

CITY OF BAY CITY**ORDINANCE No. 644****AN ORDINANCE PROVIDING FOR METHODOLOGY FOR THE
CITY'S SEWER AND WATER SYSTEMS DEVELOPMENT CHARGES
AND DECLARING AN EMERGENCY.****THE CITY OF BAY CITY ORDAINS AS FOLLOWS:**

- 1.0 Repeal.** The City of Bay City hereby repeals Ordinance Nos. 578 and 579 in their entirety.
- 2.0 Purpose.** The purpose of this ordinance is to adopt a methodology for determining a fair and equitable charge to be assessed for both the reimbursement component and the improvement component of the City's Sewer System Development Charge and for the City's Water System Development Charge. The actual charges shall be set by way of Resolution adopted by the Council.
- 3.0 Methodology.** The City has approved the Sewer and Water Systems Development Charges Study, 3rd Draft, dated September 2008 and prepared by HBH Consulting Engineers. The City hereby incorporates Chapters 4 and 5 of said study, attached hereto as Exhibit A and B, as its methodology in calculating the Sewer and the Water Systems Development Charges.
- 4.0 Severability.** The provisions of this ordinance are severable, and it is the intention to confer the whole or any part of the powers herein provided for. In any clause, section or provision of this ordinance shall be declared unconstitutional or invalid for any reason or cause, the remaining portion of this ordinance shall be in full force and effect and be valid as is such invalid portion thereof had not been incorporated herein. It is hereby declared to be the City Council's intent that this ordinance would have been adopted had such an unconstitutional provision not been included herein.
- 5.0 Saving Clause.** Ordinance Nos. 578 and 579, repealed by this ordinance, shall remain in force and effect for any action, violation, collection, prosecution, conviction or punishment of persons or proceedings that accrued before the effective date of this ordinance.
- 6.0 Emergency.** The City declared an emergency to exist and finds that immediate adoption of the ordinance is necessary to protect the

health, safety, and welfare of its residents. This ordinance shall become effective immediately after its adoption by the City Council and approval of the Mayor.

PASSED and ADOPTED by the City Council of the City of Bay City on November 10, 2008 approved by the Mayor on this 10th day of November, 2008.



Shaena E. Peterson, Mayor

ATTEST:



Linda M. Dvorak, City Recorder

First Reading:	11/10/08
Second Reading:	11/10/08
Adoption:	11/10/08

Ayes:	6
Nays:	0
Abstentions:	0

CITY OF BAY CITY
SYSTEMS DEVELOPMENT CHARGES STUDY
CHAPTER 4 - PLANNING PERIOD AND PROJECTED GROWTH

4.1 PLANNING PERIOD

A 20-year planning period has been used to develop a recommended Capital Improvement Program (CIP) for both sewer and water facilities. While a 20-year period is difficult to project, it is the minimum time recommended for projection of major capital improvement activities.

4.2 ACCUMULATION OF SYSTEM DEVELOPMENT CHARGES

Given the cost of capital improvement projects, SDC's have traditionally accumulated for long periods of time prior to being utilized. The history of SDC's in Oregon is relatively short, however, in other states developers have filed suits against communities not actively utilizing the funds. Thus, it is recommended that the City periodically review the CIP and proceed with funding of high priority items as funds become available. In no case should funds be allowed to accumulate beyond a 15-year period.

4.3 PROJECTED GROWTH

The August 1990 Wastewater Collection System and Treatment Plant Facilities Plan by Fetrow Engineering, Inc. contains the population history up to 1989 from the Department of Land Conservation and Development (DLCD). Their table 3-4 is as follows:

TABLE 4.1
CITY OF BAY CITY
POPULATION GROWTH HISTORY
FROM DLCD BACKGROUND REPORT

Year	Total Population	% Change
1940	379	-
1950	760	+101%
1960	996	+31%
1970	898	-10%
1980	986	+10%
1981	985	0%
1985	1100	+12%
1989	1095	0%

