JURUPA COMMUNITY SERVICES DISTRICT

2015 CAPACITY CHARGES STUDY

DRAFT
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Jurupa Community Services District

2015 Capacity Charges Study

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1.0 INTRODUCTION AND BACKGROUND

1.1 History and Services

The Jurupa Community Services District (JCSD or the District) was originally formed in 1956 to develop a sewer system for an unincorporated area in the Mira Loma area. After completion of the sewer system facilities in 1961, JCSD's duties expanded to include consolidation and improvement of the area's three water companies, Jurupa Heights Water Company, the La Bonita Mutual Water Company, and the Monte Rue Acres Mutual Water Company. Around this time, JCSD began building parks and recreational facilities as well. In 1984, existing parks facilities in the Jurupa area were transferred to Jurupa Area Recreation & Parks District, a special District incorporated for that specific purpose. By 1978, the District's wastewater treatment capability was consolidated at the still functioning Riverside Treatment Plant. After a series of expansions throughout its history, JCSD has reached its current 40.8 square mile service area while serving a population of about 120,000 residents in northwest Riverside County.

The District also owns and operates the parks for the Eastvale area. In addition, the District administers an Illumination District, Lighting Maintenance Districts, and Landscape Maintenance Districts. These special assessment districts are funded through charges placed on property tax bills to cover the energy charges of the lights and landscaping within public right-of-ways throughout the District.

One of the District's primary functions is to deliver safe, clean water and to provide wastewater service to its citizens. In order to provide these two services, the District operates a complex system of transmission, treatment, and storage facilities.

1.2 Water System

In addition to supplying water to its population of roughly 120,000 customers through 29,000 service connections, JCSD also provides water deliveries through inter-ties to Norco and the Santa Ana River Water Company (SARWC). JCSD's primary water sources are groundwater production and purchases of fully treated groundwater from the Chino Groundwater Basin. In order to ensure a reliable water supply for both existing and future residents, the District participates in a joint powers authority (JPA) with neighboring agencies called the Chino Basin Desalter Authority (CDA). The CDA operates two Chino Desalter plants to desalinate groundwater stored within the Chino Groundwater Basin. JCSD currently annually purchases 8,200 acre-feet per year (AFY) of groundwater from CDA. After expansion of the Chino II facility, JCSD will purchase an additional 3,533 AF of fully treated groundwater from CDA.

The Chino Basin Watermaster is the agency responsible for recharging and preventing overdraft of the Chino Basin. Although JCSD does not directly rely on imported water as a water source, the Chino Basin is recharged through State Water Project (SWP) water as well as storm water and recycled water. The Chino Basin Watermaster purchases SWP water from the Metropolitan Water District of Southern California (MWD). Currently, due to the region's continuing drought conditions, MWD does not supply a replenishment water source for agencies to recharge groundwater basins.

Treated water from the Chino Basin makes up the majority of the District's water supply. The rest of the District's water supply comes from additional local groundwater sources. Local groundwater supplies include untreated water pumped from the Chino Basin for potable and non-potable uses and groundwater pumped from the Riverside Basin for non-potable use. While the majority of the District's territory lies within the Chino Basin, JCSD has access to and pumps 600 acre-feet per year (AFY) of groundwater from the Riverside Basin, as a portion of the District's territory lies within the Riverside Basin.

JCSD has been purchasing water from Rubidoux Community Services District (RCSD) since 2000. Through this agreement the District draws up to 1,500 AFY from the RCSD based on availability and system demand. In December, 2014, JCSD entered into an agreement with the City of Ontario to acquire up to 2,000 AFY of water subject to certain Dry Year constraints.

1.3 Sewer Service

JCSD's sewer system is split between three separate service areas that each discharge to separate systems. The District no longer operates any wastewater treatment facilities of its own. Through an order of the Santa Ana Regional Water Quality Control Board in the late 1970’s, the District outsourced its sewage treatment to the City of Riverside plant to create a regional facility for sewage treatment.

Through its network of pumping, pipeline, and other conveyance facilities, the District conveys wastewater from the eastern portion of its service area to the City of Riverside Treatment Plant. In addition to the District, this treatment plant serves the City of Riverside, Rubidoux Community Services District, and Edgemont Community Services District. The Riverside Treatment Plant discharges almost entirely into the Santa Ana River, but also produces recycled water suitable for irrigation. The District pays annual treatment charges for its share of operations and maintenance expenses at the Riverside Treatment Plant. The District is currently discharging 3.25 mgd to the Riverside Treatment Plant, but anticipates diverting 0.5 mgd of this flow to the Western Riverside County Regional Wastewater Authority (WRCRWA) Treatment Plant in the future.

Collections from the District's Eastvale area are pumped via the River Road Lift Station to another regional treatment plant operated by a Joint Powers Authority (JPA) called the Western Riverside County Regional Wastewater Authority (WRCRWA). Current

dischargers to that plant include Western Municipal Water District, Jurupa Community Services District, Norco, and the Home Gardens Sanitary District, and - after the expansion of the facility - the City of Corona. WRCRWA's Wastewater Treatment Plant was brought online in 1998 and was designed to treat 8.0 mgd of wastewater, of which the District owns 3.25 mgd in treatment capacity. The remaining capacity rights are owned by the other wastewater agencies in the area. The plant is operated by Western Municipal Water District (WMWD). The members of the JPA are in the process of expanding the WRCRWA Treatment Plant, which will increase the total treatment capacity to 14 mgd, of which JCSD will own 6 mgd. JCSD currently discharges 3.25 mgd to the WRCRWA plant, and will increase this flow to 3.75 mgd with the diversion of 0.5 mgd in flows from the Riverside to the WRCRWA treatment plant.

Wastewater from the predominantly industrial Community Facilities District (CFD) No. 1 is discharged into the Inland Empire Brine Line (IEBL) for treatment at the Orange County Sanitation District (OCSD) Treatment Plant. This plant has different standards regulating salinity because the plant discharges into the Pacific Ocean. Consequently, the District utilizes this facility for high salinity waste from its industrial customers as well as the Chino Basin Desalters.

2.0 CAPACITY CHARGE OVERVIEW

As part of this study, Carollo Engineers, Inc. has not developed any primary engineering analysis. All cost and capacity information has been provided by the District with support from its consulting engineering Albert A. Webb Associates. This report details the methodology used in the development of the Capacity Charges and the proportional recovery of costs for new development based on the engineering analyses of demand, growth, and cost estimates as provided. These estimates reflect the District's best estimates as of the writing of this report and are subject to change based on community development characteristics within the JCSD service area and will update as necessary.

JCSD has a sound financial structure that supports operational and capital investments for all of its services. The District's expenditures include operating expenses, debt service on existing debt, and capital expenditures. The District's main sources of funding for its water and sewer systems are retail and wholesale sales, which represent approximately 75 percent of total revenues for each system. Other District revenues come from the Capacity Charges, interest earnings, property taxes, grants, and other miscellaneous sources.

Revenues from the District's Capacity Charges are dependent on growth. In recent years, Capacity Charge revenues have represented approximately 10 to 15 percent of District revenues. The District expects continued growth in the future and Capacity Charge revenue will represent a comparable share of the District's total revenue in the water and sewer systems.

The District also collects other revenue from leases, permits, recreation income, and other sources. The District also makes use of both short and long-term debt for capital expenditures when necessary.

2.1 Capacity Charge Approaches

Expansion of service to new customers carries with it costs to provide that service, including expanding system capacity and increasing water supplies. As the number of customers grows within a water or sewer agency, system capacity needs to be expanded to provide service to the new customers. This includes the costs associated with constructing the expanded service as well as the incremental operating costs associated with maintaining the additional infrastructure. In the water/wastewater industry, there are multiple ways to fund these expenses. Increasing rates that are charged to both existing and new customers is the most administratively easy method to implement. However, charging existing customers for the expansion of services to new customers is not generally considered an equitable approach as it would result in the subsidization by existing ratepayers of the costs to serve growth.

Another option for recovering the costs of expansion is to charge the new customers a higher rate than existing customers until the new customers have effectively raised funds equivalent to the costs associated with their connection to the system. This method,

however, is difficult to implement, as it would result in disparate rates between customers and result in an administrative burden on the District to track individual customer payment plans.

A third method, the method currently implemented by the District, is to charge each new customer a one-time fee for the use of capacity upon joining the system. The Capacity Charge recovers a proportionate share of facility cost from a new service connection based upon that customer's share of the facilities required to provide them service. These fees are referred to as connection fees, capacity fees, system development fees, facility fees, or Capacity Charges. Capacity Charges are easy to implement, and when properly calculated, provide an equitable mechanism to recover the costs of expansion.

The basic economic theory behind the imposition of a Capacity Charge is that the costs of providing service should be borne by those customers receiving the benefits, such that no one customer or group of customers subsidizes any other customers. In establishing any fee or charge, achieving equity is one of the primary goals. In the case of Capacity Charges, this goal has been expressed in the phrase, "growth should pay for growth."

While a variety of cost recovery mechanisms exist, Capacity Charges are an equitable method by which local agencies can impose charges to offset the costs of new customers connecting to their water, wastewater, or other utility or infrastructure systems. Capacity Charges, like all connection fees, are governed by California Government Code §66013, which provides a legal framework for the applicability, assessment, and imposition of the fee. There are various methods to calculate Capacity Charges; the most appropriate method for any system is dictated by the system's specific characteristics. The proposed Capacity Charges represent the maximum fees that the District can impose based on the calculations as discussed in this report.

2.1.1 Statutory Requirements

A Capacity Charge is a one-time charge that the District imposes on new customers in order to recover an equitable share of the costs of constructing the system capacity necessary to serve new customers. The charges are levied on new users wishing to connect to the system or a customer in the process of upsizing their existing meter.

California Government Code §66013 states that Capacity Charges are "charges for facilities in existence at the time the charge is imposed or charges for new public facilities to be acquired or constructed in the future, which are of proportional benefit to the person or property being charged." Section §66013 provides that Capacity Charges "shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed."

Capacity Charges are also subject to Section §54999 requirements regarding charges implemented by public agencies. Section §54999.7 establishes a similar cost-of-service requirement. As determined by *Richmond v. Shasta Community Services Dist*. (2004) 32

Cal. 4th 409, Capacity Charges are not subject to the provisions of California Constitution Article XIIID (Proposition 218).

2.1.2 Methodologies

Two general types of Capacity Charges are used to recover system costs from new users. There is the system Buy-in approach and the Incremental approach. Additionally, utilities can elect to use a Hybrid approach that combines these two approaches. While all methods are valid, the best approach is dictated by each system's specific characteristics.

