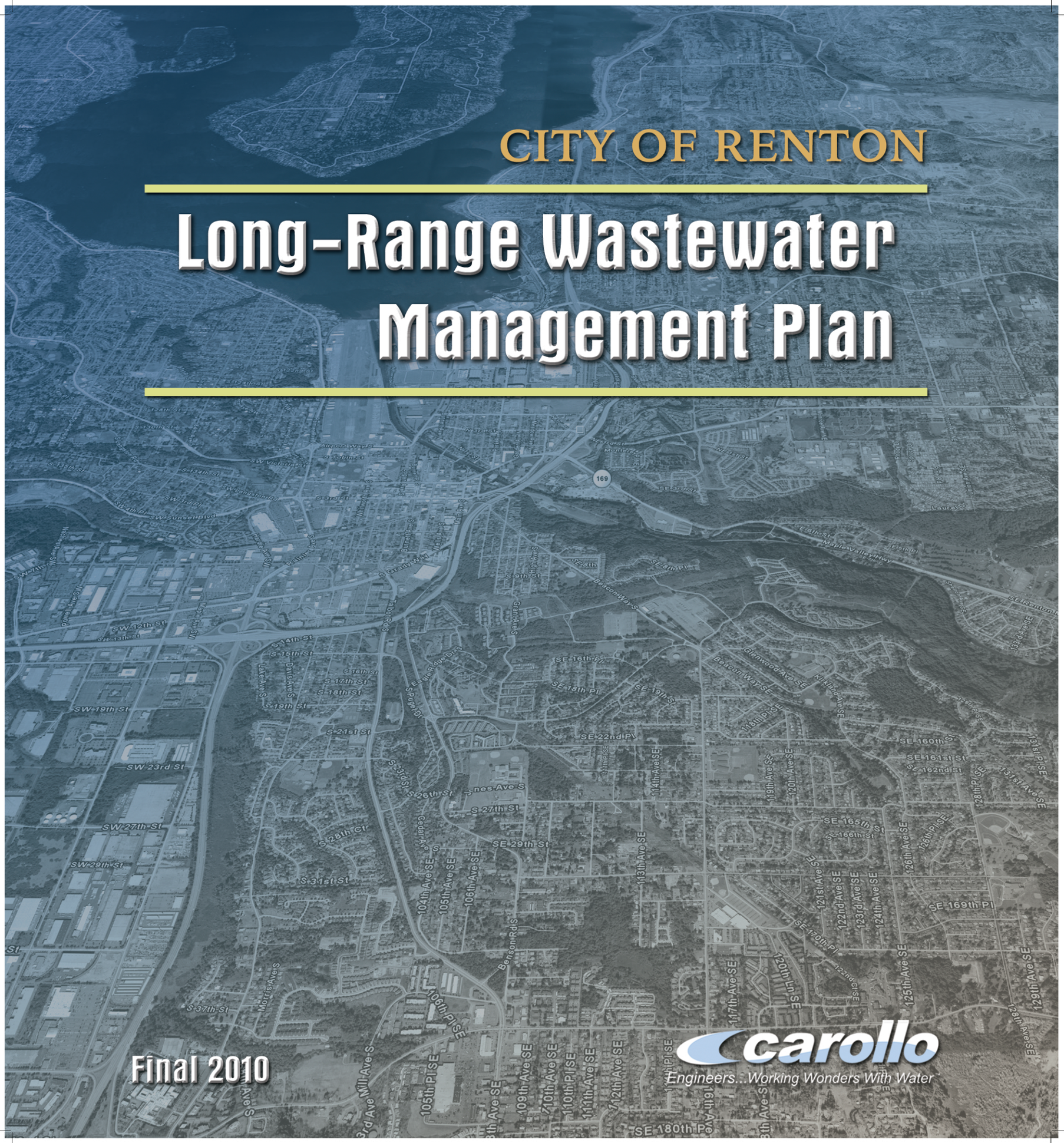
CITY OF RENTON

# Long-Range Wastewater Management Plan



Final 2010

carollo

Engineers...Working Wonders With Water™

# CITY OF RENTON

## LONG-RANGE WASTEWATER MANAGEMENT PLAN
### A COMPREHENSIVE SEWER SYSTEM PLAN
Final 2010

---


**MAYOR**
Denis Law

**PUBLIC WORKS DEPARTMENT ADMINISTRATOR**
Gregg Zimmerman

**UTILITY SYSTEMS DIVISION STAFF**
Lys Hornsby
David Christensen
Michael Benoit

**MAINTENANCE SERVICES DIVISION STAFF**
Richard Marshall
Stan Job

**CITY COUNCIL**
Don Persson, President
Terri Briere, President Pro Tem
Randy Corman, Councilmember
Marcie Palmer, Councilmember
King Parker, Councilmember
Greg Taylor, Councilmember
Rich Zwicker, Councilmember

**PREPARED BY**

City of Renton

with the assistance of
Carollo Engineers

# CITY OF RENTON

## LONG-RANGE WASTEWATER MANAGEMENT PLAN
## A COMPREHENSIVE SEWER SYSTEM PLAN
## Final 2010

---

This plan was prepared under the direction of the following registered professional engineer.

Lys Hornsby, Utility Systems Director

**City of Renton**

**LONG-RANGE WASTEWATER MANAGEMENT PLAN**

**TABLE OF CONTENTS**

**Page No.**

## LIST OF APPENDICES



## LIST OF TABLES

## LIST OF FIGURES

Chapter 1

# SUMMARY AND INTRODUCTION

## 1.1 PURPOSE OF PLAN

The purpose of the Renton Long-Range Wastewater Management Plan (LRWWMP) is to present policy and design criteria and to recommend facility improvements. The data used for the LRWWMP was current as of December 31, 2007 and the LRWWMP was developed in 2008 and 2009 for approval in 2010. This plan will be used as a guide in maintaining and improving the sanitary sewer system over the next six years in order to provide the Renton Sewer Service Area with an effective, safe and reliable sewer system. While this plan is an update to the 1998 Long-Range Wastewater Management Plan adopted in 1999; it is a re-evaluation of the entire sanitary sewer system and a stand-alone document, not a supplement. A summary of this plan's findings and recommendations are presented in this chapter.

The plan results from an evaluation of the existing sanitary sewer system and recommendations to resolve existing deficiencies and concerns, and to accommodate growth. The improvements identified in this plan are based on the requirements of the Washington State Department of Health, Washington State Department of Ecology, King County Comprehensive Plan, and City Comprehensive Plan. The City's Comprehensive Plan is the overall guidance for future growth within the City of Renton. This LRWWMP is an element of the City's Comprehensive Plan.

The Renton sanitary sewer system is large, and because of the topography, complex in its operation. The condition of the current system, as well as the need for improvements, has been documented in this report. Due to the complexity of this system and the number of issues that must be addressed, this report is organized so that a reader may review a summary of it and its recommendations in this chapter without reading the background or detailed information that led to those results.

The LRWWMP provides a recognized framework for making decisions about Renton's sanitary sewer service area, which includes properties both inside and outside the City limits. It is intended to aid decision-makers as well as users, including the Wastewater Utility, City Council members, the Mayor and staff, builders, developers, community groups, and other government agencies. The LRWWMP will be a useful tool in the following ways:

- As a framework for improvements and operations that govern sanitary sewer system developments in the Renton Wastewater Utility service area. The LRWWMP provides a basis for allocating improvements and costs to new sanitary sewer system users such as home and apartment builders, and commercial developers. It thus provides officials with partial direction for approving building permits and upgrading the system.

- To provide a guideline for improving the existing system so that each customer receives adequate sanitary sewer service. It is intended that City officials be able to use these guidelines to maintain a high quality of service at a reasonable cost.
- To provide a basis for accommodating changes that occur but that cannot be forecast in the LRWWMP. To this end, the LRWWMP lists policy issues and operational criteria that can be used to develop alternatives and directions for development, improvements, and operations.

## 1.2 SCOPE OF STUDY

The scope of study includes the following:

- Coordinate LRWWMP with adjacent utility systems and identify areas for potential service area boundary adjustments.
- Document City policies regarding growth and service areas.
- Estimate wastewater flow rates using land use designations.
- Analyze the existing system to determine its deficiencies and needed improvements.
- Prepare a Capital Improvement Program and estimate its construction costs.
- Document, in summary form, the existing operations and maintenance program and recommend improvements and staff additions.
- Analyze the recent financial performance of the sewer utility and develop a financial operating projection statement.

This LRWWMP is arranged in eight major sections:

- Chapter I provides a summary of the recommendations and conclusions presented in this LRWWMP.
- Chapter II provides a general overview of the existing sewer system and a definition of terms.
- Chapter III presents specific policies that guide the operation of the sewer system.
- Chapter IV examines the land use policies that guide how the City accommodates growth and presents the land uses, joint use agreements and design criteria that were used to develop wastewater saturation flow rates on which the computer hydraulic analysis was based.
- Chapter V describes and analyzes all components in the existing system and presents their recommended improvements.

- Chapter VI further describes the improvements necessary to resolve existing deficiencies and accommodate growth. The proposed improvements are also listed by priority and by project type.
- Chapter VII examines the operation and maintenance programs for the Wastewater Utility.
- Chapter VIII presents the costs of the proposed improvements and the anticipated user increases that will be necessary to support them.

## 1.3 LRWWMP REQUIREMENTS

This update to the LRWWMP is inspired by the need to provide constant evaluation of our sewer system and operating policies in order to meet the needs of the customers and to ensure compatibility with the City and County's Comprehensive plans. This updated LRWWMP is prepared in conformance with Chapter 173-240 of the Washington Administrative Code (WAC), which requires that a plan include the following information shown in Table 1.1.

**Table 1.1 WAC Plan Requirements**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Requirement | Location in Plan |
|---|---|
| The purpose and need for the proposed plan | Chapter 1 |
| A discussion of who will own operate and maintain the system | Chapter 2 |
| The existing and proposed service boundaries | Figure 2.1 |
| Layout map including: | |
| sewer service area boundaries and existing sewers | Figure 2.1, 2.2, 2.3 |
| existing sewers and proposed improvements | Figure 6.1 |
| existing pump stations and force mains | Figure 2.6 |
| topography and elevation | Figure 2.2 |
| bodies of water and water systems (sources of supply, treatment facilities and storage reservoirs) | Figure 4.4 |
| Population trend and population projection | Table 4.3 |
| Existing domestic or industrial wastewater treatment facility | Section 2.1 |
| A discussion of any infiltration and inflow problems | Section 5.2.7 |
| A statement regarding the provisions for treatment and the adequacy of treatment | Not included, service performed by King County |
| List of all establishments producing wastewater including quantities, periods of production, the character of the wastewater and considerations for future industrial production | Section 5.2.5 |
| Location of all existing private and public wells or water supply sources | Figure 4.4 |
| Discussion of the alternatives evaluated | Chapter 6 |
| A table that shows the cost per service in terms of both debt service and operation and maintenance costs of all facilities (existing and proposed) | Chapter 8 |
| A statement regarding compliance with any adopted water quality management plan | Chapter 3 |
| A statement regarding compliance with the State Environmental Policy Act (SEPA) | Appendix C |

The Revised Code of Washington (RWC) 90.48.112 also requires that wastewater plans "must include a statement describing how applicable reclamation and reuse elements will be coordinated." A statement regarding reclaimed water coordination is included in Section 4.3.6.8.

## 1.4 EXISTING SEWER SYSTEM

The City owns, operates, and maintains its sanitary sewer system. This system consists of approximately 191 miles of gravity sewer, 23 sewage lift stations and force mains, and approximately 5,107 manholes. Wastewater is discharged to King County facilities at 79 locations within the City Service Area from which it is conveyed to and treated by King County's South Treatment Reclamation Plant.

The City of Renton Service Area is divided into six major wastewater collection basins: Black River, Downtown, East Cedar River, East Lake Washington, May Valley, and West Cedar River. For the most part, these major collection basins follow the natural drainage patterns of the Renton service area. For the purposes of monitoring and modeling the sanitary sewer system, the major collection basins are divided into one or more model basins. King County developed 11-model basin for the Renton service area as part of its Infiltration and Inflow Program. Each model basin is the area tributary to the downstream location where the City and King County used meters to collect flow data during the 2000/2001 and 2001/2002 flow monitoring seasons for King County's Infiltration and Inflow Program. This flow data was used for the creation and calibration of the City's hydraulic sewer model developed by Roth Hill and used in this LRWWMP.

## 1.5 POLICIES AND DESIGN CRITERIA

Policies, design criteria, and standards used for planning and operating the sanitary sewer system are based on laws and policies that originate from several sources. All these policies and standards have the general purpose of providing an acceptable level of service to the sanitary sewer customers. Policies presented in this LRWWMP include the following: customer service policies, financial policies, facility policies, and organizational policies. Analysis and design criteria for the sanitary sewer system are based on standards presented in the *Criteria for Sewage Works Design* prepared by the Washington State Department of Ecology as well as standards set by King County Department of Natural Resources - Wastewater Treatment Division and the City of Renton.

## 1.6 PLANNING CONSIDERATIONS

The City of Renton Wastewater Utility has a service area that encompasses a wide variety of residential, commercial, and industrial land uses over 13,484 acres. There are several adjacent utility systems surrounding the City's existing service area, which limit the expansion of the City's sewer system. The greatest potential for expansion of the City's

sanitary sewer system is within the May Valley, Skyway and East Renton areas that currently either do not have existing or adequate sanitary sewer facilities.

Future sewer system requirements are based upon growth projections within the established sewer service area, derived from the Renton Traffic Analysis Zone (RTAZ) projections. In addition to the RTAZ projections, future planning data for areas outside the current City boundaries was based on Traffic Analysis Zone (TAZ) data obtained from the Puget Sound Regional Council (PSRC). Based on these sources the residential population within the service area is expected to grow from 44,504 in 2001 to 102,901 by the ultimate saturation year, which represents a growth of approximately 230 percent. The ultimate saturation year is anticipated to be after 2030. The commercial population is excepted to grow from 49,128 in 2001 to 103,357 at ultimate saturation representing a growth of 210 percent.

Wastewater flow generation was modeled based on an assumed domestic generation of 100 gals/d-person while infiltration and inflow (I/I) is modeled at 1,500 gallons per acre per day (gpad). Peak storms were assumed to increase the flow rate by a factor of 2 to 1.

## 1.7 KEY ISSUES

This LRWWMP addresses the following key issues:

- The need and timing of the replacement of older, deteriorating sanitary sewer facilities within large, neighborhood, size areas of the City.
- The evaluation of Renton's facilities for system capacity, to address both system deficiencies and potential development within Renton's sewer service area.
- The evaluation of sanitary sewer lift stations for removal, rehabilitation and replacement.
- The City's I/I program in coordination with the overall King County program to evaluate option and needs for I/I reduction.
- Review of industrial waste and grease discharges to the sewer system and the need for monitoring and coordination with the public to eliminate problems that potentially lead to sewer overflows.

Some of these issues were also addressed during preparations of the 1992 and 1998 Long-Range Wastewater Management Plans.

## 1.8 SYSTEM ANALYSIS

A hydraulic and a structural analysis were conducted to determine how well the existing system achieved current policies and technical, engineering standards. The LRWWMP

identifies where the system failed to meet those objectives and recommends improvements to the existing system or construction of new facilities to achieve them.

A hydraulic analysis was performed by a computer simulation of the existing system to determine its ability to convey wastewater at saturation flow rates. The Wastewater Utility's computer model was used to analyze the system and to size future facilities. This model was updated in 2006 using the MOUSE software program. The software platform was chosen to be consistent with the software platform used by King County regional infiltration and inflow study. The model was calibrated to the year 2001 and then expanded for the 2030 ultimate buildout condition. This computer model will continue to be used by the City as an analytical, planning and management tool. A structural analysis, which is a visual inspection of the existing system, was also conducted and was based on video, as well as actual, physical inspections. Based on the hydraulic model analysis, flow projections were developed for each mini-basin. Between 2001 and the ultimate buildout, peak flows increased by an average of 1.6 times for each mini-basin. However, seven of the 53 basins actually experienced a decrease in flow with the highest decrease for the ultimate year modeled at 45 percent of the 2001 flow. Additionally, the model projected that for a couple of the mini-basins, the flow increase would be considerably higher than average, with the largest modeled ultimate peak flow increase being 7.65 times greater than the 2001 condition.

The analysis revealed deficiencies that cover a broad range of areas. The hydraulic deficiencies identified are inadequate slopes (inability to achieve carrying velocities), insufficient capacity to handle wastewater flow rates, pipes that are less than 8-inches in diameter and sections that have reverse slopes. Structural deficiencies identified are pipe sag, and root and grease problems. The Renton sewer system has these hydraulic and structural problems in varying degrees throughout the system.

## 1.9 SEPA AND APPROVAL PROCESS

A SEPA Checklist has been prepared for this LRWWMP and is presented in Appendix C. It is anticipated that this proposed LRWWMP will not have a probable significant adverse impact on the environment and that an environmental impact statement (EIS) will not be required. However, many of the projects proposed herein will require SEPA checklists and an engineering determination will be made with each individual project.

This LRWWMP includes review by adjacent utility systems. All comments are include in Appendix D.

## 1.10 CONCLUSIONS AND RECOMMENDATIONS

In the development of this LRWWMP, the following conclusions were reached:

1. A substantial percentage of the system has reached or is reaching the end of its useful life and needs to be replaced. The projects of highest concern are:
    a. Several system wide projects including: miscellaneous sewer projects and emergency repairs, Earlington sanitary sewer replacements, Renton Central Business District sewer replacement, Renton Hill sanitary sewer replacement.
    b. Two projects in the West Cedar River Basin: Heather Downs/Maplewood interceptor improvement and the Falcon Ridge lift station rehabilitation.
    c. Several projects in the East Cedar River Basin including: the Central Plateau interceptor, East Cedar River collection sewers, Evendell lift station elimination, East Renton lift station elimination and the Highlands Estates lift station elimination.
    d. Several projects in the Lake Washington East Basin including: Stonegate/Summerwind flow diversion, the Duval interceptor, the Westview lift station replacement/rehabilitation, the Sierra Heights sewer system construction and the Lake Washington Beach lift station rehabilitation.
    e. Three projects in the Black River Basin including: the Thunder Hill interceptor replacement, the SW 34th street interceptor replacement and the Lind Avenue lift station rehabilitation.
    f. Several projects in the Downtown Basin including: Earlington lift station elimination, the Shattuck Ave S. interceptor downsizing, the Renton Center sewer extension, the Airport lift station rehabilitation and the North Earlington collection system.
    g. Two projects in the May Valley Basin including: the Misty Cove/Baxter lift station replacement, and the Denny's lift station rehabilitation.
2. Continue development of the gravity sewer system in order to allow the elimination of existing sewage lift stations. These lift stations are less reliable, require higher maintenance and operations costs and cause more adverse impacts to downstream facilities than do properly planned gravity sewer systems.
3. Rehabilitate or replace the sewage lift stations that are considered to be permanent sewage facilities. These improvements will reduce maintenance costs and increase system reliability. As the City rehabilitates or replaces regional stations, on-site emergency power generators should be installed.
4. The City needs to continue to update its hydraulic model to reflect the new adopted land use designations and concurrency standards, changes in development patterns, system changes, and as data becomes more current. The City should continue the model update by completing the inventory of the sewer system, verifying the as-built records and gathering data on those parts of the system that are not recorded.

5. The City should implement a flow monitoring program to meter flows in order to gather data to calibrate the sanitary sewer computer model. This will enable the model to be more closely calibrated in areas of concern. The City will continue to use the sewer model to develop a schedule of timing for capacity system improvement projects. As the County looks to implement 10-year cycle flow monitoring, the City should look at potential saving by partnering in the monitoring.
6. The City needs to establish a grease and industrial waste discharge program for the Wastewater Utility. Grease is the leading cause of sewer overflows in our system. Industrial waste poses a serious risk to our sewer maintenance personnel.
7. The City needs to evaluate capacity restraints, analyzing them from both the potential of increasing capacity and reducing I/I within the basins that facilities serve. Where reduction in I/I is at a similar cost of upsizing facilities, serious consideration shall be given to the I/I alternative.
8. Where the City annexes an area that is currently unsewered by another municipality, the City should provide sewer service. Where annexation occurs and sewer service is provided by another municipality, the City should determine whether to purchase the facilities from the adjacent municipality, or to continue to allow the existing agency to provide service. Purchase of facilities should be based on the actual depreciated cost the municipality incurred from providing the facilities to obtain service.
9. The rate increases recommended in this LRWWMP should be considered an estimate to implement the City-funded portion of all the recommended improvements. Currently, new development pays a major portion of the remaining cost of recommended improvements. If funding from this source, such as the System Development Charge or Special Assessment District Charges, are not available, the City's share of these construction costs will most likely increase. It should also be recognized that this LRWWMP does not establish annual Capital Improvement Programs (CIPs) or sewer rates, but rather provides a roadmap and guideline for the operation of the system. Yearly CIPs and sewer rates are established as part of the budget process. The City should update the financial models in a manner consistent with the City's budget schedule, so that rates can be adopted to accurately reflect the current financial situation within the utility. These models were developed as part of the 2006/2007 Rate Study undertaken at the same time this LRWWMP is being updated (*Comprehensive Rate Study, Water, Wastewater, and Surface Water Utilities, Financial Consulting Solutions Group, Inc., 2006/07*).
10. This LRWWMP should be updated at intervals of no greater than six years in order to accommodate unforeseen changes in existing assumptions, conditions and land use designations, and for adjusting budgets and sewer service rates.

# OVERVIEW OF EXISTING SEWER SYSTEM

This chapter presents an overview of the existing sewer system as of January 1st, 2008. As such, this does not present information on more recent annexations to the system that occurred after January 1st, such as the Benson Hill annexation. A more extensive description and analysis of the system, along with recommended improvements, can be found in Chapter 5.

## 2.1 OVERVIEW OF EXISTING SYSTEM

The City of Renton (City) is approximately 17.7 square miles with a population of over 60,290. Renton's sanitary sewer service area is approximately 21.68 square miles with about 3.91 square miles outside of the city limits. The City's collection system is municipally owned, operated and maintained and is managed by the City's Public Works Department (Public Works).

The City maintains 23 sewage lift stations. In addition, there are approximately 15 privately owned and maintained sewage lift stations serving apartment complexes, commercial industrial properties or schools in the City's service area. Wastewater is discharged to King County facilities at 79 locations within the City, from which it is conveyed to and treated by King County's South Treatment Reclamation Plant. The City's system contains approximately 191 miles of sewer, 5,107 manholes, and over 16,024 customer connections. Figure 2.1 illustrates the existing sewer system.

## 2.2 SYSTEM HISTORY

Sanitary sewer facilities were first constructed in the downtown area of the City in 1910. Prior to that it was common practice to dispose of wastewater on-site or to directly discharge it to the local estuaries. By 1940 the City's population had grown to 4,800; wastewater was collected and treated in a large septic system located adjacent to the Black River channel. During the 1940s, federal housing was constructed in the City to accommodate workers employed by defense industries. By 1956 the wastewater collection system served a population of 14,800 people within the City's service area. By that time wastewater was treated in a secondary treatment plant located near the current Renton High School Stadium. This treatment plant discharged treated wastewater to the Cedar River.

In 1958 the Municipality of Metropolitan Seattle (METRO) was formed to solve the growing problem of pollution in Puget Sound, Lake Washington, and surrounding waters. METRO developed a regional plan for wastewater collection and treatment facilities in 1959 and assumed operating responsibilities for the regional interceptors and waste treatment systems in 1962, including Renton's secondary treatment plant. The new secondary

MAY VALLEY BASIN

EAST LAKE WASHINGTON BASIN

DOWNTOWN BASIN

WEST CEDAR RIVER BASIN

EAST CEDAR RIVER BASIN

BLACK RIVER BASIN

N

0 2,000 4,000

Feet

1:24,000

Sanitary Sewer Service Area

City Limits

Urban Growth Boundary

Basins

- BLACK RIVER BASIN
- DOWNTOWN BASIN
- EAST CEDAR RIVER BASIN
- EAST LAKE WASHINGTON BASIN
- MAY VALLEY BASIN
- WEST CEDAR RIVER BASIN

FIGURE 2.1

# CITY OF RENTON LONG-RANGE WASTEWATER MANAGEMENT PLAN

## EXISTING SEWER SYSTEM & WASTEWATER COLLECTION BASINS

JANUARY 2008

treatment plant was constructed between 1956 and 1962 near the intersection of Grady Way and Monster Road and discharged into the Green River. As part of expansion in the 1980's, a new discharge was constructed to the Duwamish Water Way. This location is the current site of King County's South Treatment Reclamation Plant, which serves as one of the regional treatment facilities. The City of Renton sanitary sewers now discharge to these facilities.

In 1993, the citizens of King County voted to combine the Metro and King County governments into a new regional government, Metropolitan King County. Metro's wastewater treatment, water quality and transit responsibilities became part of an interim Department of Metropolitan Services for 2 years while the new government created its new structure. In 1996, the wastewater treatment and water quality functions of the Department of Metropolitan Services were transferred to the new King County Department of Natural Resources. The responsibilities of the former Metro Council, which provided oversight of wastewater treatment service for the first 35 years, now lie with the new Metropolitan King County Council.

In 1999, the King County Wastewater Treatment Division adopted its Regional Wastewater Services Plan that provides regional guidance on sanitary sewer service for the next 20 years. This planwill be updated every three to five years. One component of the plan was the determination of Inflow and Infiltration (I/I) Flows in 2000 and 2001. The results of this effort provide the data used in the development of the City's hydraulic sewer model in 2006.

## 2.3 SYSTEM COMPONENTS

The purpose of a sanitary sewer is to convey wastewater from its source to a point of treatment. Since the generation of wastewater can vary considerably, there is seldom any control over the volume of wastewater that must be conveyed at any particular time. For this reason the sanitary sewer system is designed to accommodate a wide range of wastewater flow rates.

The best method for conveying wastewater is a gravity sewer system. A gravity sewer system is made up of collector sewers, which as their name implies, collect the wastewater from the various sources. These collector sewers then convey the wastewater to interceptor sewers, which convey it to the point of treatment.

The sanitary sewer system must be capable of transporting all of the constituents of the wastewater stream, which include the suspended solids, floatable solids and liquid constituents. In general, most of the floating materials are carried along with the flow stream; however, suspended solids have a tendency to settle out of the waste stream, unless minimum carrying velocities are achieved. This requires that the sanitary sewers be

constructed with a minimum slope to create a gravity flow that will result in a velocity that will continuously carry the suspended solids portion of the waste stream.

Another major sewer system component, and typically the most vulnerable, is the sewage lift station. A lift station is needed when the sanitary sewer system must overcome topographic restrictions that make it impossible or financially unfeasible to construct a gravity sewer. However, some lift stations are temporary, used only until the gravity sewer system can be built.

## 2.4 WASTEWATER COLLECTION BASINS

The City is divided into six major wastewater collection basins that consist of one or more model basins. The model basins were developed by King County's I/I Program for the Renton Sewer Service Area. These collection basins and model basins would ideally follow the natural drainage patterns of the Renton service area. However, because of natural and service area boundaries, the wastewater collection basins do not always follow drainage basins. The six major basins are 1) West Cedar River, 2) East Cedar River, 3) East Lake Washington, 4) Black River, 5) Downtown, and 6) May Valley. The City has lift stations and deep interceptors that transfer flows from one drainage basin to another. Figure 2.2 shows the topography of the City overlaid by the existing sewer system.

### 2.4.1 West Cedar River Basin

The West Cedar River Basin includes the eastern portion of the City bordering the Cedar River. This basin, which consists of primarily single-family and multi-family developments with some commercial and light industrial land uses. This basin includes modeling basins CEDAR02 and RNT065. This basin includes the Cottonwood, Falcon Ridge, and Kensington Crest Lifts Stations. The wastewater collected in this basin is transported to King County's Cedar River Trunk Interceptor at several connection points (Table 2.1).

### 2.4.2 East Cedar River Basin

The East Cedar River Basin is located at the east side of Renton's sanitary sewer service area. The basin extends from approximately Bremerton Avenue NE to the Urban Growth Boundary east of the City. The majority of this basin is currently unsewered and consists of primarily single-family land uses. A significant portion of this basin is already developed with subdivision. The majority of these developments are on private septic systems. Problems with some of the existing septic systems, the needs of the schools in the area, the lack of ability to develop existing platted lots on septic systems are, and the desire by some to develop some of the larger tracts in the area highlight the need for sanitary sewers in this basin. The basin can be partially served by gravity through the East Renton Interceptor. The Central Plateau interceptor is currently under construction. To serve the East Plateau subbasin, a new interceptor or a lift station constructed to transfer flows back

N

0 2,000 4,000

Feet

1:24,000

King County Sewer Mains

Private Collector Mains

City Collector Mains

City Interceptor Mains

URBAN GROWTH BOUNDARY

City Limits

CONTOURS AT 20 FOOT INTERVALS

# FIGURE 2.2

# CITY OF RENTON LONG-RANGE WASTEWATER MANAGEMENT PLAN

## TOPOGRAPHY

JANUARY 2008

to the Central Plateau Interceptor will be required. This basin includes the East Renton, Evendell, and Highlands Estates Lift Station. The wastewater collected in this basin is transported to King County's Cedar River Trunk Interceptor at several connection points (Table 2.1).

### 2.4.3 East Lake Washington Basin

The East Lake Washington Basin is located in the northern part of the City and includes Model Basins RNT023, RNT030, RNT035, and RNT054. The City serves this entire basin, which consists of a variety of land uses including single-family and multi-family residential, and light commercial. The wastewater collected in this basin is transported to King County's East Side Interceptor at several connection points (Table 2.1). This basin includes the Devils Elbow, Lake Washington Beach, Lake Washington Flush, Lake Washington No. 2, Long, Stonegate, Summerwind, Wedgewood, and Westview Lift Stations.

### 2.4.4 Black River Basin

The Black River Basin is a large drainage basin in the southwest part of the City and includes the Model Basins SINT001, SRENT002, and RNT045. The higher elevations in the Rolling Hills, Talbot Hill, and Panther Creek areas are generally single-family and multi-family residential developments along with commercial uses surrounding Valley Medical Center, while the valley floor is generally industrial and commercial land uses. A large portion of the south and west portions of the valley floor are un-modeled. The upper elevations of this basin are served by Soos Creek. This basin includes the East Valley, Lind Avenue, and Talbot Crest Lift Stations. The wastewater collected in this basin is transported to King County's East Side, South Renton, and South Interceptors at several connection points (Table 2.1).

### 2.4.5 Downtown Basin

The Downtown Basin is located in the northwest part of the City and includes the Central Business District, West Hill, and North Renton Industrial areas. Land use within this basin consists of single-family, multi-family, commercial, and heavy industrial land uses. This model basin includes the Airport and Earlington Lift Stations. Skyway Water and Sewer District also provides sewer service to parts of the West Hill that are within this basin. The wastewater collected in this basin is transported to King County's East Side Interceptor at several connection points (Table 2.1).

### 2.4.6 May Valley Basin

The May Valley Basin is located in the northeast part of the City and is located on the periphery of the City's current service boundary. The portion of this basin within Renton's service area is currently only about half sewered. The remainder of the basin is within Coal Creek Utility District's service area. The City serves primarily single-family and light commercial land uses. The ultimate sewerage of the southwest (City's) portion of the basin

that is east of the freeway will be through the extension and completion of an interceptor to the south. Said interceptor to serve that portion of the basin would be mostly constructed in existing roads. It is unclear whether development will occur within this portion of the basin due to steep slopes, wetlands, and other sensitive area issues. This basin includes the Baxter, Dennys, and Misty Cove Lift Stations. The wastewater collected in this basin is transported to King County's May Creek Interceptor and East Side interceptor at several connection points (Table 2.1).

## 2.5 INTERCEPTORS AND COLLECTION SYSTEMS

Interceptors are sewers that receive flow from collector sewers and convey wastewater to a point for treatment or disposal. They are typically located in low lying or centralized areas in order to facilitate the gravity flow of the wastewater. The interceptors and all other sewers make up the collection system. Standards and guidelines for design and construction of sanitary sewers are detailed in Chapter 4.

The City has approximately 191 miles of gravity sewer within its service area as shown in Figure 2.3. The sanitary sewer collection system is primarily comprised of 8-inch diameter sanitary sewers but includes pipes sized from 6 to 24 inches.

### 2.5.1 Existing Sewers

The existing sanitary sewer system is constructed with a variety of different sewer sizes and pipe materials. Figures 2.4 and 2.5 summarize the lengths of pipe for the different pipe diameters and materials. These totals include both gravity and force main pipe. As illustrated in Figure 2.2, a majority of the sanitary sewer system is constructed with 8-inch diameter pipe. This is consistent with the Department of Ecology criteria for minimum sanitary sewer sizing. The majority of pipe material within the existing system is comprised of concrete and polyvinyl chloride (PVC) pipe. The concrete pipe has been typically used for the older sewers, while the PVC pipe has been typically used for newer sewer system installations.

The City's sanitary sewer system also contains approximately 5,100 manholes, which join the various links of sanitary sewer pipe. These manholes vary in construction type from old brick manholes to the newer precast concrete manholes. A small percentage (2-4 percent) of the older manholes do not meet current code for safety such as manhole covers that are less than 24-inches in diameter.

N

0 2,000 4,000

Feet

1:24,000

City Limits

Sanitary Sewer Service Area

Urban Growth Boundary

Private Collector Mains

City Collector Mains

City Interceptor Mains

King County Sewer Mains

CITY OF RENTON

FIGURE 2.3

# CITY OF RENTON LONG-RANGE WASTEWATER MANAGEMENT PLAN

## COLLECTORS AND INTERCEPTORS

JANUARY 2008

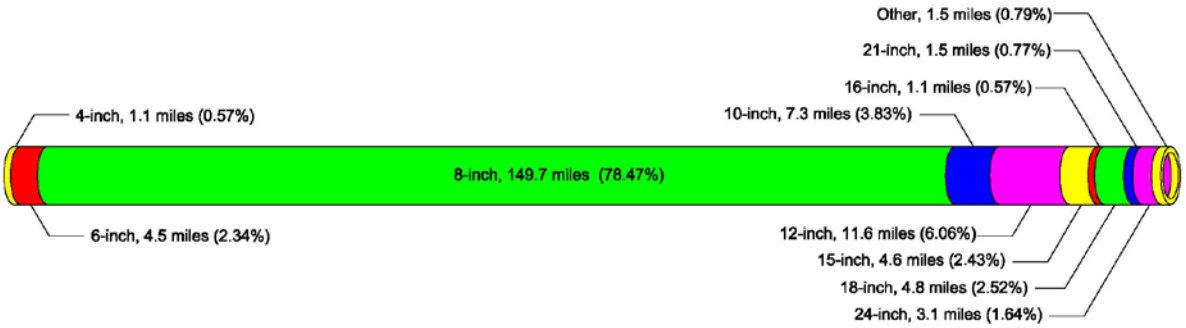



Figure 2.4 Pipe Size Summary

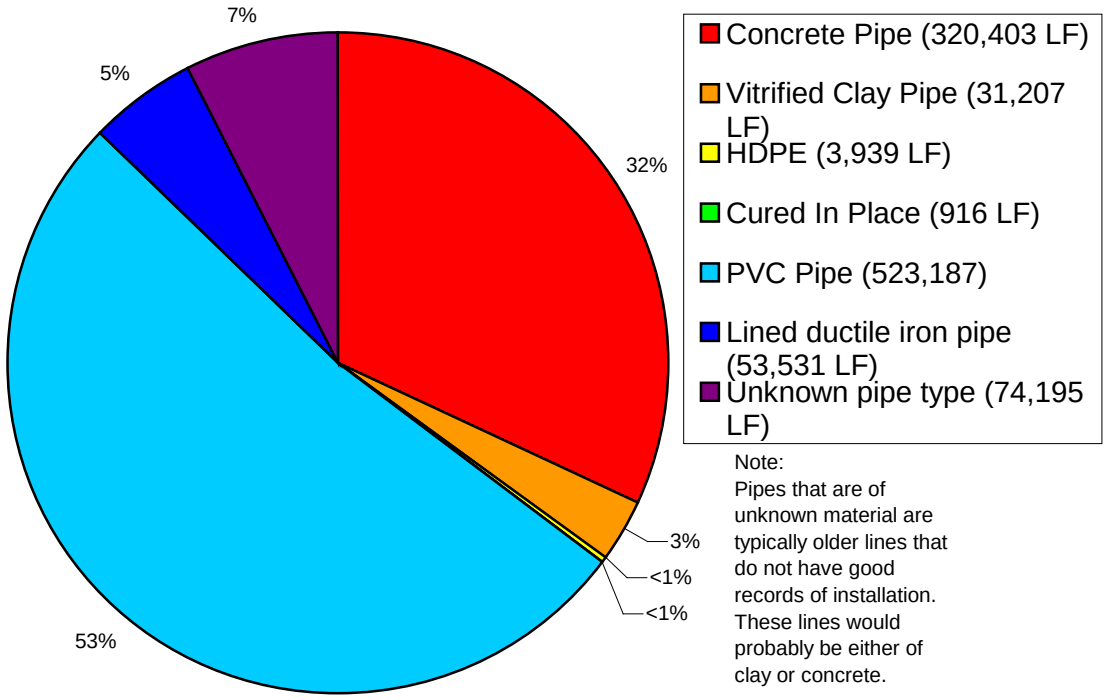



Figure 2.5 Pipe Material Summary

### 2.5.2 Interceptors

A list of the sanitary sewer interceptors within the Renton system is presented below. These interceptors are located in the following wastewater collection basins:

#### 2.5.2.1 Black River Basin

- Benson Road Interceptor
- Black River Interceptor
- East Valley Interceptor
- Shattuck Interceptor

- South Talbot Interceptor
- Springbrook Interceptor
- SW 16th Street Interceptor
- SW 34th Street Interceptor
- Talbot Road Interceptor
- Thunder Hill Interceptor
- Tukwila Interceptor

#### 2.5.2.2 Downtown Basin

- Earlington Interceptor
- MLK Interceptor
- Renton Hill Interceptor
- South Renton Interceptor
- West Hill Interceptor
- West Renton Interceptor

#### 2.5.2.3 East Cedar River Basin

- Briar Hills Interceptor
- Central Plateau Interceptor
- North Briar Hills Interceptor

#### 2.5.2.4 East Lake Washington Basin

- East Kennydale Interceptor
- Honey Creek Interceptor
- Lakefront Force Main
- N 8th Street Interceptor
- NE 7th Street Interceptor
- North Highlands Interceptor
- South Highlands Interceptor
- Sunset Interceptor
- West Kennydale Interceptor

#### 2.5.2.5 May Valley Basin

- Renton - Coal Creek (Joint Use) Interceptor

#### 2.5.2.6 West Cedar River Basin

- Cascade (Tiffany Park) Interceptor
- Central Renton (N 4th Street) Interceptor
- Duvall Interceptor
- East Renton Interceptor
- Greenwood Interceptor
- Heather Downs Interceptor
- Maplewood Interceptor

### 2.5.3 King County Connections

The Renton sanitary sewer system discharges wastewater to King County sewer interceptors at 79 locations. The wastewater flow rates into each of these connections varies considerably, depending on the area served by the collection system. The major King County connections for each basin are listed in Table 2.1.

## 2.6 LIFT STATIONS

Sewage lift stations are used to convey wastewater from a low point to a higher point through the use of a sewage pump and a pressurized force main. The City has 23 sewage lift stations within its sanitary sewer system as is shown in Figure 2.6 and summarized in Table 2.2. Data sheet for each lift station are include in Appendix B. Since the last Comprehensive Plan in 1999, 4 lift stations have been removed due to consolidated efforts and 6 lift stations have been added. The most common type is a submersible pump installation in which the sewage pumps are placed directly in the wet well. The second most common type is a wet well mounted lift station in which the mechanical and electrical equipment are located above the ground surface and over a large manhole out of which the wastewater is pumped. A wet well/dry well configuration is the third most common type of station. This type has mechanical and electrical equipment located underground in a sealed enclosure adjacent to a large manhole from which the wastewater is pumped.

**Table 2.1 Major King County Connections**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Basin | King Co. Manhole No. | King Co. Interceptor |
|---|---|---|
| **Black River Basin** | | |
| Black River Interceptor | R01-1 | East Side Interceptor |
| East Valley Interceptor | SR18-11 | South Renton Interceptor |
| South Talbot Interceptor | SR18-17 | South Renton Interceptor |
| SW 16th Street Interceptor | R01-1 | East Side Interceptor |
| Talbot Road Interceptor | R18-18 | South Renton Interceptor |
| Thunder Hill Interceptor | R01-8 | East Side Interceptor |
| Tukwila Interceptor | R18-17 | South Interceptor |
| **Downtown Basin** | | |
| MLK Interceptor | R01-21 | East Side Interceptor |
| Renton Hill Interceptor | R01-14 | East Side Interceptor |
| West Renton Interceptor | R01-20 | East Side Interceptor |
| **East Cedar River Basin** | | |
| Central Plateau Interceptor | R10-52 | Cedar River Trunk |
| **East Lake Washington Basin** | | |
| North 8th Street Interceptor | R02-03 | East Side Interceptor |
| West Kennydale Interceptor | R02-17 | East Side Interceptor |
| **May Valley Basin** | | |
| Renton - Coal Creek Joint Use Interceptor | M-1 | May Creek Interceptor |
| **West Cedar River Basin** | | |
| Cascade (Tiffany Park) Interceptor | R10-32 | Cedar River Trunk |
| Central Renton Interceptor | R10-5A | Cedar River Trunk |
| East Renton Interceptor | R10-24 | Cedar River Trunk |
| Heather Downs Interceptor | R10-26A | Cedar River Trunk |

**Table 2.2 Lift Stations**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Lift Station Name | Location | No. of Pumps | FM Size In. | HP | Phase | Pump Speed RPMs | Capacity GPM | TDH Ft | Station Type | Emerg. Power Connect | Telemetry | Voltage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Airport | 454 West Perimeter Road | 2 | 4 | 7.5 | 3 | 1750 | 100 | 54 | WW MTD | Yes | Rugid6 | 230/460 |
| Baxter | 4505 Lake Washington Blvd N | 2 | 8 | 3 | 3 | 865 | 400 | 23 | WW MTD | Yes | Rugid9 | 230/460 |
| Cottonwood | 2101 Maple Valley Highway | 2 | 6 | 5 | 3 | 1750 | 230 | 32 | SUBMERS | Yes | Rugid6 | 230/460 |
| Dennys | 4748 Lake Washington Blvd N | 2 | 4 | 5 | 3 | 1735 | 100 | 35 | WW MTD | Yes | Rugid6 | 230/460 |
| Devils Elbow | 3001 NE 27th Street | 2 | 6 | 50 | 3 | 1750 | 450 | 155 | SUBMERS | Yes | Rugid6 | 460 |
| Earlington | 8055 S Langston Road | 2 | 6 | 5 | 3 | 860 | 150 | 30 | WW/DW | No | Rugid6 | 230/460 |
| East Renton | 5835 SE 2nd Court | 2 | 8 | 23 | 3 | 1750 | 587 | 75 | SUBMERS | Yes | Rugid6 | 230/460 |
| East Valley | 3371 East Valley Road | 2 + 1 | 8 | 5 | 3 | 1735 | 362 | 30 | WW/DW | Yes | Rugid9 | 240/120 |
| Evendell | 13815 160th Avenue SE | 2 | 6 | 10 | 3 | 1745 | 240 | 66 | SUBMERS | Yes | Rugid9 | 460 |
| Falcon Ridge | 2471 SE 8th Place | 2 | 4 | 15 | 3 | 1800 | 100 | 101 | WW MTD | Yes | Rugid6 | 230/460 |
| Highlands Estates | 13733 152nd Place SE | 2 | 6 | 7.5 | 3 | 1740 | 350 | 45 | SUBMERS | Yes | Rugid9 | 240/120 |
| Kensington Crest | 3000 SE 8th Street | 2 | 4 | 10 | 3 | 1745 | 160 | 58 | SUBMERS | Yes | Rugid9 | 230/460 |
| Lake Washington Beach | 1201 Lake Washington Blvd Coulon Park Parking Lot | 2 | 4 | 3 | 3 | 900 | 125 | 25 | WW/DW | Yes | Rugid6 | 240/120 |
| Lake Washington Flush | 2725 Mountain View Avenue N (North End of Coulon Park) | 1 | 4 | 2 | 3 | 1150 | 400 | 6.5 | SUBMERS | Yes | Rugid6 | 230/460 |
| Lake Washington No. 2 | 3903 Lake Washington Blvd N | 2 | 4 | 7.5 | 3 | 1750 | 385 | 35 | SUBMERS | Yes | Rugid6 | 230/460 |
| Lind Ave. | 1891 Lind Avenue S | 3 | 8 | 5 | 3 | 865 | 780 | 13 | WW/DW | Yes | Rugid6 | 230/460 |
| Long | 2702 Union Avenue NE | 2 | 4 | 10 | 3 | 1735 | 100 | 90 | | Yes | Rugid6 | 460 |
| Misty Cove | 5027 Ripley Lane N | 2 | 4 | 2 | 1 | 1150 | 75 | 18 | WW MTD | Yes | Rugid6 | 240/120 |
| Stonegate | 5610 NE 26th Street | 2 | 4 | 20 | 3 | 1800 | 140 | 125 | WW MTD | Yes | Rugid6 | 230/460 |
| Summerwind | 5216 NE 23rd Court | 2 | 6 | 25 | 3 | 1760 | 375 | 133 | WW MTD | Yes | Rugid6 | 230/460 |
| Talbot Crest | 2511 Talbot Crest Drive S | 2 | 4 | 3 | 3 | 1700 | 110 | 33 | SUBMERS | Yes | Rugid6 | 230/460 |
| Wedgewood | 5401 NE 10th Street | 2 + 1 | 8 | 25 | 3 | 1745 | 350 | 67 | SUBMERS | Yes | Rugid9 | 460 |
| Westview | 1149 Monterey Avenue NE | 2 | 3 | 2 | 1 | 3450 | 7.5 | 31 | SUB/GRIND | Yes | Rugid6 | 240/120 |

MISTY COVE LIFTSTATION

BAXTER LIFTSTATION

DENNY'S LIFTSTATION

LAKE WASH. #2 LIFTSTATION

LAKE WASH. FLUSH LIFTSTATION

LAKE WASH. BEACH LIFTSTATION

WESTVIEW LIFTSTATION

AIRPORT LIFTSTATION

EARLINGTON LIFTSTATION

COTTONWOOD LIFTSTATION.

KENSINGTON CREST LIFTSTATION

FALCON RIDGE LIFTSTATION

LIND AVENUE LIFTSTATION

TALBOT CREST LIFTSTATION

EAST VALLEY LIFTSTATION

LONG LIFTSTATION

DEVIL'S ELBOW LIFTSTATION

STONE GATE LIFTSTATION

SUMMER WIND LIFTSTATION

WEDGEWOOD LIFTSTATION

EAST RENTON LIFTSTATION

HIGHLAND ESTATES LIFTSTATION

EVENDELL LIFTSTATION

N

0 2,000 4,000

Feet

1:24,000

City Force Main

Liftstation

Sanitary Sewer Service Area

BLACK RIVER BASIN

DOWNTOWN BASIN

EAST CEDAR RIVER BASIN

EAST LAKE WASHINGTON BASIN

MAY VALLEY BASIN

WEST CEDAR RIVER BASIN

CITY OF RENTON

# FIGURE 2.6

# CITY OF RENTON LONG-RANGE WASTEWATER MANAGEMENT PLAN

## SANITARY SEWER LIFT STATIONS

JANUARY 2008

Sewage lift stations are the most vulnerable element of a sewage collection system. Permanent lift stations are constructed when it is either physically impossible or financially impractical to construct gravity sewers. Temporary lift stations are constructed when it is too costly, at that time, to complete the gravity sewer system. Temporary lift stations are, however, usually built to permanent standards, since it may be hard to predict when the gravity facilities will be available.

### 2.6.1 Airport Lift Station

The Airport Lift Station is located on the east side of West Perimeter Road within the airport property. This facility is a fiberglass, wet well mounted, duplex lift station with a duplex vacuum priming system. This facility serves the airport facility along West Perimeter Road. The lift station is in fair condition and is currently within the six-year CIP for rehabilitation or replacement.

### 2.6.2 Baxter Lift Station

The Baxter Lift Station is located in the J.H. Baxter and Company pole yard near NE 44th Street adjacent to the railroad tracks. This facility is a recessed, wet well mounted, duplex lift station with a duplex vacuum priming system. The station served the mill, owned by the J.H. Baxter and Company, and the community along the lake north of NE 44th Street. The lift station is old and currently scheduled to be replaced as part of the new development occurring in the area. There was a creosote smell in the lift station originating from wastewater generated at the mill. However, the mill has since closed. Access to this facility is through the pole yard and is made difficult during rainy periods. Access should be improved as part of the redevelopment adjacent to the station. Obtaining replacement parts for this station is a problem.

### 2.6.3 Cottonwood Lift Station

The Cottonwood Lift Station is located west of the Riviera Apartments, south of the Maple Valley Highway. This facility serves the area between the Maple Valley Highway and the Cedar River, east of the former Stoneway concrete facilities. The lift station was replaced, in 1994, with a submersible pump duplex station in a new wetwell. The forcemain was also replaced at that time. Based upon expected life, this station is due for replacement about 2021.

### 2.6.4 Denny's Lift Station

The Denny's Lift Station is located on the east side of Lake Washington Boulevard next to the Denny's restaurant. This facility is a fiberglass, wet well mounted, duplex lift station with a duplex vacuum priming system. This facility serves the Denny's restaurant, is in fair condition and has proven to be mostly reliable. The lift station does experience some problems due to grease discharges from the restaurant and flooding during peak storm events. Replacement parts for the Universal Sanitary Equipment Manufacturer Company

(USEMCO) pumps are also hard to find. The Station is scheduled to be rehabilitated between 2008 and 2009.

### 2.6.5 Devil's Elbow Lift Station

The Devil's Elbow Lift Station is located in NE 27th Street just northwest of where the road crosses Honey Creek. This facility was replaced in 2000 with a submersible pump duplex station in a new wet well. The lift station is in good condition. The new design has made this station less susceptible to vandalism and storm impacts.

### 2.6.6 Earlington Lift Station

The Earlington Lift Station is located on the southwest side of South Langston Road between South 132nd Street and South 134th Street. This facility is a duplex wet well/dry well lift station with an 8-inch overflow bypass. This facility serves the Black River High School and a residential area to the north of the station. The lift station is in fair condition, and has poor access and is difficult to keep clean due to its location on the gravel shoulder. The lift station will be taken off-line and removed when wastewater from this area is diverted by gravity through the future Earlington Interceptor scheduled for 2008/9.

### 2.6.7 East Renton Lift Station

The East Renton Lift Station is located at the southwest corner of the Maplewood Estates Plat, adjacent to the detention pond. This facility is a submersible pump duplex station. This facility serves the single-family residential areas south of NE 4th Street, between Jericho Avenue and 160th Avenue. The lift station was constructed in 2002 and is in good condition. This lift station is constructed as permanent, but considered only as a temporary facility until the gravity system is constructed to the south. It is anticipated that the gravity system will be constructed and available within the twenty-five year life of this lift station.

### 2.6.8 East Valley Lift Station

The East Valley Lift Station is located on the northwest corner of the intersection of SW 34th Street and the East Valley Road. This facility operates as a submersible pump duplex station. A secondary wet well and third submersible pump is available for high peek or emergency situations. This facility serves the commercial areas north and west of the lift station. The lift station was rebuilt in 2003 and is in excellent condition.

### 2.6.9 Evendell Lift Station

The Evendell Lift Station is located on 160th Avenue SE, just south of SE 139th Street. This facility is a submersible pump duplex station. This facility currently serves two single-family plats. The lift station was constructed in 2005 and is in good condition. This lift station is constructed as permanent, but considered only as a temporary facility until the gravity system is constructed to the south. It is anticipated that the gravity system will be constructed and available within the twenty-five year life of this lift station.

### 2.6.10 Falcon Ridge Lift Station

The Falcon Ridge Lift Station is located at the east end of SE 8th Street in the plat of Falcon Ridge. This facility is a fiberglass enclosed, wet well mounted duplex lift station with a duplex vacuum priming system, which is in good condition and has proven to be reliable. The Falcon Ridge Lift Station was built in 1981 and reached its expected life in 2006. As part of an overall review of lift stations for prioritization of upgrades or rehabilitation, Falcon Ridge has been schedule for replacement or rehabilitation in 2010. The force main associated with this station is long and has an excessively high head.

### 2.6.11 Highlands Estates Lift Station

The Highlands Estates Lift Station is located at the southwest corner of the Highlands Estates Plat, adjacent to the detention pond. This facility is a submersible pump duplex station. This facility serves the Highlands Estates Plat. The lift station was constructed in 2003 and is in good condition. This lift station is constructed as permanent, but considered only as a temporary facility until the gravity system is constructed to the south. It is anticipated that the gravity system will be constructed and available within the twenty-five year life of this lift station.

### 2.6.12 Kensington Crest Lift Station

The Kensington Crest Lift Station is located at the northeast corner of the Kensington Crest (A.K.A Shadowhawk) multi-family complex and provides service to the complex. This facility is a submersible pump duplex station. The station was built in 2002 and is in good condition.

### 2.6.13 Lake Washington Beach Lift Station

The Lake Washington Beach Lift Station is located in the parking lot at Coulon Beach Park. This facility is a duplex wet well/dry well lift station, which serves the restroom facilities at the park. The lift station is in good condition. This station is over twenty-five years old but only receives seasonal flow. The City is looking at evaluation for replacement about 2014.

### 2.6.14 Lake Washington Flush Lift Station

The Lake Washington Flush Lift Station is located at the south end of Mountain View Avenue North. The facility is a submersible, non-clogging pump for pumping lake water into the gravity sewer along the Kennydale lakefront for flushing purposes. The low-pressure sewer then discharges into Lake Washington No. 2 Lift Station. This lift station was replaced in 2005 and is in good condition.

### 2.6.15 Lake Washington No. 2 Lift Station

The Lake Washington No. 2 Lift Station is located at the north end of the Kennydale Beach Park Road. This facility serves lakefront properties west of the railroad tracks in the

Kennydale area. The Lake Washington No. 2 Lift Station was replaced in 1994. The new station is a submersible pump duplex station in a rehabilitated wet well. Improvements to access and site stabilization were also done as part of the replacement project. The forcemain was not replaced at that time.

### 2.6.16 Lind Avenue Lift Station

The Lind Avenue Lift Station is located on the west side of Lind Avenue SW near the intersection with SW 19th Street. This facility is a triplex, wet well/dry well lift station, which serves the commercial and industrial areas in the vicinity of the lift station. The lift station was upgraded to a triplex station in 1983. The station does not meet current design codes because it lacks full redundancy of its vacuum priming system. In addition, the above grade electrical structures have experienced vandalism. The City will evaluate replacement of this station around 2009.

### 2.6.17 Long Lift Station

The Long Lift Station is located on the east side of Union Avenue NE, just north of NE 27th Street. This facility is a submersible pump duplex station, which serves the Caledon Plat. The lift station was constructed in 2001 and is in good condition.

### 2.6.18 Misty Cove Lift Station

The Misty Cove Lift Station is located on the west side of Ripley Lane North in the plat of Misty Cove. This facility is a recessed, wet well mounted, duplex lift station with a duplex vacuum priming system. This facility serves the lakefront properties west of the railroad near where May Creek enters the lake. The lift station is in fair condition. In 2005, the City did some improvements to improve accessibility into the station. The Misty Cove Lift Station pumps to the Baxter Lift Station, which has a smaller wet well. For this reason a lockout has been placed on the Misty Cove Lift Station, which is engaged when the high level alarm at the Baxter Lift Station is activated. The Baxter Lift Station is being replaced as part of a large residential development along the lakefront, The lockout will be evaluated and may remain for system reliability purposes.

### 2.6.19 Stonegate Lift Station

The Stonegate Lift Station is located on NE 26th Street just west of 148th Avenue SE. The station is on the north side of the road in an open space tract. This facility is a fiberglass enclosed, wet well mounted duplex lift station with a duplex vacuum priming system. The facility serves the entire plat of Stonegate as well as two new plats to the south. This station is dependent on the Summerwind Lift Station to relay the sewage from this area to the gravity system. Analysis shows that the station is undersized to meet the build out needs of this area. Increased flows from the Stonegate Lift Station would impact the Summerwind Lift Station. A capital project, currently in pre-design, will redirect flows from

the Summerwind Lift Station to a new Stonegate Lift Station that will pump to a new field interceptor.

### 2.6.20 Summerwind Lift Station

The Summerwind Lift Station is located in a fenced, storm-drainage retention area located off the cul-de-sac on NE 23rd Street. This facility is a fiberglass enclosed, wet well mounted duplex lift station with a duplex vacuum priming system. This facility serves the east half of the plat of Summerwind. The lift station has proven to be reliable but is reaching the end of its useful life.

The Stonegate Lift Station pumps into the Summerwind Lift Station. The Stonegate Lift Station is undersized to meet the build out needs of this area. The Summerwind station does not have the capability to handle additional flows from a larger Stonegate Lift Station, as such, Summerwind Lift Station flows will be redirected to a new, properly sized Stonegate Lift Station.

### 2.6.21 Talbot Crest Lift Station

The Talbot Crest Lift Station is located on the west side of Talbot Crest Drive. This facility is a submersible pump duplex station, which serves the plat of Talbot Crest. The station was replaced in 2001 and is in good condition.

### 2.6.22 Wedgewood Lift Station

The Wedgewood Lift Station is located on the south side of NE 10th Street between Hoquiam and Nile. This facility is a submersible pump duplex station, which serves the plat of Wedgewood, as well as the surrounding basin area. This station allowed for the elimination of the Scott Glen and Apollo Lift Stations. The station was constructed in 2006.

### 2.6.23 Westview Lift Station

The Westview Lift Station is located on the west side of Monterey Avenue NE. This facility is a duplex submersible lift station designed to serve the twelve lot Westview Plat. Unless a gravity line is installed from Park Drive, this station should be considered a permanent station. This station was originally constructed in 1995. This station was allowed to be constructed to a lower standard resulting in a scheduled rehabilitation/replacement date of 2009, well ahead of our standard 25-year life.

## 2.7 TELEMETRY AND CONTROL SYSTEM

Successful operation of any municipal sewer system requires that the municipality maintains a comprehensive maintenance program and that they obtain accurate sewage flow rate information. Although many additional operation and construction elements are necessary for a complete and working system, maintenance and flow rate information are

the keys to a successful operation. A telemetry and control system is the means by which flow rates are measured and maintenance needs are updated.

A radio-based telemetry system was completed in 1996 to replace the City's existing tone telemetry system. Each lift station is controlled by a digital based Remote Telemetry Unit (RTU) to allow custom control to match the characteristics of each individual lift station. The RTU are programmable controllers programmed in basic programming language. The RTU monitors the control at the lift station and provides secure and accurate information about the operating conditions. A Master Telemetry Unit (MTU) polls each lift station RTU and feeds the data to the Master Computer via a Modbus communication link. The new system is digital, signal-based, using a high security, binary coded decimal for telemetry transmission. The system runs on IBM compatible computers. The system uses radio transmission for communication.

The telemetry system provides a method for logging and controlling all of the City's lift stations from a central location at the City's Maintenance shops. Operating data from each lift station is stored on a Master (data-logging) Computer for record and later use. This information is used in a comprehensive maintenance program to help eliminate costly station down time that can often cause damage to adjacent property owners and the environment. The control algorithms located on the Master Computer and the RTUs can be used as trend analysis to detect possible problems earlier.

The telemetry system information is managed from a Master computer. Wonderware Intouch Person-Machine Interface software is used at the Master Computer for displaying the data graphically on screen. The Master computer displays wet well sewage levels and time to overflow data for the City's 25 lift stations (two of the 25 stations are storm water stations). This information can be used to help manage the lift stations in a citywide power interruption that could occur after a natural catastrophe. The telemetry system can be monitored and controlled by a remote computer link using specialized software.

Control of the facilities is accomplished in a distributed format, wherein the master computer provides pump run set points that are based on optimal, pump operating conditions, and also locks out various lift stations during high-level alarms from various downstream lift stations. All other control is initiated from the RTU, including pump start/stop from the level transducer, back-up pump control from the float switches, and station alarms.

The pumps main control system is controlled from a level sensor in the wet well. A back-up float switch system has been installed at most of the lift stations to provide redundant protection from costly overflows in the event of control failure. Smaller stations, serving twelve or fewer single-family homes, may utilize floats as the main control system.

The system uses strain gauge, level transducers that are suspended in the wet well for primary pump control and uses float switches for back-up pump control in the event of

transducer failure. Pump discharge flow rates are mathematically synthesized by measuring the time it takes to empty a known volume of the wet well.

The engineering and system status information that is presented at the City Shops is available in real time format at City Hall using a secure network. This allows the engineering and planning staff access to system information without disrupting the maintenance staff.

The computer and data storage system is compatible with the water data logger to provide redundant data storage and to provide hot standby fail over controllers. Operating data from each lift station is stored on the master computer for record and later use. This information is used in a comprehensive maintenance program to help eliminate costly station down time that can often cause damage to adjacent property owners and the environment. The control algorithms located on the Master Computer and the RTUs can be used as trend analysis to detect possible problems earlier.

The master telemetry unit, located at the City Shop, includes an intelligent telephone dialer alarm systems, so that critical alarms can be relayed to on-duty maintenance personnel, even during a telemetry system failure.

## 2.8 OPERATION AND MAINTENANCE

The current operation and maintenance program for the sewer utility consists of four elements: normal operations, emergency operations, preventive maintenance and staffing. Normal operation of the sewer system is shared by the Engineering Division and the Operation and Maintenance Division. The program is described and evaluated in more detail in Chapter 7.

# OPERATIONAL POLICIES

## 3.1 INTRODUCTION

The existing sewer system is designed and operated according to specific ordinances, regulations and engineering standards (hereafter collectively referred to as policies). All of the policies originate from eight sources, listed in descending order, from those with the broadest authority to those with the most narrow:

- Federal Regulations - Environmental Protection Agency
- State Regulations - Department of Ecology
- King County Policies - Department of Natural Resources - Wastewater Treatment Division
- City of Renton Comprehensive Plan
- City of Renton Ordinances - City Council
- Administrative Policies - Mayor
- Department Policies - Public Works Department
- Long-Range Wastewater Utility Policies - Wastewater Utility Staff

Federal regulations, state regulations, county policies, and city ordinances dictate requirements that are set by law. Policies that originate in the Office of the Mayor, Public Works Department, or Wastewater Utility cannot be less stringent or in conflict with those laws.

This chapter defines the long-range wastewater policies that will become the official policy of the Wastewater Utility when the City Council adopts this LRWWMP. This chapter also summarizes relevant federal, state, and city ordinances and laws.

## 3.2 GOAL

**The goal of the City of Renton Wastewater Utility is to provide adequate, reliable sanitary sewer service at a minimum cost to the customer.**

Guiding the Wastewater Utility's daily operations as well as its planning activities, the policies in this LRWWMP stem from this goal. Objectives and policies that fall into four areas of emphasis support this broad service goal:

1. Customer Service
2. Financial

3. Facilities

4. Organization

## 3.3 WASTEWATER UTILITY POLICIES AND REGULATIONS

The City's long-range wastewater policies, City ordinances, and State regulations are summarized below. The policies presented herein will become the official policies of the Wastewater Utility when the City Council adopts this LRWWMP. Consequently, they are presented in the traditional policy format rather than the outline format that the other chapters follow. For the actual wording, refer to the indicated sources for the complete text.

**1.0 CUSTOMER SERVICE OBJECTIVE: Ensure the availability of an adequate level of sanitary sewer service that is consistent with land use, environmental protection, and annexation goals and policies.**

POLICIES:

1.1 Sewer facilities and services should be consistent with the growth and development concepts directed by the Comprehensive Plan (Policy U-1, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

1.2 Ensure and encourage the use of the sanitary sewer system within the urban areas in a manner consistent with land use and environmental protection goals and policies (Policy U-55, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

1.3 All new developments should be required to connect to the sanitary sewer system, except properties zoned for low density single family residential development that are located away from environmentally sensitive areas, outside of Aquifer Protection Areas, and having adequate soils to support on-site septic systems (Policy U-56, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

1.4 Actively promote connection to the public sewers by all residents within the City's service area (Policy U-72, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

1.5 Public Sewer expansions shall not occur in the Rural Area and on Natural Resource Lands except where needed to address specific health and safety problems threatening the existing structures or the needs of public schools or public school facilities (Policy F-249, 2004 King County Comprehensive Plan with 2006 amendments, adopted November 1, 2004 as amended).

EXISTING REGULATIONS:

1.6 Private sewage disposal systems will be allowed within the urban areas, subject to city, county, and state regulations and when public sewers are not available (City Code Sections 4-6-040.A.1).

1.7 The owners of private sewerage disposal systems shall operate and maintain the facilities in a sanitary manner at all times at no expense to the City (City Code Section 4-6-040.I.4).

1.8 The owner or occupant of lands or premises located within the urban growth area (as defined in the King County Comprehensive Plan) undertaking new residential or nonresidential construction, short subdivision or subdivision from which sewage will originate shall connect to a public sewer, provided the sewer utility permits such connection (King County Board of Health Rules and Regulations No. 3, 13.04.050).

1.9 Sanitary sewers, together with all appurtenances, shall be constructed or deferred before a final short plat is submitted or a short subdivision is recorded. Sanitary sewers shall be constructed to specifications and standards of the Wastewater Utility, approved by the Department and in accordance with other standards of the City. A separate construction permit will be required for any such improvements, along with associated engineered plans prepared per the City drafting standards and associated fees (RMC 4-7-070J).

1.10 Unless septic tanks are specifically approved by the Planning/Building/Public Works Department and the King County Health Department, sanitary sewers shall be provided by the developer at no cost to the City and designed in accordance with City standards. Side sewer lines shall be installed eight feet (8') into each lot if sanitary sewer mains are available, or provided with the subdivision development (RMC 4-7-070J).

1.11 Existing development that is within two hundred feet (200') of a public sewer, where an on-site system (OSS) is operating, connection to the public sewer is required when the sewering authority permits such connection and when:

a. Repair, modification, or replacement of the system is necessary, or the existing OSS has failed and an OSS fully conforming to this title cannot be designed and installed; or
b. At such time that additional construction which in any way affects the on-site sewage system is proposed (King County Board of Health Rules and Regulations No. 3, 13.04.050).
c. They are part of a sewer Local Improvement District (LID) (City Code Section 4-6-040.A).

1.12 Any new development (residential and non-residential) in Zone 1 of the Aquifer Protection Area (APA) shall be required to connect to the City sewer system (City Code Section 4-6-040J.1.a.i).

1.13 Existing development (residential and non-residential) in Zone 1 of the APA that is within the specified proximity of existing or future gravity sanitary sewer shall be required to connect to the City sewer system within two (2) years of the availability of the new sewer line (City Code Section 4-6-040J.1.a.iii).

1.14 Any new development (residential and non-residential) in Zone 2 of the Aquifer Protection Area shall be required to connect to the City sewer system (*New single-family residential development on existing lots may be allowed to use on-site disposal systems until public sewer service becomes available, as determined by the Wastewater Utility*) (City Code Section 4-6-040J.2.a.i).

1.15 The City, at the discretion of the Wastewater Utility, may defer compliance with non-health related standards dealing with extension, design, or capacity for temporary sanitary sewer service. Temporary sanitary sewer service may include pump tests, temporary discharge permits, connections for temporary construction sights, or other similar usage. The property owner will retain the responsibility and will execute an agreement to either directly or financially meet said standards at the direction of the City (City Code Section 4-9-250).

1.16 After connection to the sewer system, all private sewage disposal facilities shall be abandoned and filled with suitable material as defined by current Seattle-King County Health Department regulations, or upon proper cleaning, may be used to dispose of storm waters (City Code Section 4-6-040.I.6).

**2.0 PLANNING OBJECTIVE: Ensure that Renton's sewage collection system is consistent with the City's land use plans and the public health and water quality goals of Washington State.**

POLICIES:

2.1 Coordinate the extension of sewer service with expected growth and development (Policy U-13, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

2.2 Apply level of sanitary sewer service standards consistently throughout the service area (Policy U-14, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

2.3 Preference should be given to sewer system improvements that will support high growth areas concurrent with the anticipated growth (Policy U-15, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

2.4 Timely and orderly extension of the sewer system should be provided within the City's existing and future service areas to meet public heath requirements (Policy U-17, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

2.5 Implementation and coordination of programs for the improvement, phasing and financing of sewer infrastructure should be developed consistent with the Land Use Element of the Comprehensive Plan (Policy U-19, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

2.6 Development should be required to pay an equitable share of construction costs for improvements to the sanitary sewer system (Policy U-20, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

2.7 Adequate sewer service capacity should be assured prior to the approval of any new development application (Policy U-58, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

2.8 Sewer facilities and services should be in place prior to occupancy of development projects (Policy U-18, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

2.9 Sewer service should be expanded so that the current levels of service are maintained through build-out of the adopted land use (Policy U-59, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

*Note: While land use plans typically deal with twenty-year projections, the sewer facilities installed today have a life expectancy of 75 to 100 years. A Sanitary Sewer Utility has to consider the current Land Use Plan, historical trends, and predictions for further growth when designing sewers. The Utility may install a facility larger than needed for the land use projected in the twenty-year plan if additional capacity needs are projected for the long-term future. It is in the best interests of the ratepayers to obtain the longest use possible from a facility and not have to replace newer facilities.*

2.10 Renton should coordinate with the regional wastewater agency and adjacent jurisdictions in the planning and maintenance of regional wastewater systems in and near the City (Policy U-61, 2004 City of Renton Comprehensive Plan, adopted November 1, 2004 as amended).

2.11 For planning purposes, the Wastewater Utility should use sanitary sewer service boundaries established by agreement with adjacent municipalities. Where boundaries do not exist, the Wastewater Utility shall use natural basins, the County's Urban Growth Boundary, and negotiations with adjacent sewer service providers to determine the ultimate service area (LRWWMP).

2.12 Facilities should be planned and sized to serve natural basins to minimize the need for pumping and inter-basin transfers (LRWWMP).

2.13 Projected sewage flows from development should be calculated based on adopted land use plans and policies. These projections should be used as a guide in developing the

wastewater Capital Improvement Program (CIP). If and when land use plans and policies are revised, the CIP should be adjusted accordingly (LRWWMP).

**3.0 SERVICE AREA EXTENSION OBJECTIVES: Ensure the availability of an adequate level of sanitary sewer service to areas annexing to the City or areas within the City's Potential Annexation area.**

POLICIES:

3.1 The City of Renton will follow state guidelines that define a City's ability to assume facilities in annexation areas (RCW 35.13A and 2004 Renton Comprehensive Plan, Policy U-64).

3.2 The City may assume existing portions of adjacent sanitary sewer systems, at the discretion of the City Council, when such assumptions promote the logical and efficient development of the City's sanitary sewer system (Policy U-70, 2004 Renton Comprehensive Plan, adopted November 1, 2004 as amended).

3.3 Allow the extension of sanitary sewer services within the City's Potential Annexation Area according to such criteria as the City may require. Sanitary sewer service shall not be established within the boundaries of another sewer service provider's district, except by agreement with that provider (Policy U-69, 2004 Renton Comprehensive Plan, adopted November 1, 2004 as amended).

Comment: As the service provider, Renton is the point of contact or focal point. Not all regulations or criteria originate with Renton. Some regulations or criteria originate at the federal, state, or county level. All applicable regulations will be followed in the provision of service in unincorporated areas.

3.4 Areas annexed without existing municipal sanitary sewer service shall be served by Renton unless a service agreement exists or is negotiated with a neighboring utility (RCW 35.13A.050 and Policy U-65, 2004 Renton Comprehensive Plan, adopted November 1, 2004 as amended).

3.5 Areas annexed with existing sanitary sewer service must meet the City's sanitary sewer service objectives. Upgrading of sanitary sewer facilities to City standards, within all or portions of newly annexed areas will be required if there is a threat to public health and safety. If improvements are necessary, they may be accomplished by developer installation or LID as a condition of the annexation (Policy U-66, 2004 Renton Comprehensive Plan, adopted November 1, 2004 as amended).

3.6 The City Council shall consider annexations without assumptions of existing sanitary sewer facilities under the following conditions:

a. The sanitary sewer facilities are or will be operated and maintained by an adjacent municipal utility; and

b. The adjacent utility has executed a service boundary agreement with the City; and

c. The annexation area is better served by the adjacent utility either because of location within a drainage basin or because it is the most logical extension of facilities (LRWWMP).

3.7 When areas outside of the city limits annex to the City, they must be provided with an adequate level of sewer service. The City of Renton will serve annexed areas that do not have sewer service unless a service agreement exists or is negotiated with a neighboring utility. Annexed areas with existing sanitary sewer service must meet the City's sanitary sewer service objectives as they are defined within the LRWWMP. However, upgrading sanitary sewer facilities to all City sanitary sewer standards will be required only if there is a threat to public health and safety. As a condition of the annexation, improvements may be required, which can be constructed by developer installation or LID (LRWWMP).

3.8 In the Urban Growth Area all new development shall be served by public sewers, unless application of this policy to a proposal for a single-family residence on an individual lot would deny all reasonable use of the property (2004 King County Comprehensive Plan with 2006 Amendments, Policy F-245).

3.9 King County shall work with cities, special purpose districts, and other local service providers and citizens to identify and distinguish local and countywide services. Over time, cities will assume primary responsibility for coordination the provision of local services delivery. The County will assume primary responsibility for coordinating the provision of countywide services, including countywide services that must be delivered within city boundaries. The County will also work with cities, special purpose districts, and other counties to identify regional services and facility needs, and develop strategies to provide them (2004 King County Comprehensive Plan with 2006 Amendments, Policy F-102).

EXISTING REGULATIONS:

3.10 Sanitary sewer service to properties outside the City’s corporate limits will not be permitted except under the following conditions:

a. Public Entity: The applicant is a municipal or quasi-municipal corporation including a school, hospital or fire district, County of King, or similar public entity; or

b. Necessary Service: Service is necessary to convert from a failed or failing septic system or in the area that has been defined by the Seattle-King County Health Department as a health concern area; or

c. Vested Service: Those properties for which the City has granted a valid sewer availability certificate prior to July 21, 2008 and the project has a current vested right to build; or

d. In the City’s Sewer Service Area, Existing Legal Lot(s) Desiring to Construct One Single-Family Residence or Connect One Existing Single Family

Residence: The Administration may approve the connection of one single-family residence on an existing legal lot.

In any case, as a condition of sewer service by the City of Renton, the property owner(s) shall execute a covenant to annex for each parcel when the property being provided sewer service is within Renton's Potential Annexation Area (PAA) (City Code Section 4-6-040.C).

**4.0 FINANCIAL OBJECTIVE: Provide sound financial policies on which to base operations of the Wastewater Utility that will allow the utility to meet its overall goal.**

POLICIES:

4.1 Criteria should be established for developing the fees and rates necessary to maintain the Wastewater Utility's established level of service (LRWWMP).

4.2 The Wastewater Utility shall be operated as an enterprise utility (financially self-supporting) (LRWWMP).

4.3 The Wastewater Utility should use a rate setting process that complies with standards established by the American Public Works Association (LRWWMP).

4.4 The Wastewater Utility should use cost-based rates and additional charges that:

a. Recover current, historical, or future costs associated with the City of Renton's sanitary sewer system and services.
b. Equitably charge utility customers to recover costs commensurate with the benefits they receive.
c. Provide adequate and stable sources of funds to cover the current and projected annual cash needs of the Wastewater Utility (LRWWMP).

4.5 Portions of the revenue generated from sewer user rates will be used for wastewater utility related capital improvement projects, including debt service for the projects (City Code Section 8-5-15F).

4.6 New customers seeking to connect to the sanitary sewer system shall be required to pay charges for an equitable share of the cost of the system. Revenue from these charges is used to finance part of the CIP (City Code Section 4-1-180.C).

4.7 Customers should be charged for supplemental, special purpose services through separate ancillary charges based on the cost to provide the service. Ancillary charges create more equitable fees and increase operating efficiency for services to customers. Revenue from ancillary charges should be used to offset operations and maintenance costs (LRWWMP).

4.8 The utility should maintain information systems that provide sufficient financial and statistical information to ensure conformance with rate-setting policies and objectives (LRWWMP).

4.9 Rates shall be developed using the cash basis to determine the total revenue requirements of the Wastewater Utility (LRWWMP).

4.10 User charges shall be sufficient to provide cash for the expenses of operating and maintaining the Wastewater Utility. To ensure the fiscal and physical integrity of the Wastewater Utility, an amount shall be set aside each year for capital expenditures from retained earnings, that is, an amount shall be set aside to cover some portion of the depreciation of the physical plant. The amount may be transferred from the Sanitary Sewer Fund to the Construction Fund for general purposes, or for specific purposes, such as creating a reserve for main replacement (LRWWMP).

4.11 A Working Capital Reserve will be maintained to cover emergencies, bad debts, and fluctuations in cash flow (LRWWMP).

4.12 The customer classes for the utility shall be single-family (including attached single-family), commercial (including multi-family), and industrial (City Code Section 4-6-040.E.2).

4.13 The inflation rate should be based on information provided by the Finance Department (LRWWMP).

4.14 Large industrial users should be charged for services on the same basis as all other users (LRWWMP).

4.15 The utility should use generally accepted cost allocation principles for all cost allocation purposes (LRWWMP).

4.16 The utility fees and charges should be calculated for the service area as a whole. Rates should be the same regardless of location (except for the inside/outside City distinction discussed below) (LRWWMP).

4.17 When the City takes over existing service of properties outside the City limits by agreement with an adjacent district, the City shall charge the normal in-city rates (LRWWMP).

<u>EXISTING REGULATIONS:</u>

4.18 For customers residing outside the City limits, sanitary sewer rates are 1.5 times the residential City rates (City Code Section 8-5-15C).

4.19 Renton provides for a senior and/or disabled citizen discount on City sewer rates (City Code Section 8-5-15D4).

4.20 Owners of properties that have not been assessed or charged an equitable share of the cost of the sanitary sewer system shall pay, prior to connection to the system, one or more of four charges:

a. System Development Charge

b. Special assessment charge
c. Latecomer's fees
d. Inspection/approval fees (City Code Sections 4-1-180.C, 4-1-180.D, and 4-1-180.E)

**5.0 FACILITY OBJECTIVE: Provide a wastewater collection system that ensures adequate capacity and system reliability, is consistent with land use and environmental protection goals and policies, and is well maintained.**

POLICIES:

5.1 Design criteria should be established to provide an optimum performance level and a standard of quality for the sanitary sewer system (LRWWMP).

5.2 All lift stations that will be converted to public maintenance shall have control and telemetry systems that are consistent and compatible with the current City system (LRWWMP).

5.3 Joint use facilities will be pursued only in those areas where they would improve reliability or reduce operating costs. All joint use facilities must comply with City policy and design standards (LRWWMP).

EXISTING REGULATIONS:

5.4 Public sewers shall conform to the latest standards of the City of Renton, as adopted by City Code as well as the Department of Ecology Criteria for sewage works design and the *Recommended Standards for Sewage Works* of the Great Lakes-Upper Mississippi River Board of State Sanitary Engineers. The standards are subject to review by the Department of Ecology of Washington State. All public sewer extensions shall conform to City standards and be consistent with the City LRWWMP (City Code Section 4-6-040.F.2).

5.5 The public sewer shall be ductile iron American Water Works Association (AWWA) C 151, that is with Type II push-on or Type III mechanical joints, together with cement mortar lining that is 3/32 of an inch in accordance with AWWA C 104, or polyvinyl chloride (PVC) plastic pipe American Society for Testing Methods (ASTM) D 3034, or concrete non-reinforced ASTM C14 Class 2, or concrete reinforced ASTM C76. Rubber gaskets for concrete pipe shall meet ASTM C443 standards. Rubber gaskets for PVC pipe shall meet ASTM 1869 standards. However, public sewers installed in filled or unstable ground, in areas with high ground water levels, or in areas where the potential for infiltration occurs, may be required to be either ductile iron, or PVC plastic pipe. Exact pipe material shall be as determined by the Wastewater Utility. Alternative pipe materials may be considered by the Wastewater Utility on a case-by-case basis. Minimum size shall be 8 inches in diameter (City Code Section 4-6-040.F.3).

5.6 Manholes shall be installed at the end of each line, at all changes of grade, size or alignment, and at distances no greater than 400 feet for 15-inch diameter sewers or smaller. Greater spacing may be permitted in larger sewers. Manholes shall be a minimum of 48 inches in diameter, shall be precast concrete or cast in place concrete, with steel reinforcement. Steps shall be placed at 1-foot intervals, conforming to current safety regulations.

The manhole covers shall be 24-inch diameter cast iron frame and lid. All connections to the manhole shall match the existing inverts or have a drop connection in accordance with standards (City Code Section 4-6-040.F.5).

5.7 All private lift stations for commercial or multi-family use shall have alarm and standby emergency operation systems, and meet or exceed Department of Ecology specifications as detailed in *Recommended Standards for Sewage Works*. All private single-family lift stations shall meet or exceed City standards for that type of facility (City Code Section 4-6-040.F.6).

5.8 All person(s) or local improvement districts desiring to extend sanitary sewer mains as part of the City's system must extend said mains under the supervision of the Wastewater Utility (City Code Sections 4-6-040.F.7).

5.9 No property shall be served by City sewer unless the sewer main is extended to the extreme boundary limit of said property as required by this section. All extensions shall extend and cross the full width of the property to be served by sewer except when shown by engineering methods, to the satisfaction of the Wastewater Utility, that future extension is not possible or necessary. If an exemption is granted, the property owner is not relieved of the responsibility to extend the main and shall execute a covenant agreeing to participate in an extension if, in the future, the Wastewater Utility determines that it is necessary (City Code Sections 4-6-010.B).

5.10 Any facility improvements, identified by the current adopted LRWWMP, that are not installed or are being installed must be constructed by the property owner(s) or developer(s) desiring service (City Code Sections 4-6-040.B).

5.11 Any party extending utilities that may serve other than that party's property may request a latecomers' agreement from the City (see City Code Chapter 5, Title IX for methodology) (City Code Sections 9-5-1).

5.12 Any party required to oversize utilities may request that the utility participate in the cost of the project (City Code Section 4-6-010.C).

5.13 Grease and oil interceptors or other approved methodology, shall be required on all restaurant, garage, and gas station premises and shall be so situated as to intercept the sources of grease and oil wastes but exclude domestic or human wastes. Grease, oil, and sand interceptors shall be provided in any other case if, in the opinion of the Wastewater

Utility, they are necessary for the proper handling of liquid wastes. All interceptors shall be of a type and capacity approved by the Wastewater Utility (City Code Section 8-5-11).

5.14 Old building sewers may be used in connection with new buildings only when, after examining and testing them, the Wastewater Utility finds they meet all standards and specifications of the City (City Code Sections 4-6-040.G.13).

5.15 The size and slope of the building sewer shall be subject to the approval of the Wastewater Utility. The standard minimum sizes and slopes are (City Code Sections 4-6-040.G.3):

a. 4 inches at a 2 percent slope (1/4 inch per foot) for single-family residential.
b. 6 inches at a 2 percent slope (1/4 inch per foot) for multi-family, commercial, or industrial.

In no event shall the diameter of the side sewer stub be less than 6 inches. The Wastewater Utility may allow, under certain circumstances, a 6-inch side sewer to be laid at no less then 1 percent (1/8 inch per foot). A grade release holding the City harmless for the flatter slope will be required.

5.16 If a building cannot be served by a gravity system an approved, private lift station may be utilized to provide service (City Code Sections 4-6-040.G.5).

**6.0 MAINTENANCE OBJECTIVE: Maintain the sanitary sewer system in a safe, reliable, and efficient operating condition.**

POLICIES:

6.1 The City will maintain its wastewater collection system according to the following guidelines:

a. Maintenance shall be performed by the sanitary sewer maintenance staff and supervised by the Field Superintendent.
b. All maintenance personnel shall be trained in the procedures and techniques necessary to efficiently perform their job descriptions.
c. Dry, heated shop space shall be available to all maintenance personnel.
d. Tools shall be obtained and maintained to repair all items whose failure will impact the ability to meet other policy standards.
e. Spare parts shall be stocked for all equipment items whose failure will impact either the ability to meet other policy standards or the inability to continue providing service to customers (LRWWMP).

6.2 The City should provide a preventive maintenance schedule for all facilities and equipment. This schedule should be based on the functional and economically useful life of the equipment and facilities as determined by the manufacturer or industry experience.

a. Worn parts should be repaired, replaced, or rebuilt before they have a high probability for failure.

b. Where feasible and practical, equipment should be replaced before it becomes obsolete (LRWWMP).

6.3 The City will maintain the wastewater collection system in a timely manner that provides service continuity to the customer.

a. Equipment breakdown repairs will be made even if overtime labor is involved.
b. Equipment that is taken out of service for maintenance will be returned to service as soon as possible (LRWWMP).

6.4 Written records and reports should be maintained on each facility and item of equipment showing its operation and maintenance history (LRWWMP).

6.5 The property owner is responsible for and shall maintain side sewer stubs (that portion of the side sewer within the right-of-way or easement). If a side sewer becomes plugged, it is the property owner's responsibility to correct the problem. The City will assist in locating the side sewer based on any as-built records it has. If it is determined that the problem exists within the City sewer main, the City will provide professional clean up and repair service (LRWWMP).

6.6 A vulnerability analysis will be performed to determine a reasonable "worst case" failure for each basin. The analysis will consider the failure of the interceptor and trunk sewers, failure of the largest mechanical component, and power failure to a single power grid (LRWWMP).

EXISTING REGULATIONS:

6.7 Restaurants and other food processing establishments, garages, and gas stations shall install and maintain grease traps, grease and oil interceptors, or other approved methodology on their premises as determined by the Wastewater Utility (City Code Section 8-5-11).

**7.0 ORGANIZATIONAL OBJECTIVE: Provide the organizational structure and staff necessary to operate the City of Renton's Wastewater Utility system efficiently.**

POLICIES:

7.1 The Wastewater Utility is responsible for operating the sanitary sewer system, including its planning, design, operations and maintenance, records management, customer service, and construction management (LRWWMP).

7.2 The Wastewater Utility shall consist of two sections: Wastewater Utility Systems Section and Wastewater Maintenance Section. The Wastewater Utility Systems Section is responsible for project management of CIP projects, planning and design, and customer service. Wastewater Maintenance Section is responsible for inspection, testing and repair of facilities, routine preventative maintenance, and responding to emergencies (LRWWMP).

7.3 Wastewater Utility customer service is performed by the Planning/Building/Public Works Customer Service Division (general) and by the Wastewater Utility staff (technical) (LRWWMP).

7.4 Provide the levels of staffing and diversity of skills necessary to operate the City's wastewater utility system (LRWWMP).

7.5 The Wastewater Utility should utilize the expertise in other City departments, according to inter-departmental agreements, to augment the Wastewater Utility's expertise (LRWWMP).

# PLANNING CONSIDERATIONS AND DESIGN CRITERIA

## 4.1 INTRODUCTION

This chapter describes the City of Renton's land use policies, and the sewer system's design criteria. It then describes how land use policies and design criteria were used to develop saturation flow rates that were the basis for a hydraulic computer analysis of the existing system.

The City of Renton's land use policies and its sewer system are connected with adjacent sewer systems' policies and systems in several ways. Existing land use provides the basis for designing properly sized sewerage facilities, including trunks, interceptors, and lift stations. Most of the basins served in part by the City are also served in part by other cities or districts. In most cases Renton's sewers are downstream, or at the receiving end of the effluent, from the systems adjacent to the City. Therefore, proper planning for Renton's sewers requires that the plans of these adjacent utilities be evaluated.

In addition to adjacent utility plans, the land use plans and policies of King County and the Growth Management Planning Council were also considered. As discussed below the entire planning area is within the Urban Growth Boundary (UGB) established by the Growth Management Planning Council. Renton supports the countywide framework policies (F-245 and F-102) that call for the designated Urban Area to be served with sanitary sewers and prefers cities as the provider of sewer services. The entire study area has been designated Urban by the 2004 King County Comprehensive Plan with 2006 Amendments.

## 4.2 PLANNING AREA

The Planning Area for this LRWWMP was developed using a variety of criteria. Because many of the adjacent utilities have sanitary sewer facilities that border the Renton City Limits, the proposed sewer service area for the most part, corresponds with the current city limits and urban growth boundary, as shown in Figure 4.1. Deviations from this norm did occur in the following areas:

- As of the adoption of Renton’s 1998 Long-Range Wastewater Management Plan, Renton’s sanitary sewer service area has been extended to the UGB for the East Cedar River Basin, which coincides with Renton’s Potential Annexation Area (PAA), extending to the urban growth boundary. Sewer extensions into this portion of the service area will be primarily driven by development within this basin and the need to provide public sewer to the three schools in the area. Consistent with the Countywide Planning Policies, the current Comprehensive Land Use Plan for the City of Renton has included the East Cedar River basin within the City's Planning Area.

Coal Creek Utility District
425-235-9200

Skyway Water and Sewer District
206-772-7343

City of Tukwila
206-433-1850

Cedar River Water and Sewer District
253-255-6370

City of Kent
253-856-5600

Soos Creek Water and Sewer District
253-630-9900

N

0 2,000 4,000
Feet
1:24,000

Adjacent Sewer Utility Systems

Urban Growth Boundary

City Limits

Sanitary Sewer Service Area

CITY OF RENTON

# FIGURE 4.1

# CITY OF RENTON LONG-RANGE WASTEWATER MANAGEMENT PLAN

## SEWER SERVICE AREA ADJACENT SEWER UTILITIES

JANUARY 2008

- The City of Renton has negotiated service area boundaries along the common borders with Coal Creek Water and Sewer District, Soos Creek Water and Sewer District, Skyway Water and Sewer District, and Cedar River Water and Sewer District. The study area includes the agreed upon service area boundaries.
- Natural boundaries in certain areas make the City of Renton the logical sanitary sewer provider to them. The study area includes a portion of the area to the east of the Green River within the City of Tukwila.

As described in Chapter 2, the City of Renton serves six drainage basins, which are: 1) Black River, 2) Downtown, 3) East Cedar River, 4) East Lake Washington, 5) May Valley, and 6) West Cedar River.

City of Renton, City of Tukwila, City of Kent, and Soos Creek Water and Sewer District provide service within the Black River Basin. Soos Creek Water and Sewer District also provides service within the Black River and West Cedar River Basins. Skyway Water and Sewer District serves parts of the Downtown Basin. May Valley Basin is partially served by Coal Creek Water and Sewer District.

## 4.3 LAND USE

### 4.3.1 City Of Renton Land Use

The existing land use pattern of the City of Renton reflects 100 years of settlement and expansion. The original City was settled in the broad floodplain at the confluence of the Cedar and Black Rivers along the shore of Lake Washington. The downtown, the Renton Municipal Airport, and the Boeing/PACCAR industrial area now occupy these lands. Significant redevelopment is anticipated for the downtown and portions of the former Boeing industrial area over the next 15 to 20 years.

The Landing Development sits on approximately 60 acres of former Boeing Industrial Land. This development currently consists of various retail uses and a significant multi-family component. This development will continue to expand within its existing 60-acres over time as current surface parking is replaced by structured parking, thus permitting future infill of additional retail, residential, and commercial office applications. Phase II of the landing includes an additional approximate 30 acres of land for similar uses as phase I. The initial development of the Landing was a partnership between the City and the developer Harvest Partners. The City installed the base Public Works infrastructure improvements within the newly established public roadways, including roads, storm drainage, water, and sanitary sewer.

