CITY OF GRANTS PASS
WATER AND SEWER SDC STUDY

FINAL REPORT
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I. INTRODUCTION / BACKGROUND

In February 2005, the City of Grants Pass contracted with Parametrix, Inc. and Financial Consulting Solutions Group, Inc. (FCS Group) to perform a System Development Charge (SDC) study for the City's water and sewer services. The City has charges in place for each service, but wished to update them for the following reasons:

- First, the SDCs have remained at their current levels, with the exception of recent indexed increases, for more than a decade. In that time, There have been material changes in the City's water and sewer system investments and capital improvement programs, and a dramatic increase in growth and related expansion costs.
- Second, the City wanted to ensure that the costs of expected growth would be recovered appropriately from growth.
- Third, there have been a number of changes in the SDC statute (ORS 223.297-314) since the City's last methodology update(s). Few of these changes have been major, but the City understandably wished to be confident that the adopted charges would remain legally defensible.

A. Background

Located on the Rogue River, Grants Pass provides water and sewer service for a community of 25,000 people. The City is currently experiencing robust growth, and expects this level of growth to continue in the near future. Commensurate with both this growth and the City's commitment to protection of water resources and provision of high quality water and sewer utility services, the City has developed updated capital improvement plans for its water and sewer utilities. With these plans, financial burdens for the utilities have and will continue to increase. In this light, a review of the adequacy of the current SDC levels and the underlying methodology and related policies is warranted. The City is separately examining water and sewer rates to ensure ongoing financial viability and address costs related to maintaining or improving existing service.

B. Scope of Services

The following tasks were undertaken for the water and sewer system development charge study.

1. **Collect and review data**. Provide a data needs list to the City. Meet with the City and its Engineer to review initial data, discuss policy objectives, and conduct a kickoff study. Review and evaluate current and potential policy objectives related to SDC methods and levels, based on City objectives and the consultant's knowledge of ORS 223.297 – 314 and its most recent interpretations..
2. **Establish existing cost (reimbursement fee) basis.** Determine the existing cost basis to be incorporated into the water and sewer SDCs. Original cost and depreciated replacement cost will be considered for the cost basis. Identify existing system investments by function. Determine available share of capacity and related cost for each component and in aggregate.
3. **Establish future cost (improvement fee) basis.** Review capital improvement plans (CIPs) for SDC eligible projects and associated costs. Working with the City, outline and apply allocation methods to define eligible portions of capacity-expanding CIP projects. Compile a list of CIP projects identifying their cost and portion applicable to future growth.
4. **Establish SDC methodology framework**. Develop and recommend an appropriate methodology for the water and sewer SDC analysis. Review with the City.
5. **Develop and complete technical analyses**. Using the results of earlier tasks, calculate reimbursement and improvement fees.

6. **Meetings and presentations**. Prepare for and attend up to two staff work sessions. Prepare for and attend up to a total of three meetings of the City Council and / or public hearings. Preparation includes a compilation of comparative SDCs in Southwest Oregon and in key cities elsewhere in the State.

7. **Documentation**. Prepare a draft SDC report for review by the City. Complete and provide a final report integrating City review comments.

II. SYSTEM DEVELOPMENT CHARGE METHODOLOGY

A system development charge is a one-time fee imposed on new development or some types of re-development at the time of development. The fee is intended to recover a fair share of the costs of existing and planned facilities that provide capacity to serve growth.

Oregon Revised Statute 223.297 - 223.314 defines SDCs and specifies how they shall be calculated, applied, and accounted for. By statute, an SDC is either of two components, or the sum of two components:

- a **reimbursement fee**, designed to recover costs associated with capital improvements *already constructed or under construction*, and
- an **improvement fee**, designed to recover costs associated with capital improvements *to be constructed in the future*.

The reimbursement fee methodology must consider such things as the cost of existing facilities and the value of unused capacity in those facilities. The calculation must also ensure that future system users contribute no more than their fair share of existing facilities costs. Reimbursement fee proceeds may be spent on any capital improvements related to the systems for which the SDC applied.

The improvement fee methodology must include only the cost of projected capital improvements needed to increase system capacity to meet the needs of future users. In other words, the cost(s) of planned projects that correct existing deficiencies, or do not otherwise increase capacity, may not be included in the improvement fee calculation. Improvement fee proceeds may be spent only on capital improvements, or portions thereof, which increase the capacity of the systems for which they were applied. The capital improvements must be contained in a capital improvement plan adopted by the City prior to SDC adoption. Appendix A summarizes the adopted water and sewer capital improvement plans.

Water SDCs must be spent on water improvements, sewer SDCs must be spent on sewer improvements, etc.

In general, the proposed SDCs were calculated by adding the applicable reimbursement fee component to the applicable improvement fee component. Under the approach taken, each separate component was calculated by dividing the eligible cost by the appropriate measure of growth to be served. The unit of capacity used became the basis of the charge. A sample calculation method is shown below.

Table II-1
Illustration of SDC Calculation Method

Reimbursement Fee		Improvement Fee		SDC
Eligible cost of unused capacity in existing facilities / System Capacity for Growth	+	Eligible cost of planned capacity-increasing capital improvements / System Capacity for Growth	=	SDC ($ / unit)

Under this approach, it is recognized that a combination of system capacity in some existing system components, together with the added capacity provided through system expansions and extensions, together provide the total resulting growth capacity. For this reason, a combined charge incorporating both reimbursement and improvement fee components, but through a methodology which specifically avoids double-charging, is recommended. However, since the reimbursement and improvement fee components are still segregated, this allows the City to separately impose and account for those components, which in turn provides the maximum flexibility in their use.

The improvement fee is based on the adopted capital improvement plan for each utility. It is a necessary prerequisite that these plans be adopted prior to implementing the corresponding SDCs.

In the past, the City has limited the basis for its sewer SDC to costs associated with the sewer treatment facility. All transmission and collection costs were borne through rates. In this study, the scope of the sewer and water SDC has been consistently applied to incorporate all major capacity-bearing infrastructure. For sewer, this includes treatment and transmission. Collection costs have been excluded, as described more fully below. For water, it includes supply and treatment, transmission, and storage. Similarly, distribution costs have been excluded.

Electronic spreadsheet models have been provided to City staff that should allow for immediate updates as capital plans become available. The models incorporate, for each service, the general methodology described herein.

III. KEY POLICY ISSUES

The process of establishing or revising system development charge methodology, while occurring within the framework of statute, is integrated with various policy considerations. During the course of this SDC analysis, a number of core policy issues have arisen. The resulting methodology effectively incorporates policy direction, whether explicitly or implicitly, in it is valuable to summarize these key issues and the implications of the method employed. This chapter identifies and summarizes key policies addressed and incorporated in the SDC methodology.

A. Facilities Included in the Charge

The City's current sewer SDC is based solely on treatment capacity. Policy guidance from that timeframe suggested a distinction between treatment and collection system, with collection system costs presumed to be supported solely through rates.

For both water and sewer, the proposed SDC methodology examines capacity-bearing infrastructure throughout the system. The following table summarizes the conceptual delineation

of the system. When costs are indicated to be included in the SDC, only the cost attributable to capacity available for growth is included.

Table III-1
Summary of System Elements Considered for SDC

System Element	Water	Sewer
Treatment	Included in SDC basis	Included in SDC basis
Transmission	Included in SDC basis on a reduced basis, net of an allowance for local service benefits	Included in SDC basis on a reduced basis, net of an allowance for local service benefits
Storage	Included in SDC basis	Included in SDC basis
Pumping	Included in SDC basis	Included in SDC basis
Distribution/Collection	All lines 8 inch and under and all service connections and meters excluded from the SDC basis	All lines 8 inch and under and all service connections excluded from the SDC basis

B. Definition of Capacity-Bearing Infrastructure

In some cases, the definition of capacity-bearing infrastructure is readily seen. Treatment facilities, dedicated transmission lines or sewer force mains, pump stations and water reservoirs are examples of facilities generally recognized as providing system capacity. However, the integrated nature of utility pipe networks often blurs the distinction between transmission and local service functions. A main designed to convey water or sewer through the system also serves to provide access to adjacent properties.

For this analysis, a simple and conservative definition has been used which tends to attribute a large share of water and sewer main costs to local service, and then fully excludes such costs from the SDC basis. This perspective is consistent with the utility practice of requiring new service areas to install local infrastructure as a condition of development, in addition to the need to pay SDCs for system capacity. However, it is noteworthy that the degree of conservatism used in this analysis exceeds that which is often employed, leading to a conservative estimate of SDC-eligible costs.

First, all water and sewer mains of sizes less than or equal to 8 inch diameter are excluded from the capacity-bearing cost basis. This decision rule effectively defines such pipes as exclusively local purpose, even when they in fact also provide conveyance capacity.

Second, all larger mains are conceptually divided into local and capacity functions. For existing mains, the functional division is defined by the capacity of the main relative to that of an 8 inch main. For example, a 16 inch main has roughly 4 times the capacity of an 8 inch main. In this case, 25% of the cost would be attributed as local purpose and excluded, and 75% of the cost would be considered capacity-bearing. For ease of calculation, all mains are assumed to be available for local connection and thus subject to this allocation. For new mains, only the cost of oversizing the main beyond 8 inches is included. This is consistent with typical oversizing payment mechanisms, and with the credit mechanism specified in ORS 223.304.

C. Equitable Allocation of Capacity Costs

As noted above, an important element of the SDC methodology is to ensure that no more than an equitable share of costs is assigned to new growth. This issue arises in two material ways. First, recognition of projects, or shares of projects, which do not provide capacity for growth. This was

discussed in section B above. Second, ensuring that the combination of reimbursement and improvement elements does not result in an over-allocation of costs to the new customer. Put simply, the allocation method could, without proper care, inadvertently result in full shares of both existing and future capacity improvements, leading to a "double charging" which results in an excessively high SDC. A simple example would be the allocation of a full share of existing treatment plant capacity, plus a full share of improvement costs to expand that capacity.