2.1.2.1 Buy-in Approach

Utilities often construct infrastructure capacity to meet demands from future system users. However, it is the existing customers who have paid for this capacity over time through their user rates (through direct capital financing or retired debt). The Buy-in approach provides a mechanism to recover the costs of system capacity that was constructed and is available to meet future demand. The Buy-in approach does not intend to recover the cost of any facility, or portion of a facility, that serves only existing customers. In this sense, the Buy-in approach segregates the existing system value into costs for existing customers and costs for future users.

There are further considerations when calculating the Buy-in approach. Given that the existing system was constructed over time, the original cost of constructing the system accurately reflects neither its current value nor the cost to construct the facilities today. To determine the replacement cost of the existing assets, their original costs were escalated to July 2015 dollars using the Engineering News Record Construction Cost Index (ENR CCI) for the city of Los Angeles. The District's fixed asset records, which included original costs, acquisition dates, and estimated useful lives, were used as the basis for this analysis.

Because system assets have a finite lifespan and degrade over time, replacement costs alone might not be the best estimate of system value. Therefore, the District adjusts the replacement cost by assuming straight-line depreciation of the asset. The depreciated asset value is determined by dividing the age of each asset by the projected useful life and reducing the replacement cost by that percentage. By accounting for accumulated depreciation in the Buy-in approach, the District may recover the equivalent cost of capital improvements that would replace the depreciated assets or extend the useful lives of these assets.

The Buy-in approach should not include costs of assets that were grant-funded or donated and should only include the costs incurred by the District's ratepayers for the development of the existing system, including the accumulation of fund reserves. Finally, in the calculation of the Buy-in approach, the existing system value is segregated into the portions for existing customers and future users. This is done by determining the approximate share of each asset that benefits existing customers and the share that is available to benefit future users. This process of segregation is explained in more detail in a later section.

As shown in the formula below, the Buy-in approach divides the value of the existing system that is available to serve future users by the total number of future users that are expected to benefit from the system.

$$\boldsymbol{Buy-In\ Capacity\ Charge} = \frac{\boldsymbol{Value\ of\ the\ Available\ System}}{\boldsymbol{Expected\ Future\ Users}}$$

2.1.2.2 Incremental Approach

The Incremental approach recovers the cost in present value (July 2015) dollars of the District's planned investments that will be undertaken to add capacity for future development. Projects included in the District's capital improvement program have two primary purposes – maintain reliability of existing infrastructure; and increase system capacity. In the Incremental approach, the future system value is segregated between those two purposes. The costs of each project are associated in some percentage to either or both of these purposes. This is done by determining the approximate portion of each asset that benefits either existing customers or future users. In the Incremental approach, the present value of planned capital improvements that will serve future users is divided by the expected number of future users, hereafter referred to as build-out.

The future cost basis accounts only for capacity related improvements that will be constructed through build-out. The costs of these improvements are estimated in present value terms. Costs are fairly and reasonably spread over all future users by dividing the planned total capacity-related project costs by the total number of future users that are projected to receive service. The formula below presents the calculation of the Capacity Charge using the Incremental approach.

$$\boldsymbol{Incremental\ Capacity\ Charge} = \frac{\boldsymbol{Capacity\ Related\ CIP}}{\boldsymbol{Expected\ Future\ Users}}$$

2.1.2.3 Hybrid Approach

The Hybrid approach combines the Buy-in and Incremental approaches. Current available system value is added to the costs of capacity related capital projects, and divided by the expected future customers. The formula below presents the calculation of the Hybrid approach.

$$\boldsymbol{Hybrid\ Capacity\ Charge} = \underbrace{\frac{\boldsymbol{Value\ of\ the\ Available\ System}}{\boldsymbol{Expected\ Future\ Users}}}_{\text{Buy-In Component}} + \underbrace{\frac{\boldsymbol{Capacity\ Related\ CIP}}{\boldsymbol{Expected\ Future\ Users}}}_{\text{Incremental Component}}$$

2.1.3 Recommended Methodology

Based on the characteristics of the District's water and sewer systems and discussion with District Staff, Carollo recommends updating the current Capacity Charge calculation methodology, which is based on an Incremental approach, as described above. By

reviewing the elements of the District's system, including current facilities and projected growth, Carollo recommends the Hybrid approach as an appropriate methodology to calculate the Capacity Charge. Justification of the two components within the Capacity Charge are reviewed and confirmed as follows:

- JCSD is a public agency distributing water to western Riverside County as both a wholesale supplier and direct retailer. Water is collected, conveyed, treated, and distributed through the District's existing pump stations, storage facilities, and pipelines. Although these facilities were funded through revenue collected from existing customers, many have adequate capacity available to serve future customers. As new customers join the water system, they will benefit from available capacity. The Buy-in component creates a mechanism for new customers to pay for a proportionate share of the value of this existing capacity. Through water rates, existing customers have been responsible for paying off debt that was necessary to fund the system. Additionally, past Capacity Charge revenue has been a major source of the District's system development. The same can be said for the burden of costs to provide the District's sewer service. The purpose of the first component in the hybrid Capacity Charge, the Buy-in component, is to charge new system customers in order to recover those costs that have already been incurred by the District's existing customers. The District is able to recover and "reimburse" the existing customers by utilizing Capacity Charge revenue as the primary source of funding for future projects that benefit both existing and future customers.

- JCSD anticipates significant increases in total water demands and sewer discharge in the future due to new development. This growth in demand and discharge necessitates additional facilities in order to provide the required capacity. The CIP intends to expand system capacity, calling for an incremental component. During construction, the necessary expansions to the system will be a significant financial burden on the District. Because the District has a policy of "growth pays for growth," funding for expansion-related projects should not be borne by existing customers. Through an allocation of capacity-related project costs, the second component of the hybrid Capacity Charge (the Incremental component) provides a mechanism for the District to collect the necessary revenue from new customers, rather than existing customers, to fund the projects that will provide capacity for growth.

2.2 Other Considerations:

2.2.1 Water Resources Capacity Charge

The District intends to implement a policy to charge a Water Resources Capacity Charge to pay for new water supply or capacity rights to accommodate growth. Since the District has on average exceeded it local groundwater production rights, new developments must fund the Districts' ability to secure new water supplies for its development needs. The fee is calculated based on the projects required to create new reliable water supplies. The

projects range from the construction of a recycled water system which will replace irrigation which is currently using potable water with non-potable water and external drinking water supplies to projects which will import water from outside the District's territory to secure water supplies for new development.

As the Water Resources Capacity Charge only covers the cost of the required future water supplies necessary to meet growth, and not the demands of existing customers, it is calculated using the incremental approach.

The following sections of this report explain how each component of the Capacity Charge was determined.

2.2.2 Security Agreements

Current development projects within the District are at different stages of the planning, permitting, and construction processes. A number of new residential developments have entered into an agreement with the District to secure the payment of the existing Water and Sewer Capacity Charges ("Security Agreements"). The developments that have entered into a Security Agreement and have secured their Capacity Charges with a Letter of Credit will not have to pay the updated Capacity Charges presented within this report. In addition, other developments that comply with all of the following requirements would not have to pay the updated Capacity Charges presented within this report :

1. Have been issued a Water Availability Letter (confirmation that their development will be served by the water and/or sewer systems)
2. Are in the plan check process with Development Engineering
3. Are eligible to pay or secure their Capacity Charges (the Developments project's water and sewer MEU count can be determined by the District with certainty)
4. Pay or secure their Capacity Charges before the new fees are effective.

These developments will be deemed to have obtained a right to obtain connections upon payment of the Capacity Charges currently in effect.

The District reported that there are 3,522 new meter equivalent units (MEUs)[1] that qualify using the above criteria. These new developments will pay the existing Capacity Charges, rather than the fee that has been updated to properly recover the value of the existing and future systems. Throughout this report, developments and future customers with Security Agreements or that otherwise qualify using the above criteria will be referred to as secured customers or secured growth. Conversely, those customers without Security Agreements or

[1] A meter equivalent unit is determined based on the size of the purchased meter and is a factor of the instantaneous flow of that meter relative to 20 gallons per minute.

that do not otherwise qualify using the above criteria will be referred to as unsecured customers or unsecured growth and will pay the updated fee.

In order to properly allocate the value of the District's assets and projects to unsecured growth, the value of each cost element is split between secured and unsecured growth. The split, or allocation between the two types of growth, is proportional to the number of MEUs of each type. Although there are 3,522 projected secured connections connecting to both the water and sewer systems, the number of new unsecured MEUs and EDUs anticipated by each system respectively will vary. The growth projections within each system are presented further within this report.

3.0 WATER CAPACITY CHARGE

The District anticipates new development in the service area will exceed the current available capacity. The District's ability to pump groundwater is limited by certain regional agreements governing Chino Basin water rights. Consequently, the District must manage the water rights it currently owns, obtain additional water rights as necessary, and construct additional water treatment and distribution infrastructure to fully meet the projected service demands necessitated by growth through planned build-out.

As presented in Section 2.0 of this report, the District imposes a Capacity Charge to apportion the costs of the water system to new customers in proportion to the benefit received. Each asset, or cost element, is apportioned between existing and future water customers. As customers connect to the water system, they will be charged a fee by the District in proportion to the benefit received. The Capacity Charge is comprised of two components.

- The Buy-in component, which recovers a proportional share of the cost of the existing system that will be used by new customers
- The Incremental component, which recovers the costs of the District's planned projects that provide additional service capacity. These projects are set forth in the Capital Improvement Plan (CIP)

This Hybrid approach includes both of these components, as presented in the equation below, in the calculation of the Capacity Charge.

$$\textit{Hybrid Capacity Charge} = \underbrace{\frac{\textit{Value of the Available System}}{\textit{Expected Future Users}}}_{\text{Buy-In Component}} + \underbrace{\frac{\textit{Capacity Related CIP}}{\textit{Expected Future Users}}}_{\text{Incremental Component}}$$

Each new customer is responsible for a share of the available value of the existing system as well as projected capacity related capital costs based on its proportionate share of the total number of new customers within the water system. The District anticipates that all projected new development may not occur during the planning period and, as a result, there could be excess system capacity beyond build-out. If demand does not meet the projected levels, the capital costs of this excess capacity will be carried by the District rather than accounted for in the calculation of the Capacity Charges. Eventually, the District will fully recover these carrying costs when full build-out is achieved. The following sections describe the basis for each cost element as well as the number of customers that will benefit from the water system expansion.