Areas immediately north and south of downtown are characterized by older, single-family development interspersed with small-scale multi-family developments.

Outside of the central business district, commercial areas are concentrated along the major arterials and freeway exchanges, including Rainier Avenue, Grady Way, Sunset Boulevard, NE 4th Street, the NE 44th Street exit from Interstate 405, and SW 43rd Street. These areas are generally characterized by low intensity, auto-oriented strip commercial, but also include Renton's automall along Grady Way and several large-scale retailers.

South of downtown to the city limits, the Green River Valley has developed, with manufacturing, office and warehouse uses. The south and eastern portions of the valley include some commercial uses. The Valley has experienced significant development activity in recent years, primarily comprised of a number of new warehouses, offices, and bulk retail, among other uses. Significant residential development has occurred on the uplands above the Green River Valley, downtown and East Kennydale area. These areas are primarily comprised of single-family neighborhoods, although some concentrations of multi-family and commercial uses exist. West of the downtown, residential development extends seamlessly from Renton up onto the West Hill of unincorporated King County. On the east side of the service area, residential development extends from downtown to the UGB with the denser development closer to downtown and becoming less dense as you travel east. Renton's PAA and sanitary sewer service area on the East Renton Plateau is generally characterized by large-lot single family, moderate density single-family developments, and vacant, un-platted parcels. This is an area where the City has seen significant single-family growth occur. The City anticipates continued expansion of the sewer system within the areas containing larger or grouped tracts of undeveloped or underdeveloped parcels where the zoning supports the cost of the extensions.

The geography and hydrology of the Renton vicinity as well as a proactive parks acquisition program by the City of Renton combine to provide significant open spaces that constitute a passive land use. Some larger examples include lands adjacent to the Cedar River and May Creek, Gene Coulon Park on Lake Washington, the Black River Riparian Wildlife Habitat area and habitat areas of the Green River Valley.

The City has had a Comprehensive Plan since 1965. The current plan, adopted in 2004 and annually amended, was developed and approved under the regulatory requirements of the Washington State Growth Management Act (GMA) and the policy framework of the King County Countywide Planning Policies. While the plan includes Transportation, Housing, Capital Facilities, Utilities, Downtown, Economic Development, and Environmental Elements, it is the policy decisions expressed in the Land Use Element that gives the plan its primary direction and cohesiveness. This LRWWMP proceeds from and supports the policies and Land Use Map of the Comprehensive Plan. Utility Element policies have been addressed in Chapter 3.

To the extent that the City has jurisdiction or can require compliance, development within the service area must be consistent with Renton's Comprehensive Plan. Consistency with certain elements of the Comprehensive Plan is required as a condition of sanitary sewer service outside the city limits. The Comprehensive Plan is intended to provide the basis for all development regulations, functional plans and other City plans and programs that may in some

way support, implement or derive from the City's land use plans. The Comprehensive Plan is a broad statement of community goals and policies that direct the orderly and coordinated physical development of the City. The Comprehensive Plan anticipates change and provides specific guidance for future legislative and administrative actions. The Comprehensive Plan also serves as a guide for designating land uses and infrastructure development as well as developing community services.

Sewer service outside the City is currently restricted to only single family uses on existing platted lots, quasi public agencies, existing developments with confirmed health related issues to their existing on-site system, and those developments with vested sewer availability letters prior to the adoption of this current code.

The purpose of this code is to allow for existing and proposed single family to connect on an existing lot, allow public uses the ability to connect, recognize uses that may have health issued that need to be addressed and recognize those developments with existing legal sewer availability letters.

All new development, either residential requiring subdivision, or other type uses (Multi family, commercial, etc.) will be required to annex into the City prior to receiving sanitary sewer service.

### 4.3.2 City of Renton Land Use Designations

The Land Use Map adopted on December 10, 2007 within the Land Use Element of the Comprehensive Plan represents the intended future pattern of land uses in the planning area as shown in Figure 4.2. The service area addressed in the LRWWMP includes most of the area within the existing city limits, the urban growth boundary and one area outside the urban growth boundary. The areas outside of the City includes 117 acres within the city limits of Tukwila, approximately 15 acres within the city limits of Kent and unincorporated areas in Renton's potential annexation area. The only area outside the urban growth boundary that Renton provides service to is the Apollo Elementary School.

The district designations on the Land Use Map correspond to policies in the Land Use Element of the Comprehensive Plan and are implemented by the City's adopted Zoning Map and Zoning Code. The land use designations are described below.

#### 4.3.2.1 RESIDENTIAL DESIGNATIONS

##### 4.3.2.1.1 *Residential Low Density Land Use Designation*

The designation is intended to guide development on land appropriate for a range of low intensity residential and employment where land is either constrained by sensitive areas or where the City has the opportunity to add larger-lot housing stock, at urban densities of up to 4-dwelling units per net acre (du/net acre), to its inventory.

N

This document is a graphic representation, not guaranteed to survey accuracy, intended for city purposes only and based on the best information available as of the date shown
Landuse data as of adopted date of December 10, 2007

**RESIDENTIAL**

- Residential Low Density
- Residential Single Family
- Residential Medium Density
- Residential Multi-Family

**CENTER DESIGNATIONS**

- Center Village
- Urban Center Downtown
- Urban Center - North

**EMPLOYMENT AREA DESIGNATIONS**

- Employment Area - Industrial
- Emplyment Area - Valley

**COMMERCIAL DESIGNATIONS**

- Commercial Neighborhood
- Commercial/Office/Residential
- Commercial Corridor

- City Limits
- Urban Growth Boundary

0 2,000 4,000 Feet

1:24,000

# FIGURE 4.2

# CITY OF RENTON LONG-RANGE WASTEWATER MANAGEMENT PLAN

## COMPREHENSIVE PLAN LANDUSE

JANUARY 2008

#### 4.3.2.1.2 *Residential Single Family Land Use Designation*

Lands in the Residential Single Family Designation are intended to be used for quality residential detached development organized into neighborhoods at urban densities. It is intended that larger subdivision, infill development, and rehabilitation of existing housing be carefully designed to enhance and improve the quality of single-family living environments.

#### 4.3.2.1.3 *Residential Medium Density Land Use Designation*

The Residential Medium Density designation is intended to create the opportunity for neighborhoods that offer a variety of lot sizes, housing, and ownership options.

#### 4.3.2.1.4 *Residential Multi-Family Land Use Designation*

The multi-family residential land use designation is intended to encourage a range of multi-family living environments that provide shelter for a wide variety of people in differing living situations, from all income levels, and in all stages of life.

### 4.3.2.2 CENTER DESIGNATIONS

The City's Comprehensive Plan is based, in part, on a hierarchy of mixed-use centers, primarily comprised of residential and commercial uses. These areas are intended to be urban in land use and pedestrian in orientation. The centers vary in terms of the intensity of development and the range of intended market area for the goods and services provided. Center boundaries are intended remain relatively static.

#### 4.3.2.2.1 *Center Village Land Use Designation*

Center Village is characterized by areas of the City that provide an opportunity for redevelopment as close-in urban mixed-use residential and commercial areas that are pedestrian oriented. These areas are anticipated to provide medium to high-density residential development and a wide range of commercial activities serving citywide and sub-regional markets. Center Villages typically are developed within an existing suburban land use pattern where opportunities exist to modify the development pattern to accommodate more growth within the existing urban areas by providing for compact urban development, transit orientation, pedestrian circulation, and a community focal point organized around an urban village concept.

#### 4.3.2.2.2 *Urban Center Downtown Land Use Designation*

The Urban Center - Downtown (UC-D) is expected to redevelop as a destination shopping area providing neighborhood, citywide, and sub-regional services and mixed-use residential development. UC-D residential development is expected to support urban scale multi-family projects at high densities, consistent with Urban Center policies. Projects in the UC-D are expected to incorporate mixed-uses including retail, office, residential, and service uses that support transit and further the synergism of public and private sector activities. In the surrounding neighborhoods, infill urban scale townhouse and multi-family residential

developments are anticipated. Site planning and infrastructure will promote a pedestrian scale environment and amenities.

#### 4.3.2.2.3 *Urban Center North Land Use Designation*

The purpose of the Urban Center North Land Use Designation (UC-N) is to redevelop industrial land for new office, residential, and commercial uses at a sufficient scale to implement the Urban Centers criteria adopted in the Countywide Planning Policies. This portion of the Urban Center is anticipated to attract large-scale redevelopment greater than that in the UC-D, due to the large available land holdings under single ownership. In addition, this new development is expected to include a wider group of uses including remaining industrial activities, new research and development facilities, laboratories, retail integrated into pedestrian-oriented shopping districts, and a range of urban-scale mixed-use residential, office and commercial uses. The combined uses will generate significant tax income for the City and provide jobs to balance the capacity for the more than 5,000 additional households in the Urban Center. Development is expected to complement the UC-D.

### 4.3.2.3 EMPLOYMENT AREA DESIGNATIONS

#### 4.3.2.3.1 *Employment Area - Industrial*

The Employment Area-Industrial designation is intended to provide continued opportunity for manufacturing and industrial uses that create a strong employment base in the City.

#### 4.3.2.3.2 *Employment Area - Valley*

The purpose of the Employment Area-Valley designation is to allow the gradual transition of the Valley from traditional industrial and warehousing uses to more intensive retail service and office activities. The intent is to allow these new activities without making industrial uses non-conforming and without restricting the ability of existing businesses to expand.

### 4.3.2.4 COMMERCIAL DESIGNATIONS

#### 4.3.2.4.1 *Commercial Neighborhood Land Use Designation*

The purpose of Commercial Neighborhood designation is to provide small scale, low-intensity commercial areas located within neighborhoods primarily for the convenience of residents who live nearby. Uses should be those that provide goods and services. In addition, a limited amount of residential opportunities should be provided.

#### 4.3.2.4.2 *Commercial/Office/Residential Land Use Designation*

The Commercial/Office/Residential (COR) designation provides opportunities for large-scale office, commercial retail, and multi-family projects developed through a master plan and site plan process incorporation significant site amenities and/or gateway features. COR sites are typically transitions from an industrial use to a more intensive land use. The sites offer redevelopment opportunities on Lake Washington and/or the Cedar River.

#### 4.3.2.4.3 *Commercial Corridor Land Use Designation*

The Commercial Corridor district is characterized by concentrated, pre-existing commercial activity, primarily in a linear urban form, that provides necessary goods and services for daily living, accessible to near-by neighborhoods, serving a sub-regional market and accommodating large volumes of traffic.

Table 4.1 lists the acreage of Renton's proposed sanitary sewer service area by Renton Comprehensive Plan land use designation and with reference to the city limits. As noted above, portions of the proposed service area are within another. For those areas outside Renton's Comprehensive Planning area, land use designations are adopted by different jurisdictions.

#### 4.3.2.5 School Designations

The City of Renton serves public elementary, middle, and high schools from the Issaquah and Renton School districts in addition to private schools, Renton Technical College, and a University of Phoenix campus. These schools are spread throughout Renton and can be found within each service basin except for the May Valley Basin (Figure 4.3). There are three schools in Renton's service area, Liberty High School, Maywood Middle School, and the Briarwood Elementary School that are not currently connected to the public sewers. All three of these schools are in the East Cedar River Basin.

**Table 4.1 Land Use of Renton's Sewer Service Area**
**Long Range Wastewater Management Plan**
**City of Renton**

| Land Use Designation | Area in Acres (Existing City Limits) | Area in Acres (PAA) |
|---|---|---|
| Residential Low Density | 2,151 | 2,019 |
| Residential Single Family | 3,820 | 63 |
| Residential Medium | 603 | 154 |
| Residential Multi-Family | 511 | 0 |
| Center Village | 208 | 0 |
| Urban Center Downtown | 223 | 0 |
| Urban Center North | 356 | 0 |
| Employment Area - Industrial | 532 | 0 |
| Employment Area - Valley | 1,763 | 0 |
| Commercial Neighborhood | 28 | 0 |
| Commercial / Office / Residential | 154 | 0 |
| Commercial Corridor | 897 | 0 |
| Total | 11,246 | 2,236 |

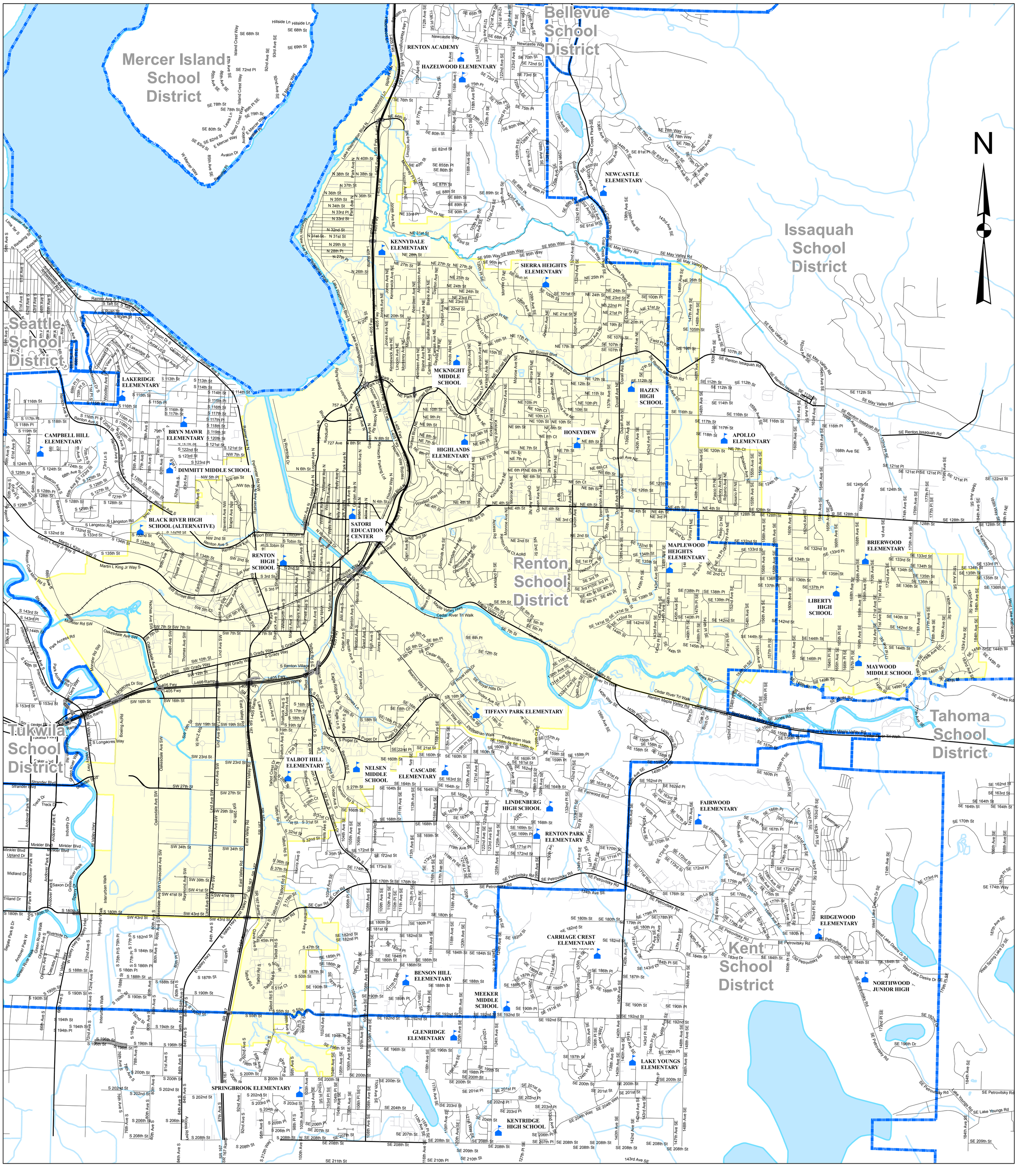



FIGURE 4.3

# CITY OF RENTON LONG-RANGE WASTEWATER MANAGEMENT PLAN

## SCHOOLS

JANUARY 2008

### 4.3.3 King County Land Use

The 2008 King County Comprehensive Plan directs Land use within the unincorporated portions of the study area. Policy F-249 identifies that “Public Sewer expansions shall not occur in the Rural Area and on Natural Resource Lands except where needed to address specific health and safety problems threatening structures permitted before the effective date of the County Plan or the needs of public facilities such as schools.”

The City does not see potential service to rural areas as a major impact to our proposed service area. The City will address the need(s) for expansion into the rural area in concurrence with King County comprehensive planning providing for the ability or need for sanitary sewer service.

All of the service area in unincorporated King County is designated "urban", with the exception of the service to Apollo Elementary School just east of the urban growth areas (UGAs). UGAs are intended to develop at urban densities and with urban service levels. Under the growth management concept, these areas are expected to accommodate the majority of King County’s population and employment growth. The UGB is the division line between the designated urban and rural areas that defines the eastern boundary of Renton’s PAA. According to the King County Countywide Planning Policies that provide a policy framework for all comprehensive plans in King County, cities may not annex areas outside the UGB nor may they provide sewer service, except in cases of threat to public health.

Unincorporated areas of King County are divided into community planning areas, each with a community plan. These community plans were adopted as part of the 2008 King County Comprehensive Plan. Where conflicts or inconsistencies between the policies of the community plans and the County’s Comprehensive Plan occur, the Comprehensive Plan takes precedence. Three community plans, Soos Creek, West Hill, and Newcastle, cover most of the unincorporated areas within the study area of this plan.

### 4.3.4 City of Kent Land Use

City of Kent Planning Services assures quality in the land development process by effective administration of land use codes and compliance with the GMA. Planning Services is guided by and committed to public participation, customer service, and helping to attain the highest possible quality of life for all Kent citizens. The Comprehensive Plan Land Use Map provides the general vision for the City's growth over the next twenty years, and provides a framework for amendments to the City's official Zoning Districts Map. Approximately 15 acres of the City of Renton’s sewer service area are within the City of Kent. This area is designated as single-family residential.

### 4.3.5 City of Tukwila Land Use

During 2004, Tukwila updated its Comprehensive Plan to ensure that it meets statewide planning regulations. Key topics included reviewing policies and development codes for

environmentally sensitive areas, as well as adopting new countywide housing and employment targets. Tukwila's Comprehensive Plan is the guiding document or "blueprint" for how Tukwila will manage future growth and development over the next twenty years. The Comprehensive Plan was adopted in 1995, with opportunities for amendments each year. Approximately 117 acres of the City of Renton's sewer service area are within the City of Tukwila. 40 acres are within the Tukwila Urban Center that contains an intense diverse mix of use that will continue to evolve over time. The center is a regional commercial/industrial area with limited mixed use residential. The remaining area is designated as Commercial/Light Industrial.

Table 4.2 displays the land use designations for those areas within Renton's service area that are outside of the City of Renton but not inside Renton's PAA.

**Table 4.2 Land Use Designations for Areas Outside Renton's PAA**
**Long Range Wastewater Management Plan**
**City of Renton**

| Jurisdiction (Designation) | Land Use (Density) | Area in Acres |
|---|---|---|
| Kent (US) | Urban Separator (1 unit / acre maximum) | 15 |
| Tukwila (Commercial/Light Industrial) | Commercial/Office/Light Industrial | 77 |
| Tukwila (Tukwila Urban Center) | Commercial/Office/Light Industrial/ Multi-Family (22 du/acre maximum) | 40 |
| King County | Apollo Elementary School | 12 |

### 4.3.6 Adjacent Utility Systems/Joint Use, Service Agreements and Related Plans

The City has entered into several joint use and service agreements with neighboring districts and private customers when it has been economically beneficial. A list and a summary of these joint use and service agreements are presented below. The full text for each of these agreements is presented in Appendix A.

- Coal Creek Utility District (formerly Water District No. 107)
  - CAG-035-075, 1975 - Construction of an interceptor line from the City of Renton sewer service area through Water District No. 107 to a collection trunk operated by the Municipality of Metropolitan Seattle.
  - Sewer Utility Franchise, 1987 - The City of Renton granted Water District No. 107 the right to install sewer lines within the service area of Water District No. 107.
  - CAG-01-031, 2001 - Sewer service boundary clarification.

- City of Kent
  - CAG-012-83, 1983 – Provides for the installation of a sanitary sewer main that is owned and operated by the City of Renton and allowing the City of Renton to provide sewer service to the adjacent properties that are in the Kent service area.
- King County
  - Franchise No. 14056, 2001 - Grants the City of Renton the right to construct sewer lines along County roads.
- Soos Creek Water and Sewer District, formerly called Cascade Sewer District
  - Resolution 1234 AG-764-64, 1964 - Interceptor sewer line from the Cascade sewer system through portions of the City of Renton to the sewer system of the municipality of Metropolitan Seattle.
  - Agreement CAG-039-074, 1974 - Extension of the City of Renton's sewer service to certain areas within the Cascade sewer service area.
  - CAG-083-91, 1991 - Soos Creek Water and Sewer District to provide sewer service to certain properties within the Renton city limits.
  - CAG - 097-164, 1997 - Revision of the water sewer service boundary.
  - CAG -083-91 Addendum 1-04, 2004 - The Soos Creek Water and Sewer District may connect certain properties (described in the 1991 agreement) to the Renton Sewer System.
- Skyway Water and Sewer District
  - CAG-03-197, 2003 - Sewer and water service boundary clarification.
  - CAG-06-170, 2006 - Skyway Water and Sewer District may connect a portion of their service area into the City of Renton's sewer facilities.
- Cedar River Water and Sewer District
  - CAG-99-014, 1999 - Water and sewer service boundary clarification.

The City is surrounded by seven adjoining sewer utility entities, as previously shown in Figure 4.1. These adjacent utility entities are listed below.

#### 4.3.6.1 Coal Creek Water and Sewer District

Coal Creek Water and Sewer District (formerly King County Water District No. 107) provides sewer service in part of the May Valley Basin. The District adopted a Comprehensive Sewer Plan in 1988. They are currently preparing an update to that plan. Its plan for serving May Valley Basin includes diverting approximately 1,000 acres from the May Valley Basin to the Coal Creek Basin on an interim basis. This plan is based upon two assumptions: first, that it would be too difficult and expensive to construct a May Valley Interceptor at this time, and second, that the City of Renton's service in the southern part of the Basin is adequately provided by the Honey Creek and Sunset Interceptors. In order to accomplish this diversion, the

District is proposing to construct three lift stations and to complete a Coal Creek Interceptor Improvement Project.

The City and Coal Creek have made boundary adjustments to remove previous service overlaps. This interlocal agreement provides for joint use of a sewer main in Lincoln Avenue for the provision of service to that area and to allow for another portion of Renton's service area to flow into Coal Creek's system.

#### 4.3.6.2 Cedar River Water and Sewer District

Cedar River Water and Sewer District (CRWSD) provides service to parts of the Lower Cedar River Basin. However, only a small fraction of the wastewater from CRWSD ultimately flows through the City of Renton's system by flowing through the Soos Creek Water and Sewer District. The majority of sewage from CRWSD flows directly into King County's Cedar River Interceptor located along the Maple Valley Highway. CRWSD's last Comprehensive Sewer Plan was adopted in 2006. Renton and CRWSD have entered into a 1999 interlocal agreement identifying the common service boundary between the two service providers.

#### 4.3.6.3 Soos Creek Water and Sewer District

Soos Creek Water and Sewer District adopted the *Soos Creek Water and Sewer District Sewer Comprehensive Plan 2005* (Roth HIll) in January of 2006. In 1997, the District and City entered into an interlocal agreement revising the boundary between Soos Creek and Renton that had been set by a 1991 agreement. Based upon these agreements, the City is the service provider to some areas currently outside the city and Soos creek provides service to some areas inside the city limits.

A 1964 agreement provides for joint use of a sewer interceptor in the Tiffany Park Subbasin, and the 1991 agreement provides for joint use of the Springbrook Interceptor, located on S 192nd Street. The Springbrook Interceptor will provide service to the southernmost portions of the City of Renton.

#### 4.3.6.4 City of Kent

SW 43rd Street is the principal dividing line between the Cities of Renton and Kent. Renton has an agreement with Kent to serve a small area south of SW 43rd Street east of 72nd Avenue S and west of the Puget Sound Electric Railway right-of-way. The City of Kent Comprehensive Sewer Plan was adopted in 2002 (dated 2000). The Renton and Kent City limits adjoin each other. There is a small portion of the City of Kent, south of S 55th Street and east of the Valley Freeway that is in Renton's service area. There are no service area overlaps or gaps between the two entities, except for that one small area.

#### 4.3.6.5 City of Tukwila

The City of Renton serves a portion of the City of Tukwila east of the Burlington Northern Railroad and south of Longacres. Tukwila also discharges from a lift station into the King

County Sewer System within the City of Renton along Monster Road SW. Tukwila prepared a Comprehensive Sewer Plan in 2005. This Comprehensive Sewer Plan shows the extension of sanitary sewer service by the City of Tukwila to the south of what they call Basin 10. The portion of 'Basin 10' that is south of Minkler Boulevard and east of the Green River is served by Renton dating back to when this area was part of the City of Renton.

#### 4.3.6.6 Skyway Water and Sewer District

Skyway Water and Sewer District adopted a Comprehensive Plan in 2004 The Skyway sewer service area is shown in Chapter 1, Figure 1.4. The boundary between Skyway and Renton has been set by an interlocal agreement adopted in 1994. Approximately 70 percent of the District is served with sanitary sewer facilities. An area in the southern portion of the District, as well as in the service area to the south of the District, could be served by gravity to the Renton sanitary sewer system. An agreement to allow the district to route portions of this southern service area through Renton's facilities was entered into in 2006. Skyway Water and Sewer District provides sanitary sewer service to a small area of Renton along Rainier Avenue near S 117th Place and the northwest portion of the airport. Skyway sewage discharges into the King County System within the City of Renton at the north end of the Renton Airport.

#### 4.3.6.7 King County Regional Wastewater Services Plan

For more than 40 years, King County has protected water quality in the Puget Sound region by providing wastewater treatment services to King, Pierce, and Snohomish counties, including the City of Renton. To ensure the continuation of high quality wastewater treatment services in the future, King County carried out an intensive planning effort, involving numerous elected officials, representatives from local sewer agencies, organizations and individuals from around the region.

The Regional Wastewater Services Plan (RWSP) resulted from these efforts, which was adopted by the King County Council in November 1999, via Ordinance 13680. The RWSP outlines a number of important projects, programs, and policies for King County to implement through 2030, and work is well underway. A summary of the major components of the RWSP includes Brightwater Treatment System, Conveyance System Improvements, Regional Infiltration and Inflow Control, Combined Sewer Overflow Control, Odor Control Program, Biosolids Recycling, and Reclaimed Water.

In December 1999 as part of the RWSP, the King County Council approved the development of a Regional Infiltration and Inflow (I/I) Control Program. The purpose of the program is to reduce the risk of sanitary sewer overflows and the cost of adding capacity to facilities that convey wastewater to County treatment plants.

In 2000, the County's Wastewater Treatment Division, in cooperation with the local component agencies that it serves, of which the City of Renton is one of, launched an I/I Program. The recommendations of the I/I Program represent the consensus reached by the County and local agencies throughout the 6-year program development process. Knowledge gained from flow

monitoring, modeling, pilot projects, and a benefit-cost analysis conducted during the I/I control study served as the basis for consensus.

Recommendations are presented for both I/I reduction and long-term I/I control and for program administration and policy. In addition to cost-effectively removing enough I/I from the collection system to delay, reduce, or eliminate some otherwise needed conveyance system improvement (CSI) projects, measures must be in place to maintain I/I reductions long-term and to prevent future increases in I/I throughout the regional system. Long-term I/I control includes policy, administrative, financial, and technical measures that promote an ongoing program of review, maintenance, and repair of the collection and conveyance system.

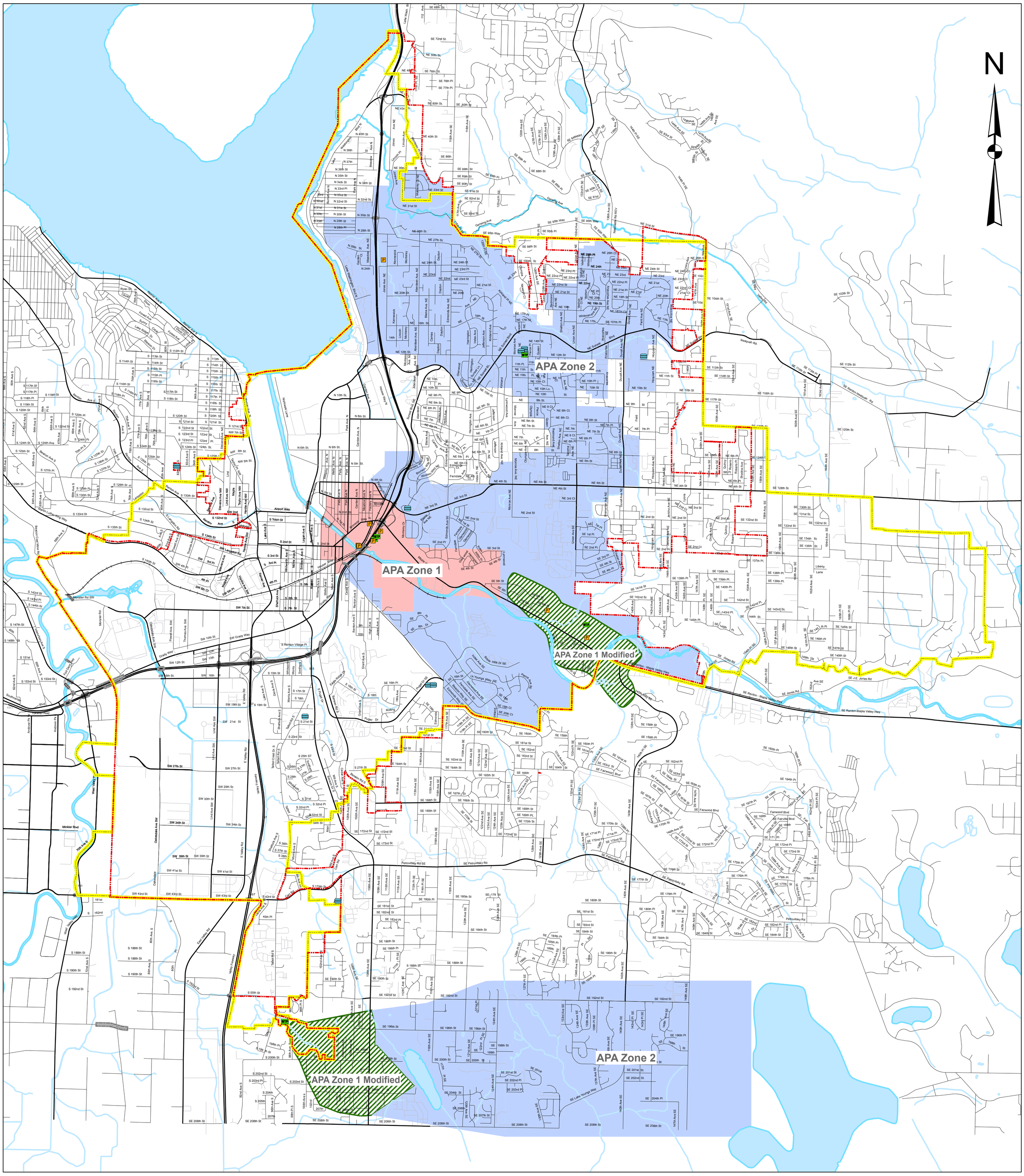
#### 4.3.6.8 King County Reclaimed Water Comprehensive Plan

The City supports King County's planning effort and has provided King County with potential use data to facilitate the planning process. Opportunities for reclaimed water may exist in the future and the City will evaluate these opportunities and coordinate with King County as they arise.

### 4.3.7 City of Renton - Aquifer Protection Ordinance

The City of Renton provides water service to City customers from a series of groundwater wells. In 1992, the City of Renton adopted an Aquifer Protection Ordinance to protect its water supply from being contaminated. The water facilities and aquifer protection areas are shown on Figure 4.4. The ordinance regulates land use within the aquifer recharge area in order to protect the aquifer from contamination. As part of aquifer protection the City has designated an aquifer protection area (APA), which is that area within the zone of capture for the City's aquifers and spring. The APA is divided into three zones.

- Zone 1 encompasses the 1-year groundwater capture zone for the downtown wells. Regulations adopted for this zone provide the strongest protection for the area that is very close to the most important and vulnerable wells.
- Zone 1 Modified encompasses the 1-year capture zones for the Maplewood, Wellfield, and Springbrook Springs, which are partially outside of the City limits. Regulations are somewhat less strict than those in Zone 1 and are intended to provide appropriate protection for important wells/springs that are deep and/or partially protected by intervening layers of relatively impermeable earth materials.
  - Zone 2 provides a level of protection adequate for areas that are further away from the most important sources but still within the capture zone or for deep backup wells. Zone 2 encompasses:




0 2,000 4,000

Feet

1:24,000

- Production Well
- Enclosed Storage Facility
- Treatment Plant
- Zone 1
- Zone 1 Modified
- Zone 2
- City Limits
- Sanitary Sewer Service Area

CITY OF RENTON

# FIGURE 4.4

# CITY OF RENTON LONG-RANGE WASTEWATER MANAGEMENT PLAN

## WATER FACILITIES AND AQUIFER PROTECTION AREAS

## JANUARY 2008

- The portion of the capture zone for downtown wells that lies between the 1-year capture zone boundary and the City limits;
- The portion of the capture zone for Well 5A that lies within City limits; and
- The portion of the capture zone for Springbrook Springs that lies between the 1-year capture zone boundary and the 10-year boundary.

Land use in Zone 1 is more strictly regulated than in Zone 1-Modified or Zone 2. All new development within Zones 1 must connect to the sewer system. Existing development must connect if it is within 330 feet of a sewer line. In Zone 2, all new platted single-family, multi-family and commercial development must connect to the sewer system. However, a single-family residence is required to connect only if it is within 330 feet of a sewer line. A more detailed description of the proposed aquifer protection policies can be found in Chapter 3.

## 4.4 DEMOGRAPHIC ANALYSIS

Future sewer system requirements for the City will be based upon future growth projections within the sewer service area as described above. The planning area boundaries are determined by physical service area agreements between the City and other jurisdictions, including adjacent Cities and Sewer Utility Districts. The UGB designated by the King County Comprehensive Plan determines much of the easterly planning boundary areas. Most of the projected sewer area growth will occur to the areas east of the current City limits, including a large non-sewered area within unincorporated King County in the East Plateau service area.

Population, household, and employment data was derived from the Renton Traffic Analysis Zone (RTAZ) projections from the City's Planning Department for the years 1998, 2015, and 2030. In addition to the RTAZ projections, the City Planning Department provided future planning data for areas outside the current City boundaries based on Traffic Analysis Zone (TAZ) data obtained from the Puget Sound Regional Council (PSRC). The data obtained was provided in geographic subdivisions designated as TAZ. The TAZ data consisted of both RTAZ and PSRC TAZ data. Each TAZ included projected growth of households and employment. The 2015 and 2030 data include future development assumptions, such as the Boeing Redevelopment area. The RTAZ and PSRC TAZ projections meet or exceed the City's adopted Growth Management Planning Council (GMPC) population and employment targets for the City and PAA.

The TAZ projections were allocated to the sewer service area using an area-allocation procedure and then further divided into the Sewer Basins by the King County Mini-Basins. The methodology for computing and assigning populations by mini-basins involved the synthesis of the TAZ data information into mini-basin populations. GIS software was utilized to compute the percentage of areas for each TAZ within each individual mini-basin. To improve the reliability and accuracy of the hydraulic model, technical judgment was applied to the computed mini-basin populations to help reduce inaccurate population assignments. This involved modifying or

reassigning the population assignments to better match the zoning, or to obtain realistic per capita sewage flows.

The actual populations assigned to the hydraulic model are summarized in the “Sanitary Sewer Model Development and Analysis Summary Report, September 2006”, on file at City Hall. The Sewer Mini-Basin population projections are included in Appendix B. Population, employment and school data was assigned to the hydraulic model based on King County Sewer Mini-Basins for 2001, existing conditions. The procedure for assigning population to the hydraulic model involved using zoning information provided by the City to allocate population and employment growth projections based on the percentage of each TAZ within the Mini-Basins. A standard single-family (SF) residential household size of 2.5 persons per household (HH), and a standard multi-family (MF) residential size of 1.8 persons per HH were assumed per the City Planning Department Staff.

The 2030 data provided by the City is considered to be ultimate built-out population by City Planning Staff. For hydraulic modeling purposes, all populations assigned to the model were increased by an additional 25 percent to establish the, Ultimate (Saturation) Scenario.

School populations (combined students and staff) were assigned to the appropriate manholes within the model. Existing staff and student populations were obtained from the Renton School District. School populations for the ultimate model were assumed to grow by the same overall percentage as the combined residential population within the corresponding mini-basin. The planning projections for each of basin are presented in Table 4.3.

## 4.5 ANALYSIS AND DESIGN CRITERIA

This section presents the design criteria for sanitary sewage collection system analysis and design. Analysis is necessary to determine the adequacy of the existing system and to identify needs for future facilities. The analysis and design criteria are based on "Criteria For Sewerage Works Design" prepared by the Washington State Department of Ecology, King County Department of Natural Resources - Wastewater Division, the City of Renton Standards, actual water usage records, and other accepted engineering criteria and standards for sanitary sewer design and construction.

### 4.5.1 Wastewater Flow Rates - Definition

Wastewater in the service area is generated by the population and by non-residential users within it. The Renton Comprehensive Land Use Plan identifies twelve, separate land use categories. For sanitary sewer planning purposes, these twelve categories were used to determine wastewater flow rates for the hydraulic computer model. The twelve land use categories are listed in the Land Use section of this Chapter.

Twelve saturation land use populations were determined by calculating the areas of each designated land use category. This was accomplished by assigning land use designations to all

parcels within a land use boundary on a computer base map that was used for producing the figures for this plan. Saturation was defined as the point at which development is complete within a land use designation.

## 4.5.2 Wastewater Flow Criteria

Wastewater flows can be divided into four major components, which are 1) domestic wastes, 2) industrial wastewater, 3) inflow, and 4) infiltration. The wastewater flow criteria used for each or these four components is presented in Table 4.4.

### 4.5.2.1 Domestic Wastewater

Domestic wastewater flows are essentially equal to wintertime water consumption and are typically established on a per capita basis. The average domestic wastewater flow used for analysis and design of the sanitary sewer system is 100 gallons per day per person.

### 4.5.2.2 Commercial/Industrial Wastewater

Commercial and industrial wastewater is defined as the wastewater generated from a specific commercial or industrial operation. Commercial and industrial wastewater does not include waste generated by employees of the industry, which is considered domestic waste and excluded from this category.

### 4.5.2.3 Inflow and Infiltration

Inflow refers to direct flows of stormwater into sanitary sewer systems through hookups from stormwater collection facilities and illegal connections. Stormwater inflow is due mainly to unauthorized connections to the sanitary sewer system. The enforcement of regulations banning the illegal connections to the sanitary sewer system along with continued efforts to identify and correct previously unauthorized connections minimize stormwater inflow.

Infiltration is the entrance of groundwater into the sanitary sewer system through cracks, pores, breaks, and defective joints in the sewer-piping network. Additional infiltration also results from the entrance of storm water through manhole covers. The quantity of water that may infiltrate into a sanitary sewer system depends upon many variables, such as the age of the system, materials used in construction, and the service area's hydrology, soils and groundwater level. However, the design of the sewer system, including mains, laterals, and individual connections, along with inspection during construction, will have substantial impact on the quantity of infiltration.

**Table 4.3 Population Projections by Basin**
**Long Range Wastewater Management Plan**
**City of Renton**

| Basin | 2001 | | | | Ultimate (2030 + 25%) | | | |
|---|---|---|---|---|---|---|---|---|
| | SF Population | MF Population | Employment | Schools | SF Population | MF Population | Employment | Schools |
| Black River Basin | 2,945 | 3,556 | 20,564 | 1,621 | 4,808 | 5,226 | 51,685 | 2,335 |
| Downtown Basin | 4,062 | 4,323 | 23,208 | 1,276 | 6,268 | 17,437 | 37,199 | 2,013 |
| East Cedar River Basin | 0 | 0 | 0 | 0 | 14,074 | 447 | 146 | 3,109 |
| East Lake Washington Basin | 11,845 | 5,687 | 2,552 | 7,057 | 20,849 | 11,843 | 7,214 | 11,483 |
| May Valley Basin | 49 | 269 | 628 | 0 | 130 | 665 | 2,552 | 0 |
| West Cedar River Basin | 6,391 | 5,377 | 2,176 | 1,564 | 1,406 | 9,748 | 4,561 | 3,055 |
| Total | 25,292 | 19,212 | 49,128 | 11,518 | 57,535 | 45,366 | 103,357 | 21,995 |

| **Table 4.4 Wastewater Flow Criteria<br>Long Range Wastewater Management Plan<br>City of Renton** | |
|---|---|
| Average Domestic Sewage Flow | 100 gals/day/person |
| Average Population Density | 2.7 person/dwelling unit single-family |
| (U.S Census Bureau, 1980): | 1.9 person/dwelling unit multi-family |
| Residential Density | |
| Residential Rural | 5 dwelling units/acre |
| Residential Single-Family | 10 dwelling units/acre |
| Residential Options | 13 dwelling units/acre |
| Residential Planned Neighborhood | 18 dwelling units/acre |
| Residential Multi-Family Infill | 20 dwelling units/acre |
| Mixed Use Density | |
| Neighborhood Center | Site specific |
| Suburban Center | Site specific |
| Center Downtown | Site specific |
| Center Office / Residential | Site specific |
| Commercial and Industrial Sewage Flows (1) | |
| Convenience Commercial | 2,800 gals/acre/day (gpad) |
| Center Institution | 2800 gpad |
| Employment Area - Commercial | 2800 gpad |
| Employment Area - Office | 2800 gpad |
| Employment Area - Industrial | site specific |
| Employment Area - Valley | site specific |
| Recreation | 300 gpad |
| Green Belt | 0 gpad |
| Infiltration and Inflow (I/I) | |
| Peak Inflow and Infiltration | 1,500 gpad |
| Peaking Factors | |
| System Average | 2.0 x |
| Depth/diameter ratio | 0.85 |

Notes:

(1) Design flow criteria vary considerably, depending upon land use.

Due to improvements in construction materials and practices, systems installed after 1960 generally show a decrease in the quantity of groundwater infiltration. The use of non-porous piping materials and rubber-gasket type joints will help reduce infiltration and will improve the condition and life of the sanitary sewer system.

Renton participated with King County in a regional I/I study. One result of the study was recognition that 1,100 gallons per acre per day (gpad) was not a realistic number. The group determined that a value of 1,500 gpad more accurately represented a minimum value for new systems. I/I values for existing portions of Renton's system will utilize I/I values established as part of the regional study for each mini basin analyzed.

The areas for each mini-basin for 2001 and ultimate conditions were estimated using GIS Analysis during the Demographic analysis. A summary of the 2001 and Ultimate area served in acres is summarized in Table 4.5 for each of the basins.

**Table 4.5 Developed Basin Areas**
**Long Range Wastewater Management Plan**
**City of Renton**

| | Area (acres) | |
|---|---|---|
| **Basin** | **2001** | **Ultimate** |
| Black River Basin | 2,773 | 2,876 |
| Downtown Basin | 1,654 | 1,654 |
| East Cedar River Basin | 0 | 2,105 |
| East Lake Washington Basin | 2,539 | 3,104 |
| May Valley Basin | 130 | 130 |
| West Cedar River Basin | 1,752 | 2,142 |
| Total | 8,847 | 12,010 |

Note:

Areas represent the total developable areas and thus the total presented here is less than the total area of the service area as described in Table 4.1.

### 4.5.3 Sanitary Sewer Design Criteria

All sewer lines within the City of Renton shall be designed in accordance with good engineering practice by a professional engineer with minimum design criteria presented in Chapter C1 of the "Criteria for Sewerage Works Design," prepared by the State of Washington Department of Ecology, November 2007, or as superseded by subsequent updates. This chapter includes standards and guidelines for design considerations (minimum pipe sizes, pipe slopes and wastewater velocities), maintenance considerations, estimating wastewater flow rates, manhole locations, leak testing and separation from water pipelines. These criteria have been established to ensure that the sanitary sewers convey the sewage and protect the public health and the environment. The sewer lines shall also conform to the latest City of Renton Standards

and Specifications. Detailed standards are included in Title 4, Chapter 6 of the City Code. Requirements relating to design are listed below.

#### 4.5.3.1 Design Loading for Sanitary Sewer Facilities

Sanitary sewer system flows are composed of residential, institutional, commercial, and industrial sewage, along with infiltration and stormwater inflow. Sanitary sewer systems must be capable of conveying the ultimate peak flows of these wastewater sources. No overflows shall be permitted.

#### 4.5.3.2 Design Period

The design period is the length of time that a given facility will provide safe, adequate and reliable service. The period selected for a given facility is based on its economic life, which is determined by the following factors: the structural integrity of the facility, rate of degradation, cost of replacing the facility, cost of increasing the capacity of the facility, and the projected population growth rate serviced by the facility. Collection and interceptor sewers are designed for the ultimate development of the contributing area. The life expectancy for new sanitary sewers, using current design practices, is in excess of eighty years.

#### 4.5.3.3 Design of Sanitary Sewer Facilities

Allowable sewer pipe shall be ductile iron, high-density polyethylene (HDPE), polyvinyl chloride (PVC), or concrete. For normal depth, PVC is generally preferable, because it has longer laying lengths, which results in fewer joints, reducing the potential for infiltration.

Gravity sewers are sized to provide capacity for peak, wet-weather flows. The smallest diameter sewer allowed is 8-inches, except for limited conditions. All sewers will be laid on a grade to produce a mean velocity when flowing half-full of at least two feet per second. Manholes will be at least 48-inches in diameter and will be spaced at intervals not to exceed 400 feet on sewer lines 15-inches in diameter or less, and 500 feet on sewer lines 18-inches in diameter or larger. The design parameters are summarized in Table 4.6.

#### 4.5.3.4 Roughness Coefficient

The Manning equation shall be used to design and analyze wastewater flow characteristics of the sanitary sewers. The Manning roughness constant [n] shall vary depending on the pipe material. For sewer modeling, a Manning's equivalent of 0.013 will be used. Typical values are summarized in Table 4.6.

#### 4.5.3.5 Reference Datum

The North American Vertical Datum (NAVD) 1988 is the standard datum used within the City of Renton for design and construction of sanitary sewer facilities.

#### 4.5.3.6 Separation between Sanitary and Other Facilities

The Department of Ecology requires a ten-foot separation of water and sewer facilities for health reasons. Sanitary and storm sewer facilities shall have basic separation requirements for construction purposes. A minimum horizontal separation of five feet between sanitary and other facilities shall be maintained. Wherever possible, a horizontal separation of seven feet is desirable. These distances are measured edge to edge.

#### 4.5.3.7 Hydraulic Analysis

The hydraulics of the City of Renton's sewer service area is modeled with the MOUSE software program by the Danish Hydraulic Institute. The model was calibrated to flow data measured between 2001 and 2002 and then updated to reflect the system in 2005. The City currently maintains and updates the model as needed.

All new developments, with the exception of developments involving less than five single-family residences, may require a hydraulic analysis. The sanitary sewer system hydraulic analyses will be performed using the City's hydraulic computer model. The developer may be responsible for paying the cost of the analysis of the sanitary sewer system. If the analysis concludes improvements need to be made, the developer and the City may need to negotiate cost allocation.

### 4.5.4 Lift Station Design Criteria

Sewage lift stations within the City of Renton shall be designed in accordance with good engineering practice by a professional engineer using the minimum design criteria presented in Chapter C2 of the "Criteria For Sewerage Works Design," prepared by the Washington State Department of Ecology, November 2007, or any subsequent updates, and shall conform to the latest City of Renton standards and specifications. Detailed standards are included in Title 4, Chapter 6 of the City Code. Requirements relating to the design are listed below.

#### 4.5.4.1 Design Loading for Lift Stations

Lift stations shall be designed to handle the peak, wet-weather flow from the contributing area. All lift stations, except for private stations for a single family home, shall have a minimum of two pump units, each with the capacity to handle the expected maximum flow.

#### 4.5.4.2 Design Period

The design period for lift stations shall take into consideration long-term needs, replacement or expansion difficulties, service area growth rate and useful life. A lift station should have a minimum design period of twenty years for the facility and ten years for mechanical and electrical equipment. Consideration should be given to longer design periods for lift stations that are expected to serve an indefinite life. Consideration must also be given to the ability of the consumers to pay for the facilities.

| Table 4.6 Sanitary Sewer Design Criteria<br>Renton Long Range Wastewater Management Plan<br>City of Renton | |
|---|---|
| **Sanitary Sewer Sizing:** | Peak Wet-Weather Flow |
| **Minimum Sewer Size:** | 8 inches in Diameter |
| | (6 inches for limited conditions) |
| **Pipe Materials:** | PVC |
| | HDPE |
| | Cement Lined Ductile Iron |
| | Reinforced Concrete Pipe |
| **Manholes:** | |
| Maximum Spacing | 400 feet |
| Minimum Manhole Size | 48 inches in diameter |
| Minimum Clear Opening | 23 inches in diameter |
| Maximum Depth | 20 feet (where possible) |
| **Separation From Water Mains:** | |
| Horizontal Separation (Parallel) | 10 feet |
| Minimum Vertical Separation (Perpendicular) | 18 inches |
| **Hydraulic Criteria:** | |
| Depth to Diameter Ratio | 0.85 |
| Minimum Scouring Velocity | 2 Feet Per Second |
| **Manning Roughness Coefficient** | |
| PVC | 0.011 |
| Concrete | 0.012 |
| Lined DI / CI | 0.012 |
| Vitrified Clay | 0.013 |
| Sewer Modeling | 0.013 |

#### 4.5.4.3 Design of Lift Station Facilities

Lift stations, except for private stations for a single-family home, shall be designed with a minimum of two pumps, both of which have the capacity to convey peak wastewater flow rates. If wide variations in wastewater flow rates are expected for the lift station, then consideration should be given to the use of three or more pumping units. If three pumps are used, two of them must have the capacity to convey peak wastewater flow rates. Each pump shall be capable of passing spheres of at least 3 inches in diameter.

Each lift station will be provided with an on-site power backup. The City may allow the use of portable power backup for smaller stations. A lift station designed for portable power backup shall be provided with sufficient wet-well storage to allow adequate time for maintenance personnel to transport, setup, and provide the necessary backup, during a power outage. Wet-well storage will be designed on the basis of the peak, wet-weather flow.

Force mains shall be sized to maintain a minimum velocity of 2 feet per second. The force main shall have a maximum velocity of 10 feet per second when all pumps are operating together. Regardless of these velocity criteria, minimum size shall be three inches in diameter. A minimum of four inches in diameter is preferable.

Each lift station to be owned by the City shall have control and telemetry systems that are consistent and compatible with the current City system.

### 4.5.5 Elimination of Lift Station Facilities

Lift station facilities are typically eliminated through the development of the gravity sewer system. Highest priority should be given to elimination of lift station facilities because of their high degree of vulnerability and high operation and maintenance costs. These considerations include environmental risks, life-cycle costs, lift station impacts on downstream sanitary sewer facilities, vulnerability to vandalism, and lift station accessibility.

Chapter 5

# SYSTEM ANALYSIS AND RESULTS

## 5.1 INTRODUCTION

This chapter presents a detailed analysis of all aspects of the existing system and their recommended improvements. It includes the hydraulic analysis performed using the new hydraulic model, the structural analysis of the wastewater system components and a summary of system-wide concerns. The results are summarized at the end of the chapter for each sewer basin and within the entire system (system-wide).

Capacity problems are a concern in any sewer system. Capacity problems would be a result of inadequate pipe sizes or slopes. These problems can be either concerns about current lack of capacity in the sewer system or concerns about available capacity for future development. A hydraulic analysis has been performed on the Renton sewer system. This analysis did not show capacity problems in the current system. Capacity problems do occur throughout the system in various degrees at saturation build out. As the City implements more water conservation programs, there may be a negative impact on the operation of a sewer system. Reduction of the liquid component of wastewater could cause problems in moving solids through the lines. Problems moving solids could impact the operation of the system, increase the potential of sanitary sewer overflows and will increase the need for flushing.

Much of the existing sanitary sewer system was installed during the 1940s and 1950s as a federal program to provide housing for workers at the Renton Boeing Plant. Prior to this boom, the City also had significant sewer installations in the 1920s and 1930s for the Central Business District. These sewers have reached the end of their useful life and are scheduled in the near future for replacement. This LRWWMP recommends evaluating and prioritizing the replacement of these aging sanitary sewers.

Infiltration and inflow (I/I) occur in all sanitary sewer systems. Infiltration is defined as water entering the sanitary sewer system through pipes, joint connections, manhole covers, and walls. Inflow is defined as water discharged to the sanitary sewer system through connections to roof drains, yard drains, foundation drains, and cross connections with storm sewers and combined sewers. The combination of both I/I often is a major portion of the total wastewater flow, which must be carried by the sanitary sewer system. I/I problems in an existing sanitary sewer system can be studied to determine their effect. Finding and correcting I/I sources can be challenging, as determining source can be evasive. Renton is participating with King County on its program to gain knowledge and experience to guide us in determining ways to deal with this issue.

Combined sewers are designed to carry both stormwater and wastewater within a single system. Current codes in the City of Renton do not allow combined sewers because it

causes stormwater, which is relatively clean, to be treated along with wastewater. Combined sewer systems within the City have been replaced with separate sanitary and storm sewer systems.

## 5.1.1 Hydraulic Analysis

### 5.1.1.1 Model Development

An updated hydraulic computer model of the City's sewer system was completed in 2006. The purpose of this model was 1) to evaluate the existing sanitary sewer system and determine areas of capacity constraint, and 2) to provide a tool for planning future improvements. The hydraulic computer model was developed using the MOUSE software program by the Danish Hydraulic Institute (DHI). The primary reason the City chose to use MOUSE was that King County used MOUSE for the Regional I/I study. It was anticipated that having the same tools available as the County would allow the City to take advantage of the County's data and provide a common basis for discussion of projects, agreements, and issues. The City will also use MOUSE as a regulatory tool to comply with potential Capacity Management Operation and Maintenance (CMOM) regulations, an electronic data base, a capital improvement planning tool, a future development tool and to assist with operational optimization challenges.

Three basic kinds of data were needed for the computer model: physical data, domestic wastewater flow data, and I/I data. The physical basis for the MOUSE model was primarily the City's electronic database of sewer system that included data through the end of year 2001 to create a "2001 model." The physical system data include manholes, pipes and lift stations. The majority of the City's sewer system, as it existed, was incorporated into the hydraulic model. Clean-outs, dead-end portions of the system with missing/errant information, and some portions of private system were not included. As a result, the model of the sanitary system does not include 100 percent of the sanitary sewer system. The majority of the missing data is from the upper reaches of the system and was not included as a high priority for the hydraulic analysis.

Other regional data was also obtained from King County. The 2001 model was developed simply to establish calibration parameters and calibrate the model using King County's flow monitoring data associated with three separate storm events during the 2000 to 2002 calibration period. This model was then used to create the "Ultimate" physical model.

The "Ultimate" physical model includes all the significant project and modifications to the City's sewer system through the end of 2005. The model also includes other future improvements to simulate service to the future sewer service area.

The calibrated I/I parameters used for the 2001 model were applied to the Ultimate model, except that I/I was globally increased per the King County's methodology, which assumes a 7.0 percent increase per decade to a maximum degradation of 28.0 percent for Ultimate

conditions. For system improvements constructed mid-2002 or later, a global I/I assignment of 1,500 gallons per acre per day was assumed.

Domestic wastewater flow rates were developed differently for the two models. For the 2001 model, dry weather flows generated during the flow monitoring that occurred in 2000/2001 were used. The 2030, assumed to be Ultimate conditions, future sewer system population assignments were based upon future growth projections within the established sewer service area. These were derived from the Renton Traffic Analysis Zone (RTAZ) projections. In addition to the RTAZ projections, the city provided future planning data for areas outside the current City boundaries based upon Traffic Analysis Zone data obtained from the Puget Sound Regional Council (PSRC), which was incorporated into the projections. To account for a saturation condition, a 25 percent safety factor was added to assure we provide sufficient capacity as existing interceptors are replaced.

Using the tools within the hydraulic model, the flows are distributed appropriately within the system. Pump station flow was determined through a combination of telemetry data for stations with meters and engineered design flows for those without meters and then appropriately distributed by the model.

This model is used by the City to evaluate changes to the existing system or additions to the system during the design phase of each sewer project. However, to increase the reliability of the model output, the City is continuously updating the physical data for the sewer system to increase accuracy in the model. The City is also working with King County as part of the ongoing I/I Program and will utilize the flow information gathered by King County. The model will need to be updated as the sewer system is expanded, flow monitoring data collected, physical system data collected by survey or field inspection and as software is updated.

#### 5.1.1.2 Model Analysis

The peak flow and capacity analysis utilized a simulated rainfall event from January 9, 1990 for the 2001 model, a peak flow analysis. It was intended to generate a minimum of 20-year design flows within the system. The selection of this storm event was based upon 60 years of rainfall data obtained from the King County model. Of all the ranked storm events during the 60-year period, the January 9, 1990 storm most consistently is ranked in within the top three events in each of the modeling basins. This analysis allowed the City the ability to determine near term capacity issues that are addressed in the first ten to fifteen years of the proposed Capital Improvement Program. It also allowed a “truth-test” to the model based upon operational and maintenance knowledge of the existing system versus results from the model.

The Ultimate Model peak flow and capacity analysis used a peak 20-year event. The County identified nine different storm events that generated the 20-year peak flows for Renton’s model Basins. Rather than run the model nine separate times to capture 20-year

events, four separate storm events were selected to generate the 20-year or 30-year peak flows in each of basins. This Ultimate Analysis evaluated peak flow inputs to calculate this flow as saturation. This analysis shaped the potential capital needs within the last 5-10 years of the Capital Improvement Program.

Table 5.1 summarizes the ultimate peak flow at the outlet from each mini-basin and the corresponding storm events. It also lists the peak flow rates from the 2001 Model analysis for comparison. One component of the peak flow rates is I/I. For additional discussion of I/I see Section 5.2.7. For more complete information on the development and results of the sewer model, see "*City of Renton Sanitary Sewer Model Development and Analysis Summary Report – Roth Hill September 2006*."

**Table 5.1 2001 and Ultimate Peak Flow at each Mini-basin Outlet**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Mini-Basin | Flow Monitor | 2001 Peak Flow | | Storm Event | Ultimate Peak Flow | | Storm Event |
|---|---|---|---|---|---|---|---|
| Number | MH Number | (cfs) | (gpm) | | (cfs) | (gpm) | |
| 1 | 5319095 | 0.44 | 197.5 | 9-Jan-1990 | 0.75 | 336.6 | 4-Nov-1998 |
| 2 | 5319084 | 0.75 | 336.6 | 9-Jan-1990 | 1.29 | 579.0 | 4-Nov-1998 |
| 3 | 5320049 | 1.09 | 489.2 | 9-Jan-1990 | 1.95 | 875.2 | 4-Nov-1998 |
| 4 | 5321024 | 6.47 | 2903.9 | 9-Jan-1990 | 7.99 | 3586.2 | 9-Jan-1990 |
| 5 | RE*SRENTON.R18-15 | 8.34 | 3743.3 | 9-Jan-1990 | 10.69 | 4798.0 | 24-Nov-1990 |
| 6 | 5330059 | 1.38 | 619.4 | 9-Jan-1990 | 1.68 | 754.0 | 24-Nov-1990 |
| 7 | 5319035 | 2.54 | 1140.0 | 9-Jan-1990 | 2.56 | 1149.0 | 4-Nov-1998 |
| 8 | 4324017 | 0.29 | 130.2 | 9-Jan-1990 | 0.51 | 228.9 | 8-Feb-1996 |
| 9 | 4324012 | 1.79 | 803.4 | 9-Jan-1990 | 2.19 | 982.9 | 8-Feb-1996 |
| 10 | 5318106 | 0.49 | 219.9 | 9-Jan-1990 | 0.54 | 242.4 | 8-Feb-1996 |
| 11 | RE*ESI1.RO1-14 | 3.96 | 1777.4 | 9-Jan-1990 | 4.67 | 2096.0 | 8-Feb-1996 |
| 12 | 5318226 | 0.62 | 278.3 | 9-Jan-1990 | 0.63 | 282.8 | 8-Feb-1996 |
| 13 | 5319020 | 3.33 | 1494.6 | 9-Jan-1990 | 4.60 | 2064.6 | 8-Feb-1996 |
| 14 | 5318148 | 1.65 | 740.6 | 9-Jan-1990 | 2.20 | 987.4 | 8-Feb-1996 |
| 15 | 5318047 | 3.72 | 1669.7 | 9-Jan-1990 | 4.17 | 1871.6 | 8-Feb-1996 |
| 16 | 5318042 | 1.13 | 507.2 | 9-Jan-1990 | 1.55 | 695.7 | 8-Feb-1996 |
| 17 | 5317033 | 0.30 | 134.6 | 9-Jan-1990 | 0.58 | 260.3 | 24-Nov-1990 |
| 18 | 5317002 | 0.43 | 193.0 | 9-Jan-1990 | 3.29 | 1476.7 | 8-Feb-1996 |
| 19 | 4325005 | 0.40 | 179.5 | 9-Jan-1990 | 0.53 | 237.9 | 8-Feb-1996 |
| 20 | 5303088 | 0.91 | 408.4 | 9-Jan-1990 | 2.62 | 1175.9 | 24-Nov-1990 |

**Table 5.1 2001 and Ultimate Peak Flow at each Mini-basin Outlet**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Mini-Basin | Flow Monitor | 2001 Peak Flow | | Storm Event | Ultimate Peak Flow | | Storm Event |
|---|---|---|---|---|---|---|---|
| 21 | 5303093 | 0.89 | 399.5 | 9-Jan-1990 | 1.21 | 543.1 | 24-Nov-1990 |
| 22 | 5303102 | 2.14 | 960.5 | 9-Jan-1990 | 4.21 | 1889.6 | 24-Nov-1990 |
| 23 | 5305041 | 1.09 | 489.2 | 9-Jan-1990 | 2.31 | 1036.8 | 9-Jan-1990 |
| 24 | 5309169 | 1.15 | 516.2 | 9-Jan-1990 | 1.81 | 812.4 | 8-Feb-1996 |
| 25 | 5316015 | 1.60 | 718.1 | 9-Jan-1990 | 2.15 | 965.0 | 24-Nov-1990 |
| 26 | 5316115 | 1.47 | 659.8 | 9-Jan-1990 | 3.72 | 1669.7 | 24-Nov-1990 |
| 27 | 5309478 | 0.80 | 359.1 | 9-Jan-1990 | 0.93 | 417.4 | 8-Feb-1996 |
| 28 | 4324060 | 0.64 | 287.3 | 9-Jan-1990 | 1.67 | 749.5 | 8-Feb-1996 |
| 29 | 5308252 | 0.97 | 435.4 | 9-Jan-1990 | 0.89 | 399.5 | 8-Feb-1996 |
| 30A | 5308161 | 4.91 | 2203.8 | 9-Jan-1990 | 3.30 | 1481.1 | 8-Feb-1996 |
| 30B | 5308227 | 3.45 | 1548.5 | 9-Jan-1990 | 7.76 | 3482.9 | 8-Feb-1996 |
| 32 | RE*ESI1.RO1-32A | 5.66 | 2540.4 | 9-Jan-1990 | 4.19 | 1880.6 | 8-Feb-1996 |
| 33 | 5305008 | 0.76 | 341.1 | 9-Jan-1990 | 1.75 | 785.5 | 9-Jan-1990 |
| 34 | 5304207 | 0.24 | 107.7 | 9-Jan-1990 | 0.47 | 211.0 | 9-Jan-1990 |
| 35 | 5304230 | 2.37 | 1063.7 | 9-Jan-1990 | 4.81 | 2158.9 | 24-Nov-1990 |
| 36 | 5309128 | 0.99 | 444.3 | 9-Jan-1990 | 1.19 | 534.1 | 8-Feb-1996 |
| 37 | 5309028 | 0.61 | 273.8 | 9-Jan-1990 | 0.73 | 327.6 | 8-Feb-1996 |
| 38 | 5309133 | 3.85 | 1728.0 | 9-Jan-1990 | 1.74 | 781.0 | 8-Feb-1996 |
| 39 | 5308236 | 4.95 | 2221.7 | 9-Jan-1990 | 3.17 | 1422.8 | 8-Feb-1996 |
| 40 | RE*ESI4.RO2-19 | 0.61 | 273.8 | 9-Jan-1990 | 0.69 | 309.7 | 8-Feb-1996 |
| 41 | 5432141 | 1.04 | 466.8 | 9-Jan-1990 | 1.16 | 520.6 | 8-Feb-1996 |
| 42 | 5432004 | 1.23 | 552.1 | 9-Jan-1990 | 3.25 | 1458.7 | 9-Jan-1990 |
| 43 | 5316068 | 0.31 | 139.1 | 9-Jan-1990 | 0.57 | 255.8 | 24-Nov-1990 |
| 44 | 5316136 | 1.67 | 749.5 | 9-Jan-1990 | 4.31 | 1934.5 | 24-Nov-1990 |
| 45 | 5319027 | 3.92 | 1759.4 | 9-Jan-1990 | 6.03 | 2706.5 | 4-Nov-1998 |
| 46 | RE*CEDAR1.R10-11A | 17.20 | 7719.9 | 9-Jan-1990 | 33.52 | 15044.8 | 24-Nov-1990 |
| 47 | 5317243 | 5.94 | 2666.1 | 9-Jan-1990 | 7.79 | 3496.4 | 24-Nov-1990 |
| 48 | 5308059 | 2.09 | 938.1 | 9-Jan-1990 | 2.47 | 1108.6 | 8-Feb-1996 |

**Table 5.1 2001 and Ultimate Peak Flow at each Mini-basin Outlet**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Mini-Basin | Flow Monitor | 2001 Peak Flow | | Storm Event | Ultimate Peak Flow | | Storm Event |
|---|---|---|---|---|---|---|---|
| 49 | 4324044 | 0.45 | 202.0 | 9-Jan-1990 | 0.60 | 269.3 | 8-Feb-1996 |
| 50 | RE*BRYNMAWR.RO1-57 | 23.01 | 10327.6 | 9-Jan-1990 | 15.99 | 7176.8 | 8-Feb-1996 |
| 52 | 5308169 | 0.76 | 341.1 | 9-Jan-1990 | 0.57 | 255.8 | 8-Feb-1996 |
| 54 | RE*ESI2.RO2-08 | 10.62 | 4766.6 | 9-Jan-1990 | 14.87 | 6674.1 | 8-Feb-1996 |
| 65 | 5321007 | 6.97 | 3128.4 | 9-Jan-1990 | 8.68 | 3895.9 | 9-Jan-1990 |

### 5.1.2 Structural Analysis

The structural analysis is a visual inspection of the existing system either by a video camera or actual inspection during normal operations and maintenance. The Sanitary Sewer Maintenance Division owns and operates its own sewer video inspection equipment. The video equipment is programmed to be used daily. Video inspections have been organized and documented utilizing the present system and its predecessors since 1988.

The video inspection averages approximately 980 feet per day. The inspection process requires hydraulic jet cleaning of the sanitary sewer section prior to the video inspection. After completion of the video inspection, roots are cut and cracks are sealed, if necessary, before proceeding to the next section. The video inspection equipment requires two people to operate. If traffic control is necessary, two additional people are required. At the current rate, it will take four to five years to video inspect all existing sanitary sewers. It is recommended that sewers near the end of their useful life be video inspected every five years. All other sewers should be inspected every ten years.

The City utilizes an off the shelf television inspection program and equipment that allows the crews to inspect the facilities, record video images, and create a database of the information obtained through the inspections. This data is stored on the computer in the inspection truck and backed up onto a computer in the office and onto DVDs.

The following is a discussion of specific problems that are associated with the gravity sanitary sewer system in the City of Renton.

#### 5.1.2.1 Aging Sewers

Many of the gravity sewers within Earlington, Renton Hill, the Central Business District, and the Highlands were constructed in the 1930s and 1940s. Some as a result of housing constructed for the Boeing plant in Renton during World War II. Many of these sewers have reached their design life expectancy (beyond 50 years). As these sewers approach the end

of their useful life, increased maintenance and structural inspections should occur to locate and prevent pipe failures.

The 1998 Long-Range Wastewater Management Plan identified some of the older sewers and established a capital improvement program to replace and upgrade them. Primarily focused in the Highlands and Earlington Area, these replacements have been delayed, as the utility has had to focus its resources toward capacity improvement over the past eight years.

#### 5.1.2.2 Reverse Pipes and Sags

A major maintenance problem associated with sanitary sewers that are laid with a reverse slope or have sag due to improper construction or differential settlement is that they require periodic cleaning to remove debris. There are approximately 89 such sewer sections within the City.

#### 5.1.2.3 Root Problems

Tree roots cause problems in sanitary sewers by penetrating and cracking sanitary sewer pipe joints to feed on the wastewater. Tree roots can also create blockages, resulting in backed-up sewers. The City has approximately 120 sections of pipe of various lengths which require routine root cutting maintenance to prevent wastewater backups and reduce pipe damage. The Wastewater Maintenance Section has met its goal of keeping the City's mains from being blocked by root intrusion.

#### 5.1.2.4 Odor Issues

Odor issues within the City sewer system are rare, most often associated with the operation of lift stations. Issues are typically resolved through adjustment of maintenance procedures or by providing an odor mitigation process.

### 5.1.3 Lift Station Analysis

This LRWWMP evaluated lift stations against the standards and guidelines for construction of sewage lift stations that are detailed in Chapter C2 of the "Criteria for Sewage Works Design" manual prepared by the Washington State Department of Ecology (November 2007 or later). The design standards and guidelines for lift station location, pump sizing and selection, wet well sizing criteria, alarm system, emergency response criteria, force main criteria, lighting and ventilation are summarized in Chapter 4. These standards and guidelines have been established to ensure protection of the environment and property through design and operation of reliable sewage lift stations.

Each sewage lift station was inspected for safety and accessibility, and operation and maintenance manuals for each were reviewed at the City Shops. With few exceptions, these lift stations have no major inadequacies in terms of safety or reliability.

## 5.2 SYSTEM-WIDE CONCERNS

### 5.2.1 King County-Interceptor Surcharge

During peak flows, King County will use its interceptors for storage of wastewater and for controlling flows in the South Treatment Plant. This may result in surcharging of the King County interceptors. King County reserves the right to surcharge its interceptors to an elevation of 25 feet. King County has never reached this extreme; however, the City has experienced sewer surcharge problems in the low-lying areas. As a result of King County's surcharging, it is possible that additional wastewater could overflow in low-lying areas through manhole covers and side sewer connections.

King County, as part of their regional conveyance system needs report, dated December 2005, identified long-term capacity concerns within portions of the east-side interceptor in Renton. The Report identifies capacity projects to alleviate the capacity restraints. These projects are located upstream and outside of Renton’s service area.

The City has not designed facilities to accommodate a sewer surcharge to an elevation of 25 feet. The City's current position is that King County is responsible for providing adequate capacity within its interceptors and wastewater treatment facilities. In addition, the City considers King County to be responsible for proper effluent disposal. During the preparation of the Comprehensive Sewer Plan, no specific analysis was made of the effect of King County’s surcharging on the City's sewer system. King County should continue to study and identify areas of potential risk and alternatives to mitigate this problem. King County has increased the influent and effluent capacity at South Plant and has installed parallel interceptor facilities. This has significantly reduced the chance of surcharging but does not eliminate the problem.

### 5.2.2 Adjacent Utility Systems

For purposes of this LRWWMP, all of the comprehensive plans for the adjacent utility systems described in Chapter 4 were examined. The hydraulic analysis utilized the projected Ultimate Peak 20-year design flows, as computed by the county. These flows were obtained from the County and assigned as constant inflow conditions. This conservative assumption contributed to surcharging and capacity issues in portions of the system.

The City of Renton has several agreements with adjacent utilities that allow joint use of facilities within the City. It is important that these adjacent utilities are restricted to the volume of wastewater discharged to the joint use facilities. If capacity problems become evident, through visual inspection or flow measurements, then the City and the adjacent utility should work together to investigate the potential sources, both within the City’s service area and within the adjacent utility, to correct the problem.

### 5.2.3 Hazard Mitigation Plan

The City of Renton has developed a local Hazard Mitigation Plan in 2003 that includes actions taken to reduce or eliminate long-term risk to people and property from the affect of both natural and man-made hazards. The City is subject to a number of natural and man-made hazards that could affect the city, such as earthquakes, flooding, landslides, winter/wind storms, coal mine hazards, hazardous materials release, and terrorism/civil disturbance. The sanitary sewer system may be vulnerable to a variety of the identified hazards.

The City identified goals that will guide the implementation of the Hazard Mitigation Plan and determine how to best minimize impacts of disasters. The goals include:

1. To protect aquifers used by the City and the City water supply system from contamination by hazardous materials and other hazard effects.
2. Minimize public and private losses due to flood conditions in specific areas.
3. Minimize damage due to natural hazards.
4. Minimize impacts on critical habitats and wetlands from natural or man-made disasters.
5. Minimize the impacts of technological or man-made disasters on the City.
6. Enhance the City's capability for gathering, organizing, and displaying spatial data regarding hazards, vulnerabilities, critical facilities, and vital statistics.

The City has identified several hazard mitigation projects that would benefit the city. The committee focused on measures in the areas of aquifer protection, flooding, earthquakes/landslides, and technological hazards. The measures specifically associated with the sanitary sewer system include:

- Implementation and maintenance of an Aquifer Protection Program.
- Re-enforce utility infrastructure and connections.
- Develop objective criteria and conduct seismic preparedness and retrofit of critical facilities.
- Implement slope stabilization measures in steep/unstable areas.

### 5.2.4 Septic Systems

There are still a small percentage of developed properties within the Renton City Limits that are served by private septic systems. In addition, the developed properties within the sewer service area but outside of the city limits are primarily served by private septic systems. There are several areas that have been identified by the Seattle-King County Department of Public Health as being areas of concern. These areas are typically identified as having

smaller lots, poor soils, older septic systems, and high or perched water tables. These areas, are:

- The majority of the area between the Renton City Limits and Skyway Water and Sewer District and north of Martin Luther King Way. The City has installed sewers in 80th Avenue S and S 130th Street. This is a neighborhood that has had septic tank problems and talked to the City about sewer service.
- The Puget Colony Homes Plat off 142nd Avenue SE (at approximately SE 134th Street). A proposed development between NE 2nd Street, SE 2nd Street, Jericho Avenue, and 142nd Ave SE will construct sanitary sewers in the vicinity of the Puget Colony Homes Plat, making it available for extension into the plat when requested by Local Improvement District (LID) or by small development extensions to existing vacant parcels.
- The White Fence Ranch Plat off SE 128th Street (at approximately 156th Avenue SE). The completion of Maureen Highlands Plat has brought sewers to the west boundary of White Fence Ranch. Some minor development of existing vacant lots is providing construction of sewers in the vicinity of SE 124th Street and 155th Avenue SE. A capital project, scheduled for construction in 2008, is expected to have sanitary sewers available to this neighborhood by 2009.
- The Gerber's Addition Plat off 148th Avenue SE (at approximately SE 124th Street). Sewer mains have been installed in Nile Avenue NE (148th Avenue SE) and are available for extension by LID into the Gerber's Addition Plat.
- Sierra Heights Divisions 3 and 4 vicinity of 126th Avenue SE and SE 103rd Street. The Sierra Heights area has sanitary sewers directly adjacent to the area and a LID for extension would be immediately available if the property owners or Seattle King County Department of Public Health chose to initiate one.

The Seattle-King County Department of Public Health has expressed concern about the lack of sewer service to schools on the east Renton Plateau. Renton is working with the Issaquah School District toward providing sewer service to the schools. The three Issaquah Schools as shown on Figure 4.1 (Chapter 4) are:

1. Briarwood Elementary School
2. Liberty High School
3. Maywood Middle School

The Seattle-King County Department of Public Health also identified the Lake Kathleen area, the Lake McDonald area, the Maple Hills Estates area, a couple of mobile home parks along Renton - Issaquah Road, and a small neighborhood along SE 121st Place (off 176th Avenue SE) as places where there are also problems with septic systems. These areas are all outside of the Urban Growth Boundary (UGB). At some time in the future, the

Renton Wastewater Utility, in coordination with King County, may have to take action to provide relief to these areas outside the UGB. Potential solutions may include tight–lining sewers to these areas or the development of community drainfields where feasible.

### 5.2.5 Wastewater Quality

The quality of wastewater transported in the Renton sanitary sewer system varies considerably depending on the wastewater source, detention time within the sanitary sewer system and the volume of I/I.

The quality of domestic wastewater varies and is a direct result of the type of water used within the home. Some domestic sewage can be considered stronger than others can. One household appliance, the garbage disposal, can greatly impact the quality of wastewater. Most new home construction incorporates garbage disposal in its design. Use of these garbage disposals increases both suspended solids and the biochemical oxygen demand (BOD), two common results tested for when measuring contaminant concentrations.

The total volume of industrial waste produced within the City of Renton is small compared with the volume of domestic wastewater. However, an industrial or commercial development can have a considerable impact on the sanitary sewer collection system immediately downstream of the facility. Industrial waste can contain high concentrations of chemicals that can make the waste highly corrosive or toxic. If discharge of an industrial waste to the sanitary sewer system creates problems, then pretreatment of the industrial waste should be considered. Several federal, state, and local regulations govern the pretreatment of industrial waste.

Several industries within the City have obtained National Pollution Discharge Elimination Systems (NPDES) permits. The most recent list of industrial discharges is provided in Table 5.2. The King County Industrial Waste Program is a state delegated authority to implement the Federal Pretreatment Program and handles the industrial waste for the City of Renton. This program administers the waste discharge permits, inspections, enforcements, compliance and collection of surcharge monitoring fees. The program also works with business to help them implement pollution prevention practices. The industrial dischargers submit monthly self monitoring reports to the King County Industrial Waste Program to confirm compliance with their NPDES permits. Additionally, King County conducts twice yearly monitoring of the discharges. Within the past five years there have been six NPDES permit violations (Table 5.2), two of the violations were for failure to report and the remaining four violations were for exceedence of Zinc limits.

### 5.2.6 Wastewater Quality Analysis and Recommendations

A major problem associated with wastewater quality is the generation of hydrogen sulfide that occurs during wastewater transport from its source to the point of treatment. The hydrogen sulfide found in wastewater results from the anaerobic bacterial reduction of the sulfate ions that are present. Hydrogen sulfide poses three serious problems: it is highly

corrosive, has an obnoxious odor, and as a gas is toxic to humans and has been known to cause death to sewer maintenance workers. The production of hydrogen sulfide is directly related to the BOD of the wastewater. Wastewater exhibiting a high BOD will tend to generate more hydrogen sulfide than wastewater exhibiting a lower BOD.

Hydrogen sulfide is very corrosive to both sewers and pumping facilities. Hydrogen sulfide released from the wastewater will tend to dissolve on condensation within the crown of a sanitary sewer. The hydrogen sulfide retained in the condensation is converted to sulfuric acid through oxidation by aerobic bacteria. This sulfuric acid will react with the cement bonding material within concrete pipes, or iron within steel pipes, and can corrode a pipe to the point of structural failure. Sanitary sewer pipes are most susceptible to this type of corrosion in their crowns because that is where most condensation occurs.

Aeration, periodic cleaning, and use of non-corrosive pipe materials can control effects of hydrogen sulfide. If excessive hydrogen sulfide production is evident at a lift station, aeration of the wet well should be considered to reduce the hydrogen sulfide in the wastewater and reduce the effects of anaerobic bacteria that produce the hydrogen sulfide. Periodic cleaning of the sanitary sewers will also remove the biological slime that forms on the pipe walls and produces the hydrogen sulfide. The most effective method of mitigating corrosion by hydrogen sulfide is through the use of non-corrosive pipe materials, such as polyvinyl chloride (PVC), or high-density polyethylene (HDPE). Existing pipes experiencing severe corrosion can be rehabilitated through the use of various slip form liners or fiberglass resin liners.

In order to control the generation of hydrogen sulfide, the City's maintenance crews routinely flush and clean sewer pipes with inadequate slopes. In addition, all pipes are cleaned before video inspection is performed. Both of these tasks reduce biological growth on the walls of the sewer pipes and reduce the hydrogen sulfide generation potential.

Excessive I/I will tend to lower the BOD. This will tend to reduce the production of hydrogen sulfide and the concentration of contaminants in the wastewater. As the City works to reduce I/I, there may be more impact by contaminants and hydrogen sulfide. The City may have to increase efforts to reduce hydrogen sulfide and be more aware of potential contaminants.

| **Table 5.2 Renton Summary of Active Industrial Waste Permits<br>Long-Range Wastewater Management Plan<br>City of Renton** | |
|---|---|
| **Industrial Discharger** | **Permit Violations** |
| A. O. Smith Water Products Company | • June 2003 -- Zinc monthly average self monitoring data<br>• April 2006 -- Zinc monthly average King County monitoring data<br>• July 2008 -- Zinc composite |
| Alliance Packaging LLC | |
| Allpak Container Corporation | • January 2003 -- Reporting violation - later report failure to file application for Discharge Authority renewal |
| Barbee Mill Co., Inc. | |
| Bluegrass Container Company, LLC | |
| Boeing Commercial Airplane - Renton | |
| Boeing Electronics Center | |
| Bristol II at Southport | |
| Buchan Bros. | |
| Cold Standard, Inc. | |
| ConocoPhillips Company - Renton Terminal | |
| Draper Valley Farms, Inc. | • January 2006 -- Reporting violation - failure to file fourth quarter 05 self monitoring report |
| ExxonMobil Oil Corporation | |
| G & K Services | |
| Group Health Cooperative - DSSF | |
| Kenworth Truck Company - Renton | |
| King County DOT - Renton Decant Facility | • February 2003 -- Zinc Composite |
| Landing, The (Harvest Partners) | |
| Orca Bay Seafoods, Inc. | |
| Renton, City of - South Lk. WA Roadway (Ceccanti/Kleinfelder) | |
| Sam's Club | |
| Sanctuary, The - Kleinfelder | |
| Service Linen Supply | |
| Stock Yards Meat Packing Company | |
| Stoneway Concrete - Black River | |
| Stoneway Concrete - Houser Way | |
| Stoneway Concrete - Renton Ready Mix Batch Plant | |
| Trojan Lithograph | |
| USA Petroleum | |
| Valley Medical Center | |
| WSDOT - I405/I5 to SR169 Widening | |
| Notes:<br>1. Data provided by King County in September of 2008. | |

### 5.2.7 Infiltration and Inflow

A portion of the flow in any sanitary sewer system may consist of I/I. Infiltration is attributed to groundwater entering into the sewer system and inflow is storm water flowing directly into the system as the result of a “storm incident” or illegal connections such as a direct connection of storm sewers, downspouts, or foundation drains. Infiltration can enter the system through leaking pipe joints, structural cracks, or other physical defects.

Elimination of storm inflow from the system is difficult due to conflicting concerns. Sealing manhole lids and maintaining the water tightness of the lids decreases inflow, but gas, particularly hydrogen sulfide and methane, can collect in the sealed manholes. The City attempts to minimize vent holes for the system, but inflow cannot be prevented completely. During the design and construction of new main extensions, the City utilizes manhole liners and coatings as well as sealed manhole covers in wet areas. The City also performs video inspections during the wet season on all new gravity sewers to check for leaks.

In December 1999 as part of the Regional Wastewater Services Plan (RWSP), the King County Council approved the development of a Regional I/I Control Program. The purpose of the program is to reduce the risk of sanitary sewer overflows and the cost of adding capacity to facilities that convey wastewater to County treatment plants. The County installed over 800 flow meters to measure flows throughout the County. The flow meters monitor depth of flow and velocity. Early flow monitoring data between late 2000 and early 2001 were considered unrepresentative because of drought conditions that lowered the groundwater table and therefore reduced I/I to the system. Consequently, King County performed additional flow monitoring from late 2001 to early 2002. This effort proved more productive as data from several storms was captured. Rainfall in the region was also monitored by King County. The system (CALAMAR) used a combination of 73 rain gauges throughout the region, as well as the National Weather Service radar, to generate rainfall quantities to an accuracy of plus or minus 10 percent.

In 2000, the County’s Wastewater Treatment Division, in cooperation with the local component agencies that it serves launched an I/I Program. Ten pilot projects were selected to evaluate the effectiveness of various sewer rehabilitation technologies in reducing I/I in local agency collection systems. The completion of the ten pilot projects in January 2004 marked a major milestone in the King County study. The projects demonstrated that I/I could be effectively reduced, depending on the location and method of rehabilitation. The results of the pilot projects, along with other information, were used to prepare a long-term regional plan for reducing I/I in local agency systems.

Old and aging sewers contribute to excessive I/I into the sanitary sewer system. In conjunction with King County’s program for reducing I/I, the City identified, through model analysis, areas of concern for investigation, additional metering, and replacement or rehabilitation of the sewers. There are certain portions of the sanitary sewer system that are known as having I/I in excess of the 1,500 GPAD identified as the acceptable amount as

determined through the joint planning effort between King County and the component agencies. The City works to reduce the I/I in these portions of the system through its mainline and lateral replacement program. If these systems are replaced, I/I will be reduced and King County's requirements will be met. If a system is not scheduled for replacement or a replacement is delayed, the City may have to perform interim rehabilitation to reduce I/I if required for capacity needs.

In addition, the City will continue to follow King County's work on its I/I program. The additional data produced through the current effort occurring through 2012 will be used by the City in determining feasibility of using I/I improvements in lieu of upsizing sewer systems where capacity restraints have been identified.

The sewer model has also identified portions of the sewer system that have I/I or capacity problems that have not manifested themselves with physical signs. The City needs to perform additional metering and investigation of these areas to determine the accuracy of the model, update the model data, and determine the level of need for replacement or rehabilitation. The City will initiate an I/I Metering, Investigation, and Rehabilitation and Replacement of Sanitary Sewer Mains for Control program. The program will perform additional metering and investigation of the sewer system.

## 5.3 WASTEWATER COLLECTION BASINS

The following section summarizes the deficiencies within each of the City's six wastewater collection basins based on the above hydraulic, structural, lift station, and system-wide analysis. The summary of the analysis describes the capacity and replacement deficiencies in addition to the lift station recommendations for each basin. The City's six sewer basins, as described in Chapter 2, are located on Figure 5.1.

### 5.3.1 West Cedar River Basin

The West Cedar River Basin includes the eastern portion of the City of Renton bordering the Cedar River. This basin consists of primarily single-family and multi-family developments with some commercial and light industrial land uses. By ultimate buildout, it is estimated that the City will serve approximately 2,142 acres within this basin. This basin includes modeling basins CEDAR02 and RNT065.

#### 5.3.1.1 Model Basin CEDAR02A

Model Basin CEDAR02A is located on the north side of Cedar River. This model basin includes primarily single-family and multi-family developments. This model basin includes the Cottonwood Lift Station. This model basin currently takes significant flows from the East Cedar River Basin via the East Renton Lift Station.

MAY VALLEY BASIN

EAST LAKE WASHINGTON BASIN

DOWNTOWN BASIN

WEST CEDAR RIVER BASIN

EAST CEDAR RIVER BASIN

BLACK RIVER BASIN

N

0 2,000 4,000

Feet

1:24,000

Urban Growth Boundary

City Limits

Basin Boundaries

**Model Basins**

- CEDAR02A
- ESI1003
- No Model
- RNT023
- RNT030
- RNT035
- RNT042
- RNT045
- RNT054
- RNT065
- SINT001
- SRENT002
- U-Basins

CITY OF RENTON

# FIGURE 5.1

# CITY OF RENTON LONG-RANGE WASTEWATER MANAGEMENT PLAN

## WASTEWATER COLLECTION BASINS AND METERING BASINS

JANUARY 2008

The model identifies potential moderate capacity issues between manholes 5317-185 and R10-05A, primarily affected by backwater from King County. Upstream from this issue, the model also identifies potential severe capacity issues between manholes 5308-341 and 5317-185 (with one manhole within 0.5 feet of overtopping) and potential minor capacity issues between manholes 5317-037 and 5317-185. Both of these situations would be affected by backwater from the downstream capacity problem. The City will monitor these areas to determine if evaluation is needed.

The existing sewers in the Maplewood Division I and Division II plats were constructed in 1963. They are reaching the end of their useful life and should be scheduled for replacement. The model identifies a moderate backwater surcharge from King County between manholes 5316-015 and R10-26A. The system consists of approximately 2,000 lineal feet of existing 8, 12, and 15-inch concrete gravity sewer.

The existing sewers in Windsor Hills are approximately 55 years old. Large portions of these sewers are 6-inch pipes, which do not meet current standards for minimum size for mains. Part of these sewers is within Zone 2 of the Aquifer Protection Area. The model identifies a potential severe capacity issue between manholes 5308-009 and 5308-026, with one manhole possibly overtopping. The City should schedule the replacement/rehabilitation of approximately 7,900 lineal feet of existing 6 and 8-inch gravity sewer in the Windsor Hills Neighborhood.

The existing Heather Downs Interceptor has seen significant increased flows due to new development on a portion of the East Renton Plateau. Some flows directed to this interceptor was intended to be routed to the East Renton Interceptor. The model identifies three runs (5316-033 to 5316-037 - Moderate/Severe, 5316-038 to 5316-015 - Severe, and 5315-062 to 5315-001 - Moderate) within the Heather Downs Interceptor that have potential capacity issues. A section of the Heather Downs Interceptor was constructed on a very steep slope (approximately 65 percent slope). The sewer section in question is located along a power line easement near the plat of Maplewood. The interceptor was constructed using 10-inch PVC sewer pipe with concrete collars to stabilize the pipe on the steep slope. The City should video inspect this sewer to examine the internal integrity and to locate any pipe or manhole movement. If a problem is found, a geotechnical consultant could examine the steep slope for stability and the potential of soil shifting. This information will help determine the need for construction of an interceptor in a new alignment. A study needs to be performed to determine which portions of the system need to be upsized. The system consists of approximately 9,100 linear feet of 8, 10, 12, and 15-inch mains.

There is a stretch of Union Avenue NE, between NE 2nd Street and NE 6th Place that does not have a sewer main installed. There are three sections of sewer in this stretch that need to be installed to provide service to properties in this area that are undeveloped or on septic tank.

The Cottonwood Lift Station was reconstructed in its entirety in 1994. This is a permanent station. The expected life of a sewage pump station is 25 years. Cottonwood will be 25 years old in 2019. Renton should plan to rehabilitate the station in 2019.

#### 5.3.1.2 Model Basin RNT065

Model Basin RNT065 is located on the south side of Cedar River. This model basin includes primarily single-family and multi-family developments. This model basin includes two lift stations: the Falcon Ridge Lift Station and the Kensington Lift Station. In addition, this model basin receives wastewater from the Soos Creek Water and Sewer District.

The Cascade Interceptor is a joint use facility between the City of Renton and the Soos Creek Water and Sewer District (formerly Cascade Sewer District). The gravity interceptor is currently not experiencing capacity problems, and King County's inverted siphon crossing the Cedar River was replaced by a new inverted siphon which is sized to accommodate these peak flows.

