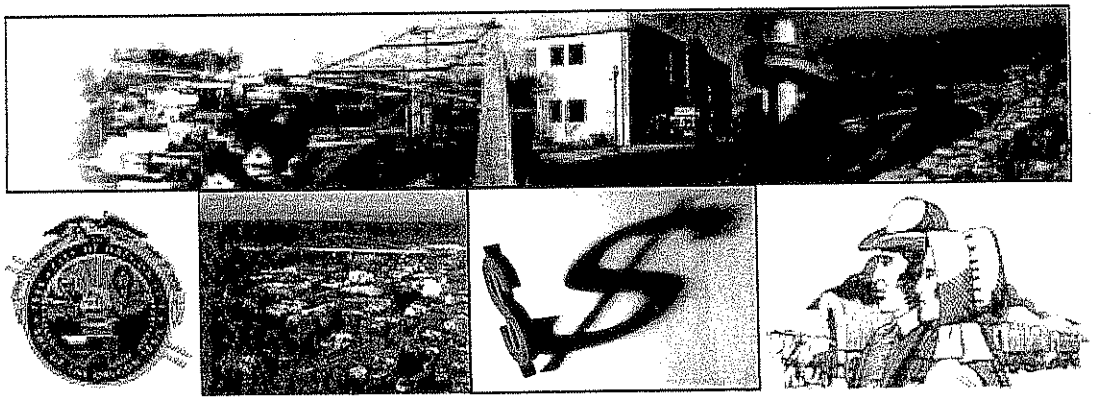
Final Report for

# City of Oregon City

## Sewer System Development Charges

March 2005



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# Introduction

## 1.1 Introduction

HDR Engineering, Inc./Economic and Engineering Services, Inc. (HDR/EES) was retained by the City of Oregon City (City) to review and update its sewer system development charges (SDCs). The objective of this study is to calculate cost-based charges for new customers connecting to the City's system. SDCs provide the means of balancing the cost requirements for new utility infrastructure between existing customers and new customers. The portion of existing plant and future capital improvements that will provide service (capacity) to new customers is included in the SDCs. In contrast to this, the City has future capital improvement projects that are related to renewal and replacement of existing plant in service. These infrastructure costs are typically included within the rates charged to the City's customers, and are not included within the SDC. By establishing cost-based SDCs, the City will assure that "growth pays for growth" and existing utility customers will be sheltered from the financial impacts of growth.

> ***"The objective of this study is to calculate cost-based charges for new customers connecting to the City's system. By establishing cost-based SDCs, the City will assure that 'growth pays for growth' and the City's existing utility customers will be sheltered from the financial impacts of growth."***

## 1.2 Organization of Report

This report documents the approach that was used to analyze and develop the City's SDCs. Our report is divided into four sections. Section 1, provides a brief introduction and overview of the study. Given this brief introduction, Section 2 provides an overview of SDCs and the criteria and general methodology that should be used to calculate and establish cost-based SDCs. Next, Section 3 provides an overview of the requirements under Oregon law for determining SDCs. Finally, Section 4 reviews the City specific calculations of the cost-based sewer SDCs.

## 1.3 Disclaimer

HDR/EES, in its calculation of the system development charges presented in this report, has used "generally accepted" engineering and rate making principles. This should not be construed as a legal opinion with respect to Oregon law. HDR/EES would recommend that the City have its legal counsel review the SDCs as set forth in this report to ensure compliance with Oregon law.

# Section 2
# Overview of System Development Charges

## 2.1 Introduction

An important starting point in establishing system development charges is to have a basic understanding of the purpose of these charges, along with criteria and general methodology that is used to establish cost-based system development charges. Presented in this section of the report is an overview of SDCs and the criteria and general methodology that were used to develop cost-based charges.

## 2.2 Defining System Development Charges

The first step in establishing cost-based system development charges is to gain a better understanding of the definition of a SDC. One definition of an SDC is as follows:

> *"System Development Charges (SDCs) are one-time charges paid by new development to finance construction of public facilities needed to serve them."*[1]

Simply stated, SDCs are a contribution of capital to either reimburse existing customers for the available capacity in the existing system, or help finance planned future growth-related capacity improvements. At some utilities, SDCs may be referred to as impact fees, connection charges, general facility charges, plant investment fees, etc. Regardless of the label used to identify them, their objective is the same. That is, these charges are intended to provide funds to the utility to finance all or a part of the capital improvements needed to serve (accommodate) new customer growth.

## 2.3 Economic Theory and SDCs

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

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

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

## 2.4 System Development Charge Criteria

In the determination and establishment of the SDCs, a number of different criteria are often utilized. The criterion that is often used by utilities to establish SDCs are as follows:

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

The component of customer understanding implies that the charge is easy to understand. This criterion has implications on the way that the fee is implemented and assessed to the customer. Generally for a sewer system, the fee is based on the type and size of customer. This makes it easy for the customer to understand the level of fee based on the type of business and measurement unit, such a gross square feet or number of employees. The other implication of this criterion is that the methodology is clear and concise in its calculation of the amount of infrastructure necessary to provide service.

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

The use of system planning criteria is one of the more important aspects in the determination of the SDCs. System planning criteria provide the "rational nexus" between the amount of infrastructure necessary to provide service and the charge to the customer. The rational nexus test requires that there be a connection (nexus) established between new development and the new or expanded facilities required to accommodate new development; and appropriate apportionment of the cost to the new development in relation to benefits reasonably received. An example using system planning criteria is the determination that a single-family residential customer requires 184 gallons per day of sewer treatment plant capacity. The SDC methodology then charges the customer for 184 gallons per day of treatment plant capacity at the cost of treatment.

