

ORDINANCE NO. 12-800

AN ORDINANCE REGULATING THE LEVYING AND COLLECTION OF  
WASTEWATER TREATMENT SERVICE CHARGES IN THE CITY OF ISHPEMING

Be it ordained and enacted by the Ishpeming City Council, as follows:

ARTICLE I - DEFINITIONS

Sec. 101. APPROVING AUTHORITY shall mean the City Council, or its duly authorized deputy, agent or representative.

Sec. 102. BIOCHEMICAL OXYGEN DEMAND (BOD) shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter in five (5) days at 20 degrees Centigrade, expressed as milligrams per liter. Quantitative determination of BOD shall be made in accordance with procedures set forth in "Standard Methods".

Sec. 103. COMMERCIAL USER shall mean any user whose premises are used primarily for the conduct of a profit-oriented enterprise in the fields of construction, wholesale or retail trade, finance, insurance, real estate, health care, or services, and who discharges primarily normal domestic sewage. This definition shall also include multi-family buildings or structures having three or more living units served by a single water meter.

Sec. 104. COMPOSITE SAMPLE shall be the combination of individual samples taken at intervals of not more than one sample per hour.

Sec. 105. (Reserved for future use)

Sec. 106. FLOW PROPORTIONAL SAMPLE - a sample taken that is proportional to the volume of flow during the sampling period.

Sec. 107. GOVERNMENTAL USER shall mean any user whose premises are used for the conduct of the legislative, judicial, administrative, or regulatory activities of Federal, State, local or international units of government. This does not include government-owned or operated business establishments.

Sec. 108. INDUSTRIAL USER shall mean any user whose premises are used primarily for the conduct of a profit-oriented enterprise in the fields of manufacturing, transportation, communications or utilities, mining, agriculture, forestry, or fishing.

Sec. 109. INDUSTRIAL WASTE - Any trade or process as distinct from segregated domestic wastes or wastes from sanitary convenience.

Sec. 110. INSTITUTIONAL USER shall mean any user whose premises are used primarily for the conduct of activities of a social, charitable, religious, or educational character.

Sec. 111. NORMAL DOMESTIC SEWAGE shall mean sanitary sewer resulting from the range of normal domestic activities, in which BOD<sub>5</sub>, SS, P, or NH<sub>3</sub>-N concentrations do not exceed concentrations of:

- a) A five day, 20 C, BOD of not more than 180 mg/l.
- b) A suspended solids content of not more than 260 mg/l.

- c. A phosphorus content of not more than 24 mg/l.
- d. An ammonia nitrogen content of not more than 25 mg/l.

Sec. 112. OPERATION AND MAINTENANCE (O&M) COSTS shall include all costs associated with the operation and maintenance of the wastewater treatment facilities, as well as the costs associated with periodic equipment replacement necessary for maintaining the capacity and performance of the wastewater treatment facilities.

Sec. 113. PERSON shall mean any and all persons including any individual, firm, company, municipal or private corporation, association, society, institution, enterprise, governmental agency or other entity.

Sec. 114. REPLACEMENT means expenditures for processing and installing equipment, accessories, and appurtenances necessary during the useful life of the treatment works to maintain its design capacity and performance.

Sec. 115. RESIDENTIAL USER shall mean any user whose premises are used primarily as a domicile for one or more persons and discharges only domestic wastes, but not including multi-family structures classified as Commercial Users and defined at Sec. 103.

Sec. 116. SANITARY SEWER shall mean a sewer that carries sanitary and industrial water-carried wastes from residents, commercial buildings, industrial plants, and institutions, together with minor quantities of ground, storm and surface water that are not admitted intentionally.

Sec. 117. SEGREGATED DOMESTIC WASTES shall be defined as wastes from nonresidential sources resulting from normal domestic activities. These activities are distinguished from industrial, trade and/or process discharge wastes.

Sec. 118. SEWAGE is the spent water of the community. The preferred term is "wastewater", Sec. 127.

Sec. 119. (Reserved for future use)

Sec. 120. SEWER USE CHARGE shall mean the charge levied on users of the sanitary sewer collection and treatment system for the user's proportional share of the costs.

Sec. 121. "SHALL" is mandatory; "MAY" is permissive.

