	100%	(76,140)
	Total Studies and Maps	**$100,784**	**$73,478**	**$27,306**	**$50,416**		**$50,416**
	Transportation Equipment						
1991	1989 Ford Dump T	$22,210	$20,549	$1,661	$3,042	100%	$3,042
1997	1981 GMC Boom T	5,408	3,380	2,028	3,099	100%	3,099
1999	1999 Chevrolet Su	37,547	27,117	10,430	15,240	100%	15,240
2001	Utility Cart Electric	8,510	7,588	922	1,291	100%	1,291
2002	2001 Ford Ranger	12,616	12,616	0	0	100%	0
2002	2003 Chevrolet Sil	34,543	17,464	17,079	23,298	100%	23,298
2004	2004 Toyota 4-Run	29,674	11,705	17,969	22,012	100%	22,012
2004	2004 Toyota Tund	32,412	12,786	19,626	24,041	100%	24,041
2008	2008 Ford F350	42,140	7,024	35,116	36,763	100%	36,763
2007	Utility Cart	17,942	2,990	14,952	16,547	100%	16,547
1996	1996 TCM Loader	51,263	48,134	3,129	4,877	100%	4,877
2002	Bobcat Backhoe a	47,578	18,833	28,745	39,212	100%	39,212
2006	Bobcat Hammer A	8,482	1,838	6,644	7,541	100%	7,541
2010	Snowblower and P	12,622	210	12,412	12,412	100%	12,412
	Total Transportation Equipment	**$362,946**	**$192,233**	**$170,713**	**$209,375**		**$209,375**

Big Bear Area Regional Wastewater Agency
Exhibit 4
Sewer Connection Fee
Determination of Connection Fee for General Plant