One of the driving forces behind establishing cost-based SDCs is that "growth pay for growth." Therefore, SDCs are typically established as a means of having new customers pay an equitable share of the cost of their required capacity (infrastructure). The financing criterion for establishing SDCs relates to the method used to finance infrastructure on the system and assures that customers are not paying twice for infrastructure – once through SDCs and again through rates. The double payment can come in through the imposition of SDCs and then the requirement to pay debt service within a customer's rates. The financing criteria also reviews the basis under which collection line extensions were provided and assures that the customer are not charged for infrastructure that was provided (contributed) by developers.

Many states and local communities have enacted laws which govern the calculation and imposition of SDCs. These laws must be followed in the development of the SDCs. Most

statutes require a "reasonable relationship" between the fee charged and the cost associated with providing service (capacity) to the customer. The charges do not need to be mathematically exact, but must bear a reasonable relationship to the cost burden imposed. As discussed above, the utilization of the planning criteria and the actual costs of construction and the planned costs of construction provide the nexus for the reasonable relationship requirement.

## 2.5 Overview of the SDC Methodology

There are "generally-accepted" methodologies that are used to establish SDCs. Within the "generally accepted" SDC methodology, there are a number of different steps undertaken. The steps undertaken are as follows:

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

The first step in establishing SDCs is the determination of the system planning criteria. This implies calculating the amount of sewer capacity required to serve a single-family residential customer. This is generally based on average flow. While the collection system and treatment facilities are also sized to meet peak requirements, the relationship between average flow and peak flow is generally the same for all customers due to inflow and infiltration which is outside the customer's control.

Once the system planning criteria is determined, the number of equivalent residential units or ERUs can be determined. This is done by utilizing the average day demand and dividing it by the average day usage per ERU. This is a very important calculation since it provides the linkage between the amount of infrastructure necessary to provide service to a set number of customers. This implies that if the system is designed to provide service to demands up to the year 2024, then the infrastructure costs are divided by the ERUs in 2024 or new ERUs to 2024 to determine the cost per ERU.

Once the number of ERUs has been determined, a component by component (e.g. treatment, collection, etc.) analysis is undertaken to determine the component SDC in dollars ($) per ERU. Individual plant components are analyzed separately given that the planning criteria for the development of treatment and collection can differ. The calculation of the component SDC includes both historical assets and planned future assets. Historical assets are adjusted for interest up to ten years. This calculation is done to reflect the fact that existing customers have provided for excess capacity in the system and hence need to be reimbursed for not only their initial investment, but also the "carrying cost" on that investment. The reimbursement to existing customers is accomplished by the fact that without system development charges, rates would otherwise be higher than they would be without SDCs. Once the total cost of the capital infrastructure is determined, it is then divided by the appropriate number of equivalent residential units the infrastructure will serve to develop the cost per ERU for the specific plant component.

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

The last step in the calculation of the SDC is the determination of any credits. This is generally a calculation to assure that customers are not paying twice – once through SDCs and again through debt service included within the sewer rates. A crediting mechanism is also utilized if general obligation or tax revenue has been used to finance the infrastructure.

The final SDC is determined by taking the "gross SDC" and subtracting any credits. This results in a "net SDC" stated in $ per ERU. The general basis of this calculation is the assumption that an ERU is a single family residential unit. Other business types are then assessed ERUs based on the type of business which is equated to an ERU unit determination. An example is schools on a per student basis or hospitals on a per bed basis. These determinations are from sewer design manuals which in turn are based on flow.

## 2.6 Summary

Presented in this section has been a discussion of the criteria typically used in the determination of SDCs. In addition, an overview of the "generally accepted" methodology used in the calculation of the SDCs has been provided. Given this background, the next section of the report discusses any specific legal criteria that must be used by the City in the establishment of their SDCs.

# Section 3
# Legal Considerations in Establishing SDCs for the City

## 3.1 Introduction

An important consideration in establishing system development charges (SDCs) is any legal requirements at the state or local level. The legal requirements often establish the methodology around which the SDCs must be calculated or how the funds must be used. Given that, it is important for the City to have a basic understanding of these legal requirements. This section of the report provides an overview of the legal requirements for establishing SDCs, under Oregon law.

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

## 3.2 Requirements Under Oregon Law

The purpose of Oregon law for the determination of SDCs is to provide a uniform framework for the imposition of SDCs by local governments for specified purposes, and to establish that such fees be used only for capital improvements. Specifically, the requirement for the calculation of SDCs in Oregon is found in ORS 223.297 to 223.314.

*"The requirement for setting SDCs in Oregon is found in ORS 223.297 to 223.314."*

Capital improvements as defined under Oregon law are as follows:

- water supply, treatment and distribution;
- wastewater collection, transmission, treatment and disposal;
- drainage and flood control;
- transportation; and
- parks and recreation.

The particular parts of a sewer system, which are allowed to be included in the calculation of SDCs, are treatment plants, interceptors, force main and pumps, trunk sewers and collection lines.

An SDC means a reimbursement fee, an improvement fee, or a combination thereof. As defined under Oregon law, "improvement fee" means a fee for the costs associated with capital improvements to be constructed. "Reimbursement fee" means a fee for costs association with capital improvements already constructed or under construction.

