

June 24, 1996

Introduced By:

Larry Phillips

Proposed No.:

96 - 492

ORDINANCE NO. **12409**

AN ORDINANCE approving the amount of the sewage treatment capacity charge for 1996 and amending Ordinance 11398, section 1 and K.C.C. 28.84.055.

BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

SECTION 1. Ordinance 11398, section 1 and K.C.C. 28.84.055 is each hereby amended as follows:

ESTABLISHING THE 1994 METROPOLITAN SEWAGE FACILITY CAPACITY CHARGE - The amount of the 1994 metropolitan sewage facility capacity charge adopted by ordinance 11034, Section 5, part O shall be \$7.00 per month per residential customer or residential customer equivalent for 15 years.

ESTABLISHING THE 1995 METROPOLITAN SEWAGE FACILITY CAPACITY CHARGE - The amount of the 1995 metropolitan sewage facility capacity charge adopted by ordinance 11034, Section 5, part O shall be \$7.00 per month per residential customer or residential customer equivalent for 15 years.

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APPROVAL OF AMOUNT OF SEWAGE TREATMENT CAPACITY CHARGE

FOR 1996. The sewage treatment capacity charge shall be seven dollars (\$7.00) per month per residential customer or equivalent for fifteen years for sewer connections occurring between and including January 1, 1996 and December 31, 1996.

INTRODUCED AND READ for the first time this 24th day of

June, 19 96

PASSED by a vote of 11 to 0 on this 29th day of July, 19 96.

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Jane Hays
Chair

ATTEST:

Edna Francis
Deputy Clerk of the Council

APPROVED this 7th day of August, 19 96.

Greg Lohr
King County Executive

Attachments: King County's Sewage Treatment Capacity Charge: 1996-2000

King County's Sewage Treatment Capacity Charge: 1996 to 2000

Prepared by the Water Pollution Control Division

May 23, 1996

Introduction

The audit of King County's sewage treatment capacity charge submitted to the County Council January 18, 1996 recommended a detailed review of the assumptions and data used to support the amount of the charge. This recommendation followed an audit finding that some of the original data was either unavailable or outdated. The charge as proposed for 1996 reflects updated information. The Water Pollution Control Division is continuing to address these audit findings and recommendations as it formulates the basis for the capacity charge for 1997. This ordinance addresses the charge for 1996 only which must be adopted by July 1, 1996 if it is to be implemented this year. Adoption of the charge as proposed was assumed in the \$19.10 sewer rate proposed for 1997. Assumptions and data used as the basis for the charge as proposed for 1996 and 1997 are described in this report. A recommended rate for 1997 will be submitted along with the 1997 budget.

The statute under which the charge is levied requires annual approval of the amount of the charge by the county council. Such approval for 1996 has not yet occurred. Although the amount of the charge would normally be approved near the first of the year, the executive believed it prudent to address the audit findings related to underlying assumptions before submitting appropriate legislation.

The facilities with excess capacity

State law that has governed the capacity charge since its inception requires that the charge be based on "the cost of the sewage facilities excess capacity that is necessary to provide sewage treatment for new users to the system". Facilities in the county's Water Pollution Abatement Plan that have been constructed, or are under construction, that potentially include "excess capacity" as of 1995 have been identified. The preliminary list includes 13 projects and is somewhat different than the list of 11 projects identified when the charge was originally formulated in 1990. This report focuses on four major projects. Documentation of the excess capacity in these four projects has been established. Excess capacity in these four projects justify a charge amount that exceeds what the county is able to charge under state law. These facilities/projects are as follows:

Renton Effluent Transfer System
Renton Expansion III from 72 mgd to 108 mgd
West Point Secondary Treatment Facilities
Redmond Connection

Additional projects that include some measure of excess capacity are identified on Exhibit C. The documentation of excess capacity included in those facilities, however, has not yet been recreated to the standards that would conform to the audit recommendations. This work continues and should be completed within the next several months.

The methodology

For the four foregoing facilities wastewater flows were estimated for 1995 and 2000 using the wastewater flow estimates contained in the "existing conditions" report described under Sources. The incremental difference was then identified as the percentage of design capacity of the facility that would be used by customers projected to come "on line" from 1995 to 2000 (See exhibit B). This percentage applied to the cost of the facility is the cost of the facilities excess capacity necessary to serve customers connecting during this five year period (See Exhibit A). The cost of excess capacity in the foregoing facilities is then totalled and divided by the number of new customers projected from 1995 to 2000 to generate an amount to be compared to the statutory limit.