Sec. 122. STANDARD METHODS shall mean the examination and analytical procedures set forth in the most recent edition of "Standard Methods for the Examination of Water, Sewage and Industrial Wastes" published jointly by the American Public Health Association, the American Water Works Association, and the Federation of Sewage and Industrial Wastes Associations.

Sec. 123. UNMETERED USER shall mean a user who is not connected to the municipal water systems and/or does not have his private water supply metered.

Sec. 124. USER CHARGE SYSTEM is that system which generates operation, maintenance and replacement (O, M & R) revenues equitably for providing each user class with services.

Sec. 125. USER CLASSES are categories of users having similar flows and water characteristics; that is, levels of biochemical oxygen demand, suspended solids,

phosphorus, ammonia nitrogen, etc. For the purposes of this ordinance, there shall be five user classes: residential, commercial, industrial, institutional, and governmental.

Sec. 126. (Reserved for future use)

Sec. 127. WASTEWATER shall mean the spent water of a community. From the standpoint of source, it may be a combination of the liquid and water-carried wastes from residences, commercial buildings, industrial plants, and institutions, together with any groundwater, surface water, and storm water that may be present.

Sec. 128. WASTEWATER FACILITIES shall mean the treatment works defined in Sec. 129 below, exclusive of interceptor sewers and wastewater collection systems.

Sec. 129. WASTEWATER TREATMENT WORKS shall mean an arrangement of devices and structures for the storage, treatment, recycling, and reclamation of wastewater, liquid industrial wastes and sludge. These systems include interceptor sewers, outfall sewers, wastewater collection systems, individual systems, pumping, power, and other equipment and their appurtenances; any works that are an integral part of the treatment process or are used for ultimate disposal of residues from such treatment; or any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of municipal or industrial wastes.

## ARTICLE II - BASIS FOR SEWER USER CHARGES

Sec. 201. SEWER USERS SERVED BY WATER UTILITY WATER METERS. There is hereby levied and assessed upon each lot, parcel of land, building or premises having a connection with the wastewater system and being served with water solely by the water utility, a user charge based, in part, on the quantity of water used as measured by the water utility water meter used upon the premises.

In which case a user feels that a significant amount of water metered does not reach the sanitary sewer due to lawn or garden watering, etc., he can, at his own expense, through the Approving Authority, install a second water meter and/or service that would monitor the flow of water used for watering or other similar purposes. Charges for sewer use would be made based on the difference between the two meter readings if only a second meter is installed, and on actual water metered for sewer use if a second meter and service are installed.

Requests for a second meter or service must be made in writing to the Approving Authority. Charges for this service shall be made in accordance with Sec. 202(a).

Sec. 202. SEWER USERS SERVED BY PRIVATE WELLS. Sewer users served by private wells shall be billed according to one of the two options described below:

- a) If any person discharging sewage into the public sanitary sewer system procures any part, or all of his water sources from other than the water utility, all or part of which is discharged into the public sanitary sewer system, the person shall be required to have water meters installed for the purpose of determining the volume of water obtained from these other sources. Where sewage meters are already installed, the water meters will not be required. The water meters shall be furnished by the Public Works Department and installed under its supervision, all costs being at the expense of the person requiring the meter.

The Public Works Department shall charge for each meter, a rental charge set by the Utility to compensate for the cost of furnishing and servicing the meter.

The rental charge shall be billed at the time the sewer service charge is billed. The rental charge for water meters are set at the following established rates:

<u>Meter Size</u>	<u>Rental Charge</u>
5/8"	\$0.75/quarter plus an installation charge and the cost of meter testing per utility regulations.
1" and Larger	\$1.00/quarter plus an installation charge and the cost of meter testing per utility regulations.

- b) The residential sewer user served by a private well and discharging sewage into the public sewer system has the option of paying a "flat rate" user charge, rather than (a) above. The flat rate shall be based on the average metered residential usage rate.

Sec. 203. MEASUREMENT OF FLOW FROM HIGH STRENGTH OR TOXIC DISCHARGERS. The volume of flow used for computing the user charge shall be the metered water consumption of the user as shown in the records of meter readings maintained by the water utility, except as noted in Sec. 204.