As defined under Oregon law, the methodology setting forth the calculations for reimbursement fees and improvement fees must make the following considerations:

> *"Determination of amount of system development charges; methodology; credit allowed against charge; limitation of action contesting methodology for imposing charge; notification request.*
>
> *(1)(a) Reimbursement fees must be established or modified by ordinance or resolution setting forth a methodology that is, when applicable, based on:*
>
> *(A) Ratemaking principles employed to finance publicly owned capital improvements;*
>
> *(B) Prior contributions by existing users;*
>
> *(C) Gifts or grants from federal or state government or private persons;*
>
> *(D) The value of unused capacity available to future system users or the cost of the existing facilities; and*
>
> *(E) Other relevant factors identified by the local government imposing the fee.*
>
> *(b) The methodology for establishing or modifying a reimbursement fee must:*
>
> *(A) Promote the objective of future system users contributing no more than an equitable share to the cost of existing facilities.*
>
> *(B) Be available for public inspection.*
>
> *(2) Improvement fees must:*
>
> *(a) Be established or modified by ordinance or resolution setting forth a methodology that is available for public inspection and demonstrates consideration of :*
>
> *(A) The projected cost of the capital improvements identified in the plan and list adopted pursuant to ORS 223.309 that are needed to increase the capacity of the systems to which the fee is related; and*

*(B) The need for increased capacity in the system to which the fee is related that will be required to serve the demands placed on the system by future users.*

*(b) Be calculated to obtain the cost of capital improvements for the projected need for available system capacity for future users.*

*(3) A local government may establish and impose a system development charge that is a combination of a reimbursement fee and an improvement fee, if the methodology demonstrates that the charge is not based on providing the same system capacity."*

In addition to the definitive requirements of the establishment of a SDC as an improvement fee and/or reimbursement fee, other requirements under Oregon law are as follows:

- The SDC must be based on an approved capital improvement plan, public facilities plan, master plan, or comparable plan which lists the capital improvements that may be funded with the improvement fee revenues and the estimated costs and timing for each improvement.
- Proper administrative review procedures must be followed in the enactment of an SDC resolution or ordinance.
- SDC funds must be spent only on facilities for which they were collected.
- A proper accounting system must be established which provides for an annual accounting of SDCs showing the total amount of revenue collected and the projects that were funded.

## 3.3 Summary

This section of the report has reviewed the legal basis for establishing SDCs in Oregon. The next section of the report will provide a detailed discussion of the specific calculation of the SDCs for the City.

# Section 4
# Determination of the City's Sewer System Development Charges

## 4.1 Introduction

This section of the report presents the details and key assumptions in the calculation of the City's sewer system development charges (SDCs). The calculation of the City's SDCs are based upon City specific accounting and planning information. Specifically, the SDCs are based upon the City's fixed asset records; and planning data from the master plan entitled *"City of Oregon City Sanitary Sewer Master Plan Final"*, prepared by Tetra Tech/KCM, Inc. and dated December 2003. The City provided other financial and accounting information.

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

## 4.2 Overview of the City's Sewer System

The City has experienced population growth of more than 50 percent over the last 15 years. In that same timeframe, sewer service has been extended to 34 additional subdivisions, and other capital projects have been undertaken, including projects to separate sewage flows and stormwater flows that previously were conveyed together in combined sewers. The City's urban growth boundary (UGB) encompasses 5,456 acres, including 732 acres that was added in 2003 by adjusting the previous UGB to include four small expansion areas.

The City's sanitary sewer system consists of collector sewers, trunk sewers, and pump stations within the UGB. The collection system discharges into interceptors operated by the Tri-City Service District (TCSD) of Water Environment Services, a department of Clackamas County. TCSD provides wastewater treatment for Oregon City, Gladstone, West Linn, and other portions of Clackamas County under a temporary diversion agreement at the Tri-City Water Pollution Control Plant in northwest Oregon City. A separate SDC is charged by the Tri-City District and is collected by the City and them remitted to Tri-City.

The City's capital improvement plan (CIP) consists of improvements to cure existing deficiencies in the system, replacement of existing sewer lines which currently have capacity, but will be deficient to meet growth and new collection lines required to serve growth. The total CIP is $8.6 million of which $5.6 million or 65% is related to growth.

## 4.3 Present Sewer System Development Charges

The City's current sewer system development charges are shown below in Table 4-1.

| Table 4-1<br>City of Oregon City<br>Present Sewer System Development Charges | |
|---|---|
| **Customer Type** | **SDC** |
| Single Family Residential | $1,308 |
| Other Business Types | Per Schedule |

As shown, the City's charge is based on a single family residential unit (ERU) with other residential types and business based on a schedule which is related to amount of wastewater flow in comparison to a single ERU.

The City's current approach to charging for SDCs appears to be very similar to the contemporary approaches used by other municipal water utilities. Given that, the focus shifts to calculating the cost-based SDC for the City.

## 4.4 Calculation of the City's System Development Charge

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

- Determination of system planning criteria
- Determination of equivalent residential units (ERUs)
- Calculation of the SDC for system component costs
- Determination of any SDC credits

Each of these areas is discussed in more detail below.

### 4.4.1 System Planning Criteria

System planning criteria is used to establish the capacity needs of an equivalent residential unit (ERU). Based upon the planning criteria from the City's master plan and population densities in the City's service area, Table 4-2 provides a summary of the planning criteria used to establish the City's SDCs.

| Table 4-2<br>City of Oregon City<br>Summary of the Sewer System Planning Criteria | |
|---|---|
| **Planning Criteria Description** | |
| Average Domestic Sewer Flow | 80.00 gpcd (1) |
| Average Household Size | 2.3 persons |
| Average Flow per ERU | 184.00 gals/day per ERU |

*(1) – gallons per capita day.*

The ERU for average day usage was determined based on the City's planning basis from the master plan. The use of average day flow is appropriate since additional flows into the system are due to inflow and infiltration which is not a function of the customer type, but of the system configuration.