The majority of the wastewater in this interceptor originates in the Soos Creek system, including Soos Creeks Lift Station No. 5. According to the Soos Creek Comprehensive Sewer Plan, Lift Station No. 5 is considered to be a permanent facility that serves a large basin. As development of this basin proceeds, increased pumping from the lift station may cause capacity problems in the joint use facility. Monitoring of the flows needs to continue, in order to minimize risk.

The model identified a potential surcharge of approximately 2 feet between manholes 5321-118 and 5321-016. This is due to the constant peak inflow assumption from the Soos Creek sewer system in the hydraulic model. The City will visually monitor this area to determine if modeled conditions match field conditions.

The Falcon Ridge Lift Station was built in 1981. The expected life of a sewage pump station is 25 years. Falcon Ridge will be 25 years old in 2006. As part of an overall review of lift stations for prioritization of upgrades or rehabilitation Falcon Ridge has been scheduled for replacement or rehabilitation in 2010.

### 5.3.2 East Cedar River Basin

The East Cedar River Basin is located at the east side of Renton's sanitary sewer service area. The basin extends from approximately Bremerton Avenue NE to the Urban Growth Boundary east of the City. The majority of this basin is currently unsewered and consists of primarily single-family land uses. By ultimate buildout, it is estimated that the City would serve approximately 2,105 acres. A significant portion of this basin is already developed with subdivision. The majority of these developments are on private septic systems. Problems with some of the existing septic systems, the needs of the schools in the area, the lack of ability to develop existing platted lots on septic systems, and the desire by some to develop some of the larger tracts in the area highlight the need for sanitary sewers in

this basin. The basin can be partially served by gravity through the East Renton Interceptor.

Service of the central portion of the East Cedar River Basin will require an interceptor or conveyance facility to move the sewage from the sub-basin to the King County system. The first phase of this interceptor was constructed as part of the King County Elliott Bridge Construction Project that was completed in 2005. There is approximately 5,000 additional feet of 12, 15, and 18-inch sewer necessary to provide service to this basin. Service of the eastern portion of the East Cedar River Basin will require an interceptor or conveyance facility to move the sewage from the sub-basin to the King County system. The potential exists for a gravity route projecting south from 180th Avenue South.

The completion of the East Renton Interceptor in 1994 allows for the extension of collection mains into the East Cedar River Basin. This basin has seen the most significant amount of improvement since the 1998 Long Range Wastewater Management Plan. Construction of the remaining collection system will be through LID or developer extension. There is approximately 220,000 feet of collection sewer necessary to provide service to this basin. There are also some facilities proposed in the basin that, while acting as local collector facilities, may need to be larger for conveyance purposes. While the City typically participates in the 'oversizing' costs of these lines this LRWWMP is not programming any CIP dollars for this project.

Service of the Central Plateau area will require an interceptor or conveyance facility to move the sewage from this area to the King County system. The first phase of this interceptor was constructed as part of the King County Elliott Bridge Construction Project that was completed in 2005. Phase 2 began construction in 2007 with completion anticipated for mid 2008.

Service of the East Plateau area will require an interceptor or conveyance facility to move the sewage from this area to the King County system. The potential exists for a gravity route projecting south from 180th Avenue S. This and other gravity routes may be considered. There would be concerns about working in and around the Cedar River to cross to the Maple Valley Highway. Alternate methods of pipe installation, such as boring or micro tunneling may mitigate impacts involved with a river crossing. A gravity alternative would also be dependent upon a facility to move the flows from the discharge point of this trunk at approximately 177th to the existing King County Cedar River Trunk at 154th. For alternative consideration, a pump station that would move the flows to Model Basin CEDAR02A could be built in lieu of the East Plateau Interceptor. Both the East Renton Interceptor and the Central Plateau Interceptor are planned for this contingency. There is approximately 9,300 feet of 18-inch sewer necessary to provide service to this basin under the gravity alternative.

The Evendell Lift Station can be abandoned when the gravity sewer system is constructed in 160th Avenue SE and the sewers serving south of SE 136th Street can be connected.

The construction of the Central plateau interceptor allows for the connection and activation of the dry sewers in the Briar Hills Neighborhood. The Highland Estates Lift Station can be abandoned with a short extension of gravity service. The East Renton Lift Station can also be abandoned by extending the sewer north from158th Place SE and SE 138th Place, approximately 900 feet.

### 5.3.3 East Lake Washington Basin

The East Lake Washington Basin is located in the northern part of the City and includes Model Basins RNT023, RNT030, RNT035, and RNT054. The City serves this entire basin, which consists of a variety of land uses including single-family and multi-family residential, and light commercial. By buildout it is estimated that the developed area of the basin would be 3,104 acres. The wastewater collected in this basin is transported to King County's East Side Interceptor at several connection points.

The installation, in 1997, of the Sunset Interceptor allowed for the removal of the Sunset Lift Station. This interceptor was designed and installed by the City, with King County's support, to relieve capacity concerns created by the County's delay in constructing the May Valley Interceptor.

The Devil's Elbow Lift Station was rehabilitated in 1991, to provide reliability to the station and stabilize the location of the force main. The installation of the Sunset Interceptor removed the peek overflows, from the Sunset Lift Station, that used to flow to the Devil's Elbow Lift Station.

#### 5.3.3.1 Model Basin RNT023

Model Basin RNT023 includes primarily single-family and multi-family developments. The sewers in this model basin are in good condition. As this basin becomes fully developed, the flows will cause a capacity concern along Lake Washington. This model basin includes the Devil's Elbow Lift Station.

The sewer main in North 28th Place does, however, accept upstream flows from upstream areas. Modeling of this basin projects that this main does not have the capacity to handle full development of this model basin. The model projects potential surcharging of about three feet between manholes 5432-120 and 5432-118. The model identified a potential minor surcharging problem between manholes 5305-019 and 5305-041, due to a capacity issue. The Wastewater Utility should monitor the capacity of this line and program to upsize the mains.

Parts of Sierra Heights have not had sewers installed. A large portion of this area has been declared an area of concern due to the potential of failure the King County Health Department has seen in the septic systems in the area. The majority of the unserved area is not currently within the Renton City Limits. Construction of sanitary sewers in the developed

areas will allow transfer of residential sewer disposal from private septic systems to a public sewer system.

In early 1997, the sanitary sewer main in the 2900 block of Lake Washington Blvd. N was damaged by private construction. The sewer main was patched and put back into service. The repair is temporary in nature as it creates a reduction in capacity, impacts flow characteristics, and prevents proper cleaning. To properly re-establish the sewer system in the area the City needs to replace and relocate approximately 300 feet of sewer main.

#### 5.3.3.2 Model Basin RNT030

Model Basin RNT030 includes primarily single-family and multi-family developments as well as the Highlands Commercial Center. This model basin includes the Westview Lift Station. This basin includes both residential and commercial developments. A major portion of the sanitary sewer system in the North Highlands area and South Highlands area were constructed during World War II. These older sewer systems are near the end of their useful life and require increased maintenance. The sewers in this model basin are on the City's list of highest priority sewers for evaluation of replacement. A major portion of the sanitary sewer system in the Presidents Park area is over 40 years old.

Investigation of the old concrete mains finds the lines in moderate shape with some localized structural problems and some I/I. The model identified a potential severe pipe capacity issue between manholes 5309-439 and 5309-052 largely due to a flat sewers main. There is a projected surcharge of up to four feet during normal flows with the potential to overtop one manhole. The City should provide some spot repairs or rehabilitation to extend the useful life of the entire system. This area should be monitored for scheduling of replacement of the sewers.

The existing collection system within the North Highland area was constructed in the early 1940s and is comprised of 8, 10, and 12-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. Within this North Highlands area, the model identified a moderate to severe pipe capacity issue between manholes 5309-011 to 5309-131. The model also projects that these capacity issues would cause a moderate backwater problem between manholes 5304-066 and 5309-011, which also has its own minor capacity issue. A potential severe pipe capacity issue is identified by the model between manholes 5309-024 and 5308-069. The model projects the possibility of one manhole overtopping. This project involves the replacement of approximately 56,800 lineal feet of existing gravity sewer between NE 7th Street, NE 21st Street, Aberdeen Avenue NE, and Queen Avenue NE.

The existing collection system within the South Highland area was constructed in the early 1940s and is comprised of 8-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves the

replacement of approximately 13,700 lineal feet of existing gravity sewer between NE 3rd Street, NE 7th Street, Monroe Avenue NE, and Sunset Boulevard NE.

The existing collection system within the Westerly Portion of the Presidents Park area was constructed in the early 1940s and is comprised of 8 and 10-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves the replacement of approximately 10,000 lineal feet of existing gravity sewer between NE 6th Street, NE 10th Street, Monroe Avenue NE, and Harrington Avenue NE.

The existing collection system within the Easterly Portion of the Presidents Park area was constructed in the Early 1950's and is comprised of 8-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves the replacement of approximately 32,000 lineal feet of existing gravity sewer between NE 6th Street, NE 10th Street, Monroe Avenue NE, and Harrington Avenue NE.

The Westview Lift Station was constructed in 1996. Lift stations have an anticipated life of 25 years. This station has shown excessive wear and has reliability issues. It is schedule for replacement ahead of the 25-year time frame.

#### 5.3.3.3 Model Basin RNT035

Model Basin RNT035 includes primarily single-family and multi-family developments as well as the portion of the Sunset commercial corridor east of Union Ave NE. This model basin includes the Long, Summerwind, Stonegate, and Wedgewood Lift Stations.

The completion of the Sunset Interceptor and elimination of the Sunset Lift Station in 1997 removed many major capacity concerns. The majority of the sewers in this sunset area are around thirty years old. Stonegate serves single-family residential properties. The sewers in this area are newer with the oldest being approximately ten years old. It naturally flows toward May Valley. It is not anticipated that the May Valley Interceptor will be constructed within the six-year time frame of this LRWWMP.

The model identifies a potential moderate to severe pipe capacity issue between manholes 5303-011 and 5303-069. The hydraulic grade line in MH 5319-057 comes within 3 feet of the surface. The City will monitor this area to determine if additional analysis is needed.

The existing concrete gravity sewers in the Honeydew area are approximately 35 years old and have experienced severe corrosion. The City did some spot rehabilitation in this area to resolve I/I problems. Those pipe runs may not need to be replaced. The rest of the system, however, is structurally compromised. The City will be looking at the replacement of approximately 7,100 lineal feet of existing 8-inch gravity sewer between NE 10th Street, Sunset Boulevard, Union Avenue NE, and Hoquiam Avenue NE.

The existing downstream system, from NE 10th at Field Avenue NE to the Sunset Interceptor has insufficient capacity to accommodate future development flows from this portion of the system. The new interceptor would require 1950 linear feet of 12-inch sewer to connect to re-route flows to the East Renton System at Duvall Avenue NE and NE 8th Street.

The Summerwind Lift Station is reaching the end of it's useful life. The Stonegate Lift Station is undersized to meet the build out needs of this area. The capacity of the sanitary sewer system in Duvall Avenue NE and NE Sunset Boulevard is also insufficient for build out needs of the area. Abandon Summerwind Lift Station and divert flows into Stonegate Lift Station. Construct a new Stonegate Lift Station with sufficient capacity to meet build out needs for both areas Construct new 8-inch force main to route flows to Field Avenue NE and gravity sewer main in Field Avenue NE and NE Sunset Boulevard.

The Long Lift Station was built in 2001. The expected life of a sewage pump station is 25 years. The Long Lift Station will be 25 years old in 2026. The City should plan to rehabilitate the station in 2026.

#### 5.3.3.4 Model Basin RNT054

Model Basin RNT054 includes primarily single-family and multi-family developments along Lake Washington and the Boeing redevelopment area located on the south end of Lake Washington. The sewers in this area are approximately thirty years old. There are not any projected capacity concerns within this model basin. This model basin includes the Lake Washington Beach, Lake Washington Flush, and Lake Washington No. 2 Lift Stations.

The Kennydale Lakefront sanitary sewer collection system is a low-pressure, force main. Water from Lake Washington is pumped periodically into the force main through the Lake Washington flush station. Lake water and the sewage is discharged from this low-pressure force main into the Lake Washington No. 2 Lift Station, where it is then pumped into the King County East Side Interceptor. The original force main was installed in 1972 and has a history of various problems and requires considerable maintenance.

In 2003 the City installed three manholes over the Lakefront Sewer line located in Lake Washington. These manholes were installed to provide additional access for cleaning the sewer main of the solids that accumulate in the numerous bellies due to its location along the bottom of the lake. At the time of this construction, the line was thoroughly cleaned.

The Kennydale Lakefront sewer system has several undesirable operating characteristics. First, this low-pressure sewer main requires a considerable amount of maintenance, which is made more difficult due to its location along the lakefront. Second, it uses a flush station which pumps water from Lake Washington in order to flush wastewater to the Lake Washington No. 2 Lift Station. In 2002/2003, the City performed a study to determine condition of the existing system and evaluate alternatives for replacement. The study recommended interim repairs and additional maintenance access points. Testing of the

main for condition showed that it had potentially 20 to 30 years of additional life. Examine and evaluate system operation in this area and determine if replacement is warranted.

The model identified a potential severe pipe capacity issue between manholes 5431-009 and 5432-141. The hydraulic grade line in MH 5431-007-007 comes within 0.5 feet of surface. The City will continue to monitor this area.

The Lake Washington Beach Lift Station was constructed in 1968. This is a permanent station. The expected life of a sewage pump station is 25 years. While Lake Washington Beach is over 25 years old, it only receives seasonal usage from Coulon Beach Park and thus will last longer than 25 years. Renton should plan to rehabilitate the station in 2012 when the station is 44 years old.

The Lake Washington No. 2 Lift Station was rebuilt from scratch in 1994. This is a permanent station. The expected life of a sewage pump station is 25 years. Lake Washington No. 2 will be 25 years old in 2019. Renton should plan to rehabilitate the station in 2019.

### 5.3.4 Black River Basin

The Black River Basin is a large drainage basin in the southwest part of the City and includes the Model Basins RNT045 primarily single-family and multi-family developments in the uplands and the Renton Village commercial area by I-405, SINT001 primarily light industry, warehousing and commercial, and SRENT002 primarily residential use, including both single-family and multi-family developments, and the commercial developments at and around Valley Medical Center.

#### 5.3.4.1 Model Basin RNT045

Model Basin RNT045 includes primarily single-family and multi-family developments in the uplands and the Renton Village commercial area by I-405. The higher elevations in the Rolling Hills, Talbot Hill, and Panther Creek areas are generally single-family and multi-family residential developments, while the valley floor is generally industrial and commercial land uses. A large portion of the basin, south and west of SINT001 model basin were un-modeled.

The model identified a potential pipe capacity issue between manholes 5319-085 and 5319-071 with the prospect of one manhole overtopping.

The existing collection system within the Talbot Hills area was constructed in 1960 and is comprised of 8 and 10-inch concrete sewers, which will be approaching the end of their useful life and need to be replaced before structural failures occur. This project involves replacement of approximately 18,200 lineal feet of existing gravity sewer between Lake Avenue S, S 14th Street, State Route 515, and S 23rd Street.

The Thunderhill Interceptor was installed in 1964 and is comprised of 10, 12, and 18-inch concrete sewers, which will be approaching the end of their useful life and need to be

replaced before structural failures occur. The model identifies a potential Minor to Moderate pipe capacity issue between manhole 5319-046 and 5319-026. This project involves replacement of approximately 11,000 lineal feet of existing gravity sewer.

The Benson Road Interceptor was installed in 1962 and is comprised of 8-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves replacement of approximately 5,500 lineal feet of existing gravity sewer.

#### 5.3.4.2 Model Basin SINT001

Model Basin SINT001 includes most of the area south of Interstate 405, north of SW 34th Street, east of East Valley Road, and west of Oakesdale Avenue SW. This area is primarily light industry, warehousing and commercial. The flexibility of uses allowed in the zoning of the area may lead to increased demands on the existing sewer systems. Consequently, the City should periodically re-examine wastewater flow rates in order to better evaluate sanitary sewer needs. This model basin includes the Lind Avenue Lift Station.

The Lind Avenue Lift Station was constructed in 1978. The station was rebuilt as part of a local improvement district in 1983. The expected life of a sewage pump station is 25 years. Lind Avenue will be 25 years old in 2008. This station is considered a permanent lift station, which will serve existing and future commercial developments within a major portion of the Renton Industrial area. It does not meet current design codes because it lacks full redundancy of its vacuum priming system. If the vacuum priming system were to fail, the lift station would not operate. In addition, the above grade electrical structures have experienced vandalism. The lift station requires rehabilitation and major modifications to improve reliability and in order to be upgraded to a permanent lift station. This station is currently scheduled to rehabilitate replaced in 2012.

#### 5.3.4.3 Model Basin SRENT002

Model Basin SRENT002 is the majority of the area south of SW 23rd Street between SR-167 and the eastern City Limits. This area is primarily residential use, including both single-family and multi-family developments, and the commercial developments at and around Valley Medical Center. This model basin includes the Talbot Crest Lift Station. Renton obtained the sewer mains that allow the City to serve most of this area in the 1991 interlocal agreement with Soos Creek Water and Sewer District. This agreement defines service area boundaries and results in joint use of the Springbrook Interceptor, which serves the Springbrook area. Renton is responsible for the portion of the Interceptor within City Limits and Soos Creek is responsible for the portion of the Interceptor outside of the City.

The Talbot Road Interceptor is the only line that has capacity concerns in this model basin. This interceptor, which serves a majority of the model basins, may be undersized to service this area. As the area develops, the City should continue to monitor this interceptor for

capacity and need to upsize. Additionally in the future, capacity constraints in the Springbrook interceptor may become a concern. The 1991 agreement identifies capacity limits for both Renton and Soos Creek. Based upon these limits, the agency that is over capacity is responsible for improvements to provide the additional capacity.

Based on the modeling effort, the analysis identified a potential pipe capacity issue in the South Talbot Interceptor, between manholes 5331-142 and R18-17. The capacity restraints are because of the relatively flat slope of the sewer and a minor backwater effect from King County's sewer. Five manholes in this run are projected with the possibility of overflowing. The model has identified two other runs connecting to this interceptor with capacity issues that are affected by backwater from this run. The run between manholes 5331-109 and 5331-182 projects with a moderate capacity issue. The run between manholes 5331-086 to 5331-025 projects to have a severe capacity issue with the potential of five manholes overtopping. The model also identified a potential pipe capacity issue between manholes 5331-056 and R18-25 with the possibility of one manhole overtopping. These areas will be monitored by City Staff.

The existing Talbot Road Interceptor is potentially undersized to serve this basin. These existing 8-inch sanitary sewers may need to be replaced with 12-inch pipe. This project involves the analysis approximately 4,000 lineal feet of existing gravity sewer. The model identifies a potential severe pipe capacity issue between manholes 5330-109 and SR18-19, with six manholes possibly overtopping.

The Talbot Crest Lift Station, which serves a residential development along Talbot Crest Drive, was replaced in 2001. Expected life of a sanitary sewer lift station is 25 years. As such, this station should be scheduled for rehabilitation in 2026.

#### 5.3.4.4 Unmodeled Areas

A large portion of the south and west portions of the valley floor is considered un-modeled. The City did not have individual meters in this area so the model was constructed using interpolated data from King County. This area is only a small portion of the King County metered basin and the results are showing themselves to be suspect. The City needs to obtain its own meter data for this area. This model basin includes the East Valley Lift Station.

The existing SW 34th Street Interceptor is identified by the model as having severe pipe capacity issues between manholes 5330-037 and 5330-027 with intermittent surcharging up to four feet during normal flows and the potential for overtopping in six manholes. Part of the problem identified by the model is that the East Valley Lift Station is not keeping up with peak flows and backwater is affecting upstream conditions. Overtopping in six manholes. The City has not seen indication of a problem in this interceptor and is questioning the data. The City should perform an analysis of the approximate 3,500 lineal feet of existing 8-

inch gravity sewer to determine if it is undersized to accommodate the area that can be potentially served with this interceptor.

There are also several other areas that the model identified as having potential capacity problems. The City will monitor these areas to determine if future evaluation is needed.

- A potential severe pipe capacity issue, between manholes 4325-037 and R18A-17 with one manhole possibly overtopping.
- The model identifies potential large-scale pipe capacity issues between manholes 4336-001 and R18-17 with minor influence by backwater from King County.
- Possible overtopping in twelve manholes.
- Capacity issues between manholes 4325-038 and 4336-006 as a result of backwater.
- Intermittent surcharging up to four feet between manholes 5330-037 to 5330-027 during normal flows.
- Potential backwater effects from King County between manholes 5330-040 and R18-11. The model indicates that the backwater capacity conditions in this section as influenced by lift station flows may cause three manholes to overtop.
- Potential backwater and pipe capacity issues between manholes 5331-063 and R18-05 and manholes overtopping between 5330-045 and 5330L19 due to the lift station not keeping up with incoming flows.

It is important to note that the City has not experienced any overflows or high flow situations at any of these locations. Further analysis and potential additional flow monitoring may be required to better qualify these results.

### 5.3.5 Downtown Basin

The Downtown Basin is located in the northwest part of the City and includes the Central Business District, West Hill and North Renton Industrial areas. The entire basin is model basin ESI1003. Land use within this basin consists of single-family, multi-family, commercial, and heavy industrial land uses. This model basin includes the Airport and Earlington Lift Stations. Skyway Water and Sewer District also provides sewer service to parts of the West Hill that are within this basin.

The model identified potential capacity issues between manholes 5317-169 and 5318-115 due to relatively shallow slopes. There is a potential of four manholes overtopping. The model also indicates that this capacity issue may cause potential backwater situation between manholes 5317-205 and 5317-150 with the potential of three manholes overtopping. Additionally, the analysis identified potential severe capacity issues between manholes 5318-137 and 5318-148. No improvements are proposed for these areas, however they will be monitored by City Staff and evaluated as data is collected.

The existing collection system in the Earlington Hill area was constructed in the early 1950's and is comprised of 6 and 8-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. The hydraulic analysis identifies potential minor pipe capacity issue between manholes 4313-109 and 5318-258. The model also identifies a potential moderate pipe capacity issue between manholes 5318-137 and 5318-148. Potential backwater affects from downstream influence the latter issue. This project involves the replacement of approximately 19,200 lineal feet of existing gravity sewer.

The existing collection system within the Renton Hill area was constructed between 1947 and 1949 and is comprised of 6 and 8-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failure occurs. This project involves replacement of approximately 15,000 lineal feet of existing gravity sewer.

While the city has replaced a large quantity of the existing sewers in the Central Business District, there is still approximately 11,000 lineal feet of sewers that are old and in poor condition. The model identifies potential surcharging of less than 0.5 feet between manholes 5317-085 and 5317-086 during normal service and potential severe capacity issues between manholes 5317-089 and R01-21 during peak storm flows. Replacement of these sanitary sewer pipelines would improve sewer service to this area.

The existing collection system on the West Hill (between NW 2nd, NW 7th, Rainier, and 84th Ave) was constructed in 1962 and is comprised of 6 and 8-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. The hydraulic analysis identifies potential severe pipe capacity issues between manholes 5318-013 and 5318-040 with the potential of one manhole overtopping. This project involves the replacement of approximately 25,000 lineal feet of existing gravity sewer.

The majority of the existing gravity sewers between N 6th Street, N 4th Street, Wells Avenue N, and Park Avenue N are old and deteriorating. Further, these sewers were constructed with an inadequate slope that does not allow self-flushing of the sewer lines. Consequently, maintenance crews are required to flush these sewer lines approximately once a month. In addition, their condition has deteriorated and requires replacements. Interim repairs were made to these mains in the late 1990's. Replacement of approximately 3,100 lineal feet of existing 8-inch gravity sewer in this area is proposed.

The North Renton Interceptor flows were reduced as part of the diversion through the Sunset Interceptor Phase II project completed in 2005. In addition, flows south of N 8th Street are being re-routed into a New 15-inch main being constructed in N 8th from Garden to Logan with a new connection to King County's East Side Interceptor. The City needs to evaluate the old interceptor line for rehabilitation, downsizing, and partial elimination.

The sanitary sewer flows from the south east portion of this basin have been redirected to connect to King County's East Side Interceptor in S 7th Street. This has left low flows in the old 24-inch sewer pipe in Shattuck Avenue between S 4th Street and South 2nd Street. The reduced flows have resulted in septic conditions in the old pipe that require frequent flushing by maintenance crews. The City needs to replace and downsize 1,000 linear feet of 24-inch sewer main in Shattuck to 8 or 12-inch.

Most of the Earlington area north of S 134th Street is currently unsewered. After construction of the Earlington Interceptor or replacement of the Earlington Lift Station, a collection system to serve this area may be completed.

Existing businesses within Renton Center, fronting Rainier, contribute significant grease to the downstream sanitary sewer system causing backups and overflows. Replacement of the non-standard private sewer system with a City sewer main will allow the City to install testing stations to determine grease offenders. The new main would consist of approximately 800 linear feet of 8-inch sewer.

The Earlington Lift Station currently serves the Black River High School near the intersection of S 132nd Street and S Langston Street. This lift station does not have the capacity to provide service for its projected area. The elimination of this lift station is possible since the completion of the sanitary sewer facilities for the Earlington Ridge Plat.

The Airport Lift Station was rebuilt from scratch in 1986. This is a permanent station. The expected life of a sewage pump station is 25 years. Airport will be 25 years old in 2011 and should be rehabilitated.

### 5.3.6 May Creek Basin

The May Creek Basin is located in the northeast part of the City and is located on the periphery of the City's current service boundary. The portion of this basin within Renton's service area is currently only about half sewered. The remainder of the basin is within Coal Creek Utility District's service area. The City serves approximately 130 acres of this basin, which consists of primarily single-family and light commercial land uses. The ultimate sewerage of the southwest (City's) portion of the basin that is east of the freeway will be through the extension and completion of an interceptor to the south. Said interceptor to serve that portion of the basin would be mostly constructed in existing roads.

It is not expected that the City would be considering extension of this sewer in the near future. There are large tracts of land within this area that are owned by Renton and/or King County as parkland. In addition, the properties between Jones Avenue and the freeway and the properties south of NE 36th Street that are within Renton's service area are zoned for such low density that any construction of the sewers may not be cost effective for possible development.

The hydraulic analysis identifies potential severe problems in the Renton-Coal Creek Interceptor (Manholes 5429-024 to 5432-004). The ultimate model shows that this interceptor could potentially be within 0.5 feet of overtopping. The model identifies the problem as being caused by peak inflow assumptions from Coal Creek Utility District as part of the model. City crews will field verify model assumptions.

At this time, the following three lift stations serve low lying areas along Lake Washington in this basin: Misty Cove, Baxter and Denny's Lift Stations. Because the Devil's Elbow Lift Station discharges into the East Lake Washington Basin, the Model Basin RNT035 is considered part of that major basin and it will be addressed in that section.

Misty Cove Lift Station currently pumps into the Baxter Lift Station which pumps into the King County Sewer. The City should investigate pumping each station independently to the King County sewer. Misty Cove should be rehabilitated to ensure safe operation.

Redevelopment in this basin is another factor driving the need to replace or rehabilitate these stations. It is anticipated that Baxter will be replaced as part of the redevelopment of the area, with the City covering costs for oversizing.

The Denny's Lift Station was built in 1983. This is a permanent station. The expected life of a sewage pump station is 25 years. The Denny's Lift Station will be 25 years old in 2008 and should be rehabilitated.

# RECOMMENDED IMPROVEMENTS

## 6.1 INTRODUCTION

This chapter presents the proposed improvements to the Renton sewer system that are necessary to correct existing deficiencies, replace existing deteriorated facilities and accommodate growth through the planning horizon. The costs of the improvements and a schedule for implementing them are also included.

A thorough analysis of the sewer system was prepared to identify the improvements recommended in this Comprehensive Plan The recommended improvements identified in the Proposed Capital Improvement Plan in this Chapter are to be used as a guideline in preparing the capital improvements project list during each yearly budget process. This LRWWMP is deliberately intended to be flexible by allowing incorporation of necessary changes that might arise. Many of the proposed improvements are considered to be preventive in nature, i.e., the improvement is intended to happen before a specific facility has failed, a far more desirable process than trying to replace facilities after they fail. Since it is impossible to estimate when a facility will fail, the process of identifying those facilities that are at risk and planning corrective measures must continue. Additionally, as growth and land use patterns change during the planning period, the City will continue to evaluate the system. Future development may impact the size and timing of the proposed improvements. The City may recommend program modifications to best meet the needs of the wastewater utility system.

## 6.2 CIP RANKINGS

The complexity of the City's wastewater utility system requires a method that systematically determines which improvements should be undertaken sooner than others. To assign rankings to the planned improvements, each one was analyzed according to these general categories: Substandard Facility, System Efficiency, and Environmental Protection. Substandard Facilities evaluate hydraulic capacity or structural problems, System Efficiency improves operational conditions and Environmental protection meets regulatory criteria. For consistency in Capital Improvement Program (CIP) development and ranking, these are the same categories used during the 1998 Long Range Wastewater Management Plan.

Each category was further divided into four or more kinds of improvements or standards. Each of these sub-categories was assigned a number of points, with the rule that no one improvement could be given more than eight points in any of the three categories. For each sub-category, each proposed project was given one point if it provided the benefit described and two points if it provided a solution to an acute problem. The higher the number of points an improvement received, the greater its benefit, or the greater its ability to meet certain standards or policies. This systematic ranking will help direct resources and activities to the appropriate projects. The results of the systematic ranking are presented in Table 6.1. Each project is identified as a general system wide improvements or a basin specific improvement. A project

number was assigned to each individual project, according to the project group location, i.e. System Wide are 1.0x project and West Cedar River Basin are 2.0x.

### 6.2.1 Substandard Facility

A facility qualifies as substandard if it is unreliable, is structurally deteriorating or has hydraulic capacity problems. A project received points if it resulted in the following improvements to a substandard facility:

**POINTS**: 1-2 Reduces or eliminates hydraulic capacity problems.
1-2 Replaces a deteriorating facility or corrects a structural problem.
1-2 Improves system reliability (i.e., prevents discharge of raw sewage to any waters, or reduces the potential backup of raw sewage into basements, streets, or other properties).
1-2 Corrects occupation hazard (i.e., reduce dangers to maintenance workers).

**Maximum Number of Points: 8**

### 6.2.2 System Efficiency

A project can improve the efficiency of the system if it results in a reduction of operation and maintenance costs. Examples of such projects include wastewater flow rate modeling and elimination of lift stations. A project received points for system efficiency if it met any of the following conditions:

**POINTS**: 1-2 Involves improving lift station operation or efficiency.
1-2 Involves the elimination of a lift station.
1-2 Reduces infiltration and inflow.
1-2 Improves understanding and planning of sewer system.

**Maximum Number of Points: 8**

### 6.2.3 Environmental Protection

An improvement helps protect the environment if it reduces damage to it, or reduces the threat to the public health. Examples of deficiencies that such projects improve include failing septic tanks or sewage overflows into lakes or streams. An improvement received points for environmental protection if it met any of the following conditions:

**POINTS**: 1-2 Eliminates septic tanks.
1-2 Improves protection of the public health and safety.
1-2 Improves protection of the environment (i.e., land, wetlands, streams, groundwater).
2 Helps protect Zone 1 of Aquifer Protection Area.
1 Helps protect Zone 2 of Aquifer Protection Area.

**Maximum Number of Points: 8**

**Table 6.1 Ranking Summary of Proposed Improvements**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Project Number | Proposed Capital Improvements | Substandard Facilities | System Efficiency | Environmental Protection | Total Ranking |
|---|---|---|---|---|---|
| **System Wide** | | | | | |
| 1.01 | Misc Sewer Projects and Emergency Repairs | 6 | 1 | 4.5 | 11.5 |
| 1.02 | Lift Station Telemetry Upgrades | 4 | 2 | 0 | 6 |
| 1.03 | Maintenance & Upgrade Sewer Hydraulic Model | 4 | 2 | 1.5 | 7.5 |
| 1.04 | Inflow & Infiltration Metering, Investigating, Rehab | 4 | 4 | 0 | 8 |
| 1.05A | Earlington Sanitary Sewer Replacement | 6 | 2 | 1.5 | 9.5 |
| 1.05B | Renton Hill Sanitary Sewer Replacement | 5 | 2 | 1.5 | 8.5 |
| 1.05C | Renton Central Business District Sewer Rep Ph IV | 6 | 1 | 2.5 | 9.5 |
| 1.05D | West Hill Sanitary Sewer Replacement | 4 | 1 | 1.5 | 6.5 |
| 1.05E | North Highlands Sewer collection System Replace | 4 | 1 | 1.5 | 6.5 |
| 1.05F | South Highlands Sewer Collection System Replace | 4 | 1 | 1.5 | 6.5 |
| 1.05G | Maplewood Sewer Replacement | 3 | 0.5 | 2.5 | 6 |
| 1.05H | Presidents Park Sanitary Sewer Replacement Ph I | 3 | 0.5 | 1 | 4.5 |
| 1.05I | Presidents Park Sanitary Sewer Replacement Ph II | 3 | 0.5 | 1 | 4.5 |
| 1.05J | Honeydew Sanitary Sewer Replacement | 3 | 0.5 | 1 | 4.5 |
| 1.05K | Talbot Hill Sewer Collection System Replacement | 3 | 0.5 | 1 | 4.5 |
| 1.05L | North Renton Sewer Replacement Ph III | 3 | 0.5 | 1 | 4.5 |
| 1.05M | Windsor Hills Sewer Replacement/Rehabilitation | 3 | 0.5 | 1 | 4.5 |
| 1.06 | Long Range Wastewater Management Plan Upgrade | 5 | 2 | 0 | 7 |
| **West Cedar River Basin** | | | | | |
| 2.01 | Heather Downs/Maplewood Interceptor Improvement | 3 | 1 | 3 | 7 |
| 2.02 | Cottonwood Lift Station Rehabilitation | 1.5 | 0.5 | 2 | 4 |
| 2.03 | Falcon Ridge Lift Station Rehabilitation | 4 | 1 | 2 | 7 |

**Table 6.1 Ranking Summary of Proposed Improvements**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Project Number | Proposed Capital Improvements | Substandard Facilities | System Efficiency | Environmental Protection | Total Ranking |
|---|---|---|---|---|---|
| **East Cedar River Basin** | | | | | |
| 3.01 | East Cedar River Collection Sewers | 0 | 0 | 5 | 5 |
| 3.02 | Central Plateau Interceptor | 3 | 0 | 5 | 8 |
| 3.03 | East Plateau Interceptor | 1 | 0 | 3 | 4 |
| 3.04 | East Renton Lift Station Elimination | 2 | 2 | 0 | 4 |
| 3.05 | Highlands Lift Station Elimination | 2 | 2 | 0 | 4 |
| 3.06 | Evendell Lift Station Elimination | 2 | 2 | 0 | 4 |
| **Lake Washington East Basin** | | | | | |
| 4.01 | Duval Interceptor | 3 | 0 | 4 | 7 |
| 4.02 | Westview Lift Station Replacement/Rehabilitation | 5 | 2 | 0 | 7 |
| 4.03 | Kennydale Lakefront Sewer System Improvements | 2.5 | 1 | 3 | 6.5 |
| 4.04 | Union Avenue NE Sewer Main Extension | 2 | 0 | 2.5 | 4.5 |
| 4.05 | Sierra Heights Sewer System Construction | 1 | 0 | 5 | 6 |
| 4.06 | North Renton Intercept Replacement/Rehabilitation | 4 | 0 | 1 | 5 |
| 4.07 | Lake Washington Blvd. Sewer (2900 Block) | 5 | 0 | 0 | 5 |
| 4.08 | Stonegate/Summerwind Flow Diversion | 4 | 3 | 1 | 8 |
| 4.09 | Lake Washington Beach Lift Station Rehabilitation | 4 | 2 | 0 | 6 |
| 4.10 | Lake Washington No 2 Lift Station Rehabilitation | 3 | 1 | 0 | 4 |
| 4.11 | Long Lift Station Rehabilitation/Replacement | 2 | 1 | 0 | 3 |
| **Black River Basin** | | | | | |
| 5.01 | Talbot Crest Lift Station Replacement | 2 | 1 | 1 | 4 |
| 5.02 | Thunder Hill Interceptor Replacement | 4 | 2 | 2 | 8 |
| 5.03 | Benson Road Interceptor | 3 | 1 | 1 | 5 |

**Table 6.1 Ranking Summary of Proposed Improvements**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Project Number | Proposed Capital Improvements | Substandard Facilities | System Efficiency | Environmental Protection | Total Ranking |
|---|---|---|---|---|---|
| 5.04 | SW 34th Street Interceptor Replacement | 5 | 2 | 0 | 7 |
| 5.05 | Talbot Road Interceptor Capacity Analysis | 2 | 0 | 1 | 3 |
| 5.06 | Lind Avenue Lift Station Rehabilitation | 5 | 2 | 0 | 7 |
| **Downtown Basin** | | | | | |
| 6.01 | Earlington Lift Station Elimination | 6 | 2 | 3 | 11 |
| 6.02 | Shattuck Ave S Interceptor Downsizing | 6 | 0 | 2 | 8 |
| 6.03 | North Earlington Collection System | 1 | 0 | 4 | 5 |
| 6.04 | Airport Lift Station Rehabilitation | 5 | 2 | 0 | 7 |
| 6.05 | Renton Center Sewer Extension | 5 | 0 | 2 | 7 |
| **May Valley Basin** | | | | | |
| 7.01 | Misty Cove/Baxter Lift Station Replacement | 4 | 2 | 2 | 8 |
| 7.02 | Denny's Lift Station Rehabilitation | 4 | 2 | 1 | 7 |

Table 6.2 presents the Proposed Improvements by priority. The total ranking sum cannot be used solely to prepare the Capital Improvement Program. The project rankings do not take into consideration engineering judgment or scheduling of dependent projects. Engineering judgment involves the trained observation of non-quantifiable impacts of a project. The scheduling of projects involves determining which projects must be completed before other projects can begin. For these reasons, each project was reassigned into three priorities categories: near-term, mid-term, and long-term. Table 6.2 presents the total ranking and the project priority along with brief comments regarding any inconsistency between the project ranking and the project priority.

## 6.3 CAPITAL IMPROVEMENT DESCRIPTIONS

The proposed capital improvement projects are summarized in the following section. The projects are organized by drainage basin. A brief description of the specific system deficiency and the proposed improvement are included. The improvement also includes the total estimated project cost. The costs are in 2008 dollars. They were developed based on prior project cost data, which was then inflated to 2008 dollars. The total cost includes the project design, construction and all other allied costs. The estimates are based on approximate average costs for similar project, and do not take into account individual variables. The projects will require a revised cost estimate prior to the initiating of any of the capital projects, in order to account for the other variables. Each project was assigned a proposed schedule date based on the priority. Lastly, each project includes a site map with the project extents. A summary map of all recommended improvements is included as Figure 6.1.

### 6.3.1 System Wide Improvements

**1.01 Miscellaneous Sewer Projects and Emergency Repairs**

**System Deficiency**: This project is to perform small repairs, replacements, or installations of sewers that are not scheduled in the CIP, but become a priority due to unexpected problems, failure, or coordination with other projects.

**Improvement**: Identify and perform non-scheduled work as necessary.

- Cost: $2,020,000 Priority: near-term
- Beginning: 2006 Completion: 2026

**1.02 Lift Station Telemetry Upgrades**

**System Deficiency**: Telemetry system components and software will become out-dated over time. It is anticipated that there will be updating of the telemetry system on a five-year cycle.

**Table 6.2 Proposed Improvements Priority Summary**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Project Number[(1)] | Proposed Capital Improvements | Total Ranking | Priority | Comments |
|---|---|---|---|---|
| 1.01 | Misc Sewer Projects and Emergency Repairs | 11.5 | near | |
| 6.01 | Earlington Lift Station Elimination | 11 | near | |
| 1.05A | Earlington Sanitary Sewer Replacement | 9.5 | near | |
| 1.05C | Renton Central Business District Sewer Rep Ph IV | 9.5 | near | |
| 1.05B | Renton Hill Sanitary Sewer Replacement | 8.5 | near | |
| 1.04 | Inflow & Infiltration Metering, Investigating, Rehab | 8 | near | |
| 3.02 | Central Plateau Interceptor | 8 | near | |
| 4.08 | Stonegate/Summerwind Flow Diversion | 8 | near | |
| 6.02 | Shattuck Ave S Interceptor Downsizing | 8 | near | |
| 7.01 | Misty Cove/Baxter Lift Station Replacement | 8 | near | |
| 5.02 | Thunder Hill Interceptor Replacement | 8 | near | |
| 1.03 | Maintenance & Upgrade Sewer Hydraulic Model | 7.5 | near | |
| 2.01 | Heather Downs/Maplewood Interceptor Improvement | 7 | near | |
| 4.01 | Duval Interceptor | 7 | near | |
| 4.02 | Westview Lift Station Replacement/Rehabilitation | 7 | near | |
| 5.04 | SW 34th Street Interceptor Replacement | 7 | near | |
| 6.05 | Renton Center Sewer Extension | 7 | near | |
| 1.06 | Long Range Wastewater Management Plan Upgrade | 7 | near | |
| 2.03 | Falcon Ridge Lift Station Rehabilitation | 7 | near | |

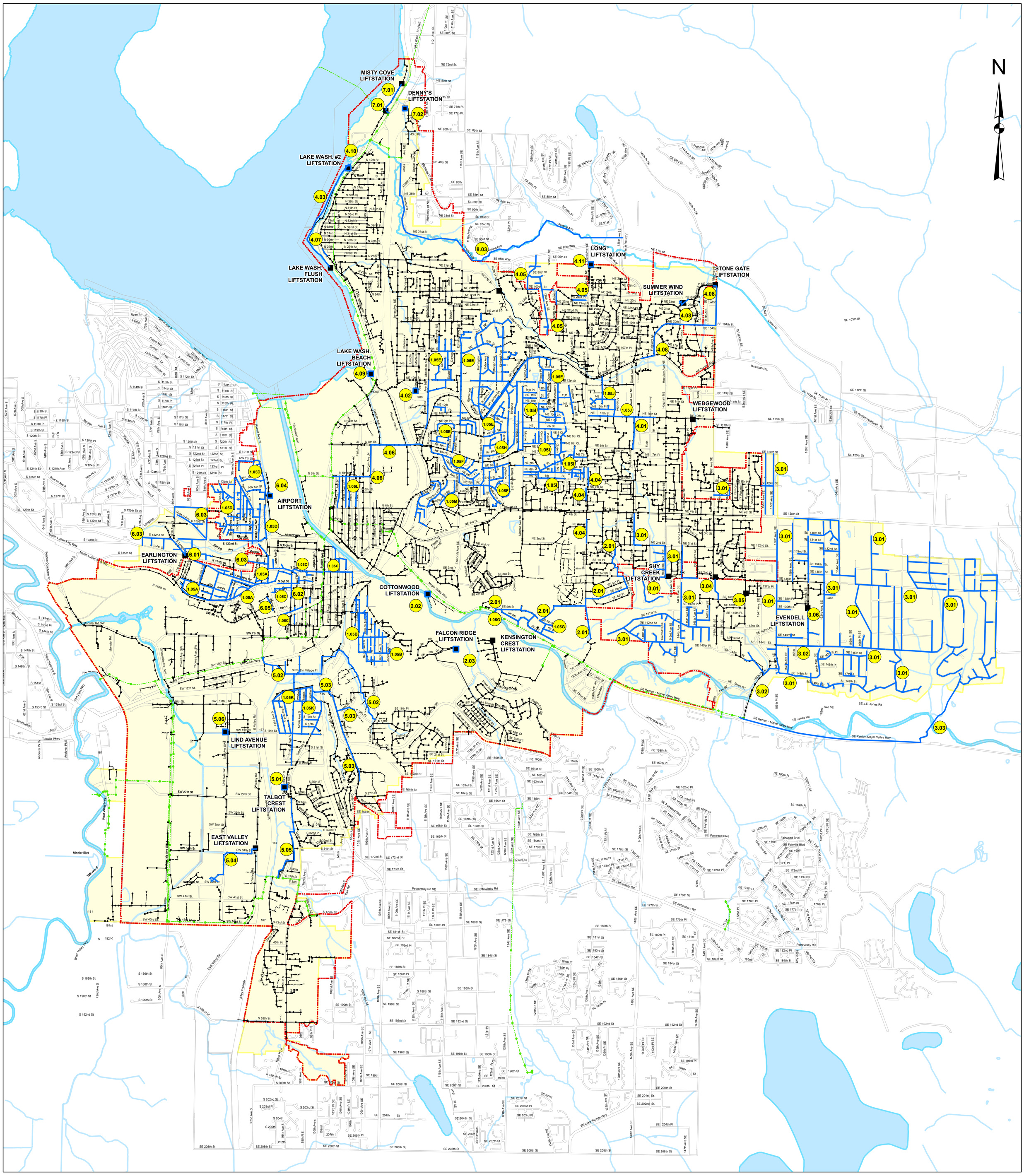
**Table 6.2 Proposed Improvements Priority Summary**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Project Number[(1)] | Proposed Capital Improvements | Total Ranking | Priority | Comments |
|---|---|---|---|---|
| 5.06 | Lind Avenue Lift Station Rehabilitation | 7 | near | |
| 6.04 | Airport Lift Station Rehabilitation | 7 | near | |
| 7.02 | Denny's Lift Station Rehabilitation | 7 | near | |
| 1.02 | Lift Station Telemetry Upgrades | 6 | near | Needed in the near-term to keep up with changing technology |
| 4.05 | Sierra Heights Sewer System Construction | 6 | near | Older septic systems Health Dept area of concern |
| 4.09 | Lake Washington Beach Lift Station Rehabilitation | 6 | near | Station over 40-years old |
| 6.03 | North Earlington Collection System | 5 | near | Older septic systems |
| 3.01 | East Cedar River Collection Sewers | 5 | Near-long | Needed for schools in area Liberty, Briarwood, Maywood |
| 3.06 | Evendell Lift Station Elimination | 4 | near | Coordinate with Central Plateau Interceptor project |
| 3.04 | East Renton Lift Station Elimination | 4 | near | Higher flows than anticipated Eliminate vs add capacity |
| 3.05 | Highlands Lift Station Elimination | 4 | near | Coordinate with Central Plateau Interceptor project |
| 1.05D | West Hill Sanitary Sewer Replacement | 6.5 | mid | |
| 1.05E | North Highlands Sewer collection System Replace | 6.5 | mid | |
| 4.03 | Kennydale Lakefront Sewer System Improvements | 6.5 | mid | |
| 4.06 | North Renton Intercept Replacement/Rehabilitation | 5 | mid | |
| 4.07 | Lake Washington Blvd. Sewer (2900 Block) | 5 | mid | |
| 5.03 | Benson Road Interceptor | 5 | mid | |
| 4.04 | Union Avenue NE Sewer Main Extension | 4.5 | mid | |

**Table 6.2 Proposed Improvements Priority Summary**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Project Number[(1)] | Proposed Capital Improvements | Total Ranking | Priority | Comments |
|---|---|---|---|---|
| 2.02 | Cottonwood Lift Station Rehabilitation | 4 | mid | Ranking based upon estimated life of station |
| 4.10 | Lake Washington No 2 Lift Station Rehabilitation | 4 | mid | Ranking based upon estimated life of station |
| 5.05 | Talbot Road Interceptor Capacity Analysis | 3 | mid | Analysis of capacity only |
| 1.05F | South Highlands Sewer Collection System Replace | 6.5 | long | Pushed back based upon annual funding available |
| 1.05G | Maplewood Sewer Replacement | 6 | long | Pushed back based upon annual funding available |
| 1.05H | Presidents Park Sanitary Sewer Replacement Ph I | 4.5 | long | |
| 1.05I | Presidents Park Sanitary Sewer Replacement Ph II | 4.5 | long | |
| 1.05J | Honeydew Sanitary Sewer Replacement | 4.5 | long | |
| 1.05K | Talbot Hill Sewer Collection System Replacement | 4.5 | long | |
| 1.05L | North Renton Sewer Replacement Ph III | 4.5 | long | |
| 1.05M | Windsor Hills Sewer Replacement/Rehabilitation | 4.5 | long | |
| 3.03 | East Plateau Interceptor | 4 | long | |
| 5.01 | Talbot Crest Lift Station Replacement | 4 | long | |
| 4.11 | Long Lift Station Rehabilitation/Replacement | 3 | long | |

Notes:
(1) City Basins:
- 1.00 System Wide
- 2.00 West Cedar River Basin
- 3.00 East Cedar River
- 4.00 Lake Washington East
- 5.00 Black River Basin
- 6.00 Downtown Basin
- 7.00 May Valley Basin




# FIGURE 6.1

# CITY OF RENTON LONG-RANGE WASTEWATER MANAGEMENT PLAN

## PROPOSED IMPROVEMENTS

JANUARY 2008

**Improvement**: Periodic upgrades of the lift station telemetry system.

- Cost: $400,000 Priority: near-term
- Beginning: 2010 Completion: 2010
  Beginning: 2015 Completion: 2015
  Beginning: 2020 Completion: 2020
  Beginning: 2025 Completion: 2025

**1.03 Maintenance and Upgrade of Sanitary Sewer Hydraulic Model**

**System Deficiency**: The city has developed a hydraulic model utilizing data from King County's Inflow and Infiltration Program. This model will need to be updated as the sewer system is expanded, flow monitoring data collected, physical system data collected by survey or field inspection and as software is updated.

**Improvement**: Update model annually to ensure its accuracy.

- Cost: $500,000 Priority: near-term
- Beginning: 2006 Completion: 2026

**1.04 Inflow & Infiltration Metering, Investigation, and Rehabilitation and Replacement of Sanitary Sewer Mains for Control**

**System Deficiency**: Old and aging sewers contribute to excessive inflow and infiltration into the sanitary sewer system. In conjunction with King County's program for reducing infiltration and inflow (I/I), the City identifies areas of concern for investigation, additional metering, and replacement or rehabilitation of the sewers. There are certain portions of the sanitary sewer system that are known as having excessive I/I. If these systems are replaced, I/I will be reduced and King County's requirements will be met. If a system is not scheduled for replacement or a replacement is delayed, the City may have to perform interim rehabilitation to reduce I/I.

The sewer model has also identified portions of the sewer system that have I/I or capacity problems that have not manifested themselves with physical signs. The City needs to perform additional metering and investigation of these areas to determine the accuracy of the model, update the model data, and determine the level of need for replacement or rehabilitation.

**Improvement**: Perform additional metering and investigation of the sewer system. Replace or rehabilitate existing sewers with I/I problems.

- Cost: $2,280,000 Priority: near-term
- Beginning: 2006 Completion: 2026

## 1.05 Sanitary Sewer Main Replacement and Rehabilitation

**System Deficiency**: The City's existing sanitary sewer system consists of varied materials and age. Much of the existing system includes clay and concrete pipes installed between the 1920's and 1950's. This program evaluates the system overall and prioritizes the replacements based upon age of system, risk of failure, and impact to environment

**Improvement**: Replace or rehabilitate sanitary sewer system by priority identified.

- Cost: $54,000,000.00 Priority: near-term
- Beginning: 2006 Completion: After 2027

Thirteen individual projects are included in the 1.05 group (1.05A through 1.05M). These projects are summarized in Table 6.3. A detailed description of each 1.05 project follows.

**Table 6.3 Sanitary Sewer Main Replacement and Rehabilitation Projects**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Proj No. | Project Name | Proposed Timing |
|---|---|---|
| 1.05A | Earlington Sanitary Sewer Replacement | 2008 thru 2011 |
| 1.05B | Renton Hill Sanitary Sewer Replacement | 2010 thru 2013 |
| 1.05C | Renton Central Business District San Sewer Replacement Ph IV | 2013 thru 2015 |
| 1.05D | West Hill Sanitary Sewer Replacement | 2015 thru 2018 |
| 1.05E | North Highlands Sewer Collection System Replacement | 2018 thru 2026 |
| 1.05F | South Highlands Sewer Collection System Replacement | 2025 thru 2028 |
| 1.05G | Maplewood Sewer Replacement | After 2027 |
| 1.05H | Presidents Park Sanitary Sewer Replacement Phase I | After 2027 |
| 1.05I | Presidents Park Sanitary Sewer Replacement Phase II | After 2027 |
| 1.05J | Honeydew Sanitary Sewer Replacement | After 2027 |
| 1.05K | Talbot Hill Sanitary Sewer Collection System Replacement | After 2027 |
| 1.05L | North Renton Sanitary Sewer Replacement Phase III | After 2027 |
| 1.05M | Windsor Hills Sewer Replacement/Rehabilitation | After 2027 |

Notes:

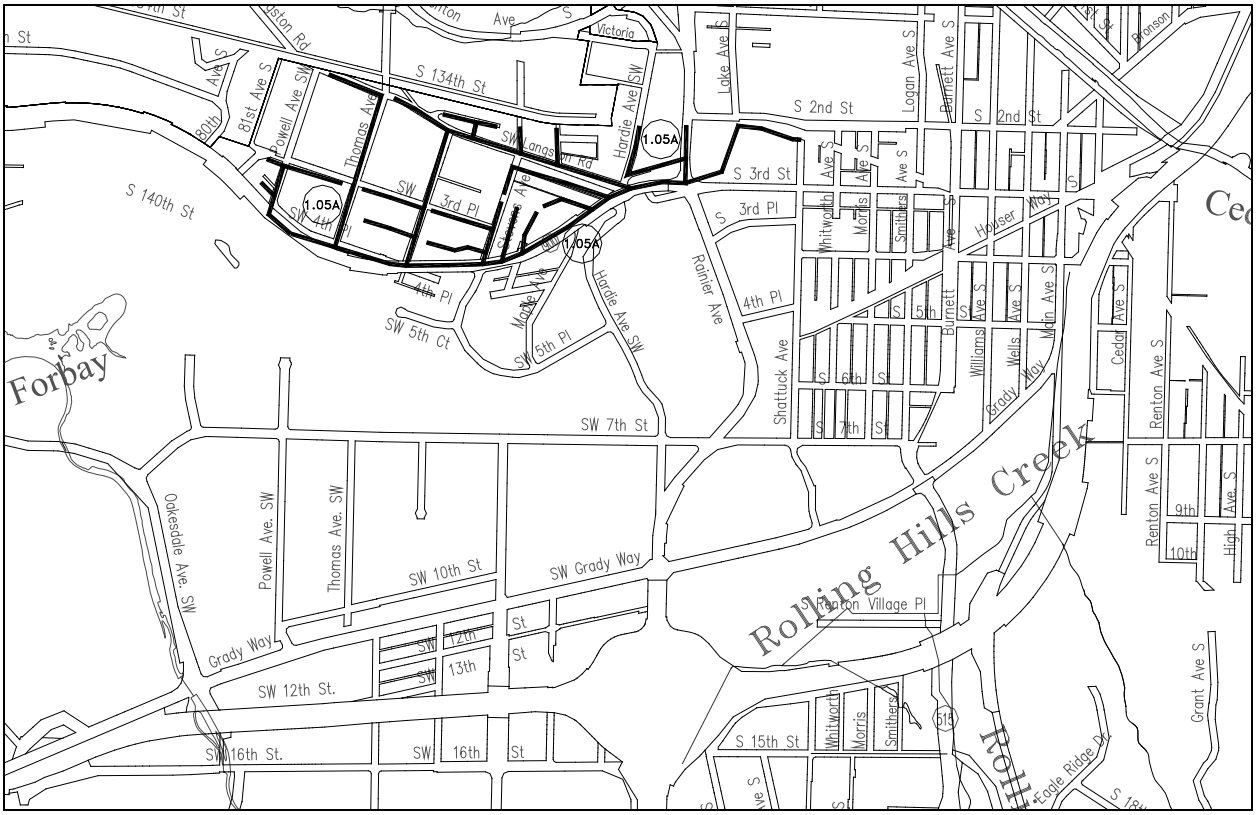
Each project listed in this table has a work sheet following.

## 1.05A Earlington Hill Sewer Replacement (Downtown Basin)

**System Deficiency:** The existing collection system in the Earlington Hill area was constructed in 1951 and is comprised of 6-inch and 8-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves the replacement of approximately 19,200 lineal feet of existing gravity sewer.

**Improvement:** Replace existing collection system between S 134th Street, 80th Avenue S, and SW Sunset Boulevard.

- Cost: $4,150,000 Priority: near-term
- Beginning: 2008 Completion: 2011

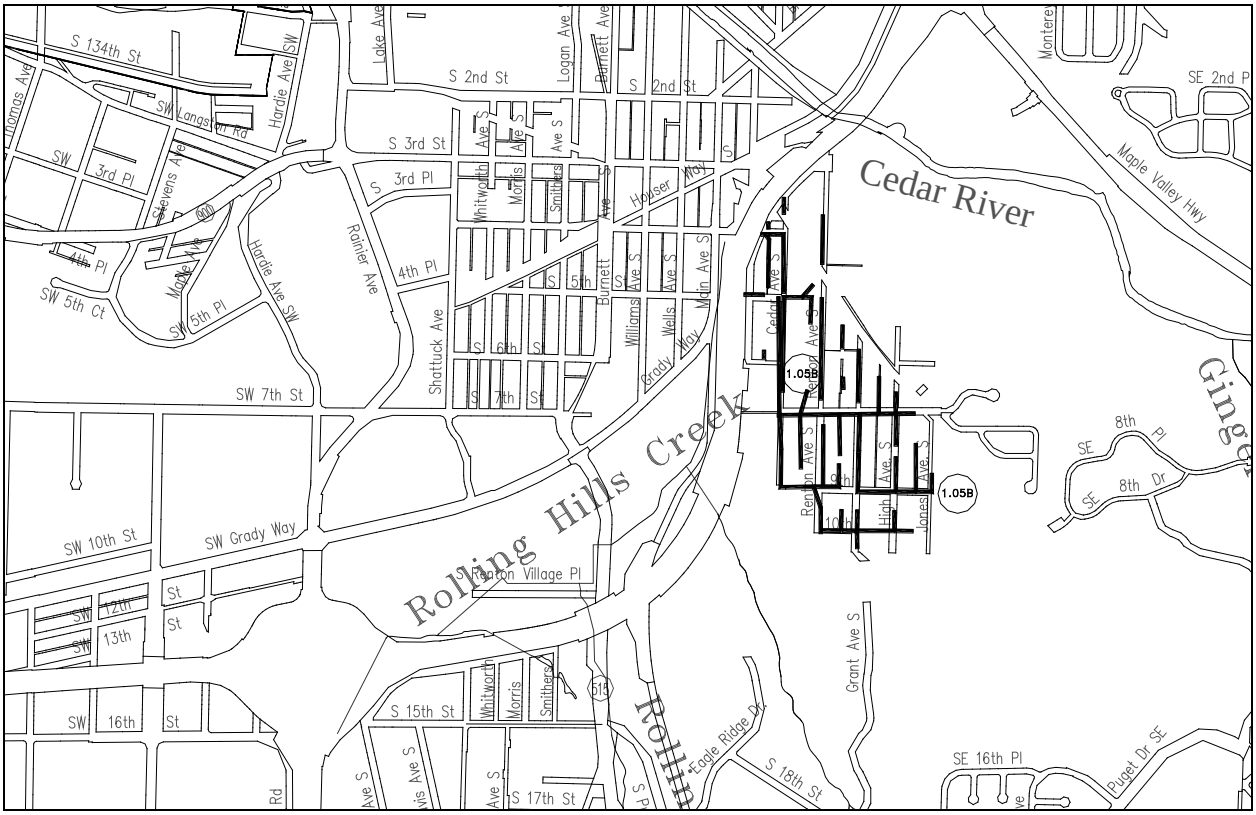


## 1.05B Renton (Scenic) Hill Sewer Collection (Downtown Basin)

**System Deficiency:** The existing collection system within the Scenic Hills area of the Downtown Basin was constructed between 1947 and 1949 and is comprised of 6-inch and 8-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves replacement of approximately 15,000 lineal feet of existing gravity sewer.

**Improvement:** Replace existing collection system within the Renton Scenic Hill area.

- Cost: $3,400,000 Priority: near-term
- Beginning: 2010 Completion: 2013

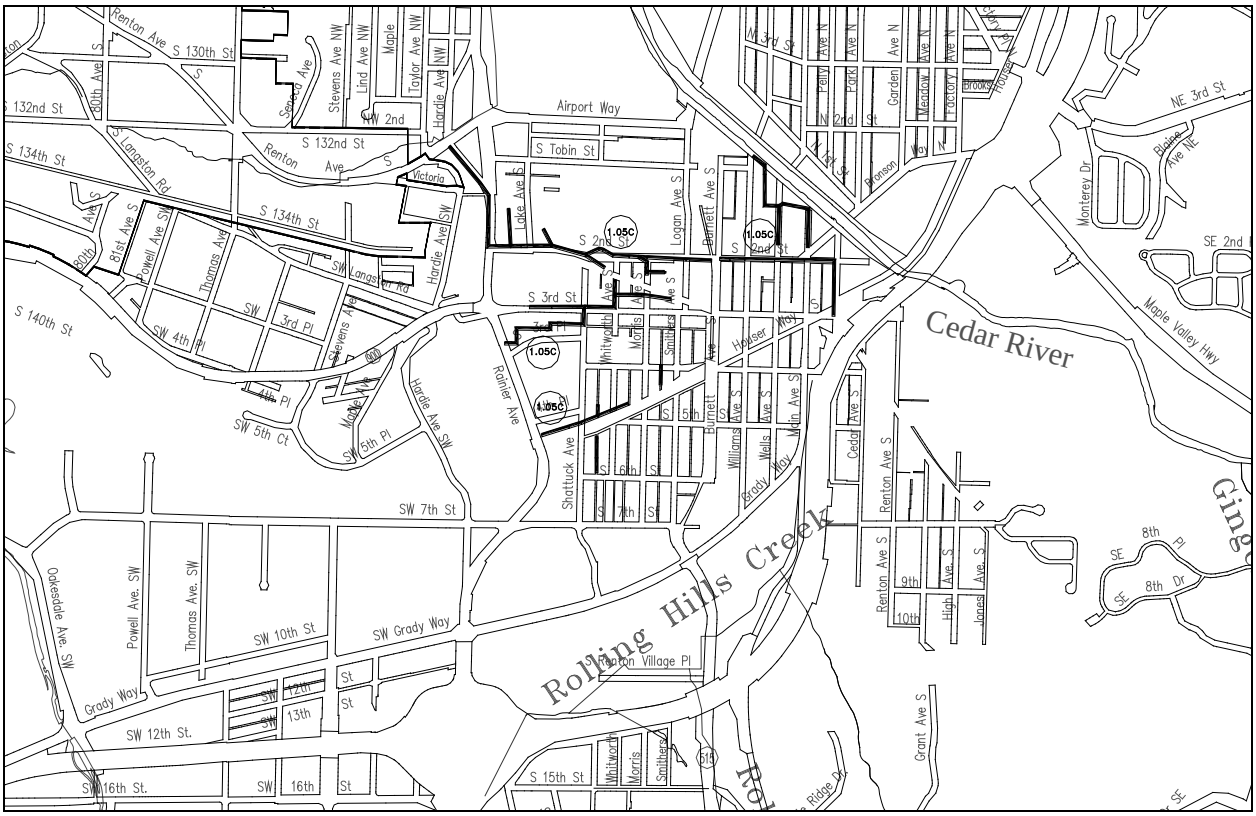


**1.05C Renton Central Business District Sanitary Sewer Replacement, Phase IV**

**System Deficiency**: Existing sewers are old and in poor condition. Replacement of these sanitary sewer pipelines would improve sewer service to this residential area.

**Improvement**: Replacement of approximately 11,000 lineal feet of 8-inch gravity sewer between S 2nd Street and Houser Way.

- Cost: $2,500,000 Priority: near-term
- Beginning: 2013 Completion: 2015

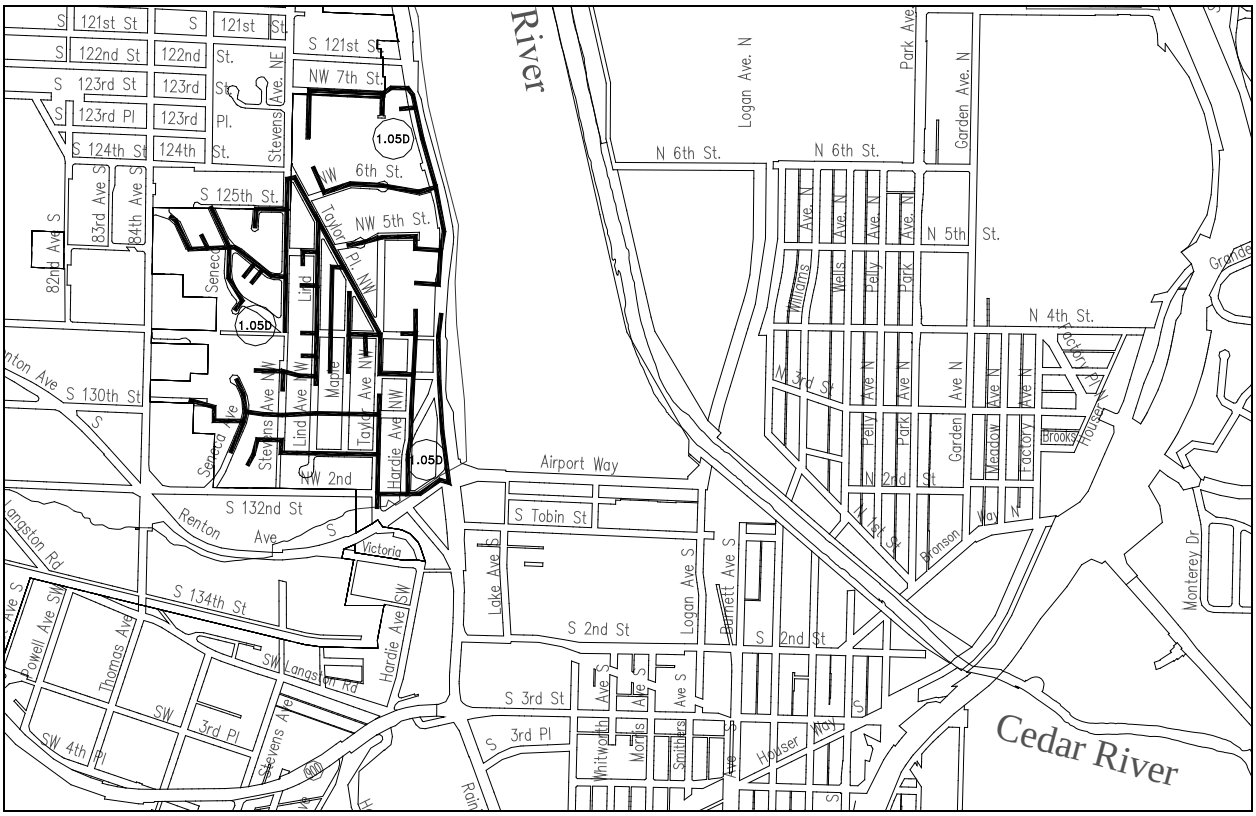


**1.05D West Hill Sanitary Sewer Replacement (Downtown Basin)**

**System Deficiency:** The existing collection system on the West Hill (between NW 2nd, NW 7th, Rainier, and 84th Ave) was constructed in 1962 and is comprised of 6-inch and 8-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves the replacement of approximately 25,000 lineal feet of existing gravity sewer.

**Improvement:** Replace existing collection system between S 134th Street, 80th Avenue S, and SW Sunset Boulevard.

- Cost: $5,700,000 Priority: mid-term
- Beginning: 2015 Completion: 2018

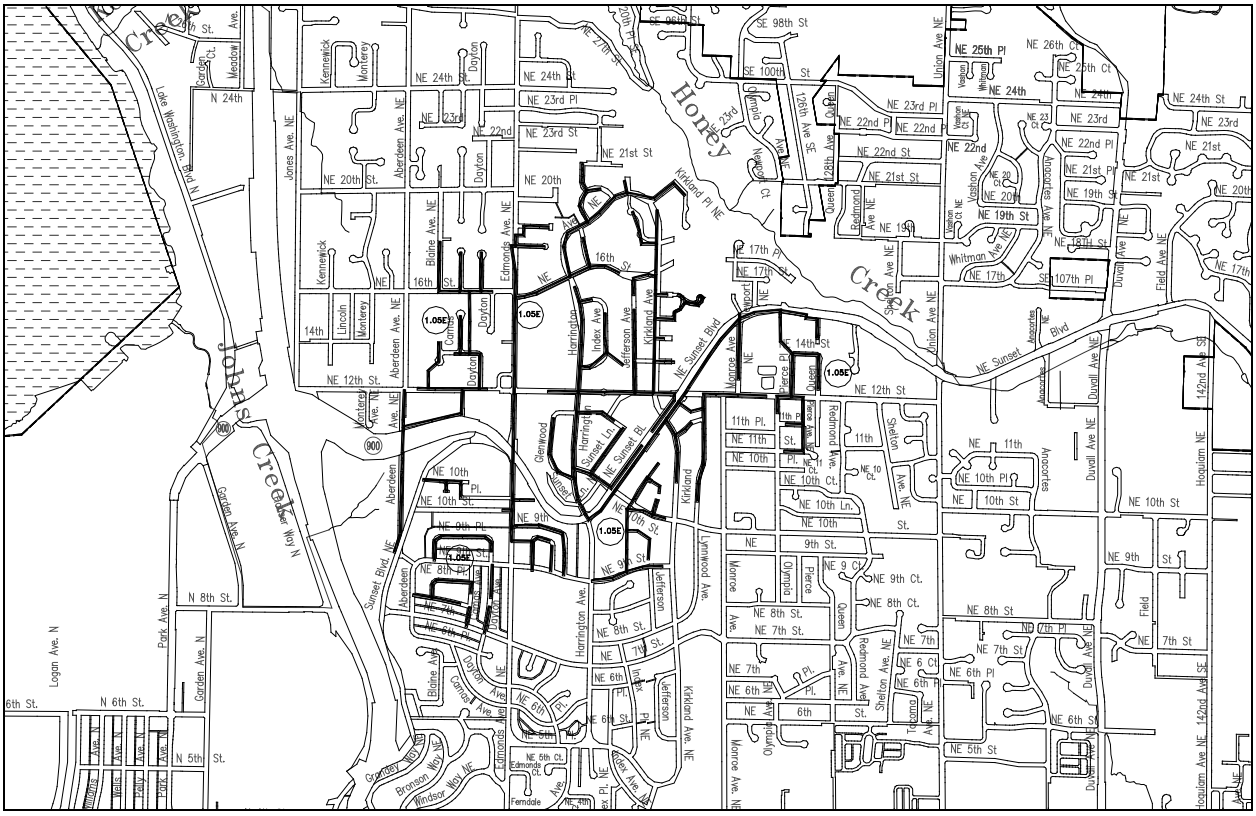


## 1.05E North Highlands Sewer Collection System Replacement (East Lake Washington Basin)

**System Deficiency:** This portion of the existing collection system within Model Basin RNT030 was constructed in the early 1940s and is comprised of 8-inch, 10-inch, and 12-inch concrete sewers that are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves the replacement of approximately 56,800 lineal feet of existing gravity sewer.

**Improvement:** Replace existing collection system between NE 7th Street, NE 21st Street, Aberdeen Avenue NE, and Queen Avenue NE.

- Cost: $13,000,000 Priority: mid-term
- Beginning: 2018 Completion: 2026

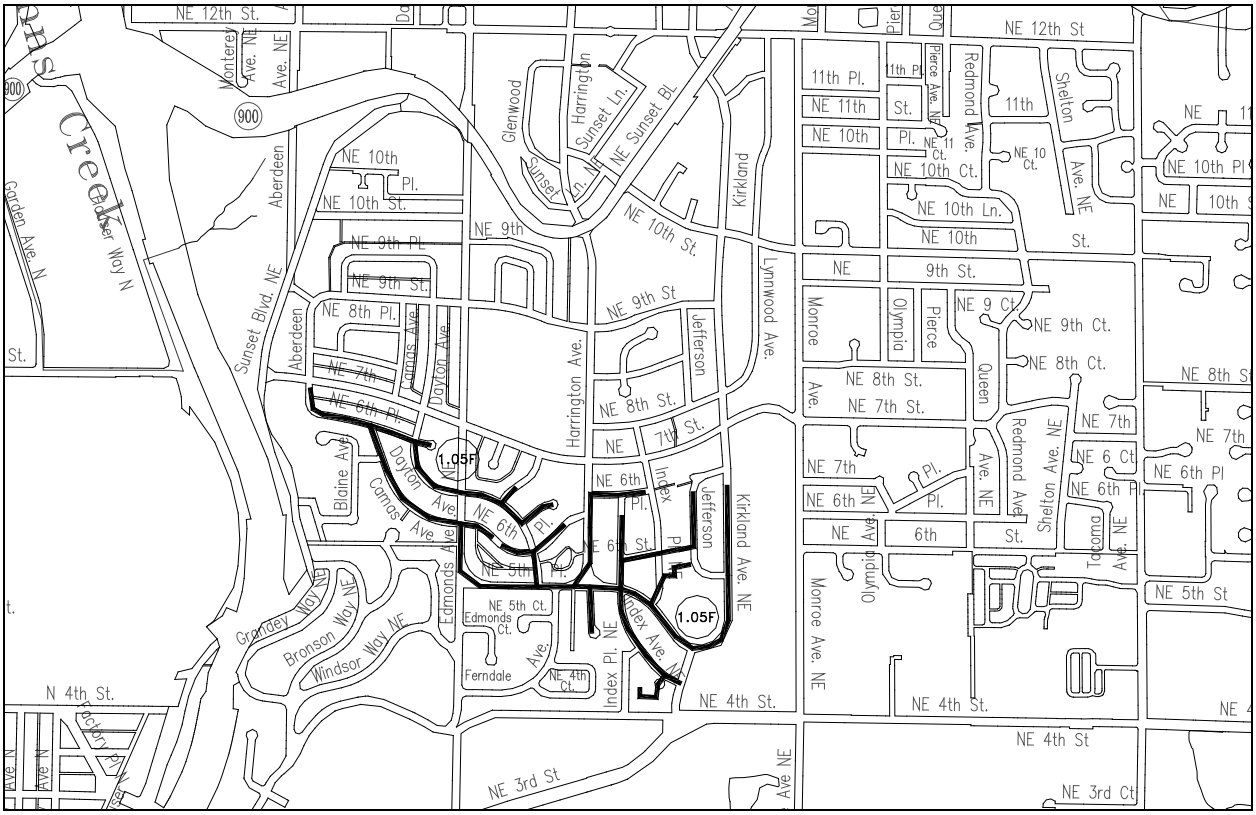


**1.05F South Highlands Sewer Collection System Replacement (East Lake Washington Basin)**

**System Deficiency:** This portion of the existing collection system within Model Basin RNT030 was constructed in the early 1940s and is comprised of 8-inch concrete sewers that are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves the replacement of approximately 13,700 lineal feet of existing gravity sewer.

**Improvement:** Replace existing collection system between NE 3rd Street, NE 7th Street, Monroe Avenue NE, and Sunset Boulevard NE.

- Cost: $3,100,000 Priority: mid-term
- Beginning: 2025 Completion: 2028

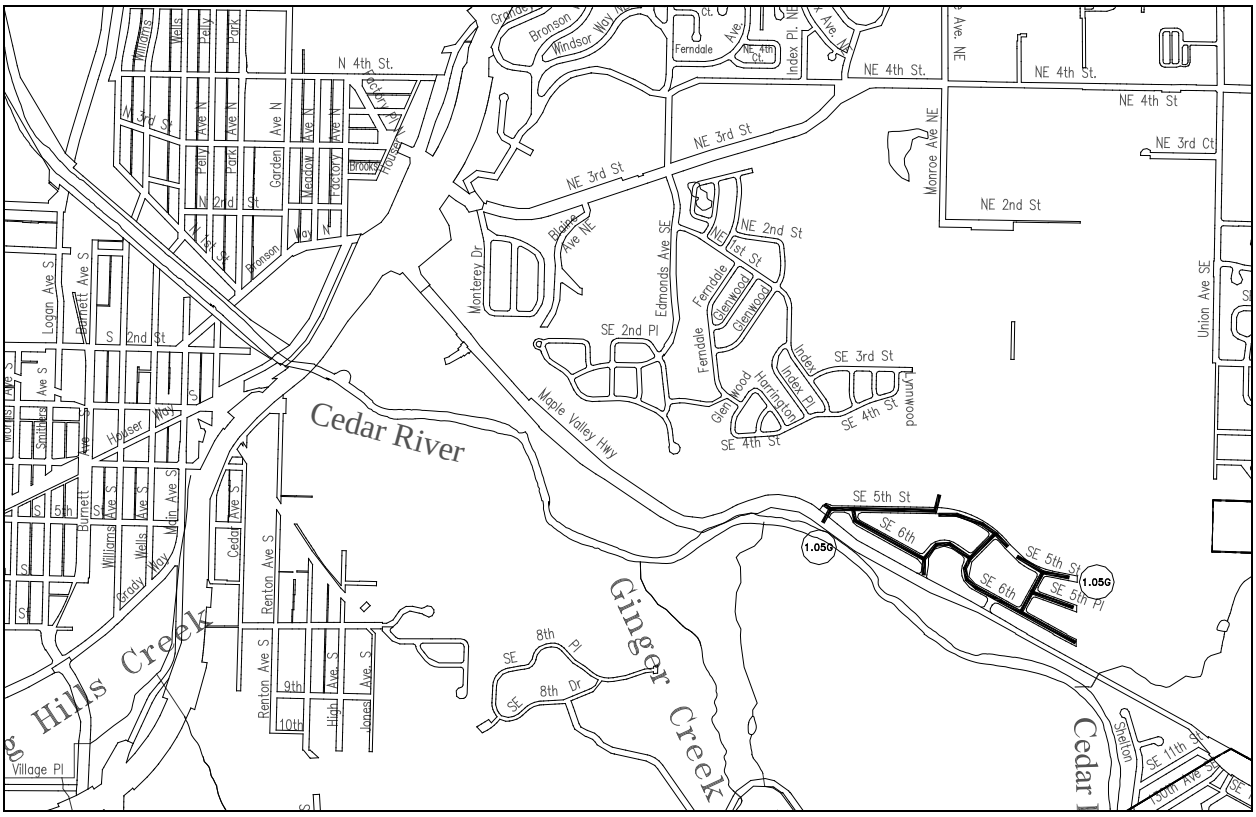


**1.05G Maplewood Sewer Replacement (West Cedar River Basin)**

**System Deficiency:** The existing sewers were constructed in 1963 and are reaching the end of their useful life and should be scheduled for replacement. The system consists of approximately 2,000 lineal feet of existing 8, 12, and 15-inch concrete gravity sewer.

**Improvement:** Replace or rehabilitate the existing Maplewood Sewer Collection System.

- Cost: $1,600,000 Priority: long-term
- Beginning: After 2027 Completion: After 2027

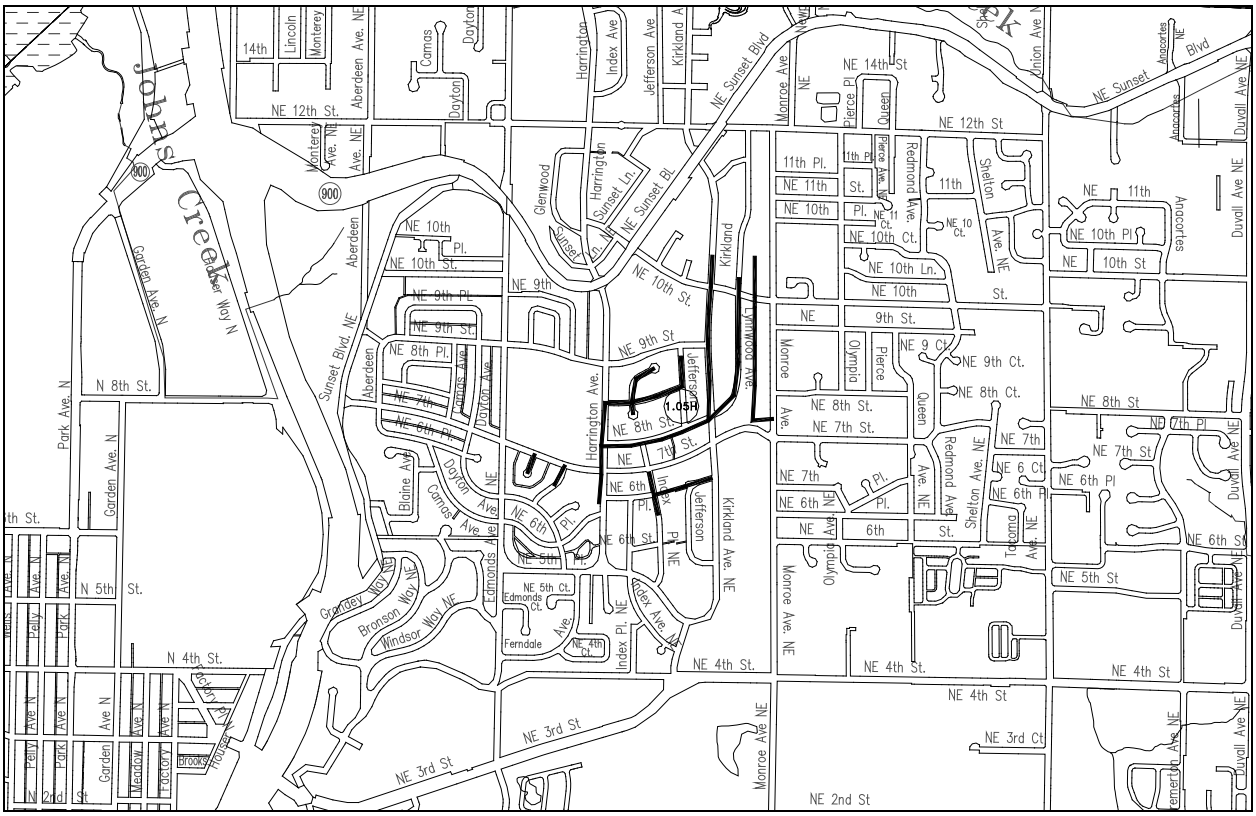


## 1.05H Presidents Park Sewer Replacement Phase I (East Lake Washington Basin)

**System Deficiency**: This portion of the existing collection system within Model Basin RNT030 was constructed in the early 1940s and is comprised of 8 and 10-inch concrete sewers. These systems are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves the replacement of approximately 10,000 lineal feet of existing gravity sewer.

**Improvement:** Replace existing collection system between NE 6th Street, NE 10th Street, Monroe Avenue NE, and Harrington Avenue NE.

- Cost: $2,300,000 Priority: long-term
- Beginning: After 2027 Completion: After 2027

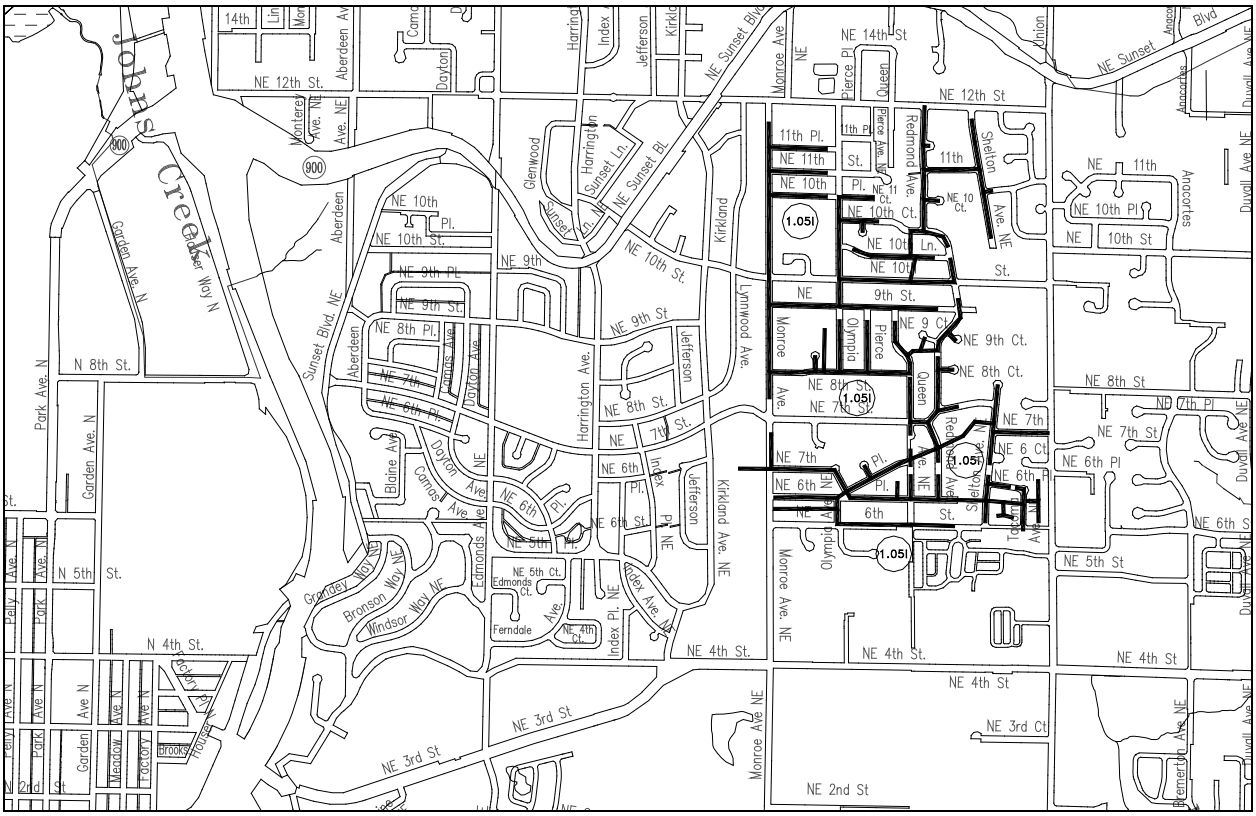


## 1.05I Presidents Park Sewer Replacement Phase II (East Lake Washington Basin)

**System Deficiency**: This portion of the existing collection system within Model Basin RNT030 was constructed in the Early 1950's and is comprised of 8-inch concrete sewers which are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves the replacement of approximately 32,000 lineal feet of existing gravity sewer.

**Improvement:** Replace existing collection system between NE 6th Street, NE 10th Street, Monroe Avenue NE, and Harrington Avenue NE.

- Cost: $7,200,000 Priority: long-term
- Beginning: After 2027 Completion: After 2027

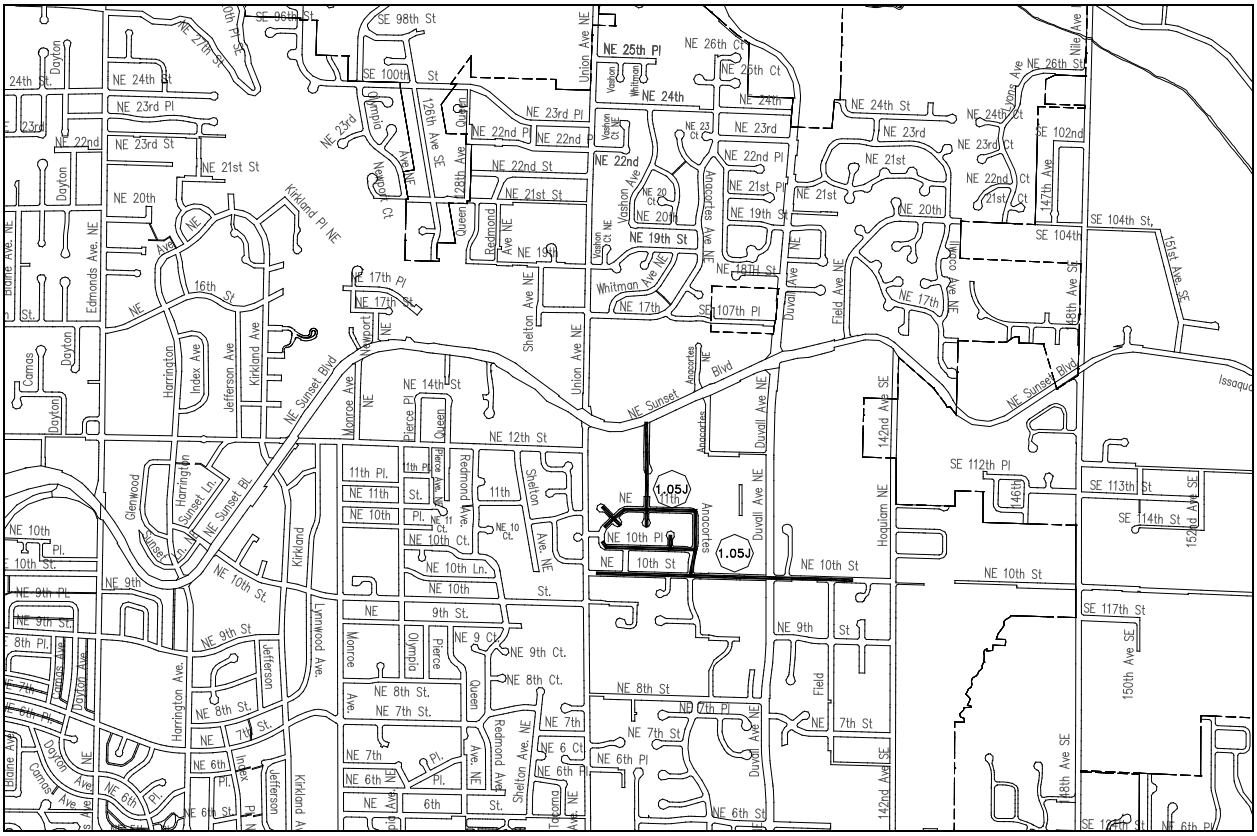


## 1.05J Honeydew Sanitary Sewer Replacement (East Lake Washington Basin

**System Deficiency**: The existing gravity sewers are approximately 35 years old. Further, these concrete sewers have experienced severe corrosion. The City performed spot rehabilitation in this area to resolve I/I problems. Those pipe runs may not need to be replaced. The rest of the system, however, is structurally compromised.

**Improvement**: The replacement of approximately 7,100 lineal feet of existing 8-inch gravity sewer between NE 10th Street, Sunset Boulevard, Union Avenue NE, and Hoquiam Avenue NE.

