Copy

Michael R. Wilson
5816 18th St. Ct. NW, Gig Harbor, WA
Email: mrwilson68@gmail.com □ Cell: (253) 861-1190

TO: Mayor Kit Kuhn, City of Gig Harbor

FROM: Michael R. Wilson, ICMA-CM, JD

SUBJECT: Canterwood Annexation / STEP Systems

DATE: July 26, 2019

In 1988, the City of Gig Harbor and Canterwood executed the first agreement to extend sewer service to Canterwood with the intent that Canterwood would be annexed to the City in the near future. As City Administrator of Gig Harbor at the time, I worked on drafting and negotiating the first and second agreements with then Canterwood General Manager, John Morrison. Contained within these agreements is a provision that sets forth a 50% surcharge on sewer utility bills to Canterwood residents who are on the Canterwood and Rush STEP systems. Since the extension of sewer service to Canterwood, Canterwood property owners have taken on the responsibility to operate, maintain and fund these STEP systems, rather than these systems being operated and maintained by the City of Gig Harbor.

Based on the information obtained from Pierce County, City of Gig Harbor, legal counsel, and upon further investigation and meeting with the Washington State Department of Ecology which regulates municipal sewer utilities, I have concluded the following:

1) Annexation: Canterwood should be able to "unconditionally" annex to the City of Gig Harbor (other than needing to address "zoning", "city indebtedness"), based on City policy and the Canterwood and Gig Harbor sewer utility extension agreements (Exhibit "A", Exhibit "B"). There should be no other conditions/restrictions (and continuous delays) placed on Canterwood to annex to the City of Gig Harbor. Since the inception of the sewer agreements, it was the intent of the City of Gig Harbor for Canterwood to be annexed into the City; otherwise, sewer service would have never been extended. Since Canterwood is nearly completely developed, Canterwood will have no growth impact to the City of Gig Harbor when annexed.

2) Annexation Financial Benefit: Canterwood would generate considerably more revenue than expenses for the City's General Fund and Storm Drainage Fund (in excess of $1.2 million annually), since Canterwood is a private community which maintains its own infrastructure (Exhibit "C"). The tax impact to residents of Canterwood may result in a lowering of property tax; however, any savings would be offset by property owners paying City utility taxes.

3) STEP System Ownership: The Canterwood/Rush STEP systems should be operated and maintained by the City of Gig Harbor according to the regulations of the Department of Ecology. WAC 173-240-104 states: "domestic sewerage facilities (e.g., grinder pumps, STEP systems) are not approved unless ownership and responsibility of operation and maintenance is by a public entity" (Exhibit "D"). Mr. Morrison and I have met with the Dept. of Ecology staff and reconfirmed that the City of Gig Harbor should be maintaining and operating these two STEP systems.

4) Sewer Rate 50% Surcharge: The basis for the City assessing the 50% sewer surcharge for customers located outside the City is solely as an "incentive for property owners to annex

to the City", similar to the City of Olympia (Exhibit "E"). Under case law, rates must not be "unduly discriminatory" or "arbitrary", they must be "just and reasonable" and there must be a "fair basis" when establishing rates (Exhibit "F"). This is why municipalities conduct rate studies in order to justify how they are setting their rates. This surcharge does not reflect the actual additional cost to the City's sewer utility for providing sewer service outside its city limits. To determine the additional cost of serving Canterwood, the City should have conducted a sewer rate study/assessment. Additionally, in 2012 the City approved Ordinance 1235 (Exhibit "G") increasing the sewer and water general facility charges to 150% of the standard city rate for connections outside the city limits without any clear/fair basis for this increase.

5) 2008 Annexation Petition: Canterwood submitted to the City a 10% petition in 2008 and the City took official action to deny Canterwood's annexation initiative based on a 2008 study that provided inaccurate information. The City, however, has continued to charge Canterwood and Rush STEP customers a 50% surcharge on monthly sewer rates (estimated at $110,000/year). It appears that these combined 340 Canterwood residents have paid in excess of $1,100,000 for sewer surcharges to the City since the denial of annexation in 2008. In addition, it appears that some additional customers since 2012 may have been charged a 50% surcharge on their sewer general facility charge. As a result, the two STEP Associations may have grounds for pursuing action to recover these excess charges.