The methods employed in this study use two different approaches to avoid this problem, depending on circumstance. In most cases, the analysis noted in the graphic presented in Chapter II identifies both existing and future capacity costs available for growth. It then divides both parts by the total growth which they can serve together. This effectively provides a weighted average cost of capacity available for growth.

The second approach which is sometimes used simplifies this further. It uses the total cost of existing and future capacity, and divides this by the total customer base, including both existing and future customers. By so doing, it results in a system-wide average cost of capacity, which is then uniformly allocated to both existing and future customers based on their shares of ultimate capacity. This tends to lower the resulting SDC charge by blending more of the less expensive existing capacity with the higher costs of expansion. It is used to simplify allocation decisions when more detailed and costly analysis might otherwise be necessary to support a higher allocation to growth.

D. Differentiation of Customer Service Areas

For SDC purposes, the City currently distinguishes different service areas only for Redwood Sanitary Sewer Service District, which is in fact a separate utility enterprise, but one that pays the City SDC (in addition to its own) for use of treatment capacity. The proposed sewer SDC structure now differentiates two City SDCs: one which addresses only sewer treatment, applicable to Redwood; and one which incorporates transmission system capacity, applicable to new City connections. No other service area distinctions are proposed.

For water, no service area distinctions currently exist. However, the City continues to invest in disproportionately in infrastructure needed to serve higher elevation zones, which require transport of water through multiple pump stations and into new, higher reservoirs. The recommended SDC structure now uses two different methods to establish SDCs for the lower zones (1 through 3) and higher zones (4 and 5). The difference focuses on the way the storage costs are allocated. For the charge applicable in zones 4 and 5, the cost of new storage needed for growth is fully allocated to new growth. For the charge applicable in the lower zones, the cost of new and existing storage is averaged together, resulting in a lower unit charge. This distinction results in a higher charge in the higher service zones, which is a result generally consistent with the City's higher cost to serve those areas.

E. Capital Contributions

It is generally appropriate to identify and deduct capital contributions from the cost of system infrastructure. Most such contributions are typically in the form of developer-constructed local facilities. Since the methodology used directly excludes such local facilities from the analysis, deducting recorded contributions would effectively deduct those costs twice, resulting in an inappropriately low cost basis.

Capital contributions also include grant payments toward system capacity. Historically, the City has received some grant funding, primarily for sewer treatment capacity. However, those programs were based on federal programs which severely restricted the applicability of grants to growth-related capacity, usually no more than 10% of original capacity. The City has certainly already experienced any such level of growth. This means that any prior grant funding would not be attributable to capacity now used by new connections.

For these reasons, capital contributions have been excluded from consideration in the analysis.

F. SDC Administrative Cost Recovery

ORS 223.307 allows the use of SDC funds to meet related administrative costs. The recommended SDC structures incorporate the recovery of such costs through an administrative cost element, based on estimated costs of administering and accounting for the SDC program.

IV. WATER

The City's existing water system development charge is $821 per equivalent residential unit, defined by meter size for non-residential connections. Single-family residences are charged for one unit, while multi-family dwellings pay roughly 65% of the single family charge per unit, on the basis of lower water demands typically experienced. This is an accepted and reasonable basis for charging water SDCs. The proposed system development charge relies primarily on water meter size as the basis for the charge, while ensuring minimum charges commensurate with costs based on the number of residential living units.

The calculation of the proposed water SDC is summarized below and provided in detail in Appendix B.

A. Capacity Basis

The City's current water system capacity, as determined by its treatment plant design capacity, is 18.0 million gallons per day (MGD) of peak day capacity. Of that capacity, the existing customer base uses approximately 10.5 MGD on a peak day basis. The City has a current customer base of 11,468 residential equivalents, as measured by meter size and related flow factors. Based on the current relationship between residential equivalents and demands, the plant can serve 19,659 residential equivalents at capacity, or an additional 8,191 units of growth. This is consistent with features of the capital plan, which indicate that water treatment capacity is adequate for the next 20 years of growth.

For system components other than treatment, multiple steps were generally used to determine the portion of existing capacity and future expansions attributable to growth, as described further in sections below. In general, under the methods employed, portions of the existing system and future projects were excluded from consideration. The applicable cost of capacity-bearing system components was then further reduced by defining that a portion also served local distribution needs. Finally, capacity-bearing shares of facilities were allocated between existing and future customers.

The allocation rule for each facility and improvement, along with the resulting portion assigned to growth, is included in the detailed calculation provided in Appendix A.

B. Reimbursement Fee Calculation

A detailed list of water system fixed assets, provided by City staff, was used in this analysis. The reimbursement fee cost basis was determined as follows:

- The original cost of total water system assets (plant-in-service) totaled $52,936,290. A determination of replacement cost less depreciation, arrived at using the ENR Construction Cost Index to adjust original costs, totaled $110,394,372. Based on these findings, the original cost basis was used as a conservative cost basis.
- The water distribution system was then defined as having two functions: local distribution and capacity-bearing transmission. As a first allocation step, local distribution costs were defined and removed from the system capacity cost basis. To do so, the analysis recognized that most water mains serve two purposes: transmission of water to other areas of the system,

and provision of local distribution service. In general, the City considers an 8 inch line as a minimum reasonable size for providing local access and fire protection through public mains. Based on this conservative assumption, no mains of 8 inch or lesser size were considered to provide transmission capacity. Further, larger mains were considered to also provide local service, and only capacity in excess of the capacity of an 8 inch main was considered to provide additional system capacity. For this analysis, $26,497,049 represents the portion of system cost thus attributable to local water distribution and excluded from the cost basis.

- Current outstanding debt principal totals $2,800,000, while the water utility also has $1,051,726 in cash and investments, assets not included in the total above. Based on this, the net liability of $1,748,274 was considered to be a burden new customers would assume as ratepayers, and deducted from the SDC cost basis.

This results in a net system cost of $25,690,966 related to the capacity-bearing infrastructure of the water system. To determine the cost of unused capacity, system assets were then further evaluated to determine the portion of the existing system available for growth, and then apportion a corresponding share of cost. The following general steps were taken:.

- For the water treatment facility, the share of unused capacity available for growth is based on the plant capacity. Unused capacity of 7.5 mgd represents roughly 42% of total capacity.
- For water system storage, the water system plan documents an existing surplus of storage capacity. For existing storage, the share of capacity in excess of current, as identified in the plan, is assigned to growth.
- For transmission mains, the portion of investment not attributed to local distribution was allocated between existing and future customers. This was based on the share of available treatment capacity. As a result, only a very small share of the existing transmission and distribution system was determined to be eligible for the SDC reimbursement fee.
- A proportionate share of the net debt liability was then deducted.

Based on the application of these allocation rules, the portion of system cost found to be attributable to capacity available for growth was $8,430,003, or roughly 16% of the net system cost. In contrast, the simple treatment capacity comparison found that 42% of treatment capacity remains available, illustrating the conservative nature of the allocation methods being employed.

Finally, dividing this cost of unused capacity by estimated growth in equivalent residential units resulted in a water reimbursement fee of $1,273 per residential equivalent. For informational purposes, this has been segregated between treatment ($271) and transmission ($1,002) components.

C. Improvement Fee Calculation

The City has adopted a water capital improvement plan which forms the basis for the improvement fee. The following approach was taken to determine the cost of capacity-increasing capital improvements, the numerator in the improvement fee calculation, and calculate the fee.

- The total project cost identified in the water capital improvement plan is $25,767,125. For each project in the water capital improvement plan, City utility staff and engineers evaluated the purpose and function of the project. For projects which simply met minimum local standards (such as main replacements or extensions of 8 inch or smaller diameter), no share of capacity was assumed available for growth. Similarly, improvements or replacements intended to reach minimum system standards based on existing needs were also excluded.
- For the water treatment facility, the City capital improvement plan identifies minor plant improvements needed to reach full capacity. The cost of those improvements has been

allocated to growth using the capacity relationship noted above. Several projects were determined to be corrections of existing deficiencies and not attributable to growth.

- For water system storage, planned future growth, especially in higher elevation service areas, requires substantial expansion of storage capacity, while existing capacity generally exceeds the requirements of existing customers. For future expansion, the cost of new storage facilities is fully assigned to growth. However, one storage project, designated reservoir #13, is a replacement of an undersized existing reservoir. This has been determined a correction of existing deficiency and excluded from the SDC cost basis. The resulting allocation of storage costs is then used as the basis for the water SDC in zones 4 and 5.

- In recognition that lower service zones 1 through 3 do not require the same scale of storage expansion and transmission investment, an alternate allocation method has also been developed for use in those zones. In this case, both the costs of existing and future storage are incorporated based on the system-wide growth allocation (42% to growth). This results in a lower allocation of storage costs, and thus a lower resulting SDC for those zones.

- For new transmission improvement projects, main replacements of 8 inch and under were excluded. Larger mains were considered to add capacity only to the degree that increases in pipe size provided added capacity, and then only to the degree that size was increased beyond 8 inch. For example, replacing a 6 inch main with a 10 inch main would only be included to the degree that the capacity was increased from the 8 inch minimum to 10 inch. New main extensions were only included based on the incremental cost of oversizing beyond the cost of an 8 inch line, on the premise that the cost of an 8 inch line is attributable to the provision of local service, and not system capacity.

- Next, the current water SDC improvement fee fund balance, $804,260, was deducted from the gross improvement fee cost basis in order to (1) recognize that the fund balance is available for spending on the project list and (2) prevent new customers from paying for those project costs twice. Since the City does not currently distinguish improvement and reimbursement fund balances, the full SDC balance was assumed available for growth projects.

Based on this allocation process, a total of $8,304,325, roughly $1.8 million in treatment improvements and $6.5 million in transmission and storage improvements, was determined as attributable to provision of additional capacity for growth. The improvement fee of $1,014 per residential equivalent was then calculated by dividing the improvement fee cost basis by the estimated system growth. For informational purposes, this has been segregated between treatment ($223) and transmission ($791) components.

D. Water System Development Charge

The water SDC is the sum of the reimbursement fee and the improvement fee, adjusted by an administrative cost recovery factor of 1.5%. The administrative cost recovery factor was derived by dividing annual water SDC program accounting and administrative costs ($5,000 per year), plus a share of the amortized cost of this study ($2,500 per year), by forecasted average annual water SDC revenues (roughly $500,000 per year).