### 4.4.2 Calculation of Equivalent Residential Units

The planning horizon of this study was 2005 – 2024. This was the planning period utilized in the City's sewer master plan. As a part of this study, a projection of the number of new/additional ERU's per year must be determined, along with the total number of ERU's at 2024. The City's total number of ERUs for each year was determined by dividing the average day usage factor per ERU into the City's total average flow. The total average flow for residential customers was determined based on the City's population projections from the Water Master Plan and applying the planning flow factor of 80 gpcd. Growth to 2024 is projected to be approximately three percent (3%) per year.

A summary of the ERUs for 2005 and 2024 are presented in Table 4-3. Details of the determination of ERUs are provided on Exhibit 1 of the Technical Appendix.

**Table 4-3**
**City of Oregon City**
**Sewer Equivalent Residential Units**

| Description | Calculated ERUs |
|---|---|
| Equivalent Residential Units – 2005 | 12,653 ERUs |
| Equivalent Residential Units – 2024 | 23,023 ERUs |

Given the development of the total sewer ERUs for each year of the planning period, the focus can shift to the calculation of the SDC for each plant component. This aspect of the analysis is discussed in detail below.

### 4.4.3 Calculation of the SDC for the Major System Components

The next step of the analysis is to review each major functional component of plant in service and determine the SDC for that component. In calculating the SDCs for the City, both existing plant assets, along with planned future CIP were included within the calculation. The major components of the City's sewer system that were reviewed for purposes of calculating SDCs were as follows:

- Collection Plant
- Compliance Costs

A brief discussion of the SDC calculated for each of the functional plant components is provided below.

COLLECTION PLANT – To determine the SDC for collection plant, an inventory of the existing system was undertaken, as well as those planned collection system improvements as identified in

the City's CIP. The City's existing assets were adjusted for interest charges up to a maximum of ten years to reflect carrying costs. The cost of the existing collection plant was then divided by the number of ERUs in 2024 resulting in an SDC for existing collection plant of $1,023.87 per ERU. Future collection plant improvements were reviewed to determine the projects or percentage of projects that would provide additional capacity to serve new development. An example is a trunk line that is replaced, but upsized to serve future growth. The growth-related portion of future collection plant was then divided by the number of ERUs added from 2005 to 2024 resulting in a SDC for future collection plant of $538.52 per ERU. Adding together the existing and future collection plant SDCs results in a total SDC of $1,562.39 per ERU. Details of the calculation of the collection plant are provided on Exhibit 2 of the Technical Appendix.

COMPLIANCE COSTS – As allowed under Oregon law, the cost of complying with the SDC Act is allowed to be included in the SDC calculation. The cost of complying with the SDC Act was provided by the City for 2005 to 2009. Each years estimated expenditures were then discounted to 2005 dollars. This amount was divided by the number of new ERUs from 2005 to 2009 resulting in a compliance cost SDC of $38.65 per ERU. Details of the calculation of the compliance cost SDC are provided on Exhibit 3 in the Technical Appendices.

### 4.4.4 Debt Service Credits

The final step in calculating the City's SDCs was to determine if a credit for payment on debt service for the City's outstanding and future planned bonds is applicable. The City currently has an outstanding revenue bond. The City does not anticipate issuing any new debt for the sewer system.

In the determination of the debt service credit, it was assumed that SDC funds could be used to pay for debt service and hence the total debt paid by rates was netted out against the amount of SDC funds projected to be received each year. This net debt service was then divided by the total number of ERUs in each year to determine the debt service credit per ERU. This annual amount was then discounted to 2005 dollars to reflect that a credit was being given for payments in the future.

Based on the annual debt service and number of ERUs for each year for which debt service payments will be made, the credit for debt service payments is $3.30 per ERU. Details of the calculation of debt service credits are provided on Exhibit 4 of the Technical Appendices.

## 4.5 Net Allowable Sewer System Development Charge

Based on the sum of the component costs calculated above, the net allowable sewer SDC can be determined. "Net" refers to the "gross" SDC, net of any debt service credits. "Allowable" refers to concept that the calculated SDC shown on Table 4-4 is the City's cost-based SDC. The City, as a matter of policy, may charge any amount up to the allowable SDC, but not over that amount. Charging an amount greater than the allowable SDC would not meet the nexus test of a cost-based SDC. A summary of the calculated net allowable sewer system development charges for the City is shown below in Table 4-4.

**Table 4-4**
**City of Oregon City**
**Allowable Sewer System Development Charge**

| Plant Component | SDC per ERU |
|---|---|
| Collection Plant | $1,562.39 |
| Compliance Cost | 38.65 |
| Debt Service Credit | (3.30) |
| **Total SDC** | **$1,597.75** |

The SDC shown in Table 4-4 is $1,597.75 for per ERU. This compares to the City's current SDC of $1,308 per ERU, or an increase of $290 per ERU. Details of the net allowable SDC for the City is shown on Exhibit 5 of the Technical Appendices.

For ease of administration, the recommended charge is $1,600 per ERU. Other residential and business types would be assigned ERUs based on the City's current schedule.

As required under Oregon law, the fee is separated into a reimbursement fee component and an improvement fee component. The breakdown is shown in Table 4-5.

**Table 4-5**
**City of Oregon City**
**Sewer System Development Charge Breakdown**

| Plant Component | Reimbursement Fee per ERU | Improvement Fee per ERU |
|---|---|---|
| Collection Plant | $1,023.87 | $538.52 |
| Compliance Cost | 0.00 | 38.65 |
| Debt Service Credit | (3.30) | (0.00) |
| **Total SDC** | **$1,020.58** | **$577.18** |

## 4.6 Key Assumptions

In the development of the system development charges for the City's sewer system, a number of key assumptions were utilized. These are as follows:

- The City's asset records were used to determine the existing plant assets
- The City provided the CIP for future improvements
- The City determined the portion of future improvements that were growth-related
- The interest rate used for calculating interest on existing investments was 5.50%.
- The maximum years of interest utilized were ten (10) years.
- The base year for the CIP was assumed at 2005.