Estimating the number of new customers

Estimates of new customers can be derived from several sources. One methodology is to compare the actual number of customers in 1995 to estimated residential population and commercial and industrial employment for that same year. The resultant ratio can then be used to project a customer count from population and employment estimates for the year 2000. The difference would then be the estimated number of new customers for that time frame. That methodology, using Puget Sound Regional Council estimates developed from the 1990 census (as refined in 1995), would result in an estimate of 27,000 new customers from 1995 to 2000. This would be slightly higher than the 23,000 projected in the division's financial forecast used for rate forecasting and other financial planning purposes. This latter projection is based largely on historical rates of increase and is intended to be conservative.

The second methodology is to project the next five years from the actual annual number of new customers connected for the last five years. The average number of new customers per year from 1991 to 1995 is 6,588. There is no pattern of year to year increase. The 1991 and 1995 counts of actual new customers are almost identical. Using this average to project customers for the next five years results in an estimate of 33,000 new customers. We believe this is the more appropriate methodology, inasmuch as variations in consumption among existing non-residential customers can affect the calculation when using the first methodology. (Because of this possible variation, the total number of customers and equivalents in the system can actually decrease, even as population increases, which changes the ratio). For capacity charge purposes, the larger number of projected customers is also the more conservative projection.

The cost per customer

The per customer cost of the excess capacity identified in this report for the period 1995 to 2000, using the estimate of 33,000 new customers, is \$2087 (based on actual costs.) If grants are deducted from the project cost the number is then \$1580. The current charge of \$7. per month for 15 years produces \$1260 (\$823.22 present value). A charge set at the new statutory limit (effective January 1, 1996) of \$10.50 per month for 15 years produces \$1890 (\$1234.88 present value).

The current charge amount of \$7. per month is justified by the excess capacity in the four projects discussed in this paper, whether or not grants are deducted. Setting the charge at the new statutory limit of \$10.50 per month is also justified if grants are not deducted. Staff is continuing to analyze the additional projects that have some amount of excess capacity. As that analysis proceeds the cost of excess capacity will increase and it appears that the non-grant portion will exceed the amount generated by the \$10.50 rate. (If the amount generated over 15 years is brought back to present value it is already exceeded.) We are not requesting the higher rate in 1996 to allow for an opportunity to more fully address issues raised in the audit, and to explore other options for levying the charge discussed below.

The future

As part of the Regional Wastewater Services Plan, financing alternatives for the needed improvements will be identified. This will include an examination of different methodologies for determining capacity charges. One element of this examination involves the possibility of levying the charge under different authority than Chapter 35.58 RCW, which is the enabling legislation for metropolitan municipal corporations. Counties have greater flexibility regarding this type of fee and it may be in the best interest of the county to develop a charge without the restrictions of 35.58. There are alternative methodologies in use throughout the U. S. that have advantages over the "cost allocation" methodology that has been used so far in this program.

Sources

All flow projections used in this analysis, except for the Redmond Connection, are described in the Regional Wastewater Services Plan document entitled "Wastewater 2020 Plus Existing Conditions" dated August, 1994 and prepared by HDR Engineering, Inc. Flow projections for the Redmond Connection are described in the "System Predesign Report Task 317 Technical Memorandum (Redmond Connection)" dated July, 1987 and prepared by HNTB, Inc. 1995 flows are interpolated from the 1990 and 2000 flows identified in those reports.

Population and employment forecasts used to project new customers from 1995 to 2000 were provided by the Puget Sound Regional Council in 1991. The forecasts were derived from 1990 census data and Washington state Employment Security Department commercial and industrial employment estimates. The forecasts were revised in 1995.