The resulting SDC is provided in Table IV-1 below.

Table IV-1
Recommended Water SDC

SDC by Service Area (per ERU)	Reimbursement Fee	Improvement Fee	Administrative Cost Recovery	System Development Charge
Zones 1,2 and 3	$1,273	$1,014	$34	$2,321
Zones 4 and 5	$1,143	$1,518	$40	$2,700

E. Water SDC Structure

The City's current water SDC is based on residential living units, and for non-residential based on meter size. Since meter size is a direct indicator of potential water demand, this basis should be relied upon for imposing SDCs. However, it is also appropriate to consider residential living units, as some system requirements are more directly related to the number of units served, and further to discourage undersized water meters which could then lead to service quality problems attributable to an inadequate service connection.

The recommended water SDC structure is therefore based on meter size, with minimum charges per living unit according to the following schedule in Table IV-2 below.

Table IV-2
Recommended Water SDC

Meter Size	Reimbursement Fee	Improvement Fee	Administrative Cost Recovery	Total System Development Charge
Zones 1, 2 and 3				
¾ Inch	$1,273	$1,014	$34	$2,321
1 Inch	$3,183	$2,535	$86	$5,804
1.5 Inch	$6,367	$5,069	$172	$11,607
2 Inch	$10,187	$8,111	$274	$18,572
3 Inch	$20,373	$16,221	$549	$37,144
4 Inch	$31,833	$25,346	$858	$58,037
6 Inch	$63,667	$50,691	$1,715	$116,074
8 Inch	$101,867	$81,106	$2,745	$185,718
10 Inch	$146,434	$116,590	$3,945	$266,969
Minimum Residential Charges – Zones 1-3				
Single Family Residences (per residence)	$1,273	$1,014	$34	$2,321
2- to 4-plex (per living unit)	$1,019	$811	$27	$1,857
Multi-Family Residences (per living unit)	$815	$649	$22	$1,486
Accessory Dwelling Units (per add'l unit)	$815	$649	$22	$1,486
Zones 4, 5 or Higher				
¾ Inch	$1,143	$1,518	$40	$2,700
1 Inch	$2,857	$3,795	$100	$6,751
1.5 Inch	$5,714	$7,589	$200	$13,502
2 Inch	$9,142	$12,143	$319	$21,604
3 Inch	$18,284	$24,285	$639	$43,207
4 Inch	$28,568	$37,946	$998	$67,511
6 Inch	$57,136	$75,891	$1,995	$135,022
8 Inch	$91,418	$121,426	$3,193	$216,036
10 Inch	$131,413	$174,549	$4,589	$310,551

Meter Size	Reimbursement Fee	Improvement Fee	Administrative Cost Recovery	Total System Development Charge
Minimum Residential Charges – Zones 4-5				
Single Family Residences (per residence)	$1,143	$1,518	$40	$2,700
2- to 4-plex (per living unit)	$914	$1,214	$32	$2,160
Multi-Family (5+ units, per living unit)	$731	$971	$26	$1,728
Accessory Dwelling Units (per add'l unit)	$731	$971	$26	$1,728

The SDC is intended to reflect the cost of system capacity. There are some meter and service installations, such as "deduct meters" or fire service lines or meters, which do not normally impose domestic demand on the system. Further, fire service lines provide an alternate mode of delivery for fire flows already incorporated into the SDC cost basis. Therefore, the water SDC would not be applicable to deduct meters or fire service lines. The charge would be applicable to other new domestic, commercial, industrial, public or irrigation meters.

Finally, the City of Grants Pass, like many communities, wishes to encourage continued certain types of residential development of affordable housing. From a cost basis, which is central to the rate-making principles applied (and required) in SDC methodologies, affordable housing does not necessarily provide a lower impact on the water system. However, when there are demonstrable measures which reflect lower costs, a reduced SDC could be rationally applied.

An affordable housing SDC would be based on satisfying a series of qualifying features, including:

- The housing project, or housing units within a project, qualify under a definition of affordability established by the City Council. This definition could be based on a relationship of home price to median community income (e.g. no more than three times median household income), to the local housing market (e.g. no more than 85% of the median home price), or an absolute price (e.g. less than $200,000) which is either indexed or periodically reviewed and updated.
- The housing project, or housing units within a project, are specifically targeted toward and reserved for low income households under some definition of income (e.g. no more than 90% of median household income).
- The residence has a plumbing fixture count (under the Uniform Building Code) below the threshold which would otherwise require an increase in meter size. Plumbing fixture units are a defined means of determining potential water flow requirements. When total fixture units are below the threshold value, the City could reasonably expect reduced water demands as a consequence. For example, if the threshold were 20 fixture units, new housing with 15 fixture units might be expected to generate 75% of the corresponding water demand.
- For qualified new housing units, the water SDC would be discounted from the residential minimum based on the relationship of fixture unit count to the threshold value.

V. SEWER

The City's existing sewer system development charge is $1,096 for a typical residence, with the charge based on the number of toilets in the residence. The charge is defined by meter size for non-residential connections, beginning at $1,096 for a ¾ inch meter and increasing with meter size.

The calculation of the proposed sewer SDC is summarized below and provided in detail in Appendix C.

A. Capacity Basis

The City's current sewer treatment system has been evaluated in terms of the number of connections served. [While this basis can be used to determine relative shares of capacity available, the SDC analysis is developed based on a more direct measure of sewage flow.] The sewer treatment plant currently serves 11,700 connections. It is capable of serving roughly 12,500 connections currently, and with planned expansion it will be able to serve 18,800 connections. Thus, the existing and planned treatment plant can serve 7,100 new connections.

The treatment plant serves both the City and Redwood systems. For the City transmission system, Redwood connections would be excluded (Redwood has its own sewer collection SDC and also pays the City sewer treatment SDC). The City currently serves just over 10,000 City accounts. At build-out, the City is anticipated to represent just over 15,000 of the 18,800 accounts served. Thus, the existing and planned transmission system can serve just over 5,000 new accounts.

For the SDC analysis, the charge would be imposed in proportion to estimated sewage capacity required, as expressed in residential customer equivalents. The existing customer base was equated to residential equivalents based on sewer customer data including flows and billed volumes. Table V-1 summarizes the existing demands and projected capacity of the treatment and transmission systems, expressed in residential customer equivalents:

Table V-1
Summary of Sewer System Capacity

Residential Customer Equivalents	Treatment (RCEs)	Transmission (RCEs)
Total System Capacity	29,048	23,110
Less: Capacity in Use	(18,078)	(15,383)
Net Capacity Available for Growth	10,970	7,727
Percent Available for Growth	37.7%	33.4%

The allocation rule for each facility and improvement, along with the resulting portion assigned to growth, is included in the detailed calculation provided in Appendix A.

B. Reimbursement Fee Calculation

A detailed list of sewer system fixed assets, provided by City staff, was used in this analysis. The reimbursement fee cost basis was determined as follows:

- The original cost of total sewer system assets (plant-in-service) totaled $36,885,344. A determination of replacement cost less depreciation, arrived at using the ENR Construction Cost Index to adjust original costs, totaled $72,008,528. Based on these findings, the original cost basis was used as a conservative cost basis.
- The sewer collection system was then defined as having two functions: local collection and capacity-bearing transmission. As a first allocation step, local collection costs were defined and removed from the system capacity cost basis. To do so, the analysis recognized that most sewer mains serve two purposes: transmission of sewer from other areas of the system, and provision of local collection service. In general, the City considers an 8 inch line as a minimum reasonable size for providing local access through public mains. Based on this conservative assumption, no mains of 8 inch or lesser size were considered to provide

transmission capacity. Further, larger mains were considered to also provide local service, and only capacity in excess of the capacity of an 8 inch main was considered to provide additional system capacity. For this analysis, $11,470,529 represents the portion of system cost thus attributable to local sewer collection and excluded from the cost basis.

- Current outstanding debt principal totals $6,874,938, while the sewer utility also has $3,557,488 in cash and investments, assets not included in the total above. Based on this, the net liability of $3,317,450 was considered to be a burden new customers would assume as ratepayers, and deducted from the SDC cost basis.

This results in a net system cost of $25,414,815 related to the capacity-bearing infrastructure of the sewer system. To determine the cost of unused capacity, system assets were then further evaluated to determine the portion of the existing system available for growth, and then apportion a corresponding share of cost. The following general steps were taken:.

- For the sewer treatment facility, the share of unused capacity available for growth is based on an evaluation of treatment plant components. For those with adequate capacity for current and future needs, unused capacity is assumed to be 37.7% of total capacity. For the majority of plant investment, which requires expansion in the upcoming improvement program, a much smaller share of cost is available for expansion, roughly 6%, based on remaining connections available. The aggregate (weighted average) percentage estimated to be available for growth is 11%.

- For transmission mains, several issues are introduced into the allocation of costs. Many sewer mains serve two purposes: transmission of sewer from other areas of the system, and provision of local collection service. For this analysis, the portion of system cost attributable to local sewer collection has been excluded from the cost basis. In general, the City considers that lines of 8 inch diameter or less primarily provide local collection. Based on this, as a conservative assumption, no mains of 8 inch or lesser size were considered to provide transmission capacity. Further, larger mains were considered to also provide local service, and only capacity in excess of the capacity of an 8 inch main was considered to provide additional system capacity. Finally, the available capacity in excess of the 8 inch equivalent was allocated between existing and future customers based on the share of available treatment capacity. As a result, only a very small share of the existing transmission system was determined to be eligible for the SDC reimbursement fee.

- A proportionate share of outstanding sewer debt was then deducted.

Based on the application of these allocation rules, the portion of net system cost found to be attributable to capacity available for growth was $2,740,944, or roughly 12.4% of the net system cost.

Since the sewer treatment portion of the SDC will remain applicable to new Redwood connections, while the sewer transmission portion would not, the reimbursement fee has been separately determined for treatment and transmission. Dividing the cost of unused capacity by estimated growth in equivalent residential units resulted in a sewer reimbursement fee of $217 for treatment and $46 for transmission, for a total of $263 per residential equivalent.