Provisions for deductions: In the event that an establishment discharging industrial waste into the public sewers produces evidence satisfactory to the Approving Authority that more than 20 per cent of the total annual volume of water used for all purposes does not reach the public sewer, then the determination of the water consumption to be used in computing the waste volume discharged into the public sewer may be made a matter of agreement between the Approving Authority and the person. Satisfactory evidence shall be evidence obtained by approved metering.

Sec. 204. METERING OF INDUSTRIAL WASTE. Devices for measuring the volume of waste discharged may be required by the Approving Authority if this volume cannot otherwise be determined from the metered water consumption records. Metering devices for determining the volume of waste shall be installed, owned, and maintained by the discharger. A maintenance schedule must be accepted by the Approving Authority. Following approval and installation such meters may not be removed without the consent of the Approving Authority.

Sec. 205. WASTE SAMPLING. Industrial wastes discharged into the public sewers shall be subject to periodic inspection and a determination of character and concentration of said wastes. The sampling may be accomplished either manually or by the use of mechanical equipment acceptable to the Approving Authority. The use of flow proportional composite sampling is preferred.

Sec. 206. FREE SERVICE. No user shall receive free service or pay a sewer use charge less than the user's proportional share of operation, maintenance, and replacement costs.

Sec. 207. OUTSIDE SERVICE. All users within the City of Ishpeming sewer service area shall be treated equally as to sewer use charges regardless of their location with respect to the City's municipal boundaries.

### ARTICLE III - BILLING PRACTICE

Sec. 301. BILLING PERIOD. User charges shall be billed on a monthly basis.

Sec. 302. PAYMENT. User charges shall be paid within twenty-five (25) days after the billing date, at Ishpeming City Hall.

Sec. 303. PENALTIES.

(a) Charges levied in accordance with this Ordinance shall be a debt due to the City of Ishpeming. If the debt is not paid within twenty-five (25) days after the billing date, it shall be deemed delinquent. There shall be an added penalty of 5% of the amount of the bill for each month, or part of a month, while the delinquency is outstanding.

(b) Delinquent charges and penalties may also be enforced by terminating water service or sewer service, or both, to the premises, and such service, if terminated, shall not be restored until all sums owed to the City have been paid in full, including charges for the cost of disconnection and reconnection.

Sec. 304. (Reserved for future use)

#### ARTICLE IV - AMOUNT OF USER CHARGES

Sec. 401. (Reserved for future use)

Sec. 402. VARIABLE MONTHLY CHARGE

a) Normal Domestic Sewage

For a premises hooked up to the City sewer utility, which has a meter for registering water consumption, a minimum monthly sewer charge of \$27.58 is established for use of the first 0-2,500 gallons of water per month. For all metered water consumption greater than 2,500 gallons per month, an additional sewer consumption charge of \$11.03 per 1,000 gallons (or any part thereof) is established upon such excess.

The above rates will increase by 5% effective January 1 of each year.

b) Sewage of Greater Than Normal Strength

Charges to users discharging wastewater of greater than normal strength shall be computed in accordance with the formula presented below:

$$C = \$4.65 \times V + .00834 \times V \times ((\$0.566 \times B) + (\$0.295 \times S) + (\$2.198 \times P) + (\$0.465 \times A))$$

Where: C = Charge to sewer user for operation, maintenance and replacement costs for treatment works.

V = Wastewater volume in 1,000 gallons

B = Concentration of BOD from a user above the normal strength of 180 mg/l.

S = Concentration of suspended solids from a user above the normal strength of 260 mg/l.

P = Concentration of total phosphorus from a user above the normal strength of 24 mg/l.

A = Concentration of ammonia nitrogen from a user above the normal strength of 25 mg/l.

.00834 = Conversion Factor (mg/l to lbs.)

#### ARTICLE V - AUDIT

Sec. 501. The City of Ishpeming may conduct an audit, the purpose of which shall be to demonstrate the continued proportionality and sufficiency of the user charges relative to changes in system operation, maintenance, and replacement costs. The basic format of the system shall conform to that of Attachment A of this Ordinance.

#### ARTICLE VI - VALIDITY

Sec. 601. REPEAL OF CONFLICTING ORDINANCES. All ordinances or parts of ordinances or regulations or parts of regulations in conflict with this Ordinance are hereby repealed.