## 4.7 Implementation of the SDCs

The methodology used to calculate the system development charges takes into account inflation. Therefore, HDR/EES would recommend that the City adjust the SDCs each year by an escalation factor to reflect the cost of inflation. The most frequently used source to escalate SDCs is the Engineering News Record (ENR) Construction Cost Index which tracks changes in construction costs for municipal utility projects. This method of escalating the City's SDCs should be used for no more than a four-year to five-year period. After this time period, HDR/EES would recommend that the City update the charges based on the actual cost of infrastructure and any new planned facilities that would be contained in an updated master plan, capital improvement plan or rate study.

## 4.8 Consultant Recommendations

Based on our review and analysis of the City's SDCs, HDR/EES makes the following recommendations:

- The City should revise and update their SDCs for new hookups for the sewer system that are no greater than the SDCs as set forth in this report.
- The City should include within their resolution or ordinance the provision for periodic (annual) adjustments to the SDCs based on changes in the Engineering News Record Construction Cost Index.
- The City should update the actual calculations for the SDCs based on the methodology as approved by the resolution or ordinance setting forth the methodology for SDCs at such time when a new capital improvement plan, public facilities plan, master plan or a comparable plan is approved or updated by the City.

## 4.9 Summary

The sewer SDCs developed and presented in this section of the report is based on the engineering design criteria of the City's sewer system, the value of the existing assets, future capital improvements and "generally accepted" rate making principles. Adoption of the proposed SDCs will provide multiple benefits to the City and create equitable and cost-based charges for new customers connecting to the City's sewer system.

# Technical Appendix

of permit requirements by the applicants is expected to directly affect the actions and practices of many of the aforementioned entities.

### What other DEQ permits are required?

The municipal applicants may be subject to the requirements of other DEQ permits (e.g., regarding discharges from sewage treatment plants), but only the proposed NPDES permit is required for the MS4.

### What legal requirements apply?

The requirement to obtain a permit for discharges to waters of the state and DEQ's authority to issue such permits is found in Oregon Revised Statute (ORS) 468B.050 and OAR 340-045-0015.

The description of storm water permitting requirements is found in Section 402(p) of the federal Clean Water Act and Chapter 40 Code of Federal Regulations (CFR), § 122.26

### What discretionary decisions did DEQ use in deciding to modify the permits?

After issuing renewal permits to these municipal entities in March 2004, environmental advocacy organizations filed a Petitions for Reconsideration on April 26 and 29, 2005, asking DEQ to reconsider a range of permit conditions and issues. On May 17, 2005, DEQ's Director issued an order granting reconsideration. DEQ had full discretion to address whatever issues, contained in the Petition, it deemed appropriate. DEQ chose to address some of the issues outlined in the Petition, and chose not to address others. The proposed modifications to the permits and evaluation reports reflect DEQ's decisions. In addition, DEQ used its discretion in selecting the four Portland metropolitan area permits for reconsideration, while declining to reconsider and modify the permits for the Cities of Salem and Eugene.

### What happens next?

DEQ will review and consider all comments received during the comment period. Following this review, DEQ may issue the permits as proposed or modified, or deny permit issuance.

### Which of the MS4 activities are not under DEQ's jurisdiction?

Worker health and safety is regulated by the Oregon Occupational Safety and Health Division.

### What similar activities take place in the vicinity of these MS4s?

None.

### What other facilities do the permittees operate?

Public drinking water systems and publicly owned treatment works (POTWs) for the management of municipal and industrial wastewater. In addition, these municipalities operate and manage other operations necessary to maintain the infrastructure of their cities (e.g., street maintenance, police, etc.).

### What are the known health effects or environmental impacts of the permitted substances discharged by the facility?

Storm water discharges from MS4s often contain pollutants in quantities that could adversely affect water quality, thus resulting in adverse impacts on local aquatic organisms and other beneficial uses of surface water bodies. Beneficial uses may include, among other things, swimming, fishing and drinking water.

### How are the permitted substances measured?

The permittees conduct self monitoring of specified pollutants and other parameters. The permittees also develop methods of measuring the effectiveness of best management practices described in their required Storm Water Management Plans. This monitoring and measurement information is compiled in reports and submitted to DEQ on a scheduled basis.

City of Oregon City
Sewer System Development Charges
Determination of ERUs
Exhibit 1



| | | |
|---|---|---|
| Average Domestic Sewer Flow | 80.00 | gpcd |
| Average Household Size | 2.30 | |
| Average Flow | 184.00 | gals per day per ERU |

| Year | Average Monthly Flow (mgd) | ERUs | Additional ERUs |
|---|---|---|---|
| 2004 | 2.26 | 12,261 | |
| 2005 | 2.33 | 12,653 | 392 |
| 2006 | 2.40 | 13,058 | 405 |
| 2007 | 2.48 | 13,476 | 418 |
| 2008 | 2.56 | 13,908 | 431 |
| 2009 | 2.64 | 14,353 | 445 |
| 2010 | 2.73 | 14,812 | 459 |
| 2011 | 2.81 | 15,286 | 474 |
| 2012 | 2.90 | 15,775 | 489 |
| 2013 | 3.00 | 16,280 | 505 |
| 2014 | 3.09 | 16,801 | 521 |
| 2015 | 3.19 | 17,339 | 538 |
| 2016 | 3.29 | 17,894 | 555 |
| 2017 | 3.40 | 18,467 | 573 |
| 2018 | 3.51 | 19,058 | 591 |
| 2019 | 3.62 | 19,668 | 610 |
| 2020 | 3.73 | 20,297 | 629 |
| 2021 | 3.85 | 20,947 | 650 |
| 2022 | 3.98 | 21,617 | 670 |
| 2023 | 4.10 | 22,309 | 692 |
| 2024 | 4.24 | 23,023 | 714 |