C. Improvement Fee Calculation

The City has adopted a sewer capital improvement plan which forms the basis for the improvement fee. The following approach was taken to determine the cost of capacity-increasing capital improvements, the numerator in the improvement fee calculation, and calculate the fee.

- The total project cost identified in the sewer capital improvement plan is $34,602,000. For each project in the sewer capital improvement plan, City utility staff and engineers evaluated

the purpose and function of the project. For projects which simply met minimum local standards (such as main replacements or extensions of 8 inch or smaller diameter), no share of capacity was assumed available for growth. Similarly, improvements or replacements intended to reach minimum system standards based on existing needs were also excluded.

- For the sewer treatment facility, the City capital improvement plan identifies a substantial upcoming plant expansion. [The City has also recently completed a treatment upgrade.] The cost of the expansion has been allocated to growth.
- For new transmission improvement projects, main replacements of 8 inch and under were excluded. Larger mains were considered to add capacity only to the degree that increases in pipe size provided added capacity, and then only to the degree that size was increased beyond 8 inch. For example, replacing a 6 inch main with a 10 inch main would only be included to the degree that the capacity was increased from the 8 inch minimum to 10 inch. New main extensions were only included based on the incremental cost of oversizing beyond the cost of an 8 inch line, on the premise that the cost of an 8 inch line is attributable to the provision of local service, and not system capacity.
- There is currently no remaining SDC improvement fee fund balance, so no adjustment was made in this regard.

Based on this allocation process, a total improvement cost of $20,633,118 was determined to be attributable to provision of additional capacity for growth. Since the sewer treatment portion of the SDC will remain applicable to new Redwood connections, while the sewer transmission portion would not, the improvement fee has been separately determined for treatment and transmission. Dividing the cost of future capacity-increasing improvements by estimated growth in equivalent residential units resulted in a sewer improvement fee of $1,315 for treatment and $803 for transmission, for a total of $2,118 per residential equivalent.

D. Sewer System Development Charge

The sewer SDC is the sum of the reimbursement fee and the improvement fee, adjusted by an administrative cost recovery factor of 1.5%. The administrative cost recovery factor was derived by dividing annual sewer SDC program accounting and administrative costs ($5,000 per year), plus a share of the amortized cost of this study ($2,500 per year), by forecasted average annual sewer SDC revenues ($500,000 per year).

The resulting sewer SDC is provided in Table V-2 below.

Table V-2
Recommended Sewer SDC (per ERU)

Unit Description	Reimbursement Fee	Improvement Fee	Administrative Cost Recovery	System Development Charge
Treatment Component of SDC	$217	$1,315	$23	$1,554
Transmission Component of SDC	$46	$803	$13	$862
Total Sewer SDC (per ERU)	**$263**	**$2,118**	**$36**	**$2,416**

E. Sewer SDC Structure

The City's current sewer SDC is based on the number of toilets in residential living units, and on water meter size for non-residential connections. The recommended SDC structure is based on estimated equivalent residential units (ERUs) as described below.

For residential customers, a schedule of charges is proposed based on the type of residential connection. The basic charge per residence, shown in Table V-2 above, would be multiplied by the corresponding number of ERUs based on the following schedule shown in Table V-3:

Table V-3
Sewer Equivalent Residential Unit Factors for Residences

Housing Type	Equivalent Residential Units (ERUs)	Basis
Single Family and Mobile Homes	1.0	per residence
Duplex, 3-Plex, 4-Plex	0.8	per living unit
Multi-Family (5 or more)	0.64	per living unit
Accessory Dwelling Units	0.64	per add'l living unit

For non-residential customers, we recommend a revision to the basis for determining sewer ERUs. While meter size is an indicator of peak water demand, the capacity factors thus derived do not necessarily conform to typical sewer flows. The recommended basis for non-residential capacity is through the count of plumbing fixture units. Through this procedure, the inventory of plumbing fixtures is converted to an equivalent fixture unit count. The number of ERUs is then determined by dividing the fixture unit count by 20 fixture units/ERU. In addition, other sewer flows, such as process flows, are equated to ERUs based on flows relative to average residential volumes.

For businesses which are determined to generate high strength sewage, the result is multiplied by a factor of 1.4 is applied to reflect the greater level of treatment capacity required. [Alternatively, separate factors could be employed for the treatment and transmission components. However, this would result in a more complex SDC structure and related administrative burdens.] Appendix E provides sample worksheets for both residential and non-residential sewer connections which would allow the City to calculate equivalent residential units.

Finally, the City of Grants Pass, like many communities, wishes to encourage continued certain types of residential development of affordable housing. From a cost basis, which is central to the rate-making principles applied (and required) in SDC methodologies, affordable housing does not necessarily provide a lower impact on the sewer system. However, when there are demonstrable measures which reflect lower costs, a reduced SDC could be rationally applied.

An affordable housing SDC would be based on satisfying a series of qualifying features, including:

- The housing project, or housing units, qualify under a definition of affordability established by the City Council. This definition could be based on a relationship of home price to median community income (e.g. no more than three times median household income), to the local housing market (e.g. no more than 85% of the median home price), or an absolute price (e.g. less than $200,000) which is either indexed or periodically reviewed and updated.

- The housing project, or housing units within a project, are specifically targeted toward and reserved for low income households under some definition of income (e.g. no more than 90% of median household income).

- The residence has a plumbing fixture count (under the Uniform Building Code) below the threshold which would otherwise require an increase in meter size. The non-residential worksheet cited above (Appendix E) could be used to calculate the fixture unit count. When total fixture units are below the threshold value of 20 per ERU, the City could reasonably

expect reduced sewer flows as a consequence. For example, new housing with 15 fixture units might be expected to generate 75% of the corresponding sewage flows.

- For qualified new housing, the sewer SDC would be discounted from the residential minimum based on the relationship of fixture unit count to the threshold value of 20 per ERU.

VI. CREDITS

ORS 223.304 specifies that credits must be provided for developers who construct "qualified public improvements", as provided below:

> (4) The ordinance or resolution that establishes or modifies an improvement fee shall also provide for a credit against such fee for the construction of a qualified public improvement. A "qualified public improvement" means a capital improvement that is required as a condition of development approval, identified in the plan and list adopted pursuant to ORS 223.309 and either:
>
> (a) Not located on or contiguous to property that is the subject of development approval; or
>
> (b) Located in whole or in part on or contiguous to property that is the subject of development approval and required to be built larger or with greater capacity than is necessary for the particular development project to which the improvement fee is related.
>
> (5)(a) The credit provided for in subsection (4) of this section is only for the improvement fee charged for the type of improvement being constructed, and credit for qualified public improvements under subsection (4)(b) of this section may be granted only for the cost of that portion of such improvement that exceeds the local government's minimum standard facility size or capacity needed to serve the particular development project or property. The applicant shall have the burden of demonstrating that a particular improvement qualifies for credit under subsection (4)(b) of this section.
>
> (b) A local government may deny the credit provided for in subsection (4) of this section if the local government demonstrates:
>
> (A) That the application does not meet the requirements of subsection (4) of this section; or
>
> (B) By reference to the list adopted pursuant to ORS 223.309, that the improvement for which credit is sought was not included in the plan and list adopted pursuant to ORS 223.309.
>
> (c) When the construction of a qualified public improvement gives rise to a credit amount greater than the improvement fee that would otherwise be levied against the project receiving development approval, the excess credit may be applied against improvement fees that accrue in subsequent phases of the original development project. This subsection does not prohibit a local government from providing a greater credit, or from establishing a system providing for the transferability of credits, or from providing a credit for a capital improvement not identified in the plan and list adopted pursuant to ORS 223.309, or from providing a share of the cost of such improvement by other means, if a local government so chooses.
>
> (d) Credits must be used in the time specified in the ordinance but not later than 10 years from the date the credit is given.

The definition of qualified public facility is focused on developer oversizing and extension of facilities with capacity beyond their own needs. While it can be strictly limited to projects included in the capital improvement plan, there may be instances where the City finds value on offering credits for functionally similar projects, or for new projects not anticipated in the capital improvement plan but which provide capacity and value to the system.

With respect to applicability, it is clear that credits are limited to the improvement fee portion of the corresponding SDC, and to the specific development including subsequent phases. While the statute allows for transferability of credits at City discretion, we recommend against such a provision due to the administrative burden and complexity this introduces. Finally, credits must sunset after no more than 10 years.

City policy further specifies that credit requests must be made within 90 days of the acceptance of the qualified improvement, and defines the terms of improvement acceptance. The policy also addresses apportionment of SDC credits, limitations on transferability of credits, and timing – limiting use of credits to ten years after receipt.

VII. ADMINISTRATION AND ACCOUNTING

The water and sewer SDCs are made up of two distinct components: a reimbursement fee and an improvement fee. We recommend that the City record and account for each component separately for two primary reasons:

- Use of the improvement fee is restricted to projects or debt service related to expanding capacity, while the reimbursement fee can be used for any capital projects or debt service. If not separated, the more stringent standards would apply to all funds.
- SDC credits are only applicable against the improvement fee portion of the charge. Maintaining the separate charges ensures that City cash flow from reimbursement fees is not eroded by the redemption of credits.

Under ORS 223.311, the City is required to provide an annual accounting of SDCs which includes: the total amount of SDC revenues collected for each system; the projects that were funded; the amount spent on each project funded, in whole or in part, with system development charge revenues; and the amount of revenue collected by the local government from system development charges and attributed to the costs of complying with the provisions of the statute. We would further recommend that this accounting also provide the balances of funds in SDC reimbursement and improvement accounts, and an accounting of SDC credits issued, redeemed, expired, and outstanding.

It is also important to note that Oregon law (ORS 223.304) allows for public agencies to keep up with construction cost inflation by indexing system development charges to a cost escalator that is "published by a recognized organization or agency that produces the index or data source for reasons that are independent of the system development charge methodology." The publication *Engineering News Record* (Construction Cost Index) is often used for this purpose, as it relates to the cost of new infrastructure, and we recommend that the City adopt the use of this index for annual escalation of the charges.