- Cost: $1,600,000 Priority: long-term
- Beginning: After 2027 Completion: After 2027

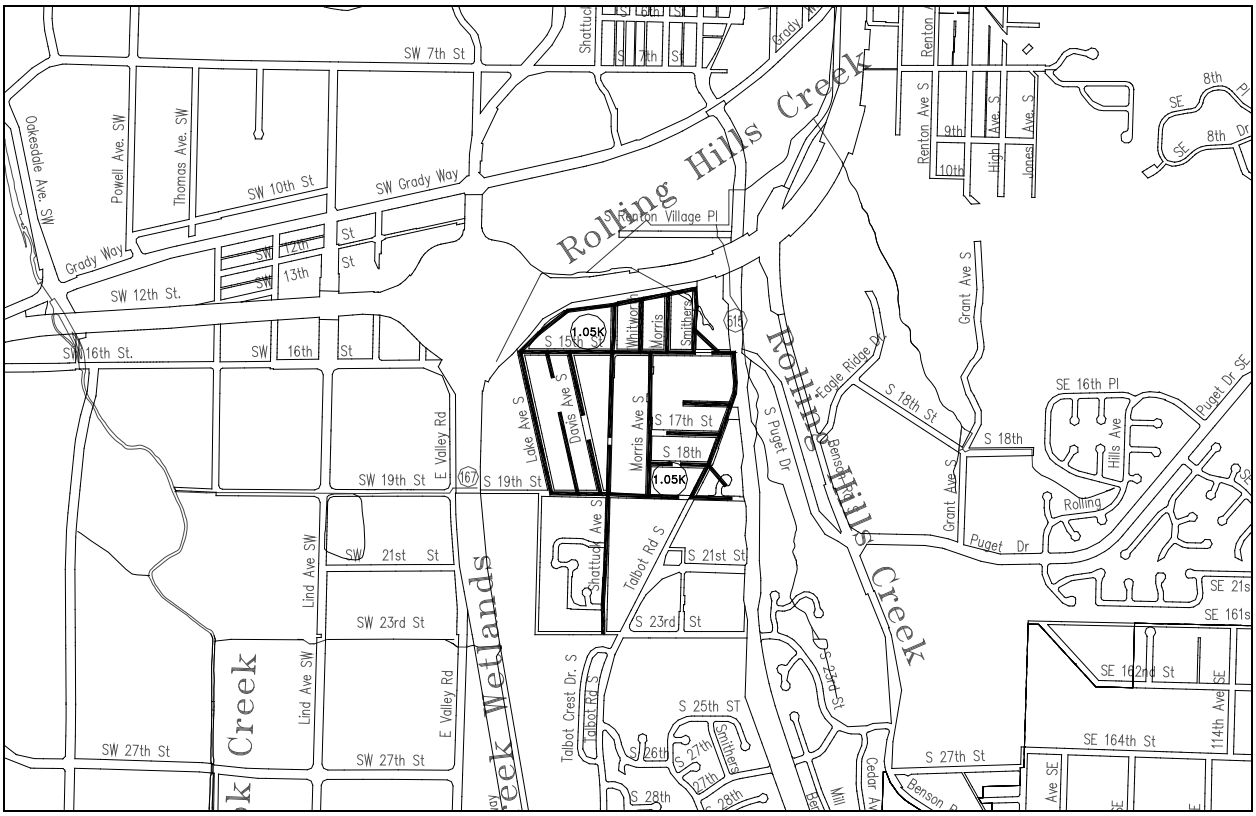


**1.05K Talbot Hill Sanitary Sewer Collection System Replacement (Black River Basin)**

**System Deficiency:** This portion of the existing collection system within Model Basin RNT045 was constructed in 1960 and is comprised of 8 and 10-inch concrete sewers. These systems are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves replacement of approximately 18,200 lineal feet of existing gravity sewer.

**Improvement:** Replace existing collection system between Lake Avenue S, S 14th Street, State Route 515, and S 23rd Street.

- Cost: $4,100,000 Priority: long-term
- Beginning: After 2027 Completion: After 2027

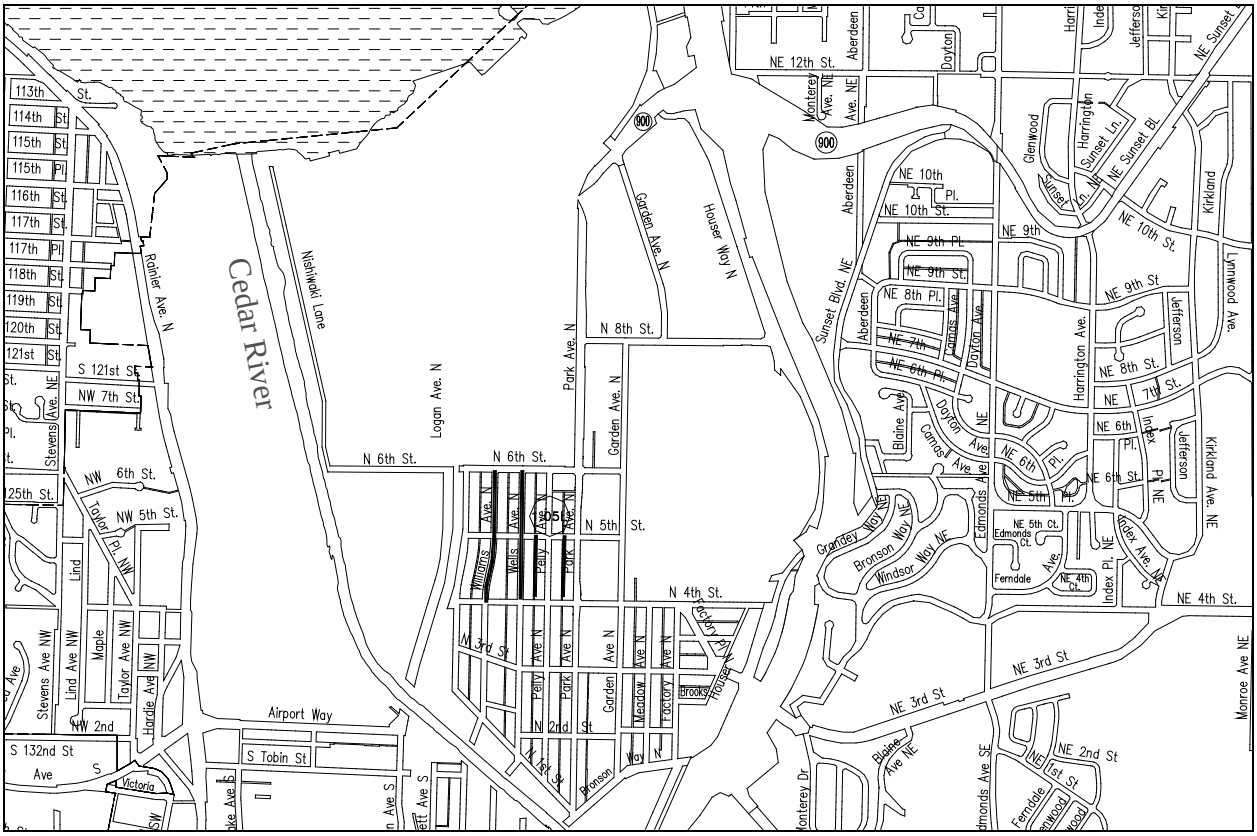


**1.05L North Renton Sewer Replacement, Phase III (East Lake Washington Basin)**

**System Deficiency**: The existing gravity sewers are old and deteriorating. Further, these sewers were constructed with an inadequate slope, which does not allow self-flushing of the sewer lines. Consequently, maintenance crews are required to flush these sewer lines approximately once a month. In addition, their condition has deteriorated and requires replacements. Interim repairs were made to these mains in the late 1990s.

**Improvement**: The replacement of approximately 3,100 lineal feet of existing 8-inch gravity sewer between N 6th Street, N 4th Street, Wells Avenue N, and Park Avenue N.

- Cost: $950,000 Priority: long-term
- Beginning: After 2027 Completion: After 2027

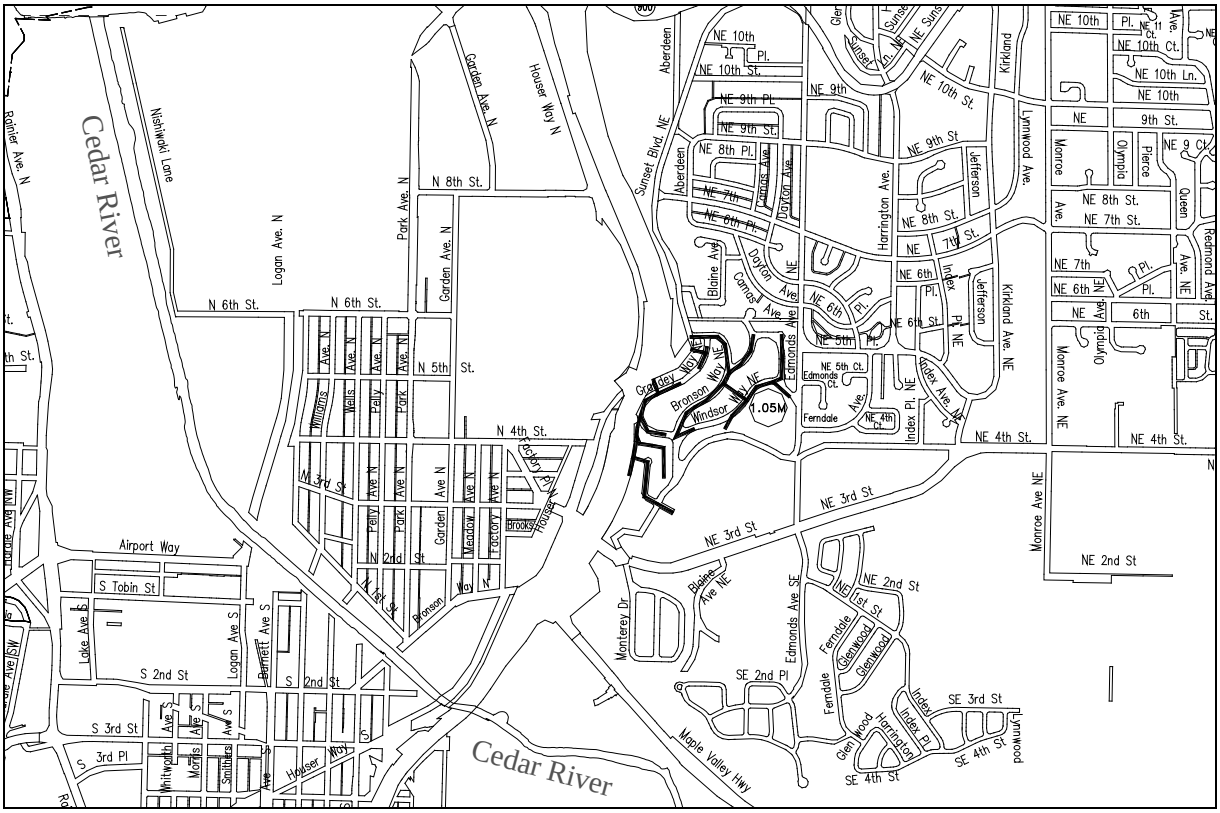


## 1.05M Windsor Hill Sewer Replacement / Rehabilitation (West Cedar River Basin)

**System Deficiency**: These existing sewers are approximately 55 years old. Large portions of the Windsor Hills Sewers are 6-inch pipes and do not meet current standard for minimum size for mains. A portion of these sewers is within Zone 2 of the Aquifer Protection Area. This project involves the replacement/rehabilitation of approximately 7,900 lineal feet of existing 6 and 8-inch gravity sewer in the Windsor Hills Neighborhood.

**Improvement**: Replace or rehabilitate old sewers in the Windsor Hills Neighborhood.

- Cost: $1,800,000 Priority: long-term
- Beginning: After 2027 Completion: After 2027




## 1.06 Long Range Wastewater Management Plan Upgrade

**System Deficiency**: The Long Range Wastewater Management Plan needs to be updated approximately every six years to ensure that the plan accurately reflects the conditions observed by the City and provides accurate planning information. The LRWWMP was last updated in 2008 and is thus scheduled for an update in the year 2014.

**Improvement**: Update LRWWMP.

- Cost: $100,000 Priority: near-term
- Beginning: After 2014 Completion: After 2014

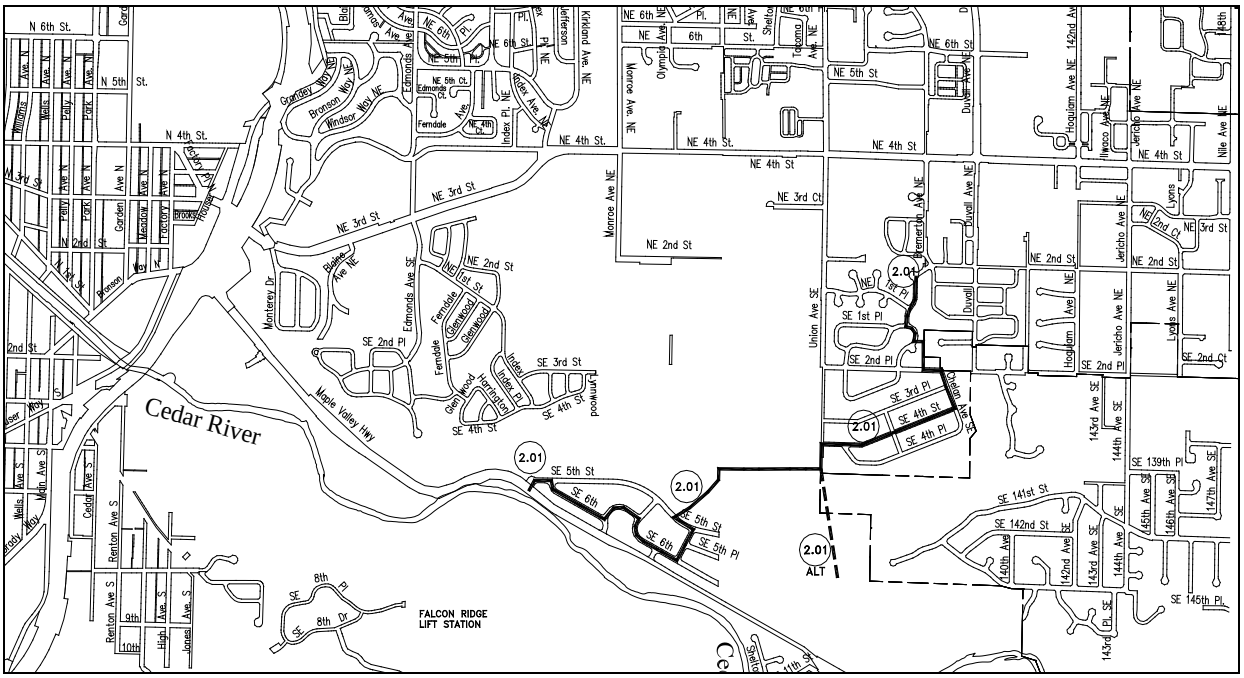
### 6.3.2 West Cedar River Basin

**2.01 Heather Downs / Maplewood Interceptor Improvements**

**System Deficiency**: The existing Heather Downs Interceptor has seen significant increased flows due to new development on a portion of the East Renton Plateau. Some flows directed to these two interceptors were intended to be directed to the East Renton Interceptor. A study needs to be performed to determine which portions of the system need to be upsized. The system consists of approximately 9,100 linear feet of 8, 10, 12, and 15-inch mains. For planning purposes we are assuming 5,000 linear feet will need to be upsized.

**Improvement**: Perform study of capacity and replace undersized portions of the interceptor system.

- Cost: $1,300,000 Priority: near-term
- Beginning: 2007 Completion: 2009

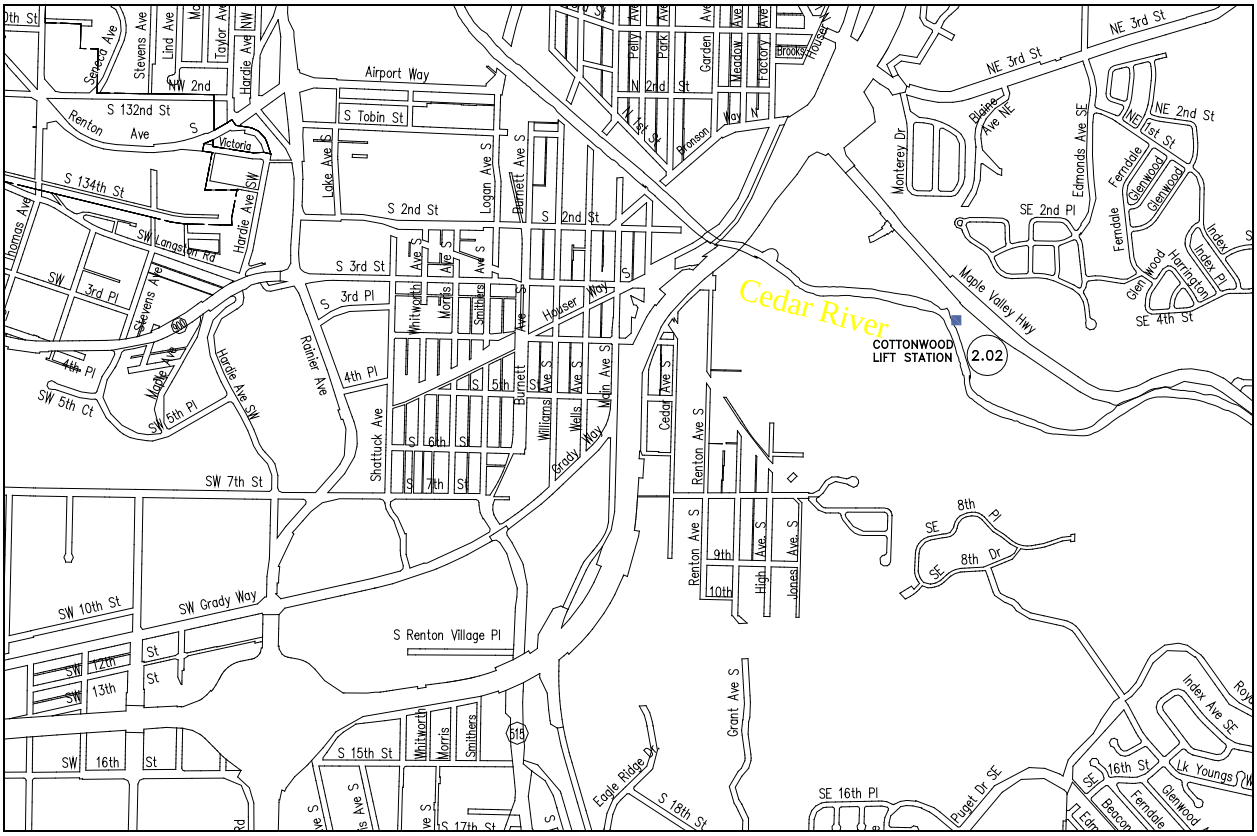


## 2.02 Cottonwood Lift Station Rehabilitation

**System Deficiency**: The Cottonwood Lift Station was reconstructed in its entirety in 1994. This is a permanent station. The expected life of a sewage pump station is 25 years. Cottonwood will be 25 years old in 2019.

**Improvement**: Rehabilitate the existing lift station.

- Cost: $300,000 Priority: mid-term
- Beginning: 2021 Completion: 2021

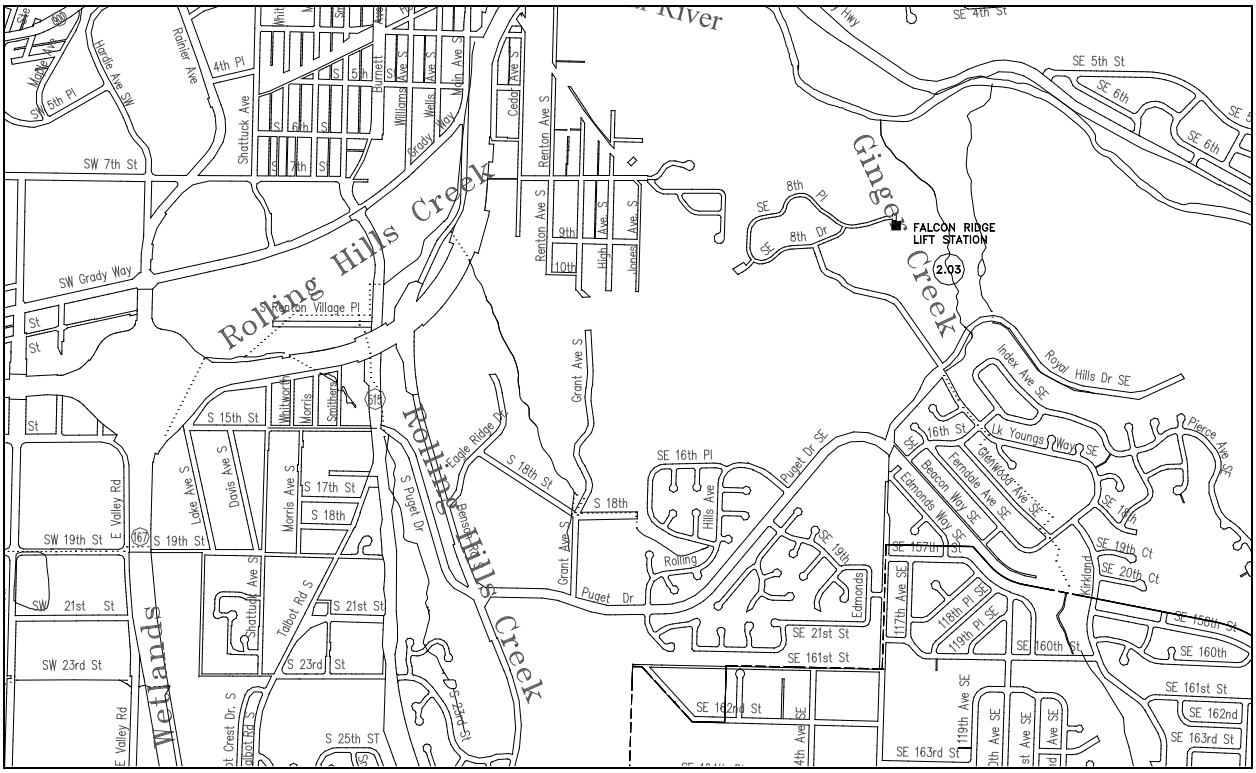


## 2.03 Falcon Ridge Lift Station Rehabilitation

**System Deficiency**: The Falcon Ridge Lift Station was built in 1981. The expected life of a sewage pump station is 25 years. Falcon Ridge was 25 years old in 2006. As part of an overall review of lift stations for prioritization of upgrades or rehabilitation Falcon Ridge has been scheduled for replacement or rehabilitation in 2010.

**Improvement**: Replace or rehabilitate the existing lift station.

- Cost: $300,000 Priority: near-term
- Beginning: 2010 Completion: 2010



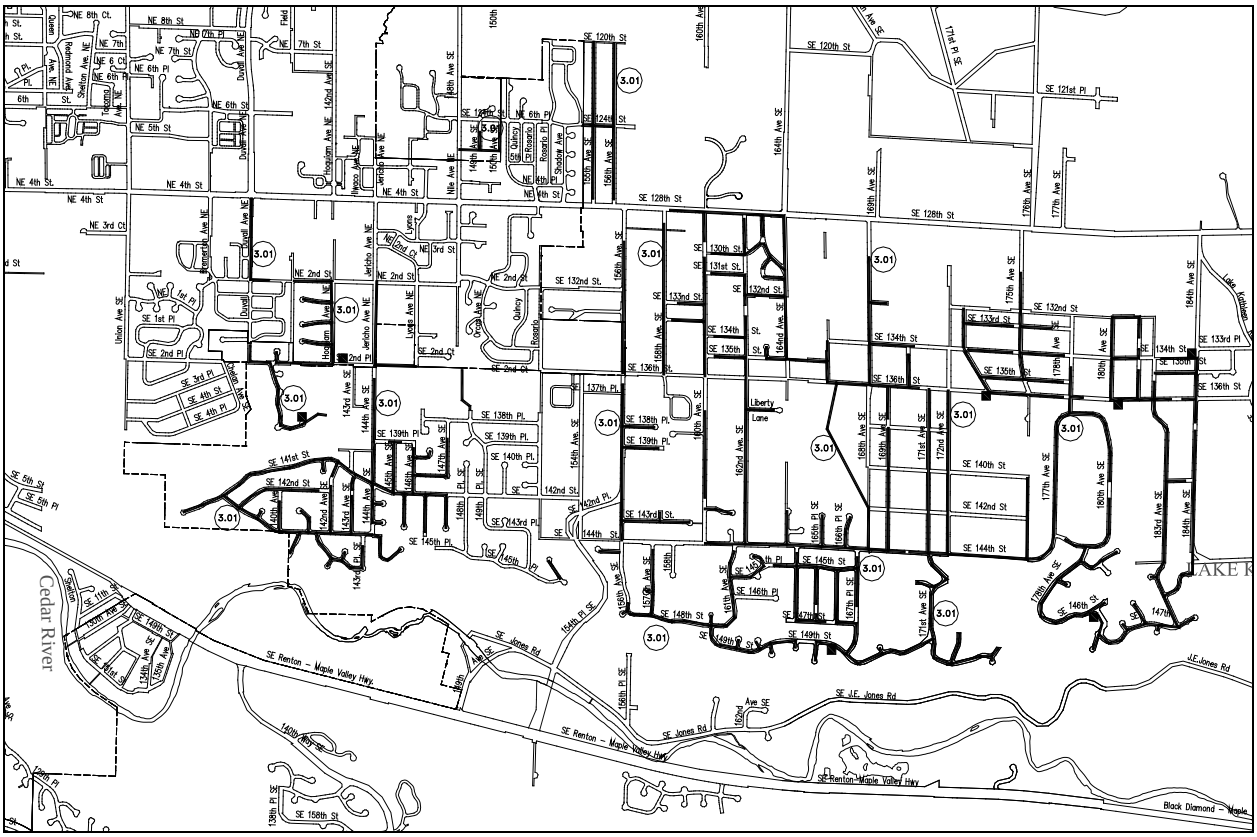
## 6.3.3 East Cedar River Basin

### 3.01 East Cedar River Collection Sewers

**System Deficiency:** The completion of the East Renton Interceptor in 1994 and the anticipated completion of the Central Plateau Interceptor in 2008 allows for the extension of collection mains into the East Cedar River Basin. This basin has seen the most significant amount of improvement since the 1998 Long Range Wastewater Management Plan. Construction of the remaining collection system will be through Local Improvement District or developer extension. There is approximately 220,000 feet of collection sewer necessary to provide service to this basin. Two interceptor projects providing service to this basin are described in projects 3.02 and 3.03. There are also some facilities proposed in the basin that, while acting as local collector facilities, may need to be larger for conveyance purposes. While the City typically participates in the 'oversizing' costs of these lines this LRWWMP is not programming any CIP dollars for this project.

**Improvement:** Install collection system in the East Cedar River Basin.

- Cost: $49,500,000 (by developer) Priority: near-term
- Beginning: 2006 Completion: 2030

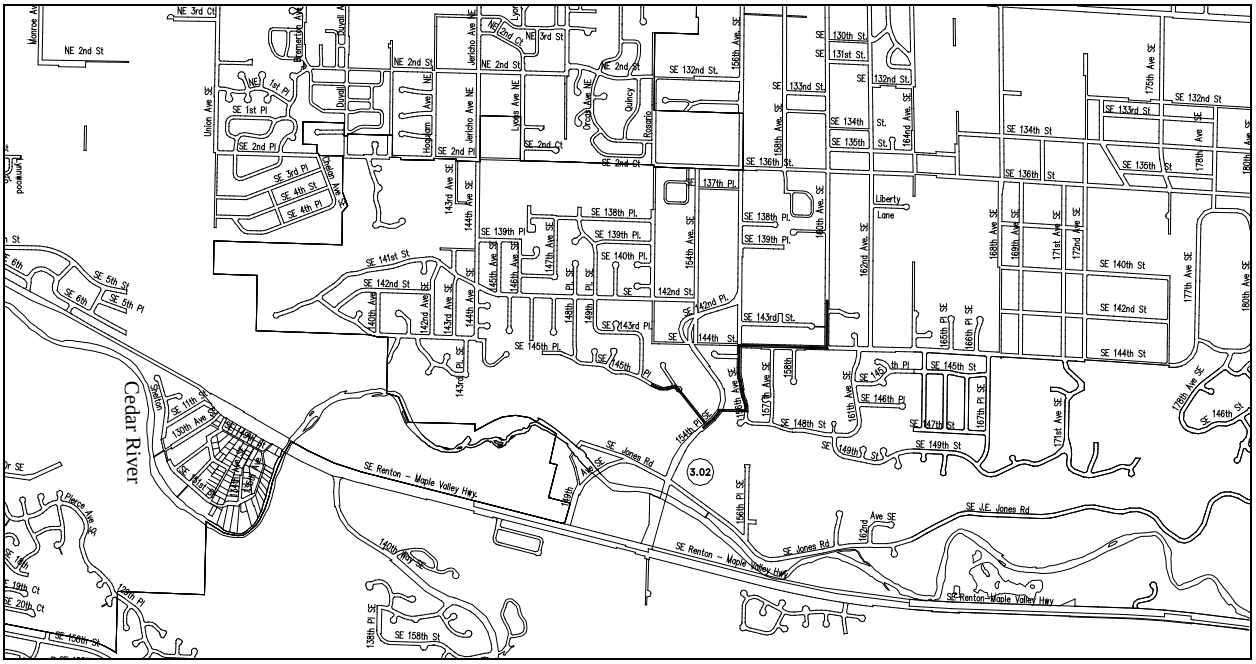


## 3.02 Central Plateau Interceptor Phase II

**System Deficiency:** Service of the central portion of the East Cedar River Basin will require an interceptor or conveyance facility to move the sewage from the sub-basin to the King County system. The first phase of this interceptor was constructed as part of the King County Elliott Bridge Construction Project that was completed in 2005. There is approximately 5,000 additional feet of 12, 15, and 18-inch sewer necessary to provide service to this basin.

**Improvement:** Install the Central Plateau Interceptor.

- Cost: $2,250,000 Priority: near-term
- Beginning: 2006 Completion: 2008

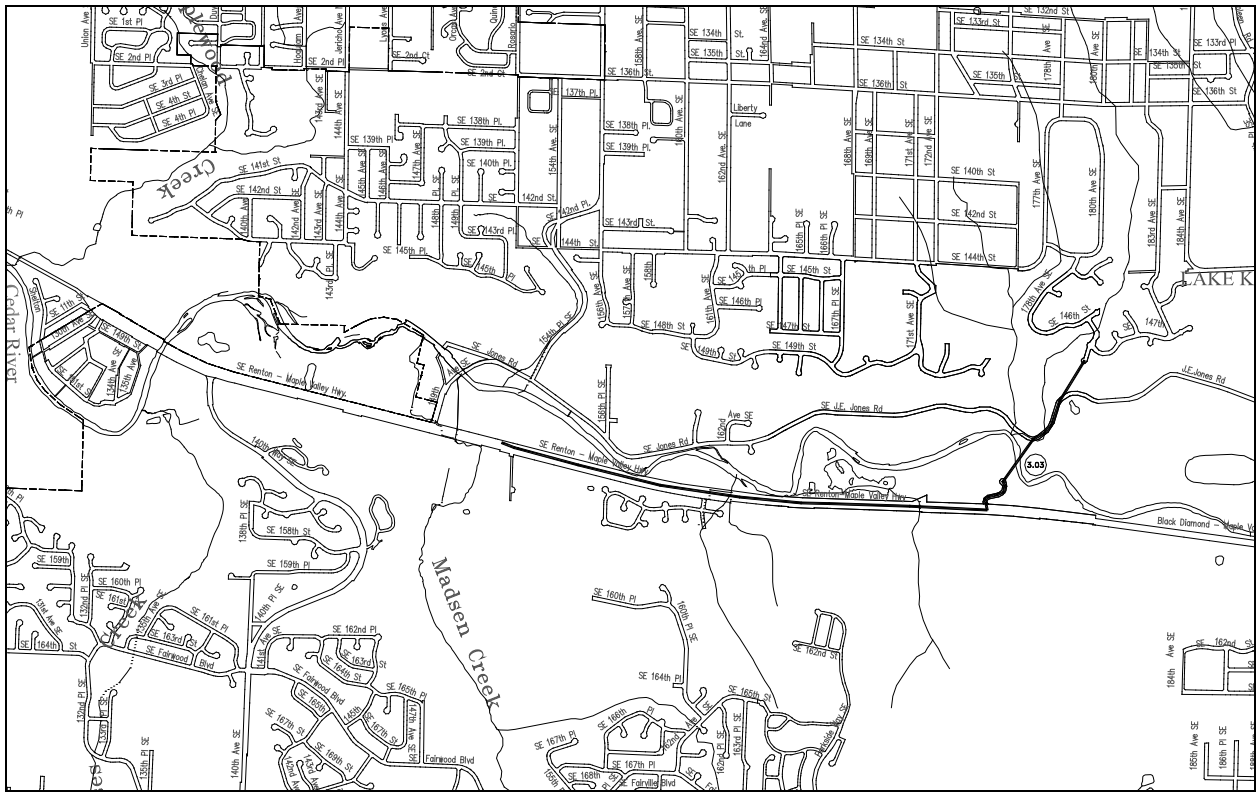


## 3.03 East Plateau Interceptor

**System Deficiency:** Service of the eastern portion of the East Cedar River Basin will require an interceptor or conveyance facility to move the sewage from the sub-basin to the King County system. The potential exists for a gravity route projecting south from 180th Avenue South. This and other gravity routes may be considered. There would be concerns about working in and around the Cedar River to cross to Maple Valley Highway. Alternate methods of pipe installation, such as boring or micro tunneling may mitigate impacts involved with a river crossing. A gravity alternative would also be dependent upon a facility to move the flows from the discharge point of this trunk at approximately 177th to the existing King County Cedar River Trunk at 154th. For alternative consideration, a pump station that would move the flows to either the North Plateau Sub-basin or East Renton Sub-basin could be built in lieu of the East Plateau Interceptor. The East Renton Interceptor was sized and the Central Plateau Interceptor is planned for this contingency. There is approximately 9,300 feet of 18-inch sewer necessary to provide service to this basin under the gravity alternative.

**Improvement:** Install East Plateau Interceptor.

- Cost: $1,700,000 (lift Station) Priority: mid-term
  $3,720,000 (Gravity Interceptor)
- Beginning: 2019 Completion: 2020

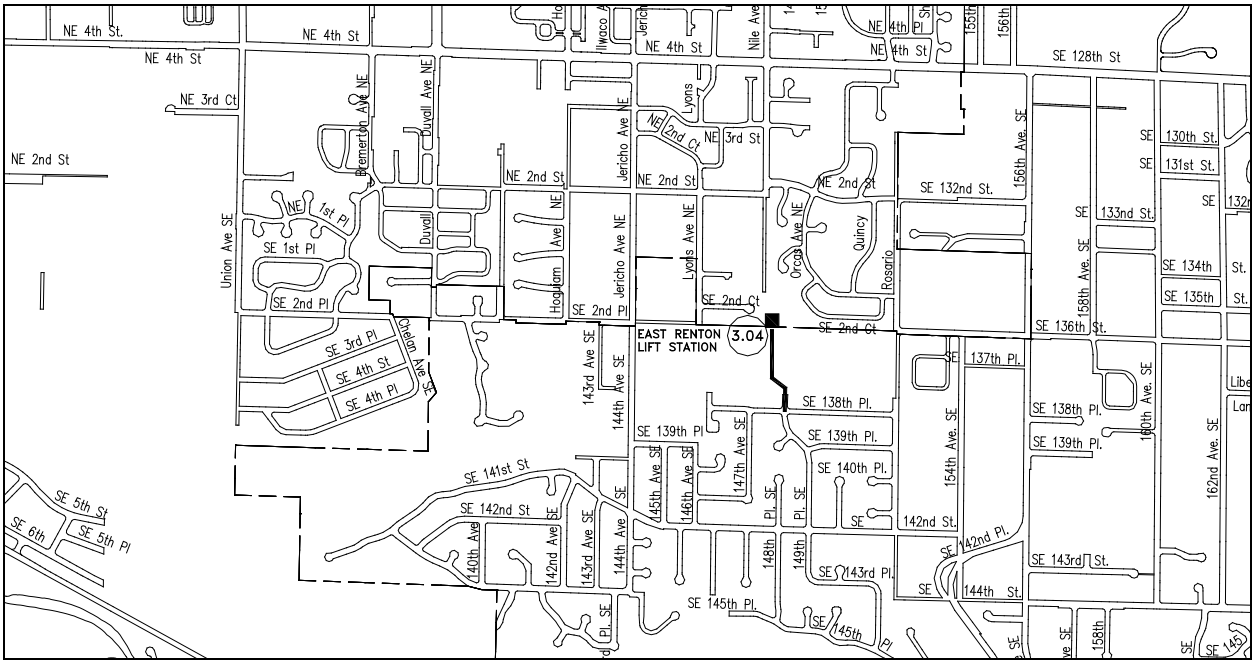


## 3.04 East Renton Lift Station Elimination

**System Deficiency:** The construction of the Central Plateau Interceptor allows for the connection and activation of the dry sewers in the Maplewood Heights neighborhood. By extending the sewer north from 158th Place SE and SE 138th Place, approximately 900 feet, the City can abandon the East Renton Lift Station.

**Improvement:** Install approximately 900 linear feet of 12-inch sewer main and abandon the East Renton Lift Station, redirecting flows to system flowing to the Central Plateau Interceptor.

- Cost: $200,000 Priority: near-term
- Beginning: 2009 Completion: 2009

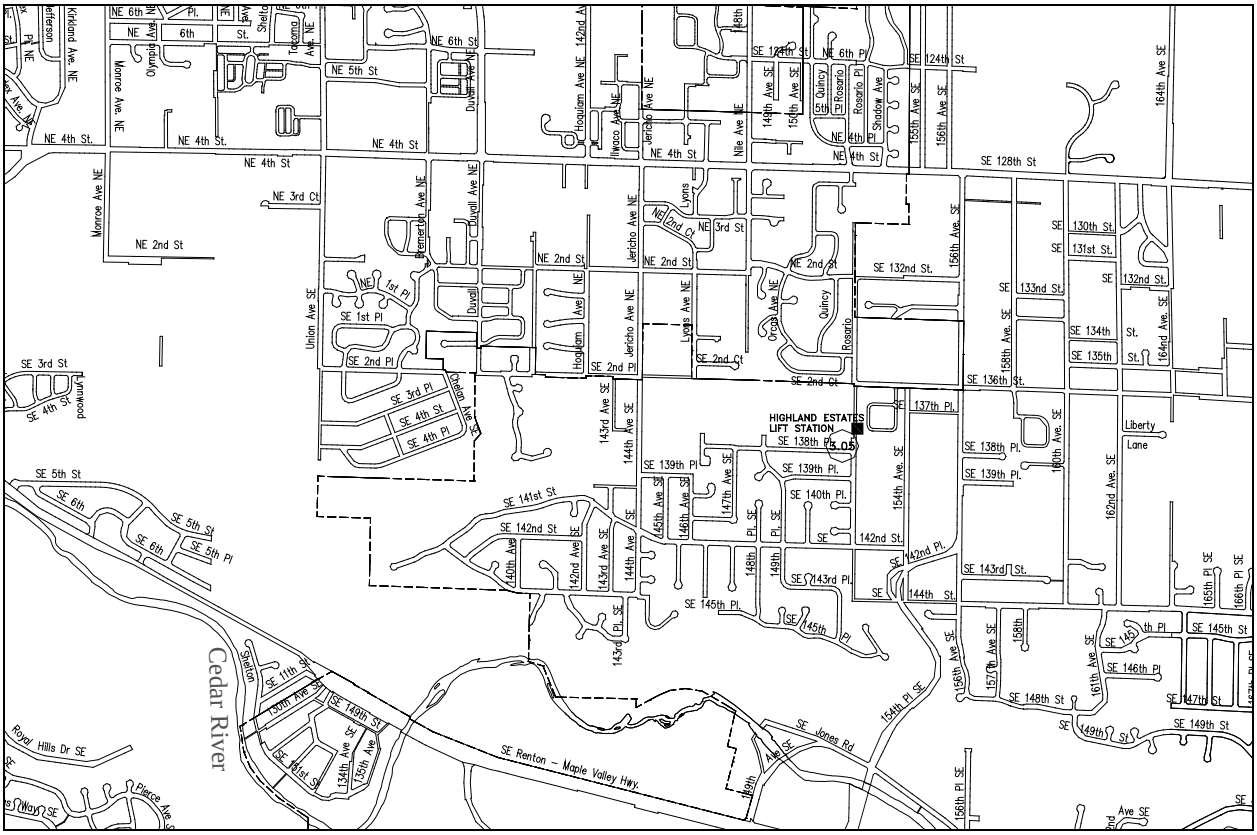


## 3.05 Highland Estates Lift Station Elimination

**System Deficiency:** The construction of the Central Plateau Interceptor allows for the connection and activation of the dry sewers in the Maplewood Heights neighborhood. With a short extension of the sewer main from the existing system in 152nd Avenue SE, The Highlands Estates Lift Station can be abandoned in favor of gravity service.

**Improvement:** Connect the Highland Estates sanitary sewer system to the existing sewer main in 152nd Avenue SE and Abandon the Highland Estates Lift Station.

- Cost: $30,000 Priority: near-term
- Beginning: 2008 Completion: 2008

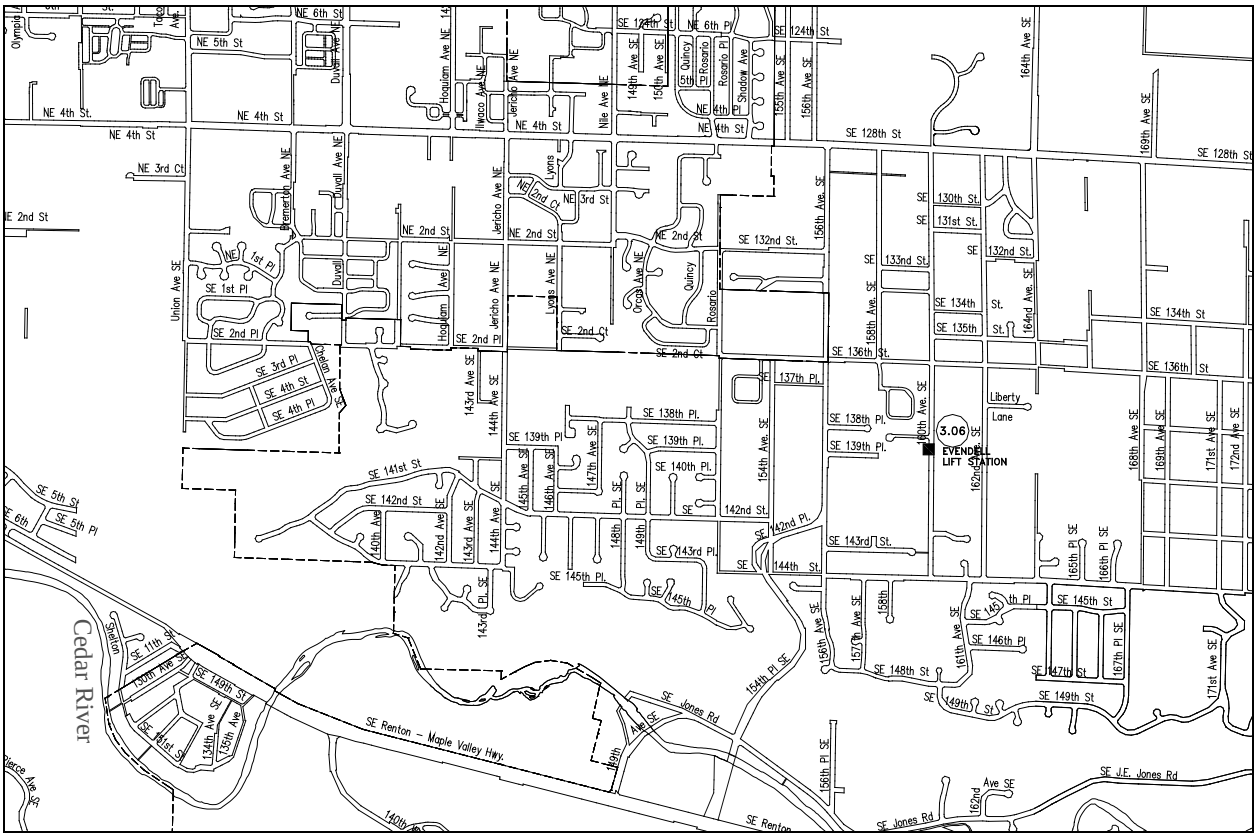


## 3.06 Evendell Lift Station Elimination

**System Deficiency:** When the gravity sanitary sewer system is constructed in 160th Avenue SE, the system, the sewers serving south of SE 136th Street can be connected and the Evendell Lift Station can be abandoned.

**Improvement:** Abandon the Evendell Lift Station and reroute flows to the new gravity sewers to the south.

- Cost: $20,000 Priority: near-term
- Beginning: 2008 Completion: 2008



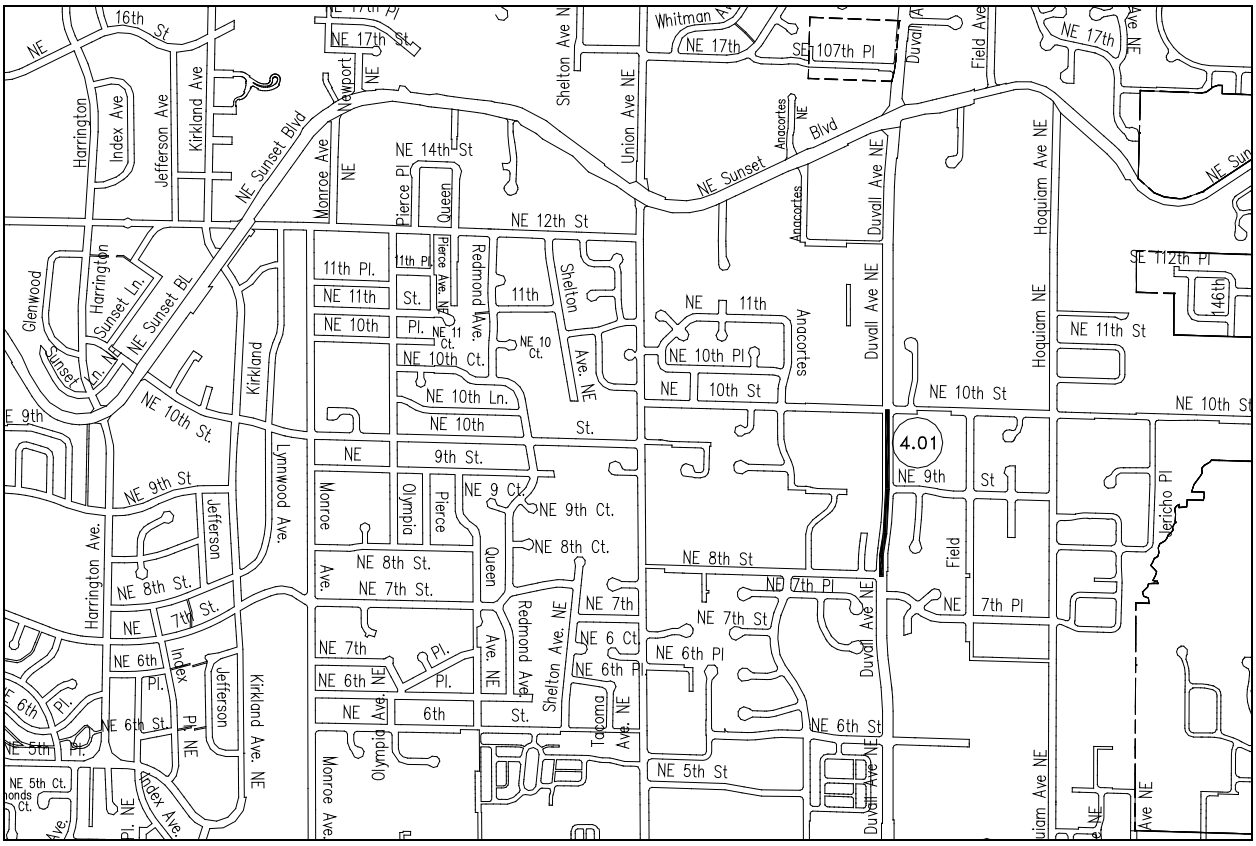
## 6.3.4 East Lake Washington Basin

### 4.01 Duvall Interceptor

**System Deficiency**: The existing downstream system, from NE 10th at Field Avenue NE to the Sunset Interceptor has insufficient capacity to accommodate future development flows from this portion of the system. The new interceptor would require 1950 linear feet of 12-inch sewer to connect to re-route flows to the East Renton System at Duvall Avenue NE and NE 8th Street.

**Improvement**: Install new interceptor to redirect sewer flows from Sunset System to East Renton System.

- Cost: $500,000 Priority: near-term
- Beginning: 2006 Completion: 2008

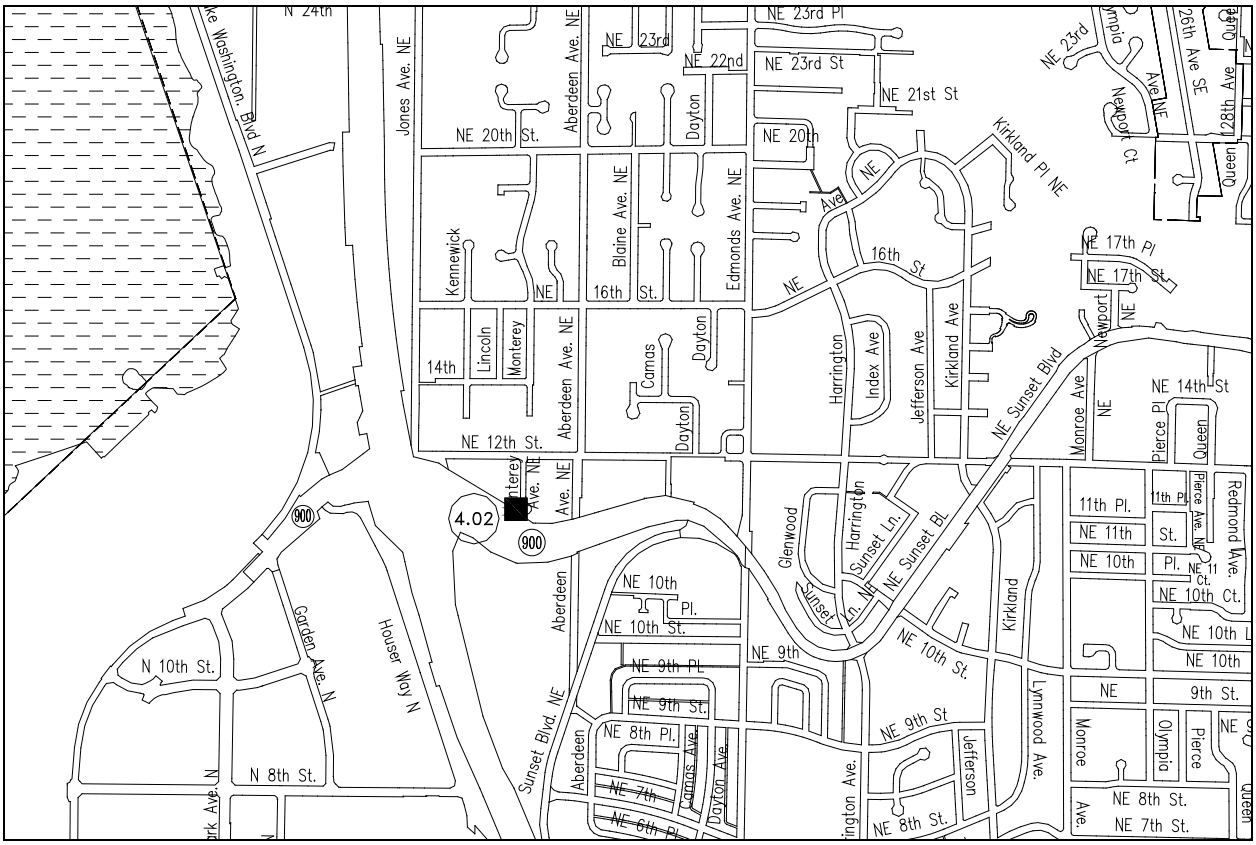


## 4.02 Westview Lift Station Replacement / Rehabilitation

**System Deficiency**: The Westview Lift Station was constructed in 1996. Lift stations typically have an anticipated life of 25 years. This station has already shown excessive wear and has reliability issues. This results in scheduling the replacement/rehabilitation ahead of the 25-year time frame.

**Improvement**: Replace or rehabilitate the Westview Lift Station.

- Cost: $300,000 Priority: near-term
- Beginning: 2009 Completion: 2009

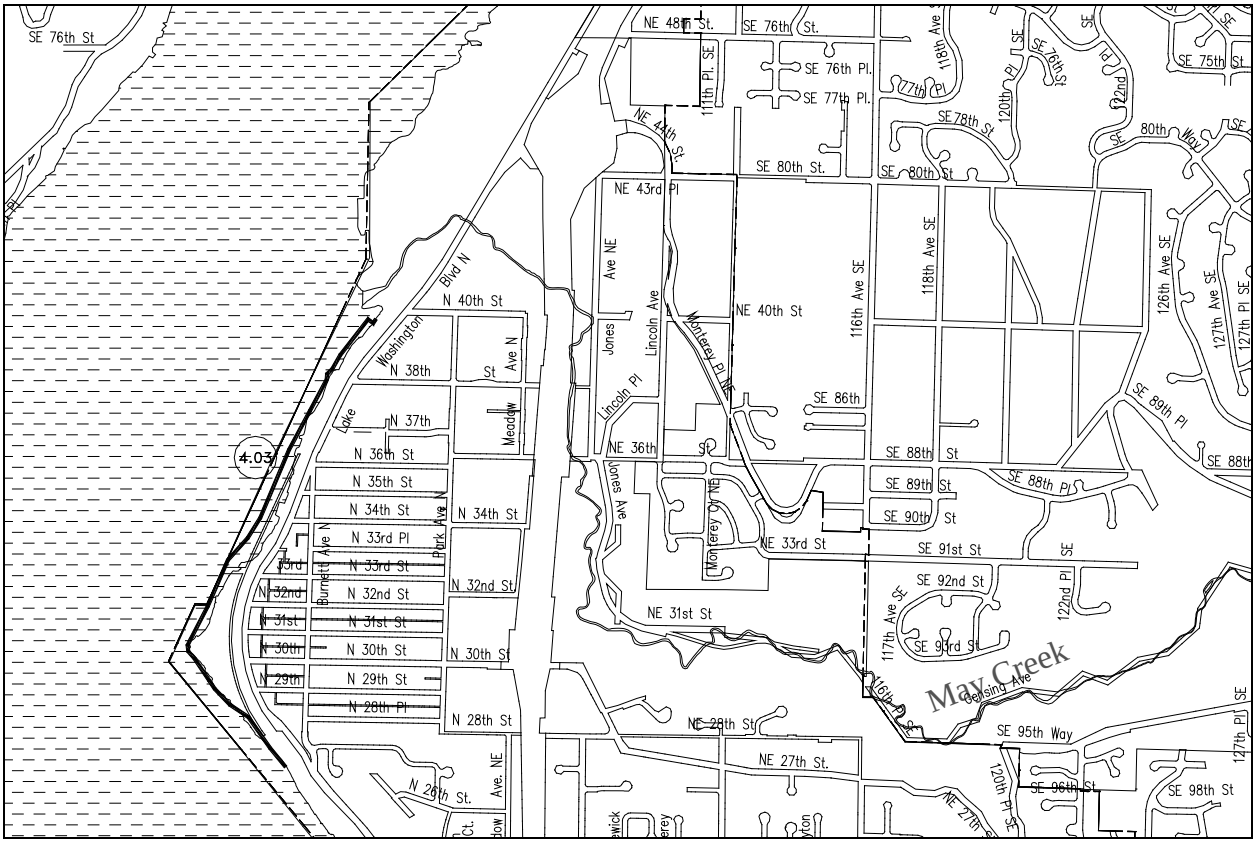


## 4.03 Kennydale Lakefront Sewer System Improvements

**System Deficiency**: The Kennydale Lakefront sewer system has several undesirable operating characteristics. First, this low-pressure sewer main requires a considerable amount of maintenance, which is made more difficult due to its location along the lakefront. Second, it uses a flush station which pumps water from Lake Washington in order to flush wastewater to the Lake Washington No. 2 Lift Station. In 2002/2003, the City performed a study to determine condition of the existing system and evaluate alternatives for replacement. The study recommended interim repairs and additional maintenance access points. Testing of the main for condition showed that it had potentially 20 to 30 years of additional life.

**Improvement**: Examine and evaluate system operation in this area and determine if replacement is warranted.

- Cost: $4,500,000 Priority: mid-term
- Beginning: 2024 Completion: 2026

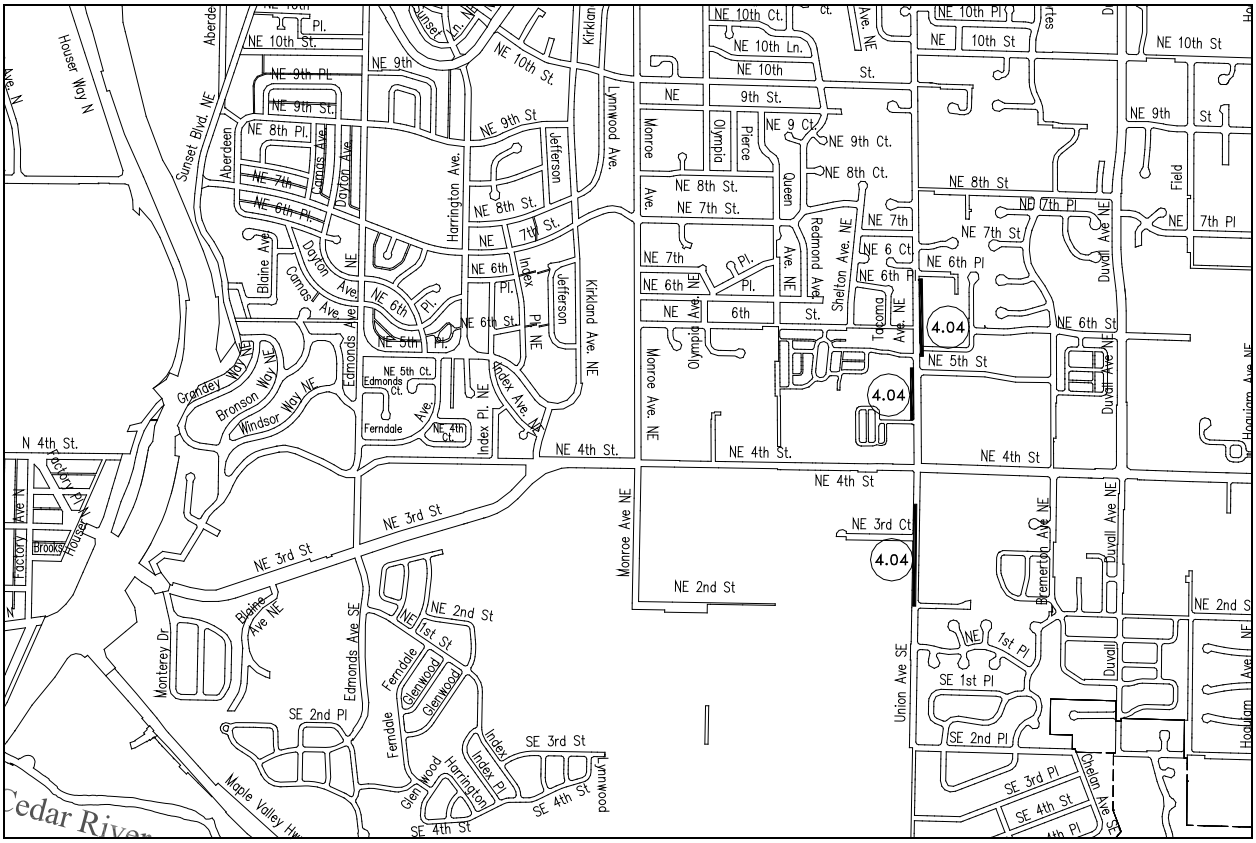


## 4.04 Union Avenue NE Sewer Main Extension

**System Deficiency**: Segments of Union Avenue NE, between NE 2nd Street and NE 6th Place do not have a sewer main installed. There are three sections of sewer in this stretch that need to be installed to provide service to properties in this area that are undeveloped or on septic tank.

**Improvement**: Install approximately 2,200 feet of sewer main in Union Avenue NE, between NE 2nd Street and NE 6th Place.

- Cost: $500,000 Priority: mid-term
- Beginning: 2020 Completion: 2020

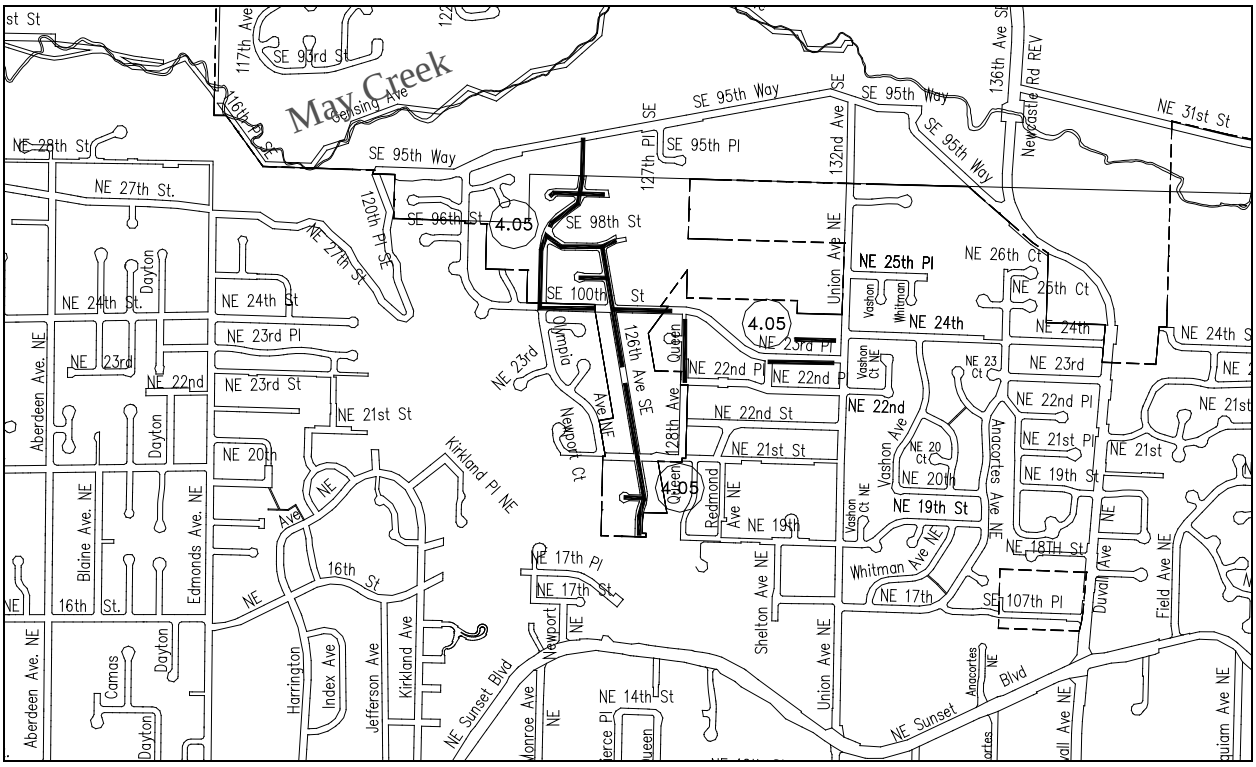


## 4.05 Sierra Heights Sewer System Construction

**System Deficiency**: Parts of the Sierra Heights area does not have sewer main installed. A large portion of this area has been declared an area of concern due to the potential of failure the King County Health Department has seen in the septic systems in the area. The majority of the unserved area is not currently within the Renton City Limits. The northern portion of this system will either have to be pumped or have gravity through an agreement to connect to Coal Creek Utility's future system.

**Improvement**: Construct sanitary sewers in developed areas to allow transfer of residential sewer disposal from private septic systems to a public sewer system.

- Cost: $2,000,000 Priority: near-term
- Beginning: 2014 Completion: 2016

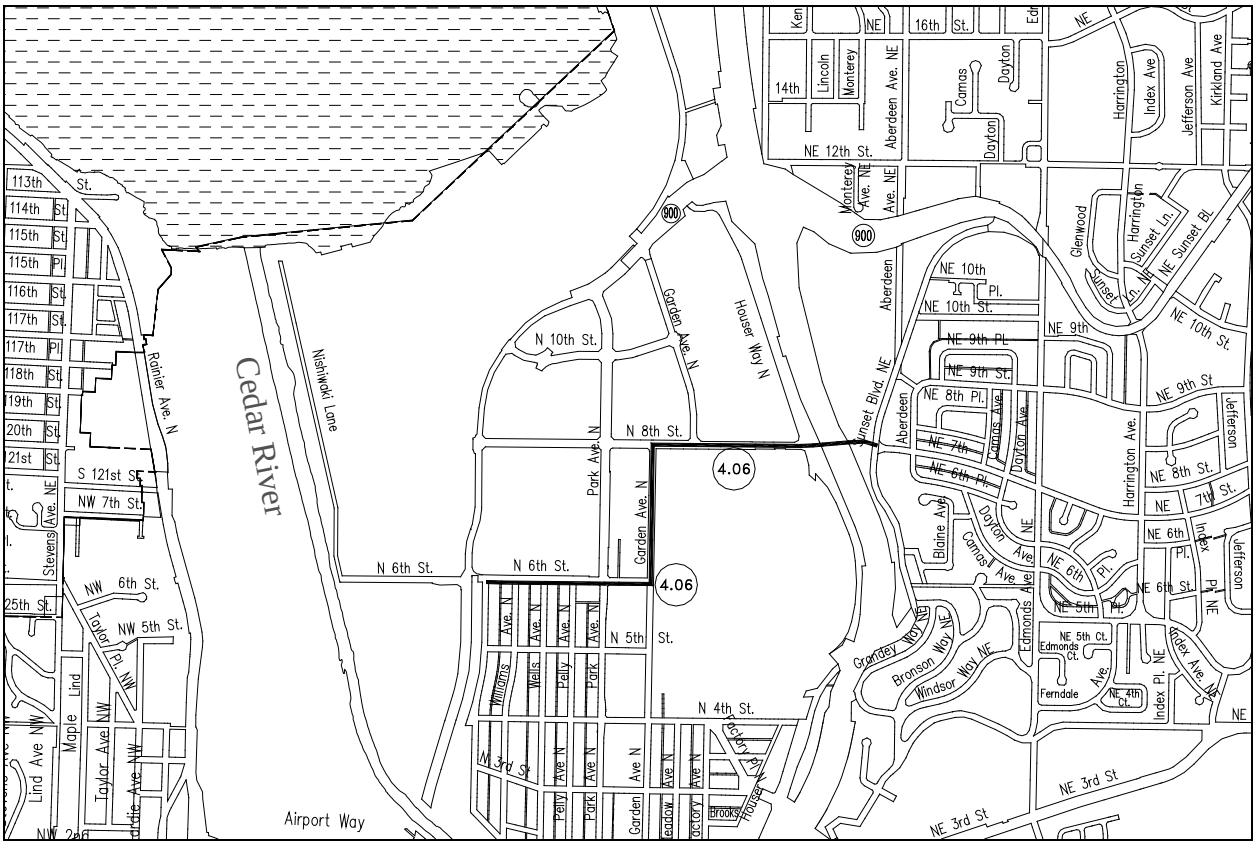


## 4.06 North Renton Interceptor Replacement / Rehabilitation

**System Deficiency** The North Renton Interceptor flows were reduced as part of the diversion through the Sunset Interceptor Phase II project completed in 2005. In addition, flows south of N 8th Street are being re-routed into a new 15-inch main being constructed in N 8th Street from Garden to Logan with a new connection to King County's East Side Interceptor. The City needs to evaluate the old interceptor line for rehabilitation, downsizing, and partial elimination.

**Improvement**: Evaluate the main and rehabilitate, downsize, and eliminate portions as needed.

- Cost: $800,000 Priority: mid-term
- Beginning: 2017 Completion: 2018

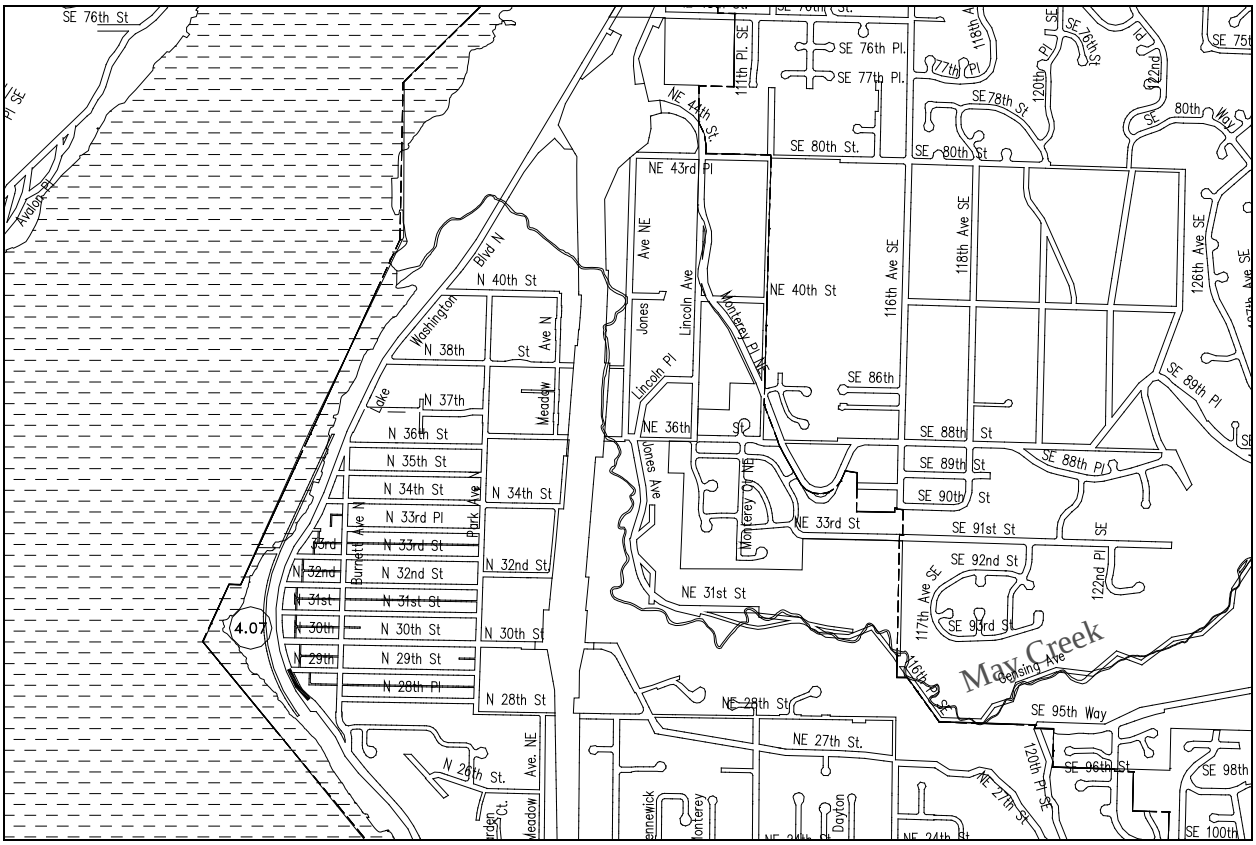


## 4.07 Lake Washington Blvd. N Sewer (2900 Block)

**System Deficiency**: In early 1997, the sanitary sewer main in the 2900 block of Lake Washington Blvd. N was damaged by private construction. The sewer main was patched and put back into service. The repair is temporary in nature, as it creates a reduction in capacity, impacts flow characteristics, and prevents proper cleaning. To properly re-establish the sewer system in the area the City needs to replace and relocate approximately 300 feet of sewer main.

**Improvement**: Replace the damaged section of sewer pipe, relocating the main to eliminate the conflict with the adjacent utility(s).

- Cost: $100,000 Priority: mid-term
- Beginning: 2015 Completion: 2015

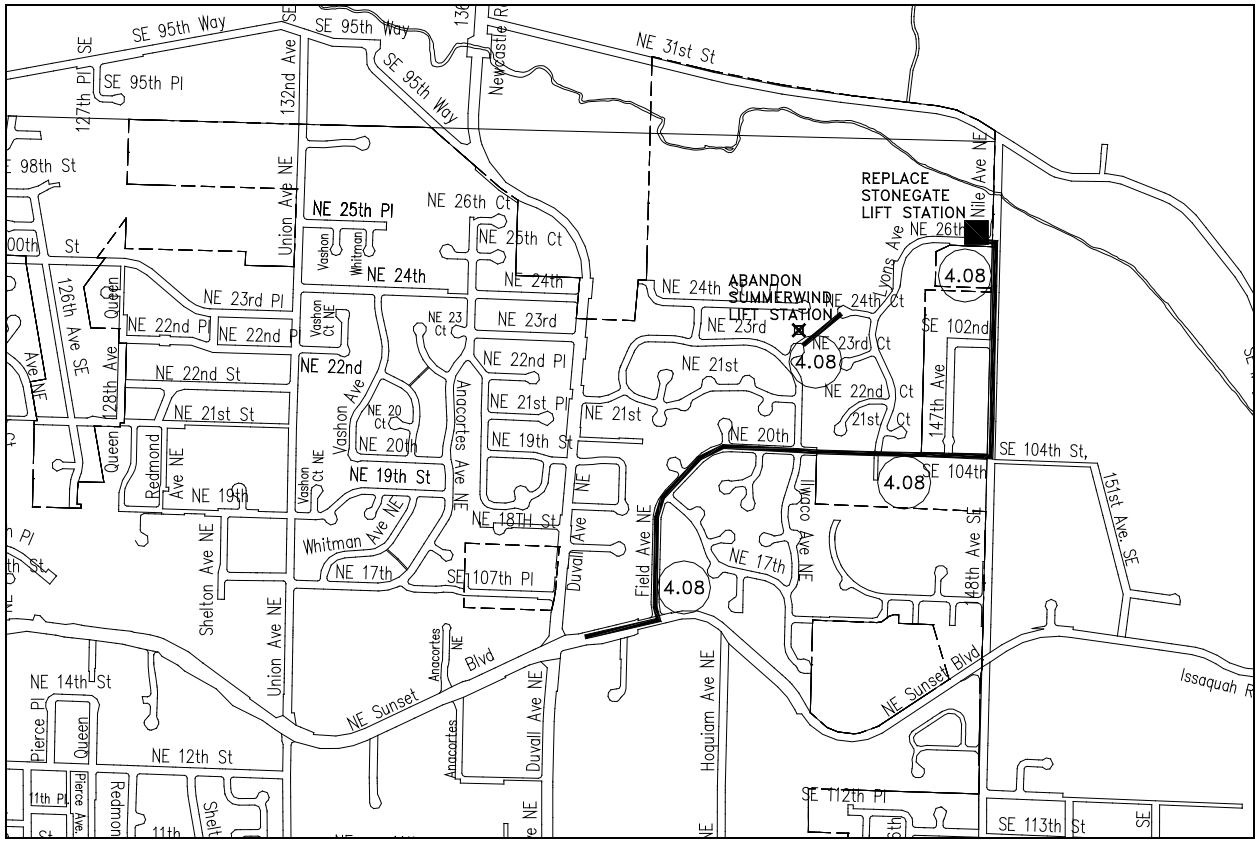


## 4.08 Stonegate / Summerwind Subbasin Flow Diversion

**System Deficiency**: The Summerwind Lift Station is reaching the end of its useful life. The Stonegate Lift Station is undersized to meet the build out needs of this sub-basin. The capacity of the sanitary sewer system in Duvall Avenue NE and NE Sunset Boulevard is also insufficient for build out needs of the area.

**Improvement**: Abandon Summerwind Lift Station and divert flows into Stonegate Lift Station. Construct a new Stonegate Lift Station with sufficient capacity to meet build out needs for both sub-basins. Construct approximately 3,600 linear feet of 8-inch force main to route flows to Field Avenue NE. Construct 2,800 linear feet of 15-inch gravity sewer main in Field Avenue NE and NE Sunset Boulevard.

- Cost: $3,500,000 Priority: near-term
- Beginning: 2007 Completion: 2008

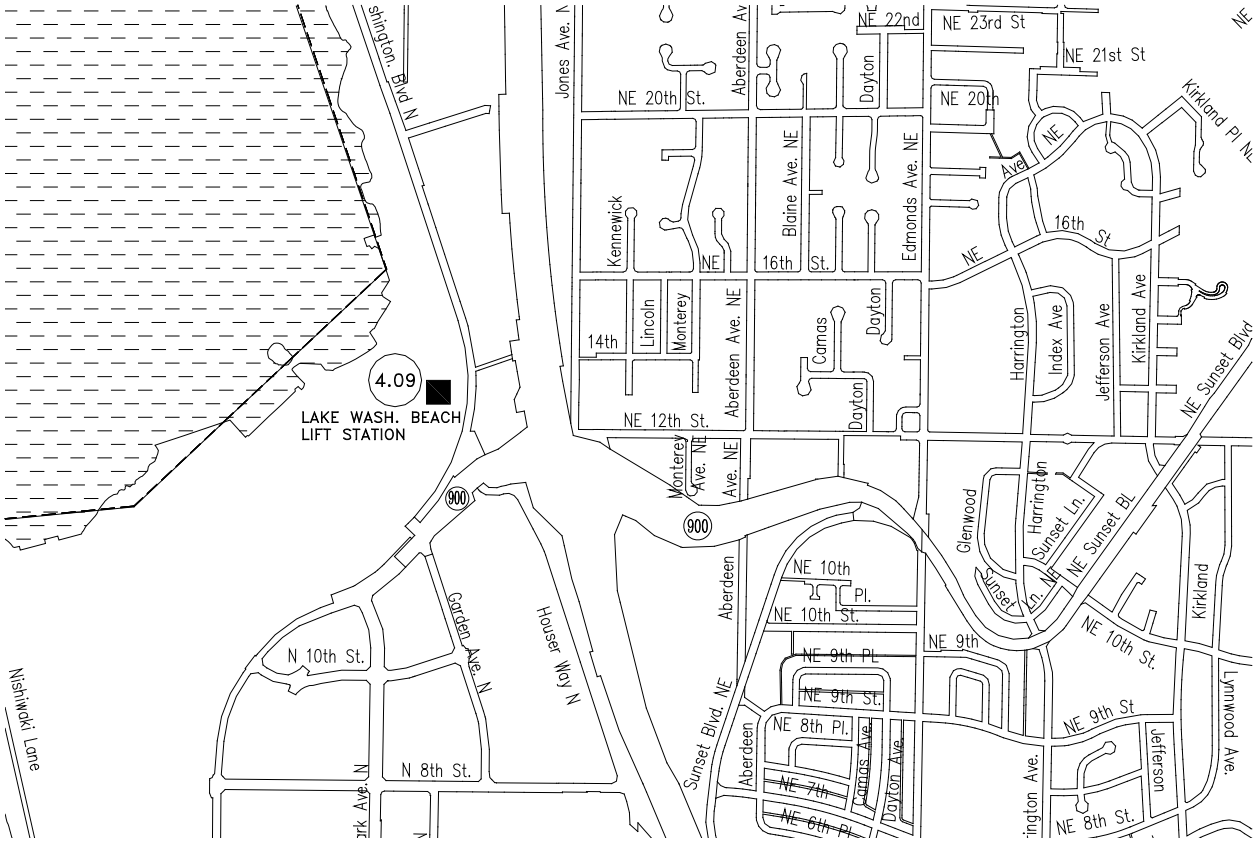


## 4.09 Lake Washington Beach Lift Station Rehabilitation

**System Deficiency**: The Lake Washington Beach Lift Station was constructed in 1968. This is a permanent station. The expected life of a sewage pump station is 25 years. While Lake Washington Beach is over 25 years old, it only receives seasonal usage from Coulon Beach Park and thus will last longer than 25 years. The station should be rehabilitated in 2014 when the station is 46 years old.

**Improvement**: Rehabilitate the existing lift station.

- Cost: $300,000 Priority: near-term
- Beginning: 2014 Completion: 2014

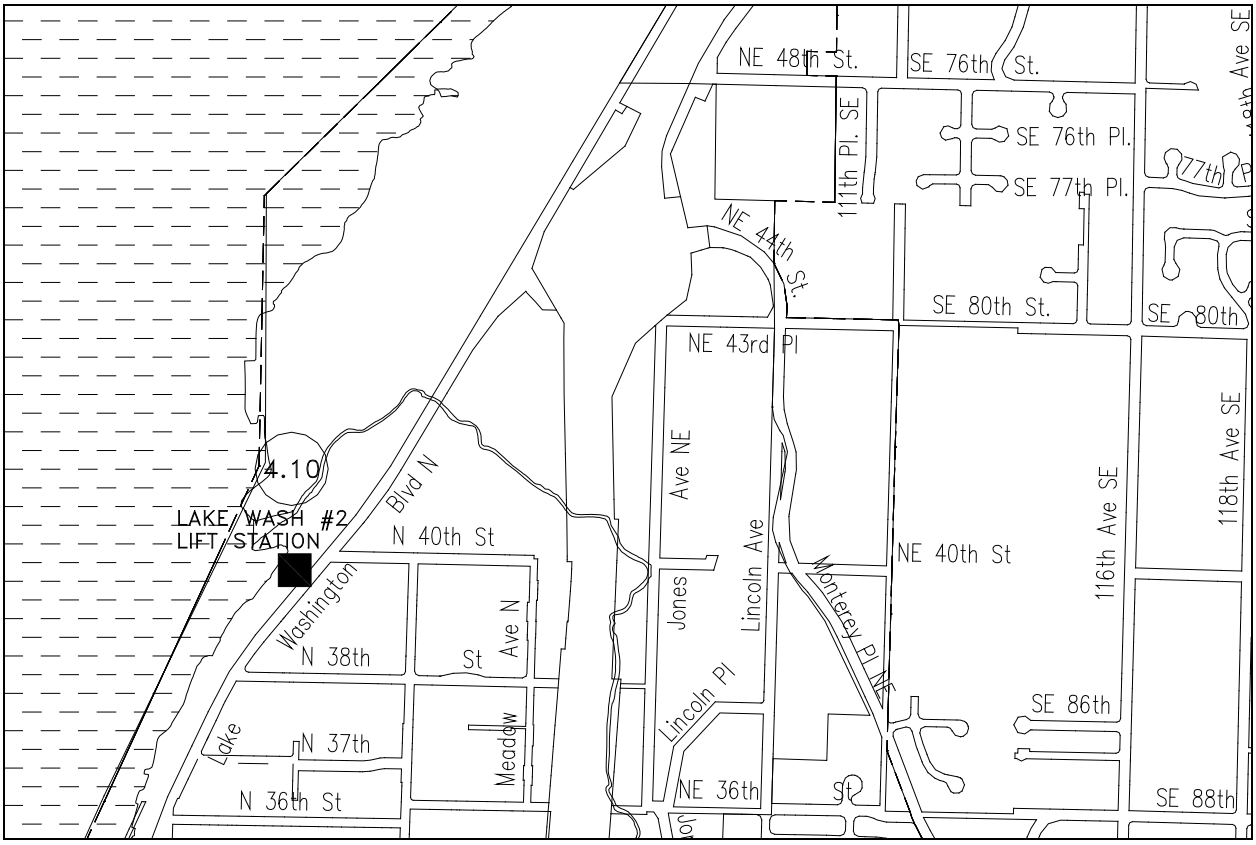


## 4.10 Lake Washington No. 2 Lift Station Rehabilitation

**System Deficiency**: The Lake Washington No. 2 Lift Station was rebuilt in 1994. This is a permanent station. The expected life of a sewage pump station is 25 years. Lake Washington No. 2 will be 25 years old in 2019.

**Improvement**: Rehabilitate the existing lift station.

- Cost: $200,000 Priority: mid-term
- Beginning: 2019 Completion: 2019

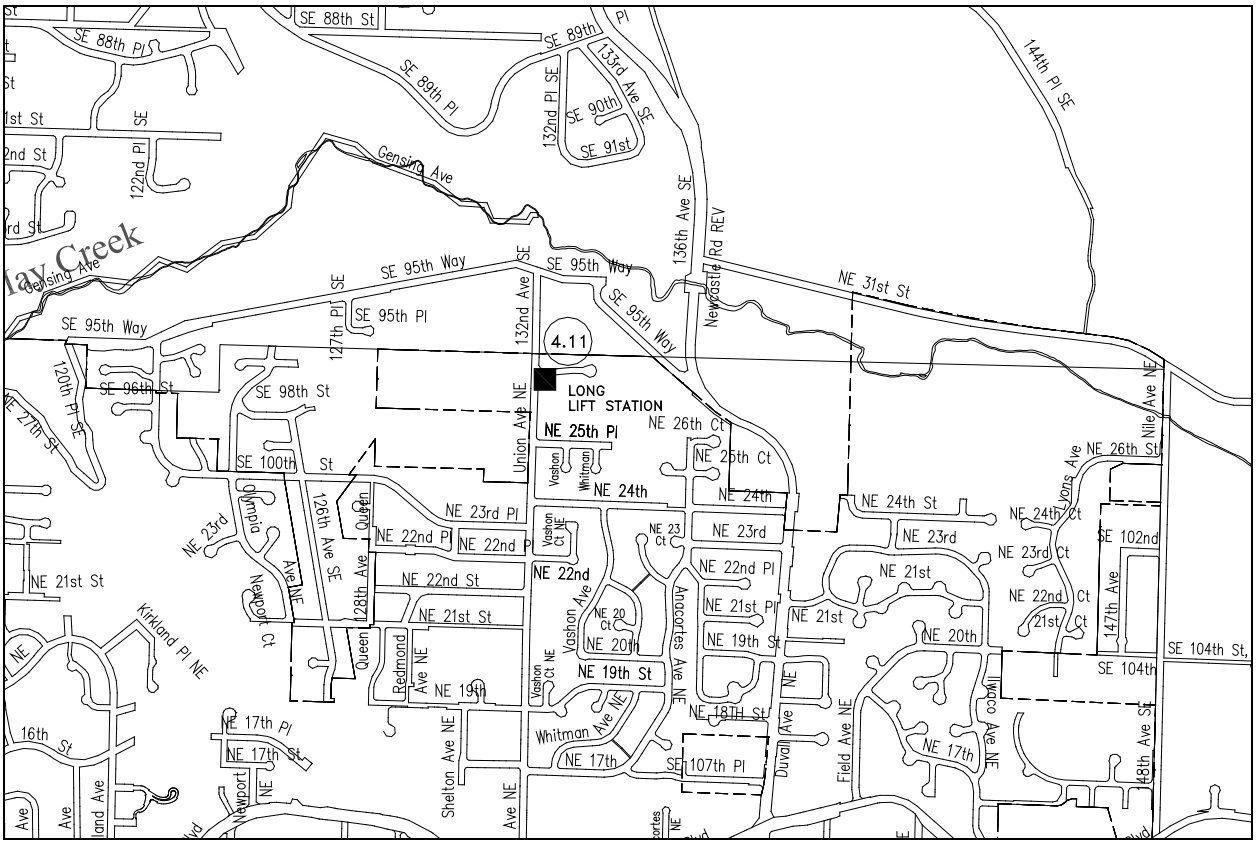


## 4.11 Long Lift Station Rehabilitation/Replacement

**System Deficiency**: The Long Lift Station was built in 2001. The expected life of a sewage pump station is 25 years. The Long Lift Station will be 25 years old in 2026.

**Improvement**: Rehabilitate/replace the existing lift station.

- Cost: $300,000 Priority: long-term
- Beginning: 2026 Completion: 2026



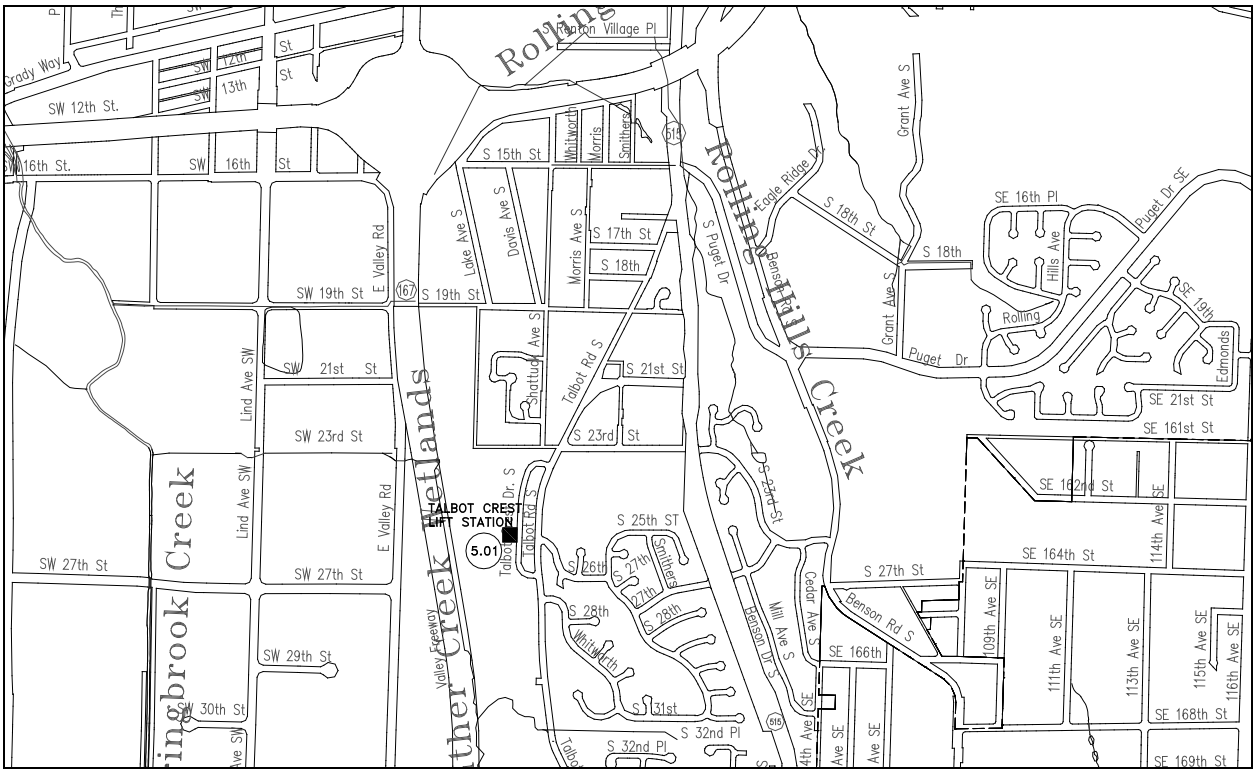
## 6.3.5 Black River Basin

### 5.01 Talbot Crest Lift Station Rehabilitation

**System Deficiency**: The Talbot Crest Lift Station, which serves a residential development along Talbot Crest Drive, was replaced in 2001. Expected life of a sanitary sewer lift station is 25 years. As such, this station should be scheduled for rehabilitation in 2026.