3.1 Customers and Growth

3.1.1 Security Agreements

As of the writing of this report, various land development agencies have already begun the application and permit process for developing land within the District's service area. The District has already permitted construction on a number of different development sites. As part of this permitting process, developers have provided security for payment of the District's current Capacity Charge for commercial and residential developments through a Security Agreement or another acceptable form of security (see Section 2.2.2). These secured customers will pay the existing Capacity Charge when they are connected to the water system. The result will be one set of new customers that pay the current Capacity Charge and another set of unsecured new customers that will pay the updated Capacity Charge[2].

The number of new secured customers that will pay the existing Capacity Charge is equivalent to 3,522 MEUs.

3.1.2 Growth Calculation

The current water system can adequately serve the existing customers, but it cannot meet the needs of all the projected future customers. The current network of pipes, reservoirs, pumping facilities, and treatment plants can only provide so much water. As new customers are added to the water system, it will necessitate the construction of new assets to meet the increased demand.

Currently, the District serves approximately 29,000 retail water accounts with over 25,000 AF per year. The majority of the customers are single family residential with a 3/4" water meter. However, not all connections to the water system are equal. Some customers are larger than others and use more water, such as an apartment complex or commercial company. To allow for the comparison of dissimilar customer accounts, each customer is represented by a number of Meter Equivalent Units (MEUs). One MEU is meant to represent a typical, single family residential customer with a 5/8" meter. Larger customers, such as apartment complexes or manufacturing companies, are assigned a higher number of MEUs based on their meter size and flow rates to better represent the capacity ratio of their potential demand on the water system. Every account, existing and future, is assigned a number of MEUs to represent how many typical customers it is equivalent to.

The District monitors and reports on the development status of projects in the service area. Some development projects are already underway, while others are in the plan-check stage. This includes both residential and non-residential type customers. The District has projected the number of new customers that will be connected to the system from new

[2] The capacity of the District's different retail meters and their corresponding MEU values are presented in Appendix A.

developments. The District's engineer of record, Albert A. Webb Associates, performed a hydraulic study to calculate the projected average annual water consumption once all growth within the District is realized. The volume of water needed by new customers is projected based on the land development characteristics expected within the District's service area. Analyzing all potential land uses of undeveloped land, Webb's study projected an increase in consumption of 9,459 AF per year in consumption.

3.1.3 Water Customer Projection

The District estimated that there are currently 42,421 existing MEUs at the end of fiscal year (FY) 2015[3]. The District estimated that these customers are currently consuming 25,472 acre feet per year (AFY) of potable water. This existing consumption is based on the District's customer billing information.[4] Additionally, the District provided a Revised Development Status document that projected the total increase in water demand throughout the District's service area. The Development Status document projected an increase in annual demand of 9,459 AF. This represents a 37 percent increase in water consumption by build-out. Without making an assumption regarding a change in water consumption per MEU, it is appropriate to estimate a commensurate increase in the number of MEUs served by the District. A 37 percent increase yields 15,753 new MEUs. However, 3,522 of these new MEUs will be secured agreements, leaving 12,231 unsecured MEUs.

Table 3-1 summarizes the projected increase in water system customers. The table uses Meter Equivalent Units, or MEUs, to define the current and future customers.

Table 3-1 Water Customer Projection

Customer Type	MEUs	Percentage of Customers	Percentage of New Customers
Existing	42,421	73%	-
Secured Growth	3,522	6%	22%
Unsecured Growth	12,231	21%	78%
Total	58,173	100%	100%

As calculated above, the complete projection estimates a total of 15,753 MEUs of new customers. Once all new customers have connected to the water system, existing customers will represent 73 percent of all customers. Of the forecasted growth, 78 percent will pay the updated Capacity Charge and 22 percent (those with Secured Growth) will pay the current Capacity Charge.

[3] As of September 2015 based on current District records.
[4] Billing information is provided by the District as is incorporated into current financial model. Demand estimate is based on demand conditions prior to June 2015 retail water restrictions imposed by the California State Water Resources Control Board and represents the District's best estimate of normalized, long-term water demands.

3.2 Buy-in Component of the Capacity Charge

The updated Capacity Charge for new water customers will use the hybrid methodology (described in Section 2.1.2) that utilizes two components to determine the fee: Buy-in and Incremental. The Buy-in component of the Capacity Charge recovers a proportional share of the cost of the existing system that will be used by new customers.

The key element in determining the Buy-in component of the Capacity Charge is the water treatment and distribution capacity of the existing system that is available for new customers. The capacity of an asset that is available for new customers, be it a reservoir, pump station, or pipeline, is determined by comparing the amount of capacity that is used by existing customers to the actual capacity of the asset. The remaining unused capacity is available for new customers and the associated costs are recovered through the Buy-in component.

3.2.1 Fixed Assets

3.2.1.1 Replacement Cost New Less Depreciation

Net capital asset equity represents the current value of the physical water systems funded by existing ratepayers, less accumulated depreciation. Each infrastructure asset is depreciated over a pre-determined time period, which is associated with the estimated life of the asset. This period of time is referred to as an asset's useful life. Depreciation of the assets accounts for the fact that system assets have been in service and no longer have their full useful life remaining.

The terms related to the calculation of net capital asset equity are defined below:

- Replacement Cost New - Present value cost to replace the existing water system asset. Original costs are adjusted for by the Los Angeles ENR CCI from the year of construction.
- Capital Costs Not Funded by Existing Ratepayers - These include developer-funded assets and are excluded from the ratepayers' equity calculation.
- Depreciation - represents the loss in value of the system as the useful life of that asset is exhausted.

The Buy-in component is determined by calculating the current replacement cost of the entire water system funded by existing rate payers, then subtracting the portion that has already been depreciated. The difference is referred to as the Replacement Cost New Less Depreciation (RCNLD), which represents the value of a physical asset or net capital asset equity.

3.2.1.2 Portion Allocated to New Customers

The first step in calculating the value of the water system available to serve future customers involves a calculation of each facility's RCNLD. The sum of all RCNLD values represents the value of the treated water system. However, the Buy-in component of the JCSD's updated Water Capacity Charge must be limited to recover only the costs of the system that specifically benefit future customers.

A second calculation segregates the benefit that is provided to future customers from the benefit provided to existing customers. Unless otherwise specified, a percentage of each asset is allocated to growth according to the percent share that projected growth will be out of all customers by build-out. In the case of the water system, growth represents 27 percent of the projected build-out customer base.

However, since growth will occur over a period of time, the allocation of assets must be made on a case by case basis. Assets are assumed to be fully depreciated once their useful lives end. Assets that are expected to be fully depreciated within the near future will not serve customers who join the system after the asset's useful life ends. Instead, only the customers that will have already connected to the water system will have benefited from these depreciated assets. In order to avoid charging new customers for assets that will depreciate before the customers are connected to the water system, the value of each asset available for new customers is discounted based on the proportion of new customers added compared to all customers before its useful life ends.

The exact timing of the connection of future customers is not known, so it was assumed that an equal number of customer MEUs would be added to the water system each year until build-out is reached (FY 2039), in other words straight-line growth for both types of growth has been assumed. In order to estimate the amount of an asset's capacity that will benefit growth, the number of new customers, in terms of MEUs, that will have joined by the time the asset's useful life is depleted is divided by the total number of connections in the system at that point. This ratio is used to calculate the percentage of the asset's value that should be allocated to growth. For example, a water system asset whose useful life ends in five years will benefit a projected 3,282 new MEUs out of the 45,702 MEUs in the system before its useful life ends.

The values of assets whose useful lives end after build-out are recovered over all customers in the system by build-out. As growth represents 27 percent of all customers by build-out, 27 percent of assets with useful lives extending beyond 2039 are estimated to be available for growth.

As opposed to the standard methodology, the methodology used in this study of allocating asset value results in a smaller portion of existing system value being included in the Buy-in component of the Water Capacity Charge.

The new Capacity Charge will avoid burdening the majority of new customers with any responsibility to recover the revenue lost by charging the connections with Security Agreements a lower fee. Therefore, the Capacity Charge will discount the value of assets included in the Buy-in component for the share of system value that benefit secured growth.

This was accomplished with a third calculation that splits the value of the available existing assets and capacity related projects into two groups when calculating the updated Capacity Charge. Total growth represents 27 percent of all customers by build-out. Unsecured growth represents the majority, or 78 percent, of growth and is allocated 21 percent of the value of each asset or project. The remaining 6 percent of all customers represents the number of all customers by build-out with security agreements.

Customers with security agreements represent 22 percent of growth alone, therefore, 22 percent of each growth related asset or project is split and excluded from the calculation of the Buy-in and Incremental components. This excluded share is proportional to the ratio of the number of future customers who have already secured the existing Capacity Charge to the total number of unsecured projected future customers. As a result, 22 percent of every cost allocated to growth is excluded from the value included in the water Capacity Charge that will be charged to unsecured future connections.

The combined replacement value of the District's existing fixed assets is roughly $229 million. Accounting for $77 million in depreciation since the construction of each asset as well as the allocation of $120 million in asset value to existing customers and $7 million to secured connections according to the methodology described above results in a combined value of $25.2 million in fixed asset value allocable to future customers that will pay the full updated water Capacity Charge.

3.2.2 Construction in Progress

The District is currently working on a number of projects that have yet to be completed and logged in the fixed asset schedule. Some of these projects have been under construction for multiple years and their full cost is no longer listed within the Capital Improvement Plan (CIP). These projects are not included in the calculation described in Section 3.2.1.2 because they are not yet listed as fixed assets.

In order to track the full value of the system, the completed portion of each project that is still under construction is logged in the Construction in Progress project schedule. The District provided a list of projects and the value of each that has been completed at the time of this study. Many of these projects still have years of construction left and are listed on the CIP. The portion that has been completed receives the same allocation to growth as the remaining portion on the CIP. The allocation of the Water CIP projects is presented in detail in Appendix D. The other in-progress projects are allocated according to whether they benefit existing customers only, growth, or all customers. The details regarding the

allocation of each underway project is presented in Appendix C. The combined value of construction in progress costs is $38.7 million of the $59.3 million total.

3.2.3 Grant Receipts

Additionally, new customers should not be charged for projects the District does not pay for. For example, the Chino Basin Desalter Authority (CDA) received grant funding for the expansion of the Chino Basin Desalter. The CDA is required to distribute the grant proceeds between the benefitting agencies according to each agency's share of Chino Basin Desalter capacity.

As a result of this agreement, the District received $18 million in grant funding for its share of the costs of expanding the Desalter capacity. As this expansion will benefit all future customers, new unsecured connections will benefit from 78 percent of the expansion and therefore a proportionate share, $14.0 million, of the $18 million grant receipt. This amount is subtracted from the value of the existing system that future customers must recover through the Capacity Charge.