Finally, a potentially valuable element of an SDC policy and administrative structure is to provide for potential exceptions. This can have two elements.

First, larger scale commercial or industrial development may not conform to the simple scaling factors provided in the SDC schedules. It is fairly common to provide for an exception process in ordinance or resolution for large or unusual new customers, which would allow the City to base the SDC on a specific engineering analysis of the prospective customer, rather than standard schedules. This option could be structured for customers requiring larger than a certain size water meter (e.g. larger than 2 inch meters) or more than a certain number of ERUs (e.g. over 50 ERUs), or for other unique circumstances (such as highly seasonal or temporary services). In addition to helping ensure equity, such an alternate approach may provide the City with added flexibility to be responsive to unique development opportunities or issues.

Similarly, it is common to incorporate an appeal process when the validity of an individual SDC charge is questioned by a new customer. For example, the characterization of sewage strength may be considered inconsistent with the customer's expectations. In such cases, an administrative appeal process allows the City to assemble and assess the facts to determine whether an adjustment is warranted. This procedure can improve both customer relations and resulting equity by again providing flexibility to the City to shape the SDC to specific circumstances.

VIII. CONCLUSION

We recommend adoption of the proposed water and sewer SDCs and supporting methodology. They are based on capital improvement plans for both water and sewer that would be separately adopted prior to SDC adoption. We further recommend revised SDC structures which distinguish reimbursement and improvement fees, along with related administrative and accounting procedures. We recommend an SDC credit policy which allows for credits against improvement fees for developer-paid oversizing which provides capacity beyond their requirements through fulfillment of elements of the capital improvement program. Finally, we recommend that the water and sewer SDCs be escalated annually based on the ENR Construction Cost Index.

Based on review with City management, the separate rate evaluation has targeted a fall 2005 implementation date, most likely November 1, 2005. While the City could implement SDC changes sooner based on the schedule currently outlined, we would recommend conforming to the November 1, 2005 date for several reasons. First, consistency in timing of rate and SDC increases, while not necessary, is publicly indicative of the need for both changes as elements of funding for utility capital programs. Second, this timing provides adequate time and notice for developers to complete projects in construction, and reduces potential complaints related to timing and "grandfathering" of projects already underway. Related to this, this date is also roughly at the end of the most active construction season, again allowing completion of work underway.

The resulting recommended City of Grants Pass water and sewer system development charges are summarized in Table VIII-1 below:

Table VIII-1
Proposed SDCs

Service	Existing SDC	Proposed SDC (per ERU)			
		Reimbursement Fee	Improvement Fee	Administrative Charge	Total SDC
Water, Zones 1-3	$821	$1,273	$1,014	$34	$2,321
Water, Zones 4&5	$2,180	$1,143	$1,518	$40	$2,700
Sewer	$1,450	$263	$2,118	$36	$2,416
Sewer, Treatment Only (Redwood)	$136	$217	$1,315	$23	$1,554

APPENDIX A

WATER AND SEWER PLANT-IN-SERVICE, CAPITAL IMPROVEMENT PLANS, AND CAPACITY

Existing Plant-in-Service Data

	Utility	Abbreviated Description	Original Cost	Year in Service	Cost Index at Date of Service [a]	Replacement Cost Multiplier [a]	Estimated Replacement Cost	Accumulated Depreciation [b]	Replacement Cost Net of Depreciation
1	Sewer	Collection, Land	$ 2,500	1990	4732	1.50	$ 3,756	$ -	$ 3,756
2	Sewer	Collection, Land	600	1980	3237	2.20	1,318	-	1,318
3	Sewer	Treatment, Land	1,100	1907	100	71.09	78,199	-	78,199
4	Sewer	Treatment, Land	5,600	1998	5920	1.20	6,725	-	6,725
5	Sewer	Treatment, Jo Gro Compost Building 1	12,579	2004	7109	1.00	12,579	79	12,500
6	Sewer	Treatment, Lab Building	-	1974	2020	3.52	-	-	-
7	Sewer	Treatment, Lab Building	645,159	1974	2020	3.52	2,270,513	387,095	1,883,417
8	Sewer	Treatment, Lab Building	177,809	1974	2020	3.52	625,764	177,809	447,955
9	Sewer	Treatment, Lab Building	120,141	1974	2020	3.52	422,813	120,141	302,672
10	Sewer	Treatment, Lab Building	234,275	1974	2020	3.52	824,486	234,275	590,211
11	Sewer	Treatment, Lab Building	20,268	1974	2020	3.52	71,329	20,268	51,061
12	Sewer	Bridge Street Lift Station Building	30,708	1997	5826	1.22	37,471	5,374	32,097
13	Sewer	Jo Gro Office Control Building	175,680	2001	6334	1.12	197,175	15,372	181,803
14	Sewer	Jo Gro Compost Building 1	683,200	2001	6334	1.12	766,793	59,780	707,013
15	Sewer	Jo Gro Compost Building 2	732,000	2001	6334	1.12	821,564	64,050	757,514
16	Sewer	Treatment, Wastewater Plant Land	72,478	1974	2020	3.52	255,072	72,478	182,594
17	Sewer	Jo Gro, Operations Site	798,000	2001	6334	1.12	895,640	139,650	755,990
18	Sewer	Collection RST Omnieye	26,682	1997	5826	1.22	32,558	18,900	13,658
19	Sewer	Collection, Mainline Reel	6,434	1999	6059	1.17	7,549	3,539	4,010
20	Sewer	Collection, Data Display	5,032	2000	6221	1.14	5,751	2,181	3,570
21	Sewer	Collection, Zoom Upgrade	5,933	2003	6695	1.06	6,300	791	5,509
22	Sewer	Treatment, Equipment, Control Building	379,236	1974	2020	3.52	1,334,648	379,236	955,412
23	Sewer	Treatment, Equipment, Aeration Basin	24,140	1974	2020	3.52	84,956	24,140	60,816
24	Sewer	Treatment, Digester 1	7,092	1974	2020	3.52	24,959	7,092	17,867
25	Sewer	Treatment, Equipment, Primary Clarifier	12,016	1974	2020	3.52	42,288	12,016	30,272
26	Sewer	Treatment, Equipment, Pump House	11,928	1962	872	8.15	97,243	11,928	85,315
27	Sewer	Bridge Street Lift Station Equipment	123,685	1997	5826	1.22	150,923	34,632	116,291
28	Sewer	Treatment, Software	6,869	2002	6538	1.09	7,469	1,431	6,038
29	Sewer	Jo Gro, Control Equipment	361,120	2001	6334	1.12	405,305	63,196	342,109
30	Sewer	Jo Gro, Powerscreen	75,000	2001	6334	1.12	84,177	18,750	65,427
31	Sewer	Jo Gro, Grinder	40,000	2001	6334	1.12	44,894	20,000	24,894
32	Sewer	Jo Gro, Compost Mixer	55,000	2001	6334	1.12	61,730	21,389	40,341
33	Sewer	Jo Gro, Telemetry Equipment	4,114	2003	6695	1.06	4,368	1,234	3,134
34	Sewer	Jo Gro, Telemetry Equipment	2,329	2003	6695	1.06	2,473	699	1,774
35	Sewer	Jo Gro, Telemetry Equipment	249	2003	6695	1.06	264	75	189

Existing Plant-in-Service Data

	Utility	Abbreviated Description	Original Cost	Year in Service	Cost Index at Date of Service [a]	Replacement Cost Multiplier [a]	Estimated Replacement Cost	Accumulated Depreciation [b]	Replacement Cost Net of Depreciation
36	Sewer	Woodwaste Pad	45,861	2003	6695	1.06	48,697	1,529	47,168
37	Sewer	Collection, Webster Sewer Lift Station 1	15,150	1967	1074	6.62	100,281	15,150	85,131
38	Sewer	Collection, Webster Sewer Lift Station 2	25,050	1974	2020	3.52	88,159	25,050	63,109
39	Sewer	Collection, Underground Sewer Lines	138,110	1925	207	34.34	4,743,111	131,205	4,611,907
40	Sewer	Collection, Underground Sewer Lines	33,575	1935	196	36.27	1,217,779	29,557	1,188,222
41	Sewer	Collection, Underground Sewer Lines	247,255	1945	308	23.08	5,706,934	186,348	5,520,587
42	Sewer	Collection, Underground Sewer Lines	215,435	1955	660	10.77	2,320,496	135,078	2,185,418
43	Sewer	Collection, Underground Sewer Lines	1,327,320	1965	971	7.32	9,717,732	996,154	8,721,578
44	Sewer	Collection, Underground Sewer Lines	3,139,940	1975	2212	3.21	10,091,245	1,759,936	8,331,308
45	Sewer	Collection, Underground Sewer Lines	53,170	1980	3237	2.20	116,770	16,500	100,270
46	Sewer	Collection, Underground Sewer Lines	147,110	1981	3535	2.01	295,843	43,790	252,053
47	Sewer	Collection, Underground Sewer Lines	228,965	1982	3825	1.86	425,546	65,255	360,291
48	Sewer	Collection, Underground Sewer Lines	36,330	1983	4066	1.75	63,519	9,894	53,626
49	Sewer	Collection, Underground Sewer Lines	32,995	1984	4066	1.75	57,689	8,568	49,121
50	Sewer	Collection, Underground Sewer Lines	37,330	1985	4066	1.75	65,268	9,221	56,047
51	Sewer	Collection, Underground Sewer Lines	84,340	1986	4295	1.66	139,598	19,764	119,834
52	Sewer	Collection, Underground Sewer Lines	97,825	1987	4406	1.61	157,839	21,685	136,154
53	Sewer	Collection, Underground Sewer Lines	171,325	1988	4519	1.57	269,517	35,807	233,711
54	Sewer	Collection, Underground Sewer Lines	106,405	1989	4615	1.54	163,908	20,891	143,017
55	Sewer	Collection, Underground Sewer Lines	434,370	1990	4732	1.50	652,565	79,779	572,785
56	Sewer	Collection, Underground Sewer Lines	110,255	1991	4835	1.47	162,110	18,854	143,257
57	Sewer	Collection, Underground Sewer Lines	239,995	1992	4985	1.43	342,252	37,999	304,252
58	Sewer	Collection, Underground Sewer Lines	255,860	1993	5210	1.36	349,119	37,270	311,848
59	Sewer	Collection, Underground Sewer Lines	366,525	1994	5408	1.31	481,810	48,748	433,062
60	Sewer	Collection, Underground Sewer Lines	95,550	1995	5471	1.30	124,157	11,498	112,660
61	Sewer	Collection, Underground Sewer Lines	348,540	1996	5620	1.26	440,884	37,526	403,358
62	Sewer	Collection, Underground Sewer Lines	345,535	1997	5826	1.22	421,629	32,826	388,803
63	Sewer	Collection, Underground Sewer Lines	351,520	1998	5920	1.20	422,121	28,942	393,179
64	Sewer	Collection, Underground Sewer Lines	665,095	1999	6059	1.17	780,353	46,335	734,018
65	Sewer	Collection, Underground Sewer Lines	442,365	2000	6221	1.14	505,509	25,215	480,294
66	Sewer	Collection, Underground Sewer Lines	573,635	2001	6334	1.12	643,822	25,431	618,391
67	Sewer	Collection, Underground Sewer Lines	83,960	2002	6538	1.09	91,293	2,659	88,634
68	Sewer	Collection, Underground Sewer Lines	1,146,297	2003	6695	1.06	1,217,181	34,389	1,182,792
69	Sewer	Collection, Underground Sewer Lines	760,860	2004	7109	1.00	760,860	5,072	755,788
70	Sewer	Treatment, Underground Piping	720,759	1974	2020	3.52	2,536,572	432,455	2,104,117