Sec. 602. INVALIDATION CLAUSE. Invalidity of any section, clause, sentence, or provision in this Ordinance shall not affect the validity of any other section, clause, sentence, provision of this Ordinance which can be given effect without such invalid part or parts.

Adopted: July 9, 1986  
Amended: December 17, 1986  
Amended: December 21, 1994  
Amended: November 8, 2000  
Amended: November 6, 2002  
Amended: October 8, 2003  
Amended: September 8, 2004  
Amended: November 9, 2005  
Amended: November 8, 2006  
Amended: October 3, 2007  
Amended: October 8, 2008  
Amended: October 7, 2009  
Amended: December 15, 2010  
Amended: January 4, 2012  
Amended: June 6, 2012  
Amended: December 18, 2012  
Amended: November 6, 2013  
Amended: January 7, 2015

CITY OF ISHPEMING

USER CHARGE SYSTEM

ATTACHMENT "A"

DECEMBER 10, 1986

AMENDED: DECEMBER 21, 1994

I. INTRODUCTION

This methodology is to be utilized by the City of Ishpeming to determine the minimum monthly billing per customer and the variable unit cost for sewer use.

User charges shall be reviewed and updated annually, according to grant regulations. The figures presented in this document are estimates only and actual costs for the following should be used whenever possible:

- (1) Capital Costs, including Debt Retirement
- (2) Operation & Maintenance (O&M) Costs
- (3) Replacement Costs, when applicable
- (4) Number of Customers
- (5) Volume and Waste Loads

These actual values must be used each time the sewer use rates are determined. While the capital costs should change only slightly with time, other costs and customer use characteristics may vary considerably at each review.

The purpose of this methodology is to insure that each user and user class pays its proportionate share of capital costs, operation and maintenance (including replacement), and other costs of constructing and operating the treatment works within the City of Ishpeming service area. Following the completion of the annual review, the City shall revise the charges for users and user classes to maintain the proportionate distribution of costs among users and user classes, generate sufficient revenue to pay the total costs necessary for the proper operation (including maintenance and replacement) of the treatment works, and to apply excess revenues collected from a class of users to the costs of operation attributable to that class for the next year and adjust the rates accordingly. Grant regulations require separate accounting for capital and operational costs and expenses.

II. DESCRIPTION OF THE PROJECT

The City of Ishpeming will be participating in a regional wastewater treatment project, together with the Township of Ishpeming. The new facility will replace existing plants operated by the City and Township and will be operated by the Ishpeming Area Joint Wastewater Treatment Board. The facility is also planned to serve a portion of Tilden Township in the future.

The treatment plant is designed as an activated sludge oxidation ditch process. The solids handling process employs a combination of sludge presses, drying beds, and wet hauling. Chlorination will be used for disinfection.

The joint wastewater facility has been designed for the following influent parameters and discharge requirements:

	<u>Influent Criteria</u>	<u>Effluent Criteria</u>
Average Daily Flows	2.34 MGD	---
BOD	2,445 lbs/day	30 mg/l
Suspended Solids	2,875 lbs/day	30 mg/l



	<u>Influent Criteria</u>	<u>Effluent Criteria</u>
Ammonia Nitrogen	180 lbs/day	6 mg/l (May-October)
Phosphorus	120 lbs/day	0.8 mg/l
Chlorine Residual	---	0.5 mg/l (May-October)
pH	---	6-9
Dissolved Oxygen	---	4.0 mg/l

Projected flow and waste loadings for the first year of operation (1986) are as follows:

	<u>City of Ishpeming</u>	<u>Township of Ishpeming</u>	<u>Total</u>
Volume	554.28 MG	91.25 MG	654.53 MG
BOD	275,635 lb.	147,117 lb.	422,752 lb.
Suspended Solids	479,157 lb.	145,811 lb.	624,968 lb.
Phosphorus	37,972 lb.	18,191 lb.	56,163 lb.
Ammonia Nitrogen	39,348 lb.	18,853 lb.	58,201 lb.

The allocation of operation and maintenance costs (including replacement) for the regional plant is on the basis of unit costs in accordance with U. S. Environmental Protection Agency Guidelines. Unit costs for the facility were determined to be:

Flow	\$0.1433/1,000 gallons
BOD	\$0.5056/lb.
Suspended Solids	\$0.2016/lb.
Phosphorus	\$1.8893/lb.
Ammonia Nitrogen	\$0.3505/lb.