3.2.4 Buy-in Component Calculation

Based on the calculation process described in the previous section, the Buy-in component of the water Capacity Charge was calculated. Table 3-2 presents a summary of the value of the existing water system as it pertains to the Capacity Charge.

Table 3-2 Existing Water System Value

Cost Element	**$M[1]**
Replacement Value of Fixed Assets	229.2
Depreciation	(77.1)
RCNLD[2]	**152.1**
Portion Allocated to Existing Customers	(119.7)[3]
Portion Excluded due to Secured Connections	(7.3)
Remaining Value Available for Future Customers	**25.2**
Construction in Progress	38.7
Growth's Share of Grant Proceeds	(14.0)
Total	**49.9**

Notes:
(1) Values rounded to nearest $100,000
(2) RCNLD: Replacement Cost New Less Depreciation
(3) Excludes system value attributed to customers with secured agreement

Based on the analysis performed, the total water system value used to calculate the Buy-in component of the Capacity Charge is $49.9 million. This equates to a charge of $4,084 for

each of the 12,231 future unsecured MEUs. This component is added to the Incremental component (described in the following section) to calculate the total water Capacity Charge.

3.3 Incremental Component of the Capacity Charge

Many of the JCSD's planned projects are intended to replace assets that serve only existing customers or intend to add capacity specifically to serve growth. Some projects serve a combination of both goals. The Incremental component of the Water Capacity Charge is based on the costs of the District's projects that provide additional service capacity to address the demands of growth. The District lists these projects and their estimated project costs in the CIP.

The CIP also includes projects that are purposed both partially and specifically for the development of additional water resources to meet the demands of future customers. The costs of these water resource development projects are excluded from the evaluation of the Water Capacity Charge and are reserved for the evaluation of the Water Resources Capacity Charge (see Section 4.0). Through prior studies conducted by the District and its engineer of record, Webb Associates, the benefit of each project in the CIP is allocated between existing and future customers.

Types of projects on the CIP include reservoir construction and maintenance, water distribution improvements, pipeline replacement program, operations and maintenance improvements, and third party projects. Projects related to the development of water sources were not included in the Incremental component of the Water Capacity Charge.

District staff and the results of the Webb analysis were used input to classify each of the 41 projects on the CIP list. Projects were classified as

1. Benefiting all customers (existing and growth),
2. Providing new capacity for future customers,
3. Repair of existing assets that benefit the District's current customer base, or
4. Benefitting a specific combination of existing and future customers.

The appropriate share of each project's cost was allocated to new or current customers. If a project only benefits new customers, then 78 percent of the value of that project is allocated to unsecured growth and is included in the Incremental component of the fee. As 22 percent of new customers are covered by secured agreements, the remaining 78 percent is allocated to the customers that pay the new Capacity Charge. Conversely, if projects are equally shared by all customers, current and new, then 21 percent of the project cost will be included in the Incremental component since unsecured connections represent 21 percent of all MEUs by build-out.

3.3.1 Capital Improvement Plan

The following section provides a detailed summary of the major capital projects that the District will be undertaking.

Water Source Development

- Line #1: CDA Expansion
    - Project cost: Assuming $18 million in grant funding, JCSD has projected the remaining project costs net of the grant to be $5.65 million through build-out.
    - Allocation to growth: JCSD's analysis indicated that this project will provide additional capacity only for future users. Contractually, this project will provide 3,533 AF for future growth. It is estimated by JCSD that the project will provide an average of 2,650 AF of annual recharge credit for growth over 20 years.
- Line #2: WRCRWA Non-Potable
    - Project cost: Webb provided analysis indicating that the project is currently in the conceptual stage and in coordination between JCSD and IEUA for the final scoping. The latest cost estimate is for $52.46 million for IEUA Alternative #4 project.[5] There would be a cost sharing between participants. Webb Associates provided analysis indicating that cost of $40 million assuming a 25 percent grant. Pending the resolution on cost sharing which is unknown at this time, JCSD provided an updated project cost of $30 million.[6]
    - Allocation to growth: This project should provide approximately 4,800 AF of recycled water, 2000 AF of which is to be shared with IEUA. The amount of total water available for growth from this project will depend on the amount of water required to be discharged to the Santa Ana River and the amount allocated to IEUA. It is estimated that 800 AF of this supply will be allocated to an Eastvale recycled waterline loop for parks and schools to be constructed that is currently being served by potable water. The 800 AF of potable water that is freed up by this project is available for future growth. The remaining 2,000 AFY of non-potable water from this project is available for the Chino Basin recharge obligation created by growth. As a result, it is estimated that 100 percent of JCSD's share of this project is allocated to growth.

[5] Provided in a Webb Associates Memo dated 10/02/2015
[6] Provided in an email from JCSD dated 10/07/2015.

- Line #3: Eastside Non-Potable/Recycled Project

    - Project cost: The Project cost is estimated to total $19.5 million based upon a technical memorandum on the Declez Basin Recharge prepared by Webb Associates. The District's share of costs is expected to total $9.75 million, which assumes 50 percent of the project will have been funded through a grant and/or IEUA participation.[7]

    - Allocation to growth: The District is currently over drafting the basin which incurs an extraction fee for imported recharge water. It is anticipated that this overdraft will continue as growth customers are added to the system. This project is estimated to provide 2,241 AF of recharge water. The District concludes that 100 percent of the Eastside Recycled project is applicable to growth based on the following assumptions.[8] The 2014-2015 Watermaster Assessment package (which is calculated based on 2013-2014 production year) calculates JCSD's overdraft of assigned rights as exceeding those rights by 2,160 AF. The information concerning the calculation of water rights that JCSD can pump under the Watermaster Agreements is uncertain. There are several factors that affect the Watermaster's calculations that determine JCSD's water allocation from the Chino Basin and potential overdraft. These factors include determination of the safe yield amount (which is in flux), the amount of water that JCSD actually pumps from the basin and the effect of various interagency agreements that can offset the District's recharge obligations. The 2014-2015 Watermaster's assessment (based on 2013-2014 production), was a 2,159 AF overdraft; however, since then the District has entered into an agreement with Ontario for 2,000 AF of water. When that water is available under the agreement, it will reduce their Watermaster Overdraft. Another factor relates to the Watermaster safe yield which has been reset. This reduces JCSD's water allocation and potentially increases the Watermaster's overdraft. Based on this uncertainty, it is estimated that the annual overdraft will continue to be incurred for existing customers. This anticipated overdraft will be offset by Water Rights to be acquired from the Imported Water Rights found on Line #8 of Appendix D. Therefore, the portion of the Line #3 Eastside non-potable/Recycled Project allocated to growth will be 100 percent.[9]

[7] Provided in a Webb Associates Memo dated 9/22/2014
[8] Provided in a Webb Associates Memo dated 10/02/2015
[9] Provided in an email from JCSD dated 10/07/2015.

- Line #4: Fontana Water Company Interconnection
    - Project cost: A remaining project cost of $0.76 million is estimated by the District.
    - Allocation to growth: This project will generate approximate 1,600 AF of water. As the Imported Water project will provide supplies to offset all of the District's existing Chino Basin recharge obligations, the cost of water from the Fontana Water Company is being allocated to growth customers to offset the anticipated recharge obligation for the Chino Basin groundwater extraction.
- Line #5: Well 13 Site Improvements:
    - Project cost: The District estimates a project cost of $3.55 million.
    - Allocation to growth: The project is the rehabilitation and replacement of the existing well site facility. Reliability is increased by the addition of an emergency standby generator for existing customers. There is no increase in water supply as a result of the project.[10] Therefore no costs are allocated to future growth.
- Line #6: 980 Zone Wellhead Treatment
    - Project cost: The District estimates that project to cost $9 million.
    - Allocation to growth: The project is the addition of a treatment plant for the existing well supply in the 980 pressure zone. Due to degradation of existing water quality (high nitrate), treatment will be required to maintain the existing supply. There is no increase in water supply as a result of the project.[11] Therefore, none of the project is allocated to growth.
- Line #7: Wells 29 & 30 Equipping
    - Project cost: The District estimates the project to cost $8.275 million.
    - Allocation to growth: Webb Associate's analysis indicates that the project provides new capacity for future users and should be allocated 100 percent to future customers. It is estimated that this project will provide 5,080 AFY of potable water production required for growth.

[10] Provided in a Webb Associates Memo dated 10/02/2015
[11] Provided in a Webb Associates Memo dated 10/02/2015

- Line #8: Imported Water
    - Project cost: In April, 2015, the City of Ontario acquired 283 AF of Chino Basin Overlying non-Agricultural Pool groundwater rights for $3,820,244.[12] This purchase price equates to $13,500 per AF or $13.5 million per 1,000 AF of permanent rights. Based on this market transaction, the District is estimating the cost of acquiring additional water rights at between $13,500 and $15,000 per AF. The District anticipates acquiring 2,000 AF of water rights for a total of $30,000,000.
    - Allocation to growth: The District is currently over drafting the basin which incurs an extraction fee for imported recharge water. This project will provide additional water rights to offset the groundwater recharge obligation. It is anticipated by the District that the 2,000 AF of water rights from this project will offset the overproduction created by its existing customers. Consequently, the project is allocated 100 percent to existing customers.
- Line #9: Well 23 & Teagarden Disinfection System Upgrade
    - Project cost: The District provided a remaining project cost estimate of $2.24 million.
    - Allocation to growth: The District indicated that this project involves the repair of an asset providing capacity for existing customers. Therefore, it provides no benefit to future users.
- Line #10: Resin Replacement Program
    - Project cost: The District estimates the remaining project costs to be $3.4 million.
    - Allocation to growth: JCSD indicated that this project involves the repair of an asset providing capacity for existing customers. Therefore, it provides no benefit to future users.
- Line #11: Chino I Reliability
    - Project cost: The District projects remaining project costs to be $1.6 million.
    - Allocation to growth: The District indicated that this project will provide resiliency for the system and provide approximately 414 AF of water required for growth. Therefore, the project costs will be allocated to 100 percent to growth.

[12] City of Ontario Agenda Report dated 04/07/2015

Water Reservoir Projects

- Line #15: Lindsay Reservoir & Pipeline
    - Project cost: The District provided a remaining project cost estimate of $27.415 million.
    - Allocation to growth: JCSD indicated that this project will provide new capacity for future users. Therefore, the project costs will be entirely allocated to growth.
- Line #16: CFD 1 Reservoir Erosion Control
    - Project cost: The District provided a remaining project cost estimate of $1.15 million.
    - Allocation to growth: JCSD indicated that this project involves the repair of an asset providing capacity for existing customers. Therefore, it provides no benefit to future users.