Existing Plant-in-Service Data

	Utility	Abbreviated Description	Original Cost	Year in Service	Cost Index at Date of Service [a]	Replacement Cost Multiplier [a]	Estimated Replacement Cost	Accumulated Depreciation [b]	Replacement Cost Net of Depreciation
71	Sewer	Treatment, Aeration Basin	336,284	1974	2020	3.52	1,183,487	201,770	981,716
72	Sewer	Treatment, *Digester 1*	333,833	1974	2020	3.52	1,174,861	200,300	974,561
73	Sewer	Treatment, Secondary Clarifier	350,379	1974	2020	3.52	1,233,091	210,227	1,022,864
74	Sewer	Treatment, Primary Clarifier	142,050	1974	2020	3.52	499,918	85,230	414,688
75	Sewer	Treatment, Chlorine Contact Chamber	94,908	1962	872	8.15	773,740	79,723	694,017
76	Sewer	Treatment, Digester 2	61,855	1962	872	8.15	504,274	51,958	452,316
77	Sewer	Treatment, Sludge Thickener	33,814	1974	2020	3.52	119,002	20,288	98,713
78	Sewer	Treatment, Old Pumphouse	10,091	1962	872	8.15	82,267	8,476	73,791
79	Sewer	Treatment, Belt Thickener	670,000	1994	5408	1.31	880,738	223,333	657,404
80	Sewer	Treatment, Plant Upgrade to Include Primary Settling Tanks	4,050,000	1996	5620	1.26	5,123,034	810,000	4,313,034
81	Sewer	Treatment, Biofliter Upgrade	1,598,000	2001	6334	1.12	1,793,524	159,800	1,633,724
82	Sewer	Treatment, UV Disinfection System	980,000	1999	6059	1.17	1,149,830	163,333	986,497
83	Sewer	Capital Projects, Trailer, Travel	28,452	2003	6695	1.06	30,211	-	30,211
84	Sewer	Capital Projects, Secondary Treatment Phase I - Segregated [c]	2,754,441	2003	6695	1.06	2,924,768	-	2,924,768
85	Sewer	Capital Projects, Secondary Treatment Phase I - Segregated [c]	3,800,000	2003	6695	1.06	4,034,981	-	4,034,981
86	Sewer	Capital Projects, Secondary Treatment Phase I	3,539,897	2004	7109	1.00	3,539,897	-	3,539,897
87	Sewer	Capital Projects, Second St Sewer Rehab	-	2003	6695	1.06	-	-	-
88	Sewer	Capital Projects, Pine/Booth Sewer Rehab	5,355	2003	6695	1.06	5,686	-	5,686
89	Sewer	Capital Projects, Pine/Booth Sewer Rehab	112,418	2004	7109	1.00	112,418	-	112,418
90	Water	Treatment, Land	2,700	1930	203	35.02	94,553	-	94,553
91	Water	Treatment, Land	104,510	2001	6334	1.12	117,297	-	117,297
92	Water	Treatment, Land	12,295	2002	6538	1.09	13,369	-	13,369
93	Water	Treatment, Land	-	1990	4732	1.50	-	-	-
94	Water	Treatment, Land	89,121	1990	4732	1.50	133,888	-	133,888
95	Water	Distribution, Land	300	1967	1074	6.62	1,986	-	1,986
96	Water	Distribution, Land	500	1954	628	11.32	5,660	-	5,660
97	Water	Distribution, Land	3,750	1952	569	12.49	46,852	-	46,852
98	Water	Distribution, Land	2,350	1952	569	12.49	29,361	-	29,361
99	Water	Distribution, Land	153,500	1983	4066	1.75	268,380	-	268,380
100	Water	Distribution, Land	4,900	1939	236	30.12	147,602	-	147,602
101	Water	Distribution, Land	2,000	1948	461	15.42	30,842	-	30,842
102	Water	Distribution, Land	50,000	1982	3825	1.86	92,928	-	92,928
103	Water	Distribution, Land	37,750	1980	3237	2.20	82,905	-	82,905
104	Water	Distribution, Land	24,670	1980	3237	2.20	54,179	-	54,179
105	Water	Distribution, Land	3,915	1988	4519	1.57	6,158	-	6,158

Existing Plant-in-Service Data

	Utility	Abbreviated Description	Original Cost	Year in Service	Cost Index at Date of Service [a]	Replacement Cost Multiplier [a]	Estimated Replacement Cost	Accumulated Depreciation [b]	Replacement Cost Net of Depreciation
106	Water	Distribution, Land	116,500	1999	6059	1.17	136,689	-	136,689
107	Water	Distribution, Land	45,000	1997	5826	1.22	54,910	-	54,910
108	Water	Distribution, Land	15,350	1997	5826	1.22	18,730	-	18,730
109	Water	Distribution, Land	3,600	2000	6221	1.14	4,114	-	4,114
110	Water	Distribution, Meadow Wood Pump	103,500	2001	6334	1.12	116,164	12,075	104,089
111	Water	Distribution, New Hope Pump	288,540	1999	6059	1.17	338,543	48,090	290,453
112	Water	Distribution, Beacon & Madrone Pump	-	1953	600	11.85	-	-	-
113	Water	Distribution, Beacon & Madrone Pump	4,802	1953	600	11.85	56,896	4,802	52,094
114	Water	Distribution, Beacon & Madrone Pump	12,354	1976	2401	2.96	36,578	11,530	25,048
115	Water	Distribution, Beacon & Hefley Pump	63,881	1997	5826	1.22	77,949	14,906	63,043
116	Water	Distribution, Starlite Place Pump	52,290	1983	4066	1.75	91,424	36,603	54,821
117	Water	Distribution, Champion Pump	94,148	1983	4066	1.75	164,608	65,904	98,705
118	Water	Distribution, Starview Pump	27,925	1993	5210	1.36	38,103	10,239	27,864
119	Water	Treatment, Water Plant Land Improvements	79,631	1982	3825	1.86	147,999	79,631	68,368
120	Water	Distribution, New Hope Pump	7,250	1999	6059	1.17	8,506	1,813	6,694
121	Water	Distribution, New Hope Bulk Water Station	10,061	2003	6695	1.06	10,683	545	10,138
122	Water	Distribution, Starlite Place Pump	27,700	1983	4066	1.75	48,431	27,700	20,731
123	Water	Distribution, Champion Pump	5,854	1983	4066	1.75	10,235	5,854	4,381
124	Water	Water Plant Land Improvements	784,283	2002	6538	1.09	852,779	81,696	771,083
125	Water	Treatment, SCADA	205,000	1999	6059	1.17	240,526	93,958	146,567
126	Water	Treatment, SCADA	257,534	2002	6538	1.09	280,026	44,711	235,315
127	Water	Treatment, Hypochlorite System	270,000	2000	6221	1.14	308,540	51,750	256,790
128	Water	Treatment, Equipment	81,340	1982	3825	1.86	151,175	81,340	69,835
129	Water	Treatment, Effluent Pump	35,490	2003	6695	1.06	37,685	1,331	36,354
130	Water	Treament, Software	6,869	2002	6538	1.09	7,469	1,431	6,038
131	Water	Distribution, Meadow Wood Pump	350,000	2001	6334	1.12	392,824	40,833	351,991
132	Water	Distribution, New Hope Pump	215,610	1999	6059	1.17	252,974	35,935	217,039
133	Water	Distribution, Beacon & Madrone Pump	25,036	1976	2401	2.96	74,128	23,367	50,761
134	Water	Distribution, Beacon & Hefley Pump	221,119	1997	5826	1.22	269,814	51,594	218,219
135	Water	Distribution, Starlite Place Pump	111,883	1983	4066	1.75	195,616	78,318	117,298
136	Water	Distribution, Starlite Place Pump	18,606	2002	6538	1.09	20,231	1,499	18,732
137	Water	Distribution, Champion Pump	132,350	1983	4066	1.75	231,401	92,645	138,756
138	Water	Distribution, Champion Pump	18,606	2002	6538	1.09	20,231	1,499	18,732
139	Water	Distribution, Starview Pump	66,956	1993	5210	1.36	91,361	24,551	66,810
140	Water	Distribution, Lawnridge Pump	124,500	1983	4066	1.75	217,676	91,300	126,376