**Improvement**: Rehabilitate the existing lift station.

- Cost: $200,000 Priority: long-term
- Beginning: 2026 Completion: 2026

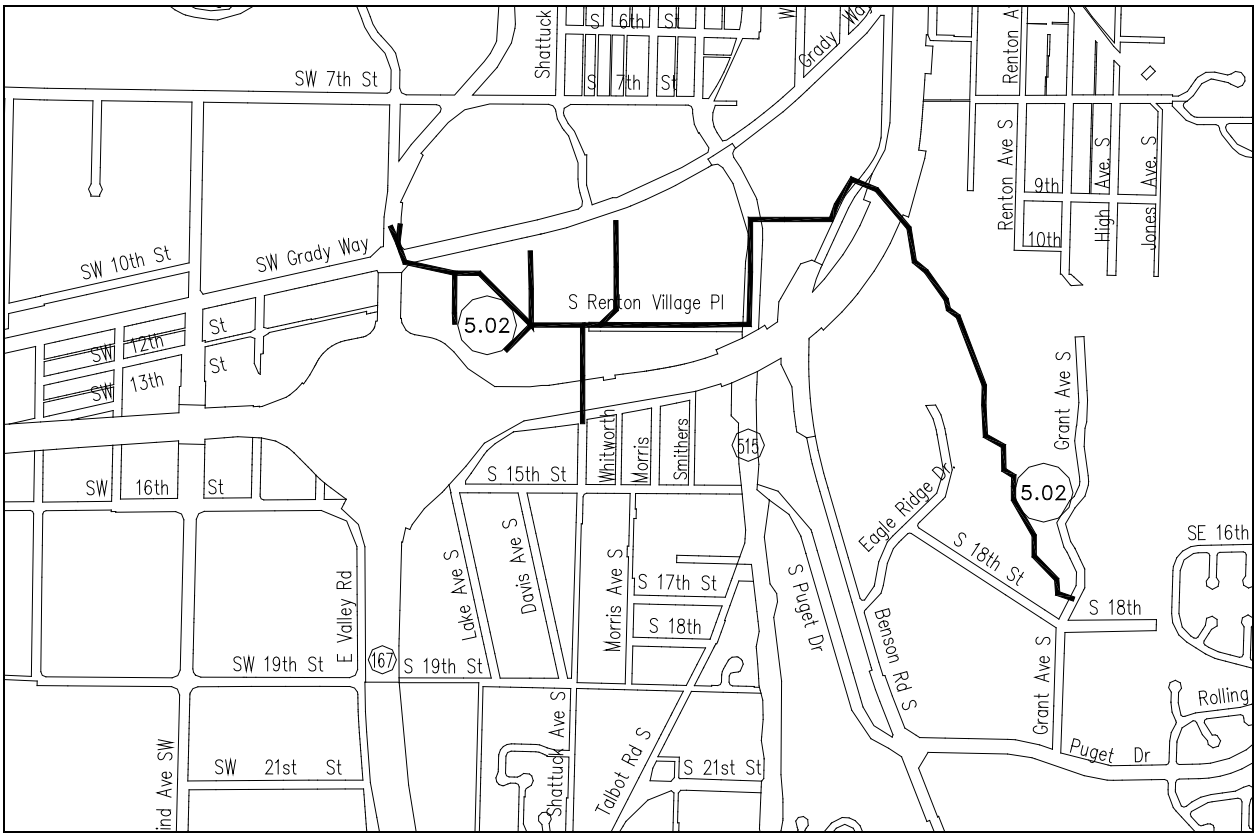


## 5.02 Thunder Hill Interceptor Replacement / Rehabilitation

**System Deficiency**: The Thunderhill Interceptor was installed in 1964 and is comprised of 10, 12, and 18-inch concrete sewers, which will be approaching the end of their useful life and need to be replaced before structural failures occur. This project involves replacement of approximately 11,000 lineal feet of existing gravity sewer.

**Improvement**: Replace existing Thunderhill Interceptor.

- Cost: $2,500,000 Priority: near-term
- Beginning: 2014 Completion: 2016

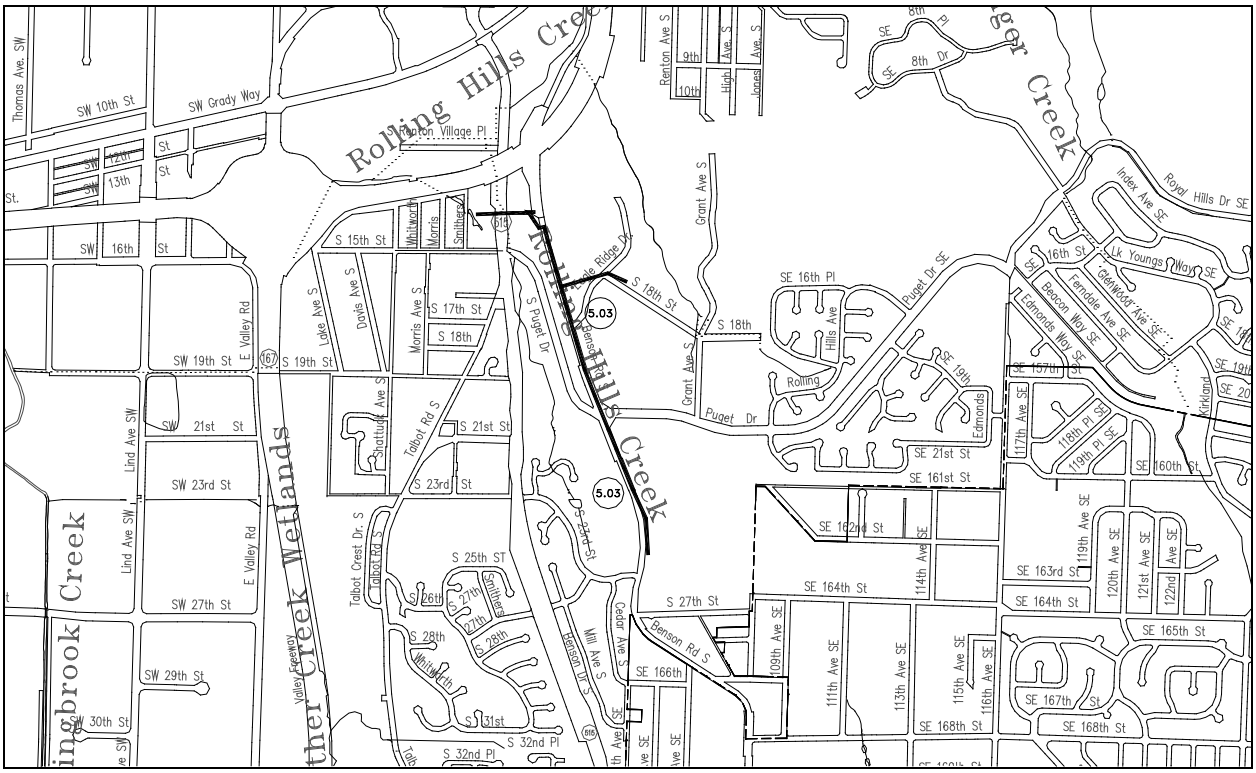


## 5.03 Benson Road Interceptor

**System Deficiency**: The Benson Road Interceptor was installed in 1962 and is comprised of 8-inch concrete sewers, which are approaching the end of their useful life and need to be replaced before structural failures occur. This project involves replacement of approximately 5,500 lineal feet of existing gravity sewer.

**Improvement**: Replace existing Benson Road Interceptor.

- Cost: $1,300,000 Priority: mid-term
- Beginning: 2022 Completion: 2023

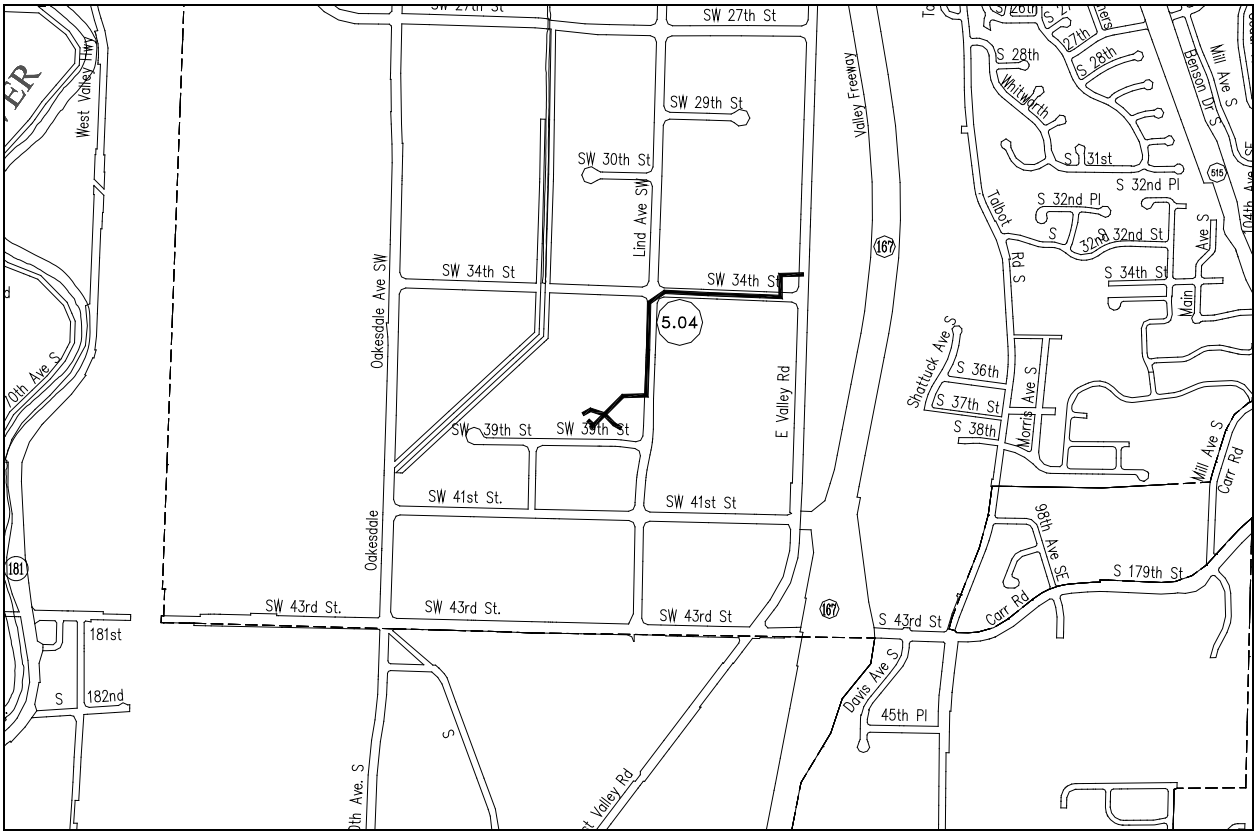


## 5.04 SW 34th Street Interceptor Capacity Analysis

**System Deficiency**: This project involves the analysis of approximately 3,500 lineal feet of existing 8-inch gravity sewer. Based upon the sanitary sewer model and the capacity analysis performed in 2001, the existing sewers appear undersized to accommodate the area that can be potentially served with this interceptor.

**Improvement**: Determine the capacity of the existing sewers that serve this area and determine need and schedule for upsizing.

- Cost: $100,000 Priority: near-term
- Beginning: 2009 Completion: 2009

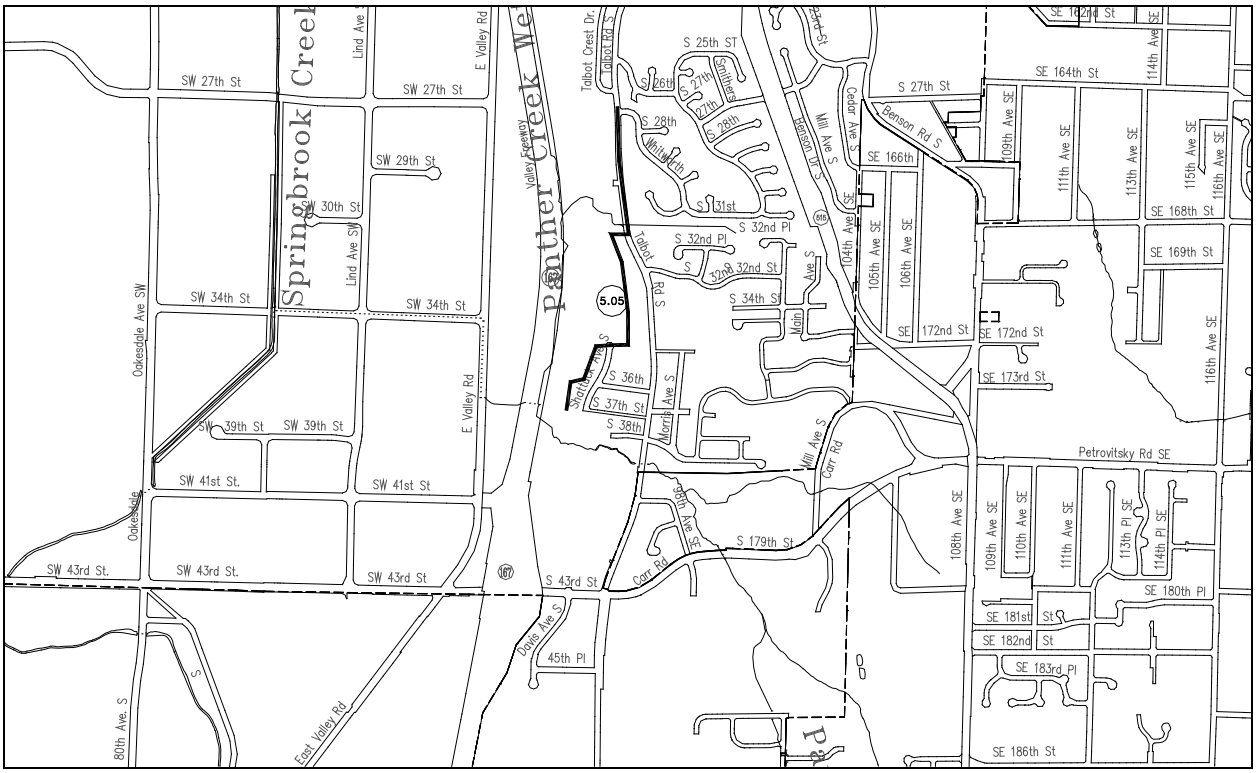


## 5.05 Talbot Road Interceptor Capacity Analysis

**System Deficiency**: The existing Talbot Road Interceptor is potentially undersized to serve this basin. These existing 8-inch sanitary sewers may need to be replaced with 12-inch pipe. This project involves the analysis approximately 4,000 lineal feet of existing gravity sewer.

**Improvement**: Analyze the capacity of the interceptor to ensure proper service of this area.

- Cost: $100,000 Priority: mid-term
- Beginning: 2017 Completion: 2017

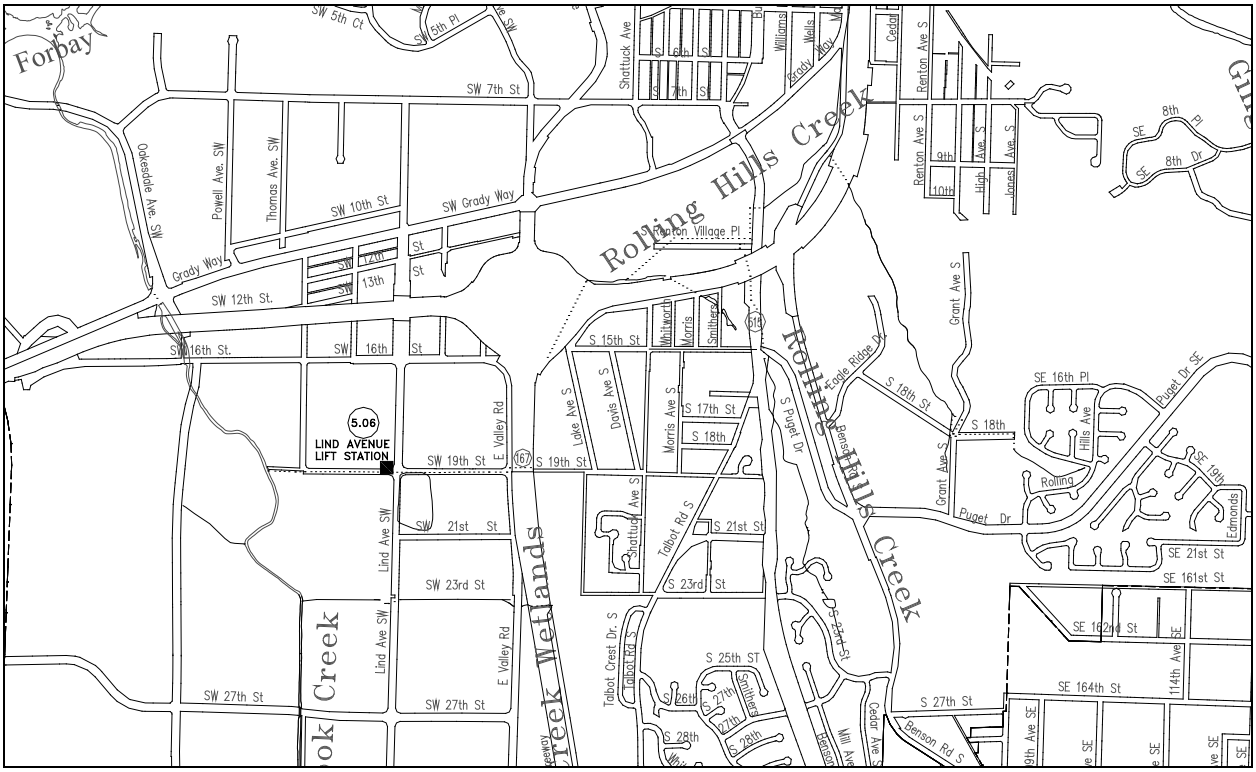


## 5.06 Lind Avenue Lift Station Rehabilitation

**System Deficiency**: The Lind Avenue Lift Station was constructed in 1978. The station was rebuilt as part of a local improvement district in 1983. The expected life of a sewage pump station is 25 years. Lind Avenue will be 25 years old in 2008. This station is considered a permanent lift station, which will serve existing and future commercial developments within a major portion of the Black River Basin. It does not meet current design codes because it lacks full redundancy of its vacuum priming system. If the vacuum priming system were to fail, the lift station would not operate. In addition, the above grade electrical structures have experienced vandalism.

**Improvement**: The lift station requires rehabilitation and major modifications to improve reliability and in order to be upgraded to a permanent lift station.

- Cost: $800,000 Priority: near-term
- Beginning: 2012 Completion: 2013



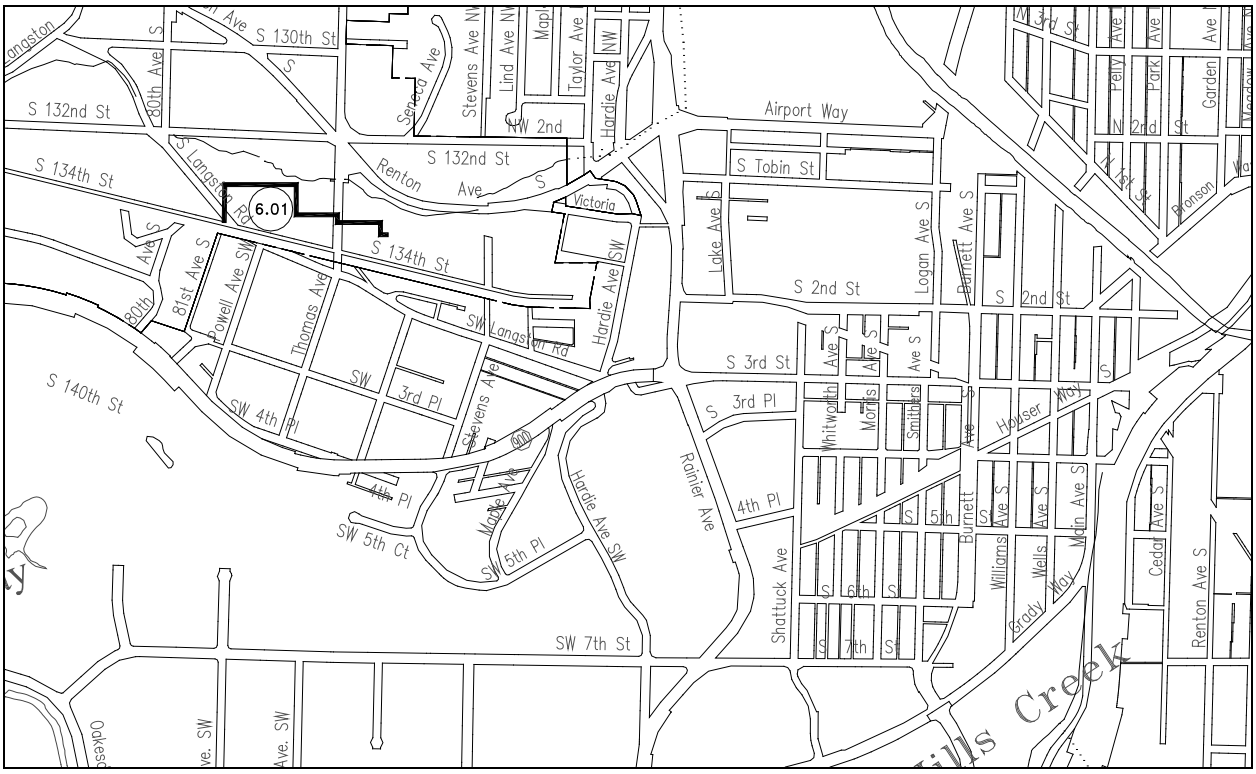
## 6.3.6 Downtown Basin

### 6.01 Earlington Lift Station Elimination

**System Deficiency**: The Earlington Lift Station currently serves the Black River High School near the intersection of S 132nd Street and S Langston Street. This lift station does not have the capacity to provide service for its projected area. The elimination of this lift station is possible since the completion of the sanitary sewer facilities for the Earlington Ridge Plat.

**Improvement**: Install approximately 1,800 Linear feet of 12 and 15-inch sanitary sewer main and disassemble and remove existing lift station.

- Cost: $800,000 Priority: near-term
- Beginning: 2006 Completion: 2008

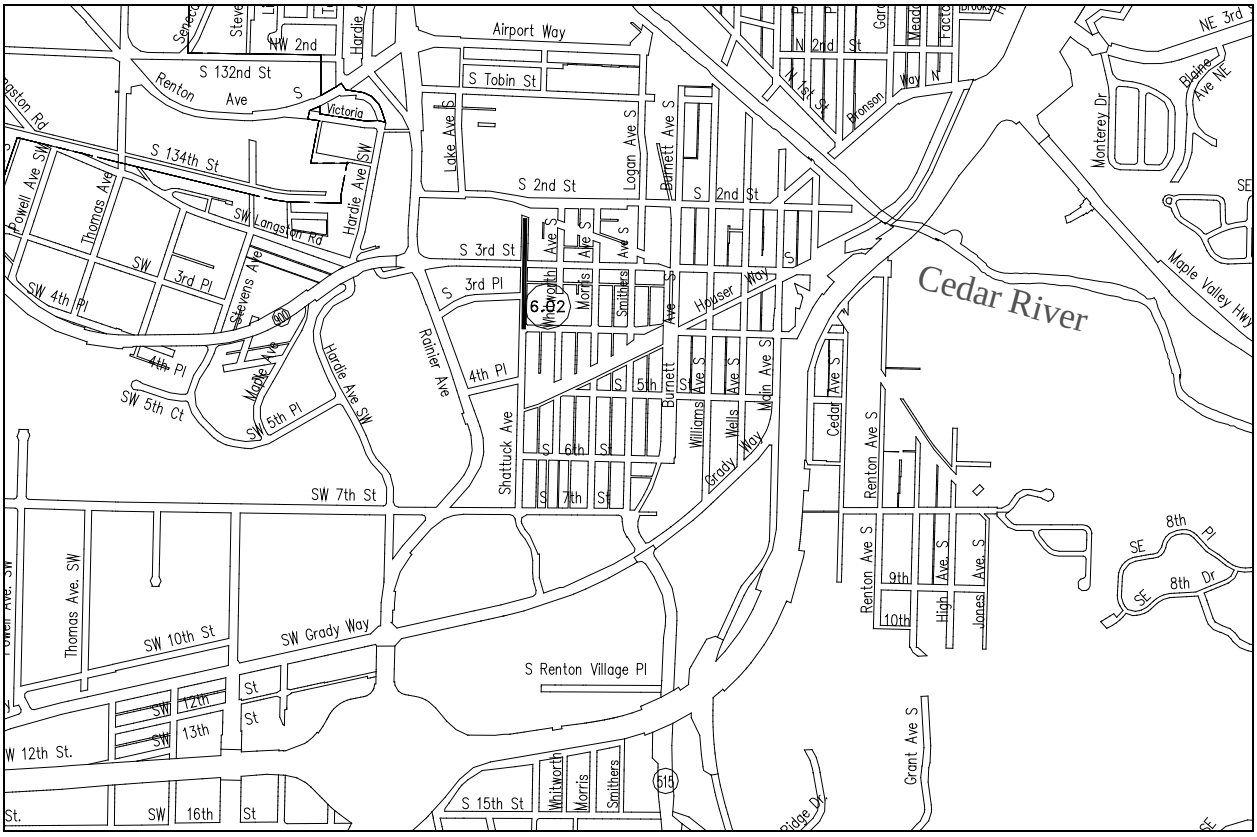


## 6.02 Shattuck Ave S Interceptor Downsizing

**System Deficiency**: The sanitary sewer flows that used to go through this line have been redirected to connect to King County's East Side Interceptor in S 7th Street. This has left low flows in the old 24-inch sewer pipe in Shattuck Avenue between S 4th Street and South 2nd Street. The reduced flows have resulted in septic conditions in the old pipe that require frequent flushing by maintenance crews. This sewer needs to be replaced and downsized.

**Improvement**: Downsize 1000 linear feet of 24-inch sewer main in Shattuck to 8 or 12-inch.

- Cost: $200,000 Priority: near-term
- Beginning: 2006 Completion: 2008

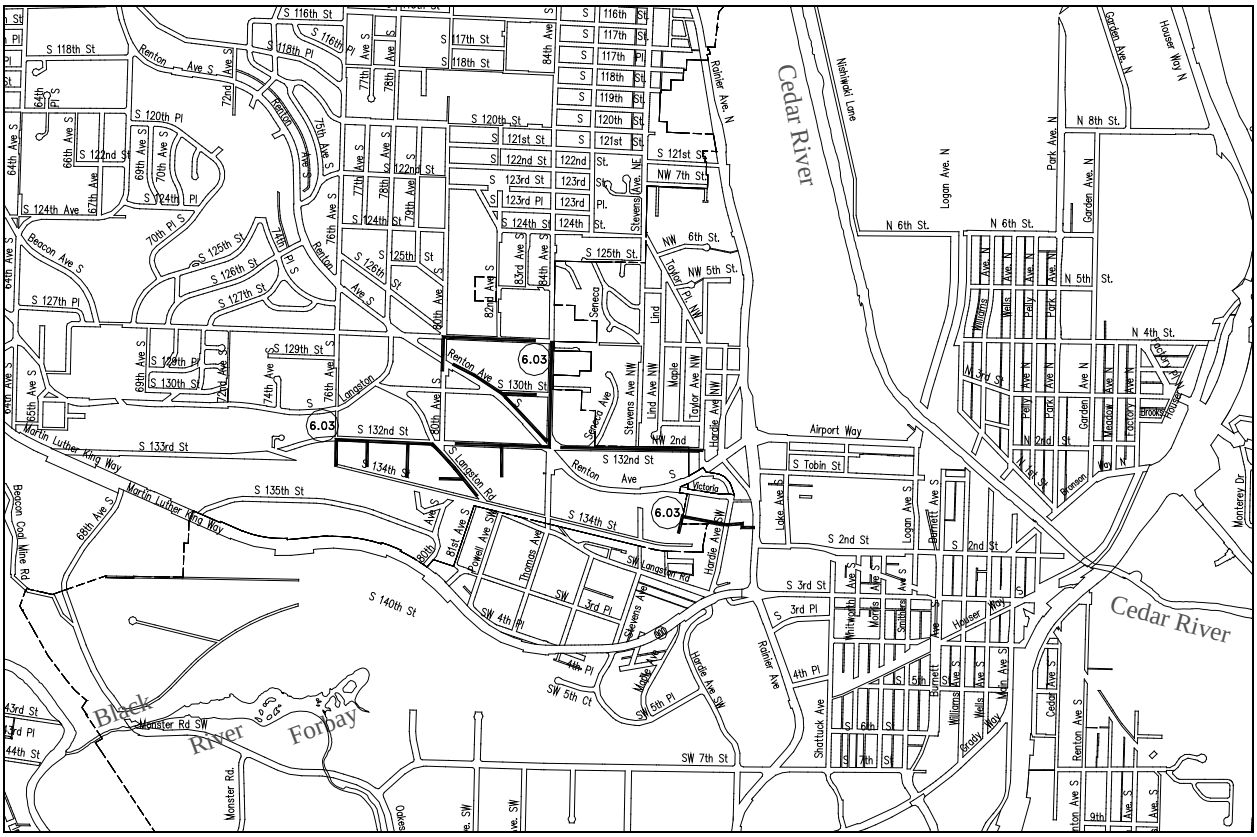


## 6.03 North Earlington Collection System

**System Deficiency**: Most of the Earlington area north of S 134th Street is currently unsewered. After construction of the Earlington Interceptor or replacement of the Earlington Lift Station, a collection system to serve this area may be completed. Service would require approximately 12,700 lineal feet of 8-inch gravity sewer.

**Improvement**: Construct the North Earlington Collection System.

- Cost: $2,550,000 Priority: near-term
- Beginning: 2014 Completion: 2020

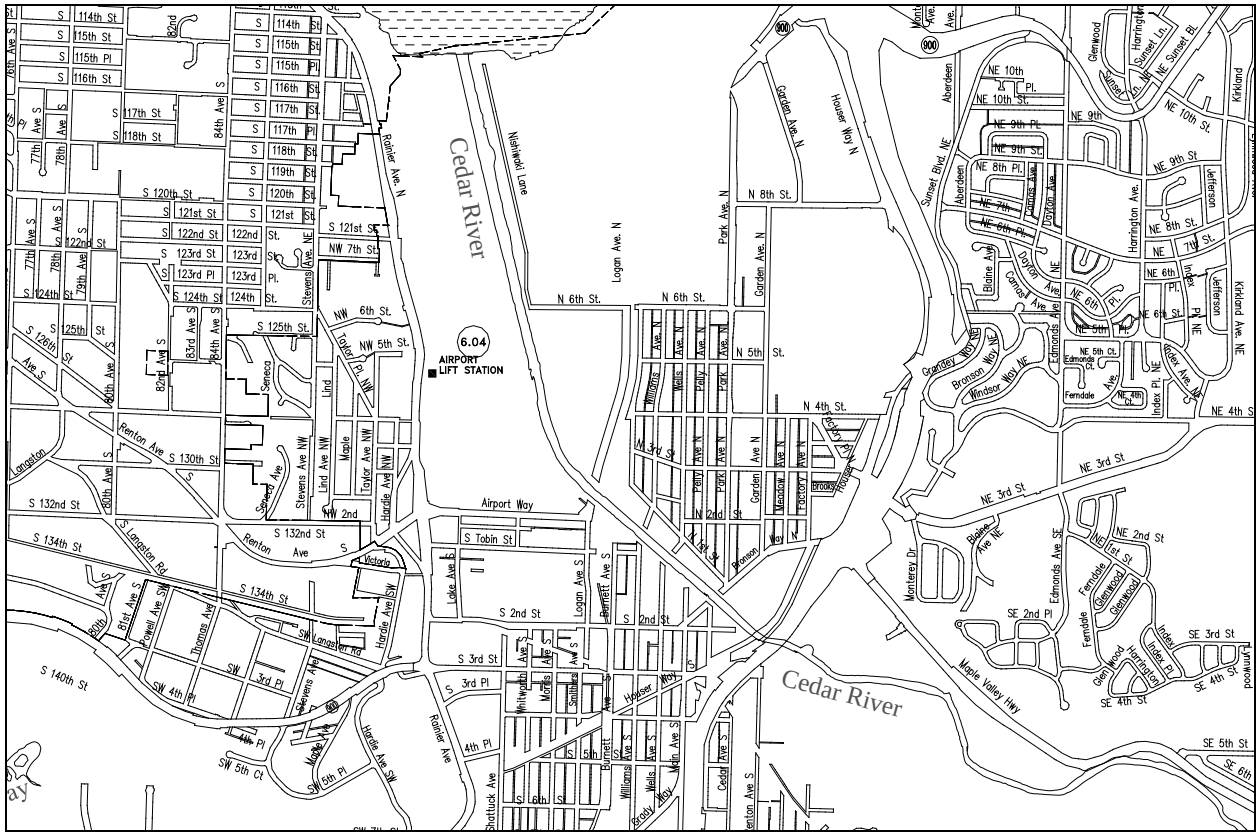


## 6.04 Airport Lift Station Rehabilitation

**System Deficiency**: **System Deficiency**: The Airport Lift Station was rebuilt from scratch in 1986. This is a permanent station. The expected life of a sewage pump station is 25 years. Airport will be 25 years old in 2011.

**Improvement**: Rehabilitate the existing lift station.

- Cost: $300,000 Priority: near-term
- Beginning: 2011 Completion: 2011

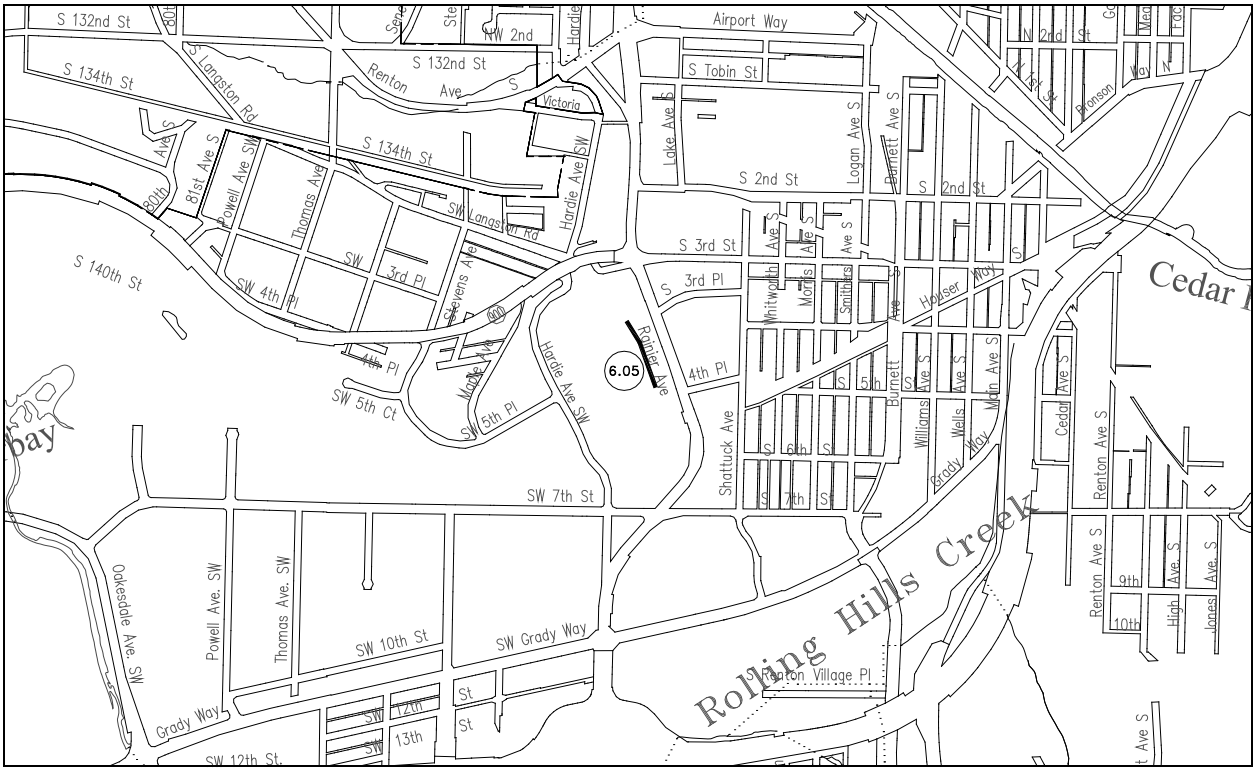


## 6.05 Renton Center Sewer Extension

**System Deficiency**: **System Deficiency**: Existing businesses within Renton Center, fronting Rainier, contribute significant grease to the downstream sanitary sewer system causing backups and overflows. Replacement of the non-standard private sewer system with a City sewer main will allow the City to install testing stations to determine grease offenders. The new main would consist of approximately 800 linear feet of 8-inch sewer.

**Improvement**: Install new sewer main to replace existing, non-conforming private system.

- Cost: $240,000 Priority: near-term
- Beginning: 2006 Completion: 2008



## 6.3.7 May Valley Basin

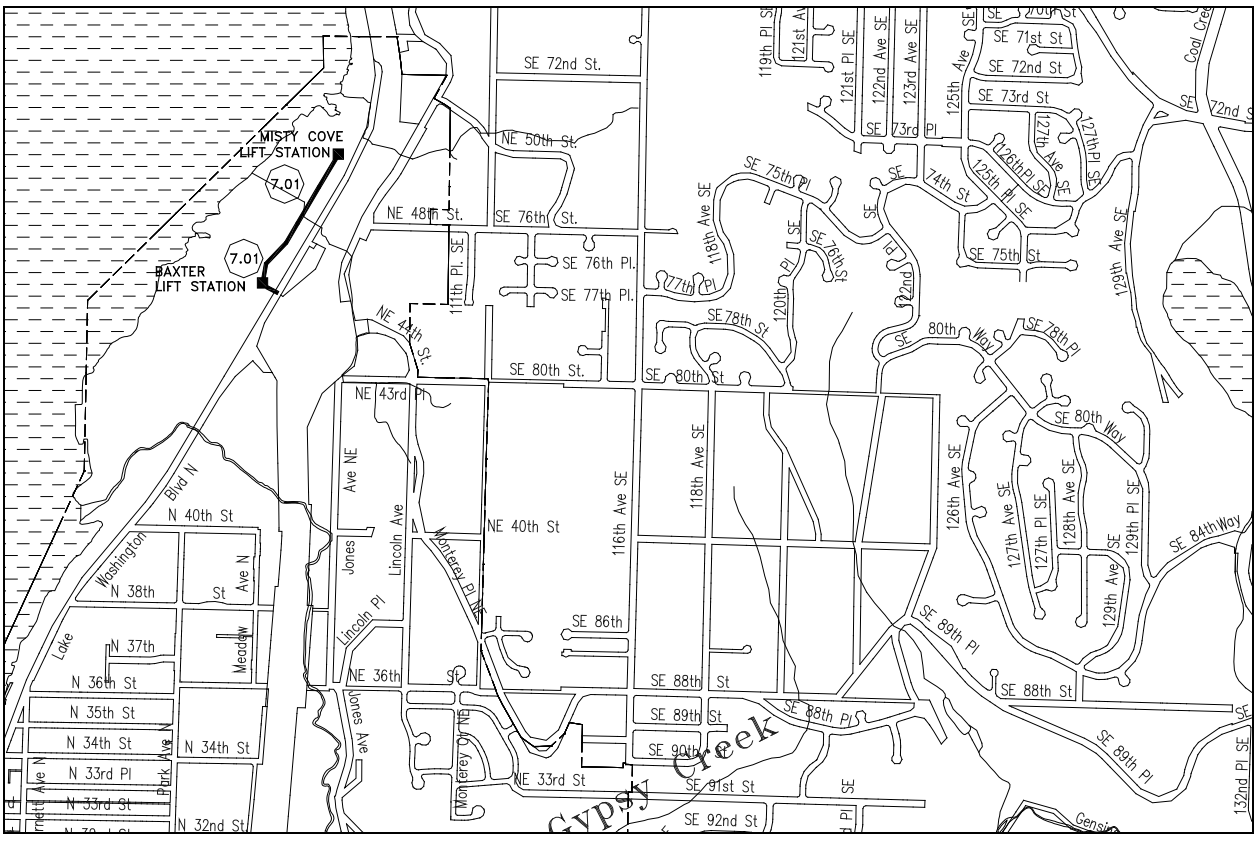
### 7.01 Misty Cove and Baxter Lift Station Rehabilitation/Replacement

**System Deficiency**: Misty Cove Lift Station currently pumps into the Baxter Lift Station which pumps into the King County Sewer. It may be possible to eliminate one of these lift stations by providing gravity sewer from the Baxter Lift Station to Misty Cove. The Misty Cove Lift Station has sufficient wet well volume to accommodate this change. The City should also investigate pumping each station independently to the King County sewer.

Redevelopment in this basin is another factor driving the need to replace or rehabilitate these stations. It is anticipated that Baxter will be replaced as part of the redevelopment of the area, with the City covering costs for oversizing. Misty Cove will be rehabilitated to ensure safe operation.

**Improvement**: Rehabilitate/replace the existing lift stations to improve operation, safety, and reliability of these lift stations.

- Cost: $100,000 Priority: near-term
- Beginning: 2007 Completion: 2008

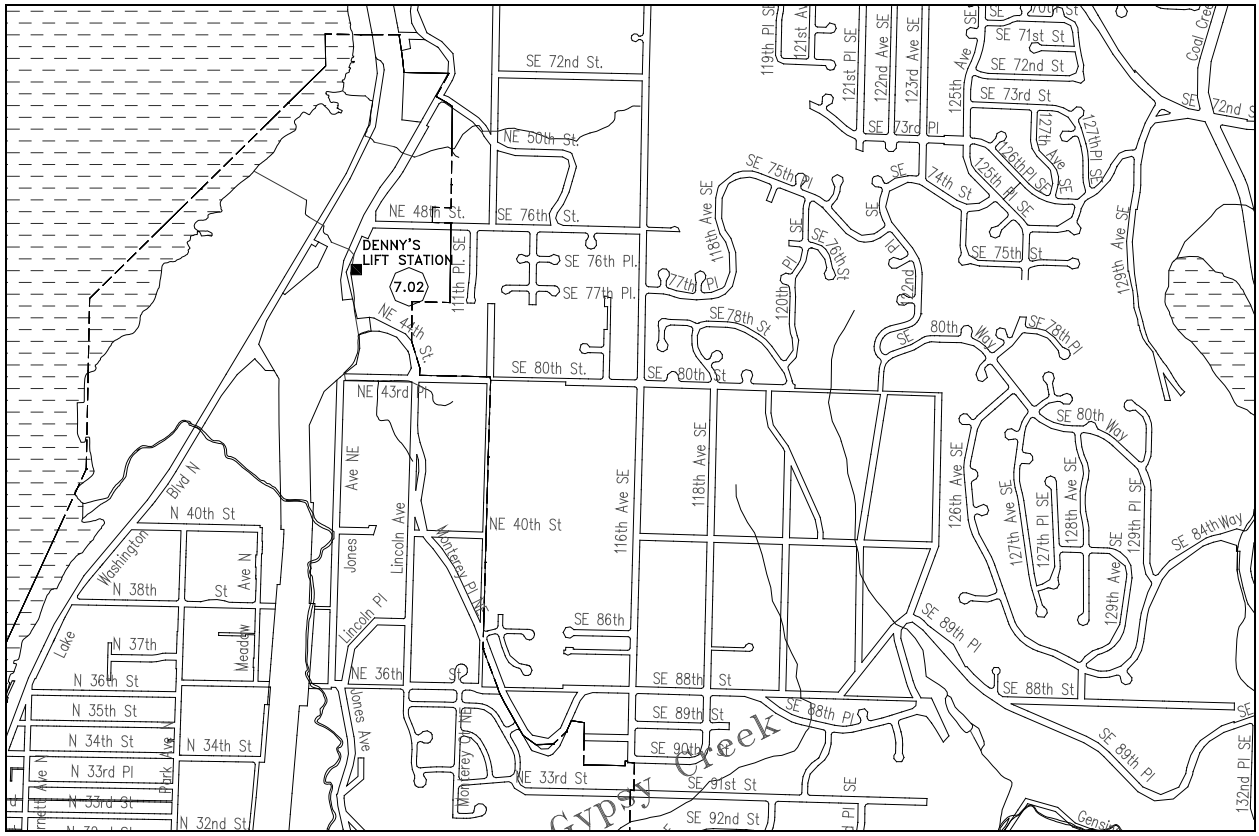


## 7.02 Denny's Lift Station Rehabilitation

**System Deficiency**: The Denny's Lift Station was built in 1983. This is a permanent station. The expected life of a sewage pump station is 25 years and the Lift Station will be 25 years old in 2008.

**Improvement**: Rehabilitate the existing lift station.

- Cost: $200,000 Priority: near-term
- Beginning: 2012 Completion: 2012



## 6.4 PROPOSED CAPITAL IMPROVEMENT PLAN

Table 6.4 provides a cost breakdown summary for the near-, mid- and long-term projects and shows that the majority of the capital projects will be completed system wide and within the West Cedar River Basin. Additionally, almost 25 percent of the work will be completed in the near-term. A detailed implementation schedule for each proposed improvement is shown in Table 6.5. The next seven years (2008-2014) are annually represented with the mid- and long term projects included in separate column. The proposed improvements are summarized by basin in priority order, as assigned in Table 6.2. In general, the prioritization of projects fall within the following schedule:

- near-term = 2014 and prior
- mid-term = 2015 - 2024
- long term = 2025 - future

**Table 6.4 Cost Breakdown Summary**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Basin | Near-Term | Mid-Term | Long-Term | Total |
|---|---|---|---|---|
| System Wide | $12,590,000 | $18,850,000 | $26,100,000 | $57,540,000 |
| West Cedar River | $1,600,000 | $300,000 | $0 | $1,900,000 |
| East Cedar River | $10,475,000 | $11,700,000 | $31,500,000 | $53,675,000 |
| Lake Washington East | $4,700,000 | $3,900,000 | $4,300,000 | $12,900,000 |
| Black River | $1,900,000 | $2,900,000 | $200,000 | $5,000,000 |
| Downtown | $1,750,000 | $2,350,000 | $0 | $4,100,000 |
| May Valley | $300,000 | $0 | $0 | $300,000 |
| Total | $33,315,000 | $40,000,000 | $62,100,000 | $135,415,000 |

**Table 6.5 Detailed Cost Breakdown For Proposed Improvements**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Project Number | Proposed Capital Improvements | Previous Year | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | Mid Term | Long Term | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **System Wide** | | | | | | | | | | | | |
| 1.01 | Misc Sewer Projects and Emergency Repairs | $120,000 | $50,000 | $150,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $1,000,000 | $200,000 | $2,020,000 |
| 1.02 | Lift Station Telemetry Upgrades | | | | $100,000 | | | | | $200,000 | $100,000 | $400,000 |
| 1.03 | Maintenance & Upgrade Sewer Hydraulic Model | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | $25,000 | $250,000 | $50,000 | $500,000 |
| 1.04 | Inflow & Infiltration Metering, Investigating, Rehab | $300,000 | $180,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $1,000,000 | $200,000 | $2,280,000 |
| 1.05 | Sewer Main Replacement/Rehabilitation | $500,000 | $100,000 | $750,000 | $2,000,000 | $2,100,000 | $2,000,000 | $1,800,000 | $1,000,000 | $16,200,000 | $25,550,000 | $52,000,000 |
| 1.06 | Long Range Wastewater Management Plan Upgrade | $20,000 | $20,000 | | | | | | $100,000 | $200,000 | | $340,000 |
| **West Cedar River Basin** | | | | | | | | | | | | |
| 2.01 | Heather Downs/Maplewood Interceptor Improvements | $300,000 | | $1,000,000 | | | | | | | | $1,300,000 |
| 2.02 | Cottonwood Lift Station Rehabilitation | | | | | | | | | $300,000 | | $300,000 |
| 2.03 | Falcon Ridge Lift Station Rehabilitation | | | | $300,000 | | | | | | | $300,000 |
| **East Cedar River Basin** | | | | | | | | | | | | |
| 3.01 | East Cedar River Collection Sewers | $1,000,000 | $1,000,000 | $1,000,000 | $1,000,000 | $1,000,000 | $1,000,000 | $1,000,000 | $1,000,000 | $10,000,000 | $31,500,000 | $49,500,000 |
| 3.02 | Central Plateau Interceptor | $2,225,000 | | | | | | | | | | $2,225,000 |
| 3.03 | East Plateau Interceptor | | | | | | | | | $1,700,000 | | $1,700,000 |
| 3.04 | East Renton Lift Station Elimination | | | $200,000 | | | | | | | | $200,000 |
| 3.05 | Highlands Lift Station Elimination | | $30,000 | | | | | | | | | $30,000 |
| 3.06 | Evendell Lift Station Elimination | | $20,000 | | | | | | | | | $20,000 |
| **Lake Washington East Basin** | | | | | | | | | | | | |
| 4.01 | Duvall Interceptor | $500,000 | | | | | | | | | | $500,000 |
| 4.02 | Westview Lift Station Replacement/Rehabilitation | | | $300,000 | | | | | | | | $300,000 |
| 4.03 | Kennydale Lakefront Sewer System Improvements | | | | | | | | | $500,000 | $4,000,000 | $4,500,000 |
| 4.04 | Union Avenue NE Sewer Main Extension | | | | | | | | | $500,000 | | $500,000 |
| 4.05 | Sierra Heights Sewer System Construction | | | | | | | | $200,000 | $1,800,000 | | $2,000,000 |
| 4.06 | North Renton Intercept Replacement/Rehabilitation | | | | | | | | | $800,000 | | $800,000 |
| 4.07 | Lake Washington Blvd. Sewer (2900 Block) | | | | | | | | | $100,000 | | $100,000 |

**Table 6.5 Detailed Cost Breakdown For Proposed Improvements**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Project Number | Proposed Capital Improvements | Previous Year | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | Mid Term | Long Term | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.08 | Stonegate/Summerwind Flow Diversion | $800,000 | $2,700,000 | | | | | | | | | $3,500,000 |
| 4.09 | Lake Washington Beach Lift Station Rehabilitation | | | | | | | | $200,000 | | | $200,000 |
| 4.10 | Lake Washington No 2 Lift Station Rehabilitation | | | | | | | | | $200,000 | | $200,000 |
| 4.11 | Long Lift Station Rehabilitation/Replacement | | | | | | | | | | $300,000 | $300,000 |
| **Black River Basin** | | | | | | | | | | | | |
| 5.01 | Talbot Crest Lift Station Replacement | | | | | | | | | | $200,000 | $200,000 |
| 5.02 | Thunder Hill Interceptor Replacement | | | | | | | | $1,000,000 | $1,500,000 | | $2,500,000 |
| 5.03 | Benson Road Interceptor | | | | | | | | | $1,300,000 | | $1,300,000 |
| 5.04 | SW 34th Street Interceptor Replacement | | | $100,000 | | | | | | | | $100,000 |
| 5.05 | Talbot Road Interceptor Capacity Analysis | | | | | | | | | $100,000 | | $100,000 |
| 5.06 | Lind Avenue Lift Station Rehabilitation | | | | | | $200,000 | $600,000 | | | | $800,000 |
| **Downtown Basin** | | | | | | | | | | | | |
| 6.01 | Earlington Lift Station Elimination | $800,000 | | | | | | | | | | $800,000 |
| 6.02 | Shattuck Ave S Interceptor Downsizing | $200,000 | | | | | | | | | | $200,000 |
| 6.03 | North Earlington Collection System | | | | | | | | $200,000 | $2,350,000 | | $2,550,000 |
| 6.04 | Airport Lift Station Rehabilitation | | | | | $300,000 | | | | | | $300,000 |
| 6.05 | Renton Center Sewer Extension | $250,000 | | | | | | | | | | $250,000 |
| **May Valley Basin** | | | | | | | | | | | | |
| 7.01 | Misty Cove/Baxter Lift Station Replacement | $100,000 | | | | | | | | | | $100,000 |
| 7.02 | Denny's Lift Station Rehabilitation | | | | | | $200,000 | | | | | $200,000 |
| **TOTAL ANNUAL COST** | | $7,140,000 | $4,125,000 | $3,625,000 | $3,625,000 | $3,625,000 | $3,625,000 | $3,625,000 | $3,925,000 | $40,000,000 | $62,100,000 | $135,415,000 |
| **DEVELOPER/LID COST** | | $1,000,000 | $1,000,000 | $1,000,000 | $1,000,000 | $1,000,000 | $1,000,000 | $1,000,000 | $1,200,000 | $12,350,000 | $31,500,000 | $52,050,000 |
| **TOTAL CITY SHARE** | | $6,140,000 | $3,125,000 | $2,625,000 | $2,625,000 | $2,625,000 | $2,625,000 | $2,625,000 | $2,725,000 | $27,650,000 | $30,600,000 | $83,365,000 |

Notes:
(1) Project Cost Estimates Are In 2008 Dollars.

# OPERATIONS AND MAINTENANCE

## 7.1 INTRODUCTION

The following chapter summarizes the City's current operation and maintenance (O&M) program, organization structure and staffing, and future program needs. This chapter establishes the duties, discusses the manhours required, and spent on each O&M program and records the current preventative maintenance schedule.

## 7.2 ORGANIZATION STRUCTURE

The sewer utility operates under the direction of the Public Works Administrator. The Wastewater Maintenance Supervisor reports to the Wastewater Manager who intern reports to the Maintenance Services Director. The Wastewater Utility Engineering Supervisor reports to the Utility Systems Director. The Utility Systems Director and the Maintenance Services Director report to the Public Works Administrator. Figure 7.1 shows the City's O&M organization structure.

The Wastewater Maintenance Supervisor and Wastewater Manager evenly divides their duties, overseeing the O&M of the sanitary sewer and storm water systems. There are two Lift Station technicians and five Maintenance Services workers responsible for the operation of the sanitary sewer system.

The Wastewater Utility staff is responsible for design and management of capital improvement projects, coordination of developer extensions of the sewer system, and long range planning for the Utility.

The Wastewater Utility Engineering Supervisor oversees the Wastewater Utility staff. The Wastewater Utility Engineering Supervisor is also responsible for the management of the City's Technical Services Section. Time division between the two sections is 60 percent Wastewater and 40 percent Technical Services.

The Wastewater Utility staff consists of two engineering project managers, one grease/industrial waste specialist and a 0.5 full-time employee (FTE) GIS specialist.

## 7.3 STAFFING

The wastewater utility is staffed by both Maintenance and Operations and Engineering teams. The primary roles of each team, summary of programs, and estimated staffing levels are summarized in the following sections.

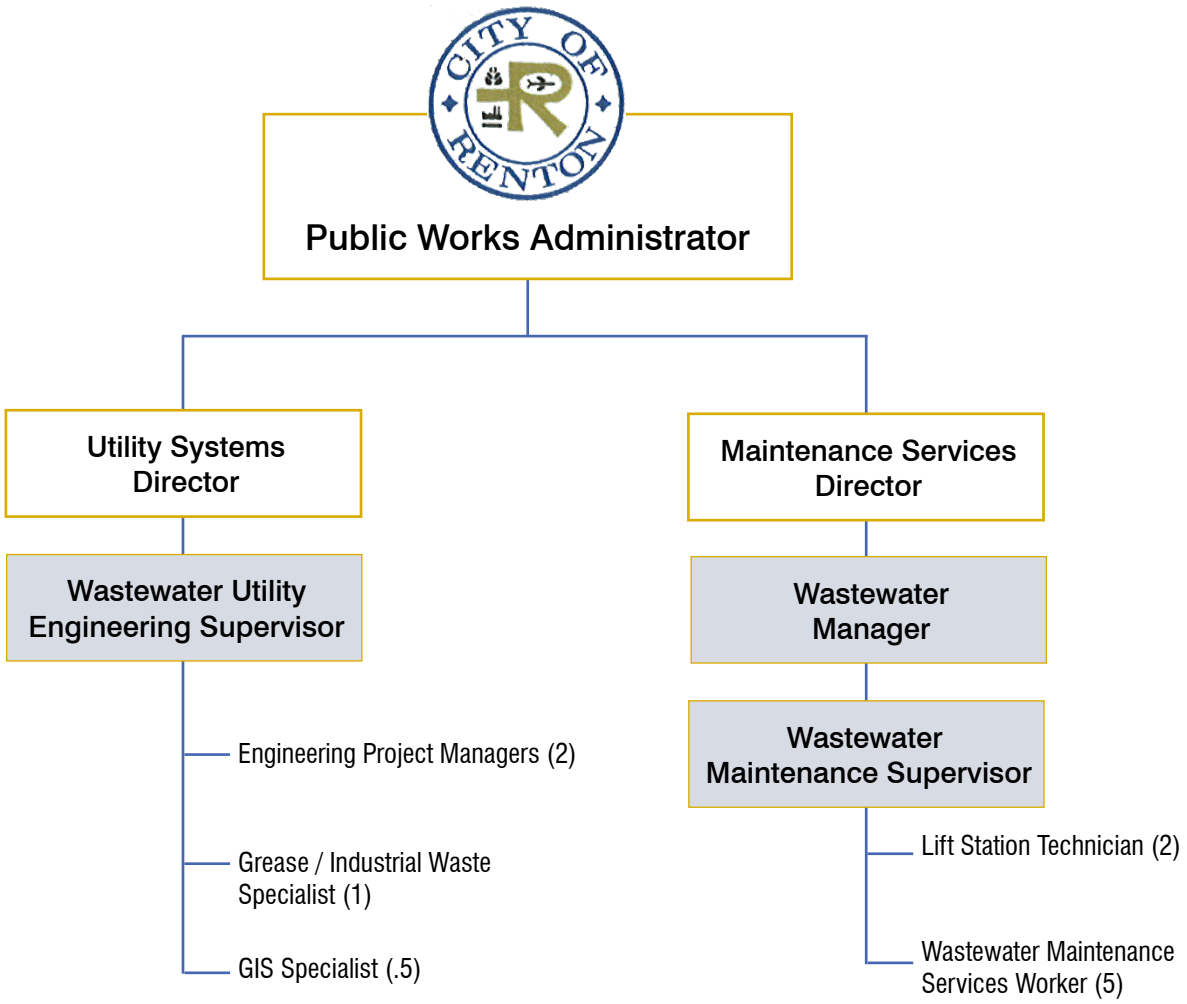



**FIGURE 7.1**
**OPERATIONS AND MAINTENANCE ORGANIZATION STRUCTURE**
**LONG-RANGE WASTEWATER MANAGEMENT PLAN**
City of Renton

ren908o1.ai

carollo

### 7.3.1 Maintenance and Operations Staff

The current staff organization is described in Section 7.2 of this chapter. There are at present eight full-time employees (FTE), including supervisory personnel and maintenance workers, who operate and maintain the sanitary sewer system. The tasks that are performed by sewer utility staff include inspection, testing, installation and repair of system facilities and preventive maintenance, corrective maintenance, record keeping, administrative tasks, training, and response to emergencies.

Wastewater Maintenance has developed a program to maintain the existing system. First level of priority is the inspection and maintenance of the portions of the system that are known to have problems if not handled on a weekly, monthly, quarterly, or annual basis. This includes the inspection and maintenance of lift stations, areas of known root problems, and areas of known grease problems.

The second level of priority is the routine inspection and maintenance that is required to identify any additional high priority maintenance issues and to find potential random issues that may cause problems for the customers. The second level of priority include television inspection of the system and hydraulic line cleaning. It is typically recommended by insurers involved with utility system management that, in order to minimize claims against the utility, that the entire system should be inspected approximately every five years. Since line cleaning is performed prior to television inspection, this would also mean the entire system is cleaned approximately every five years.

The estimated hours of work required to adequately maintain the sanitary sewer system are shown in Table 7.1. For maintenance activities, the annual hours total 13,735. The hours of work required for operational tasks for the sanitary sewer system are shown in Table 7.2. For operational tasks, the annual hours total 3,346. For adequate maintenance of the sanitary sewer system, the City would need a total of approximately 17,081 hours (the sum of maintenance and operational tasks) worked per year.

The City spends approximately 14,350 hours per year on operations and maintenance. This is approximately 2,731 hours short of the hours estimated to operate and maintain the sanitary sewer system. The first level priority tasks are being completed. Routine inspection and maintenance are falling behind. This increases the risk of problems with the system. The City must evaluate the risk and determine if additional staff is required to meet this workload.

As the City's capital projects have focused on capacity related improvements, this has required additional main repair and maintenance. As staff has focused on preventative maintenance, other activities have received less attention. This is an issue that needs to be evaluated in more detail beyond this LRWWMP.

**Table 7.1 Staffing Time for Maintenance Activities**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Preventative Maintenance | Frequency of Maintenance | Quantity | Time Required per Year | Time Spent per Year |
|---|---|---|---|---|
| Lift station inspection | Twice per weekly | 23 LS | 1,196 hours | 1,200 hours |
| Lift station cleaning and maintenance | monthly (cleaning), annually (maintenance) | 23 LS | 1,936 hours | 1,950 hours |
| Critical Manhole inspection, repair and maintenance | Weekly | 89 MH | 896 hours | 900 hours |
| Root cutting | Quarterly | 28,262 LF | 640 hours | 640 hours |
| Grease removal | Quarterly | 25,520 LF | 640 hours | 620 hours |
| Repair sewers and clear plugs | As Needed | As Needed | 416 hours | 440 hours |
| General Manhole inspection, repair and maintenance | Annually | 5,107 MH | 1,698 hours | 1,260 hours |
| Video inspection | Annually | 201,000 LF | 3,216 hours | 1,500 hours |
| Hydraulic line cleaning | Annually | 201,000 LF | 2,297 hours | 1,700 hours |
| Easement & access road maintenance | Annually | 24,000 LF | 800 hours | 650 hours |
| **Total for Maintenance Activities** | | | 13,735 hours | 10,860 hours |

Notes:
LS = lift station, LF = linear foot, MH = manhole

The size of the maintenance crew should be increased to carry the full workload of the Utility without neglecting preventive maintenance, emergency preparedness, record keeping, or safety precautions. Further staff increases should be tied to the actual growth of the sewer system. Over the last ten years the City has added approximately 13,000 feet of sewer per year to the system. An expansion of the system requiring new service connections and/or additional facilities, without enlargement of the staff, will result in diminished levels of service for all maintenance programs. In view of predicted population growth in the service area over the next several years and the growing demand for sanitary sewer service, an increase in the size of the sewer system could be projected to continue at a similar rate of growth. With that increase in demand, there may be a need for additional staff.

Maintenance and technical staff additions may be accompanied by additions to the clerical, secretarial, and other support staff needed to ensure that record keeping, billing, public relations, communications, and other general functions of support staff are performed with the accuracy and timeliness required.

**Table 7.2 Staffing Time for Operations Tasks**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Operations Tasks | Task Frequency | Time Required per Year | Approximate Time Spent per Year |
|---|---|---|---|
| Administrative duties | Daily | 1,560 hours | 1,565 hours |
| Emergency response operations | As needed | | 566 hours |
| Tool and equipment cleaning | Once per week | 364 hours | 312 hours |
| Staff meetings and Cleanup | Daily | 910 hours | 725 hours |
| Training and conferences | Annually | 512 hours | 322 hours |
| **Total for Operations** | | **3,346 hours** | **3,490 hours** |

### 7.3.2 Wastewater Utility Engineering Staff

The current engineering staff organization is described in Section 7.2 of this chapter. Currently the Wastewater Utility has 4.1 FTE's involved in engineering tasks. The engineering staff is responsible for two major tasks, administrative, and capital improvement projects.

The various tasks and the hours of work required are shown in Table 7.3. The number of hours required for each task is not easily defined; therefore, workloads have been estimated based on a FTE. Administrative tasks require approximately 2.4 FTE's.

Additional administrative tasks that are recommended in this LRWWMP are (1) prepare new ordinances and revise existing ordinances, (2) setup and administer grease trap management and certification ordinance, (3) inventory and update hydraulic computer model, and (4) perform computer analyses using the sewer system hydraulic model. These tasks will require additional City staff or other resource staffing alternatives.

Maintaining the system inventory data, data coordination with the hydraulic model and development of an asset management program with the maintenance management system for the Wastewater Utility is a key area that may not have current staffing resources available. The City should look at the need to convert the 0.5 FTE GIS specialist to a full FTE for this work.

| Table 7.3 Wastewater Utility Engineering Staff Time<br>Long-Range Wastewater Management Plan<br>City of Renton | |
|---|---|
| **Tasks/Projects** | **FTE** |
| *ENGINEERING TASKS* | |
| Section Supervision | 0.35 FTE's |
| Latecomer's Agreement Administration | 0.10 FTE's |
| Plan Review Support | 0.30 FTE's |
| Comprehensive Sewer Plan Update | 0.20 FTE's |
| Customer Service Support | 0.20 FTE's |
| Support to Other Divisions/Departments/Agencies | 0.25 FTE's |
| FOG / Industrial Waste Program | 1.00 FTE's |
| **Total Administrative Time** | **2.40 FTE's** |
| *MAJOR CAPITAL IMPROVEMENT PROJECTS* | 1.70 FTE'S |
| **TOTAL ENGINEERING TIME** | **4.10 FTE'S** |

## 7.4 DEPARTMENTAL COORDINATION

The Wastewater Utility utilizes the services of other City departments, according to inter-departmental agreements, to augment the Wastewater Utility's expertise. The Finance and Information Services Department is responsible for customer billing, payment collection, project cost reporting, fund activity reporting, and basic computer needs. The Human Resource and Risk Management Departments are responsible for employee records, union labor negotiations, salary schedules, and risk management evaluation.

Within the Public Works Department, the Wastewater Utility utilizes the services of the Technical Services Section. Technical Services provides support to Wastewater through Mapping and Property Services. This includes CAD mapping, development of the City's geographic information system, surveys, and property management.

Within the Department of Community and Economic Development, the Wastewater Utility utilizes the services of the Development Services Division. Development Services provides plan review, permit issuance, and inspection for developer extensions. They also provide inspection service for the Utility's Capital Improvement Projects.

## 7.5 RECORDS

Providing time for keeping and maintaining accurate records should be an integral consideration in determining the time to be allotted to any departmental task. Adequate records are an essential tool in utility management and operation, providing the supporting

data for operations assessment and long-term planning, while saving time and reducing difficulty when trouble arises. Currently, the City's management software is outdated and hard to utilize for today's environment with multiple tasks for each component. The City plans to purchase a maintenance management system to better track time for each system component.

The sewer utility has need for several types of records: Facility operation, personnel, customer contact, inventory, and facility maintenance and repair. These and other appropriate documents should be legible, concise, permanent, accurate and accessible. Their importance to the efficient functioning of the utility is critical.

Up-to-date maps of the sanitary sewer system are important for O&M. Changes or additions to the sanitary sewer system should be added as they occur. The City maintains an updated GIS map of the sanitary sewer system that is useful to the O&M staff. These utility maps, printed in 1"=400' books and 1"=800' wall maps, show the sanitary sewer size and location, manhole location and number, cleanout location and number, and lift station and force main locations. The City is also developing a geo database inventory of the sewer system that links the GIS maps with the as-built drawings.

As-built drawings of much of the existing sanitary sewer system and private side sewers are kept on file by the City. Some of the original maps are stored in the Utility Systems Division at City Hall and because of storage constraints, some are stored at the City's maintenance facility. This information is available in both hard copy and as scanned images available to be viewed on a computer. The O&M staff uses this data to provide location information for sanitary sewer lines and service connections. Plat maps or construction drawings for new sanitary sewer extensions within the distribution system should continue to be kept for the sanitary sewer system and added to both the CAD and database systems.

The Wastewater Utility is currently working to get its as-built data into a central database, such as ESRI, to allow for improved methods of accessing the data, updating the data, and use of the data.

### 7.5.1 Telemetry

Successful operation of any municipal sewer system requires that the municipality maintains a comprehensive maintenance program and that they obtain accurate sewage flow rate information. A telemetry and control system is the means by which flow rates are measured and maintenance needs are updated.

A radio-based telemetry system was completed in 1996 to replace the City's existing tone telemetry system. Each lift station is controlled by a digital based Remote Telemetry Units (RTU) to allow custom control to match the characteristics of each individual lift station. The telemetry system provides a method for logging and controlling the entire City's lift stations from a central location at the City's Maintenance shops. Operating data from each

lift station is stored on a Master (data-logging) Computer for record and later use. This information is used in a comprehensive maintenance program to help eliminate costly station down time that can often cause damage to adjacent property owners and the environment. The control algorithms located on the Master Computer and the RTUs can be used as trend analysis to detect possible problems earlier. The Master computer displays wet well sewage levels and time to overflow data for all of the City's 25 lift stations (two of the 25 stations are storm water stations). This information can be used to help manage the lift stations in a citywide power interruption that could occur after a natural catastrophe. The telemetry system can be monitored and controlled by a remote computer link using specialized software.

The pumps main control system is controlled from a level sensor in the wet well. A back-up float switch system has been installed at most of the lift stations to provide redundant protection from costly overflows in the event of control failure. Smaller stations, serving twelve or fewer single-family homes, may utilize floats as the main control system.

The master telemetry unit, located at the City Shop, includes an intelligent telephone dialer alarm system, so that critical alarms can be relayed to on-duty maintenance personnel, even during a telemetry system failure.

### 7.5.2 Asset management

Currently, the City does not own an asset management program. The City currently plans to purchase a new software system for maintenance management software (EAM). This system will be the first stage of the City's asset management system in coordination with the City's GIS database and hydraulic model.

## 7.6 CURRENT OPERATION AND MAINTENANCE PROGRAM

Duties involved with running the Wastewater Utility are divided into O&M programs. These programs are discussed in the following sections.

### 7.6.1 Maintenance

The maintenance program is composed of both preventative and corrective maintenance. Preventive maintenance uses planned and scheduled activities to ensure smooth, continuous operations of equipment and facilities. Maintenance schedules, that meet or exceed manufacturer's recommendations, should be established for all critical components in the sanitary sewer system. The City's new sewer telemetry system provides automated data collection and record keeping of lift station functions. Physical inspections of the stations are still an important tool in maintaining the system. The preventative maintenance programs include: lift station inspection and maintenance, manhole inspection and maintenance, video inspection, root cutting, grease removal, and hydraulic line cleaning. Corrective maintenance is that which improves the performance of existing equipment,

facilities and infrastructure. The corrective maintenance program is mainly composed of repairing sewers and clearing plugs. The following section describes the O&M program for each category outlined in Table 7.1.

#### 7.6.1.1 Lift Station Inspection and Maintenance

The City maintains 23 lift stations throughout the system. The City has assigned two staff members to the maintenance activities. The two members do not have any backup staff members.

The following describes the inspection and maintenance program for the sewage lift stations and wet well facilities:

**Sewage Lift Stations Inspection and Maintenance**

The City has on-call staff 24-hours per day. They also perform a daily inspection of the telemetry at each station.

Every week the City performs an inspection of each lift station. This weekly inspection includes a security check, recording pump motor hours, checking motor noise, temperature, and vibration.

The City changes all filters, cleans electrodes, exercises all valves, and runs each emergency generator on a monthly basis.

On an annual basis, the City checks the pump bearings and seals, tests the entire electrical system at each station, and performs an infrared test of the system.

**Wet Well Facilities**

On a weekly basis, the City checks the security, float settings, and operation of each wet well.

The City washes down each wet well, checks the interior condition, ladders, hatches, etc. in each.

The City performs a pump down of each wet well once a year. They take this time to clean the wet well.

The lift station crew uses a vehicle equipped with a crane to lift pumps, equipment, utility compartments for parts, tools, etc for the lift station maintenance program.

#### 7.6.1.2 Manhole Inspection and Maintenance

The City has identified 89 problem areas in the collection system. The City's personnel inspects the sanitary sewer manholes in those areas weekly for the following situations:

1. A visual guarantee of proper sewage conveyance.

a. Clean lines when flow in sewers is reduced.

2. Assessment of the state of solids buildup in manhole wet wells. The examination works in conjunction with the hydraulic line cleaning and video inspection programs (to be discussed later).

3. Verification of the condition of the manhole lid/cover and support rings for wear and stability. The City replaces worn rings and lids as needed.

4. Visual affirmation of condition of sewer channels and ladder rings.

The City inspects the remaining manholes in conjunction with the video inspection program. Maintenance staff perform the same inspections and maintenance on those manholes at that time.

The City uses a line service truck for inspection and repair of manholes and lines. It carries parts used in sewer line repair and repairs to manholes are made as needed.

#### 7.6.1.3 Video Inspection

Routine video inspection of the sanitary sewer system is an essential part of the maintenance responsibilities. Structural correction and obstructions are the primary cause of line failure in sanitary sewer pipes. Routine inspections of the lines are crucial to be aware of potential trouble spots. Sewage spill claims have proven to be a very costly type of litigation for municipalities to deal with and routing video inspection of the sewer system is the first line of defense.

The video inspection unit is a closed-circuit color TV system used for inspecting sanitary sewer and storm drain lines. Its primary use is to determine conditions of existing lines and any repairs or replacements necessary. The TV van is an important part of the maintenance program to help determine priority areas that require further attention and maintenance.

#### 7.6.1.4 Root Cutting

Routine sewer facility inspection commonly identifies root intrusion within both private and public sewer mains. If the problem is within the City right-of-way, the City will correct the problem and remove the root.

A hydraulic root cutter is used to routinely remove roots that accumulate within sewer lines creating flow restrictions and blockages. Numerous lines throughout the City have been examined and discovered to have had a history of problems created by roots. These particular lines are rodded more frequently to ensure there is no interruption of flow.

#### 7.6.1.5 Grease Removal

Grease problems are typically associated with major food processing operations, the majority of which involve restaurants where grease is a component of the wastewater.

Many of the older restaurants within the City do not have grease removal systems. Newer restaurants have been and will continue to be required to install grease removal systems. However, many grease removal systems are not properly maintained. Grease buildup problems occur most often in the side sewers. However, some grease buildup problems also occur in the sanitary sewer collection system. When problems do occur, the City maintenance crews are usually called out to investigate. A proper monitoring program reduces maintenance time involved in removing grease buildup.

The City has achieved moderate success in noting problems and identifying the sources. The Wastewater Utility has also worked with new construction and tenant improvements to ensure that these users are installing proper grease removal systems and/or bio-agent facilities. The City has recently started a grease removal program for standard food-services establishments and multifamily housing to improve grease collection at these facilities. This program needs continued effort to implement the program to new establishments.

#### 7.6.1.6 Hydraulic Line Cleaning

The sewer lines are cleaned with a vacuum-high velocity cleaning/jetting truck, which performs two primary functions: vacuuming and jetting. Jetting a sanitary sewer pipe is the principal means of cleaning the line portion of the sewer of sludge, debris, or obstruction. A hose with a special end fitting is inserted into a pipe and high-pressure water (up to 2,500 pound per square inch) is sent through the hose. The high-pressure water exits the small hole at the tip of the cone fitting, breaking down the sludge and obstructions. The hose is propelled down the length of the pipe via the numerous other holes found in the end fitting. The hose is inserted through a manhole into the pipe and the line is jetted to the next manhole. The hose is then retracted via a motor driven reel system, back to the entry manhole. All of the sludge/debris is scoured toward the entry manhole because the spraying water forces it in that direction and is vacuumed out as required.

There are a number of lines in the City that have inconsistent grades creating septic conditions within the lines. A part of the maintenance program is to use the Vac-Con to flush water through these particular lines periodically to prevent those conditions from occurring. The Vac-Con is the primary equipment used for emergency blockages in the lines and is used to assist TV inspection.

#### 7.6.1.7 Repair Sewers and Clear Plugs

When problems with the sewers are identified through the preventative maintenance program described above, repairs are made to the infrastructure or clogs are removed. The preventative maintenance program is efficient and typically represents only 1 percent of the maintenance manhour allotment. The City spends approximately 106 hours clearing plugs and 334 hours repairing sewer lines.

#### 7.6.1.8 Easements and Access Road Maintenance

In addition to public roads, the City operates, maintains, repairs and constructs sewer mains, and lines in, over, along and under roads and easements located within the sewer service area. As the utility performs work within the easements, minor roadwork and improvements are necessary. All work done within the easements shall be done in accordance to any permits and City and County standards.

### 7.6.2 Operations

The sewer utility has a comprehensive system operation manual describing system operational procedures. Although this manual is outdated, the City has maintained the policy of requiring complete O&M manuals for all new equipment and facilities. It is recommend that the O&M manual be updated on a routine basis. The following section describes the operations program outlined in Table 7.2.

#### 7.6.2.1 Administrative Duties

The key administrative duty of the City's operation staff is to establish routine operation duties and schedules. Routine operations involve the analysis, formulation, and implementation of procedures to ensure that the sanitary sewer facilities are functioning efficiently. The utility's maintenance procedures work well. Repairs are made promptly so customers do not experience unnecessary inconvenience.

Additionally, the operations staff establish emergency operations procedures for operation during such emergencies. The primary objectives of these procedures are to ensure public safety, restore essential services as quickly as possible, and to provide assistance to other areas as required. Emergency operations are described in the following section.

Side sewer maintenance is a major problem within a sanitary sewer system. It is the City's policy that individual property owners are responsible for maintaining their side sewers. If a problem occurs, it is the property owner's responsibility to contact a private plumber to investigate and correct the problem.

#### 7.6.2.2 Emergency Operations

Emergency operations are the unplanned and unscheduled tasks needed to keep the system in operation. This would include responding to sewer blockages, pipes broken by construction, and damage to the system by acts of nature. All of the maintenance staffs are also available to aid any of the other sections with additional manpower or equipment.

The Wastewater Maintenance staff also has the responsibility to keep the system operating when there are power or mechanical failures at lift stations. The City's telemetry system allows for 24-hour remote monitoring and access to the system by the crew. With this access, they can be alerted to a problem and correct it remotely, determine that it can wait

until the next shift, or mobilize the necessary manpower and equipment. The City follows all Department of Ecology guidelines for emergency notification procedures.

#### 7.6.2.3 Tools and Equipment Cleaning

Sewer maintenance staff is equipped primarily with City-owned equipment. The equipment available for daily use includes rolling stock, shop tools and incidental equipment as well as other portable equipment for field use. The vehicles and other rolling stock are listed in Table 7.4 with a description of their primary use in the department. A description of each vehicle and its uses is presented below.

**Tools & Equipment -- Rolling Stock**

Daily: Check all fluid levels and brakes

As Needed: Replace fluids and filters in accordance with manufacturer's recommendations (or more frequently depending on type of use)

**Tools & Equipment -- Tools**

As Needed: Clean after each use; lubricate and maintain as necessary.

The existing inventory appears adequate at current staffing levels, but should increase in proportion to customer increases. The City should examine the backup capabilities of the inventory, based on critical equipment or facility failure, and make provisions for additional material procurement on a short notice basis where necessary.

**Table 7.4 Wastewater Utility Department Equipment**
**Long-Range Wastewater Management Plan**
**City of Renton**

*ROLLING STOCK*

| Year | Vehicle Description | Comment |
|---|---|---|
| 1999 | Ford Ranger pickup | Used by the supervisor |
| 2004 | Ford Flat Bed Dump Service Truck | General use |
| 1997 | Ford Service Body Truck | General use |
| 2007 | Ford Service Body Truck | 2007 truck used for lift station maintenance program. |
| 2002 | Ford Step van | Used for closed video inspection program |
| 2004 | International Eductor Truck | Vactor Brand used for the hydraulic line cleaning program. |
| 1996 | Mechanical Rodder | Used for root cutting program |

| Table 7.4 Wastewater Utility Department Equipment<br>Long-Range Wastewater Management Plan<br>City of Renton | | |
|---|---|---|
| *OTHER EQUIPMENT* | | |
| **Amount** | **Equipment Description** | **Comment** |
| 3 | Portable generators | |
| 3 | Weed eaters | |
| 1 | Hedge trimmer | |
| 2 | Trash pumps | |
| 1 | Chain saw | |

#### 7.6.2.4 Staff Meetings, Conferences and Training

Efficient and economical functioning of a team requires adequate provision for regular, effective communication among its members. The normal channels of communication available to maintain effective coordination are:

1. Vehicular two-way radios
2. Cellular Telephones
3. Electronic Pagers
4. Regularly kept work logs
5. Regular inspection reports
6. Daily work assignment meetings
7. Inventory and other record keeping practices
8. Emergency phone numbers for "on-call" employees
9. Direct, City-owned telephone connection to City Hall
10. Weekly staff meetings

As the complexity of the system increases and as the service area expands, the need for trained efficient staff to keep pace with public demand and advances in technology will become imperative. New employees need orientation and basic information; while more experienced employees can improve by continued training.

Training opportunities are of such importance to effective operation of the system that Renton has linked them to its overall personnel evaluation program. Employees are evaluated and promoted through a set of job categories with pay commensurate to the category. It is essential that the promotional program continue to be closely linked with the training program, not only because it promotes efficient operation, but also because mandatory certification of wastewater utility workers is required by the state. The State

Department of Health stipulates qualifications and training requirements for obtaining and maintaining certification.

## 7.7 FUTURE OPERATION AND MAINTENANCE NEEDS

The City's is considering adding the following items to the improve the function of the current O&M program:

- Purchase software for maintenance management system. This will enable the City to better assess and manage their assets. This software will be the beginning of the City's asset management program.
- Research assessed management programs and develop recommendation for the City that incorporates the new maintenance management system, the City's GIS data base, and the hydraulic model.
- Update the City's existing Operation Manuals to account for regular and emergency operation practices.
- Further develop a Grease program to reduce the introduction of grease into the City's sewer system.
- Evaluate the addition of new staff to enable the City in completing their yearly operations and maintenance goals.
- Establish a succession plan and mentoring program.

# FINANCIAL ANALYSIS

## 8.1 INTRODUCTION

This chapter considers the financial impacts that the Capital Improvement Program (CIP) and Operation and Maintenance Program, recommended in Chapters 5 and 6 respectively, will have on the wastewater utility's budgeting process. The proposed wastewater utility CIP consists of the rehabilitation, replacement and new construction of sewer facilities that are necessary to meet the policy goals stated in Chapter 3, the design standards and criteria and the service needs that will result from anticipated growth presented in Chapter 4.

This chapter also presents a financial analysis of the wastewater utility that identifies its historical and projected future expenses and compares them to available and projected revenues in order to determine the necessary rate adjustments.

A utility rate model that evaluated the operation of the 406 and 426 funds and made specific rate recommendations was completed as part of the 2007 Utility Rate Study completed by FCS Group for the City's Wastewater, Water, and Surface Water Utilities. This model took the previous model developed by EES Consulting in 1994 and updated all assumptions and projections to reflect the current financial policies for the utility.

Current 2008 dollars are used to project the costs of operations, maintenance, and capital improvement programs. However, several factors may affect the accuracy of those projections. The most significant factor is inflation. Although we cannot predict the exact amount inflation will increase costs, inflation rates were assumed to range between 3 and 7 percent and are summarized in Table 8.1. Additionally the City cap on budget increases was assumed to be 2 percent and fund earnings were assumed to be 3.5 percent. Other factors that may affect future costs that we have not included in our cost estimate are contractor availability, technological advances, and changes in laws and policies.

**Table 8.1 Inflation Rate Summary**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Cost Class | Assumed Growth Rate |
|---|---|
| General Costs | 4% |
| Construction | 5% |
| Labor | 3% |
| Benefits | 7% |
| General Inflation + Growth | 5.56% |

## 8.2 PAST FINANCIAL PERFORMANCE

Table 8.2 compares the 2008 budget for wastewater operations to the 2006 actual spending and the 2007 budgeted expenses. As shown in Table 8.2, the City is expecting a 14.3 percent increase in revenue sources primarily due to a 12.6 percent increase in charges for goods and services. The City is also planning for a 14.3 percent increase in expenditures. The largest increase in expenditures is from regular salaries, benefits and debt services. Table 8.3 summarizes breaks down the 2007 budget into operating and CIP expenses.

## 8.3 CURRENT REVENUE

The primary revenue source for the City is through charges for goods and services. These charges are divided into three categories: rates, charges and fees.

### 8.3.1 Rates

Table 8.4 summarizes the City of Renton and King County wastewater rates for single-family and other uses. The City charges single-family connections a monthly fee of $15.55 for collection and transport while King County charges single-family connections a monthly fee of $28.51 (which includes a $0.56 rate adjustment charge collected by the City of Renton to make up for the billing methodology used by King County) for treatment and disposal. For other uses, including multi-family and commercial entities, the wastewater treatment charges are based on the volume of wastewater discharged with a minimum monthly charge equal to the single-family connection charge.

For sewer service outside of the City, Renton has set a special rate class for non-resident customers. This rate is one and one-half (1 1/2) times the basic City sewer rate applicable to resident users for similar service. Said additional charges are to cover costs of planning, franchising, permitting, and operation through other jurisdictions.

### 8.3.2 Charges

The City's policy is to pay for the expansion of the sewer system through future connection charges or system development charges (SDCs). The City's share of the total CIP charges for the years 2008 through 2012 were divided into development charges and major maintenance costs (as shown in Table 8.10). These development charges were added to the existing system development charges to establish the development charges for the future system. This cost was then evenly distributed amongst the equivalent residential unit (ERU) of the entire future system (in the year 2012) to establish the SDC as shown in Table 8.5. Using this method, the base SDC charge is $1,591. Table 8.6 shows the allocation of the SDC charges based on meter size.

In addition to the SDC assessed by the City of Renton, King County also assesses a capacity charge to King County residences connected to the system after February 1st 1990. This charge is billed directly to the residence by King County. Currently single-family

King County residences are charged $46.25 per month for 15 years. King County establishes the capacity charge annually and the revised capacity charges apply only to new connections.

**Table 8.2 Past Performance of the Wastewater Utility Operating Fund Long-Range Wastewater Management Plan City of Renton**

| Item | 2006 Actual | 2007 Budget | 2008 Budget | Change 7/08 |
|---|---|---|---|---|
| **REVENUE:** | | | | |
| Other Licenses and Permits | 41,374 | 40,000 | 58,000 | 45.0% |
| Charges for Goods and Services | 3,962,495 | 4,819,400 | 5,428,400 | 12.6% |
| Interest and Other Earnings | 114,349 | 43,426 | 40,000 | -7.9% |
| Other Miscellaneous Revenues | 6,778 | 24,700 | 8,200 | -66.8% |
| Proprietary Gains and Other Income | 34,128 | 30,000 | 35,000 | 16.7% |
| Other Financing Sources | 67,828 | 0 | 21,212 | 100.0% |
| TOTAL NEW REVENUE | 4,226,952 | 4,957,526 | 5,590,812 | 12.8% |
| TOTAL RESOURCES | 4,226,952 | 4,989,667 | 5,705,445 | 14.3% |
| **EXPENDITURES:** | | | | |
| Regular Salaries | 656,770 | 684,408 | 838,369 | 22.5% |
| Overtime | 32,706 | 31,495 | 31,495 | 0.0% |
| Personnel Benefits | 204,517 | 235,344 | 388,998 | 65.3% |
| Part Time Salaries & Benefits | 9,591 | 20,810 | 20,810 | 0.0% |
| Supplies/Small Tools and Equipment | 24,806 | 40,625 | 40,625 | 0.0% |
| Professional Services | 65,017 | 55,668 | 70,750 | 27.1% |
| Communication | 35,593 | 29,480 | 29,865 | 1.3% |
| Travel/Training | 4,885 | 8,050 | 14,478 | 79.9% |
| Operating Rentals | 9,400 | 15,000 | 10,000 | -33.3% |
| Insurance | 18,500 | 18,500 | 18,500 | 0.0% |
| Utilities | 36,625 | 50,125 | 52,525 | 4.8% |
| Repairs & Maintenance | 45,578 | 51,850 | 61,793 | 19.2% |
| Miscellaneous | 3,267 | 6,850 | 7,785 | 13.6% |
| Intergovernmental Services | 894,473 | 950,267 | 1,011,586 | 6.5% |
| Capital | 0 | 10,000 | 17,000 | 70.0% |
| Debt Service | 525,580 | 1,326,202 | 1,752,419 | 32.1% |
| Interfund Payments for Services | 680,812 | 699,993 | 656,447 | -6.2% |
| Transfer Out | 553,000 | 755,000 | 682,000 | -9.7% |
| TOTAL EXPENDITURES[(1)] | 3,801,120 | 4,989,667 | 5,705,445 | 14.3% |
| Fund Balance, January 1 | 2,045,852 | 2,471,684 | 2,439,543 | -1.3% |
| Total New Revenue | 4,226,952 | 4,957,526 | 5,590,812 | 12.8% |
| Total Committed Expenditures | (3,801,120) | (4,989,667) | (5,705,445) | 14.3% |
| Fund Balance Plus Reserves | 2,471,684 | 2,439,543 | 2,324,910 | -4.7% |
| Operating Reserves | 146,245 | 392,640 | 451,888 | 15.1% |
| Fund Balance, December 31 | 2,325,439 | 2,046,903 | 1,873,022 | -8.5% |

Notes:
(1) No increase to reserves.

| Table 8.3 2007 Budget<br>Long-Range Wastewater Management Plan<br>City of Renton | | |
|---|---|---|
| | **Wastewater Operations Fund** | **Wastewater CIP Fund** |
| **Operating revenues:** | | |
| Charges for services | 4,995,021 | 720,929 |
| Interfund revenues | 152,028 | - |
| Other services | (8,851) | 287,009 |
| Total Operating Revenues | 5,138,198 | 1,007,938 |
| **Operating expenses:** | | |
| Capital expenditures | - | - |
| Operations and maintenance | 1,127,801 | (31,200) |
| Benefit payments | 259,855 | - |
| Professional services | 21,648 | - |
| Administrative and general | 499,098 | - |
| Insurance | 18,500 | - |
| Taxes | 827,509 | - |
| Depreciation | 1,563,817 | - |
| Total operating expenses | 4,318,228 | (31,200) |
| Operating Income (loss) | 819,970 | 1,039,138 |
| **Nonoperating revenues (expenses):** | | |
| Intergovernmental revenues | - | - |
| Interest revenue | 147,657 | 38,161 |
| Gain (loss) on sale of capita | 2,511 | 1,189 |
| Other non-operating revenue | 14 | - |
| Capital contributions | 39,680 | - |
| Transfer in | - | - |
| Sale of capital assets | - | - |
| Benefit payments | - | (4,295) |
| Interest expense | (311,684) | - |
| Amortization of debt discount* | (90,594) | - |
| Transfers out | - | (2,118,444) |
| Total non operating revenue (expenses) | (212,417) | (2,083,390) |
| Income (loss) before contributions and transfers | 607,553 | (1,044,252) |
| **Intergovernmental revenues** | - | - |
| Capital contributions | 724,978 | - |
| Transfer in | (6,620,865) | 2,131,442 |
| Unallocated Revenue | - | - |
| Transfers out | (2,136,442) | - |
| Unallocated Expense | - | - |
| Change in net assets | (7,424,775) | 1,087,190 |
| Total net assets -- beginning | 61,440,642 | 384,551 |
| Total net assets -- ending | $ 54,015,867 | $ 1,471,741 |

**Table 8.4 2008 Water Utility Monthly Rates**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Category | Renton[(1)] | King County |
|---|---|---|
| Single-Family | $15.55 | $28.51[(2)] |
| Other Users | | |
| Base Charge | $2.35 | NA |
| Per 100 cf | $1.76 | NA |
| Per 750 cf | NA | $28.51[(2)] |
| Minimum Charge | $15.55 | $28.51[(2)] |

Notes:
(1) Rates for customers outside city limits are 1.5 times the above rates.
(2) The Renton Sewer Utility adds a "rate adjustment charge" of $0.56 per single-family and $0.56 per 750 cf per month to make up for billing methodology by King County in our contract.

**Table 8.5 SDC Charge**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Category | Charge |
|---|---|
| **Existing Cost Basis** | |
| Utility Capital Assets | $76,839,066 |
| less: Contributed Capital | (43,354,369) |
| plus: Interest on Non-Contributed Plant | 16,314,612 |
| less: Net Debt Principal Outstanding | (11,233,500)[(1)] |
| TOTAL EXISTING COST BASIS | **$38,565,809** |
| **Future Cost Basis** | |
| Total Future Projects | $19,745,000 |
| less: Identified Major Maintenance Projects | (10,997,500) |
| TOTAL FUTURE COST BASIS | **$ 8,747,500** |
| **Customer Base** | **ERUs** |
| Existing Equivalent Residential Units | 28,385 |
| Future Equivalent Residential Units (Incremental) | 1,358 |
| TOTAL CUSTOMER BASE | **29,743** |
| **Resulting Charge** | |
| Existing Cost Basis | $38,565,809 |
| Future Cost Basis | 8,747,500 |
| Total Cost Basis | $47,313,309 |
| Total Customer Base | 29,743 |
| TOTAL CHARGE PER ERU | **$ 1,591** |

Notes:
(1) Charge equals the principal outstanding debt ($14,996,134) subtracted from the existing cash balance ($3,762,634).

| Table 8.6 Proposed Charges<br>Long-Range Wastewater Management Plan<br>City of Renton | | | |
|---|---|---|---|
| **Meter Size, inch** | **Meter Capacity Ratio** | **Existing SDC(1)** | **Proposed SDC** |
| 5/8 x 3/4 | 1 | $ 1,017 | $ 1,591 |
| 1 | 2.5 | n/a | 3,977 |
| 1 1/2 | 5 | n/a | 7,954 |
| 2 | 8 | n/a | 12,726 |
| 3 | 16 | n/a | 25,452 |
| 4 | 25 | n/a | 39,768 |
| 6 | 50 | n/a | 79,537 |

Notes:

(1) Per dwelling unit for single family and multi-family residential customers and gross square footage for all other customers.