Updated information from the Portland State Center for Population Research and Census yields the following information:



**TABLE 4.2
CITY OF BAY CITY
RECENT POPULATION GROWTH
FROM PORTLAND STATE UNIVERSITY**

Year	Total Population	% Change*
1980	986	-
1990	1027	+4.2%
2000	1149	+11.9%
2007	1230	+7.1%

*Per total years shown

**TABLE 4.3
TILLAMOOK COUNTY
RECENT POPULATION GROWTH
FROM PORTLAND STATE UNIVERSITY**

Year	Total Population	% Change*
1980	21,164	-
1990	21,570	+1.9%
2000	24,262	+12.5%
2006	25,530	+5.2%
2007	25,845	+1.2%

*Per total years shown

Kilchis Regional Water District completed a Water Master Plan update in 2006. They reported an annual growth rate slightly under 1%. Table 2.5 in the Water Master Plan Update reports an existing population for the district of 1,556 as of 2004. The Sewer Master Plan for the City was completed in 1990 and appears to reflect a 1.35% growth rate. Records from the Portland State Census Reporting Center reflect a city growth rate in the neighborhood of 1%. All information ranges in the neighborhood of 1%, therefore using a 1% growth rate for the water district appears to be reasonable. The projected population for the water district for 2028 is 1,975. Based upon a 1% growth rate, the district's population will increase by 472 people between 2004 and 2028.

In 2007, there were a total of 22 additional lots approved in the City. There are currently two other developments that are prepared to proceed this summer. While the population (permanent residents) appears to be constant at a 1% growth rate, the City is seeing an increase in transient population.

While current data does not provide a basis to separate EDU's from the permanent population and transient population, it is reasonable to assume based upon current trends, that the City and District EDU's will increase at a greater pace than the projected population. We have therefore utilized a 1.3% growth rate for projection of the future EDU's within the Kilchis Water District.

4.4 CALCULATION OF FUTURE EQUIVALENT DWELLING UNITS (EDUs)

City Ordinance No. 578 identifies an EDU at 329 gpd. This is based upon 143 gpd per person multiplied by 2.3 people per dwelling. As of 2004, there are 746 water accounts within the Bay



City Water District. Of the 746 accounts, six of those are commercial and 740 are residential. Sixty-two of those accounts are outside of the City limits. These 62 services equate to 86 EDU's. As of 2004, there were 1,311 total EDU's in the Kilchis Water District. Of the 1,311, 937 are within the City and 86 are outside of the City limits, but served by the City.

The EDU's by upper and lower system are shown in the table below:

**TABLE 4.4
CITY OF BAY CITY
WATER SYSTEM EDU'S**

System	2004 EDU's	2004 EDU's Inside City	2004 EDU's Outside City
Bay City – Lower System	631	546	86
Bay City – Upper System	392	391	0

At a 1.3% growth rate, the projected 2028 water system EDU's inside of the City would be 1,290 EDU's. The 2028 EDU's outside of the City would be 117. The total water system EDU's would be $1,290 + 117 = 1,407$. Therefore, EDU's inside the City would increase by 306 and outside the City would increase by 25 EDU's.

It is assumed that all water services inside the City will also require a sewer connection. Therefore, sewer EDU's will increase by 306 connections during the 20 year planning period and water will increase by 331 connections.



CITY OF BAY CITY

SYSTEMS DEVELOPMENT CHARGES STUDY

CHAPTER 5 - SEWER AND WATER SYSTEM SDC METHODOLOGY

5.1 GENERAL

Development of an equitable SDC for the sewer and water system in Bay City is needed to help fund future capital improvements. This chapter will recommend a method for equal disbursement of cost and develop the basis for a reimbursement and improvement fee.

5.2 EXISTING PLANNING DOCUMENTS

The studies available to the City for this plan are the August 1990 City of Bay City Sewer Facilities Plan and 2006 Kilchis Regional Water District Master Plan Update. The Sewer Facilities Plan is old and needs to be updated as a result of the Capital Improvement Plan. An updated Capital Improvements List was developed with help from the Public Works staff and recommendation from the existing Facilities Plan. The Water Master Plan Update Capital Improvements Plan list was developed from the Kilchis Water District Master Plan and was supplemented by City staff.