Existing Plant-in-Service Data

	Utility	Abbreviated Description	Original Cost	Year in Service	Cost Index at Date of Service [a]	Replacement Cost Multiplier [a]	Estimated Replacement Cost	Accumulated Depreciation [b]	Replacement Cost Net of Depreciation
141	Water	Treatment, Plant Upgrades to Include Pumps, Feeder, Etc	1,913,589	1982	3825	1.86	3,556,524	1,913,589	1,642,935
142	Water	Treatment, Water Plant Control House Building	-	1931	181	39.28	-	-	-
143	Water	Treatment, Water Plant Control House Building	98,123	1931	181	39.28	3,853,903	98,123	3,755,780
144	Water	Treatment, Water Plant Addition	72,590	1952	569	12.49	906,928	72,590	834,338
145	Water	Treatment, Water Plant Addition	119,133	1964	936	7.60	904,825	95,306	809,519
146	Water	Treatment, Water Plant Addition	1,383,882	1982	3825	1.86	2,572,031	608,908	1,963,123
147	Water	Treatment, Old Water Intake Structure	8,063	1931	181	39.28	316,684	8,063	308,621
148	Water	Treatment, New Water Intake Structure	188,081	1982	3825	1.86	349,560	82,756	266,805
149	Water	Distribution, Woodson Drive Reservoir	141,050	1949	477	14.90	2,102,148	77,578	2,024,570
150	Water	Distribution, Sherman Land Reservoir	1,226,412	1983	4066	1.75	2,144,260	257,547	1,886,714
151	Water	Distribution, Heigland Loop Reservoir 6	1,139,400	1982	3825	1.86	2,117,646	250,668	1,866,978
152	Water	Distribution, Heigland Loop Reservoir 8	847,600	1983	4066	1.75	1,481,945	177,996	1,303,949
153	Water	Distribution, Ridge Road Reservoir 4	56,324	1953	600	11.85	667,346	28,725	638,620
154	Water	Distribution, Denton Trail Reservoir 11	2,824,832	2001	6334	1.12	3,170,466	87,099	3,083,367
155	Water	Distribution, Sunset Reservoir 13	260,850	1980	3237	2.20	572,871	62,604	510,267
156	Water	Distribution, Highland Avenue Reservoir 15	1,018,500	1985	4066	1.75	1,780,747	193,515	1,587,232
157	Water	Distribution, North Valley Pump	54,320	1985	4066	1.75	94,973	34,403	60,570
158	Water	Distribution, Laurel Ridge Pump	98,600	2001	6334	1.12	110,664	9,860	100,804
159	Water	Distribution, Hilltop Pump	57,280	1988	4519	1.57	90,109	30,549	59,560
160	Water	Distribution, Underground Water Lines	-	1925	207	34.34	-	-	-
161	Water	Distribution, Underground Water Lines	16,825	1925	207	34.34	577,804	16,825	560,979
162	Water	Distribution, Underground Water Lines	-	1935	196	36.27	-	-	-
163	Water	Distribution, Underground Water Lines	408,555	1935	196	36.27	14,818,457	408,555	14,409,902
164	Water	Distribution, Underground Water Lines	142,655	1945	308	23.08	3,292,644	135,522	3,157,122
165	Water	Distribution, Underground Water Lines	1,381,725	1955	660	10.77	14,882,853	1,299,512	13,583,341
166	Water	Distribution, Underground Water Lines	977,865	1965	971	7.32	7,159,261	733,888	6,425,373
167	Water	Distribution, Underground Water Lines	1,815,885	1975	2212	3.21	5,835,952	678,536	5,157,417
168	Water	Distribution, Underground Water Lines	8,992,170	1985	4066	1.75	15,721,922	2,221,066	13,500,856
169	Water	Distribution, Underground Water Lines	11,046,035	1995	5471	1.30	14,353,183	1,329,206	13,023,977
170	Water	Distribution, Underground Water Lines	2,017,400	2000	6221	1.14	2,305,368	114,760	2,190,609
171	Water	Distribution, Underground Water Lines	2,058,500	2001	6334	1.12	2,310,369	91,260	2,219,109
172	Water	Distribution, Underground Water Lines	2,094,800	2002	6538	1.09	2,277,751	66,464	2,211,286
173	Water	Distribution, Underground Water Lines	3,631,599	2003	6695	1.06	3,856,167	72,632	3,783,535
174	Water	Distribution, Underground Water Lines	2,401,926	2004	7109	1.00	2,401,926	16,013	2,385,913
175	Water	Capital Projects, Major Drive Water Line	3,213	2004	7109	1.00	3,213	-	3,213

Existing Plant-in-Service Data

	Utility	Abbreviated Description	Original Cost	Year in Service	Cost Index at Date of Service [a]	Replacement Cost Multiplier [a]	Estimated Replacement Cost	Accumulated Depreciation [b]	Replacement Cost Net of Depreciation
176	Water	Capital Projects, Bulk Water Station	5,007	2004	7109	1.00	5,007	-	5,007
177	Water	Capital Projects, Williams Crossing Pump	571	2004	7109	1.00	571	-	571
178	Water	Capital Projects, Darneille Land Water Line	14,667	2004	7109	1.00	14,667	-	14,667
179	Water	Capital Projects, Redwood Avenue Loop	-	2003	6695	1.06	-	-	-
180	Water	Capital Projects, Starlite Pump Upgrade	23,336	2003	6695	1.06	24,779	-	24,779
181	Water	Capital Projects, Starlite Pump Upgrade	3,542	2004	7109	1.00	3,542	-	3,542
182	Water	Capital Projects, Greenwood Water Line	-	2003	6695	1.06	-	-	-
183	Water	Capital Projects, B Street/Crescent Upsizing	5,433	2003	6695	1.06	5,769	-	5,769
184	Water	Capital Projects, Dowell Road Water Loop	10,125	2004	7109	1.00	10,125	-	10,125
185	**GRAND TOTAL**		**$ 89,821,634**				**$ 203,362,882**	**$ 20,959,982**	**$ 182,402,900**

Data Sources:

[a] *Engineering News Record* Construction Cost Index History. As of June 2004, the CCI was 7109

[b] City of Grants Pass, Year-to-Date Depreciation Detail Report as of 6/30/2004 for Funds 720 and 750.

[c] The following components of the expansion project have been segregated, as they have been built to accommodate customers to 2020; remaining portions of the project serve only limited growth.

Biosolids Dewatering Press: $500,000 of the equipment

UV Disinfection Facility: $1,500,000 of the equipment and structure

Plant Outfall: $800,000 of the structure

Administration Building (laboratory and offices): $500,000 of the structure

Jo-Gro Compost Facility (site clearing and grading): $500,000 of the facility

(Information provided through City communications, 3/17/05.)

Existing Plant-in-Service Data, Summarized from Detailed Fixed Asset Reports

	Utility	Asset Class or Discrete Item	Original Cost	Replacement Cost Net of Depreciation	Data Source	Functional Category (Refer to Key Below)
1	Sewer	Land, Collection	$ 3,100	$ 5,074	a	1
2	Sewer	Land, Treatment	6,700	84,924	a	2
3	Sewer	Buildings, Treatment	12,579	12,500	b	2
4	Sewer	Buildings, Treatment	1,197,652	3,275,317	b	2
5	Sewer	Buildings, Treatment, Bridge Street Lift Station	30,708	32,097	b	5
6	Sewer	Buildings, Treatment	1,590,880	1,646,331	b	2
7	Sewer	Improvements Other Than Buildings, Treatment	72,478	182,594	c	2
8	Sewer	Improvements Other Than Buildings, Treatment	798,000	755,990	c	2
9	Sewer	Machinery & Equipment, Collection	44,082	26,747	d	1
10	Sewer	Machinery & Equipment, Treatment	441,281	1,155,720	d	2
11	Sewer	Machnery & Equipment, Treatment, Bridge Street Lift Station	123,685	116,291	d	5
12	Sewer	Machinery & Equipment, Treatment (Jo Gro)	537,811	477,868	d	2
13	Sewer	Infrastructure, Woodwaste Pad	45,861	47,168	e	2
14	Sewer	Infrastructure, Webster Sewer Lift Station #1	15,150	85,131	e	3
15	Sewer	Infrastructure, Webster Sewer Lift Station #2	25,050	63,109	e	4
16	Sewer	Infrastructure, Underground Sewer Lines	12,317,792	38,986,265	e	1
17	Sewer	Infrastructure, Treatment	9,381,973	14,407,442	e	2
18	Sewer	Machinery & Equipment	28,452	30,211	f	1
19	Sewer	CWIP, Secondary Treatment Phase I	6,294,338	6,464,665	g	2
20	Sewer	CWIP, Secondary Treatment Phase I (To Serve Ultimate Capacity)	3,800,000	4,034,981	g	29
20	Sewer	CWIP, Sewer Rehab	117,773	118,104	g	1
21	Water	Land, Water Treatment	208,625	359,107	h	6
22	Water	Land, Distribution	180,650	518,570	h	7
23	Water	Land, Reservoirs #1, #2, and #3	2,000	30,842	h	8
24	Water	Land, Serman Reservoir #5	50,000	92,928	h	10
25	Water	Land, Ausland Reservoir	37,750	82,905	h	12
26	Water	Land, Reservoir #8	24,670	54,179	h	13
27	Water	Land, Hilltop Pump Station	3,915	6,158	h	17
28	Water	Land, Williams Hwy Pump Station	116,500	136,689	h	18
29	Water	Land, Reservoir #11	45,000	54,910	h	14
30	Water	Land, Meadow Wood Pump Station	3,600	4,114	h	19
31	Water	Buildings, Meadow Wood Pump Station	103,500	104,089	i	19
32	Water	Buildings, New Hope Pump Station	288,540	290,453	i	20
33	Water	Buildings, Beacon & Madrone Pump Station	17,156	77,142	i	21
34	Water	Buildings, Beacon & Hefley Pump Station	63,881	63,043	i	22
35	Water	Buildings, Starlite Place Pump Station	52,290	54,821	i	23
36	Water	Buildings, Champion Pump Station	94,148	98,705	i	24
37	Water	Buildings, Starview Pump Station	27,925	27,864	i	25
38	Water	Improvements Other Than Buildings, Water Plant	79,631	68,368	j	6
39	Water	Improvements Other Than Buildings, New Hope Pump Station	17,311	16,832	j	20
40	Water	Improvements Other Than Buildings, Starlite Place Pump Station	27,700	20,731	j	23
41	Water	Improvements Other Than Buildings, Champion Pump Station	5,854	4,381	j	24
42	Water	Improvements Other Than Buildings, Water Plant	784,283	771,083	j	6
43	Water	Machinery & Equipment, Water Treatment	856,233	750,900	k	6
44	Water	Machinery & Equipment, Meadow Wood Pump Station	350,000	351,991	k	19
45	Water	Machinery & Equipment, New Hope Pump Station	215,610	217,039	k	20
46	Water	Machinery & Equipment, Beacon & Madrone Pump Station	25,036	50,761	k	21
47	Water	Machinery & Equipment, Beacon & Hefley Pump Station	221,119	218,219	k	22