Miscellaneous Reservoir Projects

- Line #20-22: CFD A; Pedley A, Well 13; Mira Loma A/Sunnyslope A
    - Project costs: The District estimates the remaining project costs to be $1 million for each of these three projects.
    - Allocation to growth: The District indicated that these projects will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project costs will be allocated to growth in proportion to the number of MEUs by build-out.
- Line #23-24: Pedley B; Benedict B
    - Project costs: The District estimates the remaining project costs to be $1.1 million for each of these two projects.
    - Allocation to growth: JCSD indicated that these projects will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project costs will be allocated to growth in proportion to the number of MEUs by build-out.

- Line #25-27: CFD B; 56th A; Mira Loma/Indian Hills 2 A
    - Project costs: The District estimates that the remaining project costs will be $1.2 million for each of these three projects.
    - Allocation to growth: JCSD indicated that these projects will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project costs will be allocated to growth in proportion to the number of MEUs by build-out.
- Line #28-30: Mira Loma C; Indian Hills 2 B; Indian Hills 1
    - Project costs: The District provided a remaining project cost estimate of $1.3 million for each of these three projects.
    - Allocation to growth: JCSD indicated that these projects will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project costs will be allocated to growth in proportion to the number of MEUs by build-out.
- Line #31: Benedict A/Sunnyslope B
    - Project cost: The District provided a remaining project cost estimate of $1.28 million.
    - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out.

Water Distribution Projects

- Line #35: Pressure Zone Pipeline to Whitney
    - Project cost: The District provided a remaining project cost estimate of $0.51 million.
    - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out.

Line #36: 56th Street Booster Station Expansion

- Project cost: The District provided a remaining project cost estimate of $0.52 million.
- Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs.

- Line #37: MP Granite Hills Pipeline (Ph2 & Ph3) & PR Sta
  - Project cost: The District provided a remaining project cost estimate of $11.88 million.
  - Allocation to growth: JCSD indicated that this project provides conveyance for the growth needs in the Granite hills area. This project is allocated 100 percent to growth.
- Line #38: Eastvale Pressure Zone Break Improvements
  - Project cost: The District provided a remaining project cost estimate of $4.75 million.
  - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs.
- Line #39: Non-Potable Pipelines & Supply
  - Project cost: The District provided a remaining project cost estimate of $6 million.
  - Allocation to growth: JCSD indicated that this project will provide conveyance for the WRCRWA Non-Potable facility and is allocated to growth in the same proportion as the WRCRWA project, 100 percent.

Pipeline Replacement Program - Water

- Line #43: Pipeline Replacement - Ben Nevis - Bellegrave Area
  - Project cost: The District provided a remaining project cost estimate of $1.725 million.
  - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out.

- Line #44: Pipeline Replacement - Morton Limonite Pedley Area
    - Project cost: The District provided a remaining project cost estimate of $1.75 million.
    - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.
- Line #45: Pipeline Replacement - Lindsay Bellegrave Ben Nevis Area
    - Project cost: The District provided a remaining project cost estimate of $1.75 million.
    - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.
- Line #46: Pipeline Replacement - 53rd Felspar Steve Area
    - Project cost: The District provided a remaining project cost estimate of $1.75 million.
    - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.
- Line #47: Pipeline Replacement - 54th Steve Serendipity Area
    - Project cost: The District provided a remaining project cost estimate of $1.75 million.
    - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.
- Line #48: Future Annual Pipeline Replacement
    - Project cost: The District provided a remaining project cost estimate of $46.5 million.
    - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the

project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.

Annual Miscellaneous Projects

- Line #52: Headquarters Paving and Lighting Improvements
    - Project cost: The District provided a remaining project cost estimate of $0.25 million.
    - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.
- Line #53: Building B Improvements
    - Project cost: The District provided a remaining project cost estimate of $1.08 million.
    - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.
- Line #54: Well Maintenance and Booster Program
    - Project cost: The District provided a remaining project cost estimate of $14.55 million.
    - Allocation to growth: JCSD indicated that this project will repair an asset benefiting only existing customers and none of its cost will be allocated to growth.
- Line #87: Asphalt Patching - Various Locations
    - Project cost: The District provided a remaining project cost estimate of $9.63 million.
    - Allocation to growth: JCSD indicated that this project will repair an asset benefiting only existing customers and none of its cost will be allocated to growth.

- Line #88: Reservoir Facility Maintenance
    - Project cost: The District provided a remaining project cost estimate of $5.92 million.
    - Allocation to growth: JCSD indicated that this project will repair an asset benefiting only existing customers and none of its cost will be allocated to growth.
- Line #89: Localized System Repairs
    - Project cost: The District provided a remaining project cost estimate of $4.63 million.
    - Allocation to growth: JCSD indicated that this project will repair an asset benefiting only existing customers and none of its cost will be allocated to growth.
- Line #90: Treatment Plant Component Replacement Program
    - Project cost: The District provided a remaining project cost estimate of $5.94 million.
    - Allocation to growth: JCSD indicated that this project will repair an asset benefiting only existing customers and none of its cost will be allocated to growth.
- Line #91: Large Meter Replacements (Phase 4 of 4)
    - Project cost: The District provided a remaining project cost estimate of $0.05 million.
    - Allocation to growth: JCSD indicated that this project will repair an asset benefiting only existing customers and none of its cost will be allocated to growth.
- Line #92: IT SCADA (Infrastructure)
    - Project cost: The District provided a remaining project cost estimate of $8.63 million.
    - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.

Line #93: IT Equipment

- Project cost: The District provided a remaining project cost estimate of $0.14 million.
- Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.

- Line #94: District Wide Shared Projects
  - Project cost: The District provided a remaining project cost estimate of $0.22 million.
  - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.
- Line #95: SCADA (System Maintenance)
  - Project cost: The District provided a remaining project cost estimate of $2.04 million.
  - Allocation to growth: JCSD indicated that this project will repair an asset benefiting only existing customers and none of its cost will be allocated to growth.

Third Party Projects

- Line #99: Milliken Grade Separation Project
  - Project cost: The District provided a remaining project cost estimate of $0.1 million.
  - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.
- Line #100: Third Party Relocations (Unspecified)
  - Project cost: The District provided a remaining project cost estimate of $1.44 million.

- Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.

- Line #101: Limonite/I-15 Interchange
  - Project cost: The District anticipates remaining project costs of $0.15 million.
  - Allocation to growth: JCSD indicated that this project will provide resiliency for the system and will benefit all customers by build-out. Therefore, the project cost will be allocated to growth in proportion to the number of MEUs by build-out that are new growth.

Table 3-3 summarizes the count and cost of CIP projects and what cost was allocated for new customers. This table does not include the costs associated with Water Source Development, those project costs are recovered through the Water Resources Capacity Charge.

Table 3-3 CIP Water Projects ($ Millions)

CIP Project Type	No. of Projects	Total Cost	Unsecured Growth %(1)	Growth Cost(2)
Reservoirs	14	$42.5	57%	$24.2
Water Distribution Improvements	5	23.7	64%	15.1
Pipeline Replacement Program	6	55.2	21%	11.6
Miscellaneous Improvements	12	53.1	4%	2.2
Third Party Projects(3)	3	1.7	21%	0.4
Total	**40**	**$176.2**	**30%**	**$53.4**

Notes:
(1) Represents the weighted average allocation per project type
(2) Represents the cost allocation to unsecured growth and to the Incremental component of the fee.
(3) Third Party Projects include JCSD's share of project costs associated with outside agencies.

The $53.4 million allocated for new unsecured customers represents a roughly 30 percent of the total CIP project costs. A major portion of the allocation comes from projects associated with expanding storage capacity or improvement of the reservoirs. As the project values within the CIP constitute the only cost element of the Incremental component, the resulting $53.4 million allocation produces an Incremental component of $4,371 for each new unsecured MEU. This component is added to the Buy-in component (described in the previous section) to calculate the total Water Capacity Charge.

3.4 Updated Water Capacity Charge

The Capacity Charge is calculated by combining the Buy-in and Incremental components described above. The result is a total fee of $8,455 per EDU. $4,084 of the fee comes from the Buy-in component and $4,371 comes from the Incremental component of the hybrid equation explained in Section 2.1.2.

The fee is administered and charged to customers according to their assumed consumption or MEU level in order to adapt for the fact that some future developments will consume more water than others. An account that consumes more from the water system (as defined by the capacity of the account's water meter size) will result in more MEUs and a higher Capacity Charge being charged when they are connected to the system.

Table 3-4 compares the updated and previous Capacity Charges.

Table 3-4 Water Capacity Charge Comparison

Current Fee (December 2006)	$7,260
Escalated Current Fee(1)	8,979
New Fee	**$8,455**
Increase(2)	16%

Notes:
(1) Value escalated using LA ENR CCI from December 2006 to July 2015
(2) Increase calculated based on existing fee

The current Capacity Charge of $7,260 was set in December of 2006. Using the last 9 years of ENR CCI data for the Los Angeles area to escalate the value, the Capacity Charge is worth $8,979 in today's dollars. The new Capacity Charge of $8,455 represents a 16 percent increase over the current fee.

4.0 WATER RESOURCES CAPACITY CHARGE

Like the Water Capacity Charge, the Water Resources Capacity Charge is a one-time fee charged to the District's new customers upon connecting to the water system.

The District's current water supply sources have sufficient capacity to deliver treated water to the District's existing retail and wholesale customers, based on current demands. However, in anticipation of continued growth, the District intends to secure additional water resources. While the Capacity Charge recovers the value of the District's facilities and infrastructure, it is the Water Resources Capacity Charge exclusively that recovers the costs related to securing the additional water resources.

As previously discussed in Chapter 3, the District's ability to pump groundwater is limited by certain regional agreements governing Chino Basin water rights. For the District, the Water Resources Charge consists of two components. First, the availability of water (production) and, second, the District's obligations to replenish sources of supply (production) through either recharge or by acquiring additional water rights.

As the Water Resources Capacity Charge only covers the cost of the required future water supplies necessary to meet growth, and not the demands of existing customers, it is calculated using the incremental approach described in Section 2.1.

The Water Resource Capacity Charge intends to recover cost of eleven projects included in the District's CIP. These projects include expansions of water treatment plants, connections to other water agencies, and improvements to groundwater wells. These projects are intended to provide the increase in AFY supply of water that is required by the District to match the projected growth in demand projected by Webb and to provide for the District's Chino Basin water recharge obligations.