5.3 PROPORTIONATE SHARE OF COSTS

Oregon's SDC act requires equity among types of development, thus equal development should pay equal amounts. Charges need to be proportioned based on the burden created by the user. The City of Bay City uses a water meter size as a basis to determine the base equivalent usage. The flow associated with a typical single family dwelling with a $\frac{3}{4}$ " meter is equivalent to 1 EDU.

TABLE 5.1
EDU DETERMINATION

Water Meter Size Factors		
Meter Size in Inches	Volume Factor	Adjusted Factor
$\frac{3}{4}$ "	1	1
1	2	2
2	7	6
3	16	12
4	28	20
5	44	31
6	64	44
Notes: Ratio adjusted to account for mix of volume related vs. non-volume related projects. Source: Moore Breithaupt & Chastain, February 22, 1995		



**TABLE 5.2
COMMERCIAL EQUIVALENT
DWELLING UNITS**

Commercial Account	EDUs
ArtSpace	2
Wadsworth Electric	1
The Outlet	1
Bay City Market	1
Bay City Odd Fellows	1
E-C	1
Downie's Café	2
Gold Coast Antiques	1
Pacific Oyster	10
Cutting Loose	1
McRae & Sons	10
The Landing	9
Bay City Art Center	1
Tillamook Country Smoker	26
Embarq	1

*These EDUs may be changed by staff as appropriate.

Other commercial accounts to be assigned an EDU in conformance with the sewer user rates set forth above.

Industrial accounts to be based upon the following formula:

$$\frac{\text{lbs of biochemical oxygen demand (BOD)} + \text{lbs of suspended solids}}{48 \text{ pounds}} \times \$29.00$$

Due to the practice of reducing the meter size on service connections, the EDU determination shall be the larger of either water pipe diameter or meter size.

The water and sewer systems receive revenue to retire its bonded indebtedness. While this helps fund projects it should not have to pay for all future expansion. In order to fairly proportion the debt, we have divided the total SDC fee by the total number of EDU's in 2028. This allows expansion to replace its share of the system.

5.4 SEWER SYSTEM CAPITAL IMPROVEMENTS

Sewer and Water Capital Improvements lists as well as timetables identified by City staff are shown in the tables below. A major update to the Sewer Facilities Plan is included. The water system evaluation was completed in 2006 and would need only a minor review. The list should be reviewed upon completion of several projects on the list or every 6 to 8 years.



**TABLE 5.3
CAPITAL IMPROVEMENT PLAN
SEWER SYSTEM**

PROJECT & DESCRIPTION	COST (2008 DOLLARS)	DATE FOR IMPROVEMENTS
1) Facilities Plan Update	\$85,000	0-2 years
2) Treatment Plant Improvements (SBR Unit)	\$1,100,000	5-10 years
3) Main Pump Station Improvements	\$480,000	3-5 years
4) Uptown Pump Station Improvements	\$340,000	3-5 years
5) Mainline Upgrades	\$360,000	Yearly
6) Infiltration/Inflow Reduction (separate into 3 stages)	\$150,000	0-5, 5-10, 10-15 years
Total Sewer System Capital Improvements	\$2,515,000	

5.4.1 SEWER SYSTEM PROJECT DESCRIPTIONS

1) Facilities Plan Update

DEQ recommends that a Facilities Plan be updated every 20 years. This corresponds with the design life of the treatment plant. The last Sewer Facilities Plan was completed in 1990, thus renewal would be in 2010. It takes up to two years to complete and get approval for a Facilities Plan, thus it should be started in 2008. A Facilities Plan would be needed prior to any treatment plant upgrades.