City of Oregon City
Sewer System Development Charges
Collection Plant SDC
Exhibit 2

| Year | Item | Original Cost | Cost $2005 | Percent SDC Eligible | SDC Eligible |
|---|---|---|---|---|---|
| **Existing Collection Plant** | | | | | |
| 1951 | Sewer Piping | $122,094 | $208,554 | 100% | $208,554 |
| 1962 | Sewer Piping | 157,504 | 269,040 | 100% | 269,040 |
| 1965 | Sewer Piping | 186,792 | 319,068 | 100% | 319,068 |
| 1966 | Sewer Piping | 138,000 | 235,724 | 100% | 235,724 |
| 1968 | Sewer Piping | 26,624 | 45,478 | 100% | 45,478 |
| 1970 | Sewer Piping | 133,632 | 228,263 | 100% | 228,263 |
| 1971 | Sewer Piping | 12,800 | 21,864 | 100% | 21,864 |
| 1972 | Sewer Piping | 102,272 | 174,695 | 100% | 174,695 |
| 1973 | Sewer Piping | 78,336 | 133,809 | 100% | 133,809 |
| 1975 | Sewer Piping | 161,408 | 275,708 | 100% | 275,708 |
| 1976 | Sewer Piping | 32,256 | 55,098 | 100% | 55,098 |
| 1978 | Sewer Piping | 44,352 | 75,760 | 100% | 75,760 |
| 1979 | Sewer Piping | 26,048 | 44,494 | 100% | 44,494 |
| 1983 | Sewer Piping | 416,600 | 711,613 | 100% | 711,613 |
| 1984 | Still Meado Terr. Sewer Lines | 109,571 | 187,163 | 100% | 187,163 |
| 1992 | PH 5 Sewer Separation Proj | 761,156 | 1,300,165 | 100% | 1,300,165 |
| 1992 | Meyers Rd. Sewer Project | 254,666 | 435,007 | 100% | 435,007 |
| 1992 | C-Trunk Sewer Project | 208,994 | 356,992 | 100% | 356,992 |
| 1992 | PH 4 Sewer Separation Proj | 50,036 | 85,469 | 100% | 85,469 |
| 1993 | Hopp Sanitary Sewer Project | 3,353,417 | 5,728,121 | 100% | 5,728,121 |
| 1993 | Sewer Separation Project PH | 743,634 | 1,270,234 | 100% | 1,270,234 |
| 1993 | Sewer Separation Project PH | 58,365 | 99,696 | 100% | 99,696 |
| 1993 | C-Trunk Sewer Project | 31,941 | 54,561 | 100% | 54,561 |
| 1993 | Off-Site Sanitary Sewer & On Site | 12,196 | 20,833 | 100% | 20,833 |
| 1993 | Hopp Sanitary Sewer Project | 2,000 | 3,416 | 100% | 3,416 |
| 1993 | Meyers Rd. Exten Sewer | 0 | 0 | 100% | 0 |
| 1994 | Phase 7 Sewer Project | 1,710,229 | 2,921,318 | 100% | 2,921,318 |
| 1994 | Phase 8 Sewer Project | 720,455 | 1,230,642 | 100% | 1,230,642 |
| 1994 | Glen Oak Sewer | 424,243 | 724,669 | 100% | 724,669 |
| 1994 | Glen Oak Sewer | 243,375 | 415,719 | 100% | 415,719 |
| 1994 | Phase 6 Sewer Project | 168,386 | 287,628 | 100% | 287,628 |
| 1994 | Hopp Sewer Project | 85,500 | 146,046 | 100% | 146,046 |
| 1994 | 1984 Sewer Sucker | 64,650 | 110,432 | 100% | 110,432 |
| 1994 | Phase 5 Sewer Project | 19,478 | 33,271 | 100% | 33,271 |
| 1994 | C-Trunk Sewer | 12,494 | 21,342 | 100% | 21,342 |
| 1994 | Barclay Pump Station | 12,489 | 21,333 | 100% | 21,333 |
| 1995 | Morton Rd Sewer | 96,738 | 165,243 | 100% | 165,243 |
| 1995 | New Const/Sewer Phase 8 | 58,837 | 100,502 | 100% | 100,502 |
| 1995 | Morton Sewer | 4,550 | 7,772 | 100% | 7,772 |
| 1995 | New Const Hopp Sewer | 1,500 | 2,562 | 100% | 2,562 |
| 1996 | Water Development SDC | 110,279 | 178,553 | 100% | 178,553 |
| 1996 | Sewer/Phase 8 Separation | 56,206 | 91,004 | 100% | 91,004 |
| 1996 | Marsh-McBirney Flow Meters | 10,421 | 16,872 | 100% | 16,872 |
| 1996 | Sewer Rodder Machine | 5,989 | 9,696 | 100% | 9,696 |
| 1997 | Sewer SDC Improvement 96-97 | 106,631 | 163,644 | 100% | 163,644 |
| 1998 | Sewer SDC Project South End | 347,445 | 505,422 | 100% | 505,422 |
| 1998 | Sewer New Equipment Project | 46,550 | 67,715 | 100% | 67,715 |
| 1999 | HoppSewer & Settlers Pt Pump | 372,042 | 512,988 | 100% | 512,988 |
| 1999 | Sewer Const. in New Subdivision | 197,012 | 271,649 | 100% | 271,649 |
| 2000 | Sewer | 1,028,771 | 1,344,563 | 100% | 1,344,563 |
| 2000 | Sewer SDC | 561,352 | 733,665 | 100% | 733,665 |
| 2001 | Gravity Trunk - So. End | 64,799 | 80,274 | 100% | 80,274 |
| 2001 | So. End Gravity Trunk | 40,779 | 50,518 | 100% | 50,518 |
| 2002 | Sewer SDC New Construction | 185 | 218 | 100% | 218 |