### 8.3.3 Fees

Fees are evaluated on a semi-annual basis. The fees summarized in Table 8.7 are relevant to the Renton Wastewater Utility and are subject to change.

| Table 8.7 Construction Permit Fees (RMC 4-1-180D)<br>Long-Range Wastewater Management Plan<br>City of Renton | |
|---|---|
| **Type of Service** | **Wastewater Permit Fee** |
| Residential | $150.00 each connection |
| Commercial | $175.00 each connection |
| Industrial | $200.00 each connection |
| Repair of any of the above | $50.00 each service |
| Cut and Cap/Demolition Permit | $120.00 each service |
| Ground Water Discharge (temporary connection to wastewater system for one-time discharge of contaminated ground water to 50,000 gallons) | $170.00 |
| Ground Water Discharge (temporary connection to wastewater system for discharge of contaminated ground water over 50,000 gallons) | $170.00 + Billed for current Renton and King County sewer rate on discharged amount (meter provided by property owner) |

#### 8.3.3.1 Public Works Plan Review and Inspection Fees

When installing sanitary sewer mains, all developers, municipal or quasi-municipal entities, or utility corporations or companies, except those specifically exempted, shall pay fees per

RMC 4-1-180E. Half of this fee must be paid upon application and the remainder when the permit(s) is issued. There are additional construction permit fees which are also payable upon issuance. The fee will be based upon percentages of the estimated cost of improvements using the following formula described in Table 8.8.

**Table 8.8 Review and Inspection Fees**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Estimated Construction Cost[(1)] | Fee Amount |
|---|---|
| $150,000.00 or less | 6% of cost |
| Over $150,000.00 but less than $300,000.00 | $9,000.00, plus 5% of cost over $150,000.00 |
| $300,000.00 and over | $16,500.00, plus 4% of cost $300,000.00 and over |

Notes:

(1) The applicant must submit separate, itemized cost estimates for each item of improvement subject to the approval by the Public Works Plan Review Section.

## 8.4 CAPITAL FINANCE PLAN

### 8.4.1 City

#### 8.4.1.1 Operation

The estimated costs to operate the wastewater utility include salary costs for the operation, maintenance, engineering and administration of services, taxes, office supplies, debt service, and consulting fees.

The number of staff, and the additional staff positions for Wastewater have been identified in Chapter 7. For purposes of this financial analysis, recommended staffing levels for operating the wastewater utility were predicted to be reached within this plan's six-year period in order to keep pace with anticipated growth. Inflation for labor is estimated to be 3 percent annually while the inflation rate for benefits is estimated at 7 percent as summarized in Table 8.1.

For purposes of the financial analysis, the estimated revenue requirements for the next six years (2008 through 2013) were based on the 2008 operating budget with additions for planned new services and inflation. Table 8.9 summarizes these estimated costs.

| Table 8.9 Estimated Future Operation Costs<br>Long-Range Wastewater Management Plan<br>City of Renton | |
|---|---|
| **Year** | **Estimated Operation Cost** |
| 2008 | $15,629,000 |
| 2009 | $18,522,000 |
| 2010 | $19,563,000 |
| 2011 | $20,845,000 |
| 2012 | $21,660,000 |
| 2013 | $22,379,000 |
| Total | $118,597,000 |

#### 8.4.1.2 Capital

The recommended CIP presented in this LRWWMP consists of improvements necessary to serve the projected service area's population 2028 at the lowest reasonable cost. The project costs listed here are intended for budgetary purposes only, because they are based on current construction costs and should be adjusted for actual inflation depending upon the actual construction date.

The costs for all of the improvements have been estimated, based on current information available. It should be reiterated that changes in system flow rates, system growth, financial policies, and regulatory requirements all contribute to adjustments in long-range planning. We recommend that financial goals be evaluated every five years, and that a detailed cash flow analysis be conducted annually. Table 8.6 presents the estimated costs of the capital improvement program as recommended in this Comprehensive Plan.

Table 8.10 summarizes the six-year CIP as presented in Chapter 6. The yearly rates for single-family residences presented in Table 8.11 were calculated by adding the yearly CIP costs to the anticipated yearly operations costs and dividing that by the anticipated yearly ERUs.

### 8.4.2 King County

The 2008 King County charges are summarized in Table 8.4. King County's 2008 charges are a flat monthly fee of $27.95 for each single-family residential connection. For other uses, King County charges $27.95 per month for each 750 cf with a minimum monthly charge of $27.95. King County's current monthly rate(s) may be found at http//www.kingcounty.gov/environment/wastewater/CapacityCharge.aspx.

**Table 8.10 Funding Sources For Proposed Improvements [1]**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Project Number | Proposed Capital Improvements | City Share (Rates) | City Share (Assess Dist) | Lid/ Developer | Totals |
|---|---|---|---|---|---|
| **System Wide** | | | | | |
| 1.01 | Misc. Sewer Projects and Emergency Repairs | $2,070,000 | | | $2,070,000 |
| 1.02 | Lift Station Telemetry Upgrades | $400,000 | | | $400,000 |
| 1.03 | Maintenance & Upgrade Sewer Hydraulic Model | $500,000 | | | $500,000 |
| 1.04 | Inflow & Infiltration Metering, Investigating, Rehab | $2,500,000 | | | $2,500,000 |
| 1.05 | Sewer Main Replacement/Rehabilitation | $31,048,000 | | | $31,048,000 |
| 1.06 | Long Range Wastewater Management Plan Upgrade | $168,000 | | | $168,000 |
| **West Cedar River Basin** | | | | | |
| 2.01 | Heather Downs/Maplewood Interceptor Improvement | $1,200,000 | | | $1,200,000 |
| 2.02 | Cottonwood Lift Station Rehabilitation | $300,000 | | | $300,000 |
| 2.03 | Falcon Ridge Lift Station Rehabilitation | $300,000 | | | $300,000 |
| **East Cedar River Basin** | | | | | |
| 3.01 | East Cedar River Collection Sewers | | | $49,500,000 | $49,500,000 |
| 3.02 | Central Plateau Interceptor | | $2,300,000 | | $2,300,000 |
| 3.03 | East Plateau Interceptor | | $1,700,000 | | $1,700,000 |
| 3.04 | East Renton Lift Station Elimination | $200,000 | | | $200,000 |
| 3.05 | Highlands Lift Station Elimination | $30,000 | | | $30,000 |
| 3.06 | Evendell Lift Station Elimination | $20,000 | | | $20,000 |
| **Lake Washington East Basin** | | | | | |
| 4.01 | Duval Interceptor | $600,000 | | | $600,000 |
| 4.02 | Westview Lift Station Replacement/Rehabilitation | $300,000 | | | $300,000 |
| 4.03 | Kennydale Lakefront Sewer System Improvements | $4,500,000 | | | $4,500,000 |
| 4.04 | Union Avenue NE Sewer Main Extension | | $500,000 | | $500,000 |
| 4.05 | Sierra Heights Sewer System Construction | | $2,000,000 | | $2,000,000 |
| 4.06 | North Renton Intercept Replacement/Rehabilitation | $800,000 | | | $800,000 |

**Table 8.10 Funding Sources For Proposed Improvements [1]**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Project Number | Proposed Capital Improvements | City Share (Rates) | City Share (Assess Dist) | Lid/ Developer | Totals |
|---|---|---|---|---|---|
| 4.07 | Lake Washington Blvd. Sewer (2900 Block) | $100,000 | | | $100,000 |
| 4.08 | Stonegate/Summerwind Flow Diversion | $3,000,000 | | | $3,000,000 |
| 4.09 | Lake Washington Beach Lift Station Rehabilitation | $200,000 | | | $200,000 |
| 4.11 | Lake Washington No 2 Lift Station Rehabilitation | $200,000 | | | $200,000 |
| 4.11 | Long Lift Station Rehabilitation/Replacement | $300,000 | | | $300,000 |
| **Black River Basin** | | | | | |
| 5.01 | Talbot Crest Lift Station Replacement | $200,000 | | | $200,000 |
| 5.02 | Thunder Hill Interceptor Replacement | $2,500,000 | | | $2,500,000 |
| 5.03 | Benson Road Interceptor | $1,300,000 | | | $1,300,000 |
| 5.04 | SW 34th Street Interceptor Replacement | $100,000 | | | $100,000 |
| 5.05 | Talbot Road Interceptor Capacity Analysis | $100,000 | | | $100,000 |
| 5.06 | Lind Avenue Lift Station Rehabilitation | $700,000 | | | $700,000 |
| **Downtown Basin** | | | | | |
| 6.01 | Earlington Lift Station Elimination | $300,000 | $350,000 | | $650,000 |
| 6.02 | Shattuck Ave S Interceptor Downsizing | $350,000 | | | $350,000 |
| 6.03 | North Earlington Collection System | | | $2,550,000 | $2,550,000 |
| 6.04 | Airport Lift Station Rehabilitation | $300,000 | | | $300,000 |
| 6.05 | Renton Center Sewer Extension | $200,000 | | | $200,000 |
| **May Valley Basin** | | | | | |
| 7.01 | Misty Cove/Baxter Lift Station Replacement | $130,000 | | | $130,000 |
| 7.02 | Denny's Lift Station Rehabilitation | $300,000 | | | $300,000 |
| | TOTAL ANNUAL COST | $55,256,000 | $6,850,000 | $52,050,000 | $114,156,000 |

Note:

(1) Project Cost Estimates Are In 2008 Dollars.

| Table 8.11 Six Year CIP Projections<br>Long-Range Wastewater Management Plan<br>City of Renton | | | | | |
|---|---|---|---|---|---|
| **Year** | **Development** | **Major Maintenance** | **Total** | **Rate Increase** | **Single Family Rates** |
| 2008 | 3,640,000 | 3,524,000 | 7,164,000 | 6.0% | $15.55 |
| 2009 | 1,270,000 | 1,355,000 | 2,625,000 | 5.5% | $16.41 |
| 2010 | 665,000 | 1,960,000 | 2,625,000 | 4.0% | $17.01 |
| 2011 | 695,000 | 1,930,000 | 2,625,000 | 4.0% | $17.74 |
| 2012 | 665,000 | 1,960,000 | 2,625,000 | 3.5% | $18.36 |
| 2013 | 365,000 | 2,260,000 | 2,625,000 | 1.0% | $18.55 |
| **Subtotal** | **$ 7,300,000** | **$ 12,989,000** | **$20,289,000** | | |
| > 2013 | 365,000 | 2,260,000 | 2,625,000 | 1.0%(1) | $18.74(1) |
| **Total** | **$ 7,665,000** | **$ 15,249,000** | **$22,914,000** | | |
| **Notes:**<br>(1) Rates listed for the year 2014. | | | | | |

The City adds a rate adjustment charge, currently $0.56 per single family and per 750 cubic feet for other users. This charge allows the City to collect the additional costs associated with the billing methodology contained within the contract between the City and King County for wastewater treatment services.

## 8.4.3 Revenue Sources

### 8.4.3.1 Bonds

Two types of bonds are available as sources of revenue: general obligation and revenue.

The City has the authority to levy a tax (subject to a vote of the people) that could be used to pay principal and interest costs of a general obligation bond issue. The City has not used this means of revenue generation for the wastewater utility and does not plan to unless a serious disaster occurs that requires massive improvements and/or replacements beyond the City's ability to fund it through other sources.

Revenue bonds are issued and sold by the City when large amounts of money are needed to build general purpose capital improvements that benefit the City as a whole. The City, like other municipalities, is capable of issuing tax-exempt bonds. The principal and interest payments for such bonds are repaid from general revenues, connection charges, assessments and interest earned on investments. In order to qualify to sell revenue bonds, the City must show that its net operating income (gross income less expenses) is equal to

or greater than 1.3 times the annual principal and interest due for all outstanding bonded indebtedness. The 1.3 factor is commonly referred to as the "coverage factor."

#### 8.4.3.2 Loans

The public works trust fund is the primary loan used to fund CIP projects. These are low-interest rate loans are available from the state for replacement of existing sewer system facilities. Interest rates vary from a low of 0.5 percent to a high of 2 percent depending upon the City's matching share. It is emphasized that these low interest rate loans are for replacements only and cannot be used for accommodating growth. These loans can be utilized effectively for replacements in the Central Business District (CBD) and other fully developed areas of the City's service area. This includes areas that are currently developed on private septic systems.

#### 8.4.3.3 Grants

Both the federal and state and centennial clean water fund are funding sources available to the City.

Federal and state loan and grant programs are available for wastewater capital improvement projects. These programs are primarily designed to fund improvements that upgrade wastewater treatment facilities in order to comply with Federal Clean Water Act (PL92-500). With budget cutbacks at both the federal and state level, the possibility of receiving government funding for a portion of the recommended improvements at this time is remote. Should additional funds be made available, the City should explore the feasibility of obtaining funds from these sources.

The Centennial Clean Water Fund is an example of state grant funding, which is currently available. This grant fund's highest priority is to eliminate public health emergencies and secondly, to improve water quality. The City should continue to pursue these funds for projects that meet its criterion.

#### 8.4.3.4 King County

King County funds are available for the construction of interceptors and local service extensions if the investment can be justified. Currently King County limits its investment to projects where the amortized capital cost of the project can be recovered through King County fees collected from the residential customer, or equivalent, that are served by the extension at the time of project completion.

#### 8.4.3.5 Local Improvement Districts

LID assessment income is paid to the City from assessments levied against specific properties that have benefited from improvements in a defined area. Typically, Local Improvements District's (LIDs) are formed by the City at the written request (by petition) of property owners within a specific area of the City. Upon receipt of a sufficient number of

signatures on petitions, a local improvement area is defined and improvements are designed for it. Each separate property in the LID is assessed in accordance with the special benefits the property receives from the sewer system improvements. Generally, it is the policy of the City to assess the benefited properties 100 percent of the cost of the improvements plus the general facilities and sewer connection charges.

LID projects may be divided into two categories.

1. Improvements of Local Interest: If necessary, specific problems, such as excessive septic tank failures, can be corrected through an LID. If not necessary, these projects can be postponed until a later date when the area needs or desires it.

2. Improvements of Regional Interest: These projects are beneficial to an area larger than an LID and are initiated by the City. While LID funding would help, the project is of such importance that a lack of LID should not delay it. If an LID cannot be formed, additional funding from other sources (including the City) may be necessary.

#### 8.4.3.6 Developers

City policy requires that all developers/property owners take financial responsibility for the necessary improvements before their development benefits from them. This responsibility may be satisfied in one of the following ways. In all cases, developer/property owners should be required to pay for the costs to the extent their property benefits from the facility installed (their fair share).

1. Utilities Installed: If the utilities necessary are already installed, the developer/property owner will reimburse the party (city or private) that installed the facility through a latecomer agreement or special assessment district, where such agreements exist.

2. Utilities Not Installed: If the utilities necessary are not installed, then the developer/property owner must extend or make improvements to the facilities following routes that comply with the City's Comprehensive Sewer Plan. If the plan is not definitive for that area, then the facilities will be extended and installed in a manner that best serves the City of Renton's citizens as determined by the Wastewater Utility Engineer.

If the facilities installed potentially benefit other properties, a latecomer's agreement may be requested. If the facility required by the City is determined by City Council to be significantly more expensive because of oversizing or routing requirements, then the Council may agree that the City participate.

If a City capital improvement project is being planned, designed, or constructed, developer/property owners could choose to participate financially in the City's project rather than make the improvements themselves.

#### 8.4.3.7 Others

This category of funding responsibility is primarily for participation by other municipalities, such as adjacent cities or districts. Negotiations need to be accomplished to finalize funding responsibilities before annual adjustments to the CIP and rate increases.

1. Contingency Revenue Plan: If the funding from other sources does not happen as anticipated, or on the schedule anticipated, then the City should adjust this plan's CIP. Alternative adjustments available to the City are as follows:
    a. Reduce the scope and magnitude of the improvements with corresponding reductions in cost,
    b. Defer that portion of the improvements necessary for the benefit of others until the funding is obtained,
    c. Proceed with the CIP as recommended in this plan and finance the other beneficiary's share with the provision that these other costs should be recovered including interest costs.

It is critical to the implementation of the CIP that these funds are obtained from other funding sources. The level of funding from other sources is based on the current perceived degree of benefit from each project; this may change based on the actual degree of benefit assessed at the time the project is planned to begin.

## 8.5 SUMMARY

Over the next six years, the City is anticipating spending approximately $22,370,000 on capital projects and $118,596,549 on operations and maintenance costs. Based on these costs, the City is anticipating that the single-family residential rate will increase from $15.55 per month to $18.55 by the year 2013, an increase of approximately 20 percent over six years.

# APPENDIX A

## Agreements

A. Cascade Sewer District Agreement (Resolution 1234)

B. Cascade Sewer District Agreement (CAG 039-74)

C. Soos Creek Water and Sewer District Boundary Agreement (CAG 083-91)

D. Soos Creek Water and Sewer District Boundary Agreement (CAG 97-164)

E. Skyway Water and Sewer District Boundary Agreement (CAG 03-197)

F. Apollo Elementary School Service Agreement (CAG 1636-70)

G. Water District No. 107 Joint Use Agreement (CAG 035-75)

H. Renton Franchise to Water District No. 107

I. Coal Creek Utility District Boundary Agreement (CAG 01-031)

J. City of Kent Agreement and Conveyance of Sewer Capacity (CAG 012-83)

K. King County Franchise 14056

L. Cedar River Water and Sewer District Boundary Agreement (CAG 99-014)

M. Skyway Water and Sewer District Conveyance Agreement (CAG 06-170)

N. Soos Creek Water and Sewer District Boundary Agreement (CAG 091-83 Add 1-04)

RESOLUTION NO. 1234

WHEREAS THE CASCADE SEWER DISTRICT, a municipal corporation, hereinafter referred to as "DISTRICT", has heretofore made application to the CITY OF RENTON, a city of the second class under the laws and statutes of the State of Washington, hereinafter referred to as "CITY", to use certain street right of ways for the construction, installation and maintenance of a certain interceptor sewer line which line extends from the DISTRICT'S present sewer system, through portions of the CITY OF RENTON and connects to the sewer system of the Municipality of Metropolitan Seattle, and

WHEREAS it is deemed advisable and of public benefit to provide for the connection and hookup of properties located within the CITY to said interceptor sewer to be constructed at the sole cost and expense of DISTRICT, and

WHEREAS DISTRICT, CITY and certain affected property owners whose properties lie within the CITY have heretofore agreed to enter into a certain Agreement, pursuant to which CITY would collect for and on behalf of DISTRICT, certain hookup charges from any and all property owners desiring to hookup to such interceptor line, without any liability whatever on the part of the CITY for such line except as to CITY'S obligation to remit funds unto the DISTRICT so collected from abutting owners desiring to tap onto such line, and said Agreement being reasonable and proper and in the public interest, NOW THEREFORE,

BE IT RESOLVED BY THE MAYOR AND THE CITY COUNCIL OF THE CITY OF RENTON AS FOLLOWS:

SECTION I: All the aforesaid recitals and findings are hereby determined to be true and correct in all respects.

SECTION II: The Mayor and the City Clerk are hereby authorized and directed to execute, on behalf of CITY, that certain Agreement between DISTRICT and CITY dated March 27, 1964, a copy thereof being attached hereto, labeled Exhibit "A" and by reference incorporated herein as if fully set forth. The Mayor and City Clerk are further authorized and directed to issue such permits for the construction and installation of said interceptor line within and under the CITY'S streets as specified in the aforesaid Agreement and as determined and approved b y the CITY'S Engineer. Such Agreement, upon execution by all the parties thereto, shall then be recorded in the Office of the King County Auditor at the expense of DISTRICT, and copies thereof furnished unto the owners of property located within the CITY and abutting upon said interceptor sewer line hereinabove referred to.

PASSED BY THE CITY COUNCIL this 2nd day of March, 1964.

Helmie Nelson

Helmie Nelson, City Clerk

APPROVED BY THE MAYOR this 2nd day of March, 1964.

Frank Aliment

Frank Aliment, Mayor

APPROVED AS TO FORM:

[illegible] M. Mellan, City Attorney

[illegible] acknowledged receipt
of a copy of this document.

Date .....

Signature Irene Gleason Clerk

AGREEMENT

AG-764-64

THIS AGREEMENT, made and entered into this 27th day of March, 1964, by and between CASCADE SEWER DISTRICT, a municipal corporation of the State of Washington, hereinafter called "DISTRICT", and the CITY OF RENTON, a municipal corporation of the State of Washington, hereinafter called "CITY",

W I T N E S S E T H:

THAT WHEREAS, the District and the City are situated contiguously in King County, State of Washington, and

WHEREAS, the District has prepared construction plans and called for contract bids for construction of an interceptor sewer line to extend from the present sewer system operated by the District, within its boundaries, and to run through certain portions of the City to collection trunk sewer lines constructed by the Municipality of Metropolitan Seattle, and

WHEREAS, certain areas hereinafter described situated within the boundaries of the City may also be served byuse of said interceptor line, thereby eliminating the necessity of the City constructing such trunk facilities, and

WHEREAS, the District is willing and able to construct and pay for the costs of said line and the City is willing and desirous to reimburse the District for an agreed upon portion of said construction costs, according to the terms and conditions hereinafter set forth.

NOW, THEREFORE, IT IS HEREBY MUTUALLY COVENANTED AND AGREED by and between the parties hereto, as follows:

1. That the entire construction cost of said interceptor line, according to the engineering plans therefor, heretofore prepared by the District and approved by the City, shall be paid by the District.

2. That said line shall be constructed through and across certain areas within the City of Renton, King County, Washington, described as follows:

> The following description located in King County, Washington, described the centerline route of the proposed Interceptor Sewer from its point of discharge into the Trunk Sewers of the Municipality of Metropolitan Seattle to the Southerly line of the Seattle Cedar River pipe line right-of-way, which is also the city limits of Renton:
>
> Beginning at the intersection of the North line of the NE 1/4 of Section 21, Township 23 North, Range 5 East W.M., and the Northwesterly margin of the City of Seattle's Mercer Island pipeline R/W, said intersection also being North 89°00'24" West 1112.45 feet from the Northeast corner of said Sec. 21; thence South 28°23'54" West along said Northwesterly margin 1,008.02 feet; thence South 61°36'06" East perpendicular to said Northwesterly margin 5.00 feet to the true point of beginning; also being existing Metro M.H. R-10-33;

(1) Thence South 28°23'54" West 913.00 feet;
(2) Thence South 87°04'09" West 84.50 feet;
(3) Thence North 32°01'11" West 133.00 feet;
(4) Thence North 80°15'03" West 1,213.76 feet;
(5) Thence South 14°13'42" West 321.90 feet;
(6) Thence South 36°27'57" West 428.92 feet;
(7) Thence South 40°52'44" West 195.69 feet;
(8) Thence South 72°39'42" West 282.20 feet;
(9) Thence South 48°08'23" West 397.00 feet;
(10) Thence South 14°26'59" West 54.08 feet;
(11) Thence South 41°51'37" East 742.00 feet;
(12) Thence South 47°41'00" East 762.73 feet;
(13) Thence South 11°26'54" West 603.91 feet;
(14) Thence South 11°03'08" West 104.00 feet.

The entire route of the interceptor sewer within the City of Renton, the centerline of which isdescribed above, is located on easements except the following, which are on Public Right of Way:

City of Renton streets;

The most Southwesterly 105.00 feet of Course (9);
All of Course (10);
The most Northwesterly 37.49 feet of Course (11).

The City shall grant to the District a permit for the construction, operation and maintenance of said line, subject to the terms and conditions of this Agreement.

3. That said line shall be used, operated and maintained by the District and by the City for service of their present and future customers for transferring sewage collected by the District and by the City within their respective territories for delivery to the Metro trunk line and no payment or service charge therefor shall be required by either of these parties one to the other for the privilege of such use, other than as hereinafter set forth herein for reimbursement of construction costs, maintenance and repairs.

4. That the City shall have the right to authorize connections to said line by property owners of property situated within the boundaries of the City of Renton, King County, Washington, described as follows:

That portion of Sec. 21, Township 23 North, Range 5 East W.M. lying South of the Cedar River and North of the South line of the Seattle Cedar River Pipeline R/W, except the East 1/2 of Southeast 1/4 and except the Southeast 1/4 of Northeast 1/4 of said Section 21;

Also, that portion of the Easterly 1/2 of Sec. 20, Township 23 North, Range 5 East W.M. from which the sanitary sewage is carried Easterly or Southeasterly in the future across 116th Ave. S.E. and into said Sec. 21 or into Sec. 28, Township 23 North, Range 5 East W.M.

under such terms and conditions as the City may establish for making such connections. The City shall also have the right to authorize connections to said line by property owners of property which may hereafter annex to the City, under the same terms and conditions as provided herein for properties now situated within the boundaries of the City.

5. No person, firm or corporation shall be granted a permit, or be authorized to tap into, hook onto, or use said sewer interceptor line, has hereinabove described, during a period of thirty (30) years from date hereof without first paying unto the City, in addition to any and all other costs and charges made or assessed for such hookup, tap, or use, an amount of not less than $.013 per square foot of area included in any such properties for which connections are allowed by the City. All amounts received by the City shall be paid out by it unto the District under the terms of this Agreement within sixty (60) days after receipt thereof. Furthermore, in case any tap, hookup, or connection is made into any such interceptor sewer, without such payment first having been made as hereinabove set forth, the City Council of the City of Renton may remove, or cause to be removed, such unauthorized tap, hookup, or connection, and all connecting tile or pipe located in the facility right-of-way, and dispose of unauthorized materials so removed, without any liability whatsoever to any party.

It is expressly understood that the aforesaid minimum charge per square foot, (based on the provisions of R.C.W. 35.92.025),shall not prevent the City from adding or imposing such other reasonable charge for collection and bookkeeping services, including taxes, if any, that may reasonably be incurred by the City, in providing for the collection service herein undertaken for and on behalf of the District; it being stipulated that the aforesaid per square foot rate is solely a method of measurement of the amounts due and owing to the District for properties allowed to connect and use said interceptor line facility.

6. That as between these parties, it is stipulated that the proportionate share of costs of said interceptor line, as located within the boundaries of the City, is approximately $60,000.00 and that it is the District's intent to be reimbursed by the abutting property owners for such costs. It is expressly agreed and covenanted byand between the parties that the City does in no way warrant payment of any such sum, or sums, during the life of this Agreement, and that the City's obligation hereunder shall be limited solely and exclusively to the collection of charges, asabove stated, from property owners who wish to hook up and connect to said interceptor sewer trunk line. No interest shall be charged the City upon such sum, or any other sum, by the District, and the City's agency for collection purposes on behalf of the District shall not impose in any way any liability or other costs upon the City, and the District hereby agrees to hold the City harmless from any liability relating to the costs of installation, or the District'sbonded indebtedness in connection therewith.

7. That maintenance costs, repairs and operation necessarily incurred for said interceptor line within the boundaries of the City shall be borne on a proportionate basis determined on the same ratio as the number of users served by the District bears to the number of users served by the City using said interceptor line. Damage to said interceptor line which may be caused by the negligence of either these parties, their agents or assigns, shall be repaired by the responsible party.

8. That ownership of said line shall remain in the District until the expiration of a period of thirty (30) years from date hereof or payment in full of the present bonded indebtedness of the District or subsequent bonded indebtedness incurred for the purpose of refinancing thereof shall have been paid in full, whichever event shall come first, or as otherwise provided by law. Thereafter, the City shall be under no further obligation to collect or remit any other or further sums to the District as reimbursement for construction costs and ownership of said line shall be jointly vested in the District and the City, with full and complete right of use thereof allowed to each party and with expenses of maintenance thereof continued upon the same proportionate basis as hereinabove set forth.

9. In the event said line shall become inadequate to serve the entire area lying within the District and the City, preference shall be given to the District and its users and the City shall, as additional lines become available, divert sewage collected within the District into parallel and additional trunk lines, which it is contemplated would then be available as lines necessarily constructed in development of said properties to such extent.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals this 27th day of March, 1964.

CASCADE SEWER DISTRICT

By: _____
Chairman

By: _____
Secretary

CITY OF RENTON

By: _____
Mayor

Attest:

_____
City Clerk

STATE OF WASHINGTON )
ss.
COUNTY OF KING )

On this 27th day of March, 1964, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared LOWELL V. LECKENBY and CHARLES W. BAYLESS, to me known to be the Chairman and Secretary, respectively, of CASCADE SEWER DISTRICT, a municipal corporation of the State of Washington, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute the said instrument and that the seal affixed isthe corporate seal of said corporation.

WITNESS my hand and official seal hereto affixed the day and year in this certificate above written.

Donald O. Custer
Notary Public in and for the State of Washington, residing at Renton

STATE OF WASHINGTON )
ss.
COUNTY OF KING )

On this 10th day of ~~March~~ April, 1964, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ~~FRANK ALIFENT~~ and HELMIE NELSON, to me known to be the Mayor and City Clerk, respectively, of THE CITY OF RENTON, a municipal corporation of the State of Washington, the corporation that executed the foregoing instrument and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute the said instrument and that the seal affixed is the corporate seal of said corporation.

WITNESS my hand and official seal hereto affixed the day and year in this certificate above written.

Donald O. Custer
Notary Public in and for the State of Washington, residing at Renton

RATIFICATION OF AGREEMENT

The undersigned, being the principal owners of properties hereinabove described, situated within the boundaries of the City of Renton, in consideration and recognition of the obligations incurred by the City of Renton under the terms and conditions of the foregoing Agreement, do hereby ratify and acknowledge the obligations thereof to the extent that said Agreement affects our real property hereinabove described.

We do hereby acknowledge upon behalf of ourselves, our heirs, executors and assigns that none of our said properties may be connected to the sewer trunk main being constructed by Cascade Sewer District until payment has been made to the City of Renton of such connection and hook-up fees as may be established by the City, which amount will include the $.013 obligation of the City to the District as hereinabove described.

DATED this 27th day of March, 1964.

VIKING INVESTMENT CORPORATION

By: _____
President

By: _____
Treasurer

_____
ARNE G. GOEDECKE, individually and as Attorney-in-Fact for Louise M. Goedecke, his wife

STATE OF WASHINGTON )
ss.
COUNTY OF KING )

On this 30th day of March, 1964, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared K. A. SANDWICK, JR. and ROBERT C. DETRICH, to me known to be the President and Treasurer, respectively, of VIKING INVESTMENT CORPORATION, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute the said instrument and that the seal affixed is the corporate seal of said corporation.

WITNESS my hand and official seal hereto affixed the day and year in this certificate above written.

Notary Public in and for the State of Washington, residing at Seattle

STATE OF WASHINGTON )
ss.
COUNTY OF KING )

On this 30th day of March, 1964, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ARNE G. GOEDECKE, Individually and as Attorney-in-Fact for Louise M. Goedecke, his wife, to me known to be the individual that executed the foregoing instrument and acknowledged the said instrument to be his free and voluntary act and deed, for the uses and purposes therein mentioned.

WITNESS my hand and official seal hereto affixed the day and year in this certificate above written.

Notary Public in and for the State of Washington, residing at Seattle

# AGREEMENT FOR PROVISION OF SEWER SERVICE

THIS IS AN AGREEMENT between the City of Renton and Cascade Sewer District regarding the provision of sewer service to the areas defined.

## I.

## DEFINITIONS AND TERMINOLOGY

(1.) "The City" is the City of Renton, a municipal corporation in King County, Washington.

(2.) "The District" is the Cascade Sewer District, also a municipal corporation in King County, Washington.

(3.) "Safecare-Careage" is the Safecare Company, Inc. and the Careage Corporation, otherwise known as Safecare-Careage Venture No. 7, one of the contracting parties to the Safecare-Careage Contract hereinafter defined.

(4.) "The Safecare-Careage Contract" is that contract between the City and Safecare-Careage dated the 11th day of August, 1970 pursuant to which the City authorized Safecare-Careage to construct a sewer main of approximately 1,670 lineal feet of eight inch (8") sewer pipe and six manholes in Springbrook Road extending approximately 570 feet south of the center line of South 180th Street on the east side of Springbrook Road and approximately 1,100 feet north of the center line of So. 180th Street on the west side of Springbrook Road and connecting to existing manhole R 18-25.

(5.) "The Springbrook Line" is the sewer line constructed pursuant to the Safecare-Careage Contract.

(6.) "Scott's Terrace" is the property, the plat of which is recorded as the plat of Scott's Terrace in Volume 72 of Plats, pages 39 and 40, of the records of King County.

(7.) "The Radovich Property' is the entire parcel of land bounded on the south and east by Carr Road, on the north by the

south line of Scott's Terrace, and on the west by the Talbot Road.

(8.) "The Talbot Road" and the "Springbrook Road" are in effect a single street, the northerly portion of which is commonly known as Talbot Road, and the southerly portion of which is commonly known as the Springbrook Road.

(9.) "So. 180th Street" is a street intersecting Talbott Road, and within the City of Renton said street is known as So. 43rd Street on the City's numbering system. As said street extends easterly from its intersection with the Talbot and Springbrook Roads, it is known as Carr Road.

(10.) "The existing crossing" is a short main extension of the Springbrook Line crossing the Talbor Road from manhole No. 2 to a spot near the boundary of Lots 1 and 2 of Scott's Terrace.

(11.) "The proposed crossing" is a main extension of the Talbot Road Line proposed to be constructed from manhole No. 1 to a spot near the boundary of Lots 4 and 5 of Scott's Terrace.

(12.) "U.L.I.D. 11" is a Utility Local Improvement District, numbered 11, being formed by Cascade Sewer District, and includes Lots 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 27 and 28 of Scott's Terrace, and that portion of the northerly 150 feet of the Radovich Property which lies east of the southerly prolongation of the westerly boundary of Lots 17 and 18 of Scott's Terrace.

(13.) "METRO" is the Municiplaity of Metropolitan Seattle,

(14.) "The METRO Line" is a sewer trunk built, owned and maintained by METRO, into which the Springbrook Line empties at approximately the intersection of Talbot Road and South 177th Street. The METRO Line continues generally easterly along South 177th Street, then continues generally southeasterly along 98th Avenue South, and then continues easterly.

## II.

## FACTUAL BACKGROUND

(1.) Under date of August 11th, 1970, the City and Safecare-Careage entered into the Safecare-Careage Contract which permitted Safecare-Careage to build the Springbrook Line hereinabove

defined.

(2.) Said contract provided for reimbursement to Safecare-Careage, subject to the laws and ordinances of the City of Renton, by the owner of real estate who did not contribute to the original cost of the improvement and who subsequently wished to tap into or hook onto or use the facilities.

(3.) Said contract also reserves to the City the right to make or cause to be made extensions of or additions to the above-mentioned improvement and to allow service connections to be made to said extensions or additions without liability on the part of the City.

(4.) The properties, the owners of which are to be charged for tapping into or hooking onto the Springbrook Line, and the amount and rate of said charges for said properties, have already been determined in accordance with Ordinance No. 2847 of the City of Renton. Of the properties involved in this Agreement, they are the properties, sewer service to which is to be provided by the City and not by the District under this Agreement.

(5.) The City is presently providing sewer service to Lots 1 and 2 of Scott's Terrace by means of the existing crossing.

(6.) No formal agreement for the provision of sewer service in the subject area has been entered into between the City and the District.

(7.) The City also proposes to provide sewer service to Lots 4 and 5 of Scott's Terrace by permitting the construction of the proposed crossing.

(8.) The City is prepared to furnish sewer service through the Springbrook Line to Lots 3, 6, 7 and 8 of Scott's Terrace.

(9.) Although all of Scott's Terrace and the Radovich Property are within the Cascade Sewer District and are outside the limits of the City, each party recognizes that sewer service to Lots 1, 2, 3, 4, 5, 6, 7, 8 and 16 of Scott's Terrace and to that portion

of the Radovich property which lies to the west of the southerly prolongation of the westerly boundary of Lots 17 and 18 of Scott's Terrace can be provided by the City through the Talbot Road Line sooner than such service could be provided by the District, and that sewer service to these properties by the City and the payment to the City of the charges necessary under the Safecare-Careage Contract as already determined pursuant to said Ordinance No. 2847 has and will provide the funds for reimbursement of Safecare-Careage under the contract.

(10.) The District proposes to serve the properties within U.L.I.D. 11 by utilizing the existing crossing and the proposed crossing as hereinabove defined.

(11.) Both the City and the District have identical agreements with METRO relating to the METRO Line, permitting both the City and the District to make sewer service available to properties along said line by allowing said properties to be hooked onto the METRO Line, making an appropriate charge to the owners of said properties and remitting the same to METRO as payment against the cost of the construction of said line.

(12.) Because of the possible duplication of charges, and the question of the proper agency to provide sewer service to various properties referred to above, the parties hereto do desire by this Agreement to formalize their mutual responsibilities and rights in the area.

## III.

## MUTUAL COVENANTS AND AGREEMENTS

In consideration of the covenants herein contained, and in consideration of the benefits to each of the parties to be derived from this Agreement and the performance thereof, and

because of the facts stated above, the parties hereto do agree and covenant as follows:

(1.) The City will make sewer service available for that portion of the Radovich Property lying west of the southerly prolongation of the westerly boundary of Lots 17 and 18 of Scott's Terrace and for Lots 1, 2, 3, 4, 5, 6, 7, 8 and 16 of Scott's Terrace, and the District will not attempt to provide sewer service for said areas.

(2.) The City will authorize an extension of or addition to the Springbrook Line by permitting the construction of the proposed crossing hereinabove defined. Said crossing must be in accordance with the standards and requirements of the City as to design and construction. The cost of the construction of said proposed crossing will be borne by the District or by private owners with whom the District may contract, or both, but the proposed crossing will be constructed at no cost to the City.

(3.) When the proposed crossing is completed, it will be transferred to the City and will be available for the use of the City to provide sewer service to those lots in Scott's Terrace for which the City is to make sewer service available under this Agreement.

(4.) Other than the properties described in Paragraph (1.) of Section III of this Agreement, the District will make sewer service available for all other properties within its boundaries in the area of U.L.I.D. 11.

(5.) The City agrees that the District may, without payment of any area connection charges, connection fees, latecomer fees, extended service fees, or any fee of any kind, but at the District's own cost of construction, connect its mains to the existing crossing to the proposed crossing when constructed, provided that the design and construction of the District's

facility so connected meet with the approval of the City.

(6.) Without any cost to the City, the District will place a manhole at the easterly end of the existing crossing and will connect the existing side-sewer to this manhole. The District will also cause a manhole to be constructed at the easterly end of the proposed crossing, and each of said manholes, when completed, will be transferred to the City to own as part of their main extensions consisting of the existing crossing and the proposed crossing. Said manholes will meet the design and construction requirements of the City.

(7.) Unless it has the prior consent of the City, the District will not attempt to make sewer service available to those properties lying immediately south of So. 180th Street and in the immediate vicinity of the Sringbrook Line which, without the construction of main extensions which would be exempt from any charges under Paragraph 5 of the Safecare-Careage Contract, can be served by that portion of the Springbrook Line as presently constructed.

(8.) Although portions of the lines hereinabove described will be jointly used by the City and the District, each of the parties hereto will maintain its own lines at its own cost.

(9.) If all of the properties which are to be served by the District under this Agreement are annexed to and become a part of the City, the District will, without charge to the City, transfer to the City the entire sewer system to be constructed by the District in U.L.I.D. 11 as described in this Agreement.

(10.) All facilities constructed by the District which are to be transferred to the City under this Agreement will be transferred by an appropriate Bill of Sale in standard form.

(11.) The District will hold the City harmless from any

claims made against the City and will protect the City from any liabilities in connection with any of the work to be done by the District.

(12.) Nothing in this Agreement as to which party shall provide sewer service to particular properties shall be construed as to require the provision of such service except in accordance with the Ordinances or Resolutions of the party, and upon payment to the party of all proper charges by the property owner.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized officers and to have their respective seals affixed hereunto.

DATED this 19th day of NOVEMBER, 1974.

CITY OF RENTON
A municipal corporation

By _____
Mayor

By _____
City Clerk

CASCADE SEWER DISTRICT

By _____
President

_____
Commissioner

By _____
Commissioner

By _____
Secretary

_____
Commissioner

# CITY OF RENTON & SOOS CREEK WATER AND SEWER DISTRICT

## AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SERVICE BOUNDARIES

THIS AGREEMENT, made and entered into this 6th day of August, 1991, by and between SOOS CREEK WATER AND SEWER DISTRICT, a Washington municipal corporation, hereinafter referred to as "THE DISTRICT", and the CITY OF RENTON, a Washington municipal corporation, hereinafter referred to as "RENTON", both being duly organized and existing under and by virtue of the laws of the State of Washington,

WITNESSETH:

WHEREAS, THE DISTRICT is qualified to provide water and sewer service within its prescribed area; and

WHEREAS, RENTON is qualified to provide public services, including water and sewer service, within its prescribed area; and

WHEREAS, THE DISTRICT has constructed, and has managed, operated, and maintained certain water and/or sewer facilities which exist in areas which have been annexed by RENTON, and which can most efficiently be managed, operated, and maintained by RENTON in conjunction with other facilities in the City; and

WHEREAS, bond covenants, resolutions, and other agreements of THE DISTRICT require that certain steps be taken, and certain financial arrangements made, as part of any transfer of facilities from THE DISTRICT to another party; and

WHEREAS, it is in the best interest of both parties to have RENTON administer the collection of General Facilities Charges on behalf of, and to be passed on to, THE DISTRICT for those areas herein described to be transferred to RENTON for management, operation, and maintenance; and

WHEREAS, it is in the public interest for the parties herein to enter into an agreement to provide for the efficient planning and development of new water and sewer services in areas which may be served by either, or both, of the parties herein; now therefore,

IT IS HEREBY AGREED by and between the parties hereto as follows:

1. Water service by THE DISTRICT within RENTON City Limits. THE DISTRICT shall provide water service to the properties within THE RENTON City Limits described in attached Exhibit "A", and as shown in attached Figure 1.

   Any new construction within the current RENTON City Limits by THE DISTRICT for water service shall be in compliance with RENTON requirements including; materials, techniques, fire flow, and all other standards. Existing watermains are excepted, provided that any upgrading or replacement shall be in compliance with said RENTON requirements.

   Future transfer of service areas shall be by mutual agreement to be determined at that time. Any new or replacement facilities after the date of this agreement shall be transferred to RENTON at no cost if constructed by developer, but RENTON shall reimburse THE DISTRICT for the value of any DISTRICT construction not yet fully depreciated, at an amount equal to the remaining amount to be depreciated.

2. Water Service by THE DISTRICT Within RENTON City Limits Without Annexation to THE DISTRICT. THE DISTRICT shall provide water service to the following areas within the City Limits which are not within DISTRICT boundaries, and by agreement will not require annexation (also shown in attached Figure 1):

   a) Spring Glen Elementary School.

   b) The West 340.00 feet of the East 670.00 feet of the South 305.00 feet of Section 20, Township 23 North, Range 5 East, W.M., less City and/or County Road.

   Any new construction within the RENTON City Limits by THE DISTRICT for water service shall be in compliance with RENTON requirements including: materials, techniques, fire flow, and all other standards. Future transfer of service area shall be by mutual agreement to be determined at the time any facilities change hands.

3. RENTON Provide Water Service Within DISTRICT Limits. The following areas have already been transferred to RENTON for service, or are herein released to RENTON for provision of water service by RENTON at no further charge for the transfer of such service area. THE DISTRICT releases all claim to water service within the areas described in Exhibit "B", and as shown in attached Figure 1.

4. Water Service Area Boundary Between RENTON and THE DISTRICT. The attached Exhibit "C" describes the line separating the RENTON water service area from THE DISTRICT water service area. RENTON shall provide ultimate service for the area North and West of the line described. THE DISTRICT shall provide ultimate service for the area South and East of the line described. This line is also shown in attached Figure 1.

5. PONDEROSA ESTATES: Sale of Sewer System to RENTON. The facilities listed below (and on As-Built page A-43 referenced) and the area as described in attached Exhibit "D", and as shown in attached Figures 2 and 3, are hereby transferred (sold) to RENTON by THE DISTRICT. THE DISTRICT agrees to allow the Ponderosa Estates sewer mains to remain connected to lines belonging to THE DISTRICT. THE DISTRICT further agrees not to charge RENTON for any maintenance of the lines so impacted, so long as RENTON agrees to, and continues to, notify THE DISTRICT whenever maintenance of the lines in Ponderosa Estates will be performed. Furthermore, that the RENTON maintenance crews take steps to minimize the amounts of solids or chemicals which would otherwise be released into the downstream lines as a result of such maintenance. This will allow THE DISTRICT to coordinate maintenance with the action of RENTON maintenance operations. The lines so included are as follows:

| Soos Creek (Cascade) As-Built Page No. | Manhole Run (Will Include Upstream Manhole) | Length (Feet) | Diameter (Inches) | Street |
|---|---|---|---|---|
| | PONDEROSA ESTATES | | | |
| A-43 | No. 104 to 207 | 400.0 | 8 Conc. | 116th Ave. S.E. |
| A-43 | No. 100 to 201 | 173.0 | 8 Conc. | 118th Ave. S.E. |
| A-43 | No. 201 to 202 | 96.0 | 8 Conc. | 118th Ave. S.E. |
| A-43 | No. 202 to 203 | 250.0 | 8 Conc. | 118th Ave. S.E. |
| A-43 | No. 203 to 204 | 210.0 | 8 Conc. | S.E. 156th St. |
| A-43 | No. 203 to 205 | 300.0 | 8 Conc. | 118th Ave. S.E. |
| A-43 | no. 205 to 206 | 308.0 | 8 Conc. | 118th Ave. S.E. |

a) Latecomers: None due.
b) General Facilities Charge: None due.
c) Portion of Monthly Service Charge to Cover Bond Indebtedness

As described in Soos Creek Water and Sewer District Resolution No. 0145C, based upon outstanding debt, the fraction of THE DISTRICT represented by the area of concern, and the portion of the indebtedness which is to be paid by the monthly service charges (and not by U.L.I.D. assessments). That amount is:

Ponderosa Estates = $17,488.10

Amount calculated as follows:

| | |
|---|---|
| Number of Connections in Ponderosa Estates: | 35 |
| Number of Connections in Sewer Area: | 18,619 |
| Debt Retirement in 1990: | $1,881,554 |
| Amount Retired by U.L.I.D. Assessments in 1990: | $771,900 |
| Amount Retired by Service Charge in 1990: | $1,109,654 (Difference) |
| Amount Retired per Connection in 1990: | $59.598 |
| Debt Retired in Full in 2003. Remaining Years: | 12 |
| Present Value to Cover Indebtedness (6%): | 35 Connections x $59.598 x 8.38384 = $17,488.10 |

RENTON agrees to compensate THE DISTRICT the amount of $17,488.10 as detailed above, for this portion, within 60 days after the date of this agreement.

6. SPRINGBROOK AREA: Sale of Sewer System to RENTON. The facilities involved are as listed below (and as shown in figure 4 and on As-built pages referenced, Figures 5-10) and the area is as described in attached Exhibit "E".

| Soos Creek (Cascade) As-Built No. | Manhole Run (Will Include Upstream Manhole) | Length (Feet) | Diameter (Inches) | Street |
|---|---|---|---|---|
| K-25 | No. 80-14 to 80-15 | 242.0 | 18 Conc. | SR 167 (Crossing) |
| K-35 | No. 80-15 to 34-0A | 140.3 | 12 PVC | S. 192nd St. |
| K-35 | No. 34-0A to 34-1 | 25.9 | 12 PVC | S. 192nd St. |
| K-35 | No. 34-1 to 34-2 | 353.7 | 12 PVC | S. 192nd St. |
| K-35 | No. 34-2 to 34-3 | 375.0 | 12 PVC | S. 192nd St. |
| K-35 | No. 34-3 to 34-3A | 105.5 | 12 PVC | S. 192nd St. |
| K-35 | No. 34-3A to 34-4 | 233.5 | 12 PVC | S. 192nd St. |

| Soos Creek (Cascade) As-Built No. | Manhole Run (Will Include Upstream Manhole) | Length (Feet) | Diameter (Inches) | Street |
|---|---|---|---|---|
| K-36 | No. 34-4 to 34-5 | 368.0 | 12 PVC | S. 192nd St. |
| K-36 | No. 34-5 to 34-6 | 147.0 | 12 PVC | S. 192nd St. |
| K-36 | No. 34-6 to 34-16 | 399.0 | 8 PVC | 96th Ave. S. |
| K-36 | No. 34-16 to 34-17 | 249.1 | 8 PVC | 96th Ave. S. |
| K-37 | No. 34-6 to 34-7 | 400.0 | 8 PVC | 96th Ave. S. |
| K-37 | No. 34-6 to 34-12 | 403.0 | 12 PVC | S. 192nd St. |
| K-37 | No. 34-12 to 34-13 | 377.2 | 12 PVC | S. 192nd St. |
| K-37 | No. 34-13 to 34-14 | 192.9 | 12 DIP | Easement |
| K-37 | No. 34-14 to 34-15 | 288.0 | 12 PVC | Easement |
| K-38 | No. 34-7 to 34-8 | 400.0 | 8 PVC | 97th Ave. S. |
| K-38 | No. 34-8 to 34-9 | 400.0 | 8 PVC | 97th Ave. S. |
| K-38 | No. 34-9 to 34-10 | 400.0 | 8 PVC | 97th Ave. S. |
| K-38 | No. 34-10 to 34-11 | 400.0 | 8 PVC | 97th Ave. S. |
| K-40 | No. 34-17 to 34-26 | 179.0 | 8 PVC | 96th Ave. S. |

a) Latecomers (From U.L.I.D. No. 34)
Property 062205-9002 440 L.F. @ $35.89 per Lineal Foot
Property 793100-0120 170 L.F. @ $35.89 per Lineal Foot + $275.00 for Stub
Property 062205-9002 latecomer ($15,791.60) to be collected by RENTON and paid through to THE DISTRICT at the time of connection.

Property 793100-0120 is now RENTON property. However, it is in the "watershed" and will never be developed, and is therefore not benefitted by the sewer. It is agreed that no payment need be made to Soos Creek at this time. If the property is ever developed, or a facility requiring sewers is placed on the property, then a latecomer amount of $6,376.30 shall be paid to THE DISTRICT by RENTON within 60 days after the date of connection to the sewer.

b) General Facilities Charge

The 1991 General Facilities Charge for this basin is $0.0531 per square foot, with a minimum of $531.00 per unit, or customer equivalent. Payable,at RENTON's discretion, to THE DISTRICT by RENTON, on the schedule as listed below. THE DISTRICT shall advise RENTON of current General Facilities Charges, and any changes to those charges as they occur. Area is described in attached Exhibit "E", and shown in attached Figure 4.

Tributary Area: 6,000,000 S.F. (Total area, less 25% for rights-of-way.)

Option No. 1 - General Facilities Charge of $199,200 if paid by June 1, 1991.

Option No. 2 - General Facilities Charge of $258,900 if paid between June 2 and December 31, 1991.

Option No. 3 - If payment has not been made by December 31, 1991, the current General Facility Charge must be paid at the time of connection.

If not paid according to Option No. 1 or Option No. 2 above, RENTON shall inform THE DISTRICT whenever an agreement is made for sewer service in this area by RENTON, and RENTON shall pay said charges to THE DISTRICT in accordance with Option No. 3, after the property owner has made such payment to RENTON, as described in Section 7. Total payment will be dependent upon when the charge is paid, the rate at the time of connection, and the number of units developed.

c) Portion of Monthly Service Charge to Cover Bond Indebtedness
Amount for Springbrook Area: $7,994.56
Amount calculated as follows:

Number of Connections in Area: 16 (of 18,619 in Total District)

Amount Retired by Service Charges in 1990: $1,109,654 ($59.598 per Connection)

Present Value of 12 Years of
Repayment: 16 Connections x $59.598 x 8.38384
= $7,994.56

RENTON agrees to compensate THE DISTRICT the amount of $7,994.56 as detailed above, for this portion effective the date of the agreement and due within 60 days.

7. Notification of THE DISTRICT of New Connections, and Payment of THE DISTRICT's General Facilities Charge. Notification shall be made by RENTON to THE DISTRICT at the time of connection of any property in the Springbrook Interceptor Service area. The notification shall be accompanied by a plot plan, or letter, indicating the square footage of the property, and including payment to THE DISTRICT of THE DISTRICT's General Facilities Charges, as described in Section 6b, and based upon the then current rate, as reported to RENTON by THE DISTRICT. The General Facilities Charge shall be based upon the area of the property connected, or the number of dwelling units (or single-family equivalents if not residential), whichever is larger; except that, unserviceable and unusable portions of the property are not included in the calculation of the General Facilities Charge, except for those portions which also benefit the development of the property, such as being included in the normal setback requirements, or landscape requirements. Included in this exempt category are: roads and similar rights-of-way, open space required, wetlands, unusable steep-slope areas, and the setbacks for these restrictive conditions.

8. Transfer of Easement and Right-of-Way Documents. THE DISTRICT shall officially transfer the right-of-way documents for the facilities herein sold to RENTON, and RENTON agrees to accept responsibility for all maintenance or other actions required by said documents. THE DISTRICT shall not have any liability for disputes arising over said rights-of-way or easements so transferred, except that any disputes arising due to the actions of THE DISTRICT prior to said transfer shall not be affected by this section.

9. Disclaimer From Third Party Liability. The DISTRICT shall disclose any and all known defects or problems of or in the facilities herein transferred to RENTON. THE DISTRICT shall not be liable for any claims by third parties arising from acts or damages by RENTON or its customers in using the facilities sold to RENTON pursuant to this Agreement.

10. Sewer Service Area Boundary Between RENTON and THE DISTRICT. With the above transfer (sale) of existing facilities and service area, and reasonable service area limits corresponding to this action, the line separating the RENTON service area from THE DISTRICT service area for sanitary sewers is described in attached Exhibit "F", and is shown in attached Figure 11. RENTON shall provide ultimate service for the area north and west of the line shown. THE DISTRICT shall provide ultimate service for the area south and east of the line shown.

11. Maintenance of Existing Facilities. THE DISTRICT and RENTON will each provide maintenance for its own facilities. If there are any serious problems due to a discharge which can be identified, and for which the source can be identified, the individual or company responsible will be held liable for damage. If a lack of maintenance, or if the type of maintenance by either RENTON or THE DISTRICT is identified as the source of said problem, then the party creating, or allowing, the situation shall be responsible and shall pay the costs of repair. In case of dispute over the source or responsibility of said problems, the Municipality of Metropolitan Seattle (Metro) shall serve as arbitrator in identifying and quantifying said problems provided that said arbitration and/or any reports generated by an investigation by Metro, shall be binding upon both parties in resolution of the dispute.

12. Allowable Capacities in the Lines being Transferred, and at Points Further Downstream. There are no restrictions on the capacity of the sewers from Ponderosa Estates as long as they are consistent with the current use of the properties. There are currently 35 single family residences, and the property is fully developed. If this condition ever changes, a further review of the capacity of the system shall be performed, and an additional agreement shall be developed between the parties.

Capacity for the system in the Springbrook drainage basin shall be as follows:

AT TIMES OF SIMULTANEOUS PEAK FLOW

| | SOOS CREEK (gpm) | CITY OF RENTON (gpm) | RESERVED FOR CITY OF KENT (gpm) |
|---|---|---|---|
| S. 192nd Street, at and below MH 34-3 | 1500 | 600 | 0 |

| | | | |
|---|---|---|---|
| S. 192nd Street, at and below MH 34-0A | 1800 | 1500 | 0 |
| S. 192nd Street, at and below MH 80-14 | 3900 | 1500 | 0 |
| West of MH 80-14 | 3900 | 1500 | 400 |

No connections, by either party, will be allowed between Manhole 34-0A and Manhole 80-15 except by mutual agreement.

Both parties agree that either may exceed this amount at the non-peak times, as long as there are no negative impacts, and the combined capacity of the system is not exceeded, and prior notification is given to the other party. It shall be the responsibility of each part to monitor its flow as and when necessary to determine what the flow rate characteristics of the system are. If the combined capacity of the system is exceeded, the party exceeding its allowable rate shall have the option of making revisions within its own system to bring its flows into compliance with this Section, or of paying for improvements to either system which will increase the available capacity of the systems. If both parties exceed their allowable rate, the cost of any new facilities will be divided based upon the ratio of the percentage by which each party is exceeding its allowable rate. If the allowable rate is exceeded at only one location, the ratio at that location will be used. If the rate is exceeded at more than one location, the ratio will be based upon the furthest east point at which the allowable rates are being exceeded. If a regular surcharge condition exists that is not due to a blockage problem, a previously agreed upon temporary situation such as re-routing for construction, or by either party exceeding its capacity, the DISTRICT shall have the option of making revision within its own system to bring its flows into compliance with this section, or of paying for improvements to either system which will resolve the surcharge condition. Both parties acknowledge and agree that the City of Kent is not a party to this agreement, and the amount referenced for the City of Kent is for reference only and could be the basis for a separate agreement in the future involving THE DISTRICT and the City of Kent, and involving RENTON if their rate allowance is at all to be affected.

13. Connection of THE DISTRICT to RENTON Facilities, or RENTON to THE DISTRICT Facilities. Connection of facilities of either RENTON or THE DISTRICT to facilities of the other, or to facilities tributary to facilities of the other, shall be coordinated by both parties to assure:

a) Payment of appropriate charges,
b) up-to-date accounting of connections,
c) potential sources of debris, or construction damage, are identified, and

d) inspection of connection construction can be scheduled.

RENTON and THE DISTRICT shall each be responsible for maintenance of their own facilities, except as described in Section 11 above. Should damage of the facilities of one be traceable to a source within the jurisdiction of the other, RENTON and THE DISTRICT agree to assist each other in whatever action is necessary to identify, prosecute, fine, collect from, or otherwise deal with the responsible party.

14. Future Annexations to RENTON. The service areas listed in sections 1-7 of this AGREEMENT are the only areas of cross-service agreed to at this time. RENTON shall serve all other areas within RENTON without challenge by THE DISTRICT, based upon the City limits at the date of the agreement. THE DISTRICT shall serve all areas within THE DISTRICT's limits at the time of this agreement, except as previously detailed. Future annexation to RENTON shall not limit THE DISTRICT providing water or sewer service to those areas within THE DISTRICT limits to the standards of THE DISTRICT, even if there is conflict with RENTON standards, unless this is altered by future agreements. Future agreements may occur between RENTON and THE DISTRICT transferring additional, or future, services areas and/or facilities by mutual agreement.

15. DISTRICT Comprehensive Water and Sewer Planning. THE DISTRICT will submit the current and all future Comprehensive Water and/or Sewerage Plans and amendments thereto involving area and/or improvements within RENTON City Limits. The Comprehensive Water and/or Sewerage Plans and amendments shall be in compliance with RENTON requirements for service within RENTON, except where existing facilities may differ from RENTON requirements. No replacement or augmenting of the system shall be required at this time. As new facilities are planned and constructed within RENTON, they shall comply with RENTON technical standards then in effect.

16. Extensions of Utilities Across Properties. RENTON and THE DISTRICT agree that they will require property owners who must extend facilities to serve their property to extend said facilities to the far side of the property to provide a connection point for the future (or existing) facilities of the next property.

17. Recording of Agreement with King County. THE DISTRICT is hereby authorized to record a copy of a resolution in which a copy of this Agreement is incorporated with the office of the Auditor of King County, Washington, for the purposes of giving notice to all present and future owners of the real property described in Exhibit "E" that their properties are subject to the connection charges specified herein.

18. Submittal of Agreement to the Boundary Review Board. THE DISTRICT is hereby authorized to prepare a submittal to the Washington State Boundary Review Board for King County. THE DISTRICT and RENTON agree to be coproponents of the submittal, and to provide any support requested or required by King County or the Boundary Review Board in the review and approval process. RENTON agrees to pay THE DISTRICT for one-half of all costs involved in the submittal, review and approval process, to a maximum of $3,000 (50 percent of $6,000 estimated total expenses).

19. Sanctity of Agreement. This agreement constitutes the entire agreement of the parties, and there are no representations or oral agreements other than those listed herein, which vary the terms of this agreement. Future agreements may occur between the parties to transfer additional, or future, service areas and/or facilities by mutual agreement.

20. Obligations Intact. Nothing herein shall be construed to alter the rights, responsibilities, liabilities, or obligations of either THE DISTRICT or RENTON regarding provisions of water or sewer services to the properties described herein, or other properties, except as specifically set forth herein.

DATED this 6th day of August, 1991.

Approved by Ordinance No. ____ of the City Council of the City of RENTON, Washington, at its regular meeting held on _____ day of _____, 19__.

CITY OF RENTON

By: _____

Title: Mayor

ATTEST: _____
City Clerk

0666-S

Approved by Resolution No. 1 of the Board of Commissioners of SOOS CREEK WATER AND SEWER DISTRICT of King County, Washington, adopted at its regular meeting held on 18th day of April, 1991.

SOOS CREEK WATER AND SEWER DISTRICT

By: _____
Patrick J. Brazil, President

Title: Board of Commissioners

(D)

# CITY OF RENTON and SOOS CREEK WATER AND SEWER DISTRICT INTERLOCAL AGREEMENT FOR THE ESTABLISHMENT OF SERVICE BOUNDARIES

**THIS AGREEMENT**, made and entered into this 10th day of October, 1997, by and between the **CITY OF RENTON**, a Washington municipal corporation, hereinafter referred to as "the City", and **SOOS CREEK WATER AND SEWER DISTRICT**, a Washington municipal corporation, hereinafter referred to as "the District", both being duly organized and existing under and by virtue of the laws of the State of Washington,

**WITNESSETH:**

WHEREAS, both the City and the District are public agencies authorized by law and qualified to engage in furnishing water service and sanitary sewer service within their prescribed areas; and

WHEREAS, it is in the public interest for the parties herein to amend the boundaries previously agreed to under the 1991 Interlocal Agreement to provide for the efficient planning and development of water and sewer services in areas which may be served by either, or both, of the parties herein.

**NOW, THEREFORE:**

**IT IS HEREBY AGREED** by and between the parties hereto as follows:

1. **Water Service Boundary.** The parties have agreed on a revision to the permanent water service area boundary between them. The revised boundary is legally described in Exhibit "A", which is attached hereto, and by this reference incorporated herein. The boundary is graphically depicted on the map attached hereto as Exhibit "B", which is by reference incorporated herein.

2. **Sewer Service Boundary.** The parties have agreed on a revision to the permanent sewer service area boundary between them. The revised boundary is legally described in Exhibit "C", which is attached hereto, and by this reference incorporated herein. The boundary is graphically depicted on the map attached hereto as Exhibit "D", which is by reference incorporated herein.

**3. Transfer of Service Area.** The City shall assume responsibility to provide service to the area(s) on the City's side of the respective service area boundaries as revised by this agreement, whether or not annexed to the City. The District shall assume responsibility to provide service to the area(s) on the District's side of the respective service area boundaries as revised by this agreement, whether or not annexed to the City. As part of this agreement, the sewer facilities installed under District ULID 11 shall be transferred to the City as described in the November 19, 1974 interlocal agreement notwithstanding that the properties served by these sewers have not been annexed to the City.

**4. Governmental Approvals.** The parties may give notice of the adoption of this Agreement to Metropolitan/King County, to the Department of Ecology, to the Department of Health, and to any other agency with jurisdiction or mission relevant to the terms hereof, and shall cooperate and assist in all reasonable manner in procuring any necessary approvals hereof by those agencies.

**5. Sanctity of Agreement.** This agreement constitutes the entire agreement of the parties regarding the subject matter hereof, and there are no other representations or oral agreements other than those listed herein, which vary the terms of this agreement. Future agreements may occur between the parties to transfer additional, or future service areas by mutual agreement.

**6. Obligations Intact.** Nothing herein shall be construed to alter the rights, responsibilities, liabilities, or obligations of either the City or the District pursuant to the AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SERVICE BOUNDARIES, previously executed by the parties, except as specifically set forth herein.

Approved by Resolution No. 3287 of the **City of Renton**, Washington, at its regular meeting held on the 6th day of October, 1997.

**CITY OF RENTON**

By: Jesse Tanner
Jesse Tanner

Title: mayor

Attest: Brenda Fritsvold
~~City Clerk~~ Brenda Fritsvold
Deputy City Clerk

Approved by Resolution No. 1611-C of **Soos Creek Water and Sewer District** of King County, Washington, at its regular meeting held on the 21st day of May, 1997.

**SOOS CREEK WATER AND SEWER DISTRICT**

By: _____
Steve Sandelius, President of Board

By: _____
Philip Sullivan, Secretary of Board

(E)

CITY OF RENTON AND
SKYWAY WATER AND SEWER DISTRICT

FOR THE ESTABLISHMENT OF WATER AND SANITARY SEWER SERVICE BOUNDARIES

THIS AGREEMENT is entered into this 31st day of December, 2003, by and between SKYWAY WATER AND SEWER DISTRICT, a Washington municipal corporation, hereinafter referred to as "SWSD", and the CITY OF RENTON, a Washington municipal corporation, hereinafter referred to as "RENTON".

WITNESSETH:

WHEREAS, SWSD is qualified to provide water and sanitary sewer service within its prescribed area; and

WHEREAS, RENTON is qualified to provide public services, including water and sanitary sewer service, within its prescribed areas; and

WHEREAS, the former Skyway Water and Sewer and Bryn Mawr-Lakeridge Water and Sewer Districts have officially merged, with the district subsequently retaining the name of Skyway Water and Sewer District; and

WHEREAS, the former Skyway Water and Sewer District had existing water and sewer boundary agreements with RENTON; and

WHEREAS, SWSD provides water and sanitary sewer service in an area adjacent to and within RENTON's corporate boundaries and it is in the public interest for the parties herein to enter into an agreement to provide for the efficient planning and development of new water and sanitary sewer services in areas which may be served by either, or both, of the parties; now, therefore,

IT IS HEREBY AGREED by and between the parties hereto as follows:

1. Water Service Area Boundary Between RENTON and SWSD. The attached legal description, Exhibit A, describes the line separating the RENTON water service area from SWSD water service area. The attached map, Exhibit B, depicts the line separating the RENTON water service area from SWSD water service area. RENTON shall provide water service for the area generally South and East of the line illustrated. SWSD shall provide water service for the area generally North and West of the line illustrated.

   Any new construction, upgrading, or replacements within the RENTON City Limits by SWSD for water service shall be in compliance with RENTON design and construction standards then in effect or SWSD design and construction standards, whichever are the higher design and construction standards including: materials, techniques, and fire flow.

2. City of Seattle Water Service Area: The City of Seattle (SEATTLE) currently provides direct water service to portions of the service area being discussed in this agreement. These areas are not contiguous to the remainder of SEATTLE's service area, but have been served by SEATTLE for some time. These areas, herinafter the "Transfer Area", are identified in the Skyway Coordinated Water System Plan, as to be transferred to the appropriate purveyors as feasible and / or required by new development or annexation.

   SEATTLE is not a party to this agreement and the agreement should have no direct effect on SEATTLE. This agreement does not directly discuss the transfer of the SEATTLE service areas. This agreement only identifies the boundaries of the local purveyors to whom the service areas would belong to when transferred.

3. Overlaps in Water Service Within Transfer Area: Any overlaps in water service in the Transfer Area will be addressed at the time of the actual transfer and will not be determined as part of this agreement. RENTON and SWSD mutually agree to notify the other and receive concurrence from the other prior to providing service to any additional customers within the Transfer Area. Properties within the transfer area are depicted on Exhibit B

4. Transfer of certain Seattle Public Utilities Water Mains Within and Along the Transfer Area to RENTON: SWSD agrees that RENTON and Seattle Public Utilities have the right and would not be violating the intent of this agreement to transfer the ownership of the following water mains from Seattle Public Utilities to RENTON:

   a) the twelve inch diameter water main which runs southeasterly along Martin Luther King Way from the intersection of 68th Avenue South and Martin Luther King Way to the intersection of Martin Luther King Way and South 135th Street then northerly within an easement to South 133rd Street then easterly along South 133rd Street to the intersection of South 133rd Street South 132nd Street, and South 134th Street where it is reduced to an eight inch diameter water main, and

   b) the eight inch diameter water main which runs easterly along South 132nd Street from the twelve inch by eight inch reducer at the intersection of South 133rd Street South 132nd Street, and South 134th Street to the intersection of South Langston Road and South 134th Street, and

   c) the water main that varies in diameter from eight inches to four inches to six inches which runs easterly along South 135th Street from the intersection of South 135th Street and Martin Luther King Way to the intersection of South 135th Street and 80th Avenue South then northerly along 80th Avenue South to the intersection of 80th Avenue South and South 134th Street.

5. Existing SWSD Water Service Connections in RENTON Service Area: SWSD currently provides water service to properties inside RENTON's water service area. RENTON consents to SWSD continuing to provide water service to these properties. The properties are listed in Exhibit E and depicted in Exhibit B.

6. Existing RENTON Water Service Connections in SWSD Service Area: RENTON currently provides water service to properties inside SWSD's water service area. SWSD consents to RENTON continuing to provide water service to these properties. The properties are listed in Exhibit F and depicted in Exhibit B.

7. Overlap Areas: It is understood that RENTON and SWSD will continue providing service within the service area boundaries of the adjacent water utility, as defined in Sections 5 and 6 of this agreement, and which shall be known as overlap areas. RENTON and SWSD agree that any retail water service line extending outside of the service area boundary, as set forth in Section 1, shall be phased out and service transferred to the adjacent utility by mutual agreement.

8. Sewer Service Area Boundary Between RENTON and SWSD. The attached legal description, Exhibit C, describes the line separating the RENTON sewer service area from SWSD sewer service area. The attached map, Exhibit D, depicts the line separating the RENTON sewer service area from SWSD sewer service area. RENTON shall provide sanitary sewer service for the area generally South and East of the line illustrated. SWSD shall provide sanitary sewer service for the area generally North and West of the line illustrated.

   Any new construction, upgrading, or replacements within the RENTON City Limits by SWSD for sewer service shall be in compliance with RENTON design and constructions standards then in effect, or SWSD design and construction standards, whichever are the higher design and construction standards including: materials and techniques.

9. RENTON's Service Area Boundaries Overlap SWSD's Corporate Boundary: There are areas where RENTON's service area boundaries and SWSD's corporate boundary overlap. RENTON and SWSD acknowledge that, with regard to providing service, it is the water and sanitary sewer service boundaries which govern, not the corporate boundaries.

10. Rescission of Prior Agreements: The former Skyway Water and Sewer District and RENTON entered into an agreement relating to water service area boundaries between the two jurisdictions dated February 2, 1998. That boundary has been incorporated into the SWSD boundary adopted by this document and the agreement is hereby rescinded.

    The former Skyway Water and Sewer District and RENTON entered into an agreement relating to sanitary sewer service area boundaries between the two jurisdictions dated June 9, 1994. That boundary has been incorporated into the

SWSD boundary adopted by this document and the agreement is hereby rescinded.

11. Maintenance of Existing Facilities: SWSD and RENTON will each maintain their own facilities, according to industry standards.

12. SWSD Comprehensive Water and Sewer Planning. SWSD will submit, to RENTON, all future Comprehensive Water and Sewerage Plans and amendments thereto involving area and/or improvements within RENTON City Limits. Said submission of the SWSD Plan(s) is to assure consistency with adopted city plans, policies, and land use controls, assist in the review of new development proposals and right-of-way construction permits, and to fulfill the responsibilities set forth in RCW 57 and King County Title 13. As new facilities are planned, constructed, maintained, and/or replaced within RENTON, they shall comply with RENTON design and construction standards then in effect, or SWSD design and construction standards, whichever are the higher design and construction standards.

13. Extension of Utilities Across Properties. RENTON and SWSD agree that they will require property owners who must extend facilities to service their property in a comprehensive fashion up to and including extending said facilities to the far side of the property, when appropriate, to provide a connection point for the future (or existing) facilities of the next property.

14. Franchise Agreement. Upon RENTON annexing property within the SWSD service area, RENTON shall grant SWSD, for the purposes of continuing use of rights-of-way, a temporary franchise for utility facilities within the annexed territory. This franchise shall have the same provisions as stated in the franchise between King County and SWSD and have a term not to exceed 3 (three) years.

    RENTON and SWSD will immediately begin negotiations for a new franchise for the purposes of rights-of-way use for SWSD service area within RENTON. The new franchise shall be negotiated within three years.

    Upon any subsequent annexations by RENTON within the SWSD service area, RENTON shall amend the franchise to include the annexed area, in order to maintain one franchise agreement. The franchise shall maintain the remaining balance of the term of the franchise. The franchise should include any updated provisions as approved by RENTON and agreed to by SWSD.

    Any franchise agreement issued hereunder shall be consistent with the respective comprehensive plans of the parties and State law.

15. Governmental Approvals. The parties will give notice of the adoption of this Agreement to Metropolitan King County, to the Department of Ecology, to the Department of Health, and to any other agency with jurisdiction, and shall

cooperate and assist in any reasonable manner in procuring any necessary approvals hereof by those agencies.

16. Miscellaneous. This Agreement constitutes the entire agreement of the parties, concerning the subject matter herein, and there are no representations or oral agreements other than those listed herein, which vary the terms of this Agreement. Future agreements may occur between the parties to identify, agree upon, or transfer service areas and/or facilities. This Agreement shall have a term of 25 (twenty-five) years.

17. Obligations Intact. Nothing herein shall be construed to alter the rights, responsibilities, liabilities, or obligations of either SWSD or RENTON regarding provisions of water or sewer services to the properties described herein, or other properties, except as specifically set forth herein.

DATED this 31st day of December, 2003.

Authorized by Resolution No. 3675 of the City Council of the City of Renton, Washington, at its regular meeting held on 8th day of December, 2003.

CITY OF RENTON

Jesse Tanner 12-31-2003

Jesse Tanner, Mayor Date

ATTEST:

Bonnie I. Walton 12-31-2003

Bonnie I. Walton, City Clerk Date

APPROVED AS TO LEGAL FORM:

Lawrence J. Warren

Lawrence J. Warren, City Attorney

Approved by Resolution No. 03-07-396 of the Board of Commissioners of SKYWAY WATER AND SEWER DISTRICT of King County, Washington, adopted at its regular meeting held on 29th day of December, 2003.

SKYWAY WATER AND SEWER DISTRICT

By: Cheryl Scheuerman

Title: General Manager

(F)

H.C.A.G 1536-70
1636

# A G R E E M E N T

THIS AGREEMENT made and entered into this 11th day of ~~January~~ March, 1970 by and between the City of Renton, hereinafter referred to as "City", Issaquah School District #411, hereinafter referred to as "School District" and King County Water District #90, hereinafter referred to as "Water District";

W I T N E S S E T H:

WHEREAS School District is contemplating the construction of a certain elementary school located within the present boundaries of Water District and

WHEREAS both such Districts have petitioned the City of Renton to provide for the installation, construction and hookup to the city's existing sewer system as herein below set forth and

WHEREAS all of the parties are agreeable to accomplish the foregoing subject to the terms and conditions herein below set forth,

NOW THEREFORE, IT IS HEREBY AGREED AND COVENANTED BY AND BETWEEN THE AFORESAID PARTIES AS FOLLOWS:

1. The Water District is hereby given permission by City to build, construct and install a certain 8 inch sewer line over, unto and across the following described property, a distance of app. 200 feet to-wit:

On S.E. 116th Street, from approximately 195 feet East of 140th Ave. S.E. to existing manhole located 5 feet, more or less, West of 140th Ave. S.E.

and to hook up said line to the City's existing sewer installation located as follows:

Existing MH on S.E. 116th Street approximately 5' west of 140th Avenue S.E.

2. It is expressly understood and agreed that said sewer installation, service and maintenance thereof shall be limited to and for the purpose of servicing the proposed elementary school to be built by School District in the vicinity of Southeast 116th Street and 148th Avenue Southeast, and for no other purpose.

3. All of such work, whether for labor, material, securement of easements and other right of way, shall be at the sole cost and expense of the parties other than City and City shall be held harmless from any liability or cost in connection therewith whatsoever.

4. All expenses and costs for the maintenance, replacement and servicing of said sewer line, when so installed and connected, shall be at the sole cost of Water District.

5. Water District further agrees to pay unto the City the regular sewer charges as provided for by the City's ordinance for quasi-municipal corporations and located outside the City limits, together with any and all charges imposed or assessed by the Municipality of Metropolitan Seattle, known as "Metro."

6. In further consideration of City entering into this Agreement, School District agrees, at its cost and expense, to enlarge that certain wet well for the existing city lift station located at Sunset Boulevard East and Union Avenue N. E. in order to adequately accommodate the additional sewage volume anticipated from said School District's elementary school.

7. School District shall deed unto the City by Bill of Sale and/or Quit Claim Deed that certain section of gravity system to be constructed at the westerly end of the proposed extention, and all as more particularly shown on the attached exhibit, labeled "Exhibit A", which is incorporated herein and made a part hereof which said Exhibit shall also govern the location and construction of subject sewer line. Such transfer and conveyance shall be made without cost unto City.

8. All of the plans, specifications, and terms of such construction project shall be submitted unto City and "Metro" for their prior written approval and no work shall be undertaken until such approval has been secured.

9. Water District, provided it is responsible for the installation of said sewer line, shall retain ownership thereof; but in the event the area containing said sewer extension, or any portion thereof, is hereafter annexed unto the City of Renton as provided by law, then Water District shall promptly and timely convey such sewer line unto the City of Renton, without cost or expense to City, and Water District shall thereupon promptly execute and deliver unto the City its Bill of sale therefor.

10. This Agreement shall be in effect for a term of 10 years or until such time as Water District has developed and constructed its own trunk sewer system to service the property of School District at which time the City will discontinue its service to the School District and Water District shall promptly pay all charges and expenses up to the effective date of such termination. Water District shall give at least ninety (90) days prior written notice unto City prior to the effective date of its service unto the School District. In the event, however, that Water District has not constructed and put into use its own trunk sewer line upon the expiration of this initial term, then both districts shall have the right to renew such term for a further period of 10 years upon such terms and conditions as the parties hereto may agree on.

11. All construction shall be performed in compliance with all applicable building codes and upon approval, in addition to the City as hereinabove stated, of all governmental agencies having or claiming jurisdiction thereover.

12. School District and Water District, severally and jointly, hereby agree and covenant to hold the City harmless from any liability, cost or expense in connection with the aforespecified sanitary sewer project, its construction, maintenance and replacement, whether to person or persons or damage to property or both. In the event City is joined as a party defendant in any litigation or claim arising out of or in connection with the aforesaid sanitary sewer project, then both Districts agree to promptly and timely defend such matter or such claim on behalf of the City of Renton without cost or expense to the latter.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the day and year in this instrument first above written.

CITY OF RENTON

Mayor

City Clerk

KING COUNTY WATER DISTRICT #90

ISSAQUAH SCHOOL DISTRICT #411

STATE OF WASHINGTON )
COUNTY OF KING ) ss

On this 4th day of March, 1970, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn personally appeared and to me known to be the Mayor and City Clerk, respectively, of the City of Renton, a municipal corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they were authorized to execute the said instrument and that the seal affixed is the corporate seal of said corporation.

WITNESS my hand and official seal hereto affixed the day and year in this certificate above written.

Notary Public in and for the State of Washington, residing at Renton

CAG 035-75

# AGREEMENT

THIS AGREEMENT, made and entered into this 19th day of June, 1975 by and between the CITY OF RENTON, a municipal corporation operating as a non-charter code city, hereinafter referred to as "City" and KING COUNTY WATER DISTRICT NO. 107, a municipal corporation, hereinafter referred to as "District",

WITNESSETH:

WHEREAS, City and District are situated contiguously in King County, State of Washington; and

WHEREAS, City is presently preparing construction plans and call for bids in connection with Local Improvement District No. 284 including the construction of an interceptor sewer line extending from the present sewer collection trunk line operated by the Municipality of Metropolitan Seattle, which line, when extended, will run within the boundaries of District; and

WHEREAS, District likewise intends to utilize said interceptor sewer line within its boundaries and in order to avoid duplication of such trunk facilities; and,

WHEREAS, District is willing to pay for the total cost of said line and to promptly reimburse the City for all of such costs and expenses incurred for said sewer line located outside the present boundaries of Local Improvement District No. 284, further reference being hereby had thereto.

NOW, THEREFORE, IT IS HEREBY MUTUALLY AGREED AND COVENANTED by and between the parties as follows:

1. The parties enter into this Agreement under the authority of RCW 39.34.080.

2. Said Sewer line and appurtenances thereto shall be constructed through and across certain areas within the City of Renton and Water District No. 107, King County, Washington, as follows:

SEE EXHIBIT "A"

3. District hereby gives and grants unto the City full authority for the construction and installation of said line within the boundaries of District; it being understood and agreed that City's contractor, after award of bid to the lowest responsible bidder, will perform all of such work within the boundaries of said Local Improvement District and within District's territory as more particularly shown on the attached exhibit which is incorporated herein as if fully set forth.

4. The District will pay for all such construction work within the boundaries of the District, plus the difference between the cost of an 8-inch

line and whatever size line is constructed on City property, it being agreed that the larger line is for District's benefit. The cost of such oversizing will be determined by the difference between responsible low bids for constructing an 8-inch and the larger size line within City's Local Improvement District.

City will bill District the costs for which District is responsible herein. District will pay said billings to the Director of Finance, City Hall, City of Renton, Washington on or before the end of the month during which District has had possession of any such billing by the second Monday thereof (it being understood that vouchers for payment of monthly District liabilities are considered for approval by District's Board of Commissioners at their regular meetings on the second Wednesday of each month.)

No such billings shall be payable by District unless accompanied by a certificate from City's Engineer that the construction work represented thereby has been acceptably completed by the Contractor.

5. Upon completion of said sewer line installation and acceptance thereof by the parties, said line shall be used, operated and maintained by the District and the City, respectively, for service of their present and future customers so as to transfer all sewage collected by the City and District within their respective territories for delivery to the Metro trunk line and each party shall pay its respective share therefor; no payment or service charge shall be required by either of these parties against the other for the right and privilege of such use after payment of construction costs as herein provided.

6. City shall have the right to authorize connections to said line or any line tributary to said line by property owners situated within the boundaries of the City of Renton, King County, Washington, as they now or may hereafter exist, and upon such terms and conditions as the City may establish for making such connections as per City's resolutions and ordinances. City shall have the right to authorize connections to said line or any line tributary thereto by property owners that may hereafter annex to the City and upon such terms and conditions as provided for by the policies, rules and regulations of the City.

7. District likewise shall have the right to authorize connections to said line by property owners located within the boundaries of said District and upon such terms and conditions as the District may establish from time-to-time for making such connections.

8. Once said sewer line has been installed and accepted from the contractor, all costs of maintenance, repair and operation incurred for said interceptor line shall be borne solely by the City as to that section of the line located within the boundaries of the City; all of such maintenance, repair and operation expenses as to the line located outside the boundaries of the City shall be borne solely by District. Each of the parties shall be responsible for and promptly repair and remedy any damages or defects occurring to, on or about said line within its respective territorial jurisdiction.

9. Title and ownership of said line, upon completion and acceptance thereof,

shall be in the City as to that portion thereof within City's Local Improvement District, and in District as to the remainder.

10. The capacity of said line is agreed to be 2.15 million gallons per day (mgd). District's utilization of said line is limited to 1.65 mgd. and City's to .50 mgd., but each party hereto warrants and guarantees the other's right to utilize said line for the gallonage per day to which each party is herein limited. Whichever of the parties causes said line to exceed its total gallonage per day shall be financially responsible for implementing delivery of its excess sewage to the Metro trunk line by mutually agreeable arrangements.

City assumes the responsibility for measuring total daily gallonage in the line and to promptly notify District when said line exceeds its capacity.

11. It is further anticipated that the total cost of said construction to be borne by District, as herein above set forth, is approximately $120,000.00 less any monies made available from Federal and State grants; City agrees to advise District of any substantial change in said estimate. District further warrants that proper funds have been budgeted by District for payment of the aforementioned improvements within its boundaries and that District has lawful right to make such payments unto City as hereinabove set forth.

A portion of all governmental grant funds received by City in connection with construction of said line shall be credited by City to the District's obligations hereunder in the ratio which District's share of the cost of the line bears to the total cost of the project. District will be promptly notified of the receipt of said funds and of the amount thereof to be credited to District. Such credits will be promptly applied by City against District's liabilities hereunder until exhausted. If application of such credit results in an overpayment by District, City will promptly reimburse District accordingly.

12. Each of the parties hereby agrees, in order to effectuate the terms of this Agreement, to execute and deliver unto the other, whenever reasonably necessary, appropriate permits, easements and like documents, and to co-operate with the other to assist in compliance with the Washington Inter-Local Co-operation Act (RCW 39.34 et seq) and/or any other laws applicable to the parties or the subject matter.

13. The duration of this Agreement shall be perpetual until

mutually rescinded or amended by the parties or by a Court of competent jurisdiction.

IN WITNESS WHEREOF, the parties have hereto set their hands and seals this 19th day of June, 1975.

KING COUNTY WATER DISTRICT NO. 107

By _____
Chairman

By _____
Secretary/PRO TEM

CITY OF RENTON, WASHINGTON

By _____
MAYOR

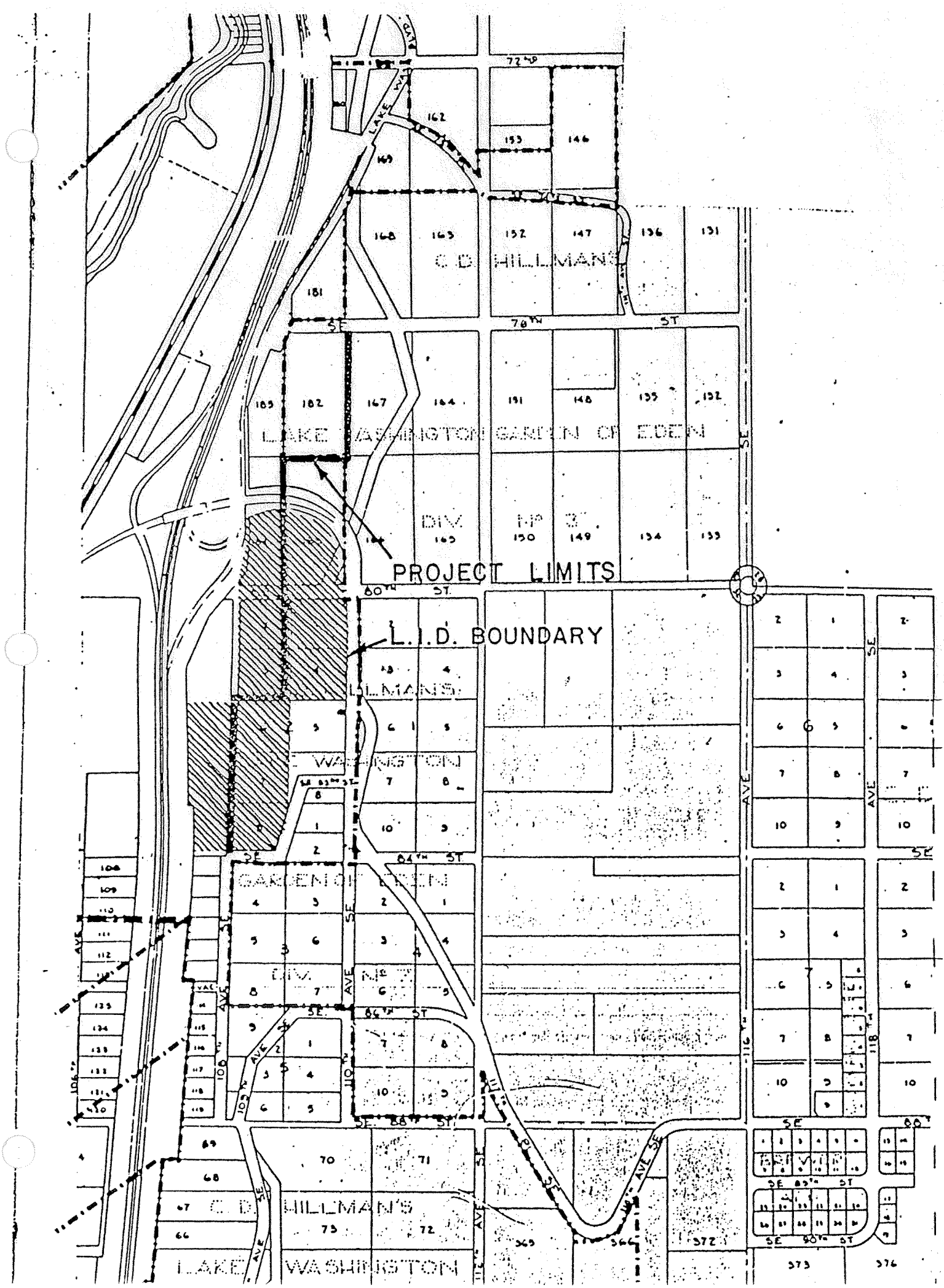
By _____
City Clerk

EXHIBIT "A"

The following description located in King County, Washington described to centerline route of the proposed Interceptor Sewer from its point of discharge into the Trunk Sewers of the Municipality of Metropolitan Seattle to the northerly terminus of the proposed interceptor sewer.

Beginning at the North Quarter corner of Section 32, T 24 N, R 5 E, W.M., thence south 1°41'46" West, a distance of 1098.00 feet thence North 90°00'00" East 15.00 feet to the true point of beginning; also being existing Metro Manhole.

| | | |
|---|---|---|
| 1. | Thence North 1°41'46" E | 544.00 feet |
| 2. | Thence South 88°46'56" E | 274.00 feet |
| 3. | Thence North 0°45'49" E | 1185.00 feet |
| 4. | Thence North 88°40'56" W | 322.00 feet |
| 5. | Thence North 0°47'18" E | 700.00 feet |


PROJECT LIMITS
L.I.D. BOUNDARY
C D HILLMAN'S
LAKE WASHINGTON GARDEN OF EDEN
DIV. NO 3
HILLMAN'S
WASHINGTON
GARDEN OF EDEN
DIV. NO 2
C D HILLMAN'S
LAKE WASHINGTON
70TH ST
72ND
80TH ST
83RD ST
84TH ST
86TH ST
88TH ST
LAKE WAY
SE
AVE

Return to City of Renton

RECEIVED THIS DAY

EXHIBIT "B"

NOV 13 2 01 PM '87

BY KING COUNTY RECORDING

# UTILITY FRANCHISE

THIS UTILITY FRANCHISE is given this 2nd day of November, 1987, by the City of Renton, King County, Washington, a municipal corporation ("Renton" or "Grantor") to King County Water District No. 107, a municipal corporation ("District" or "Grantee").

## SECTION 1: RECITALS

1.01. The District has applied to Renton for a sewer utility franchise to install, construct, maintain and operate sewer lines, including mains, lateral, appurtenances and side sewers along, under and across such city roads, streets, avenues, boulevards, alleys and public places hereinafter called "rights-of-way", within the District's service area.