The anticipated operation and maintenance charges were determined by applying these unit costs to the project flows and waste loads and are shown below:

Projected 1986 Operation and Maintenance Charges

<u>Municipality</u>	<u>Flow</u>	<u>BOD</u>	<u>SS</u>	<u>P</u>	<u>NH3-N</u>	<u>Total</u>
City of Ishpeming	\$79,428	\$139,361	\$ 96,598	\$ 71,740	\$13,791	\$400,918
Ishpeming Township	<u>13,076</u>	<u>74,382</u>	<u>29,395</u>	<u>34,368</u>	<u>6,608</u>	<u>157,829</u>
TOTALS	\$92,504	\$213,743	\$125,993	\$106,108	\$20,399	\$558,747

NOTE: Total charges exceed costs due to round-off error.

### III. MINIMUM MONTHLY BILLING

The Minimum Monthly Billing includes all capital costs (including debt retirement) for the City of Ishpeming. This includes a portion of the debt service for the existing project (part will be paid by property taxes) plus funded depreciation, payments in lieu of taxes, etc.

The Minimum Monthly Billing has been set by the Ishpeming City Council at a level which will provide sufficient revenues, combined with a property tax levy, to offset the costs of debt service for the WWTP project, plus current capital outlays.

Minimum billings are based on water meter sizes, in the ratios indicated in Schedule 1. On this basis, the current 2,428 sewer users were found to be 2,693.9 equivalent users. The typical residential customer has a user charge equivalent of 1.0, assuming a 5/8" or 3/4" water meter. The cost for each user charge equivalent is \$4.85 per month (\$58.20 per year). Thus, the minimum billing scale ranges from \$4.85 per month for a 5/8" meter up to \$176.60 per month for a 6" meter.

Because a property tax levy is being employed to offset a portion of the capital cost, a surcharge has been established for tax-exempt sewer users. For schools, the surcharge cost per user charge equivalent is \$4.15 per month (\$49.20 per year). The minimum billing scale for schools ranges from \$4.15 per month for a 5/8" meter up to \$149.40 per month for a 6" meter. For all other tax-exempt users, the monthly surcharge per equivalent is \$8.30 per month (\$99.60 per year). Thus, the scale ranges from \$8.30 per month for a 5/8" meter up to \$298.80 per month for a 6" meter. Schedule 1 shows all user charge equivalents.

### IV. VARIABLE MONTHLY BILLING (price per unit volume)

The cost to operate and maintain the treatment works must be paid by the users of the system in approximate proportion to their usage. Where the sewer utility is operated in conjunction with a water utility, this can be done by basing, sewer usage, and hence user charges, upon metered water usage. The relationship between the two is not precise, but is sufficiently accurate to ensure a reasonably fair distribution of costs.

Operation and maintenance costs are defined, per the requirements of the EPA Sewage Grants program, to include replacement costs. That is, a separate fund must be established in which monies will be accumulated to pay the cost "for obtaining and installing equipment, accessories, or appurtenances which are necessary to maintain the capacity and performance (of the sewage works) during (its) service life". It has been determined that equipment replacement for the collection systems will be limited to lift station pumps and Vac-all truck replacement, at an annual cost of \$3,561. Replacement costs for the regional plant are included in the O&M charges previously cited.

The costs of operating and maintaining the City of Ishpeming collection system will probably vary from year to year. The anticipated budget for the first year of operation, including the estimated charges from the Ishpeming Area Joint Wastewater Board, is attached.

The projected total is \$529,511 for the year. This breaks down into flow and

waste components as: \$160,679 for flow, \$155,201 for biochemical oxygen demand (BOD), \$116,858 for suspended solids (SS), \$80,340 for phosphorus (P), and \$16,433 for ammonia nitrogen (NH<sub>3</sub>-N).

Unit treatment costs are shown in the attachment and are based on the projected flows and waste loads for the first year of operation. The anticipated unit costs are:

Volume	\$0.88/1,000 gallons
BOD	\$0.566/lb.
Suspended Solids	\$0.295/lb.
Phosphorus	\$2.198/lb.
Ammonia Nitrogen	\$0.432/lb.