City of Oregon City
Sewer System Development Charges
Collection Plant SDC
Exhibit 2

| Year | Item | Original Cost | Cost $2005 | Percent SDC Eligible | SDC Eligible |
|---|---|---|---|---|---|
| 2003 | San Sewer, Molalla PH 1 & 2 | 379,316 | 422,188 | 100% | 422,188 |
| 2003 | Chinook Landing Sewer Lines - 8" | 25,700 | 28,605 | 0% | 0 |
| 2003 | Chinook Landing Sewer Lines - 4" | 22,300 | 24,820 | 0% | 0 |
| 2003 | Chinook Landing Manholes | 11,000 | 12,243 | 0% | 0 |
| 2003 | Clackamette Place Sewer Lines - 8" | 0 | 0 | 0% | 0 |
| 2003 | Clackamette Place Sewer Lines - 4" | 8,100 | 9,016 | 0% | 0 |
| 2003 | Clackamette Place Manholes | 0 | 0 | 0% | 0 |
| 2003 | Jennifer's Estates Sewer Lines - 8" | 20,900 | 23,262 | 0% | 0 |
| 2003 | Jennifer's Estates Sewer Lines - 4" | 15,400 | 17,141 | 0% | 0 |
| 2003 | Jennifer's Estates Manholes | 2,000 | 2,226 | 0% | 0 |
| 2003 | Trail View Sewer Lines - 8" | 66,020 | 73,482 | 0% | 0 |
| 2003 | Trail View Sewer Lines - 4" | 38,100 | 42,406 | 0% | 0 |
| 2003 | Trail View Manholes | 20,890 | 23,251 | 0% | 0 |
| 2003 | Hazel Creek Farms Sewer Lines - 8" | 111,975 | 124,631 | 0% | 0 |
| 2003 | Hazel Creek Farms Sewer Lines - 4" | 46,200 | 51,422 | 0% | 0 |
| 2003 | Hazel Creek Farms Manholes | 50,900 | 56,653 | 0% | 0 |
| 2003 | Chestnut Circle Sewer Lines - 8" | 36,600 | 40,737 | 0% | 0 |
| 2003 | Chestnut Circle Sewer Lines - 4" | 17,000 | 18,921 | 0% | 0 |
| 2003 | Chestnut Circle Manholes | 16,000 | 17,808 | 0% | 0 |
| 2003 | Dressel Partition Sewer Lines - 8" | 2,400 | 2,671 | 0% | 0 |
| 2003 | Dressel Partition Sewer Lines - 4" | 200 | 223 | 0% | 0 |
| 2003 | Dressel Partition Manholes | 0 | 0 | 0% | 0 |
| 2003 | Maxwell Meadows Sewer Lines - 8" | 19,900 | 22,149 | 0% | 0 |
| 2003 | Maxwell Meadows Sewer Lines - 4" | 8,700 | 9,683 | 0% | 0 |
| 2003 | Maxwell Meadows Manholes | 13,000 | 14,469 | 0% | 0 |
| 2003 | Maple Lane Ct Sewer Sewer Lines - 8" | 16,300 | 18,142 | 0% | 0 |
| 2003 | Maple Lane Ct Sewer Sewer Lines - 4" | 800 | 890 | 0% | 0 |
| 2003 | Maple Lane Ct Sewer Sewer Lines - 6" | 700 | 779 | 0% | 0 |
| 2003 | Maple Lane Ct Sewer Manholes | 8,500 | 9,461 | 0% | 0 |
| 2004 | BC-COL-1 | 180,000 | 189,900 | 100% | 189,900 |
| 2004 | GO-COL-1 | 383,400 | 404,487 | 100% | 404,487 |
| **Total Existing Collection Plant** | | $15,318,382 | $24,217,749 | | $23,572,656 |
| ERUs at 2024 | | | | | 23,023 |
| **Existing Collection Plant SDC** | | | | | **$1,023.87** |
| **Future Collection Plant Additions** | | | | | |
| 2004-08 | BW-COL-1 | | 315,000 | 33% | 105,000 |
| 2004-08 | TW-COL-1 | | 115,000 | 0% | 0 |
| 2009-13 | HO-COL-1 | | 260,000 | 65% | 170,000 |
| 2009-13 | BC-COL-2 | | 300,000 | 74% | 220,833 |
| 2009-13 | BC-COL-3 | | 650,000 | 74% | 478,472 |
| 2009-13 | MC-COL-1 | | 85,000 | 7% | 6,296 |
| 2009-13 | BW-COL-2 | | 145,000 | 25% | 36,250 |
| 2009-13 | GO-COL-2 | | 40,000 | 71% | 28,571 |
| 2004-13 | CA-COL-1 | | 735,000 | 100% | 735,000 |
| 2004-13 | SE-COL-1 | | 165,000 | 100% | 165,000 |
| 2004-13 | SE-COL-2 | | 270,000 | 100% | 270,000 |
| 2004-13 | SP-COL-1 | | 695,000 | 100% | 695,000 |
| 2004-13 | Z1-COL-1 | | 400,000 | 100% | 400,000 |
| 2004-13 | Z1-COL-2 | | 285,000 | 100% | 285,000 |
| 2004-13 | GO-COL-3 | | 130,000 | 100% | 130,000 |
| 2004-13 | BC-COL-4 | | 290,000 | 100% | 290,000 |