In total, there is $104.2 million worth of projects associated with water supply. Just like the CIP facility projects, a percentage of each project cost is allocated to growth and is split between secured and unsecured customers to represent the amount they benefit from the new water supply.

Table 4.1 presents a summary of the anticipated water supply (AF) to be obtained from the District's Water Source CIP. Not all projects were determined to benefit future users and were therefore allocated to the existing system. The projects that do provide additional water sources are allocated between existing customers and growth customers. The existing customers are allocated an amount equal to the expected overproduction, or overdraft, from the Chino Basin. The remaining Water Source projects are allocated to support the water needs of growth customers.

Table 4.1 Water Supply Analysis - Water Source CIP Projects

Project	Existing Overproduction	Growth Water Supply (Production) [2]	Source Rights & Recharge [3]	Allocation of Supply to Growth
CDA Expansion	-	3,533	2,650	100%
WRCRWA Non-Potable	-	800	2,000	100%
East Side Non-Potable [4]	-	-	2,241	100%
Fontana Water Company Interconnection	-	-	1,600	100%
Well 13 Site Improvements	-	-	-	0%
980 Zone Wellhead Treatment	-	-	-	0%
Wells 29 & 30 Equipping	-	5,080	-	100%
Imported Water	2,000	-	-	0%
Well 23 & Teagarden Disinfection System Upgrade	-	-	-	0%
Resin Replacement Program	-	-	-	0%
Chino I Reliability	-	414	-	100%
Total	**2,000**	**9,827**	**8,491**	

Notes:

(1) The allocation of each projects water source capacity is explained in detail in Section 3.3.1.
(2) Production or Supply Projects may not come with associated water rights necessary to meet the District's contractual obligations
(3) Source Right and Recharge projects are forecasted to approximate growth's resulting contractual recharge obligations

The District is taking on these projects in order to serve the projected demand. Together these projects are expected to supply 9,827 growth-related AFY of production as well as 8,491 source of rights (and recharge) necessary to meet the District's contractual obligations. It is assumed that this will be approximately sufficient to meet for the 9,459 AFY in growth-related demand and recharge estimated by Webb.

Table 4.2 presents the combined value of the water source development projects and the total share of project costs that are allocated to unsecured growth through the Water Resource Fee.

Table 4.2 Value of Water Resource Development Projects

CIP Project Type	No. of Projects	Total Project Cost, $M	Total Allocation to Growth, $M(1)	Allocation to Unsecured Growth through the Water Resources Capacity Charge, $M
Treatment Expansion	4	$47.0	$47.0	$36.5
Interconnection	2	30.7	0.7	0.6
Well Improvement	5	26.5	8.3	6.4
Total	**11**	**$104.2**	**$56.0**	**$43.5**

Notes:
(1) The allocations of each project are detailed in Appendix D.

In total, $43.5 million worth of water supply projects were allocated to the Water Resources Capacity Charge. This represents 42 percent of the total cost associated with all eleven water resource development projects in the CIP. This cost is distributed to the unsecured growth according to each account's assumed number of MEUs. The result is a Water Resources Capacity Charge of $3,557 per MEU for new customers connecting to the water system. This fee is in addition to the Water Capacity Charge described in the previous section.

5.0 SEWER CAPACITY CHARGE

The Capacity Charge for new sewer customers uses the same methodology as the Capacity Charge for water customers. Many of the terms that were defined or explained in the Water Capacity Charge section will also be used in this section (particularly those used in the Buy-in component and Incremental component sections).

As presented in Section 2.0 of this report, the District imposes a Capacity Charge to apportion the costs of the sewer system to new customers in proportion to the benefit received. Each asset, or cost element, is apportioned between existing customers and growth, and then again between secured and unsecured growth. As customers connect to the sewer system, they will be charged a fee by the District in proportion to the benefit received. The Capacity Charge is comprised of two components.

- The Buy-in component, which recovers a proportional share of the cost of the existing system that will be used by new customers
- The Incremental component, which recovers the costs of the District's planned projects that provide additional service capacity. These projects are set forth in the Capital Improvement Plan (CIP)

This Hybrid approach includes both of these components, as presented in the equation below, in the calculation of the Capacity Charge.

$$\textit{Hybrid Capacity Charge} = \underbrace{\frac{\textit{Value of the Available System}}{\textit{Expected Future Users}}}_{\text{Buy-In Component}} + \underbrace{\frac{\textit{Capacity Related CIP}}{\textit{Expected Future Users}}}_{\text{Incremental Component}}$$

Each new customer is responsible for a share of available existing system value and projected capital costs based on its proportionate share of the total number of new customers within the sewer system. This share, represented by the Buy-in and Incremental components, is calculated by dividing available existing system value and projected capital costs required to increase system capacity by the projected increase in system-wide customers.

5.1 Customers and Growth

The new Capacity Charge for sewer customers is tied to the projected increase in customers and sewer flows. The current sewer system is capable of handling the flows from the existing customers, but the total flows from future and current customers will require an increase in system capacity.

The District owns a network of pipelines and pumping or conveyance facilities that sends wastewater to a treatment plant. However, the District does not own or operate a wastewater treatment plant. All wastewater generated by District customers goes to one of three facilities owned by neighboring agencies. The two main treatment facilities where

customer flows are sent are the Western Riverside County Regional Wastewater Authority (WRCRWA) Treatment Plant and the City of Riverside's Water Quality Control Plant (WQCP). The third treatment plant is operated by the Orange County Sanitation District (OCSD) and only receives discharges through the Inland Empire Brine Line (IEBL) from commercial and industrial customers that produce high-saline waste that does not qualify for use or reclamation. JCSD's customers who discharge into the OCSD pipeline pay for their sewage treatment capacity through a different means other than a Capacity Charge and are assumed to not directly benefit from the District's other sewer system assets.

The treatment plants receive flow from multiple agencies in the area and the District is limited in the amount of flow it can send to each treatment plant. Additionally, the sewer pipelines and pumping facilities owned by the District were designed for a maximum flow. If the flows within the District exceed these flows, then the assets will need to be replaced or modified to handle additional flows. Growth in the area and new customers will require an increase in capacity to the treatment plants, the pipelines, and/or pumping facilities.

JCSD is currently discharging its maximum allowable flow of 3.25 MGD into the WRCRWA treatment plant. Consequently, the WRCRWA treatment capacity and related assets are not available for growth and their value will not be allocated to the Sewer Capacity Charge. On the other hand, the District has 4 MGD of capacity rights at the Riverside's WQCP yet is only currently discharging 3.25 MGD into the plant, leaving 0.75 MGD available for growth. In total the District's existing customers who will be charged the Sewer Capacity Charge are producing 6.5 MGD of wastewater flow.

Table 5-1 summarizes the projected increase in sewer system customers. This study uses Equivalent Dwelling Units, or EDUs, to define the current and future sewer system customers. An EDU is equivalent to a typical single family residential customer (producing 220 gallons per day of wastewater). Larger customers are defined by their assumed flow relative to an EDU. As there are currently 6.5 MGD of wastewater discharge, using the aforementioned assumption, it is determined that there are currently 29,545 EDUs of discharge.

The number of future customers in the sewer system is calculated in the same way. The City of Riverside is expanding its treatment plant. JCSD is intending to acquire 1 MGD of this additional treatment capacity. However, the District must also redirect 0.5 of its current flow that is conveyed to the Riverside WQCP to the WRCRWA treatment plant. After the redirection of flow and the expansion, the District, including its existing 0.75 MGD available, will have a total of 2.25 MGD of capacity at the Riverside WQCP. Additionally, the District is intending to expand its treatment capacity at the WRCRWA treatment plant by 2.75 MGD. However, 0.5 MGD of this capacity will be used to treat the flow that was redirected from the Riverside WQCP. In total, there will be a net increase of 2.25 MGD of capacity at the WRCRWA plant and a total 4.5 MGD net capacity available between the two plants. Assuming that future customers will continue to discharge at the same rate as existing customers, 220 gpd per EDU, there will be capacity for 20,455 new EDUs. The District

projects that this capacity will be used to meet the output of new customers by build-out. 3,522, or 17 percent of these 20,455 new EDUs will have security agreements. Secured connections will represent 7 percent of all sewer EDUs by build-out.

Table 5-1 Sewer Customer Projection

Customer Type	EDUs	Percentage of All Customers	Percentage of New Customers
Existing	29,545	59%	-
Secured Growth	3,522	7%	17%
Unsecured Growth	16,933	34%	83%
Total	50,000	100%	100%

5.2 Buy-in Component of the Capacity Charge

The updated Capacity Charge for new sewer customers will use the hybrid methodology that utilizes two components to determine the fee: Buy-in and Incremental. The Buy-in component of the Capacity Charge recovers a proportional share of the cost of the existing system that will be used by new customers. As it pertains to the sewer system, the share of the existing system is based on past or on-going construction of assets to convey the sewer flows to the treatment plants.

5.2.1 Fixed Assets

5.2.1.1 Replacement Cost New Less Depreciation

Like the water system, the sewer system's fixed asset values are escalated into today's dollars then depreciated over a pre-determined time period that is associated with the estimated life of the assets. This period of time is referred to as a project's useful life and every one of the District's capitalized projects, or fixed assets, has one. Projects that have exceeded their useful life are not considered in the Capacity Charge. Using the same method as described previously, the RCNLD of each asset is calculated. The total RCNLD of sewer system assets is $114.0 million.

5.2.1.2 Portion Allocated to New Customers

The updated sewer facility is only intended to recover the portion of the RCNLD of each fixed asset. Therefore, once again, the RCNLD of the asset is segregated between existing customers, unsecured growth, and secured growth. Assets that benefit all customers and have useful lives that extend beyond 2039, build-out, are recovered over all customers, or EDUs by build-out. As new customers without a secured agreement represent 34 percent of the total EDUs once all customers are connected (and 83 percent of all future EDUs), a maximum of 34 percent of each fixed asset is considered available for these customers. The percentage allocated for new customers is less than 34 percent for projects nearing the end of their useful life. Since not all customers will be connected to the system immediately,

an additional calculation was included in order to accurately allocate the benefit of existing assets based on the projection of new customers that will be connected before it reaches its useful life. Assets that are expected to be fully depreciated within the near future will not serve all new customers. Instead, only the customers that will have already connected to the sewer system will have benefited from the soon-to-be-replaced assets. In order to avoid charging new customers for assets that will need to be replaced before they are connected to the sewer system, the value of each asset available for new customers is discounted based on the number of new customers added before it reaches its useful life. The exact timing of the connection of future customers is not known, so it was assumed that an equal number of customer EDUs would be added to the sewer system each year until build-out is reached. The result is less value of the existing system is allocated to new customers for projects reaching their useful life before build-out.