2) Treatment Plant Improvements (SBR Unit)

The wastewater treatment plant was constructed around 1991. The design life is 20 years, which means that the renewal date is around 2011. The projected population growth rate from the study is 1.35%. This matches the residential growth that has occurred, but has not accounted for the growth in commercial businesses, such as the Tillamook County Smoker and Pacific Oyster Company. These businesses have doubled or tripled in size, thus using up the plant capacity. While some portions of the plant may not be running out of compliance at this time, continued increase in loading will eventually overcome the design capacity of the plant. It takes up to five years from the time the Facilities Plan Update is started until the point where improvements to the plant are constructed. If the process were started today, this would have the new improvements on-line in 2013, at two years beyond the design life of the current plant. At a minimum, an additional sequencing batch reactor (SBR) unit will need to be added to maintain the required discharge standards.

3) Main Pump Station Improvements

The Main Pump Station was constructed in 1970. The design life for pump stations is 20 years. The pumps have been replaced or serviced in the last 38 years. The pump station is in need of replacement due to its age and future capacity needs. Upon renewal of the pump station, the forcemain should be evaluated.

4) Uptown Pump Station Improvements

The Uptown Pump Station was also constructed in 1970 and is 38 years old. It is at the end of its useful life. The pump station should be scheduled for replacement within the next year or two. It will take six months to produce a pre-design report and obtain design approvals



once financing is obtained. Its forcemain will need to be evaluated as well. The station is currently at or near capacity.

5) Mainline Upgrades

The original collection system piping was made of concrete with rubber gasketed joints. These joints, as well as the concrete itself, leak and produce considerable infiltration/inflow (I/I) in the system. It is not practical to entirely replace this piping to remove I/I due to costs. The commercial portion of the system also contains grease problems.

The sewage treatment plant operator has reported that the 18" mainline entering the plant on Elliot Street has capacity issues during large storm events. A 24" main is needed from Hwy 101 to the site to provide adequate capacity. The size will need to be confirmed by the Facilities Plan.

Infill will characterize development for future growth. Without large parcel development, no new trunk lines will be needed, provided that existing mains are not currently surcharging.

6) Infiltration/Inflow Reduction

DEQ mandates the removal of all inflow. In addition, they require the removal of all cost effective infiltration. Cost effectiveness can be addressed as a project where the cost to treat the infiltration is less than the cost to remove it.

I/I removal is considered maintenance work, not capacity building, thus it is not SDC eligible.

5.5 WATER SYSTEM CAPITAL IMPROVEMENTS

The following Capital Improvement list was obtained from the Water Master Plan Update and City staff:

**TABLE 5.4
CAPITAL IMPROVEMENT PLAN
WATER SYSTEM**

PROJECT	COST (2008 DOLLARS)	% OF CITY SHARE	COST OF CITY SHARE	DATE FOR IMPROVEMENTS
1) Improvement D1 – "D" Street Highway Crossing	\$190,000	100%	\$190,000	3-5 years
2) Improvement T2 – Alderbrook Master Meter	\$95,000	40%	\$38,000	0-2 years
3) Improvement T4 – Tillamook Emergency Intertie	\$500,000	40%	\$200,000	8-10 years
4) Improvement R1 – High Level System Reservoir	\$750,000	100%	\$750,000	0-2 years
5) Improvement R2 – Dump Road Low Level Reservoir	\$1,200,000	40%	\$480,000	2-4 years
6) Improvement R3 – Behind TCCA Low Level Reservoir	\$1,250,000	40%	\$500,000	3-5 years
7) Various Transmission Mains & Fire Hydrants	\$250,000	100%	\$250,000	On-going
8) Doughty Road Pump Station Upgrade	\$100,000	100%	\$100,000	3-5 years
9) Kilchis River Well No. 3	\$325,000	40%	\$130,000	10-15 years
10) Water Master Plan Update & Conservation Plan	\$60,000	65%	\$39,000	4-6 years
11) Water Master Plan	\$60,000	40%	\$24,000	14-16 years
12) Creation of a Water Authority or District	\$30,000	40%	\$12,000	0-5 years
Total Water System Capital Improvements	\$4,810,000		\$2,713,000	



5.5.1 WATER SYSTEM PROJECT DESCRIPTIONS

1) Improvement D1-"D" Street Hwy Crossing

This project provides an interconnection in the low-level water system, increasing flows to the area. It involves a bore under Hwy 101 at D/4th Street. The project is recommended to take place within 3-5 years, depending upon development in the area.