1.02. The Renton City Council ("Council") has reviewed and considered such application for sewer utility franchise.

WHEREFORE, in consideration of the terms and conditions herein, Renton hereby grants to the District a sewer utility franchise as follows:

## SECTION 2: SEWER UTILITY FRANCHISE

2.01. Renton, pursuant to Resolution No., 2692 duly and regularly enacted by its Council on the 2nd day of November, 1987, hereby grants to the district and to its successors and assigns, for the term of twenty-five (25) years from the date hereof, the right, privilege, authority and franchise for itself, its successors and assigns, to install, construct, maintain and operate sewer lines, including mains, laterals, appurtenances, and side sewers along, under and across such City rights-of-way, together with all necessary equipment of every sort necessary, subject to all the terms and conditions herein.

2.02. This Utility franchise shall apply to those portions of the District's sewer lines and appurtenances within the City of Renton's present rights-of-way as referenced in paragraph 1.01 above.

CITY3:50/10/28/87

87/11/18 #0729 A
RECD F 13.00
CASHSL ***13.00
11

8711180729

SECTION 3: GENERAL TERMS AND CONDITIONS APPLICABLE TO THE UTILITY FRANCHISE.

3.02 Definitions:

(a) Right-of-Way. The term "right-of-way" shall be understood to include any and every Renton City road, street, avenue, alley or other public place designated or specified in this franchise in, upon, under, over, across and along which rights are, or are intended to be vested in the Grantee, its successors and assigns, under and by virtue of this franchise.

(b) Director. The term "director" shall be the City of Renton Director of Public Works.

(c) Utility. The term "utility" shall be understood to mean, as the context may require, either the Grantee herein, or any other person, firm or corporation, either public or private, which may hold a franchise to maintain and operate similar facilities in, upon, under, over, across and along any of the public rights-of-way, or portions thereof, within the area specified.

8711180729

(d) Other Governing Body. The term "other governing body" shall be understood to mean such public official or other public board or body as may have power and jurisdiction over the rights-of-way and be legally vested with jurisdiction and authority to permit or regulate the installation, maintenance of lines and other facilities, in, upon, under, over, across and along the rights-of-way within the specified area.

3.02 Acceptance by Grantee of Terms and Conditions. Grantee shall be deemed to have abandoned and forfeited all the rights, privileges and authority hereby granted, unless within thirty (30) days from the date hereof Grantee shall file with the Council its written acceptance of this franchise, subject to all of the terms, conditions, stipulations and other obligations herein contained and enclosed, and in case the Grantee shall fail to do so within the time aforesaid, this franchise shall be null and void and of no effect.

3.03 Exclusive Franchise Unconstitutional. This franchise shall not be deemed or held to be an exclusive franchise, and shall not in any manner prohibit the Council from granting other and further franchises of any kind or character that it may deem proper, in, upon, under, over, across and along any right-of-way within the area described herein, and this franchise shall in no way prohibit or prevent

the public from using any such rights-of-way or affect the jurisdiction of Renton over such rights-of-way or any part thereof, or its power to make all necessary improvements, repairs or changes therein.

3.04 Jurisdiction. This document shall not be construed by Grantee, or any other person, persons or corporations, as a warrant of title or interest in City roads or rights-of-way but is intended to convey such rights-of-way and interests only as to those roads and rights-of-way in which the City has an actual interest.

3.05 Regulation of Use and Control. The City granting this franchise does not waive any rights which it now has or may hereafter acquire with respect to City roads, rights-of-way or other City property and this franchise shall not be construed to deprive the City of any powers, rights or privileges which it now has or may hereafter acquire to regulate the use of and to control the City roads, rights-of-way and any other City property covered by this franchise.

8711 30729

3.06 Vacation. If at any time the City shall vacate any City road, rights-of-way or other City property which is subject to rights granted by this franchise, the City shall not be liable for any damages or loss to the Grantee by reason of such vacation.

3.07 Responsibility for Damages. The Grantee agrees for itself, its successors and assigns, to indemnify and hold the City harmless, its appointed and elected officials and employees from and against all loss or expense, including attorney's fees and costs arising out of any negligent act, error or omission by the District, its agents or employees related to this Franchise.

3.08 Requirement of Construction Permits. The said Grantee, its successors or assigns, shall have the right and authority to enter upon the City roads and rights-of-way described herein for the purpose of constructing, extending, repairing or replacing, servicing and/or operating and maintaining its lines and facilities and connecting the same with consumer service lines, upon the condition that prior to such work within the City roads or rights-of-way, the Grantee shall first obtain the necessary permits approved by the Director of Public Works.

Applications for said permits shall first be presented to the Department of Public Works which may require copies of plans, blueprints, cross-sections or such further detail of the

work to be done as is, or may be required by ordinance in other instances. Such work, whether done by the Grantee, its contractors or third parties connecting to the Grantee's lines or facilities, shall include necessary paving, patching, grading and any other reasonable and necessary repair or restoration to the pre-existing City roads, rights-of-way and shall be to the satisfaction of the director.

All permits shall be applied for and given in the name of the Grantee who shall be held responsible for all work done thereunder, whether the work done thereunder is by the forces of the Grantee, its contractors or by third parties connecting to the lines or facilities of Grantee.

Before any work is performed under the permit, the Grantee shall establish two or more reference marks to all monuments and markers of every nature relating to subdivision, plats, right-of-way and all other surveys within the permitted area. The reference points shall be so located that they will not be disturbed during the Grantee's operation under the permit. The method of referencing these monuments or other points to be referenced shall be approved by the director before placement. The replacement of all such monuments or markers disturbed during construction shall be made as expeditiously as conditions permit and as directed by the director. The cost of monuments or other markers lost, destroyed or disturbed and the expense of replacement by approved monuments shall be borne by the Grantee.

87-180729

Grantor shall be named as an additional obligee on performance bonds required by the District for any work within the franchise area herein.

3.09 Providing "As-Built" Drawings. The developer/contractor shall maintain on the jobsite project plans marked to indicate City-approved plan revisions made in the field and other details of construction. The drawings shall be made available upon completion of the project to the District for use and preparation of "as-built" records. The developer shall be responsible for the cost of any required "as-built" drawings. A copy of these "as-built" drawings shall be provided to the City.

3.10 Restoration of Right-of-Way. The Grantee shall be responsible for and leave all City roads and rights-of-way in good condition, after work on, under or adjacent to the City roads or rights-of-way as the same were before such work. In the event that the Grantee, its contractors or third parties connecting to Grantee's lines or facilities under work permit,

shall fail to restore the City roads or rights-of-way to the condition that pre-existed such work to the satisfaction of the director, the City reserves the right to make such repairs or restoration to such roads or rights-of-way, and upon presentation of an itemized bill for such repairs or restoration, including the cost of labor and equipment, the Grantee shall pay the said bill within thirty (30) days. In the event that suit is brought upon failure to pay the bill within thirty (30) days, and upon judgment being entered in favor of the City, Grantee shall further pay all the actual costs, disbursements and attorney's fees incurred thereby.

3.11A Removal or Relocation of Facilities Installed by Grantee. Upon the relocation or change of grade by the public authorities of any right-of-way described herein, any lines or facilities, erected upon or within any portion of such right-of-way, shall, if necessary, be removed by the Grantee at its own expense so that it shall not interfere with the work of relocation or change of grade and shall be reset in accordance with the provisions above set forth so that the location and elevation of such line or facility shall conform to the new grade and location of the right-of-way. Grantee shall likewise, at its own expense, upon demand of the director, relocate any line or facility which shall interfere with a reasonably located driveway giving access to abutting property. The City shall in no event be held liable for any damages to said Grantee that may occur by reason of the City's improvements, repairs or maintenance or by the exercise of any rights are reserved in this section.

3.11B Competing Service Areas. In the event that the parties have existing sewer lines parallel to one another and subject to Chapter 35.13A, et seq. and further subject to any assertion of jurisdiction by the Boundary Review Board and any subsequent decision of the Boundary Review Board, the parties agree that should the Water District need to replace a sewer line or perform such substantial repairs to the sewer line that the cost of repairs is equivalent to the value of the sewer line, then the City of Renton shall have the right to provide service to the customers in the City limits in that service area.

3.11C Installation Codes. Grantee agrees that any new sewer line installation or replacement done pursuant to this agreement shall meet all requirements as set out in the current or subsequently adopted:

King County Water District No. 107 - Metro Service Agreement and Specifications;

King County Water District No. 107 Design and Technical Specifications:

Parts II and III: Technical Specifications - Sewer Extension;
Part IV: Technical Specifications - Standard Sewer Details;

Standard Specifications for Municipal Public Works Construction of the American Public Works Association;

"Criteria for Sewage Works Design," State of Washington Department of Ecology - Revised Oct. 1985;

Washington Administrative Code Section 173-240, "Submission of Plans and Reports for Construction of Wastewater Facilities" (DOE);

All other applicable state and federal regulations and statutes regarding sewage works, design and hazardous waste disposal.



3.12 Blasting Requirements. The laying, construction, maintenance and operation of the Grantee's system of lines and facilities granted under this franchise shall not preclude the City, its accredited agent, or its contractors from blasting, grading or doing other necessary roadwork contiguous to the Grantee's lines and facilities, provided that the Grantee shall have seventy-two (72) hours notice of said blasting or excavating in order that Grantee may protect its lines, facilities and property.

3.13 Assignment of Rights to Third Party. The Grantee shall have the right to assign its franchise provided, however, no such assignment shall be of any force or effect unless written notice of such assignment shall be filed with the Clerk of the Council within thirty (30) days thereafter, together with an acceptance by the assignee in writing of all the terms, covenants and conditions of this franchise and an agreement of such assignee to perform and be bound by all the terms and conditions of this franchise.

All the provisions, conditions, regulations and requirements herein contained shall be binding upon the successors and assigns of the Grantee, and all privileges, as

well as all obligations and liabilities of the Grantee, shall inure to its successors and assigns equally as if they were specifically mentioned wherever the Grantee is mentioned.

3.14 Expiration and Renewal. All rights granted by this franchise to City roads and rights-of-way shall apply to all existing City roads and rights-of-way whether improved or unimproved, and shall further include City roads and rights-of-way acquired by the City after the date of execution of this document.

If, upon expiration of this franchise, Grantee shall not have applied for renewal of same, the City shall have the right to remove such lines or facilities of the Grantee as are reasonably necessary for the safe condition of the roads or rights-of-way or facilities of other franchise holders and such are reasonably necessary to remove for the construction, renewing, altering or improving of such roads or rights-of-way, and such as are reasonably necessary to remove for the installation of lines and/or facilities of other franchise holders. Grantee shall be liable for the costs incurred in such removal including the cost of labor and equipment; provided that such removal is affected with two (2) years from the expiration date hereof.

87 180729

3.15 Right to Amend. The City reserves for itself the right at any time upon ninety (90) days written notice to the Grantee, to so change, amend, modify or amplify any of the provisions or conditions herein enumerated to conform to any state statute or regulation relating to the public welfare, health, safety or right-of-way regulation as may hereafter be enacted, adopted or promulgated and this franchise may be terminated at any time if the Grantee's lines and facilities are not operated or maintained in accordance with such statutes or regulations.

3.16 Environmental Compliance. Grantee must conform to the Washington State Environmental Policy Act and any amendments thereto.

3.17 No Discrimination in Employment. In connection with the performance of any work by the District or its agents addressed herein, the District and its agents shall comply with all federal, state and local codes, statutes and ordinances prohibiting discrimination.

3.18 Penalty for Violation of Conditions. If the Grantee shall violate or fail to comply with any of the terms, conditions or responsibilities of this franchise through neglect or failure to heed or comply with any notice given the

Grantee under the provisions of this franchise, the Council may revoke, amend, alter, change or supplement this franchise provided, however, that the Council shall give thirty (30) days written notice of its intention to do so, during which period the Grantee shall have the opportunity to remedy the failure to comply.

3.19 Franchise Fee. The Grantee shall annually pay to the City a franchise fee of five cents ($.05) per lineal foot of transmission sewer lines owned by the Grantee, lying within City rights of way as described in paragraph 2.02 herein. City and Grantee agree that Grantee owns transmission and service lines and is responsible for maintenance thereof.

3.20 Severance. This agreement shall be construed to give effect to such purposes and uses under this franchise which are consistent with economical and efficient service rendered in the public interest. If any provision of this franchise, or its application is determined to be invalid by court of law, then the remaining provisions of the franchise shall continue and be valid unless the dominant purpose of the franchise or the public interest herein is thwarted thereby.

3.21 Recording. This agreement shall be recorded with the King County Office of Records and Elections immediately upon its execution by the parties herein.

SECTION 4: RESERVATION OF RIGHTS; RENTON UTILITY TAX

4.01 The City and the District acknowledge disagreement over the City's right to impose water utility taxes on the District's gross revenues derived from parties receiving service from the District located within Renton's corporate boundaries. The parties acknowledge the District's refusal to collect and transmit such utility tax to the City. Therefore, the City hereby expressly reserves all rights to make claim against the District for the payment of such utility taxes.

SECTION 5: RESERVATION OF RIGHTS; COMPREHENSIVE PLAN APPROVAL

5.01 The parties herein reserve all rights provided under applicable Washington law to approve, conditionally approve, or reject the general Comprehensive Plan as submitted by the other party.

CITY OF RENTON ("Renton")

By Barbara J. Sampson
Its Mayor

ATTEST:

Marie E. Mosier
City Clerk

KING COUNTY WATER DISTRICT NO. 107 ("District")

By
Its PRESIDENT

8711180729

The undersigned hereby accepts all the rights and privileges of the above granted franchise subject to all the terms, conditions, stipulations and obligations contained herein.

KING COUNTY WATER DISTRICT
NO 107 ("District")

By _____
Its PRESIDENT.

Dated this 11th day of November, 1987.

CITY3:51/10/30/87

7111180729

Intentionally Left Blank

(I)

CAG-01-031

# CITY OF RENTON & COAL CREEK UTILITY DISTRICT

## FOR THE ESTABLISHMENT OF SANITARY SEWER SERVICE BOUNDARIES

THIS AGREEMENT is entered into this 7th day of March, 2001, by and between COAL CREEK UTILITY DISTRICT, a Washington municipal corporation, hereinafter referred to as "CCUD", and the CITY OF RENTON, a Washington municipal corporation, hereinafter referred to as "RENTON".

WITNESSETH:

WHEREAS, CCUD is qualified to provide sanitary sewer service within its prescribed area; and

WHEREAS, RENTON is qualified to provide public services, including sanitary sewer service, within its prescribed areas; and

WHEREAS, CCUD provides sanitary sewer service in an area adjacent to and within RENTON's corporate boundaries and it is in the public interest for the parties herein to enter into an agreement to provide for the efficient planning and development of new sanitary sewer services in areas which may be served by either, or both, of the parties herein; now, therefore,

IT IS HEREBY AGREED by and between the parties hereto as follows:

1. Sewer Service Area Boundary Between RENTON and CCUD. The attached legal description, Exhibit A, describes the line separating the RENTON sewer service area from CCUD sewer service area. The attached map, Exhibit B, depicts the line separating the RENTON sewer service area from CCUD sewer service area. RENTON shall provide service for the area generally South and West of the line illustrated. CCUD shall provide service for the area generally North and East of the line illustrated.

   Any new construction, upgrading, or replacements within the RENTON City Limits by CCUD for sewer service shall be in compliance with RENTON design and constructions standards then in effect, or CCUD design and construction standards, whichever are the higher design and construction standards including: materials and techniques.

2. DISTRICT Comprehensive Sewer Planning. CCUD will submit, to RENTON, all future Comprehensive Sewerage Plans and amendments thereto involving area and/or improvements within RENTON City Limits. Said submission of the CCUD Plan is to assure consistency with adopted city plans, policies, and land use controls, assist in the review of new development proposals and right-of-way construction permits, and to fulfill the responsibilities set forth in RCW 57 and King County Title 13. As new facilities are planned, constructed, maintained, and/or replaced within RENTON, they shall comply with RENTON design and construction standards then in effect, or CCUD design and construction standards, whichever are the higher design and construction standards.

3. Extension of Utilities Across Properties. RENTON and CCUD agree that they will require property owners who must extend facilities to service their property in a comprehensive fashion up to and including extending said facilities to the far side of the property, when appropriate, to provide a connection point for the future (or existing) facilities of the next property.

4. Joint Use Facilities. The existing 8-inch facility as shown on Exhibit "C" shall be a joint use facility. CCUD shall own and operate the facility. RENTON shall be able to make connection to and utilize this sewer line to provide service to the properties west of the facility that are in RENTON's service area.

   RENTON will acquire permits for connection to said sewer. The acquisition of the permit will include collection and payment to CCUD of the latecomers charge, as legally adopted, for the reimbursement of a pro rata portion of the original costs of the facility.

5. Maintenance of Existing Facilities: CCUD and RENTON will each maintain their own facilities, according to industry standards. If there are serious problems due to a discharge which can be identified, and for which the source can be identified, the individual or company responsible will be held liable for damage. If a lack of maintenance, or if the type of maintenance by either RENTON or CCUD is identified as the source for said problem, then the party creating, or allowing, the situation shall be responsible for the costs of repair and/or damages.

6. Governmental Approvals. The parties will give notice of the adoption of this Agreement to Metropolitan King County, to the Department of Ecology, and to any other agency with jurisdiction, and shall cooperate and assist in any reasonable manner in procuring any necessary approvals hereof by those agencies.

7. Sanctity of Agreement. This Agreement constitutes the entire agreement of the parties, concerning the subject matter herein, and there are no representations or oral agreements other than those listed herein, which vary the terms of this Agreement. This agreement shall not alter the rights of Renton of assumption of Water and Sewer Districts as is provided under RCW 35.13A. Future agreements may occur between the parties to identify, agree upon, or transfer service areas and/or facilities. This Agreement shall have a term of 25 (twenty-five) years.

8. Obligations Intact. Nothing herein shall be construed to alter the rights, responsibilities, liabilities, or obligations of either CCUD or RENTON regarding provisions of sanitary sewer services to the properties described herein, or other properties, except as specifically set forth herein.

DATED this 7th day of March, 2001.

EXHIBIT "A"

NEW SEWER SERVICE

BOUNDARY LINE

LEGAL DESCRIPTION

A sanitary sewer service area boundary line between the Coal Creek Utility District and the City of Renton through the Southeast quarter of Section 29, the East half (1/2) of Section 32, the South half (1/2) of Section 33, all in Township 24 North, Range 5 East, W.M., King County, Washington, and the North half (1/2) of Section 4 in Township 23 North, Range 5 East, W.M., King County, Washington, and the common boundary line between Section 34 in said Township 24 and Section 3 in said Township 23, described as follows:

Beginning at the intersection of the southerly right of way line of NE 48th St. with the existing northernmost northwest corner of Tract 185 of C.D. Hillman's Lake Washington Garden of Eden No. 3, according to the Plat thereof, recorded in Volume 11, Page 81, Records of King County, Washington, in the Southeast quarter of said Section 29;

Thence easterly along said southerly right of way line and north line of said Tract 185, to the northeast corner of said Tract 185, said northeast corner also being the northwest corner of Lot 2 of King County Short Plat No. 485069, as recorded under King County Recording No. 8612231555, Records of King County, Washington;

Thence southerly along the east line of said Tract 185 and the west line of said short plat, to the southwest corner of Lot 1 of said short plat;

Thence easterly along the south line of said short plat, to the southeast corner thereof, said southeast corner also being the northeast corner of Tract 183 of said plat;

Thence southerly along the common boundary line of said Tract 183 and Tract 166 of said plat, said common boundary line also being the existing limits of City of Renton as annexed under Ordinance No. 1823, to an intersection with the northeasterly right of way line of NE 44th St.;

Thence continuing southerly along said common boundary line, crossing NE 44th St., to the southwest corner of said Tract 166;

Thence easterly along the south line of said Tract 166, to an intersection with the northerly extension of the westerly right of way line of Monterey Pl. NE;

Thence southerly along said northerly extension and the westerly right of way line of Monterey Pl. NE, to an intersection with the north line of Lot 8, Block 4 of said plat;

Thence westerly along said north line, to the northwest corner of said Lot 8;

Thence southerly along the west line of said Lot 8, to the southwest corner thereof, said southwest corner also being the northeast corner of Lot 10, Block 4 of said plat;

Thence westerly along the north line of said Lot 10, to the northwest corner thereof, said northwest corner also being a point on the easterly right of way line of Lincoln Ave. NE;

Authorized by Resolution No. 3489 of the City Council of the City of Renton, Washington, at its regular meeting held on 26th day of February, 200 1.

CITY OF RENTON

Jesse Tanner, Mayor — 3-7-01 Date

ATTEST:

Marilyn J. Petersen, City Clerk — 3-7-01 Date

APPROVED AS TO LEGAL FORM:

Lawrence J. Warren, City Attorney

Approved by Resolution No. 15741 of the Board of Commissioners of COAL CREEK UTILITY DISTRICT of King County, Washington, adopted at its regular meeting held on 10th day of JANUARY, 2001.

COAL CREEK UTILITY DISTRICT

By: _____

Title: General Manager

**EXHIBIT "A", Continued**

Thence southerly along the west line of said Lot 10 and said easterly right of way line, to the southwest corner of said Lot 10;

Thence southerly along the southerly extension of said west line of Lot 10 and said easterly right of way line, crossing NE 36th St., to an intersection with the southerly right of way line of said NE 36th St. in the Southeast quarter of said Section 32;

Thence westerly along said southerly right of way line, to an intersection with the west line of the east 350 feet of Tract 70 of C.D. Hillman's Lake Washington Garden of Eden No. 1, according to the Plat thereof, recorded in Volume 11, Page 63, Records of King County, Washington;

Thence southerly along said west line, to an intersection with the south line of said Tract 70;

Thence easterly along the south line of said Tract 70, said south line also being the north line of Tract 73 of said plat, to an intersection with the west line of the east 200 feet of said Tract 73;

Thence southerly along said west line, to an intersection with the south line of said Tract 73, said south line also being the north line of Tract 74 of said plat;

Thence southerly along the west line of the east 200 feet of said Tract 74, to an intersection with the south line of said Tract 74, said south line also being the north line of Tract 77 of said plat;

Thence southerly along the southerly extension of the west line of the east 200 feet of said Tract 74, to an intersection with the westerly extension of the south line of the north 300 feet of Tract 364 of C. D. Hillman's Lake Washington Garden of Eden No. 6, according to the Plat thereof, recorded in Volume 11, Page 84, Records of King County, Washington;

Thence easterly along said westerly extension, exiting said Tract 77 and crossing Tract 76 of said C.D. Hillman's Lake Washington Garden of Eden No. 1, to an intersection with the west line of said Tract 364 of C.D. Hillman's Lake Washington Garden of Eden No. 6;

Thence continuing easterly along the south line of the north 300 feet of said Tract 364, to an intersection with the east line of said Tract 364;

Thence northerly along said east line, to the northeast corner thereof, said northeast corner also being a point on the southerly right of way line of NE 33rd St.;

Thence easterly along the north line of Tracts 367 and 371 of said plat and said southerly right of way line, to the northeast corner of said Tract 371 and said plat, in the Southwest quarter of said Section 33;

Thence southerly and westerly along the east line of said plat, to an intersection with the west line of said Southwest quarter, said intersection being a point on the existing limits of the City of Renton, as annexed under Ordinance No. 1835;

Thence southerly along said west line and said existing City limits, to an intersection with the south line of the abandoned Pacific Coast Railroad right of way, said right of way being 200 feet in width, said south line also being the north line of Tract 369 of said plat;

Thence easterly along said north line and along the existing limits of the City of Renton, as annexed under Ordinance No. 1828, to the easternmost northeast corner of said Tract 369;

Thence southeasterly along the east line of said Tract 369 and said existing City limits, to an intersection with the north line of the Northwest quarter of said Section 4;

Thence easterly along said north line and the existing limits of the City of Renton, as annexed under Ordinance No. 1796 and Ordinance No. 4095, to an intersection with the westerly right of way line of 120th Pl. SE (County designation);

Thence southerly along said westerly right of way line and said existing City limits, to an intersection with the south line of the north 30 feet of said Northwest quarter;

Thence easterly along said south line and said existing City limits, to an intersection with the northerly extension of the west line of Paradise Estates, according to the Plat thereof, recorded in Volume 95, Page 93, Records of King County, Washington;

Thence southerly along said northerly extension and west line of said plat and said existing City limits, to the southwest corner of said plat;

Thence easterly along the south line of said plat and, in part, said existing City limits, to the southeast corner thereof, said southeast corner also being the southwest corner of Paradise Estates No.2, according to the Plat thereof, recorded in Volume 102, Page 31, Records of King County, Washington;

Thence easterly along the south line of said plat to an intersection with the east line of said Northwest quarter;

Thence northerly along said east line of said Northwest quarter, to the quarter corner common to said Section 4 and said Section 33;

Thence easterly along the common boundary line between said Section 4 and Section 33, to the northwest corner of said Section 3 and the southwest corner of said Section 34;

Thence easterly along said common boundary line between said Section 3 and Section 34, to the northeast corner of said Section 3 and southeast corner of said Section 34 and the terminus of this boundary line.

CAG 012-83

Property Management Dept.
P. O. Box 310
220 S. 4th Ave. Kent, WA 98031
Attn: Carol Isaak

AGREEMENT AND CONVEYANCE OF SEWER CAPACITY

THIS AGREEMENT is made and entered into this 15th day of March, 1983, between the CITY OF RENTON ("Renton") and the CITY OF KENT ("Kent"), municipal corporations under the laws of the State of Washington (the "parties").

8304130013

WHEREAS, Kent has within its municipal boundaries a portion of land bordering S. 180th (also known as S.W. 43rd), including individual properties within the following boundaries (the "Properties"):

The North 120.00 feet of the following described property:

That portion of the Henry Adams D.C. #43 lying within the Northwest quarter of 36-23-4 lying south of South 180th Street, west of P.S.P.&L right of way and lying east of 72nd Avenue South EXCEPT the west 60.00 feet thereof (9-10-82);

which properties are depicted on the map at Attachment A; and

WHEREAS, Kent does not have the present ability to provide sewer service to the properties, and as part of a street widening project on S. 180th Street (S.W. 43rd), Renton is installing sanitary sewers, including mains with side sewers and related appurtenances (the "Sanitary Sewers"), which sanitary sewers will have the capacity to serve the Properties; and

WHEREAS, under the terms of an Agreement, dated August 18, 1981 (the "1981 Agreement"), Renton was granted the right to provide sanitary sewer service to the properties, and the right to charge one and one-half times the normal sewer rate and certain other charges; and

WHEREAS, Kent is now forming a Local Improvement District composed of the properties ("LID 311"), in order to assess the properties to provide for a share of the costs of installing the sanitary sewers, and if LID 311 is formed, assessments on the properties will provide for the cost of constructing the sewer

improvements described at Attachment B; this cost represents 33.53 percent of the cost of the sanitary sewers, or $17,832.10

NOW THEREFORE,

In consideration of Kent's formation of LID 311 and contribution to the costs of constructing the sanitary sewers, Kent and Renton agree as follows:

1. Renton grants and conveys to Kent one-third of the capacity of the Sanitary Sewers, being the portion of the capacity of the Sanitary Sewers constructed under S. 180th Street (S.W. 43rd), used, as of the date of this Agreement, to provide the properties with sanitary sewer service. Ownership of the Sanitary Sewers themselves shall remain with Renton.

2. Renton agrees to provide sewer service to the properties, at a level and quality of service at least equal to that provided by Renton, as of the date of this Agreement, to the portions of land directly across S. 180th Street (S.W. 43rd) from the properties.

3. Renton agrees: (a) to manage, operate and maintain the Sanitary Sewer including the mains, side sewers and appurtenances up to the property lines of the properties; and (b) to manage, operate and maintain such sewage disposal services as are necessary to provide the level and quality of service described in paragraph 2 above.

4. Renton agrees to charge the properties at no more than one and one-half times the rates as are charged Renton sewer service customers of the same class or classes as the properties, together with any lawful connection charges, system development charges, tap-in charges and community facility charges that are charged to Renton sewer customers of the same class or classes as the properties.

5. Kent agrees to pay Renton $17,832.10 which is equal to 33.53 percent of the cost of constructing the sanitary sewers.

6. Kent authorizes the Properties to connect to the sanitary sewers and to the Renton sewer system;

7. Kent authorizes Renton to require and to provide such inspections and approvals of sewer connections to and sewer usage of the Properties as are necessary for compliance with applicable laws or regulations of Renton.

8. Except as provided by paragraph 9 the parties hereby mutually terminate the 1981 Agreement.

9. If, before January 1, 1984, Kent does not form LID 311 or does not pay Renton $ 17,832.10 as provided in paragraph 5, the conveyance of sewer capacity provided in paragraph 5(a) shall revert to Renton, all the mutual obligations of the parties under this agreement shall cease, and the 1981 Agreement shall again be in full force and effect.

10. At all reasonable times, each of the parties shall have access to and the right to examine and copy such records of the other as may be needed for the purpose of auditing sewer discharge flow meter readings and any other records which serve as a basis for or which may be relevant to the computation of sewer service charges.

11. All claims, demands, disputes, differences, and misunderstandings concerning this agreement and its interpretation that may arise between the parties shall be submitted to and be determined and settled by arbitration in the following manner:

Each party to the dispute shall appoint an arbitrator and the two arbitrators so chosen shall appoint a third arbitrator. In the event the two arbitrators so chosen cannot agree upon a third arbitrator, such third arbitrator shall be appointed by the American Arbitration Association. Rules then pertaining of the American Arbitration Association shall control. Decisions of the arbitrators shall be final and binding

on the parties. The arbitration shall be governed by the Superior Court of King County pursuant to Chapter 7.04 RCW.

12. This agreement is for an indefinite duration, is binding on the parties, their successors and assigns, and shall remain in effect until such time as it is mutually terminated by the parties.

13. Executed copies of this agreement and conveyance shall be filed with the City Clerk of Renton, the City Clerk of Kent, the King County Department of Records and Elections, and the Secretary of State of the State of Washington, prior to the effective date of this agreement.

14. This conveyance and agreement is effective the day and year first written above.

IN WITNESS WHEREOF, this Agreement and Conveyance is executed by the parties by their authorized officers on the dates indicated below.

CITY OF RENTON

By Barbara J. Shinpoch
Mayor

By Maxine E. Matson
City Clerk

CITY OF KENT

By Isabel Hogan
Mayor

By _____
City Clerk

STATE OF WASHINGTON )
) ss.
COUNTY OF KING )

On this 11th day of March 1983, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared Barbara J Shinpoch and Maxine E Matson, to me known to be the Mayor and City Clerk, respectively, of the City of Renton, who executed the foregoing instrument and acknowledged the same instrument to



8304130013

be the free and voluntary act and deed of said City, for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute the said instrument and that the seal affixed is the seal of said City.

WITNESS my hand and official seal hereto affixed the day and year first above written.

8304130013

Notary Public in and for the State of Washington, residing at Renton

STATE OF WASHINGTON )
) ss.
COUNTY OF KING )

On this 7th day of April, 1983, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared Isabel Hogan and Marie Jensen, to me known to be the Mayor and City Clerk, respectively, of the City of Kent, who executed the foregoing instrument and acknowledged the same instrument to be the free and voluntary act and deed of said City, for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute the said instrument and that the seal affixed is the seal of said City.

WITNESS my hand and official seal hereto affixed the day and year first above written.

NOTARY PUBLIC
STATE OF WASHINGTON

Notary Public in and for the State of Washington, residing at Renton

0215k

RECORDED
APR 13 1983
AT 3:30 PM
BY THE DIVISION OF RECORDS & ELECTION
KING COUNTY

ATTACHMENT A

ATTACHMENT B

S. 180th Street Sanitary Sewer
(72nd Ave. to 450 feet east)

SANITARY SEWER IMPROVEMENTS

Description: Includes the installation of sanitary sewer mains with side sewers and related appurtenances.

| SIZE | ON | FROM | TO |
|---|---|---|---|
| 8" | S. 180th St. | 347 feet west of 72nd Avenue S. | 428 feet east of 72nd Ave. S. |
| 8" | Easement | S. 180th Street at 428 feet east of 72nd Avenue S. | 155 feet north to existing manhole |

8304130013

0215k

(K)

14056

FRANCHISE NO. 14056

In the matter of the application for a franchise to operate, maintain, repair, and construct sewer mains and service lines, and appurtenances in, over, along, and under County roads and rights-of-way in King County, Washington.

---

The application of the City of Renton for a franchise to operate, maintain, repair and construct sewer mains and service lines, and appurtenances in, over, along, and under County roads and rights-of-way located within the area described in attached Exhibit "A" has been heard on this 12TH day of March, 2001 All of the property described in Exhibit "A" lies outside the limits of any incorporated Town or City.

Legal notice of the franchise application and of the hearing has been given as is required by law.

---

The King County Council, having considered the interests proposed and advanced, and finding that the granting of this franchise is in the public interest, ORDERS that a franchise be granted to the City of Renton, the Grantee, subject to the conditions set forth in Exhibit "B" attached hereto, this franchise and Ordinance No. 14056. This franchise grants the right, privilege, authority and franchise to operate, maintain, repair and construct mains and service lines and appurtenances as a part of its distribution system in, over, along, and under County roads and rights-of-way located within the area described in Exhibit "A".

14056

This franchise is granted subject to all of the terms and conditions contained herein, within Ordinance No. 14056 and Exhibit "B", and shall expire in twenty-five years on March 12, 2026

Dated this 23rd day of March, ~~19~~ 2001.

KING COUNTY, WASHINGTON

BY _____

TITLE King County Executive
for

The undersigned accepts all the rights, privileges, and duties of this franchise subject to all terms, conditions, stipulations, and obligations contained herein, within Ordinance 14056 and Exhibit "B".

CITY OF RENTON
GRANTEE

BY _____
Jesse Tanner

TITLE Mayor

ATTEST: _____
Marilyn J. Petersen, City Clerk

Dated this 13th day of April, ~~19~~ 2001.

CAG-99-014

# CITY OF RENTON & CEDAR RIVER WATER AND SEWER DISTRICT

## FOR THE ESTABLISHMENT OF SERVICE BOUNDARIES

THIS AGREEMENT is entered into this 8th day of February, 19 99, by and between CEDAR RIVER WATER AND SEWER DISTRICT, a Washington municipal corporation, hereinafter referred to as "CRWSD", and the CITY OF RENTON, a Washington municipal corporation, hereinafter referred to as "RENTON".

WITNESSETH:

WHEREAS, CRWSD is qualified to provide water and sewer service within its prescribed area; and

WHEREAS, RENTON is qualified to provide public services, including water and sewer service, within its prescribed areas; and

WHERE, it is in the public interest for the parties herein to enter into an agreement to provide for the efficient planning and development of new water and sewer services in areas which may be served by either, or both, of the parties herein; now, therefore,

IT IS HEREBY AGREED by and between the parties hereto as follows:

1. Water Service Area Boundary Between RENTON and CRWSD. The attached Figure "A" illustrates the line separating the RENTON water service area from CRWSD water service area. RENTON shall provide service for the area generally North and West of the line illustrated. CRWSD shall provide service for the area generally South and East of the line illustrated.

   Any new construction, upgrading, or replacements within the RENTON City Limits by CRWSD for water service shall be in compliance with RENTON design and construction standards then in effect or CRWSD design and construction standards, whichever are the higher design and construction standards including: materials, techniques, and fire flow.

2. Sewer Service Area Boundary Between RENTON and CRWSD. The attached Figure "B" illustrates the line separating the RENTON sewer service area from CRWSD sewer service area. RENTON shall provide service for the area generally North and West of the line illustrated. CRWSD shall provide service for the area generally South and East of the line illustrated.

   Any new construction, upgrading, or replacements within the RENTON City Limits by CRWSD for sewer service shall be in compliance with RENTON design and constructions standards then in effect, or CRWSD design and construction standards, whichever are the higher design and construction standards including: materials and techniques.

3. Maintenance of Existing Facilities: CRWSD and RENTON will each maintain their own facilities, according to industry standards.

4. DISTRICT Comprehensive Water and Sewer Planning. CRWSD will submit, to RENTON, all future Comprehensive Water and Sewerage Plans and amendments thereto involving area and/or improvements within RENTON City Limits. Said submission of the CRWSD Plan(s) is to assure consistency with adopted city plans, policies, and land use controls, assist in the review of new development proposals and right-of-way construction permits, and to fulfill the responsibilities set forth in RCW 57 and King County Title 13. As new facilities are planned, constructed, maintained, and/or replaced within RENTON, they shall comply with RENTON design and construction standards then in effect, or CRWSD design and construction standards, whichever are the higher design and construction standards.

5. Extension of Utilities Across Properties. RENTON and CRWSD agree that they will require property owners who must extend facilities to service their property in a comprehensive fashion up to and including extending said facilities to the far side of the property, when appropriate, to provide a connection point for the future (or existing) facilities of the next property.

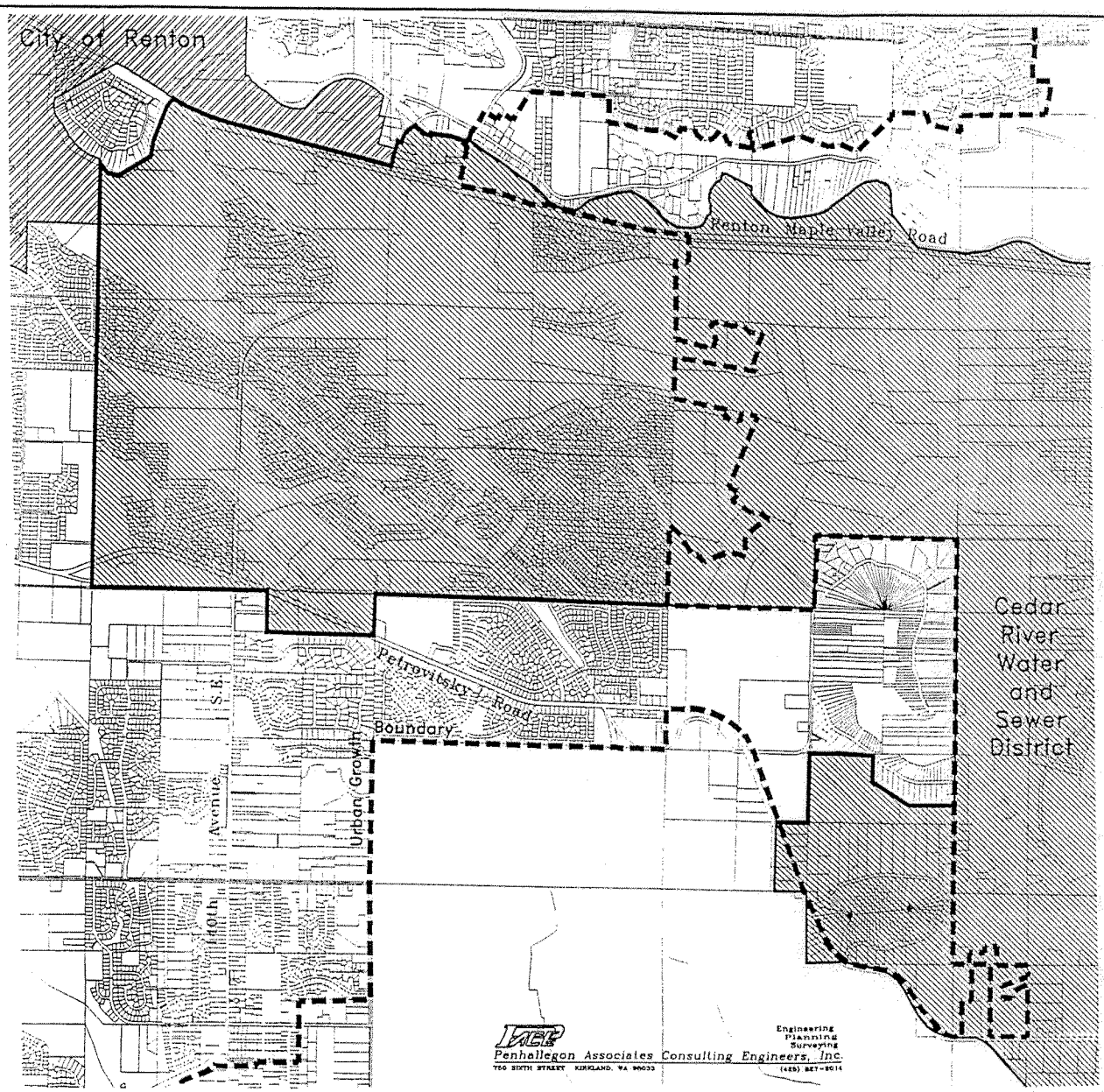
6. Franchise Agreement. Upon RENTON annexing property within the CRWSD service area, RENTON shall grant CRWSD, for the purposes of continuing use of rights-of-way, a temporary franchise for utility facilities within the annexed territory. This franchise shall have the same provisions as stated in the franchise between King County and CRWSD and have a term not to exceed 3 (three) years.

   RENTON and CRWSD will immediately begin negotiations for a new franchise for the purposes of rights-of-way use for CRWSD service area within RENTON. The new franchise shall be negotiated within three years.

   Upon any subsequent annexations by RENTON within the CRWSD service area, RENTON shall amend the franchise to include the annexed area, in order to maintain one franchise agreement. The franchise shall maintain the remaining balance of the term of the franchise. The franchise should include any updated provisions as approved by RENTON and agreed to by CRWSD.

   Any franchise agreement issued hereunder shall be consistent with the respective comprehensive plans of the parties and State law.

7. Governmental Approvals. The parties will give notice of the adoption of this Agreement to Metropolitan King County, to the Department of Ecology, to the Department of Health, and to any other agency with jurisdiction, and shall cooperate and assist in any reasonable manner in procuring any necessary approvals hereof by those agencies.




GRAPHIC SCALE

2000 0 2000 4000

( IN FEET )

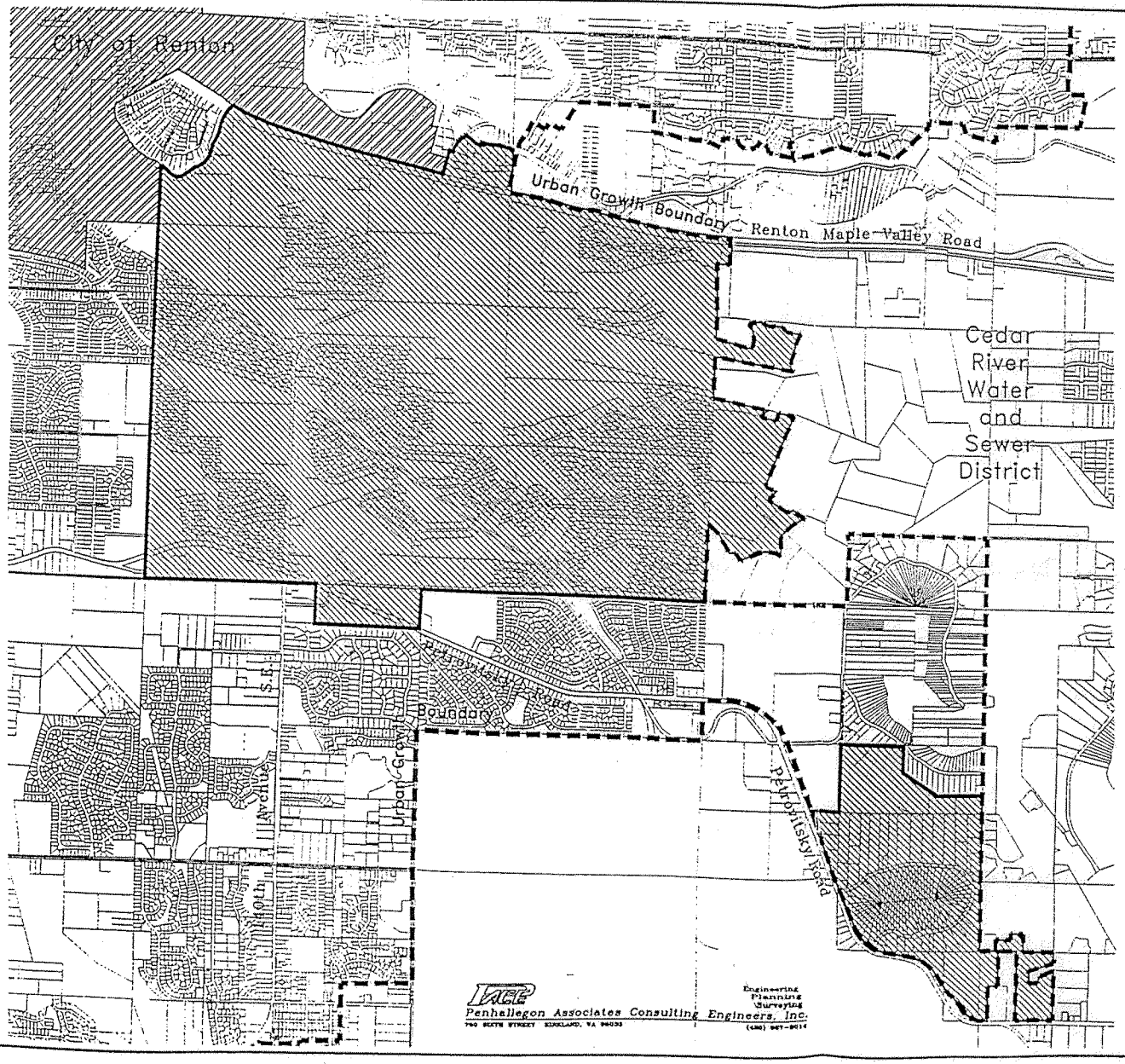
## LEGEND

- WATER SERVICE AREA BOUNDARY
- RENTON CURRENT CITY LIMITS (IN PART)
- KING COUNTY URBAN GROWTH BOUNDARY
- CRWSD WATER SERVICE AREA (IN PART)

CEDAR RIVER WATER & SEWER CRWS

**CRWSD / RENTON INTERLOCAL AGREEMENT**

**WATER SERVICE FIGURE A**




GRAPHIC SCALE

2000 0 2000 4000

( IN FEET )

## LEGEND

- SEWER SERVICE AREA BOUNDARY
- RENTON CURRENT CITY LIMITS (IN PART)
- KING COUNTY URBAN GROWTH BOUNDARY
- CRWSD SEWER SERVICE AREA (IN PART)

CEDAR RIVER WATER & SEWER DISTRICT

# CRWSD / RENTON INTERLOCAL AGREEMENT

## SEWER SERVICE FIGURE B

PACE 8843SINT.DWG 12/17/98/DGB

M

CITY OF RENTON AND
SKYWAY WATER AND SEWER DISTRICT

FOR THE ESTABLISHMENT OF AGREEMENT FOR CONVEYANCE OF WASTEWATER

THIS AGREEMENT is entered into this 18th day of September, 2006, by and between SKYWAY WATER AND SEWER DISTRICT, a Washington municipal corporation, hereinafter referred to as "SWSD", and the CITY OF RENTON, a Washington municipal corporation, hereinafter referred to as "RENTON".

WITNESSETH:

WHEREAS, SWSD is qualified to provide sanitary sewer service within its prescribed area; and

WHEREAS, RENTON is qualified to provide public services, including sanitary sewer service, within its prescribed areas; and

WHEREAS, SWSD provides sanitary sewer service in an area adjacent to and within a portion of RENTON's corporate boundaries; and

WHEREAS, the SWSD and RENTON have an existing sewer boundary agreement dated December 31, 2003; and

WHEREAS, it is in the public interest for the parties herein to enter into an agreement to provide for the efficient planning and development of new sanitary sewer services in areas which may be served by either, or both, of the parties; now, therefore,

IT IS HEREBY AGREED by and between the parties hereto as follows:

1. SWSD Sewer Service Transferring Wastewater Into RENTON Sewer System: The parties agree that, as an alternative to SWSD providing sanitary sewer service to their customers by constructing stand-alone gravity and / or pumping facilities, SWSD may connect a portion of their service area, known as the AGREEMENT SERVICE AREA and shown in exhibit "A", which by reference is incorporated herein, to RENTON's sanitary sewer facilities.

2. Conditions of SWSD Utilizing Said Alternative For Sanitary Sewer Service: In the event of such alternate connection, and in consideration thereof, SWSD shall meet the following requirements:

   A. SWSD shall collect and pass on RENTON's system development charge for properties connecting to a wastewater facility that flows into RENTON's sanitary sewer system.

B. SWSD shall include RENTON review, for land use compliance to Renton Municipal Code 4-6-040C, of all development within the AGREEMENT SERVICE AREA, other than one single-family home on an existing lot, as part of its sewer availability process.

3. Transfer of Service Area Upon Annexation: SWSD agrees that RENTON may choose, following the completion of annexation of all or part of the AGREEMENT SERVICE AREA to have a portion of the AGREEMENT SERVICE AREA turned over to RENTON as its sewer service area. At such time that RENTON notifies SWSD, in writing, that it intends to assume all or part of the AGREEMENT SERVICE AREA that has been annexed to RENTON, said written notice, including legal description and/or exhibit map describing the revised sanitary sewer service boundary within the AGREEMENT SERVICE AREA, shall be incorporated into this agreement as an addendum and officially revise the service boundary between RENTON and SWSD.

4. Timeline for Transfer: Upon written notification of assumption, SWSD shall, within sixty (60) calendar days, coordinate with RENTON, prepare and mail notification to the property owners, and transfer the account information and the sewer main facilities to RENTON.

5. Sewage Flows and Down Stream Capacity: The sewage flows from the AGREEMENT SERVICE AREA, at build out, is calculated to be 312,742 gallons per day (GPD) with a peak flow of 1.45 cubic feet per second (cfs). If the flows from the AGREEMENT SERVICE AREA exceed these estimates, RENTON has the ability to re-evaluate this agreement and may require additional conditions.

6. Construction and Maintenance of Sanitary Sewer Facilities: SWSD and RENTON will each construct and maintain their own facilities, according to industry standards.

7. Remaining Obligations Intact: Nothing herein shall be construed to alter the rights, responsibilities, liabilities or obligations of either RENTON or SWSD pursuant to the 2003 Agreement, previously executed by the parties, except as specifically set forth herein.

8. Miscellaneous: This Agreement constitutes the entire agreement of the parties, concerning the subject matter herein, and there are no representations or oral agreements other than those listed herein, which vary the terms of this Agreement. Future agreements may occur between the parties to identify, agree upon, or transfer service areas and/or facilities.

9 Term of Agreement: This Agreement shall have a term of 50 (Fifty) years.

10. Obligations Intact: Nothing herein shall be construed to alter the rights, responsibilities, liabilities, or obligations of either SWSD or RENTON regarding provisions of sewer service to the properties described herein, or other properties, except as specifically set forth herein.

DATED this 18th day of September, 2006.

Authorized by Resolution No. 3827 of the City Council of the City of Renton, Washington, at its regular meeting held on 10th day of July, 2006.

CITY OF RENTON

Kathy Keolker 9/18/2006

Kathy Keolker, Mayor Date

ATTEST:

Bonnie I. Walton 9/18/06

Bonnie I. Walton, City Clerk Date

APPROVED AS TO LEGAL FORM:

Lawrence J. Warren

Lawrence J. Warren, City Attorney

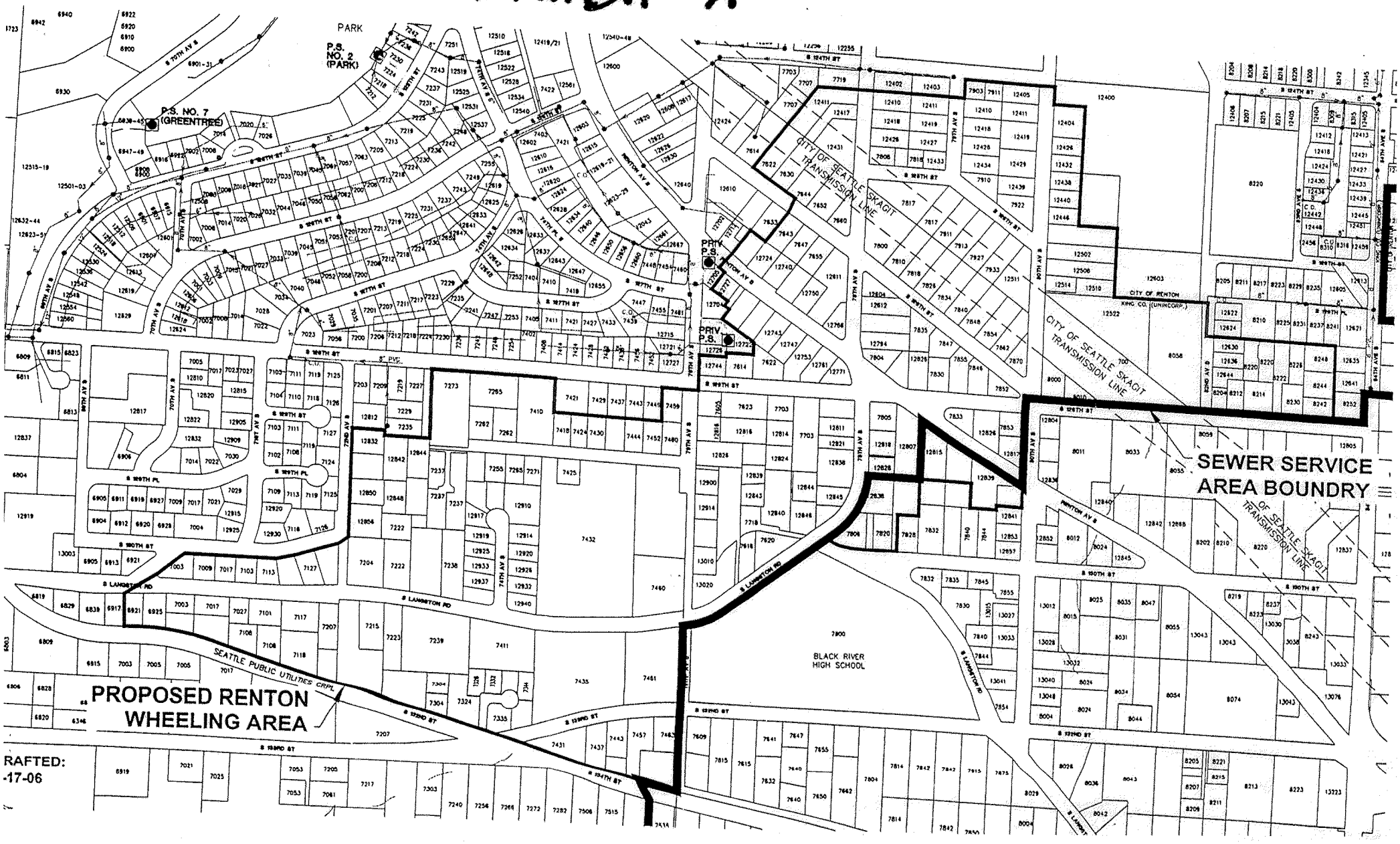
Approved by Resolution No. 06-05-43 of the Board of Commissioners of SKYWAY WATER AND SEWER DISTRICT of King County, Washington, adopted at its regular meeting held on 25th day of July, 2006.

SKYWAY WATER AND SEWER DISTRICT

By: Cheryl Scheuerman

Title: General Manager

# EXHIBIT "A"




RAFTED:
-17-06

ORIGINAL (N)

CAG-91-083 Addendum 1-04

# FIRST ADDENDUM TO CITY OF RENTON & SOOS CREEK WATER AND SEWER DISTRICT AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SERVICE BOUNDARIES

**THIS ADDENDUM**, made and entered into this 26th day of January, 2004, by and between the **CITY OF RENTON**, a Washington municipal corporation, hereinafter referred to as "the City", and **SOOS CREEK WATER AND SEWER DISTRICT**, a Washington municipal corporation, hereinafter referred to as "the District", both being duly organized and existing under and by virtue of the laws of the State of Washington,

**WITNESSETH:**

WHEREAS, with effective date of the 6th day of August, 1991, the City and the District entered into the following agreement:

CITY OF RENTON & SOOS CREEK WATER AND SEWER DISTRICT
AGREEMENT FOR THE TRANSFER OF FACILITIES
AND FOR
THE ESTABLISHMENT OF SERVICE BOUNDARIES

(1991 AGREEMENT); and

WHEREAS, by mutual agreement, in 1997 the City and the District amended the boundaries as contained in the Agreement by the execution of the following agreement

CITY OF RENTON and SOOS CREEK WATER AND SEWER DISTRICT
INTERLOCAL AGREEMENT FOR THE
ESTABLISHMENT OF SERVICE BOUNDARIES

(1997 AGREEMENT); and

WHEREAS, the 1997 AGREEMENT left all obligations of the 1991 AGREEMENT intact, changing only the service area descriptions of the 1991 AGREEMENT; and

WHEREAS, the parties now desire to modify the 1991 AGREEMENT as to both terms and service area; and

WHEREAS, the 1991 AGREEMENT as modified by the 1997 AGREEMENT, and by this Addendum, will continue to provide for maximum efficient use of existing and future facilities, and orderly and efficient water and sanitary sewer system planning.

**NOW, THEREFORE:**

**IT IS HEREBY AGREED** by and between the parties hereto as follows:

1. **Sale of Springbrook Area Sewer System to Renton.** The parties have agreed that in consideration of the mutual agreements contained herein, that all payment obligations contained in Section 6. and Section 7. of the 1991 AGREEMENT regarding the sale of the Springbrook Sewer System to Renton shall be deemed to have been satisfied in full, and Renton shall have no further payment or accounting obligation there for.

2. **Amended Terms for Service and Payment by District for Stonehaven Area.** The parties agree that as an alternative the District may connect the Stonehaven and adjacent area, as shown on Exhibit "A" which is by reference incorporated herein, to the South 47th Street sewer line of Renton, generally in the manner shown on said Exhibit. In the event of such alternate connection, and in consideration thereof, the District shall pay one half of the General Facilities Charges it collects from such area to Renton, after the property owner has made such payment to the District. Total payment will be dependent upon the number of units utilizing such alternate connection, when the charge is paid, the rate at the time of connection, and the number of units developed.

3. **Termination on Build-out.** The terms hereof with regard to the Stonehaven and adjacent area shall terminate and be of no further force or effect upon completion of build-out within that area.

4. **Remaining Obligations Intact.** Nothing herein shall be construed to alter the rights, responsibilities, liabilities, or obligations of either the City or the District pursuant to either the 1991 AGREEMENT or the 1997 AGREEMENT, previously executed by the parties, except as specifically set forth herein.

Approved by Resolution No. 3681 of the City Council of the **CITY OF RENTON**, Washington, at its regular meeting held on the 22nd day of December, ~~2004~~ 2003.

**CITY OF RENTON**

By: Kathy Keolker-Wheeler

Title: Kathy Keolker-Wheeler, Mayor

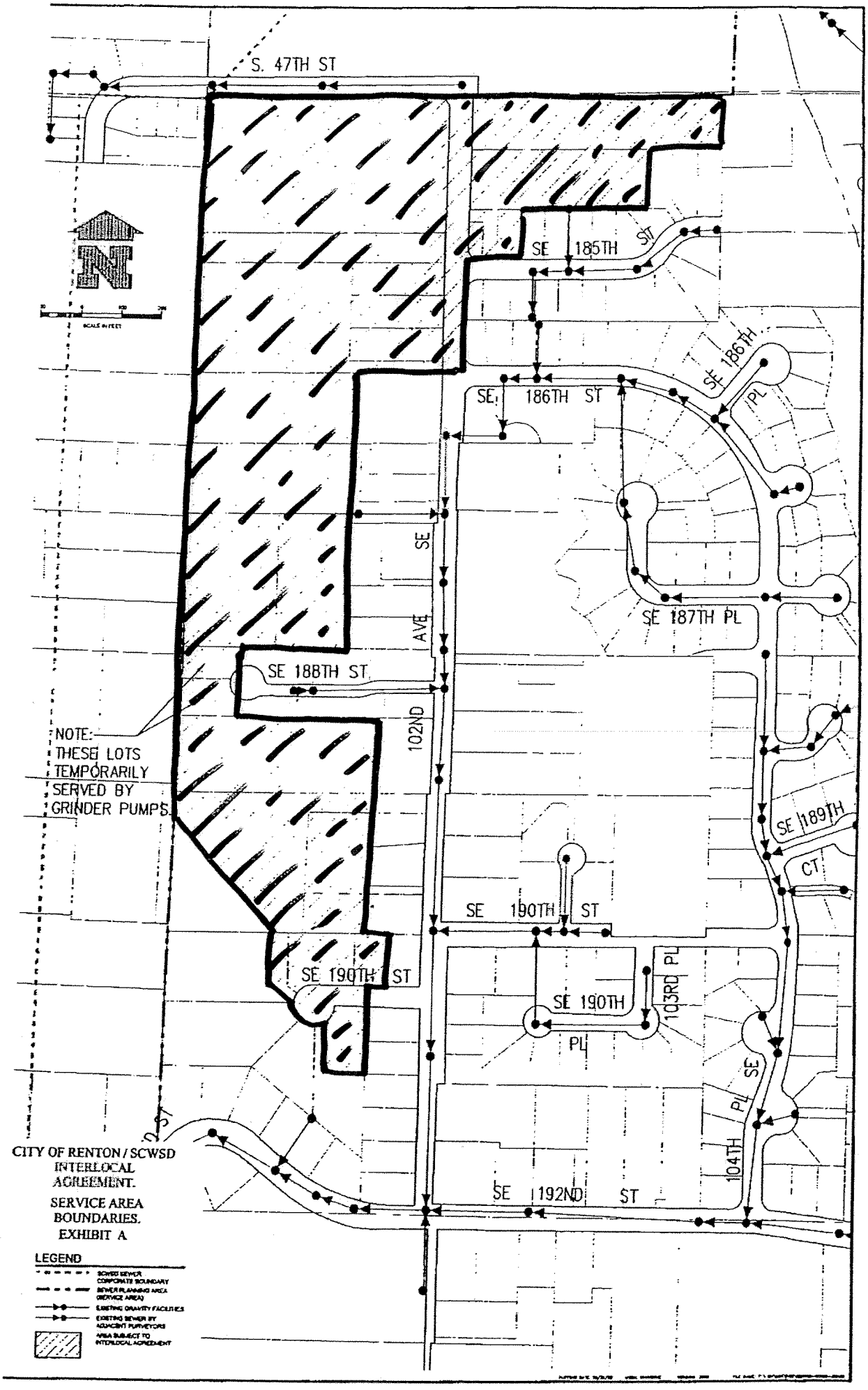
Attest: Bonnie I. Walton
City Clerk - Bonnie I. Walton

Approved by Resolution No. 2545-S of the Board of Commissioners of **SOOS CREEK WATER AND SEWER DISTRICT** of King County, Washington, at its regular meeting held on the 7th day of January, ~~2003~~ 2004.

**SOOS CREEK WATER AND SEWER DISTRICT**

By: Philip W. Sullivan
Philip Sullivan, President of Board

By: Randy Reece
~~Clement Quamrud~~, Secretary of Board
Randy Reece Acting


S. 47TH ST
SE 185TH ST
SE 186TH PL
SE 186TH ST
SE 187TH PL
SE 188TH ST
102ND AVE SE
NOTE:
THESE LOTS
TEMPORARILY
SERVED BY
GRINDER PUMPS
SE 189TH CT
SE 190TH ST
SE 190TH ST
SE 190TH PL
103RD PL SE
104TH PL SE
SE 192ND ST
CITY OF RENTON / SCWSD
INTERLOCAL
AGREEMENT.
SERVICE AREA
BOUNDARIES.
EXHIBIT A
LEGEND

# APPENDIX B

## Lift Station Data

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Airport | | |
| LOCATION | 454 West Perimeter Road/Airport | | |
| CONSTRUCTED | 1986 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-1688 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| MODEL NUMBER | 4B2B | 4B2B |
| FLOW RATE (GPM) | 100 | 100 |
| T.D.H (FEET) | 54 | 54 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | GE | GE |
| MODEL NUMBER | 5K213DP6752A-TA | 5K213DP6752A-TA |
| HORSE POWER | 7.5 | 7.5 |
| VOLTAGE | 230/460 | 230/460 |
| R.P.M/PHASE | 1750/3 | 1750/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 195 LF | SIZE | 4" DI |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Wet well mounted lift station (Smith & Loveless Design) with fiberglass enclosure

SN 15-2445

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | Yes | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No* | FLOWMETER | No |

*Provisions provided for potable water

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Baxter | | |
| LOCATION | 4505 Lake Washington Blvd. North | | |
| CONSTRUCTED | 1974 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-0163 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | A & C | A & C |
| MODEL NUMBER | NSWV | NSWV |
| FLOW RATE (GPM) | 400 | 400 |
| T.D.H (FEET) | 23 | 23 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | A & C | A & C |
| MODEL NUMBER | 400 | 400 |
| HORSE POWER | 3 | 3 |
| VOLTAGE | 230/460 | 230/460 |
| R.P.M/PHASE | 865/3 | 865/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 168 LF | SIZE | 8" CI |

**LIFT STATION CONSTRUCTION**

DESCRIPTION: Recessed wet well mounted lift station
Stacked wells

EMERGENCY POWER CONNECTION: Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 9 |
| POTABLE WATER | No | FLOWMETER | No |

# EWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Cottonwood | | |
| LOCATION | 2101 Maple Valley Highway | | |
| CONSTRUCTED | 1994 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-0510 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Hydromatic | Hydromatic |
| MODEL NUMBER | S-13838 | S-13838 |
| FLOW RATE (GPM) | 230 | 230 |
| T.D.H (FEET) | 32.5 | 32.5 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Hydromatic | Hydromatic |
| MODEL NUMBER | S 4 NX 500 JC | S 4 NX 500 JC |
| HORSE POWER | 5 | 5 |
| VOLTAGE | 230/460 | 230/460 |
| R.P.M/PHASE | 1750/3 | 1750/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 100 | SIZE | 6" |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible
Fiberglass wet well / Concrete secondary containment structure

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Denny's | | |
| LOCATION | 4748 Lake Washington Blvd. | | |
| CONSTRUCTED | 1983 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-0339 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Paco | Paco |
| MODEL NUMBER | 470 | 470 |
| FLOW RATE (GPM) | 100 | 100 |
| T.D.H (FEET) | 35 | 35 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Cascade | Cascade |
| MODEL NUMBER | 5K184DL20239A | 5K184DL20239A |
| HORSE POWER | 5 | 5 |
| VOLTAGE | 230/460 | 230/460 |
| R.P.M/PHASE | 1735/3 | 1735/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 485 LF | SIZE | 4" PVC |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Wet well mounted lift station (Smith and Loveless Design) with fiberglass enclosure

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | Yes | CONTROL | Transucer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Devil's Elbow | | |
| LOCATION | 3001 NE 27th Street | | |
| CONSTRUCTED | 2000 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-2263 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | PACO | PACO |
| MODEL NUMBER | 113-41552-10100-816320 | 113-41552-10100-816320 |
| FLOW RATE (GPM) | 450 | 450 |
| T.D.H (FEET) | 155 | 155 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | | |
| MODEL NUMBER | 0990308 | 0990308 |
| HORSE POWER | 50 | 50 |
| VOLTAGE | 460 | 460 |
| R.P.M/PHASE | 1750/3 | 1750/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 506 LF | SIZE | 6" HDPE |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible

EMERGENCY POWER CONNECTION Yes, portible CAT generator parked in building

| | | | |
|---|---|---|---|
| HEATING | Yes | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | Yes | FLOWMETER | Yes |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Earlington | | |
| LOCATION | 8055 South Langston | | |
| CONSTRUCTED | 1969 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-0137 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| MODEL NUMBER | 4B3 | 4B3 |
| FLOW RATE (GPM) | 150 | 150 |
| T.D.H (FEET) | 30 | 30 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| MODEL NUMBER | 3Y226041A1 CU | 3Y226041A2 CU |
| HORSE POWER | 5 | 5 |
| VOLTAGE | 240/120 | 240/120 |
| R.P.M/PHASE | 860/3 | 860/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 637 LF | SIZE | 6" CI |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Wet well/dry well lift station (Smith & Loveless Design) with overflow bypass

EMERGENCY POWER CONNECTION No

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducer/Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | East Renton | | |
| LOCATION | 5835 SE 2nd Court | | |
| CONSTRUCTED | 2002 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-2867 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | CP3152X-452 | CP3152X-452 |
| FLOW RATE (GPM) | 587 | 587 |
| T.D.H (FEET) | 75 | 75 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | CP3152X-452 | CP3152X-452 |
| HORSE POWER | 23 | 23 |
| VOLTAGE | 230/460 | 230/460 |
| R.P.M/PHASE | 1750/3 | 1750/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 2300 LF | SIZE | 8" DI |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible
Concrete Wet Well

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | Yes | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | East Valley | | |
| LOCATION | 3371 East Valley Road | | |
| CONSTRUCTED | | STATUS | Active |
| RECONSTRUCTED | 2003 | PROJECT | WWP-27-2906 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 | 3 |
|---|---|---|---|
| MANUFACTURER | Flygt | Flygt | Flygt |
| MODEL NUMBER | NP3102X-463 | NP3102X-463 | NP3102X-463 |
| FLOW RATE (GPM) | 362 | 362 | 362 |
| T.D.H (FEET) | 30.5 | 30.5 | 30.5 |

| MOTOR NUMBER | 1 | 2 | 3 |
|---|---|---|---|
| MANUFACTURER | Flygt | Flygt | Flygt |
| MODEL NUMBER | NP3102X-463 | NP3102X-463 | NP3102X-463 |
| HORSE POWER | 5 | 5 | 5 |
| VOLTAGE | 230/460 | 230/460 | 230/460 |
| R.P.M/PHASE | 1735/3 | 1435/3 | 1435/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 285' | SIZE | 8" |

**LIFT STATION CONSTRUCTION**

| | |
|---|---|
| DESCRIPTION | Submersible |
| | Pump 3 in overflow basin |
| EMERGENCY POWER CONNECTION | Yes |

| | | | |
|---|---|---|---|
| HEATING | Yes | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 9 |
| POTABLE WATER | Yes | FLOWMETER | Yes |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Evendell | | |
| LOCATION | 13815 160th Avenue SE | | |
| CONSTRUCTED | 2005 | STATUS | Active |
| RECONSTRUCTED | | PROJECT | WWP-27-2906 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | NP3127X-488 | NP3127X-488 |
| FLOW RATE (GPM) | 240 | 240 |
| T.D.H (FEET) | 66 | 66 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | 94 21 08 | 94 21 08 |
| HORSE POWER | 10 | 10 |
| VOLTAGE | 460 | 460 |
| R.P.M/PHASE | 1745/3 | 1745/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 1100 LF | SIZE | 6" DI |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 9 |
| POTABLE WATER | No | FLOWMETER | Yes |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Falcon Ridge | | |
| LOCATION | 2471 SE 8th Place | | |
| CONSTRUCTED | 1981 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-1453 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| MODEL NUMBER | 4B2B | 4B2B |
| FLOW RATE (GPM) | 100 | 100 |
| T.D.H (FEET) | 101 | 101 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| MODEL NUMBER | 16055-XX2980 | 16055-XX2980 |
| HORSE POWER | 15 | 15 |
| VOLTAGE | 230/460 | 230/460 |
| R.P.M/PHASE | 1800/3 | 1800/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 3217 LF | SIZE | 4" PVC |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Wet well mounted lift station (Smith & Loveless Design) with fiberglass enclosure

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | Yes | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Highlands Estates | | |
| LOCATION | 13733 152nd Place SE | | |
| CONSTRUCTED | 2003 | STATUS | Active |
| REHABILITATED | | PROJECT | S-3017 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | NP3127X-489 | NP3127X-489 |
| FLOW RATE (GPM) | 350 | 350 |
| T.D.H (FEET) | 45 | 45 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | NP3127X-489 | NP3127X-489 |
| HORSE POWER | 7.5 | 7.5 |
| VOLTAGE | 460 | 460 |
| R.P.M/PHASE | 1740/3 | 1740/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 411' | SIZE | 6" |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducer/Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 9 |
| POTABLE WATER | No | FLOWMETER | Yes |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Kensington Crest | | |
| LOCATION | 3000 SE 8th St | | |
| CONSTRUCTED | 2002 | STATUS | Active |
| REHABILITATED | | PROJECT | S-2900 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | NP3127X-487 | NP3127X-487 |
| FLOW RATE (GPM) | 160 | 160 |
| T.D.H (FEET) | 80 | 80 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | NP3127X-487 | NP3127X-487 |
| HORSE POWER | 10 | 10 |
| VOLTAGE | 460 | 460 |
| R.P.M/PHASE | 1745/3 | 1745/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 1350 | SIZE | 4" DI |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducer/Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 9 |
| POTABLE WATER | Yes | FLOWMETER | Yes |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Lake Washington Beach | | |
| LOCATION | 1201 Lake Washington Blvd. North | | |
| CONSTRUCTED | | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-0314 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| MODEL NUMBER | 4B2B | 4B2B |
| FLOW RATE (GPM) | 125 | 125 |
| T.D.H (FEET) | 25 | 25 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| MODEL NUMBER | 4B2A | 4B2A |
| HORSE POWER | 3 | 3 |
| VOLTAGE | 240/120 | 240/120 |
| R.P.M/PHASE | 900/3 | 900/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 390' | SIZE | 4" |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Wet well/dry well lift station
(Smith & Loveless Design)

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Lake Washington Flush Station | | |
| LOCATION | 2725 Mountain View Avenue North | | |
| CONSTRUCTED | 1972 | STATUS | Active |
| REHABILITATED | 2005 | PROJECT | WWP-27-2987 |

**PUMP AND MOTOR DATA**

| | | |
|---|---|---|
| PUMP NUMBER | 1 | |
| MANUFACTURER | Paco (Sulzer) | |
| MODEL NUMBER | 4070-21 | |
| FLOW RATE (GPM) | 400 | |
| T.D.H (FEET) | 6.5 | |

| | | |
|---|---|---|
| MOTOR NUMBER | 1 | |
| MANUFACTURER | Paco | |
| MODEL NUMBER | | |
| HORSE POWER | 2 | |
| VOLTAGE | 240/120 | |
| R.P.M/PHASE | 1150/3 | |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 18' | SIZE | 4" DI |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible non-clogging pump to pump lake water into gravity sewer for flushing purposes

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Timer |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No | FLOWMETER | Yes |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Lake Washington No. 2 | | |
| LOCATION | 3903 Lake Washington Blvd. North | | |
| CONSTRUCTED | 1972 | STATUS | Active |
| REHABILITATED | 1994 | PROJECT | WWP-27-2063 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Hydromatic | Hydromatic |
| MODEL NUMBER | S-13839 | S-13840 |
| FLOW RATE (GPM) | 385 | 385 |
| T.D.H (FEET) | 35 | 35 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Hydromatic | Hydromatic |
| MODEL NUMBER | S 4 NX 500 JC | S 4 NX 500 JC |
| HORSE POWER | 7.5 | 7.5 |
| VOLTAGE | 230/460 | 230/460 |
| R.P.M/PHASE | 1750/3 | 1750/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 192 LF | SIZE | 4" PVC |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible non-clog pump

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducers / Floats |
| VENTILATION | No | TELEMETRY | Rugid 6 |
| POTABLE WATER | Yes | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Lind Avenue | | |
| LOCATION | 1891 Lind Avenue South | | |
| CONSTRUCTED | 1978 | STATUS | Active |
| REHABILITATED | 1983 | PROJECT | WWP-27-1999 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 | 3 |
|---|---|---|---|
| MANUFACTURER | Hydromatic | Hydromatic | Hydromatic |
| MODEL NUMBER | RV-6A | RV-6A | LV-6A |
| FLOW RATE (GPM) | 780 | 780 | 780 |
| T.D.H (FEET) | 13 | 13 | 13 |

| MOTOR NUMBER | 1 | 2 | 3 |
|---|---|---|---|
| MANUFACTURER | U.S. Electric | U.S. Electric | U.S. Electric |
| MODEL NUMBER | AV | AV | AV |
| HORSE POWER | 5 | 5 | 5 |
| VOLTAGE | 230/460 | 230/460 | 230/460 |
| R.P.M/PHASE | 865/3 | 865/3 | 865/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | | SIZE | 8" |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Wet well/dry well lift station (Hydronix Design)

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducers / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | Yes | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Long Lift Station | | |
| LOCATION | 2702 Union Ave NE | | |
| CONSTRUCTED | 2001 | STATUS | Active |
| REHABILITATED | | PROJECT | S- |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | CP-3127X-481 | CP-3127X-481 |
| FLOW RATE (GPM) | 100 | 100 |
| T.D.H (FEET) | 90 | 90 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | CP-3127X-481 | CP-3127X-481 |
| HORSE POWER | 10 | 10 |
| VOLTAGE | 460 | 460 |
| R.P.M/PHASE | 1735/3 | 1735/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 725' | SIZE | 4" |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducer/Floats |
| VENTILATION | No | TELEMETRY | Rugid 6 |
| POTABLE WATER | Yes | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Misty Cove | | |
| LOCATION | 5027 Ripley Lane North | | |
| CONSTRUCTED | 1974 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-0163 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | A & C | A & C |
| MODEL NUMBER | NSWV | NSWV |
| FLOW RATE (GPM) | 75 | 75 |
| T.D.H (FEET) | 18 | 18 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | A & C | A & C |
| MODEL NUMBER | 400 | 400 |
| HORSE POWER | 2 | 2 |
| VOLTAGE | 240/120 | 240/120 |
| R.P.M/PHASE | 1150/3 | 1150/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 3 LF | SIZE | 4" CI |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Recessed wet well mounted lift station - stacked wells
Electrical Panel Upgraded in 1997
Surface access upgraded 2005 (S-2987)

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducers / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Stonegate | | |
| LOCATION | 5610 NE 26th Street | | |
| CONSTRUCTED | 1996 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-2202 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| MODEL NUMBER | 4C3B | 4C3B |
| FLOW RATE (GPM) | 140 | 140 |
| T.D.H (FEET) | 125 | 125 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| SERIAL NUMBER | 16-5557-H | 16-5557-H |
| MODEL NUMBER | 02000-1WAW-0022 | 02000-1HAN-0022 |
| HORSE POWER | 20 | 20 |
| VOLTAGE | 230/460 | 230/460 |
| R.P.M/PHASE | 1800/3 | 1800/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 1300' | SIZE | 4" |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Wet well mounted lift station w/ fiberglass enclosure

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | Yes | CONTROL | Transducers / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Summerwind | | |
| LOCATION | 5216 NE 23rd Court | | |
| CONSTRUCTED | 1987 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-1949 |

## PUMP AND MOTOR DATA

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| MODEL NUMBER | 4C3B | 4C3B |
| FLOW RATE (GPM) | 375 | 375 |
| T.D.H (FEET) | 133 | 133 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | S & L | S & L |
| SERIAL NUMBER | 16-3572-C | 16-3572-C |
| MODEL NUMBER | 4C3B | 4C3B |
| HORSE POWER | 25 | 25 |
| VOLTAGE | 230/460 | 230/460 |
| R.P.M/PHASE | 1760/3 | 1760/3 |

## FORCE MAIN DATA

| | | | |
|---|---|---|---|
| LENGTH | 1065 LF | SIZE | 6" |

## LIFT STATION CONSTRUCTION

DESCRIPTION: Wet well mounted lift station (Smith and Loveless Design) w/ fiberglass enclosure. Power panel & emergency plug moved to top of driveway.

EMERGENCY POWER CONNECTION: Yes

| | | | |
|---|---|---|---|
| HEATING | Yes | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Talbot Crest | | |
| LOCATION | 2511 Talbot Crest Drive South | | |
| CONSTRUCTED | ~~1965~~ | STATUS | Active |
| RECONSTRUCTED | 2000 | PROJECT | WWP-27-2793 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | CP3085X-092 | CP3085X-092 |
| FLOW RATE (GPM) | 110 | 110 |
| T.D.H (FEET) | 33 | 33 |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Flygt | Flygt |
| MODEL NUMBER | CP3085X-092 | CP3085X-092 |
| HORSE POWER | 3 | 3 |
| VOLTAGE | 460 | 460 |
| R.P.M/PHASE | 1700/3 | 1700/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 525 LF | SIZE | 4" C900 |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible
Working storage: 1,500gpm / Emergency Storage 7,000 gpm

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | Yes | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | Yes | FLOWMETER | No |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Wedgewood | | |
| LOCATION | 5401 NE 10th Street | | |
| CONSTRUCTED | 2006 | STATUS | Active |
| RECONSTRUCTED | | PROJECT | WWP-27-3278 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 | 3 |
|---|---|---|---|
| MANUFACTURER | Flygt | Flygt | Flygt |
| MODEL NUMBER | NP3171-437X | NP3171-437X | NP3085-463X |
| FLOW RATE (GPM) | 350 | 350 | 400 |
| T.D.H (FEET) | 67.2 | 67.2 | 11 |

| MOTOR NUMBER | 1 | 2 | 3 |
|---|---|---|---|
| MANUFACTURER | Flygt | Flygt | Flygt |
| MODEL NUMBER | NP3102X-463 | NP3102X-463 | NP3102X-463 |
| HORSE POWER | 25 | 25 | 3 |
| VOLTAGE | 460 | 460 | 460 |
| R.P.M/PHASE | 1745/3 | 1745/3 | 1680/3 |

**FORCE MAIN DATA**

| | | | |
|---|---|---|---|
| LENGTH | 1170' | SIZE | 8" HDPE |

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible – Above Grade Electrical Enclosure – Pumping Chamber
Integral to Overflow Basin - Pump 3 From Overflow to Main Chamber
Working Storage: 8,400 gals – Emergency Storage: 48,500 gals

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Transducer / Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 9 |
| POTABLE WATER | Yes | FLOWMETER | Yes |

# SEWAGE LIFT STATION DATA SHEET

| | | | |
|---|---|---|---|
| LIFT STATION NAME | Westview | | |
| LOCATION | 1149 Monterey Avenue NE | | |
| CONSTRUCTED | 1996 | STATUS | Active |
| REHABILITATED | | PROJECT | WWP-27-2188 |

**PUMP AND MOTOR DATA**

| PUMP NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Barnes | Barnes |
| MODEL NUMBER | XSGV | XSGV |
| FLOW RATE (GPM) | | |
| T.D.H (FEET) | | |

| MOTOR NUMBER | 1 | 2 |
|---|---|---|
| MANUFACTURER | Barnes | Barnes |
| MODEL NUMBER | | |
| HORSE POWER | 2 | 2 |
| VOLTAGE | 240/120 | 240/120 |
| R.P.M/PHASE | 3450/1 | 3450/1 |

**FORCE MAIN DATA**

LENGTH 250' SIZE 3"

**LIFT STATION CONSTRUCTION**

DESCRIPTION Submersible grinder pumps

EMERGENCY POWER CONNECTION Yes

| | | | |
|---|---|---|---|
| HEATING | No | CONTROL | Floats |
| VENTILATION | Yes | TELEMETRY | Rugid 6 |
| POTABLE WATER | No | FLOWMETER | No |

# APPENDIX C

## SEPA Checklist

CITY OF RENTON

DEVELOPMENT SERVICES DIVISION

# ENVIRONMENTAL CHECKLIST

## PURPOSE OF CHECKLIST:

The State Environmental Policy Act (SEPA), Chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An Environmental Impact Statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

## INSTRUCTIONS FOR APPLICANTS:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply". Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

## USE OF CHECKLIST FOR NONPROJECT PROPOSALS:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions (actions involving decisions on policies, plans and programs), the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

## A. BACKGROUND

1. Name of proposed project, if applicable:

   **City of Renton 2008 Long-Range Wastewater Management Plan**

2. Name of applicant:

   **City of Renton - Wastewater Utility**

3. Address and phone number of applicant and contact person:

   **1055 South Grady Way**
   **Renton, WA 98057**
   **Contact: Mike Benoit - (425) 430-7206**

4. Date checklist prepared:

   **February 23, 2009**

5. Agency requesting checklist:

   **City of Renton**

6. Proposed timing or schedule (including phasing, if applicable):

   **The 2008 Long-Range Wastewater Management Plan addresses the policies, criteria, and recommendations needed to construct, maintain, and manage a wastewater utility for full land use development (saturation) under current comprehensive land use plans. That level of development will likely occur by the year 2040. This Long-Range Wastewater Management Plan will be adopted in early 2009. It will be further supplemented or updated on a regular basis or more often if needed.**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   **Yes, the City plans to supplement or update the Long-Range Wastewater Management Plan on a regular basis or more often if needed. This study recommends that the plan be updated in 2014.**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

   **Each of the projects identified by this plan is subject to SEPA regulations. Depending on the scope of project, each will have its own environmental checklist and determination which would be completed as specific projects are proposed for construction.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

   **Several individual projects within the area covered by this proposal are pending SEPA approval.**

10. List any governmental approvals or permits that will be needed for your proposal, if known.

**The 2008 Long-Range Wastewater Management Plan will need to be approved by the Renton City Council and the Washington State Department of Ecology. The King County Utilities Technical Review Committee (UTRC) will review the plan and make recommendations to the Executive and County Council as to the consistency of such items with adopted county policies and codes. King County will review and approve franchises to allow the construction of sewer facilities in county rights-of-way.**

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site.

**The 2008 Long-Range Wastewater Management Plan addresses policies, criteria, assumptions and recommendations for the City's planning area. The major purpose of the Plan is to provide a long range plan for facility improvements necessary to serve the estimated population at saturation. The Plan addresses facility reliability, public health, groundwater and environmental protection, operation and maintenance, and financing issues. The plan also addresses the need to expand Renton's sewer service area into its Urban Growth Area as the appropriate provider of the urban service per the King County Countywide Planning Policies.**

**This checklist does not address the specific projects addressed in the five year capital improvement program. This is a programmatic checklist and does not address any site specific conditions. These conditions as well as the associated impacts will be discussed in the SEPA reviews of each project.**

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

**The area covered by this comprehensive sewer system plan is the sewer service area as shown in Figure 2.3. Renton has entered into boundary agreements with most of the sewer service providers adjacent to the City. These service boundaries are established and are not generally altered by annexations.**

## B. ENVIRONMENTAL ELEMENTS

### 1. EARTH

a. General description of the site (circle one); flat, rolling, hilly, steep slopes, mountainous, other _____.

**The forces of glaciation during the last million years fundamentally shaped the geologic characteristics of the proposed service area's natural landscape. As the glaciers advanced and retreated, they deposited, compressed, and leveled the soils that formed the plateau areas to the east and west of the City, gouged out Lake Washington, and the wide, flat flood plain of the Green River Valley, and determined the original routes of the Cedar River, Green River, and May Creek. The modern result is several water courses with narrow to wide flood plains adjacent to steep banks up to rolling hilly plateaus.**

b. What is the steepest slope on the site (approximate percent slope?)

**The proposed service area contains numerous slopes within the ranges of 15-25%, 25-40%, and greater than 40%, as a result of glacial scouring.**

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

**In general, soil types are classified according to mineral composition, topography, biological activities within the soil, climate, and the length of time of soil development. The following description of four soil types (or associations) existing in the Renton area is based on the U.S. Soil Conservation Service's soil survey for King County. The Soils Map shows the four types found in the Renton area. These types are the Alderwood Association, the Oridia-Seattle-Woodinville Association, the Beausite-Alderwood Association, and the Everett Association. (Community Profile: Oct., 1989)**

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

**Many of the major valleys and shoreline bluffs in the proposed service area are bordered by steeply sloping unconsolidated glacial deposits that are highly susceptible tom gravity sliding.**

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

**We do not anticipate that any of the projects identified in this plan will require grading or filling of a site. When backfilling the trench, we will use native material (that which was removed during excavation) if it meets standards. If the native material is not of an appropriate quality, we will import backfill from an approved source. Any imported backfill material will be addressed in the environmental review during project specific planning phases.**

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

**Minor erosion may result during construction of program projects. Standard erosion control measures will minimize any impact from the minor erosion.**

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

**Program projects may rarely directly create impervious surfaces. Typically, sewers are installed in asphalt roadways or on easements where structures are prohibited.**

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

**When projects are developed, pursuant to this comprehensive plan, the construction of those projects will meet all erosion control requirements as set forth in the City's adoption of the King County Surface Water Manual, King County Erosion Standards, or additionally be required by a SEPA finding.**

2. AIR

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

**Potential vehicular and equipment emissions may affect the ambient air quality for a short period of time during construction of program projects. These impacts would be addressed in environmental review during project specific planning phases.**

b. Are there any off-site sources of emission or odor that may affect your proposal? If so, generally describe.

**Potential vehicular emissions may result during the ongoing maintenance functions of the system by City staff. All City vehicles must meet Sate emissions control requirements including bi-annual emissions tests.**

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

**When projects are developed, pursuant to the Long-Range Wastewater Management Plan, the construction of those projects will meet all City or County codes including emissions control.**

3. WATER

a. **Surface Water:**

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

**Yes. The northwest boundary of the City is the shoreline of Lake Washington. There are several streams and rivers in the area.**

**In the northern portion of the proposed service area there is May Creek, a Class 2 stream (with salmonids) which flows into Lake Washington. There are several unclassified streams that flow into May Creek.**

**Maplewood Creek flows from the East Renton Plateau to the Cedar River. The lower portion of Maplewood Creek is a Class 2 stream (with salmonids). The upper portions are unclassified.**

**A short run of Madsen Creek, a Class 2 stream (with salmonids), enters the proposed service area prior to entering the Cedar River.**

**The Cedar River is a class 1 stream that flows through the Middle of the proposed service area and discharges into Lake Washington. In addition to the class 2 streams mentioned above, there are several unclassified streams that flow into the Cedar from the East Plateau portion of the the service area.**

**Panther Creek is a Class 2 stream (with salmonids). There are a couple of unclassified streams that flow into it in the service area. Panther creek is a tributary to Springbrook Creek**

**Springbrook Creek is a Class 2 stream (with salmonids) as it flows north through Renton. As it crosses north under Grady Way it becomes a class 1 stream. Springbrook is pumped into the Green River, which eventually flows into Puget Sound.**

**There are numerous wetlands in the identified sewer service area. Some of the projects identified in this plan may be in the vicinity of these wetlands. These projects will address this issue in the SEPA review of the individual projects. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

**Any projects identified within this document that are within 200 feet of the described waters will address the issue in the SEPA and Shoreline Permit Review of the individual project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

**It is the Wastewater Utility's goal to avoid construction in or around wetlands. It is, however, not beyond the scope of possibility that we will have to work on lines existing in the vicinity of wetlands or that engineering constraints may leave us few options for new construction. If work is required in or around wetlands, we will address this issue in the SEPA review for that specific project. Reasonable effort will be made to maintain the integrity of, restore, or replace all wetlands areas as required by State and local regulations.**

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

**Any fill and dredge material that may be placed in or removed from surface water or wetlands will be addressed in the SEPA review of the individual project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

**We do not anticipate that there will be any discharge to or withdrawal from surface water. The Sewer Comprehensive Plan proposes elimination of on-site sewage disposal systems that could cause discharge of contaminated waters to surface waters in the event a failure occurs.**

5) Does the proposal lie within a 100-year flood plain? If so, note location on the site plan.

**Within the proposed service area there are 100-year flood plains along several streams, including but not limited to Cedar River, May Creek, and Springbrook Creek. Portions of specific projects may be located within a 100-year flood plain. These projects will address this issue in the SEPA review of the individual projects. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

**Any potential discharge of waste materials to surface waters will be addressed in the SEPA review of the individual project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

b. **Ground Water:**

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

**We do not anticipate that there will be any discharge to or withdrawal from ground water. The Sewer Comprehensive Plan proposes elimination of on-site sewage disposal systems that could cause discharge of contaminated waters to ground waters in the event a failure occurs. The study also proposes design and construction standards for use in the Aquifer Protection Areas.**

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

**This study proposes guidelines and projects that will result in the reduction of discharges into the ground water by reducing the potential failure of Renton's sewer system, and allowing for elimination of septic systems. This will be a beneficial impact of this Plan. Any potential discharge of waste materials into the ground will be addressed in the SEPA review of the individual project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters, If so, describe.