Some assets, such as treatment related assets, are allocated to growth on a different basis. Because the District has no available discharge capacity left in the WRCRWA plant, none of the assets related to the WRCRWA plant are assumed to be available for growth. As JCSD's existing customers are only utilizing 3.25 MGD of the available 4 MGD at the Riverside WQCP, there is 0.75 MGD, or 19 percent, of the plant's capacity available for growth. Consequently, it is assumed that the value of assets related to the Riverside treatment capacity have been allocated on this basis. 19 percent of the value of the assets that aid in the District's discharge into the Riverside plant are considered available for growth. As unsecured growth represents 83 percent of all growth, 83 percent of growth's entire share of Riverside asset values is included in the value of the connection fee.

5.2.2 Sewer Construction in Progress

There are sewer system projects under construction that are not yet listed in the fixed asset schedule. In order to account for these projects, they are listed as Construction in Progress. Each project that is listed on the District's Sewer Capital Improvement Plan (CIP) is allocated to growth as listed on the CIP. The other projects have been allocated to between existing and future customers with input from the District. Additionally, as unsecured growth represents 83 percent of all growth, 83 percent of future customers' share of in-progress project costs is included in the Sewer Capacity Charge's Buy-in component. The allocations of these projects can be found in Appendix H. The total value of underway sewer projects totals $39.4 million while only $16.9 million have been allocated to unsecured growth.

Table 5-2 shows the calculation steps and the associated values. Values that are deducted are shown in parenthesis.

Table 5-2 Existing Sewer System Value	
Cost Element	**$M[1]**
Replacement Value of Fixed Assets	194.5
Depreciation	(80.5)
RCNLD[2]	**114.0**
Portion Allocated to Existing Customers	(90.0)[3]
Portion Excluded due to Secured Customers	(4.1)
Remaining Value Available for Future Customers	**19.8**
Construction in Progress for Growth	16.9
Total	**36.7**

Notes:
(1) Values rounded to nearest $100,000
(2) RCNLD: Replacement Cost New Less Depreciation
(3) Excludes system value attributed to customers with secured agreement

The resulting $36.7 million is evenly distributed to future customers based on the EDUs. This analysis produces a Buy-in component of $2,169 per EDU for new customers. This component is added to the Incremental component (described in the following section) to calculate the total Capacity Charge.

5.3 Incremental Component of the Capacity Charge

The Incremental component of the Capacity Charge is based on the costs of the District's planned projects that provide additional service capacity. These projects have not been started, but they are set to being in future years. The District lists these projects and their estimated value in the Capital Improvement Plan (CIP).

Each planned project will benefit current and new customers in a different way. Each project in the CIP was assigned a percentage that is allocated to new customers based on a comparison of the benefits it provides to new customers compared to existing customers. Types of projects on the CIP include new trunk sewers and pipelines, upgrades or replacements of lift stations and forcemains, and increases to capacity at treatment plants.

District staff provided input for each of the 49 projects on the CIP list. Projects were classified as benefiting all customers (current and new), providing new capacity for future customers, or repair of existing assets. The appropriate share of each project's cost was allocated to new or current customers. If a project only benefits new customers, then 83 percent of the value of that project is applied. As 17 percent of new customers are covered by secured agreements, the remaining 83 percent is allocated to the customers that pay the

new Capacity Charge. Conversely, if projects are equally shared by all customers, current and new, then 34 percent of the project cost will be allocated to new unsecured customers as they make up 34 percent of the total EDUs of all current and future customers.

5.3.1 Capital Improvement Plan

Trunk Sewers

- Line #2: Pyrite Creek Project
    - Project cost: JCSD anticipates that remaining project costs will be $5.5 million.
    - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #3: Sky Country Trunk Sewer
    - Project cost: JCSD estimates the remaining project cost to be $4.9 million.
    - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #4: Pedley Trunk Sewer
    - Project cost: JCSD projects the remaining project cost to be $1.53 million.
    - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #5: Glen Avon Trunk Sewer
    - Project cost: JCSD projects the remaining project cost to be $6.785 million.
    - Allocation to growth: Webb's recommendation is that 34 percent of the project costs be allocated to growth and the remained to existing customers.[13]
- Line #6: Master Plan Sewer Area B
    - Project cost: JCSD anticipates that remaining project costs will be $0.1 million.

[13] Provided in a Webb Associates Memo dated 9/15/2008

- Allocation to growth: JCSD's analysis indicated that this project will provide new capacity to serve growth and its costs will be entirely allocated to growth.

Regional Lift Station and Forcemain

- Line #10: Regional Lift (Plant 1) Station Expansion
  - Project cost: The project is the upsizing and replacement of the existing regional lift station. On 9/15/08, Webb provided the District with a memo outlining the costs.[14] JCSD projects that remaining project costs will be $13.6 million.
  - Allocation to growth: Webb recommends that the remaining project costs be recovered over all users.[15] Its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #11: New Forcemain to Riverside WWTP
  - Project cost: JCSD estimates that the remaining project cost will be $11.76 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #12: Regional Lift Station Facility Upgrades
  - Project cost: JCSD estimates that the remaining project cost will be $1.45 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #13: Regional Lift Station Existing Pumps Replacement
  - Project cost: JCSD projects remaining project costs of $4.5 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #14: Santa Ana River Siphon Improvements

[14] 9/18/08 Webb memo received in email dated 10/7/15
[15] Webb memo data 10/2/15 received in email dated 10/7/15

- Project cost: JCSD anticipates remaining project costs of $0.5 million.
- Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.

- Line #15: Regional Lift Station Pond "C" Lining & Plumping
  - Project cost: JCSD projects remaining project costs to be $0.15 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.

Facility Construction

- Line #19: Clay/Van Buren Lift Station
  - Project cost: JCSD projects remaining project costs of $1.2 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #20: River Road Lift Station Expansion & Additional Forcemain
  - Project cost: JCSD anticipates remaining project costs to be $1.73 million.
  - Allocation to growth: Webb indicated that the project is for additional pumping and transmission capacity for the existing lift station. The improvements are required for growth.[16] Costs will be entirely allocated to growth.
- Line #21: River Road Lift Station - Existing Pumps Replacement
  - Project cost: JCSD projects that the remaining project cost will be $6 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.

Capacity Purchase

- Line #25: Master Plan Capacity Development Purchase (1 mgd), Riverside Expansion

[16] Email received from JCSD dated 10/7/15

- Project cost: JCSD projects that the remaining project cost will be $15.3 million.
- Allocation to growth: JCSD's analysis indicated that this project will provide new capacity to serve growth and its costs will be entirely allocated to growth.

- Line #26: WRCRWA Treatment Plant Capacity Expansion
  - Project cost: JCSD projects that the remaining project cost will be $29.45 million. JCSD is a member agency of the Western Riverside County Regional Wastewater Authority (WRCRWA). Other member agencies include Home Gardens Sanitary District, City of Norco, Santa Ana Watershed Project Authority, and Western Municipal Water District. This Expansion project will create an additional 6.0 MGD capacity for the plant. JCSD's share of this new capacity is 2.75 MGD.
  - Allocation to growth: JCSD's analysis indicated that this project will provide new capacity to serve growth and its costs will be entirely allocated to growth.

- Line #27: WRCRWA Annual Capital Improvements
  - Project cost: JCSD projects that the remaining project cost will be $13.415 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.

- Line #28: Brine Line Treatment Capacity (CFD 1)
  - Project cost: JCSD projects that the remaining project cost will be $2.5 million.
  - Allocation to growth: The Inland Empire Brine Line treatment capacity is funded through a separate charge levied on users in CFD-1 and its value is not allocated to the Capacity Charge.

Pipeline Replacement Program - Sewer

- Line #32: Foxtail - Mapleton Area Etiwanda/Inland MH/SM
  - Project cost: JCSD projects that the remaining project cost will be $0.75 million.

- Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.

- Line #33: 51st through 55th Area
  - Project cost: JCSD projects that the remaining project cost will be $1.6 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #34: 63rd Morton Area Van Buren Live Oak Area
  - Project cost: JCSD projects that the remaining project cost will be $2 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #35: Country Village Mission Area
  - Project cost: JCSD projects that the remaining project cost will be $2 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #36: Future Annual Pipeline Replacement Program
  - Project cost: JCSD projects that the remaining project cost will be $47.823 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.

Sewer Miscellaneous Projects

- Line #40: Well Springs - (So. of 68th St.)
  - Project cost: JCSD estimates that the remaining project cost will be $0.7 million.
  - Allocation to growth: JCSD provided Webb's analysis which indicated that this project repairs an asset that provides benefit only to existing users.

- Line #41: Pinnacle Communities - Sewer Subsidence (Lateral & Street Compaction)
    - Project cost: JCSD estimates that the remaining project cost will be $0.5 million.
    - Allocation to growth: JCSD provided Webb's analysis which indicated that this project repairs an asset that provides benefit only to existing users.
- Line #42: Ben Nevis to Granite Hill - 60 FWY Casing/Main Repair
    - Project cost: JCSD estimates that the remaining project cost will be $0.5 million.
    - Allocation to growth: JCSD provided Webb's analysis which indicated that this project is linked to the Glen Avon Trunk Sewer Project and is allocated to growth accordingly, therefore 34 percent of the project costs will be included in the Capacity Charge.
- Line #43: Eastvale Collection Improvements
    - Project cost: JCSD estimates that the remaining project cost will be $0.5 million.
    - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #49: Asphalt Patching - Various Locations
    - Project cost: JCSD estimates that the remaining project cost will be $0.633 million.
    - Allocation to growth: JCSD provided Webb's analysis which indicated that this project repairs an asset that provides benefit only to existing users.
- Line #50: SCADA Maintenance
    - Project cost: JCSD estimates that the remaining project cost will be $0.875 million.
    - Allocation to growth: JCSD provided Webb's analysis which indicated that this project repairs an asset that provides benefit only to existing users.
- Line #51: District Wide Shared Projects
    - Project cost: JCSD estimates that the remaining project cost will be $0.372 million.

- Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.

- Line #52: IT Equipment
  - Project cost: JCSD estimates that the remaining project cost will be $0.102 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #53: IT - SCADA
  - Project cost: JCSD estimates that the remaining project cost will be $0.05 million.
  - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.