Continued from Prior Page: Existing Plant-in-Service Data, Summarized from Detailed Fixed Asset Reports

	Utility	Asset Class or Discrete Item	Original Cost	Replacement Cost Net of Depreciation	Data Source	Functional Category (Refer to Key Below)
48	Water	Machinery & Equipment, Starlite Place Pump Station	130,489	136,030	k	23
49	Water	Machinery & Equipment, Champion Pump Station	150,956	157,488	k	24
50	Water	Machinery & Equipment, Starview Pump Station	66,956	66,810	k	25
51	Water	Machinery & Equipment, Lawnridge Pump Station	124,500	126,376	k	26
52	Water	Infrastructure, Water Treatment	3,783,461	9,581,121	l	6
53	Water	Infrastructure, Woodson Drive Reservoir #3	141,050	2,024,570	l	8
54	Water	Infrastructure, Sherman Lane Reservoir #5	1,226,412	1,886,714	l	10
55	Water	Infrastructure, Heigland Loop Reservoir #6	1,139,400	1,866,978	l	11
56	Water	Infrastructure, Heigland Loop Reservoir #8	847,600	1,303,949	l	13
57	Water	Infrastructure, Ridge Road Reservoir #4	56,324	638,620	l	9
58	Water	Infrastructure, Denton Trail Reservoir #11	2,824,832	3,083,367	l	14
59	Water	Infrastructure, Sunset Reservoir #13	260,850	510,267	l	15
60	Water	Infrastructure, Highland Avenue Reservoir #15	1,018,500	1,587,232	l	16
61	Water	Infrastructure, North Valley Pump Station	54,320	60,570	l	27
62	Water	Infrastructure, Laurel Ridge Pump Station	98,600	100,804	l	28
63	Water	Infrastructure, Hilltop Pump Station	57,280	59,560	l	17
64	Water	Infrastructure, Underground Water Lines	36,985,940	82,609,418	l	7
65	Water	CWIP, Water Distribution	23,458	23,458	m	7
66	Water	CWIP, Water Distribution	15,558	15,894	m	7
67	Water	CWIP, Starlite Pump Station	26,879	28,322	m	23
	GRAND TOTAL		**$ 89,821,634**	**$ 182,402,900**		
	Reconciles to Detailed Fixed Asset Totals on Worksheet AA?		*Yes.*	*Yes.*		

Key to Functional Categories:

1	Sewer	Transmission & Collection	Transmission & Collection
2	Sewer	Treatment	Treatment
3	Sewer	Webster Lift Station #1	Transmission & Collection
4	Sewer	Webster Lift Station #2	Transmission & Collection
5	Sewer	Bridge Street Lift Station	Transmission & Collection
6	Water	Treatment	Treatment
7	Water	Transmission & Distribution	Transmission & Distribution
8	Water	Woodson Drive Reservoir #3	Storage
9	Water	Ridge Road Reservoir #4	Storage
10	Water	Sherman Reservoir #5	Storage
11	Water	Heigland Loop Reservoir #6	Storage
12	Water	Ausland Reservoir	Storage
13	Water	Heigland Reservoir #8	Storage
14	Water	Denton Trail Reservoir #11	Storage
15	Water	Sunset Reservoir #13	Storage
16	Water	Highland Avenue Reservoir #15	Storage
17	Water	Hilltop Pump Station	Pumping
18	Water	Williams Highway Pump Station	Pumping
19	Water	Meadow Wood Pump Station	Pumping
20	Water	New Hope Pump Station	Pumping
21	Water	Beacon & Madrone Pump Station	Pumping
22	Water	Beacon & Hefley Pump Station	Pumping
23	Water	Starlite Pump Station	Pumping
24	Water	Champion Pump Station	Pumping
25	Water	Starview Pump Station	Pumping
26	Water	Lawnridge Pump Station	Pumping
27	Water	North Valley Pump Station	Pumping
28	Water	Laurel Ridge Pump Station	Pumping
29	Sewer	Treatment (To Serve Ultimate Capacity)	Treatment

Key to Data Sources:

(a) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 720, Account 161 - Land.
(b) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 720, Account 162 - Buildings.
(c) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 720, Account 163 - Improvements Other Than Buildings.
(d) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 720, Account 164 - Machinery & Equipment.
(e) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 720, Account 166 - Infrastructure.
>>> Original cost totals entered above for Data Sources (a) through (e) reconcile to report totals for Fund 720. <<<
(f) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 728, Account 164 - Machinery & Equipment.
(g) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 728, Account 165 - Construction In Progress.
>>> Original cost totals entered above for Data Sources (f) through (g) reconcile to report totals for Fund 728. <<<
(h) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 750, Account 161 - Land.
(i) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 750, Account 162 - Buildings.
(j) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 750, Account 163 - Improvements Other Than Buildings.
(k) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 750, Account 164 - Machinery & Equipment.
(l) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 750, Account 166 - Infrastructure.
>>> Original cost totals entered above for Data Sources (h) through (l) reconcile to report totals for Fund 750. <<<
(m) City of Grants Pass Accounting Detail Report as of 6/30/2004 for Fund 758, Account 165 - Construction In Progress.
>>> Original cost totals entered above for Data Source (m) reconcile to report totals for Fund 758. <<<

Pipeline Allocation Rules

Allocation between Transmission and Local Systems:

Transmission is all pipeline larger than 8-inches in diameter

Collection/Distribution is all pipe including and less than 8-inches in diameter

Allocation by Lineal Feet is Weighted by Unit Cost of Pipe:

Diameter (inches)	2.0	4.0	6.0	8.0	10.0	12.0	14.0	15.0	16.0	18.0	20.0
Capacity Factor (vs. 8 inch)	1.00	1.00	1.00	1.00	1.56	2.25	3.06	3.52	4.00	5.06	6.25
Percentage Eligible	0.0%	0.0%	0.0%	0.0%	36.0%	55.6%	67.3%	71.6%	75.0%	80.2%	84.0%
Sewer Unit Cost [a]	n/a	$80.00	$115.00	$150.00	$152.50	$155.00	n/a	$165.00	n/a	$170.00	n/a
Water Unit Cost [b]	$50.00	$65.00	$65.00	$80.00	$85.00	$95.00	$110.00	n/a	$125.00	$145.00	$165.00

Sewer Pipeline Allocations [c]

	Asset ID	Original Cost	Replacement Cost Net of Depreciation	Lineal Feet by Diameter									
				2.0	4.0	6.0	8.0	10.0	12.0	14.0	15.0	16.0	18.0	20.0
1	0S0001	$ 138,110	$ 4,611,907		228	73,322	17,090	16,326	13,394		1,530		2,348	
2	0S0002	33,575	1,188,222		165	6,426	7,332	1,146	6,683					
3	0S0003	247,255	5,520,587		114	16,716	78,868	16,934	8,389					
4	0S0004	215,435	2,185,418		280	2,104	57,568	5,160	2,826		515			
5	0S0005	1,327,320	8,721,578		407	1,576	214,170	15,392	19,258		13,792		7,390	
6	0S0006	3,139,940	8,331,308			1,286	338,524	33,570	35,815		12,078		11,732	
7	0S0007	53,170	100,270		184		2,257							
8	0S0008	147,110	252,053				5,980							
9	0S0009	228,965	360,291				8,393						317	
10	0S0010	36,330	53,626				1,393							
11	0S0011	32,995	49,121			46	1,189							
12	0S0012	37,330	56,047			213	1,186							
13	0S0013	84,340	119,834				3,069							
14	0S0014	97,825	136,154			307	3,235							
15	0S0015	171,325	233,711			81	2,622	501	2,002					
16	0S0016	106,405	143,017				3,664							
17	0S0017	434,370	572,785				14,635							
18	0S0018	110,255	143,257				3,646							
19	0S0019	239,995	304,252				5,398							
20	0S0020	255,860	311,848		1,910	115	5,779	769	59					
21	0S0021	366,525	433,062				11,243							
22	0S0022	95,550	112,660				2,196		83					
23	0S0023	348,540	403,358				10,215							
24	0S0024	345,535	388,803			397	6,805	2,377						
25	0S0025	351,520	393,179		82	187	8,036		1,125					
26	0S0026	665,095	734,018			146	13,791	3,763						
27	0S0027	442,365	480,294		19	144	12,775		595		947		243	
28	0S0028	573,635	618,391		343		12,319				1,290			
29	0S0029	83,960	88,634				2,099							
30	0S0050	1,146,297	1,182,792				11,360				536			
31	0S0051	760,860	755,788				7,980							
32	CP00003	5,355	5,686	0	3,732	103,046	874,820	95,938	90,229	0	30,688	0	22,030	0
33	CP00003-01	112,417	112,418	0	3,732	103,046	874,820	95,938	90,229	0	30,688	0	22,030	0
34	Land	3,100	5,074	0	3,732	103,046	874,820	95,938	90,229	0	30,688	0	22,030	0
35	M&E	44,082	26,747	0	3,732	103,046	874,820	95,938	90,229	0	30,688	0	22,030	0
36	M&E	28,452	30,211	0	3,732	103,046	874,820	95,938	90,229	0	30,688	0	22,030	0
37	**TOTAL**	**$ 12,511,198**	**$ 39,166,401**											