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2010 Cost [1]	Percent Connection Fee Eligible	Connection Fee Eligible
	Other Equipment						
2007	Electrical	$118,841	$7,675	$111,166	$123,024	100%	$123,024
1986	Auxiliary Instrumen	3,000	3,000	0	0	100%	0
2008	SCADA	27,489	2,902	24,587	25,741	0%	0
2001	Symbio	20,563	12,566	7,997	11,203	0%	0
2001	Symbio Engineerin	15,788	4,824	10,964	15,360	0%	0
2008	Symbio, Multiparam	6,631	691	5,940	6,219	0%	0
2009	SymbioMultiparam	976	49	927	960	0%	0
2001	Symbio Entineering	15,788	4,824	10,964	15,360	0%	0
2008	Symbio	6,631	691	5,940	6,219	0%	0
2009	Symbio	976	49	927	960	0%	0
2001	Symbio	19,347	11,823	7,524	10,541	0%	0
2009	SymbioVFD and K	1,659	332	1,327	1,375	0%	0
2009	SCADA	14,183	1,434	12,749	13,208	0%	0
2009	Analog Input Modu	2,846	190	2,656	2,752	0%	0
2007	PH and ORC Sens	2,956	764	2,192	2,426	0%	0
2007	Display Equipment	4,578	788	3,790	4,194	0%	0
1979	Telemetry	5,000	5,000	0	0	0%	0
1997	SCADA	11,591	9,854	1,737	2,654	0%	0
1997	SCADA	13,583	11,246	2,337	3,571	0%	0
1998	SCADA	13,384	10,335	3,049	4,556	0%	0
1997	SCADA	13,583	11,246	2,338	3,572	0%	0
1998	SCADA	13,384	10,335	3,049	4,556	0%	0
1997	SCADA	13,583	11,246	2,337	3,571	0%	0
1998	SCADA	13,384	10,335	3,049	4,556	0%	0
2005	Radio Repeater	13,218	7,050	6,167	7,220	0%	0
2004	Security	26,625	16,199	10,426	12,771	100%	12,771
2005	Security	15,850	7,265	8,585	10,051	100%	10,051
2006	Security	14,400	5,880	8,520	9,670	100%	9,670
2007	Security	5,813	2,034	3,778	4,181	100%	4,181
1979	Electric Lighting	21,900	16,973	4,928	14,049	100%	14,049
1990	Security Lights	5,678	3,691	1,987	3,724	100%	3,724
1991	Security Lights	9,562	5,899	3,663	6,707	100%	6,707
1999	Front Security Gate	6,497	4,945	1,552	2,268	0%	0
2008	Fencing	135,274	5,411	129,863	135,954	100%	135,954
2008	Fencing	119,182	3,973	115,209	120,612	100%	120,612
2005	Surveillance Syste	22,828	11,605	11,224	13,140	0%	0
1979	Fencing	85,300	71,606	13,694	39,043	100%	39,043
2002	Stand Pipe	31,728	6,081	25,647	34,985	100%	34,985
2008	Emergency Backu	52,599	4,602	47,996	50,248	0%	0
2005	Emergency Bypass	36,664	8,708	27,956	32,729	0%	0
2007	Soft Starts	15,530	1,165	14,366	15,898	100%	15,898
1986	Electrical	33,869	19,902	13,966	28,736	100%	28,736
1979	Switchgear	18,300	14,195	4,106	11,705	100%	11,705
1986	Electrical Revision	4,162	2,445	1,717	3,532	100%	3,532
1979	General Electric	24,655	19,107	5,547	15,816	100%	15,816
1979	General Electric	24,655	19,107	5,547	15,816	100%	15,816
1986	General Electric	16,789	9,868	6,921	14,240	100%	14,240
1979	Rough and Finish	8,200	6,379	1,821	5,192	100%	5,192
2008	VFD	9,928	1,600	8,329	8,719	0%	0
1979	Rough and Finish	8,200	6,379	1,821	5,192	100%	5,192
2001	Reverse Starters	5,250	3,208	2,042	2,860	100%	2,860
2001	Reverse Starters	5,250	3,208	2,042	2,860	100%	2,860
2009	VFD	10,743	2,149	8,594	8,904	0%	0
1979	Rough and Finish	95,400	73,959	21,441	61,130	100%	61,130
1979	Duct Banks, Condu	116,534	90,314	26,220	74,755	100%	74,755
1998	Main Circuit Break	10,853	3,211	7,642	11,420	100%	11,420
2003	Demand Meter	8,709	4,307	4,402	5,811	100%	5,811
1986	Electrical, Wire, Te	68,937	40,510	28,427	58,490	100%	58,490
1986	Belt Filter Press Co	38,750	30,360	8,390	17,262	100%	17,262
1986	Instrumentation	12,000	12,000	0	0	100%	0
1979	General Electric	5,000	3,875	1,125	3,207	100%	3,207
1989	General Electric	25,800	13,545	12,255	23,448	100%	23,448
1979	Motor Control Cen	25,400	25,400	0	0	100%	0
1998	40 HP VFD	13,476	5,203	8,273	12,363	0%	0
2003	Transfer Switch	10,173	1,844	8,329	10,995	100%	10,995
2001	Ground Fault Indic	14,445	8,186	6,259	8,769	100%	8,769
2007	VFD Soft Starts	11,767	2,092	9,675	10,707	0%	0
2008	Copier	13,469	5,163	8,306	8,695	100%	8,695
1979	Two Fume Hoods	24,000	21,263	2,737	7,803	0%	0
1998	Ion Analyzer	26,614	20,108	6,506	9,722	0%	0
2005	TOC Analyzer	31,652	31,652	0	0	100%	0
2008	Freas Oven	6,308	547	5,762	6,032	100%	6,032
2001	SCADA	13,084	7,996	5,088	7,129	0%	0
2001	Symbio Engineerin	15,788	4,824	10,964	15,360	0%	0
2008	Symbio	6,631	691	5,940	6,219	0%	0

Big Bear Area Regional Wastewater Agency
Exhibit 4
Sewer Connection Fee
Determination of Connection Fee for General Plant

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2010 Cost [1]	Percent Connection Fee Eligible	Connection Fee Eligible
2009	Symbio	976	49	927	960	0%	0
2009	Equipment and Co	28,248	1,099	27,150	28,127	100%	28,127
2010	Admin Building Tra	61,099	2,037	59,062	59,062	100%	59,062
2010	Ops Building Secu	10,490	262	10,228	10,228	0%	0
2009	Ion Analyzer	34,926	1,552	33,374	34,575	0%	0
2008	SCADA	8,728	3,055	5,673	5,939	0%	0
2008	SCADA	1,595	239	1,355	1,419	0%	0
2010	Less Disposals and Transfers	(120,701)	(94,946)	(25,755)	(25,755)	100%	(25,755)
	Total Other Equipment	**$1,768,540**	**$743,230**	**$1,025,310**	**$1,377,270**		**$988,069**
2010	**Less: Existing Long-Term Debt Principal**	$753,452	$0	$753,452	$753,452	100%	$753,452
Total Existing General Plant		**$3,921,619**	**$1,424,555**	**$2,497,064**	**$3,339,056**		**$2,949,854**
Total EDUs at Plant Capacity [2]							**28,430**
Existing General Plant Connection Fee per EDU							**$104**