Exhibits (3)

EXHIBIT A
Cost of Excess Capacity (\$000)

Cost of Projects			
Project	Costs Through 1995	Grants Through 1995	Cost Excluding Grants
Renton Expansion III	111,266	22,278	88,988
Renton ETS	195,364	73,710	121,654
West Point Secondary	537,563	100,000	437,563
Redmond Connection	22,308	4,873	17,435
TOTALS	866,501	200,861	665,640
Cost of Excess Capacity			
Project	Percentage of Capacity for Growth 1995-2000	Apportioned Cost	Apportioned Cost Excluding Grants
Renton Expansion III	38.89%	43,271	34,607
Renton ETS	8.47%	16,547	10,304
West Point Secondary	0.90%	4,838	3,938
Redmond Connection	18.90%	4,216	3,295
TOTALS		68,872	52,144

12403

EXHIBIT B

Projects/Facilities:	Renton Effluent Transfer System (Reso¹ # 4339-4/5/84)	Renton Treatment Plant Expansion (Reso¹ # 4780-7/17/86)	West Point Secondary Treatment Facilities (Reso¹ # 4780-7/17/86)	Redmond Connection (Reso¹ # 4780-7/17/86)
Description of Facility:	Pipeline along the Duwamish River from the EDRP ² at Renton to Puget Sound.	Expansion from 72 mgd to 108 mgd.	Upgrade of West Point Treatment Plant.	Pump station & pipeline to transfer current & future flows from West Division to East Division.
Design Capacity:	144 mgd	36 mgd	133 mgd	68 mgd ³
Estimated 1995 Flow:	73 mgd	73 mgd	116.2 mgd	50.45 mgd ⁴
Projected 2000 Flow:	85.2 mgd	85.2 mgd	117.4 mgd	63.3 mgd ⁴
% of Capacity needed to serve customers projected for 1995-2000:	8.47%	38.89%	.9%	18.9%

¹ Comprehensive plan amendment resolution

² East Division Reclamation Plant

³ Design capacity is average wet weather flow except Redmond Connection, for which peak flows are shown

⁴ From tributary basins

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EXHIBIT C

Additional capital projects in Metro's comprehensive water pollution abatement plan that include excess capacity.

Project	Alki	Eastgate/ Heathfield PS	Fort Lawton Tunnel	Interbay PS	Interurban System Upgrade	Juanita System Improvements	Medina System Upgrade	North Creek Trunk	WPTP Digesters
Brief Description	Conversion of Alki into a stormweather plant and transfer of existing flows to RTP.	Provides additional capacity to accommodate flows in the system and avoid overflows into Lake Sammamish.	Construction of a parallel Fort Lawton Tunnel to provide reliability, CSO control & additional capacity.	The capacity of the pump station will be increased from 120 mgd to match the capacity of other portions of the conveyance system and the WPTP. The increased capacity will reduce overflows along the Elliott Bay interceptor by pumping additional combined flows to West Point during storm events.	The capacity of the Interurban system to transport sewage to RTP is less than the present peak flows into the system with overflows occurring; combined with Alki.	Installing of a 24" force main, a change of pumps at Juanita PS and other piping changes to accommodate present and projected flows.	Upgrading the Medina Pump Station for safety, system reliability and capacity improvements to accommodate present and projected flows.	Construction of 6,600 lineal feet of 42" diameter interceptor sewer from Bothell Woodinville interceptor to King/Snohomish line thereby extending the system at the request of the Alderwood Sewer district.	Installation of the 4th and 5th digester at WP for reliability and future capacity requirements.
Comp Plan Authorization	Reso 4780 Comp Plan Amendment	Reso 4253 Stage 3	Reso 5332 Comp Plan Amendment	Reso 4780 Comp Plan Amendment	Comp Plan Amendment Not Needed?	Reso 441/2 Comp Plan Stage 3	Reso 2071 Stage 3	Reso 2273 Stage 2	Reso 4407 Stage 3 No Amend. Req.
Total Expenditure 1995 LTD	\$ 49,926	\$ 13,730	\$ 24,843	\$ 3,384	\$ 8,681	\$ 3,426	\$ 4,203	\$ 2,666	\$ 9,901
Grants 1995 LTD	\$ —	\$ —	\$ 11,974	\$ —	\$ 6,349	\$ 305	\$ —	\$ —	\$ —
Net Cost 1995 LTD	\$ 49,926	\$ 13,730	\$ 12,869	\$ 3,384	\$ 2,332	\$ 3,121	\$ 4,203	\$ 2,666	\$ 9,901