Because of the absence of users discharging wastewater of greater than normal strength, all current customers will pay on a unit volume basis for the discharge of normal strength sewage, defined as not exceeding 180 mg/l concentration of BOD, 260 mg/l concentration for SS, 24 mg/l for P, and 25 mg/l for NH<sub>3</sub>-N (as determined from plant records). These levels, like the costs, should be adjusted in the future to reflect actual flows and waste load. The cost to treat normal strength wastewater, as shown in Schedule 4, is \$2.90 per 1,000 gallons.

A flat rate for unmetered residential users has been calculated, using average metered usage, as \$11.69 per month, for a total of \$16.54.

Future customers discharging wastewaters of greater than normal strength must pay a surcharge on the additional loadings. The charge for such customers would be determined from the formula presented below:

$$C = \$2.90 \times V + .00834 \times V \times ((\$0.566 \times B) + (\$0.295 \times S) + (\$2.198 \times P) + (\$0.432 \times A))$$

Where: C = Charge to sewer user for operation, maintenance and replacement costs for treatment works.

V = Wastewater volume in 1,000 gallons

B = Concentration of BOD from a user above the normal strength of 180 mg/l.

S = Concentration of suspended solids from a user above the normal strength of 260 mg/l.

P = Concentration of total phosphorus from a user above the normal strength of 24 mg/l.

A = Concentration of ammonia nitrogen from a user above the normal strength of 25 mg/l.

.00834 = Conversion Factor (mg/l to lbs.)

V. TOTAL SERVICE CHARGES

The total service charge is the sum of the minimum monthly charge and the variable monthly charge.

To illustrate the cost to the various classes of customers, assume the following monthly water volumes were used by the typical customers shown. Actual usage will vary significantly.

<u>Type of User</u>	<u>Meter Size</u>	<u>Variable Monthly Billing</u>			<u>Total Monthly Billing</u>
		<u>Minimum Monthly Billing</u>	<u>Volume of Water Used (gal)</u>	<u>Volume Charge</u>	
Residence	3/4"	\$ 4.85	5,000	\$14.50	\$19.35
Residence (Unmetered)	---	4.85	---	11.69	16.54
Commercial	1"	7.28	10,000	29.00	36.28
Institutional (Tax Exempt)	1 1/2"	29.70	15,000	43.50	73.20

SCHEDULE 1

USER CHARGE EQUIVALENTS  
(CUSTOMER METER SUMMARY)

<u>Meter Size</u>	<u>Number</u>	<u>User Charge Factor</u>	<u>Total Equivalent Users</u>
5/8" & 3/4"	2,372	1.0	2,372.0
1"	17	1.5	25.5
1 1/2"	10	3.3	33.0
2"	18	4.9	88.2
3"	8	10.9	87.2
4"	1	16.0	16.0
6"	<u>2</u>	36.0	<u>72.0</u>
TOTAL	2,428		2,693.9

Note: The above excludes 45 unsewered water customers and included 17 unmetered residential customers as 3/4" meter equivalents.

CITY OF ISHPEMING

ATTACHMENT "A"

ANNUAL FLOW AND WASTE LOAD SUMMARY

USER CLASS	NUMBER OF USERS	WATER USAGE (GAL)	-----POLLUTANT LOADINGS-----			
			BOD (LBS)	SS (LBS)	PHOS (LBS)	NH3-N (LBS)
RESIDENTIAL	2201.	105883000.	158951.	229597.	21194.	22077.
COMMERCIAL	166.	31505500.	47296.	68316.	6306.	6569.
INDUSTRIAL	20.	16139500.	24229.	34997.	3230.	3365.
GOVERNMENTAL	8.	21069800.	31630.	45688.	4217.	4393.
INSTITUTIONAL	33.	7992200.	11998.	17330.	1600.	1666.
TOTALS	2428.	182590000.	274104.	395928.	36547.	38070.

CITY OF ISHPEMING

ATTACHMENT "A"

REPLACEMENT FUND CALCULATION

EQUIPMENT	SERV.	INSTALLED	SINKING	----FLOW----		----BOD----	
	LIFE		FUND	%	COST	%	COST
	(YR)	COST	ANNUITY				
-L S PUMPS	15.	\$ 6800.	\$ 250.	100.00	\$ 250.	.00	\$0.
VAC-ALL TRUCK	15.	\$89900.	\$3311.	80.00	\$2649.	.00	\$0.
TOTALS			\$3561.		\$2899.		\$0.