Big Bear Area Regional Wastewater Agency
Exhibit 4
Sewer Connection Fee
Determination of Connection Fee for General Plant

Future General Plant [3]	**2011 TO 2016**			**2017 TO 2029**			
	Total Project	**% Connection Fee Eligible**	**$ Connection Fee Eligible**	**Total Project**	**% Connection Fee Eligible**	**$ Connection Fee Eligible**	**TOTAL**
Other Equipment							
Communications:							
Radio Repeater	$19,169	0%	$0	$0	0%	$0	$0
SCADA System Replacement	0	0%	0	384,981	42%	161,692	161,692
Electrical: VFD T/P - Rotor	37,601	51%	19,184	253,315	42%	106,392	125,576
Security:							
Operations Bldg Security Sys Updates & TP Security Lights	43,152	0%	0	49,182	0%	0	0
Mobile Pumping Equipment:							
Emergency By-Pass Pump 4"	0	0%	0	67,832	0%	0	0
Emergency Back-up Pump 6"	0	0%	0	96,778	0%	0	0
Laboratory:							
ION Analyzer	0	0%	0	55,221	0%	0	0
Fume Hoods	45,000	0%	0	118,637	0%	0	0
Total Other Equipment	$144,922		$19,184	$1,025,946		$268,084	$287,268
Transportation Equipment							
Vehicles							
1989 Dump Truck Replacement	$36,747	0%	$0	$0	0%	$0	$0
1981 Boom Truck Replacement	65,000	0%	0	0	0%	0	0
2002 Vehicle -Utility Cart	10,749	0%	0	18,593	0%	0	0
2010 GMC 1/2 Ton	45,000	0%	0	61,686	0%	0	0
2003 Chevrolet Silverado	0	0%	0	58,136	0%	0	0
2004 Toyota 4-Runner	0	0%	0	48,798	0%	0	0
2004 Toyota Tundra	0	0%	0	53,298	0%	0	0
2008 Ford F350	0	0%	0	66,699	0%	0	0
Utility Cart Gas	0	0%	0	28,402	0%	0	0
Electric Truck	32,145	0%	0	0	0%	0	0
Heavy Equipment and Accessories:							
1996 TCM/Loader and Accessories	78,310	0%	0	124,422	0%	0	0
Bobcat Backhoe	0	0%	0	92,237	0%	0	0
Bobcat Hammer Attachments	0	0%	0	15,429	0%	0	0
Total Transportation Equipment	$267,951		$0	$567,700		$0	$0
Other Tangible Plant							
Asphalt and Paving	$121,000	0%	$0	$120,000	0%	$0	$0
Total Future General Plant	**$533,873**		**$19,184**	**$1,713,646**		**$268,084**	**$287,268**
New EDUs 2011-2029 [4]							3,225
Future General Plant Connection Fee per EDU							**$89**
Total General Plant Connection Fee per EDU							**$193**

Notes:

[1] Based on ENR 20 City Average Dec Values
[2] Number of EDUs Based on 4.89 MGD total plant capacity and 172 gpd/EDU.
[3] Future projects from Big Bear Area Regional Wastewater Agency capital improvement plan.
[4] Based on the number of EDU's during the capital planning period, or through 2029.

Big Bear Area Regional Wastewater Agency
Exhibit 5
Sewer Connection Fee
Summary

Current Connection Fee per EDU, as of July 2010	**$3,031.22**
Calculated Connection Fee	**$3,670**
Difference	**$639**

Sewer Connection Fee Calculation Results	
Treatment	$2,482
Collection	993
General Plant	193
Total	$3,668
Net Allowable Sewer Connection Fee	$3,668
Rounding for Implementation Purposes	$3,670