2) Improvement T-2 – Alderbrook Master Meter

The existing 10" meter was installed in 1992, but may not be bi-directional. Flows in this line are bi-directional. If the existing meter is not bi-directional, it should be replaced. This should occur as soon as possible.

3) Improvement T-4 – Tillamook Emergency Intertie

This project has been discussed for some time. There are intergovernmental agreements and engineering reviews to be worked out prior to this project occurring. This project is recommended, but not mandated by the state. It is quite expensive compared to other projects on this list. This project should be pursued as funds become available.

4) Improvement R1 – High Level System Reservoir

As of September 2008, this project is under construction. Construction will be completed by Fall 2008. It provides storage capacity for the high level system.

5) Improvement R2 – Dump Road Low Level Reservoir

This project provides storage and fire protection for the low level system. This project is scheduled after the high level reservoir is completed. This reservoir would be 800,000 gallons in size.

6) Improvement R3 – Behind TTCA Low Level Reservoir

This project would involved construction of a 1.0 million gallon reservoir on Juno Hill, which would provide storage and fire protection for the area. This reservoir is closest to the largest user (TCCA). It should be constructed after the Dump Road low level reservoir.

7) Various Transmission Mains and Fire Hydrants

A majority of the piping throughout the City is undersized to provide fire protection meeting the International Fire Code. The City Master Plan suggests that this code will be endorsed. The District has adopted minimum standards for water pipes at 8" diameter PVC on all mainlines and 6" PVC for all dead-end lines without fire hydrants.

Most of the City system is constructed of PVC pipes. There are steel pipes on Warren Avenue, which also go under the railroad tracks near Williams Street. These pipes are due for replacement. In order to extend the systems to reach new development, larger transmission mains need to be installed. An example is Elliot Street between Salmon Street and Clam Street. There is a 1" P.E. pipe in this roadway. If the line is upgraded to 8", it will be larger than the mains feeding it. An 8" main should be extended from the 10" line along the railroad tracks.



The cost for improvements was taken from the Water Master Plan Update.

8) Pump Station Upgrade

Upgrade the existing pump station on Doughty Road to a firm capacity of 400 gpm. Provide emergency power back up with a generator and automatic transfer switch.

9) Kilchis River Well No. 3

Construct a third well with a firm pumping capacity of 1,000 gpm. Install piping and electrical connections.

5.6 SEWER SYSTEM SDC REIMBURSEMENT FEE

In 2000, the City of Bay City spent funds for construction improvements on the wastewater treatment plant. In accordance with Ordinance No. 579, the following amounts were expended from City accounts:

6/91 From Sewer Operating Fund	\$66,956.00
6/91 From Economic Development Loan Fund	\$59,669.00
1/92 From Sewer Operating Fund	\$42,953.00
6.92 From Economic Development Loan Fund	<u>\$35,782.00</u>
Total Sewer Reimbursement Amount	\$205,360.00

Since the enactment of Ordinance No. 579 the City has collected \$34,040 in reimbursable fees, leaving a debt of \$171,320. While the Wastewater Treatment Plant will need to add an additional SBR unit within the next 5 to 7 years, the entire plant will require a major upgrade within the 20 year planning period. Therefore, the remaining reimbursement fee should be collected within the planning period. In addition, the City has recently expended \$10,500 for Capital Improvement and SDC Ordinance revisions.