**There will be no runoff that can be directly attributed to the adoption of this Comprehensive Plan or any completed project as described within. Any runoff that may occur during construction of the capital improvement projects will be subject to City or County codes, as well as any outside agency requirements provided in the SEPA finding.**

2) Could waste material enter ground or surface waters? If so, generally describe.

**No discharge of waste materials to ground or surface waters will result from the adoption of this Comprehensive Plan. The Plan discusses and proposes design and construction policies in the Aquifer Protection Areas as well as proposing a sanitary sewer system that will allow for the elimination of on-site sewage disposal systems that may be allowing the discharge of contaminated material to surface or ground waters.**

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

**Proposed measures to reduce or control surface, ground, and runoff water impacts will be addressed the SEPA review of the individual project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

## 4. PLANTS

a. Check or circle types of vegetation found on the site:

__X__ deciduous tree: **alder**, **maple**, aspen, other

__X__ evergreen tree: **fir**, **cedar**, **pine**, other

__X__ **shrubs**

__X__ **grass**

__X__ **pasture**

_____ crop or grain

__X__ wet soil plants: cattail, **buttercup**, **bullrush**, **skunk cabbage**, **other**

__X__ water plants: water lily, eel grass, milfoil, other

__X__ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

**It is expected that localized impacts to vegetation could occur as a result of clearing to accommodate construction of projected facilities. Any potential removal or alteration of vegetation will be addressed in the SEPA review of the individual project. All City or County codes will be followed and any necessary removal will be mitigated at the time of application.**

c. List threatened or endangered species known to be on or near the site.

**It is currently unknown if threatened or endangered flora exists within the study area. If there are threatened or endangered species identified on or near the site of any individual project discussed within this Plan, the impacts will be considered and discussed during the SEPA review of that project.**

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

**Any potential landscaping, use of native plants, or other measures to preserve or enhance vegetation on site will be addressed in the SEPA review of the individual project.**

5. ANIMALS

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

**A wide variety of birds and animals native to the Puget Sound Lowlands are found within the study area. The more common are underlined below:**

**Threatened or endangered species will be avoided, relocated or replaced wherever possible.**

Birds: **hawk**, **heron**, **eagle**, **songbirds**, **other** _____

Mammals: **deer**, bear, elk, beaver, **other** _____

Fish: bass, **salmon**, **trout**, herring, shellfish, **other** _____

b. List any threatened or endangered species known to be on or near the site.

**Protected species such as the bald eagle have been observed within the study area. It is not expected that the proposed program would adversely impact these species over the long term. Short term construction related impacts may occur. These impacts would be discussed in the SEPA review of the specific project and avoided wherever possible.**

c. Is the site part of a migration route? If so, explain

**Yes. The Cedar River is a fish migration route used by Chinook, Coho and Sockeye Salmon; and Steelhead and Searun Cutthroat Trout. The Catalog of Washington Streams and Salmon Utilization contends that "for its size, the Cedar River in this section supports one of the largest populations of salmon in the State".**

**As identified in the May Creek Current and Future Conditions Report (August 1995), May Creek and some of it tributaries support five species of salmonids, including Chinook, Coho, Sockeye, Steelhead, and Cutthroat Trout.**

**The entire State of Washington is included within the Pacific flyway migration route. We do not anticipate any project within this plan having any major, long term impacts on migration routes.**

d. Proposed measures to preserve or enhance wildlife, if any:

**Any potential measures to preserve or enhance wildlife will be addressed in the SEPA review of the individual project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

## 6. ENERGY AND NATURAL RESOURCES

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

**Some facilities, such as lift stations, will require electrical energy in order to run the pumps and telemetry. We also use gas powered emergency generators to power stations in case of an electrical failure.**

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

**None of the proposed project facilities would cast shadows affecting adjacent or surrounding properties.**

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

**All facilities will be constructed utilizing efficient energy use systems that will not effect safety or reliability. Whenever the option is available, sewage lift stations will be eliminated and gravity sewers constructed to reduce the electrical power consumption of the system.**

## 7. ENVIRONMENTAL HEALTH

a. Are there any **environmental health hazards,** including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

**There are no environmental health hazards directly associated with the adoption of this Comprehensive Plan. This Plan will have a beneficial impact by helping to reduce environmental health hazards by making sanitary sewer service available to land uses that generate pollutants.**

**Renton's wastewater collection system, like any other, has the potential of spill or environmental health hazard because of failure due to lack of funding or personnel to maintain or replace the system as needed. This Plan documents and proposes policy and procedures to minimize the potential of a health hazard.**

**The system is also susceptible to catastrophic events such as earthquakes. We cannot plan against them, if the ground moves significantly the line will rupture. The Comprehensive Plan recommends that the City Wastewater Utility prepares an Emergency Response Plan.**

1) Describe special emergency services that might be required.

**The Wastewater Utility's Maintenance Division and City's Emergency Services Departments are on call, 24 hour a day, to address any emergencies that may occur.**

2) Proposed measures to reduce or control environmental health hazards, if any:

**This document details policy and design criteria, such as policies for the design or elimination of lift station, and design loading or design period of our sewer facilities, intended to reduce this possibility to the absolute minimum.**

b. **Noise**

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

**Existing noise is not anticipated to affect construction or operation of projects proposed in this plan.**

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

**There will not be any noise involved with the adoption of this Comprehensive Plan. The projects identified in this Plan will have short term noise impacts associated with their construction. After they are put into operation, lift stations will generate minimal levels of noise. Underground stations would be muffled by the ground so as to be practically silent while above-ground stations will have a hum that would be quieter than the noise of an arterial such as Sunset Blvd. or Main Avenue.**

3) Proposed measures to reduce or control noise impacts, if any:

**When projects are developed pursuant to this Comprehensive Plan, the construction of those projects will meet all City or County codes including those regulating noise.**

8. **LAND AND SHORELINE USE**

a. What is the current use of the site and adjacent properties?

**Current land uses within the area of this study vary from heavy industrial to single family residential to vacant.**

b. Has the site been used for agriculture? If so, describe.

**Many portions of this study area have a history of agricultural uses. Any projects identified within this document that may be in an area once used for agriculture will address this issue in the SEPA review of the individual project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

c. Describe any structures on the site.

**Structures vary throughout the project are from residential to industrial. This includes single family, multi-family, commercial, retail, office, light manufacturing and heavy manufacturing.**

d. Will any structures be demolished? If so, what?

**When eliminating or replacing a lift station, the structure housing the station may be demolished. Demolition of any other structures for or during the construction of any the identified projects is not anticipated. If a structure must be demolished, it will be addressed in the SEPA review of the individual project. Compensation and relocation, if necessary, would be addressed in project specific documentation. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

e. What is the current zoning classification of the site?

**The Comprehensive Plan covers all areas of the City and involves all zoning within the City code. Current zoning varies depending upon the specific location of individual projects within the comprehensive planning area.**

f. What is the current comprehensive plan designation of the site?

**The 2004 City of Renton Comprehensive Plan (as ammended) designates land use within the City limits. The remainder of the program planning area, which is in unincorporated King County, uses the 1994 King County Comprehensive Plan (as ammended) to designate land use. All of the study area in unincorporated King County is designate "urban". Three Community Plans, New Castle (1988), Soos Creek (1991), and West Hill (1994) were used as additional information in the County areas.**

g. If applicable, what is the current shoreline master program designation of the site?

**Some of the projects identified within this document are in areas identified in the Shoreline Master Program for the City of Renton. Any of the projects within these areas will be addressed in the SEPA review of the individual project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

**Some of the projects identified within this document are in areas that may be classified as "environmentally sensitive" in categories such as soils, slopes, and wetlands**

**These projects will be addressed in the SEPA review of the individual project to determine the alternative with the least environmental impact. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

i. Approximately how many people would reside or work in the completed project?

**Presently, the City of Renton Sanitary Sewer System services approximately 11,000 customer accounts (domestic and commercial). This study addresses sewer needs for full (saturation) development under current Comprehensive Land Use Plans. When the study area identified in this Plan is fully developed (under current land use) and the necessary sewer system is in place, we project approximately 20,000 customers.**

j. Approximately how many people would the completed project displace?

**It is not anticipated that any projects identified within this Plan would displace anyone within the project area.**

k. Proposed measures to avoid or reduce displacement impacts, if any:

**Does not apply.**

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

**This proposed Comprehensive Sewer System Plan was prepared to be consistent with the City's and County's Comprehensive Land Use Plans and with the comprehensive sewer system plans of each adjacent municipality. The Wastewater Utility will maintain coordination with the City's Land Use Comp Plan by updating or amending our Plan as needed. To ensure compatibility the Plan will be reviewed by all applicable State agencies and adjacent utilities.**

## 9. HOUSING

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

**No housing units will be provided as a result of the adoption of this Comprehensive Plan. This Plan addresses the development of the sewer system needed for land uses under the current (2004) City Land Use Plan. Any housing units constructed concurrently or subsequently to projects identified in this study will be per adopted City of Renton Land Use Plans and Polices.**

**The specific projects identified within this Plan will be designed to handle the capacity proposed in the Land Use Comp Plan current at that time. Sewer capacity is but one factor in the growth of the housing supply. Development should be per the Land Use Plan and not until all facilities (i.e., water, emergency services, schools, transportation) are in place. Therefore, no significant impact on housing will result from these projects.**

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

**We do not anticipate the elimination of any units by either the adoption of this Plan or any subsequent projects.**

c. Proposed measures to reduce or control housing impacts, if any:

**Neither the adoption of this Plan nor any of the projects talked about within this document will have any direct impacts on local or regional housing supply. None of the projects are of a scope that would require bringing large numbers of workers to the area for construction or operation.**

## 10. AESTHETICS

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed.

**Some of the projects identified within this study will include sewage pumping stations which may include above ground electrical panel enclosures (up to six feet tall), small permanent buildings (up to twenty-five feet tall) or under a freestanding canopied (carport type) structure.**

b. What views in the immediate vicinity would be altered or obstructed?

**Views of project areas would be altered during construction due to clearing, excavation and staging activities. It is not anticipated that any public views would be permanently blocked.**

c. Proposed measures to reduce or control aesthetic impacts, if any:

**If any projects identified within this study have aesthetic impacts, they will be addressed in the SEPA review of that project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

11. LIGHT AND GLARE

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

**No light or glare will be produced by the adoption of this plan. The projects identified within this plan may create a temporary increase in ambient lighting during construction activity. Some lift stations may have security lighting.**

b. Could light or glare from the finished project be a safety hazard or interfere with views?

**No.**

c. What existing off-site sources of light or glare may affect your proposal?

**None.**

d. Proposed measures to reduce or control light and glare impacts, if any:

**Lighting will be focused and directed to mitigate any potential lighting impacts. If any lighting over 300 watts is used, it will be shielded to prevent light and glare impacts on the adjacent residents.**

12. RECREATION

a. What designated and informal recreational opportunities are in the immediate vicinity?

**This study area has numerous recreational opportunities such as facilities belonging to the City of Renton Parks Department (including parks, trails, community center, and the Maplewood Golf Course), King County (such as parks and trails), the Renton School District (play fields), Issaquah School District (play fields), and private parties (beaches and docks).**

b. Would the proposed project displace any existing recreational uses? If so, describe.

**We do not anticipate any permanent impacts to existing recreational usage. Some of the projects identified within this Plan may have temporary impacts, such as**

**access problems, during construction. There is also the potential for recreational enhancement such as trails that may be developed as part of some sewer projects.**

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

**Neither the adoption of this Plan nor the construction of the projects identified in the study will have any permanent impacts on recreational opportunities. Some of the projects may have temporary impacts during construction or the potential for recreational enhancement. These items would be discussed in the SEPA review of the individual project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

## 13. HISTORIC AND CULTURAL PRESERVATION

a. Are there any places or objects listed on, or proposed for, national state, or local preservation registers known to be on or next to the site? If so, generally describe.

**None are known.**

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

**None are known.**

c. Proposed measures to reduce or control impacts, if any:

**Any measures that may be necessary to reduce or control impacts will be mitigated at the time individual projects are reviewed per SEPA requirements. If any evidence of historical, archaeological, scientific, or cultural importance is discovered, there will be a cessation of construction activity until a proper survey can be completed.**

## 14. TRANSPORTATION

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

**The Transportation System within the study area consists of major transportation corridors, arterials, City streets, County streets and local access roads. The major transportation corridors include Interstate 405, State Route 167 (Valley Freeway), State Route 169 (Maple Valley Highway), State Route 900 (Sunset Highway), and State Route 515 (old Benson Highway). The City's sewer system is planned and constructed, in most part, to utilize public street rights of way.**

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

**Yes. There are currently over twenty public transit routes interlacing the proposed service area. Some portions of the area are well supported by bus routes. Other areas do not have transit support in close proximity.**

c. How many parking spaces would the completed project have? How many would the project eliminate?

**Does not apply.**

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private?

**The projects identified within this Plan will not require any new roadways. Construction impacts may make it necessary to make temporary improvements to accommodate access or to restore an existing roadway.**

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

**Does not apply.**

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

**There will be a temporary increase in vehicular trips during the construction of the projects identified within this Plan. The amount of vehicular trips generated by the completed projects and the enlargement of the system should be offset by the reduction in trips due to the replacement of high maintenance facilities, such as old concrete lines or lift stations.**

g. Proposed measures to reduce or control transportation impacts, if any:

**If any of the projects identified within this document have impacts to transportation, the impacts will be discussed in the SEPA Checklist submitted for that project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

15. PUBLIC SERVICES

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

**No.**

b. Proposed measures to reduce or control direct impacts on public services, if any.

**If any of the projects identified within this document have impacts on public services, the impacts will be discussed in the SEPA Checklist submitted for that project. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

16. UTILITIES

a. Circle utilities currently available at the site: **electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system**, other: **cable**

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

**Please refer to question A-11.**

## C. SIGNATURE

I, the undersigned, state that to the best of my knowledge the above information is true and complete. It is understood that the lead agency may withdraw any declaration of non-significance that it might issue in reliance upon this checklist should there be any willful misrepresentation or willful lack of full disclosure on my part.

Proponent: _____

Name Printed: David M. Christensen

Date: 3/12/09

## D. SUPPLEMENTAL SHEET FOR NON-PROJECT ACTIONS

(This sheet should only be used for actions involving decision on policies, plans and programs. Do not use this sheet for project actions.)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

   **This Comprehensive Sewer Plan is a long range proposal and documentation of operation policy, design criteria, and recommended facility improvements. It will be used as a guide in maintaining and improving the system. When we construct any of the proposed rehabilitation or replacements, there will be the potential of discharge to the environment, as we connect or bypass active lines. This potential is minor, however, when compared to the probable impact a neglected and deteriorating facility would have.**

   **A sewer system that is properly designed, constructed, and maintained should have, during it's useful life, a minimal likelihood to discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances. While we can not eliminate natural disaster or human error impacts to the system, following proper engineering, construction and maintenance practices, as identified in this plan, should minimize the potential of impacts.**

   **If there is a spill or discharge, the City will follow Department of Ecology cleanup and reporting guidelines.**

   Proposed measure to avoid or reduce such increases are:

   **This study proposes guidelines and specific projects that will reduce the possibility of release of toxic or hazardous substances by reducing the potential of failure of Renton's sewer system, and allowing for the elimination of septic systems.**

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

   **Adoption of this Plan will not directly affect plants, animals, fish or marine life. However, there will be the potential of indirect impacts as projects identified within the plan are constructed. Those impacted were discussed in Sections B.4 and B.5 of this checklist.**

   Proposed measure to protect or conserve plants, animals, fish, or marine life are:

   **Any projects identified within this document that may affect plants, animals, fish, or marine life will address this issued in the SEPA review of the individual project.**

**Any threatened or endangered species of plants will be avoided, relocated, or replaced wherever possible. It is not expected that the proposed program would have any long term impact of animals or fish. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

3. How would the proposal be likely to deplete energy or natural resources?

**It is not anticipated that the adoption of this Plan or the construction of any projects identified within will have any significant impact on the depletion of energy or natural resources. (See Section B.6 of this checklist.)**

Proposed measures to protect or conserve energy and natural resources are:

**Many projects identified in this study will remove sewage pumping stations in favor of gravity systems and thus reduce the utilities energy consumption. All City or County codes, as well as any outside agency requirements, will be met as provided in the SEPA finding.**

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

**The Wastewater Utility is creating this Comprehensive Plan to identify, document, and propose policies for the maintenance and construction of our sewer system in a manner that is consistent with the public health and water quality objectives of the State of Washington as well as the goals set by the City and County to protect environmentally sensitive areas. It is the Wastewater Utility's intent to strike a balance where we avoid environmentally sensitive areas where feasible; prevent or reduce the maintenance or deterioration of our system; and eliminate septic systems where they pose a potential threat to the environment. (See Sections B.1, B.3 and B.8 of this checklist).**

Proposed measures to protect such resources or to avoid or reduce impacts are:

**Construction of the new facilities as well as the redevelopment of existing facilities will be accomplished in a manner to protect environmentally sensitive areas and with measures to mitigate any potential impacts. These will be addressed on a project by project basis, as appropriate, when they are submitted for SEPA review.**

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

**The City's adopted Land Use Plan was reviewed to ensure that this Comprehensive Sewer System Plan would be compatible with land and shoreline use. The development of new facilities and redevelopment of existing facilities will be accomplished in a manner to avoid or reduce shoreline and land use impacts where feasible and still maintain the purpose of a sewer utility.**

**This Plan and the projects identified within it are not sensitive enough to land use as to allow or disallow uses that are incompatible with existing Plans. We supply sewer service (urban services) to areas designated urban as per State requirements. How the land or shoreline is used is determined by the Land Use Plan.**

Proposed measures to avoid or reduce shoreline and land use impacts are:

**Construction of the new facilities as well as the redevelopment of existing facilities will be accomplished in a manner to avoid or reduce shoreline and land use impacts and with measures to mitigate any potential impacts. These will be addressed on a project by project basis, as appropriate, when they are submitted for SEPA review.**

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

**This Comprehensive Sewer System Plan provides a guideline to help accommodate the increased demand for sewer service that the City has been and is expected to continue providing as the City develops. This Plan addresses the demands on the sewer system based on adopted Comprehensive and Land Use Plans and will not increase demands on transportation or public services and utilities.**

**The projects identified within this Plan will be phased by priority per the criteria set forth in the Plan with emphasis put on the rehabilitation and replacement of existing systems; aquifer protection; and removal of lift stations. There will be times when the minimum size pipe needed will have more capacity available than desired or when the most efficient use of funds is to put in a larger line, designed for the build-out of the basin, when a smaller line will be adequate in resolving the current problem. The excess sewer capacity itself will not increase the demand of other public services. Any subsequent development that has an impact on public services will have to provide the additional services to satisfy the demand.**

Proposed measures to reduce or respond to such demand(s) are:

**This Plan addresses the increased demand put on the sewer utility by development in and around the City and what is foreseen as development occurs per the current adopted Land Use Plan. As the Land Use Plan is updated, the Sanitary Sewer Comp Plan will also be updated.**

7. **Identify, if possible, whether the proposal may conflict with local, state or federal laws or requirements for the protection of the environment.**

**This Plan is in accordance with all local, State and Federal law and requirements for the protection of the environment.**

## C. SIGNATURE

I, the undersigned, state that to the best of my knowledge the above information is true and complete. It is understood that the lead agency may withdraw any declaration of non-significance that it might issue in reliance upon this checklist should there be any willful misrepresentation or willful lack of full disclosure on my part.

Proponent: _____

Name Printed: David M. Christensen

Date: 3/12/09

# DEPARTMENT OF COMMUNITY & ECONOMIC DEVELOPMENT

# M E M O R A N D U M

| | |
|---|---|
| DATE: | April 23, 2009 |
| TO: | Mike Benoit, Utility Systems |
| FROM: | Jerry Wasser, Planning Division |
| **SUBJECT:** | **Environmental Threshold Determination**<br>**2009 Long-Range Wastewater Management Plan**<br>**LUA09-041, ECF** |

This memo is written on behalf of the Environmental Review Committee (ERC) and is to inform you that they have completed their review of the environmental impacts of the above-referenced project. The Committee, on **April 20, 2009**, decided that your project will be issued a Determination of Non-Significance.

The City of Renton ERC has determined that it does not have a probable significant adverse impact on the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made by the ERC under the authority of Section 4-6-6, Renton Municipal Code, after review of a completed environmental checklist and other information, on file with the lead agency. This information is available to the public on request.

**Appeals of the environmental determination must be filed in writing on or before 5:00 PM on May 8, 2009.** Appeals must be filed in writing together with the required $75.00 application fee with: Hearing Examiner, City of Renton, 1055 South Grady Way, Renton, WA 98057. Appeals to the Examiner are governed by City of Renton Municipal Code Section 4-8-110.B. Additional information regarding the appeal process may be obtained from the Renton City Clerk's Office, (425) 430-6510.

If the Environmental Determination is appealed, a public hearing date will be set and all parties notified. If you have any questions or desire clarification of the above, please call me at x7382.

Denis Law
Mayor

City of Renton

Department of Community & Economic Development

April 23, 2009

Washington State
Department of Ecology
Environmental Review Section
PO Box 47703
Olympia, WA 98504-7703

**Subject: Environmental Determination**

Transmitted herewith is a copy of the Environmental Determination for the following project reviewed by the Environmental Review Committee (ERC) on April 20, 2009:

**DETERMINATION OF NON-SIGNIFICANCE**

**PROJECT NAME:** 2009 Long-Range Wastewater Management Plan
**PROJECT NUMBER:** LUA09-041, ECF
**LOCATION:** Entire Renton sewer service area
**DESCRIPTION:** The applicant, City of Renton, is requesting Non-Project Environmental (SEPA) Review of the City of Renton 2009 Long-Range Wastewater Management Plan. The purpose of the Plan is to present policy and design criteria and to recommend facility improvements. It is based on the City's sewer system as it existed as of January 2008. The Plan will be used as a guide in maintaining and improving the sanitary sewer system over the next six years in order to provide the Renton Sewer Service Area with an effective, safe and reliable sewer system.

**Appeals of the environmental determination must be filed in writing on or before 5:00 PM on May 8, 2009.** Appeals must be filed in writing together with the required $75.00 application fee with: Hearing Examiner, City of Renton, 1055 South Grady Way, Renton, WA 98057. Appeals to the Examiner are governed by City of Renton Municipal Code Section 4-8-110.B. Additional information regarding the appeal process may be obtained from the Renton City Clerk's Office, (425) 430-6510.

Please refer to the enclosed Notice of Environmental Determination for complete details. If you have questions, please call me at (425) 430-7382.

For the Environmental Review Committee,

Gerald C. Wasser
Associate Planner

Enclosure

cc: King County Wastewater Treatment Division
Boyd Powers, Department of Natural Resources
Karen Walter, Fisheries, Muckleshoot Indian Tribe
Melissa Calvert, Muckleshoot Cultural Resources Program
Gretchen Kaehler, Office of Archaeology & Historic Preservation
Ramin Pazooki, WSDOT, NW Region
Larry Fisher, WDFW
Duwamish Tribal Office
US Army Corp. of Engineers

# CITY OF RENTON
# DETERMINATION OF NON-SIGNIFICANCE

APPLICATION NUMBER: LUA09-041, ECF

APPLICANT: Mike Benoit, City of Renton

PROJECT NAME: 2009 Long-Range Wastewater Management Plan

DESCRIPTION OF PROPOSAL: The applicant, City of Renton, is requesting Non-Project Environmental (SEPA) Review of the City of Renton 2009 Long-Range Wastewater Management Plan. The purpose of the Plan is to present policy and design criteria and to recommend facility improvements. It is based on the City's sewer system as it existed as of January 2008. The Plan will be used as a guide in maintaining and improving the sanitary sewer system over the next six years in order to provide the Renton Sewer Service Area with an effective, safe and reliable sewer system.

LOCATION OF PROPOSAL: Entire Renton Sewer Service Area

LEAD AGENCY: City of Renton
Department of Community & Economic Development
Planning Division

This Determination of Non-Significance is issued under WAC 197-11-340. Because other agencies of jurisdiction may be involved, the lead agency will not act on this proposal for fourteen (14) days.

**Appeals of the environmental determination must be filed in writing on or before 5:00 PM on May 8, 2009.** Appeals must be filed in writing together with the required $75.00 application fee with: Hearing Examiner, City of Renton, 1055 South Grady Way, Renton, WA 98057. Appeals to the Examiner are governed by City of Renton Municipal Code Section 4-8-110.B. Additional information regarding the appeal process may be obtained from the Renton City Clerk's Office, (425) 430-6510.

**PUBLICATION DATE:** **April 24, 2009**

DATE OF DECISION: April 20, 2009

SIGNATURES:

Gregg Zimmerman, Administrator
Public Works

4/20/09
Date

I. David Daniels, Administrator
Fire & Emergency Services

4/21/09
Date

Terry Higashiyama, Administrator
Community Services

4-20-09
Date

Alex Pietsch, Administrator
Department of Community &
Economic Development

4/21/09
Date

# ENVIRONMENTAL REVIEW COMMITTEE
# MEETING NOTICE
April 20, 2009

| | |
|---|---|
| **To:** | Gregg Zimmerman, Public Works Administrator<br>Terry Higashiyama, Community Services Administrator<br>I. David Daniels, Fire & Emergency Services, Administrator<br>Alex Pietsch, CED Administrator |
| **From:** | Jennifer Henning, CED Planning Manager |
| **Meeting Date:**<br>**Time:** | Monday, April 20, 2009<br>3:00 PM |
| **Location:** | Sixth Floor Conference Room #620 |
| Agenda listed below. | |

# THE FOLLOWING IS A CONSENT AGENDA

***Brandon Lee Short Plat*** ***(Wasser)***

**LUA09-039, ECF, SHPL-H**

**Location: 2709 Talbot Road S. The applicant is requesting Environmental (SEPA) Review and Hearing Examiner Short Plat approval for a 2-lot subdivision in the Residential - 8 dwelling units per acre (R-8) zone. The subject property is 51,253 square feet in area. Lot 1 would be 25,164 square feet and contains an existing house to remain and Lot 2 would be 26,089 square feet. The site contains a Category 2 Wetland and is considered a Hillside Subdivision due to steep slopes in excess of 20 percent. The site also contains moderate landslide hazards, erosion hazards and seismic hazard areas. The proposed density would be 5.76 dwelling units per acre. Access to both lots would from Talbot Road South.**

***2009 Long-Range Wastewater Management Plan*** ***(Wasser)***

**LUA09-041, ECF**

**Location: Entire Renton Sewer Service Area. The applicant, City of Renton, is requesting Non-Project Environmental (SEPA) Review of the City of Renton 2009 Long-Range Wastewater Management Plan. The purpose of the Plan is to present policy and design criteria and to recommend facility improvements. It is based on the City's sewer system as it existed as of January 2008. The Plan will be used as a guide in maintaining and improving the sanitary sewer system over the next six years in order to provide the Renton Sewer Service Area with an effective, safe and reliable sewer system.**

cc: D. Law, Mayor
J. Covington, Chief Administrative Officer
S. Dale Estey, CED Director ®
D. Pargas, Assistant Fire Marshall
N. Watts, Development Services Director ®
F. Kaufman, Hearing Examiner
W. Flora, Deputy Chief/Fire Marshal ®
J. Medzegian, Council
P. Hahn, Transportation Systems Director
C. Vincent, CED Planning Director ®
L. Warren, City Attorney ®

| ERC REPORT | **City of Renton**<br>Department of Community and Economic Development<br><br>**ENVIRONMENTAL REVIEW COMMITTEE REPORT** |
|---|---|

| | | | |
|---|---|---|---|
| ***ERC MEETING DATE:*** | April 20, 2009 | | |
| *Project Name:* | City of Renton 2009 Long-Range Wastewater Management Plan | | |
| *Owner:* | City of Renton | | |
| *Applicant:* | Mike Benoit<br>City of Renton<br>1055 South Grady Way<br>Renton, WA 98057 | | |
| *Contact:* | Same as Applicant | | |
| *File Number:* | LUA09-041, ECF | | |
| *Project Manager:* | Gerald Wasser, Associate Planner | | |
| *Project Summary:* | The applicant, City of Renton, is requesting Non-Project Environmental (SEPA) Review of the City of Renton 2009 Long-Range Wastewater Management Plan. The purpose of the Plan is to present policy and design criteria and to recommend facility improvements. It is based on the City's sewer system as it existed as of January 2008. The Plan will be used as a guide in maintaining and improving the sanitary sewer system over the next six years in order to provide the Renton Sewer Service Area with an effective, safe and reliable sewer system. | | |
| *Project Location:* | Entire Renton Sewer Service Area | | |
| *Exist. Bldg. Area SF:* | N/A | *Proposed New Bldg. Area (footprint):*<br>*Proposed New Bldg. Area (gross):* | N/A<br>N/A |
| *Site Area:* | N/A | *Total Building Area GSF:* | N/A |
| ***STAFF RECOMMENDATION:*** | **Staff Recommends that the Environmental Review Committee issue a Determination of Non-Significance (DNS).** | | |

## PART ONE: PROJECT DESCRIPTION / BACKGROUND

The purpose of the City of Renton Long-Range Wastewater Management Plan is to present policy and design criteria and to recommend facility improvements. It is based on the City's sewer system as of January 2008. The plan will be used as a guide in maintaining and improving the sanitary sewer system over the next six years in order to provide the Renton Sewer Service area with an effective, safe, reliable sewer system. While this plan is an update to the 1998 Long-Range Wastewater Management Plan adopted in 1999, it is a re-evaluation of the entire sanitary sewer system and is a stand-alone document and not a supplement.

The Plan results from an evaluation of the existing sanitary sewer system and recommendations to resolve existing deficiencies and concerns and to accommodate growth. The improvements identified in this plan are based on the requirements of the Washington State Department of Health, Washington State Department of Ecology, King County Comprehensive Plan, and City of Renton Comprehensive Plan. The City's Comprehensive Plan provides guidance for future growth within the City of Renton. This Long-Range Wastewater Management Plan is an element of the City's Comprehensive Plan.

The Renton sanitary sewer system is large and, because of topography, complex in its operation. The condition of the current system, as well as the need for improvements, has been identified in the Plan document.

The plan contains a framework for making decisions about Renton's sanitary service area, which includes properties both within and outside Renton City limits. It is intended as an aid to decision-makers as well as users, including the Wastewater Utility, City Council members, the Mayor and staff, builders, developers, community groups, and other governmental agencies.

This environmental review does not address specific projects identified in the Long-Range Wastewater Management Plan. Rather, this is a programmatic review and does not address site-specific conditions. Such conditions and any associated impacts would be addressed during the Environmental (SEPA) Reviews of each project.

## PART TWO: ENVIRONMENTAL REVIEW

In compliance with RCW 43.21C.240, the following Environmental (SEPA) Review addresses only those project impacts that are not adequately addressed under existing development standards and environmental regulations.

### A. Environmental Threshold Recommendation

Based on analysis of probable impacts from the proposal, staff recommends that the Responsible Officials:

**Issue a DNS with a 14-day Appeal Period.**

### B. Exhibits

Exhibit 1 2009 Long-Range Wastewater Management Plan, Chapter 1, Summary and Introduction

### C. Environmental Impacts

*The Proposal was circulated and reviewed by various City Departments and Divisions to determine whether the applicant has adequately identified and addressed environmental impacts anticipated to occur in conjunction with the proposed development. Staff reviewers have identified that the proposal is likely to have no probable impacts.*

As this proposal is a non-project action, an evaluation of environmental impacts of the Long-Range Wastewater Management Plan is subject to the criteria indicated below. Each of the projects identified in the Plan will be subject to SEPA regulations. Depending on the scope of the project, each will require a separate environmental checklist and threshold determination which would be completed as specific projects are proposed for construction.

1. **Is the proposal likely to increase discharge to water; emissions to air; production, storage or release of toxic or hazardous substances; or production of noise?**
   No impacts to water or air would likely occur; no storage or release of toxic or hazardous substances would likely occur; and no noise would likely be generated by this non-project action.

2. **How would the proposal be likely to affect plants, animals, fish or marine life?**
   No impacts to plants, animals, fish or marine life would likely occur as a result of this non-project action.

3. **How would the proposal be likely to deplete energy or natural resources?**
   No adverse impacts to energy or natural resources would likely occur as a result of this non-project action.

4. **How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains or prime farmlands?**
   No environmentally sensitive areas or areas designated for governmental protection would likely be affected adversely by this non-project action.

5. **How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?**
   No impacts to land or shoreline areas would likely occur as a result of this non-project action.

6. **How would the proposal be likely to increase demands on transportation or public services and utilities?**
   No impacts to transportation or public services would likely occur as a result of this non-project action.

7. **Would the proposal conflict with local, state or federal laws or requirements for the protection of the environment?**
   The proposal would not likely conflict with other local, state or federal laws or requirements for the protection of the environment.

**D. Comments of Reviewing Departments**

The proposal has been circulated to City Department and Division Reviewers. Where applicable, their comments have been incorporated into the text of this report and/or "Advisory Notes to Applicant."

- ✓ **Copies of all Review Comments are contained in the Official File and may be attached to this report.**

**Environmental Determination Appeal Process: Appeals of the environmental determination must be filed in writing on or before 5:00 PM, May 8, 2009.**

Renton Municipal Code Section 4-8-110.B governs appeals to the Hearing Examiner. Appeals must be filed in writing at the City Clerk's office along with a $75.00 application fee. Additional information regarding the appeal process may be obtained from the City Clerk's Office, Renton City Hall - 7th Floor, 1055 S. Grady Way, Renton WA 98057.

*ADVISORY NOTES TO APPLICANT*

**The following notes are supplemental information provided in conjunction with the administrative land use action.** *Because these notes are provided as information only, they are not subject to the appeal process for the land use actions.*

None

# EXHIBIT 1



# SUMMARY AND INTRODUCTION

## 1.1 PURPOSE OF PLAN

The purpose of the Renton Long-Range Wastewater Management Plan (Plan) is to present policy and design criteria and to recommend facility improvements. It is based on the City's sewer system as it existed as of January 2008. This plan will be used as a guide in maintaining and improving the sanitary sewer system over the next six years in order to provide the Renton Sewer Service Area with an effective, safe and reliable sewer system. While this plan is an update to the 1998 Long-Range Wastewater Management Plan adopted in 1999; it is a re-evaluation of the entire sanitary sewer system and a stand-alone document, not a supplement. A summary of this plan's findings and recommendations are presented in this chapter.

The plan results from an evaluation of the existing sanitary sewer system and recommendations to resolve existing deficiencies and concerns, and to accommodate growth. The improvements identified in this plan are based on the requirements of the Washington State Department of Health, Washington State Department of Ecology, King County Comprehensive Plan, and City Comprehensive Plan. The City's Comprehensive Plan is the overall guidance for future growth within the City of Renton. This long-range wastewater management plan is an element of the City's Comprehensive Plan.

The Renton sanitary sewer system is large, and because of the topography, complex in its operation. The condition of the current system, as well as the need for improvements, has been documented in this report. Due to the complexity of this system and the number of issues that must be addressed, this report is organized so that a reader may review a summary of it and its recommendations in this chapter without reading the background or detailed information that led to those results.

The plan provides a recognized framework for making decisions about Renton's sanitary sewer service area, which includes properties both inside and outside the City limits. It is intended to aid decision-makers as well as users, including the Wastewater Utility, City Council members, the Mayor and staff, builders, developers, community groups, and other government agencies. The plan will be a useful tool in the following ways:

- As a framework for improvements and operations that govern sanitary sewer system developments in the Renton Wastewater Utility service area. The plan provides a basis for allocating improvements and costs to new sanitary sewer system users such as home and apartment builders, and commercial developers. It thus provides officials with partial direction for approving building permits and upgrading the system.

- To provide a guideline for improving the existing system so that each customer receives adequate sanitary sewer service. It is intended that City officials be able to use these guidelines to maintain a high quality of service at a reasonable cost.
- To provide a basis for accommodating changes that occur but that cannot be forecast in the plan. To this end, the plan lists policy issues and operational criteria that can be used to develop alternatives and directions for development, improvements, and operations.

## 1.2 SCOPE OF STUDY

The scope of study includes the following:

- Coordinate plan with adjacent utility systems and identify areas for potential service area boundary adjustments.
- Document City policies regarding growth and service areas.
- Estimate wastewater flow rates using land use designations.
- Analyze the existing system to determine its deficiencies and needed improvements.
- Prepare a Capital Improvement Program and estimate its construction costs.
- Document, in summary form, the existing operations and maintenance program and recommend improvements and staff additions.
- Analyze the recent financial performance of the sewer utility and develop a financial operating projection statement.

This plan is arranged in eight major sections:

- Chapter I provides a summary of the recommendations and conclusions presented in this plan.
- Chapter II provides a general overview of the existing sewer system and a definition of terms.
- Chapter III presents specific policies that guide the operation of the sewer system.
- Chapter IV examines the land use policies that guide how the City accommodates growth and presents the land uses, joint use agreements and design criteria that were used to develop wastewater saturation flow rates on which the computer hydraulic analysis was based.
- Chapter V describes and analyzes all components in the existing system and presents their recommended improvements.

- Chapter VI further describes the improvements necessary to resolve existing deficiencies and accommodate growth. The proposed improvements are also listed by priority and by project type.
- Chapter VII examines the operation and maintenance programs for the Wastewater Utility.
- Chapter VIII presents the costs of the proposed improvements and the anticipated user increases that will be necessary to support them.

## 1.3 PLAN REQUIREMENTS

This update to the Plan is inspired by the need to provide constant evaluation of our sewer system and operating policies in order to meet the needs of the customers and to ensure compatibility with the City and County's Comprehensive plans. This updated plan is prepared in conformance with Chapter 173-240 of the Washington Administrative Code (WAC), which requires that a plan include the following information shown in Table 1.1.

**Table 1.1 WAC Plan Requirements**
**Long-Range Wastewater Management Plan**
**City of Renton**

| Requirement | Location in Plan |
|---|---|
| The purpose and need for the proposed plan | Chapter 1 |
| A discussion of who will own operate and maintain the system | Chapter 2 |
| The existing and proposed service boundaries | Figure 2.1 |
| Layout map including: | |
| sewer service area boundaries and existing sewers | Figure 2.1, 2.2, 2.3 |
| existing sewers and proposed improvements | Figure 6.1 |
| existing pump stations and force mains | Figure 2.6 |
| topography and elevation | Figure 2.2 |
| bodies of water and water systems (sources of supply, treatment facilities and storage reservoirs) | Figure 4.4 |
| Population trend and population projection | Table 4.3 |
| Existing domestic or industrial wastewater treatment facility | Section 2.1 |
| A discussion of any infiltration and inflow problems | Section 5.2.7 |
| A statement regarding the provisions for treatment and the adequacy of treatment | Not included, service performed by King County |
| List of all establishments producing wastewater including quantities, periods of production, the character of the wastewater and considerations for future industrial production | Section 5.2.5 |
| Location of all existing private and public wells or water supply sources | Figure 4.4 |
| Discussion of the alternatives evaluated | Chapter 6 |
| A table that shows the cost per service in terms of both debt service and operation and maintenance costs of all facilities (existing and proposed) | Chapter 8 |
| A statement regarding compliance with any adopted water quality management plan | Chapter 3 |
| A statement regarding compliance with the State Environmental Policy Act (SEPA) | Appendix C |

## 1.4 EXISTING SEWER SYSTEM

The City owns, operates, and maintains its sanitary sewer system. This system consists of approximately 191 miles of gravity sewer, 23 sewage lift stations and force mains, and approximately 5,107 manholes. Wastewater is discharged to King County facilities at 79 locations within the City Service Area from which it is conveyed to and treated by King County's South Treatment Reclamation Plant.

The City of Renton Service Area is divided into six major wastewater collection basins: Black River, Downtown, East Cedar River, East Lake Washington, May Valley, and West Cedar River. For the most part, these major collection basins follow the natural drainage patterns of the Renton service area. For the purposes of monitoring and modeling the sanitary sewer system, the major collection basins are divided into one or more model basins. King County developed 11-model basin for the Renton service area as part of its Infiltration and Inflow Program. Each model basin is the area tributary to the downstream location where the City and King County used meters to collect flow data during the 2000/2001 and 2001/2002 flow monitoring seasons for King County's Infiltration and Inflow Program. This flow data was used for the creation and calibration of the City's hydraulic sewer model developed by Roth Hill and used in this Plan.

## 1.5 POLICIES AND DESIGN CRITERIA

Policies, design criteria, and standards used for planning and operating the sanitary sewer system are based on laws and policies that originate from several sources. All these policies and standards have the general purpose of providing an acceptable level of service to the sanitary sewer customers. Policies presented in this plan include the following: customer service policies, financial policies, facility policies, and organizational policies. Analysis and design criteria for the sanitary sewer system are based on standards presented in the *Criteria for Sewage Works Design* prepared by the Washington State Department of Ecology as well as standards set by King County Department of Natural Resources - Wastewater Treatment Division and the City of Renton.

## 1.6 PLANNING CONSIDERATIONS

The City of Renton Wastewater Utility has a service area that encompasses a wide variety of residential, commercial, and industrial land uses over 13,484 acres. There are several adjacent utility systems surrounding the City's existing service area, which limit the expansion of the City's sewer system. The greatest potential for expansion of the City's sanitary sewer system is within the May Valley, Skyway and East Renton areas that currently either do not have existing or adequate sanitary sewer facilities.

Future sewer system requirements are based upon growth projections within the established sewer service area, derived from the Renton Traffic Analysis Zone (RTAZ)

projections. In addition to the RTAZ projections, future planning data for areas outside the current City boundaries was based on Traffic Analysis Zone (TAZ) data obtained from the Puget Sound Regional Council (PSRC). Based on these sources the residential population within the service area is expected to grow from 44,504 in 2001 to 102,901 by the ultimate saturation year, which represents a growth of approximately 230 percent. The ultimate saturation year is anticipated to be after 2030. The commercial population is excepted to grow from 49,128 in 2001 to 103,357 at ultimate saturation representing a growth of 210 percent.

Wastewater flow generation was modeled based on an assumed domestic generation of 100 gals/d-person while infiltration and inflow (I/I) is modeled at 1,500 gallons per acre per day (gpad). Peak storms were assumed to increase the flow rate by a factor of 2 to 1.

## 1.7 KEY ISSUES

This plan addresses the following key issues:

- The need and timing of the replacement of older, deteriorating sanitary sewer facilities within large, neighborhood, size areas of the City.
- The evaluation of Renton's facilities for system capacity, to address both system deficiencies and potential development within Renton's sewer service area.
- The evaluation of sanitary sewer lift stations for removal, rehabilitation and replacement.
- The City's I/I program in coordination with the overall King County program to evaluate option and needs for I/I reduction.
- Review of industrial waste and grease discharges to the sewer system and the need for monitoring and coordination with the public to eliminate problems that potentially lead to sewer overflows.

Some of these issues were also addressed during preparations of the 1992 and 1998 Long-Range Wastewater Management Plans.

## 1.8 SYSTEM ANALYSIS

A hydraulic and a structural analysis were conducted to determine how well the existing system achieved current policies and technical, engineering standards. The plan identifies where the system failed to meet those objectives and recommends improvements to the existing system or construction of new facilities to achieve them.

A hydraulic analysis was performed by a computer simulation of the existing system to determine its ability to convey wastewater at saturation flow rates. The Wastewater Utility's computer model was used to analyze the system and to size future facilities. This model

was updated in 2006 using the MOUSE software program. The software platform was chosen to be consistent with the software platform used by King County regional infiltration and inflow study. The model was calibrated to the year 2001 and then expanded for the 2030 ultimate buildout condition. This computer model will continue to be used by the City as an analytical, planning and management tool. A structural analysis, which is a visual inspection of the existing system, was also conducted and was based on video, as well as actual, physical inspections. Based on the hydraulic model analysis, flow projections were developed for each mini-basin. Between 2001 and the ultimate buildout, peak flows increased by an average of 1.6 times for each mini-basin. However, seven of the 53 basins actually experienced a decrease in flow with the highest decrease for the ultimate year modeled at 45 percent of the 2001 flow. Additionally, the model projected that for a couple of the mini-basins, the flow increase would be considerably higher than average, with the largest modeled ultimate peak flow increase being 7.65 times greater than the 2001 condition.

The analysis revealed deficiencies that cover a broad range of areas. The hydraulic deficiencies identified are inadequate slopes (inability to achieve carrying velocities), insufficient capacity to handle wastewater flow rates, pipes that are less than 8-inches in diameter and sections that have reverse slopes. Structural deficiencies identified are pipe sag, and root and grease problems. The Renton sewer system has these hydraulic and structural problems in varying degrees throughout the system.

## 1.9 SEPA AND APPROVAL PROCESS

A SEPA Checklist has been prepared for this plan and is presented in Appendix C. It is anticipated that this proposed plan will not have a probable significant adverse impact on the environment and that an environmental impact statement (EIS) will not be required. However, many of the projects proposed herein will require SEPA checklists and an engineering determination will be made with each individual project.

This plan includes review by adjacent utility systems. All comments are include in Appendix D.

## 1.10 CONCLUSIONS AND RECOMMENDATIONS

In the development of this plan, the following conclusions were reached:

1. A substantial percentage of the system has reached or is reaching the end of its useful life and needs to be replaced. The projects of highest concern are:
    a. Several system wide projects including: miscellaneous sewer projects and emergency repairs, Earlington sanitary sewer replacements, Renton Central Business District sewer replacement, Renton Hill sanitary sewer replacement.

b. Two projects in the West Cedar River Basin: Heather Downs/Maplewood interceptor improvement and the Falcon Ridge lift station rehabilitation.

c. Several projects in the East Cedar River Basin including: the Central Plateau interceptor, East Cedar River collection sewers, Evendell lift station elimination, East Renton lift station elimination and the Highlands Estates lift station elimination.

d. Several projects in the Lake Washington East Basin including: Stonegate/Summerwind flow diversion, the Duval interceptor, the Westview lift station replacement/rehabilitation, the Sierra Heights sewer system construction and the Lake Washington Beach lift station rehabilitation.

e. Three projects in the Black River Basin including: the Thunder Hill interceptor replacement, the SW 34th street interceptor replacement and the Lind Avenue lift station rehabilitation.

f. Several projects in the Downtown Basin including: Earlington lift station elimination, the Shattuck Ave S. interceptor downsizing, the Renton Center sewer extension, the Airport lift station rehabilitation and the North Earlington collection system.

g. Two projects in the May Valley Basin including: the Misty Cove/Baxter lift station replacement, and the Denny's lift station rehabilitation.

2. Continue development of the gravity sewer system in order to allow the elimination of existing sewage lift stations. These lift stations are less reliable, require higher maintenance and operations costs and cause more adverse impacts to downstream facilities than do properly planned gravity sewer systems.

3. Rehabilitate or replace the sewage lift stations that are considered to be permanent sewage facilities. These improvements will reduce maintenance costs and increase system reliability. As the City rehabilitates or replaces regional stations, on-site emergency power generators should be installed.

4. The City needs to continue to update its hydraulic model to reflect the new adopted land use designations and concurrency standards, changes in development patterns, system changes, and as data becomes more current. The City should continue the model update by completing the inventory of the sewer system, verifying the as-built records and gathering data on those parts of the system that are not recorded.

5. The City should implement a flow monitoring program to meter flows in order to gather data to calibrate the sanitary sewer computer model. This will enable the model to be more closely calibrated in areas of concern. The City will continue to use the sewer model to develop a schedule of timing for capacity system improvement projects. As the County looks to implement 10-year cycle flow monitoring, the City should look at potential saving by partnering in the monitoring.

6. The City needs to establish a grease and industrial waste discharge program for the Wastewater Utility. Grease is the leading cause of sewer overflows in our system. Industrial waste poses a serious risk to our sewer maintenance personnel.
7. The City needs to evaluate capacity restraints, analyzing them from both the potential of increasing capacity and reducing I/I within the basins that facilities serve. Where reduction in I/I is at a similar cost of upsizing facilities, serious consideration shall be given to the I/I alternative.
8. Where the City annexes an area that is currently unsewered by another municipality, the City should provide sewer service. Where annexation occurs and sewer service is provided by another municipality, the City should determine whether to purchase the facilities from the adjacent municipality, or to continue to allow the existing agency to provide service. Purchase of facilities should be based on the actual depreciated cost the municipality incurred from providing the facilities to obtain service.
9. The rate increases recommended in this plan should be considered an estimate to implement the City-funded portion of all the recommended improvements. Currently, new development pays a major portion of the remaining cost of recommended improvements. If funding from this source, such as the System Development Charge or Special Assessment District Charges, are not available, the City's share of these construction costs will most likely increase. It should also be recognized that this plan does not establish annual Capital Improvement Programs (CIPs) or sewer rates, but rather provides a roadmap and guideline for the operation of the system. Yearly CIPs and sewer rates are established as part of the budget process. The City should update the financial models in a manner consistent with the City's budget schedule, so that rates can be adopted to accurately reflect the current financial situation within the utility. These models were developed as part of the 2006/2007 Rate Study undertaken at the same time this plan is being updated (*Comprehensive Rate Study, Water, Wastewater, and Surface Water Utilities, Financial Consulting Solutions Group, Inc., 2006/07*).
10. This plan should be updated at intervals of no greater than six years in order to accommodate unforeseen changes in existing assumptions, conditions and land use designations, and for adjusting budgets and sewer service rates.

*City of Renton* Department of Community & Economic Development

# ENVIRONMENTAL & DEVELOPMENT APPLICATION REVIEW SHEET

| | |
|---|---|
| REVIEWING DEPARTMENT: Fire | **COMMENTS DUE: APRIL 16, 2009** |
| APPLICATION NO: LUA09-041, ECF | DATE CIRCULATED: APRIL 2, 2009 |
| APPLICANT: City of Renton Wastewater Utility | PLANNER: Jerry Wasser |
| PROJECT TITLE: 2009 Wastewater Plan | PLAN REVIEWER: Kayren Kittrick |
| SITE AREA: N/A | EXISTING BLDG AREA (gross): N/A |
| LOCATION: Entire Renton sewer service area | PROPOSED BLDG AREA (gross) N/A |
| | WORK ORDER NO: 78048 |

SUMMARY OF PROPOSAL: The applicant, City of Renton, is requesting Non-Project Environmental (SEPA) Review of the City of Renton 2009 Long-Range Wastewater Management Plan. The purpose of the Plan is to present policy and design criteria and to recommend facility improvements. It is based on the City's sewer system as it existed as of January 2008. The Plan will be used as a guide in maintaining and improving the sanitary sewer system over the next six years in order to provide the Renton Sewer Service Area with an effective, safe, and reliable sewer system.

## A. ENVIRONMENTAL IMPACT (e.g. Non-Code) COMMENTS

| *Element of the Environment* | *Probable Minor Impacts* | *Probable Major Impacts* | *More Information Necessary* |
|---|---|---|---|
| *Earth* | | | |
| *Air* | | | |
| *Water* | | | |
| *Plants* | | | |
| *Land/Shoreline Use* | | | |
| *Animals* | | | |
| *Environmental Health* | | | |
| *Energy/ Natural Resources* | | | |
| | | | |

| *Element of the Environment* | *Probable Minor Impacts* | *Probable Major Impacts* | *More Information Necessary* |
|---|---|---|---|
| *Housing* | | | |
| *Aesthetics* | | | |
| *Light/Glare* | | | |
| *Recreation* | | | |
| *Utilities* | | | |
| *Transportation* | | | |
| *Public Services* | | | |
| *Historic/Cultural Preservation* | | | |
| *Airport Environment 10,000 Feet 14,000 Feet* | | | |

## B. POLICY-RELATED COMMENTS

## C. CODE-RELATED COMMENTS

NO COMMENTS

*We have reviewed this application with particular attention to those areas in which we have expertise and have identified areas of probable impact or areas where additional information is needed to properly assess this proposal.*

Bill Flora
Signature of Director or Authorized Representative

4/6/09
Date

# APPENDIX D

## Approval Documents

A. City of Renton Resolution Adopting Plan (Resolution 4092)

B. Department of Ecology Approval

C. King County Ordinance Approving Plan (Ordinance 17015)

D. Review Comments

E. Comment Log

CITY OF RENTON, WASHINGTON

RESOLUTION NO. 4092

**A RESOLUTION OF THE CITY OF RENTON, WASHINGTON, ADOPTING THE 2010 LONG-RANGE WASTEWATER MANAGEMENT PLAN (SANITARY SEWER COMPREHENSIVE PLAN).**

**WHEREAS**, the City Council was presented the 2010 Long-Range Wastewater Management Plan; and

**WHEREAS**, the plan was discussed at a meeting of the Utilities Committee; and

**WHEREAS**, the plan is compatible with the intent of the City's adopted Comprehensive Plan;

**NOW, THEREFORE,** THE CITY COUNCIL OF THE CITY OF RENTON, WASHINGTON, DOES RESOLVE AS FOLLOWS:

**SECTION I.** The above recitals are found to be true and correct in all respects.

**SECTION II.** The 2010 Long-Range Wastewater Management Plan is hereby adopted by the City of Renton.

PASSED BY THE CITY COUNCIL this 2nd day of May, 2011.

Bonnie I. Walton, City Clerk

APPROVED BY THE MAYOR this 2nd day of May, 2011.

Denis Law, Mayor

Approved as to form:

Lawrence J. Warren, City Attorney

RES.1493:1/20/11:scr

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
*Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000*



March 29, 2011

Mr. David Christensen
Utility Systems Division
City of Renton
1055 S Grady Way
Renton, WA 98057

Dear Mr. Christensen:

Re: Long-Range Wastewater Management Plan (2010)

Pursuant to RCW 90.48.110 and WAC 173-240-030, the above-referenced comprehensive sewer system plan has been reviewed and is hereby approved. A copy of the approved document is enclosed for your records. Since only one copy was submitted to the Department of Ecology (Ecology), please submit another copy for Ecology's files.

Sewage facilities within the planning area boundary shall be constructed according to the approved general sewer plan or amendments thereto. Prior to construction, you are required to submit a written description of the project and written assurance that sewer line extensions are in conformance with the general sewer plan.

Engineering reports and plans and specifications for sewer line extensions, including pump stations, need not be submitted for approval, except as noted below In the following situations, Ecology approval is necessary for sewer line extensions and pump stations prior to construction:

a) The proposed sewers or pump stations involve installation of overflows or bypasses; or

b) The proposed sewers or pump stations discharge to an overloaded treatment, collection, or disposal facility; or

c) The proposed sewers or pump stations will be funded with grants and loans.

When engineering reports and plans and specifications for construction are required, they must be submitted to the Department of Ecology for review and approval in accordance with Chapter 173-240 WAC.

If you have any questions concerning this approval, please call Mark Henley at (425) 649-7103.

Sincerely,

Kevin C. Fitzpatrick
Water Quality Section Manager

KF:MH:
cc: Mr. Steve Hirschey, King County
Mr. Mark Henley, PE, Ecology

# CITY OF RENTON

## LONG-RANGE WASTEWATER MANAGEMENT PLAN
### A COMPREHENSIVE SEWER SYSTEM PLAN
Final 2010

---

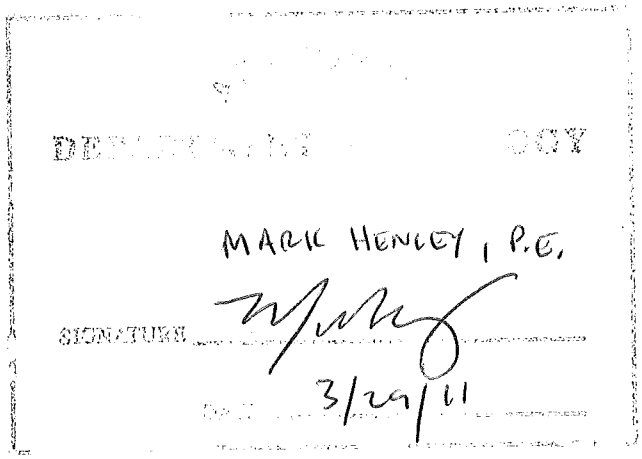
**MAYOR**
Denis Law

**PUBLIC WORKS DEPARTMENT ADMINISTRATOR**
Gregg Zimmerman

**UTILITY SYSTEMS DIVISION STAFF**
Lys Hornsby
David Christensen
Michael Benoit

**MAINTENANCE SERVICES DIVISION STAFF**
Richard Marshall
Stan Job

**CITY COUNCIL**
Don Persson, President
Terri Briere, President Pro Tem
Randy Corman, Councilmember
Marcie Palmer, Councilmember
King Parker, Councilmember
Greg Taylor, Councilmember
Rich Zwicker, Councilmember




**PREPARED BY**

City of Renton

with the assistance of
Carollo Engineers

King County
**Department of Natural Resources and Parks**
201 S Jackson St, Suite 700
Seattle, WA 98104-3855
206.296.6500

January 24, 2011

Michael A. Benoit
City of Renton, Public Works Department
Renton City Hall
1055 South Grady Way
Renton, WA 98057

Dear Mr. Benoit:

Please find enclosed a copy of King County Ordinance 17015, which approves the City of Renton Long-Range Wastewater Management Plan, Final 2010.

Thank you for all of your assistance in developing the Plan and working with the Utilities Technical Review Committee during its review.

If you have any questions, please call me at 206-205-0817.

Sincerely,

Steve Hirschey/cz

Stephen Hirschey
Chair, Utilities Technical Review Committee

SH:cz

Enclosure

King County

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

# KING COUNTY

## Signature Report

**January 6, 2011**

**Ordinance 17015**

**Proposed No.** 2010-0563.1 **Sponsors** Phillips

AN ORDINANCE approving the City of Renton Long-Range Wastewater Management Plan, Final 2010.

STATEMENT OF FACTS:

1. K.C.C. chapter 13.24 requires approval of comprehensive plans for sewer utilities as a prerequisite to granting right-of-way franchises and approval for right-of-way construction permits. Such plans or their updates must be submitted to the county at least once every six years, and more frequently if circumstances call for an earlier submittal.

2. K.C.C. 13.24.060 requires that such plans be consistent with the requirements of any comprehensive plans or development regulations adopted under chapter 36.70A RCW or any other applicable comprehensive plan, land use plan or development regulation adopted by a city, town, or county for the service area. The King County Comprehensive Plan, which includes wastewater policies in its provisions for facilities and services (policies F-245 through F-254), also calls for consistency with other adopted plans, support for regional water supply planning, pursuit of reclaimed water and water conservation and protection of water resources.

3. Both Washington state Department of Ecology ("DOE") and King County regulations require sewer plan approval prior to construction of new facilities.

4. The city of Renton ("the city") provides sewer service to a population of over forty-four thousand and an employment base of forty-nine thousand. Its service area includes the entire city and a small part of unincorporated King County. The service area is a mixture of residential, commercial, and light industrial, and includes portions of park and open spaces. The city's facilities discharge to the regional wastewater system operated by King County.

5. The city's service area has recently expanded with annexations and includes areas without sewer service. Its anticipated growth through 2030 will be largely mixed-use development and redevelopment construction. In addition, the city expects to accommodate additional flows as a result of providing sewers to a portion of its service area that does not currently have service. By 2030, it expects to be serving a residential population of approximately one hundred two thousand nine hundred one people as a result of both growth and annexations.

6. The principal operational issues in the plan are the need for and timing of the replacement of older, deteriorating sanitary facilities in the city and extending service to areas without sewer service. The city is cooperating with the county to investigate the origins and magnitude of excessive infiltration and inflow into the sewer system from different portions of its

service area. The city anticipates working with the county to develop a strategy for reducing those flows as part of the regional infiltration and inflow program.

7. The county's most recent approval of the city's sewer plan occurred in January 2000.

8. The King County utilities technical review committee ("UTRC") reviewed the city's plan ("the plan") in December 2009. K.C.C. chapter 13.24 requires review of wastewater plans by the UTRC, and a recommendation to the King County executive and council on the plan and its consistency with the King County Code and Comprehensive Plan. The planning data and proposed operations were reviewed by the UTRC, and the plan was found to be consistent with:

a. the population and employment forecasts and growth targets developed for the service area;

b. King County land use classifications; and

c. pertinent county adopted plans and policies.

9. The UTRC also found that, with revisions and additional information supplied by the city, the plan sufficiently addresses the specific issues required to be addressed under K.C.C. 13.24.010.H., including opportunities for the use of reclaimed water. The UTRC recommends that the King County council approve the plan.

10. The DOE has not yet reviewed and/or approved the plan as consistent with RCW 90.48.110 and chapter 173-240 WAC.

11. The city completed a state Environmental Policy Act checklist and issued a determination of nonsignificance for the issuance of the plan on April 24, 2009. There was no appeal of the determination.

BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

SECTION 1. The City of Renton Long-Range Wastewater Management Plan,

Final 2010, Attachment A to this ordinance, is hereby approved as a general sewer and facilities plan.

Ordinance 17015 was introduced on 11/1/2010 and passed by the Metropolitan King County Council on 1/3/2011, by the following vote:

Yes: 9 - Mr. Phillips, Mr. von Reichbauer, Mr. Gossett, Ms. Hague, Ms. Patterson, Ms. Lambert, Mr. Ferguson, Mr. Dunn and Mr. McDermott
No: 0
Excused: 0

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Larry Gossett, Chair

ATTEST:

Anne Noris, Clerk of the Council

APPROVED this 12 day of JANUARY, 2010.

Dow Constantine, County Executive

RECEIVED
2011 JAN 12 PM 4:06
KING COUNTY
CLERK
COUNCIL

**Attachments:** A. City of Renton Long-Range Wastewater Management Plan--Final 2010

**From:** Bob Giberson [mailto:bgiberson@ci.tukwila.wa.us]
**Sent:** April 22, 2009 3:40 PM
**To:** Michael A Benoit
**Subject:** Fwd: Comments on Renton LR Wastewater Mgmt. Plan
Michael:

Tukwila Public Works has completed the review of your draft Wastewater Management Plan and find it to be satisfactory and only minor comments were received from our Operations Manager (see below).
Thanks for the opportunity to review your plan,
Bob

**Bob Giberson, P.E., City Engineer**
**City of Tukwila Public Works**
**6300 Southcenter Blvd, Suite 100**
**Tukwila, WA 98188**

**Tel: (206) 431-2457**
**Cel: (206) 571-8163**
**Fax: (206) 431-3665**

>>> On 04/14/2009 at 1:16 PM, <pat-b@ci.tukwila.wa.us> wrote:
Bob,
I'm adding the following text (electronic) in case you need to copy/paste into return document.
The other side of the coin is not being able to read my own handwriting.

Chapter 3, p.3-4 Under existing reg. 1.16 Terms in the latter part of the paragraph seem to be loosely used with
"...may be used to dispose of storm waters.", should include under strict criteria otherwise it contradicts regional I&I goals.

Chapter 3, Section 3.3 It might be worthy to add something about recent water saving technology and regional conservation has deferred capacity needs by a degree, but new demand projections on slower than expected growth may also contribute.

Pat

**From:** Vesper, Merrill [mailto:MVesper@ci.kent.wa.us]
**Sent:** April 17, 2009 3:46 PM
**To:** Michael A Benoit
**Subject:** RE: Renton 2009 Wastewater Plan

I agree, use the 1983 agreement.

Merrill Vesper

**From:** Michael A Benoit [mailto:Mbenoit@Rentonwa.gov]
**Sent:** Friday, April 17, 2009 12:06 PM
**To:** Vesper, Merrill
**Subject:** RE: Renton 2009 Wastewater Plan

Thanks, that is the one. For some reason I have the resolution and not the actual agreement in the plan appendix. As I have dug deeper into this I have also found a March 15, 1983 agreement. (Renton CAG 012-83 / KC Recording # 8304130013, copy attached) It looks like the 1983 agreement would supersede the 1981 agreement. If Kent concurs, we will include the 1983 agreement in our plan instead of the 1981.

Michael Benoit

**From:** Vesper, Merrill [mailto:MVesper@ci.kent.wa.us]
**Sent:** April 17, 2009 11:26 AM
**To:** Michael A Benoit
**Subject:** RE: Renton 2009 Wastewater Plan

I have attached a copy of the agreement. It does have the designation CAG 039-81.

Merrill Vesper
City of Kent Engineering Department
mvesper@ci.kent.wa.us
253-856-5517

**From:** Michael A Benoit [mailto:Mbenoit@Rentonwa.gov]
**Sent:** Friday, April 17, 2009 10:54 AM
**To:** Vesper, Merrill
**Subject:** RE: Renton 2009 Wastewater Plan

Thank you for the note on the date of your current comp plan, we did not properly update the information in our plan.

As to the agreement, I think we are talking about the same agreement. The resolution number is for the City of Renton resolution. The agreement is also associated with Renton contract designation CAG 039-81. Would you please send us a copy of 'your' 1981 agreement so we can confirm we are talking about the same agreement.

Thanks

Michael Benoit
Project Manager
Wastewater Utility
City of Renton
Phn (425) 430-7206
Fax (425) 430-7241

**From:** Vesper, Merrill [mailto:MVesper@ci.kent.wa.us]
**Sent:** April 16, 2009 3:21 PM
**To:** Michael A Benoit; Gerald Wasser
**Cc:** Blanchard, Larry; Anderson, Charlene; Satterstrom, Fred; Osborne, William
**Subject:** RE: Renton 2009 Wastewater Plan

Mike/Gerald:
On page 4-12 there is a reference to resolution 2413 from 1981 which grants Renton the right to services portions of Kent. There is no such resolution, the numbers don't go that high yet. There is an ordinance 2413 but that is for something totally different. I searched and cannot find a resolution or ordinance for this issue but there is an agreement from 1981 which gives Renton the right to serve a small portion of Kent on the South side of 180th near 72nd. The agreement is mentioned on page 4-14. I assume the service area in the agreement is the service area referenced on page 4-12, but resolution no 2413 is incorrect.
Our lasted sewer comp plan is dated 2000 and was approved in 2002. A copy was sent to Greg Zimmerman. A letter dated October 27, 2000 stated that Renton had no comments or concerns about the plan. We are currently working on an update.
Merrill Vesper
City of Kent Engineering Department
mvesper@ci.kent.wa.us
253-856-5517

---

**From:** Osborne, William
**Sent:** Thursday, April 16, 2009 2:08 PM
**To:** 'mbenoit@rentonwa.gov'; 'gwasser@rentonwa.gov'
**Cc:** Vesper, Merrill; Blanchard, Larry; Anderson, Charlene; Satterstrom, Fred
**Subject:** FW: Renton 2009 Wastewater Plan

Mike/Gerald,
I offer these comments on behalf of the Kent Planning Services Office with the understanding that the comment period closes in less than three hours:
1. One area of possible service overlap with Renton is identified south of 55th/SE 192nd in an area designated Urban Separator (see page 4-14). The info provided by Renton in Table 4.2 (p. 4-12) also has the maximum density for that single-family residential at 3 to 8 dwelling units per acre. The land is currently zoned at 1 dwelling unit per acre – in conformity with the Urban Separator Comprehensive Plan Land Use Map designation.
2. The most recent reference to the Kent Sewer Plan is from 1980 (also p. 4-14). Merrill Vesper in our Public Works Department should be able to assist in refreshing the reference date.

As they may have been anticipating a comment period closure in May, Merrill and other Public Works staff might require additional time to consider the Wastewater Plan in sufficient detail.
Regards,

**William D. Osborne, AICP**
City of Kent | Planning Services Office |
220 Fourth Avenue South | Kent, WA 98032-5895
**Desk 253.856.5437** | Main 253.856.5454 | Fax 253.856.6454
www.ci.kent.wa.us/planning
www.revitalizingkent.org
***Please protect the environment. Print only if necessary.***

---

**From:** Osborne, William
**Sent:** Thursday, April 16, 2009 11:56 AM
**To:** 'mbenoit@rentonwa.gov'; 'gwasser@rentonwa.gov'
**Cc:** Vesper, Merrill; Blanchard, Larry; Satterstrom, Fred
**Subject:** Renton 2009 Wastewater Plan

Mike/Gerald,
The document Kent Community Development received along with a CD featuring the Wastewater Plan indicated that the comment periods for the project and proposed DNS "…are integrated into a single comment period." Closing today at 5 p.m.
Would you please clarify the difference between the comment periods identified in the NOA and Proposed DNS for Renton Project# LUA09-041, ECF (2009 Wastewater Plan) sent to our Community Development Director and the comment period for the attached PDF (maybe originally in hard copy) sent to our Public Works Director – which closes in May?

<< File: 20090416092305424.pdf >>
Thanks,

**William D. Osborne, AICP**
City of Kent | Planning Services Office |
220 Fourth Avenue South | Kent, WA 98032-5895
**Desk 253.856.5437** | Main 253.856.5454 | Fax 253.856.6454
www.ci.kent.wa.us/planning
www.revitalizingkent.org
***Please protect the environment. Print only if necessary.***

King County
Department of Natural Resources and Parks
201 S Jackson St, Suite 700
Seattle, WA 98104-3855
206.296.6500



December 17, 2009

Michael A. Benoit
City of Renton, Public Works Department
Renton City Hall
1055 South Grady Way
Renton, WA 98057

Dear Mr. Benoit:

We received your letter and copy of the City of Renton's (City) 2008 Long Range Wastewater Management Plan (Plan). You have submitted the Plan to King County's Utilities Technical Review Committee (UTRC) for approval by King County. Within King County, the UTRC evaluates the Plan for consistency with the King County Comprehensive Plan and King County Code (KCC) prior to making a recommendation to the King County Council for Plan approval. The UTRC consistency review of the Plan includes:

> KCC 13.24.010(C) – Only plans consistent with the King County Comprehensive Plan adopted in KCC Title 20 and corresponding development regulations shall be approved. The infrastructure system for the existing service area and for the area anticipated to be served in the future shall be based on the adopted land use map of the Comprehensive Plan.
>
> KCC 13.24.010(F) – Water and sewer comprehensive plans shall include information sufficient to demonstrate the ability to provide service consistent with the requirements of all applicable statutes, codes, rules, and regulations.
>
> KCC 13.24.010(H) – Provides that sewer comprehensive plans shall be consistent with Washington Administrative Code (WAC) 173-240-050 and the plan shall discuss the following:
>
> - Existing and planned flows, both average and peak;
> - Existing and planned flows for any basin discharging into King County's sewage conveyance and treatment system;
> - Amounts of inflow and infiltration (I/I) to the system, a comparison of those amounts with King County's 1,100 gallons-per-acre-per-day (gpad) standard, and steps being taken to reduce the I/I;

- Areas of concern with respect to corrosion and odor control and steps being taken to reduce their occurrence; and
- Opportunities for reclaimed water as required under Revised Code of Washington (RCW) 90.48.112 and RCW 90.48.495.

The UTRC makes the following series of observations or statements related to our code responsibilities for plan review. At the end of the letter we summarize the issues that must be resolved for the UTRC to recommend approval of the Plan to the King County Council. In general, the document was well written, easy to follow, and we thank you for that.

A Section 4.3.3 – the first paragraph of this section pertains to King County land use and we offer several suggested edits. First, the 2004 King County Comprehensive Plan with 2006 Amendments was replaced by the King County Comprehensive Plan 2008, effective October 2008. The 2008 version is the current Comprehensive plan in effect. Secondly, the first paragraph briefly talks about sewer service to the rural area and the paragraph correctly notes that the potential annexation area for the City abuts the urban growth boundary and references policy F-249. The last sentence of the paragraph says, "The City will address the need(s) for expansion into the rural area as they arise." Extension of sewer into the rural area would not be
B a unilateral decision by the City, so please edit that sentence to include the concept of consistency with the King County Comprehensive Plan, which does not permit sewer service to the rural area except for public schools and failed septic systems when no cost efficient alternative is possible. We tend to agree with your statement in the same paragraph that says, the City does not see the narrowly defined situations when sewer service is allowed to rural areas as a major impact to the City's proposed service area.

Finally, the last paragraph of section 4.3.3 – talks about King County land use and states, "Unincorporated areas of King County are divided into community planning areas, each with a community plan. While these community plans were not adopted as part of the 1994 King County Comprehensive Plan, the policies of community plans that are consistent with the comprehensive plan remain in effect and continue as official County Policy." The community
C plans are adopted as part of the King County Comprehensive Plan 2008, effective October 2008, so please edit accordingly.

D Section 4.3.6.2 states the Cedar River Water & Sewer District's last Comprehensive Sewer Plan was adopted in 1994. I believe their last plan was adopted in 2006.

Section 4.3.7 refers to aquifer protection ordinances and we just want to affirm that for those areas outside the City and within unincorporated King County, the critical areas ordinance and critical aquifer recharge area mapping corresponds (generally) to your zone 2 designation. Hence, our code and land use policies support protection of the aquifer used by the City.

Section 4.4 is the demographic analysis and it is not apparent from the text if the Plan considered the City's adopted Growth Management Planning Council's (GMPC) population and employment targets for the City and the potential annexation area (PAA). Did the City compare the demographic data created for this Plan with your adopted growth targets? If so, you may want to note that so it is clear the City's sewer service will accommodate the adopted
E Growth Management Act population and employment goals.

We note the discussion in 5.2.1 related to the King County Interceptor. As you noted, and we affirm, King County has implemented several projects to significantly increase the influent and effluent capacity at South Plant and has installed parallel interceptor facilities to reduce the chance of surcharging. In addition to past projects, the County has planned additional projects to ensure its obligations are satisfied with respect to the potential for wastewater overflow in low-lying areas as part of the regional conveyance system. Section 5.2.7 discusses I/I. That section of the Plan accurately characterizes the regional work done by the Waste Treatment Division. We thank you for your past and continuing participation in the Regional I/I program.

F Peak flows by basin have been listed in table 5.1 for each mini basin used to estimate flows generated in the Renton collection system during storm events. There should be some discussion of how these peak I/I flows compare to the King County 1,100 gpad standard. The results of the initial I/I projects currently in design by King County Wastewater Treatment Division, and scheduled for construction in 2011 and 2012, will provide additional information on I/I removal efficiency.

G The Plan states the East Cedar River basin (section 5.3.2) and May Creek basin (section 5.3.6) are partially developed with subdivisions on private septic systems. That is not surprising given the generally rural character of the areas. We agree with your discussion of extension of service to areas that are currently unsewered as the entire area is within the urban growth boundary and sewers are necessary to achieve the population targets set by the GMPC. We encourage the City to develop specific policies to encourage extension of sewer service to these areas and how the City might support the utility local improvement districts for that area east of the City and within the PAA.

H Section 8.4.2 addresses current King County sewer charges. Those charges appear to be summarized in table 8.4 instead of the referenced table 8.3. As noted elsewhere in the Plan, the charges by the county may change. Given this is a 2009 plan, perhaps the Plan could reference 2009 charges which may be found on our website at http://www.kingcounty.gov/environment/wastewater/CapacityCharge.aspx

I The footnote to table 8.3 notes that sewer rates outside the City are 1.5 times higher than within the City. Please provide a brief rational for the rate differential for that portion of the sewer service area not within the City.

M With respect to corrosion and odor control, and steps being taken to reduce their occurrence, we note the Plan does not identify any problems.

J An evaluation of the opportunities for reclaimed water use as required under RCW 90.48.112 does not appear to have been done. To facilitate the assessment, the Washington State Department of Ecology has published guidance material on their website. I want to acknowledge that the City has participated with King County by providing potential use data for use within our reclaimed water planning process and we thank you for that. Perhaps a brief note on that effort would be helpful within the Plan.

Miscellaneous issues

Appendix K lists one franchise (14056) the City holds with King County. We have two additional franchises for sewer service with the City, franchises 12267 (expires February 13, 2021) and 8757 (expires September 1, 2017). We would like to affirm a common understanding of the existing sewer franchises and that the City has no need to add new areas to the franchises at this time. In addition, and while not a sewer issue, the City's franchise 6030 for water expired last June. We assume you will initiate actions to renew that franchise and would like to affirm that with a short conference call between the City and County.

It appears the City does its own geographic information system mapping. If possible, we would like to obtain the map layers for your service area boundary with detail as to who serves where as stated in your interlocal agreements.

We hope you find these comments helpful as you finalize the City's s Plan. We look forward to seeing the final Plan and working with you to secure the King County Council approval. The Council's final action on the Plan will constitute King County's approval of the Plan. For the UTRC to recommend Council approval of the Plan, please ensure that the final Plan:

- Acknowledges that expansion of sewer service to serve the rural area would be consistent with the King County Comprehensive Plan;
- A brief rational for the rate differential for that portion of the sewer service area not within the City.
- Evaluates the impact of future water conservation efforts on wastewater flows; and
- Evaluates opportunities for reclaimed water use.

If you have any questions or concerns about any of the information in the letter, please do not hesitate to call me at 206-205-0817, or my colleague Mark Lampard in our Wastewater Treatment Division, at 206-263-3162.

Sincerely,

Steve Hirschey /cz

Stephen Hirschey
Chair, Utilities Technical Review Committee

cc Karen Burgess, Washington State Department of Ecology

**Comment Log**
**Renton Long-Range Wastewater Management Plan**
**City of Renton**

| # | Comment Source | Chapter | Section / Page | Comment | Response | Responder |
|---|---|---|---|---|---|---|
| 1 | Tukwila Public Works - Operations Manager | 3 | Page 3-4 | Under existing reg. 1.16 Terms in the latter part of the paragraph seem to be loosely used with "...may be used to dispose of storm waters." should include under strict criteria otherwise it contradicts regional I&I goals. | Section referenced discusses using abandoned septic system for storm drainage. No connection of storm to public sanitary sewers. No change necessary. | MB |
| 2 | Tukwila Public Works - Operations Manager | 3 | Section 3.3 | It might be worthy to add something about recent water saving technology and regional conservation has deferred capacity needs by a degree, but new demand projections on slower than expected growth may also contribute. | The concept of water saving technologies is considered when evaluating capacity needs. Renton uses what we consider industry standards for projected usage. Until such time as there is more definitive data that adjusts industry standards, Renton has chosen the more conservative approach. No change required. | MB |

**Comment Log**
**Renton Long-Range Wastewater Management Plan**
**City of Renton**

| # | Comment Source | Chapter | Section / Page | Comment | Response | Responder |
|---|---|---|---|---|---|---|
| 3 | City of Kent -- William D. Osborne | 4 | Page 12 and 14 | One area of possible service overlap with Renton is identified south of 55th/SE 192nd in an area designated Urban Separator (see page 4-14). The info provided by Renton in Table 4.2 (p. 4-12) also has the maximum density for that single-family residential at 3 to 8 dwelling units per acre. The land is currently zoned at 1 dwelling unit per acre – in conformity with the Urban Separator Comprehensive Plan Land Use Map designation. | Table 4.2 revised to reflect correct zoning | MAB |
| 4 | City of Kent -- William D. Osborn<br><br>and<br><br>Merrill Vespere | 4 | Page 14 | The most recent reference to the Kent Sewer Plan is from 1980 (also p. 4-14). Merrill Vesper in our Public Works Department should be able to assist in refreshing the reference date.<br><br>Our lasted sewer comp plan is dated 2000 and was approved in 2002. A copy was sent to Greg Zimmerman. A letter dated October 27, 2000 stated that Renton had no comments or concerns about the plan. We are currently working on an update. | Reference to Kent sewer comp plan revised to reflect most current plan. | MAB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 5a | City of Kent -- Merrill Vesper | 4 | 12 | On page 4-12 there is a reference to resolution 2413 from 1981 which grants Renton the right to services portions of Kent. There is no such resolution, the numbers don't go that high yet. There is an ordinance 2413 but that is for something totally different. I searched and cannot find a resolution or ordinance for this issue but there is an agreement from 1981 which gives Renton the right to serve a small portion of Kent on the South side of 180th near 72nd. The agreement is mentioned on page 4-14. I assume the service area in the agreement is the service area referenced on page 4-12, but resolution no 2413 is incorrect. | As to the agreement, I think we are talking about the same agreement. The resolution number is for the City of Renton resolution. The agreement is also associated with Renton contract designation CAG 039-81. Would you please send us a copy of 'your' 1981 agreement so we can confirm we are talking about the same agreement. | MB |
| 5b | City of Kent -- Merrill Vesper | 4 | 12 | I have attached a copy of the agreement. It does have the designation CAG 039-81. | Thanks, that is the one. For some reason I have the resolution and not the actual agreement in the plan appendix. As I have dug deeper into this I have also found a March 15, 1983 agreement. (Renton CAG 012-83 / KC Recording # 8304130013, copy attached) It looks like the 1983 agreement would supersede the 1981 agreement. If Kent concurs, we will include the 1983 agreement in our plan instead of the 1981. | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 5c | City of Kent -- Merrill Vesper | 4 | 12 | I agree, use the 1983 agreement. | Replace 1981 agreement with 1983 agreement | MB |
| 6 | Soos Creek Water and Sewer – Ron Speer | 4 | 4-2 | Figure 4.1 - Sewer Service Area Adjacent Sewer Utilities<br>• The sewer service boundary between the City and the District shown on the map is not consistent with the boundary that has been established by agreement between the two agencies. We have included copies of the maps that depict the service boundary and subsequent changes. We request that you meet with us to confirm the boundary of your sewer service area and revise the various figures in the Long Range Wastewater Management Plan as necessary. | The sewer service boundary between the City and the District shown on the map IS correct as of the January 2008 date of the plan. The City acknowledges the July 2008 boundary agreement as part of the sewer service area for actions and documents subsequent to that agreement. | MB |
| 7 | King County – Stephen Hirschey | 4 | Section 4.3.3 | The first paragraph of this section pertains to King County land use and we offer several suggested edits. First the 2004 King County Comprehensive Plan with 2006 Amendments was replaced by the King County Comprehensive Plan 2008, effective October 2008. The 2008 version is the current Comprehensive Plan in effect. | The first paragraph was modified to reference the current King County Comprehensive Plan | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 8 | King County – Stephen Hirschey | 4 | Section 4.3.3 | Secondly, the first paragraph briefly talks about sewer service to the rural area and the paragraph correctly notes that the potential annexation area for the City abuts the urban growth boundary and references policy F-249. The last sentence of the paragraph says, "The City will address the need(s) for expansion into the rural area as they arise." Extension of sewer into the rural area would not be a unilateral decision by the City, so please edit that sentence to include the concept of consistency with the City County Comprehensive Plan, which does not permit sewer service to the rural area except for public schools and failed septic systems when no cost efficient alternative is possible. We tend to agree with your statement in the same paragraph that says, the City does not see the narrowly defined situations when sewer service is allowed to rural areas as a major impact to the City's proposed service area. | The phrase<br>"as they arise"<br><br>has been replaced by the phrase<br><br>"in concurrence with King County comprehensive planning providing for the ability or need for sanitary service." | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 9 | King County – Stephen Hirschey | 4 | Section 4.3.3 | Finally, the last paragraph of section 4.3.3 – talks about King County land use and states, “Unincorporated areas of King County are divided into community planning areas, each with a community plan. While these community plans were not adopted as part of the 1994 King County Comprehensive Plan, the policies of community plans that are consistent with the comprehensive plan remain in effect and continue as official County Policy.” The community plans are adopted as part of the King County Comprehensive Plan 2008, effective October 2008, so please edit accordingly. | The reference paragraph has been modified to mention that these plans were adopted as part of the 2008 King County Comprehensive Plan. | MB |
| 10 | King County – Stephen Hirschey | 4 | Section 4.3.6.2 | Section 4.3.6.2 states the Cedar River Water and Sewer District’s last Comprehensive Plan was adopted in 1994. I believe their last plan was adopted in 2006. | The section was modified to reference the 2006 Plan. | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 11 | King County – Stephen Hirschey | 4 | Section 4.3.7 | Section 4.3.7 refers to aquifer protection ordinances and we just want to affirm that for those areas outside the City and within unincorporated King County, the critical areas ordinance and critical aquifer recharge areas mapping corresponds (generally) to your zone 2 designation. Hence, our code and land use policies support protection of the aquifer used by the City. | No proposed change to plan. | MB |
| 12 | King County – Stephen Hirschey | 4 | Section 4.4 | Section 4.4 is the demographic analysis and it is not apparent from the text if the Plan considered the City's adopted Growth Management Planning Council's (GMPC) population and employment targets for the City and the potential annexation areas (PAA). Did the City compare the demographic data created for this Plan with your adopted growth targets? If so, you may want to note that so it is clear the City's sewer service will accommodate the adopted Growth Management Act population and employment goals. | The following sentence was added to section 4.4 at the end of the second paragraph, "The RTAZ and PSRC TAZ projections meet or exceed the City's adopted Growth Management Planning Council (GMPC) population and employment targets for the City and Potential Annexation Area (PAA)." | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 13 | King County – Stephen Hirschey | 5 | Section 5.2.1 and Section 5.2.7 | We note the discussion in 5.2.1 relates to the King County Interceptor. As you noted, and we affirm, King County has implemented several projects to significantly increase the influent and effluent capacity at South Plant and has installed parallel interceptor facilities to reduce the chance of surcharging. In addition to past projects, the County has planned additional projects to ensure its obligations are satisfied with respect to the potential for wastewater overflow in low-lying areas as part of the regional conveyance system. Section 5.2.7 discusses I/I. That section of the Plan accurately characterizes the regional work done by the Waste Treatment division. We thank you for your past and continuing participation in the Regional I/I program. | No proposed change to plan. | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 14 | King County – Stephen Hirschey | 5 | Table 5.1 | Peak flows listed by basin have been listed in table 5.1 for each mini basin used to estimate flows generated in the Renton collection system during storm events. There should be some discussion of how these peak I/I flows compare to the King County 1,100 gpad standard. The results of the initial I/I projects currently in design by King County Wastewater Treatment Division, and scheduled for construction in 2011 and 2012, will provide additional information on I/I removal efficiency. | A discussion of these peak flows and how they compare to the County standard was added to Section 5.2.7 | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 15 | King County – Stephen Hirschey | 5 | Section 5.3.2 and 5.3.6 | The Plan states the East Cedar River basin (section 5.3.2) and May Creek basin (section 5.3.6) are partially developed with subdivisions on private septic systems. That is not surprising given the general rural character of the areas. We agree with your discussion of extension of the services to areas that are currently unsewered as the entire area is within the urban growth boundary and sewers are necessary to achieve the population targets set by the GMPC. We encourage the City to develop specific policies to encourage extension of sewer service to these areas and how the City might support the utility local improvement district for that area east of the City and within the PAA. | Our opinion is that the policies detailed in Chapter 3 are sufficient. No proposed change to plan. | MB |
| 16 | King County – Stephen Hirschey | 8 | Section 8.4.2 | Section 8.4.2 addresses current King County sewer charges. Those charges appear to be summarized in table 8.4 instead of the referenced Table 8.3. | Reference changed. | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 17 | King County – Stephen Hirschey | 8 | Section 8.4.2 | As noted elsewhere in the Plan, the charges by the county may change. Given this is a 2009 plan, perhaps the Plan could reference 2009 charges which may be found on our website at http://www.kingcounty.gov/environment/wastewater/CapacityCharge.aspx | The text in section 8.4.2 was changed from referencing the "current King County charges" to reference the "2008 King County charges". An additional sentence was added directing the reader to the mentioned website. "King County's current monthly rate(s) may be found at http://www.kingcounty.gov/environment/wastewater/CapacityCharge.aspx. | MB |
| 18 | King County – Stephen Hirschey | 8 | Table 8.3 | The footnote to table 8.3 notes that sewer rates outside the City are 1.5 times higher than within the City. Please provide a brief rational for the rate differential for that portion of the sewer service area not within the City. | A sentence was added to the discussion of Table 8.4, "For sewer service outside of the City, Renton has set a specific rate class for non-resident customers. This rate is one and one-half (1-1/2) times the basic City sewer rate applicable to resident users for similar service. Said additional charges are to cover costs of planning, franchising, permitting, and operation through other jurisdictions." | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 19 | King County – Stephen Hirschey | | | With respect to corrosion and odor control, and steps being taken to reduce their occurrence, we note the Plan does not identify any problems. | Section 5.3.3.3 and project 1.05 J contain a brief discussion of the fact there is a corrosion problem in some areas of our system. No proposed change to plan.<br><br>The following sentences were added to a new section 5.1.2.4 "Odor Issues" to clarify odor issues, "Odor issues within the City sewer system are rare, most often associated with the operation of lift stations. Issues are typically resolved through adjustment of maintenance procedures or by providing an odor mitigation process." | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 20 | King County – Stephen Hirschey | | | An evaluation of the opportunities for reclaimed water use as required under RCW 90.48.112 does note appear to have been done. To facilitate the assessment, the Washington State Department of Ecology has published guidance material on their website. I want to acknowledge that the City has participated with King County by providing potential use date for use within our reclaimed water planning process and we thank you for that. Perhaps a brief note on that effort would be helpful within the Plan. | The following sentence will be added to the end of section 1.3, "The Revised Code of Washington (RWC) 90.48.112 also requires that wastewater plans "must include a statement describing how applicable reclamation and reuse elements will be coordinated". A statement regarding reclaimed water coordination in included in Section 4.3.6.8."<br><br>Additionally, the following section was added to the plan as section 4.3.6.8 King County Reclaimed Water Comprehensive Plan. King County is currently developing a Reclaimed Water Comprehensive Plan. The City supports King County's planning effort and has provided King County with potential use data to facilitate the planning process. Opportunities for reclaimed water may exist in the future and the City will evaluate these opportunities and coordinate with King County as they arise." | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 21 | King County – Stephen Hirschey | App. | K | Appendix K lists one franchise (14056) the City holds with King County. We have two additional franchises for sewer services with the City, franchise 12267 (expires February 13, 2021) and 8758 (expires September 1, 2017). We would like to affirm a common understanding of the existing sewer franchises and that the City has no need to add new area to the franchise at this time. | Franchise 12267 has been superseded as this area is included within “Area D” of Franchise 14056. It also appears that the rights-of-way specified in Franchise 12267 is now all in the City.<br>Franchise 8757 has been superseded as this area is included in “Area A” of Franchise 14056. No proposed change to plan. | MB |
| 22 | King County – Stephen Hirschey | Misc. | | Evaluate the impact of future water conservation efforts on wastewater flows. | The following paragraph has been added at the end of the second paragraph in section 5.1, “As the City implements more water conservation programs, there may be a negative impact on the operation of a sewer system. Reduction of the liquid component of wastewater could cause problems in moving solids through the lines. Problems moving solids could impact the operation of the system, increase the potential of sanitary sewer overflows and will increase the need for flushing. | MB |

| Comment Log<br>Renton Long-Range Wastewater Management Plan<br>City of Renton | | | | | | |
|---|---|---|---|---|---|---|
| **#** | **Comment Source** | **Chapter** | **Section / Page** | **Comment** | **Response** | **Responder** |
| 23 | King County – Stephen Hirschey | Misc. | | In addition, and while not a sewer issue, the City's franchise 6030 for water expired last June. We assume you will initiate actions to renew that franchise and would like to affirm that with a short conference call between the City and County. | The City Water Utility will coordinate with the County to renew the water franchise. | MB |
| 24 | King County – Stephen Hirschey | Misc. | | It appears that the City does its own geographic information system mapping. If possible, we would like to obtain the map layers for your service area boundary with detail as to who serves where as stated in your interlocal agreements. | The City works with King County GIS Center to exchange data on a regular basis. This data includes the sewer service boundary as defined by our interlocal agreements. If there is specific data needed outside this process, the County may contact the Renton Wastewater Utility directly. | MB |
| | | | | | | |