EQUIPMENT	----SS----		----PHOS----		---NH3-N---	
	%	COST	%	COST	%	COST
L S PUMPS	.00	\$ 0.	.00	\$0.	.00	\$0.
VAC-ALL TRUCK	20.00	\$662.	.00	\$0.	.00	\$0.
TOTALS		\$662.		\$0.		\$0.

OPERATION AND MAINTENANCE BUDGET

CATEGORY	ANNUAL	----FLOW----		----BOD----		----SS----	
		COST	%	COST	%	COST	%
WWTP CHARGES	\$400918.	19.81	\$ 79428.	34.76	\$139361.	24.09	\$ 96598.
COST ACCOUNTING	\$ 16275.	100.00	\$ 16275.	.00	\$ 0.	.00	\$ 0.
ADMINISTRATION	\$ 16439.	100.00	\$ 16439.	.00	\$ 0.	.00	\$ 0.
COLL SYS MAINT	\$ 33889.	80.00	\$ 27111.	.00	\$ 0.	20.00	\$ 6778.
REPLACEMENT	\$ 3561.		\$ 2899.		\$ 0.		\$ 662.
TOTALS	\$471082.		\$142152.		\$139361.		\$104038.

CATEGORY	----PHOS----		----NH3-N----	
	%	COST	%	COST
WWTP CHARGES	17.89	\$71740.	3.44	\$13791.
COST ACCOUNTING	.00	\$ 0.	.00	\$ 0.
ADMINISTRATION	.00	\$ 0.	.00	\$ 0.
COLL SYS MAINT	.00	\$ 0.	.00	\$ 0.
REPLACEMENT		\$ 0.		\$ 0.
TOTALS		\$71740.		\$13791.

UNIT TREATMENT COSTS

FLOW	\$0.88 PER 1,000 GALLONS
BOD	\$0.566 PER LB.
SS	\$0.295 PER LB.
PHOS	\$2.198 PER LB.
NH3-N	\$0.432 PER LB.

UNIT RATE FOR NORMAL STRENGTH WASTEWATER

FLOW		\$0.88
BOD	$\$0.566 \times 180 \text{ MG/L} \times .00834 =$	\$0.849
SS	$\$0.295 \times 260 \text{ MG/L} \times .00834 =$	\$0.639
PHOS	$\$2.198 \times 24 \text{ MG/L} \times .00834 =$	\$0.439
NH3-N	$\$0.432 \times 25 \text{ MG/L} \times .00834 =$	<u>\$0.09</u>
TOTAL		\$2.897 PER 1,000 GALLONS

FLAT RATE FOR UNMETERED RESIDENTIAL USERS

AVERAGE RESIDENTIAL USAGE = 12050. GALLONS PER QUARTER  
 FLAT RATE = \$35.07 PER QUARTER

O, M, & R REVENUE PROJECTIONS BY USER CLASS

USER CLASS	WATER USAGE (GAL)	VOLUME CHARGE	-----SURCHARGES-----				TOTAL REVENUE
			BOD	SS	PHOS	NH3-N	
RESIDENTIAL	105883000.	\$273,178.14	\$ .00	\$ .00	\$ .00	\$ .00	\$307,060.70
COMMERCIAL	31505500.	\$ 81,284.19	\$ .00	\$ .00	\$ .00	\$ .00	\$ 91,365.95
INDUSTRIAL	16139500.	\$ 41,639.91	\$ .00	\$ .00	\$ .00	\$ .00	\$ 46,804.55
GOVERNMENTAL	21069800.	\$ 54,360.08	\$ .00	\$ .00	\$ .00	\$ .00	\$ 61,102.42
INSTITUTIONAL	7992200.	\$ 20,619.88	\$ .00	\$ .00	\$ .00	\$ .00	\$ 3,177.38
TOTALS		\$471,082.20	\$ .00	\$ .00	\$ .00	\$ .00	\$529,511.00

PROJECTED NET REVENUE = \$0.20