City of Oregon City
Sewer System Development Charges
Collection Plant SDC
Exhibit 2

| Year | Item | Original Cost | Cost $2005 | Percent SDC Eligible | SDC Eligible |
|---|---|---|---|---|---|
| 2004-13 | PE-COL-1 | | 145,000 | 100% | 145,000 |
| 2004-13 | Z2-COL-1 | | 410,000 | 100% | 410,000 |
| 2004-08 | Amanda/Riverview | | 470,000 | 0% | 0 |
| 2004-08 | Cook | | 480,000 | 19% | 91,685 |
| 2004-08 | Pease Rd | | 1,135,000 | 49% | 554,699 |
| 2004-08 | Newell Crest | | 40,000 | 0% | 0 |
| 2004-09 | Barclay Hills | | 450,000 | 11% | 49,500 |
| 2004-10 | Hidden Creek | | 40,000 | 22% | 8,889 |
| 2004-11 | Hilltop | | 210,000 | 0% | 0 |
| 2004-12 | Glen Oak Road | | 295,000 | 100% | 295,000 |
| 2004-13 | P.S. Flow Meters | | 30,000 | 47% | 14,151 |
| **Total Future Collection Plant Additions** | | | **$8,585,000** | | **$5,584,348** |
| ERUs (2024 ERUs less 2005 ERUs) | | | | | 10,370 |
| **Future Collection Plant SDC** | | | | | **$538.52** |
| **Total Collection Plant SDC** | | | | | **$1,562.39** |

City of Oregon City
Sewer System Development Charges
Compliance Costs
Exhibit 3

| Year | Amount | Amount 2005/$ | Additional ERUs |
|---|---|---|---|
| 2005 | $25,000 | $25,000 | 392 |
| 2006 | 15,375 | 14,573 | 405 |
| 2007 | 15,759 | 14,159 | 418 |
| 2008 | 16,153 | 13,756 | 431 |
| 2009 | 16,557 | 13,365 | 445 |
| **Total** | **$88,845** | **$80,854** | **2,092** |
| **Compliance Cost SDC per ERU** | | | **$38.65** |

City of Oregon City
Sewer System Development Charges
Debt Service Credit
Exhibit 4



| Year | Total Existing Debt | New Debt Service | Total Debt Service | SDC Revenue | Net Debt Service | ERUs | Debt/ ERU | Debt/ERU ($2005) |
|---|---|---|---|---|---|---|---|---|
| 2005 | $677,614 | $0 | $677,614 | $626,984 | $50,630 | 12,261 | $4.13 | $2.06 |
| 2006 | 679,669 | 0 | 679,669 | 663,228 | 16,441 | 12,653 | 1.30 | 1.23 |
| 2007 | 680,906 | 0 | 680,906 | 701,566 | 0 | 13,058 | 0.00 | 0.00 |
| 2008 | 681,228 | 0 | 681,228 | 742,121 | 0 | 13,476 | 0.00 | 0.00 |
| 2009 | 680,531 | 0 | 680,531 | 785,019 | 0 | 13,908 | 0.00 | 0.00 |
| 2010 | 678,784 | 0 | 678,784 | 830,398 | 0 | 14,353 | 0.00 | 0.00 |
| 2011 | 675,956 | 0 | 675,956 | 878,400 | 0 | 14,812 | 0.00 | 0.00 |
| 2012 | 681,568 | 0 | 681,568 | 929,177 | 0 | 15,286 | 0.00 | 0.00 |
| 2013 | 649,545 | 0 | 649,545 | 982,888 | 0 | 15,775 | 0.00 | 0.00 |
| 2014 | 616,722 | 0 | 616,722 | 1,039,705 | 0 | 16,280 | 0.00 | 0.00 |
| 2015 | 613,877 | 0 | 613,877 | 1,099,806 | 0 | 16,801 | 0.00 | 0.00 |
| 2016 | 614,422 | 0 | 614,422 | 1,163,381 | 0 | 17,339 | 0.00 | 0.00 |
| 2017 | 618,294 | 0 | 618,294 | 1,230,631 | 0 | 17,894 | 0.00 | 0.00 |
| 2018 | 615,601 | 0 | 615,601 | 1,301,769 | 0 | 18,467 | 0.00 | 0.00 |
| 2019 | 616,462 | 0 | 616,462 | 1,377,019 | 0 | 19,058 | 0.00 | 0.00 |
| 2020 | 615,750 | 0 | 615,750 | 1,456,618 | 0 | 19,668 | 0.00 | 0.00 |
| 2021 | 0 | 0 | 0 | 1,540,819 | 0 | 20,297 | 0.00 | 0.00 |
| 2022 | 0 | 0 | 0 | 1,629,888 | 0 | 20,947 | 0.00 | 0.00 |
| 2023 | 0 | 0 | 0 | 1,724,104 | 0 | 21,617 | 0.00 | 0.00 |
| **Total Debt Service Credit ($ per ERU)** | | | | | | | | **$3.30** |

City of Oregon City
Sewer System Development Charges
Proposed SDC
Exhibit 5



| Plant Component | SDC Calculation Results |
|---|---|
| Collection Plant | $1,562.39 |
| Compliance Cost | $38.65 |
| Debt Service Credit | (3.30) |
| **Total** | $1,597.75 |
| **Net Sewer System Development Charge** | **$1,600** |

City of Oregon City
Sewer System Development Charges
Proposed SDC
Exhibit 5

| Item | Reimbursement | Improvement | Total |
|---|---|---|---|
| Collection Plant | $1,023.87 | $538.52 | $1,562.39 |
| Compliance Cost | | 38.65 | $38.65 |
| Debt Service Credit | ($3.30) | 0.00 | ($3.30) |
| Total | $1,020.58 | $577.18 | $1,597.75 |