Therefore, the sewer reimbursement fee per EDU is: $\$181,820/306 \text{ EDU's} = \$594/\text{EDU}$

5.7 WATER SYSTEM SDC REIMBURSEMENT FEE

In recent years, the City has financed major water improvements with bonds, thus relying on property taxes for repayment. Therefore, no reimbursement fee can be assessed. However, since 2006 the City has provided funding for the Kilchis Water District Master Plan and implementing Capital Improvement Plans and System Development Ordinance/Resolution amounting to \$29,500. In addition, the City is currently constructing the High Level Reservoir at a total cost of \$750,000.

Therefore, the water reimbursement fee per EDU is: $\$779,500/331 \text{ EDU's} = \$2,354.98/\text{EDU}$

5.8 SEWER SYSTEM SDC IMPROVEMENT FEES

Sewer improvements that provide capacity to the system are projects 1-5 in Table 5.3 (Capital Improvements Plan). These projects are listed in the table below with their percentage allocated to growth.



TABLE 5.5
2008 SDC SEWER SYSTEM ELIGIBLE IMPROVEMENT COSTS

PROJECT & DESCRIPTION	PROPOSED COST	% ELIGIBLE	COST ELIGIBLE
1) Facilities Plan Update	\$85,000	100%	\$85,000
2) Treatment Plant Improvements	\$1,100,000	100%	\$1,100,000
3) Main Pump Station Improvements	\$480,000	85%	\$408,000
4) Uptown Pump Station Improvements	\$340,000	75%	\$255,000
5) Mainline Upgrades	\$360,000	70%	\$252,000
Total SDC Eligible Sewer System Improvement Costs			\$2,100,000

\$2,100,000/306 EDUs = \$5,862.75/EDU

Above costs are based on 2008 dollars unless otherwise indicated. Cost includes 20% for contingency and 25% for engineering/administration.

Above costs are based on a 20 year planning period. The maximum sewer development fee per EDU would be \$5,862.75.

5.9 WATER SYSTEM SDC IMPROVEMENT FEE

Water projects that provide capacity to the system are projects 1,5,6,7,8,9, and 10 in table 5.4. Project 8 (Various Transmission Mains and Fire Hydrants) is not clear cut on percentages allotted to growth. As stated earlier in this study, growth is anticipated as infill, therefore using flow through all of the system. This overview of the water system addressed the ability of the system to expand to serve the boundaries of the region. Further modeling will be necessary to confirm whether the assumptions in this report are correct.

TABLE 5.6
2008 SDC WATER SYSTEM
ELIGIBLE IMPROVEMENT COSTS

PROJECT & DESCRIPTION	CITY SHARE OF PROPOSED COST	% ELIGIBLE	COST ELIGIBLE
1) Improvement D1 – "D" Street Hwy Crossing	\$190,000	70%	\$133,000
5) Improvement R2 – Dump Road Low Level Reservoir	\$480,000	100%	\$480,000
6) Improvement R3 – Behind TCCA Low Level Reservoir	\$500,000	60%	\$300,000
7) Various Transmission Mains and Fire Hydrants	\$250,000	100%	\$250,000
8) Doughty Road Pump Station Upgrade	\$100,000	100%	\$100,000
9) Kilchis River Well No. 3	\$130,000	100%	\$130,000
10) Water Master Plan Update and Conservation Plan	\$39,000	90%	\$31,100
11) Water Master Plan Update	\$24,000	90%	\$21,600
12) Creation of a Water Authority or District	\$12,000	75%	\$9,000
Total Water System SDC	\$1,978,000		\$1,454,700

*Above costs are based on 2008 dollars and include 20% for contingency and 25% for engineering/administration.

The costs per EDU are based upon 331 new connections for water between 2008 and 2028. The maximum improvement fee per EDU would be \$4,394.86.



5.10 COMPUTATION OF MAXIMUM ALLOWABLE SDC FEES

SDC Fee = Reimbursement Fee + Improvement Fee

Sewer SDC = \$594 + \$5,862.75 = \$6,456.75

Inside City Water SDC = \$2,354 + \$4,394.86 = \$6,748.86