Lift Station Program

- Line #59: Mechanical Removals at Hammer Lift Station
  - Project cost: JCSD estimates that the remaining project cost will be $0.1 million.
  - Allocation to growth: JCSD provided Webb's analysis which indicated that this project repairs an asset that provides benefit only to existing users.
- Line #61: Citrus Street Lift Station Abandonment
  - Project cost: JCSD estimates that the remaining project cost will be $0.05 million.
  - Allocation to growth: JCSD provided Webb's analysis which indicated that this project repairs an asset that provides benefit only to existing users.
- Line #62: 44th Lift Station Improvements
  - Project cost: JCSD estimates that the remaining project cost will be $0.15 million.

    - Allocation to growth: JCSD provided Webb's analysis which indicated that this project repairs an asset that provides benefit only to existing users.

- Line #63: 65th Street Lift Station Abandonment
    - Project cost: JCSD estimates remaining project cost to be $0.05 million.
    - Allocation to growth: JCSD provided Webb's analysis which indicated that this project repairs an asset that provides benefit only to existing users.
- Line #64: Future (to be identified) Annual Lift Station Program
    - Project cost: JCSD estimates remaining project cost to be $6.4 million.
    - Allocation to growth: JCSD provided Webb's analysis which indicated that this project repairs an asset that provides benefit only to existing users.

Localized System Repairs

- Line #69-72: Galena Street Sewer Main Terminal Manhole Main Repair; Install Sluice Gate at 1) Archibald MS; 2) Harrison MS; 3) Cleveland MS;
    - Project costs: JCSD has estimated the remaining costs for the above four projects, each project has $0.2 million in costs planned through build-out.
    - Allocation to growth: JCSD provided Webb's analysis which indicated that these projects repair assets that provide benefit only to existing users.
- Line #73-74: Two segments of the M/H Installation Program (Jurupa Program)
    - Project costs: JCSD has estimated the remaining costs for two segments of the above project. The first segment has $0.2 million in costs planned through build-out and the second has $4.582 million remaining.
    - Allocation to growth: JCSD provided Webb's analysis which indicated that these projects repair assets that provide benefit only to existing users.

Third Party Projects

- Line #80: Limonite Widening (Etiwanda to Bain)
    - Project cost: JCSD estimates remaining project cost to be $0.5 million.
    - Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.
- Line #81: Third Party JCSD Sewer Relocations (Unspecified)

- Project cost: JCSD estimates remaining project cost to be $1.980 million.
- Allocation to growth: JCSD's analysis indicated that this project will provide resiliency for all customers and its costs will be allocated to growth in proportion to the new number of EDUs by build-out that are new growth.

Table 5-3 summarizes the count and cost of CIP projects and what cost was allocated for new customers.

Table 5-3 CIP Sewer Projects ($ Millions)

CIP Project Type	No. of Projects[(1)]	Total Cost	Unsecured Growth	Growth %
Trunk Sewers	5	18.8	5.4	28%
Regional Lift Stations and Force Mains	6	32.0	10.8	34%
Facility Construction	3	8.9	3.9	43%
Treatment Plant Capacity	4	60.7	41.6	69%
Sewer Pipeline Replacement Program	5	54.2	18.3	34%
Miscellaneous Improvements	24	16.6	0.5	3%
Third Party Projects[(2)]	2	2.5	0.8	34%
Total	**49**	**193.6**	**81.3**	**42%**

Notes:

(1) Projects that currently have no certain planned remaining expenditures were not listed above in the discussion of individual projects but are counted in the No. of Projects column.

(2) Third Party Projects include JCSD's share of project costs associated with outside agencies.

The $81.3 million allocated for new customers represents less than half of the total CIP project costs. A major portion of the allocation comes from projects associated with expanding capacity at the treatment plants. The existing treatment plants do not have enough capacity to serve the new customers, so more capacity will need to be added in order to serve the new customers.

Since larger users will contribute more flow to the sewer system, the allotment is distributed among new customers based on EDUs. The resulting $81.3 million total produces an Incremental component of $4,802 per EDU for new customers. This component is added to the Buy-in component (described in the previous section) to calculate the total Capacity Charge.

5.4 Updated Sewer Capacity Charge

The Capacity Charge is calculated by combining the Buy-in and Incremental components described above. The result is a total fee of $6,971 per EDU. $2,169 of the fee comes from the Buy-in component and $4,802 comes from the Incremental component of the hybrid equation presented in Section 2.

The fee is based on each EDU because some future developments will produce more flow than others. The more flow being contributed to the sewer system (from more people being served or larger commercial operations) will result in more EDUs and a higher Capacity Charge being charged when they are connected to the system.

Table 5-4 compares the updated and previous Capacity Charges.

Table 5-4 Sewer Capacity Charge Comparison

Current Fee (July 2005)	$5,910
Escalated Current Fee(1)	$7,828
New Fee	**$6,971**
Increase(2)	18%

Notes:
(1) Value escalated using LA ENR CCI from July 2005 to July 2015
(2) Increase calculated based on current fee

The current Capacity Charge of $5,910 was set in July of 2005. Using the last 10 years of ENR CCI data for the Los Angeles area to escalate the value, the Capacity Charge is worth $7,828 in today's dollars. The new Capacity Charge of $6,971 represents an 18 percent increase over the current fee.

6.0 SUMMARY

The updated Capacity Charge for new customers that connect to the water and sewer system consists of three separate charges. Each charge is made up of one or more components to equitably allocate costs to new customer based on past, present, or future projects. The three fees are:

- Water Capacity Charge - recovers the cost of developing and operating a water system to provide capacity to new customers
- Water Resources Capacity Charge - recovers the cost of providing water supplies
- Sewer Capacity Charge - recovers the cost of developing and operating a sewer system

Each of these fees is calculated per Equivalent Dwelling Units (EDU), which represents a typical residential user with a 5/8" water meter. Larger users, such as commercial facilities and apartment complexes, are assigned an appropriate EDU value based on the size of their water meter and their assumed level of flow. Table 6-1 summarizes the fees assigned to connecting new customers to the water and sewer system. The table includes the existing fees, but it is worth noting that these fees are 9 to 10 years old and are not escalated to 2015 dollars, which makes it difficult to compare the proposed and past fees.

Table 6-1 Capacity Charge Summary Comparison

Fee Type	Cost Per EDU[(1)]	Current Fee	Escalated Fee
Water Capacity Charge	$8,455	$7,260[(2)]	$8,979
Water Resources Capacity Charge	$3,557	$0	$0
Sewer Capacity Charge	$6,971	$5,910[(3)]	$7,828
Total	**$18,983**	**$13,170**	**$16,807**

Notes:
(1) EDU: Equivalent Dwelling Units
(2) Effective December, 2006
(3) Effective July, 2005

By escalating the past fees to present day dollars (July 2015), it is more appropriate to compare the increase in fees. Overall, the fee increased by 20 percent from the 2015 dollar equivalent of the previous fees. This fee structure also includes the addition of the Water Resources Capacity Charge, which did not exist in the previous fee structure.

In addition, it is recommended that the District increase the proposed fees annually to maintain pace with inflation. As the capital plan is in current dollars, it is appropriate to

escalate the Capacity Charge charges annually by inflation to reflect the increasing costs. This is generally done by using the Engineering News Record - Construction Cost Index (ENR – CCI), which is the best available proxy for realized inflation.

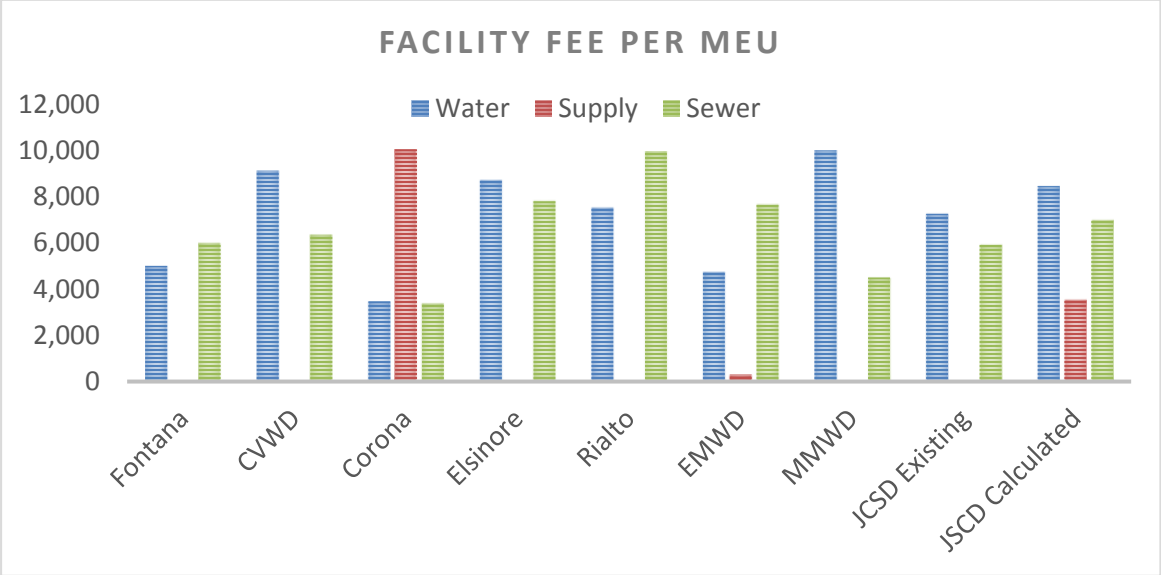
Although the fees increased, the rationalization for the increase in fees is based on the value of existing and planned improvements to water and sewer system infrastructure. The previous sections of this report explain why each value was included in the new fee and how each value was calculated.

6.1 Comparison to other Agencies

To put the Capacity Charge increase in perspective, the previous and new fee structure can be compared to neighboring cities or agencies. It should be noted that this comparison does not consider when the fees were implemented, the population served, and what type of customer growth each of these organizations is projecting for the future. Additionally, this comparison does not include every neighboring agency, only the ones where Capacity Charge information was available.

Figure 6-1 shows how the Capacity Charges of neighboring agencies compare to the proposed and existing Capacity Charges of the District.

Figure 6-1 Comparison of Capacity Charges of Neighbor Agencies



The Supply Fee in the figure represents fees similar to the Water Resources Capacity Charge explained in this report. Only the City of Corona and Eastern Municipal Water District (EMWD) currently assess a fee related to the source of water supply. The City of Corona's fee structure places a large importance on the supply component.

The figure shows a variance between neighboring agencies in the amount they charge for connecting to their water and sewer systems. While the majority of agencies charge more

for water connections, a few are dominated by the sewer component. The new fees for the District are represented in the figure, but without a complete understanding of the CIP and the justification for setting these fees for each agency, a direct comparison is lacking.