6) Additional Maintenance Cost: In addition to paying the 50% surcharge on the sewer bills, Canterwood/Rush sewer customers have been responsible for paying an additional $15 bi-monthly charge to maintain the STEP system despite still paying "full" sewer rates to the City. The City's Sewer Utility currently has had no financial responsibility in paying for the maintenance/operation of Canterwood's STEP system since 1992 even though the City should have operated and maintained the system since its inception.

7) STEP System Maintenance Issues: Any past problems with Canterwood's STEP systems (I&I and septicity) and the impact on the wastewater treatment plant has not been a "system" issue. The problems were due to not providing proper maintenance, treatment and inspections. It should be noted that the City of Olympia and Lacey have STEP systems. The City of Lacey, for example, operates and maintains a large STEP system (more than 3,000 STEP connections) with a history of an effective, proactive maintenance program (Exhibit "H"). Under the proper maintenance and operation of these STEP systems by the City of Gig Harbor, any further problems would be more properly and effectively addressed with appropriate accountability to the Dept. of Ecology.

FAQ's

Will annexation mean higher property taxes or fees?

No. Local property and sales tax rates are largely uniform across the Gig Harbor Peninsula. Annexation usually results in lower property taxes because the city levy is generally less than the County-specific road levy. However, utility costs are slightly higher in the City due to a municipal tax of 5%.

Will I be forced to connect to city utilities or to pay fees towards their operation?

No. Existing properties do not have to connect to the city sewer or water system. The operational costs of city utilities are paid for by customers through connection and service fees, not by the City's general fund.

Will annexation bring a change in other services such as Schools?

No. Policies and service areas for water companies, private utilities, schools, fire protection, Emergency Medical Services, and library are not impacted by annexation. Property owners annexed into the City will remain in the PenMet Park District unless both the City Council and the PenMet Board formally agree to remove the annexed area from the PenMet boundaries.

Will I have to bring my property up to city standards?

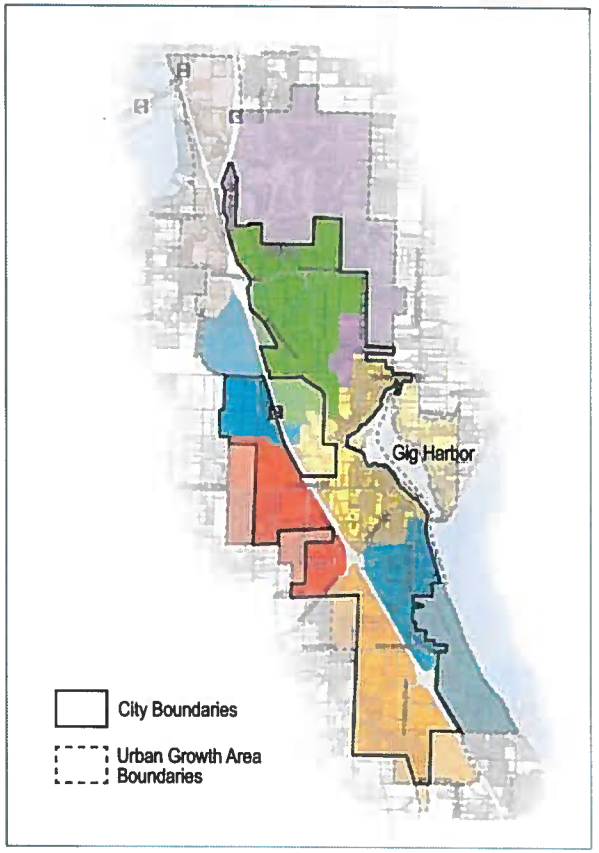
Generally, no. Current uses and structures are allowed to continue in the manner that exists at the time of annexation. While new development or expansion would have to comply with city standards, the regulations in urban growth areas are nearly identical to city standards.

CITY OF GIG HARBOR
3510 Grandview Street
Gig Harbor, WA 98335

(2 5 3) 8 5 1 - 6 1 7 0

GIG HARBOR

Annexation



Questions and Answers

EXHIBIT "A"

GIG HARBOR
THE MARITIME CITY

What is Annexation?

Annexation is a public process to expand a city's jurisdiction to areas adjacent to existing city limits. Through annexation, a city extends voting privileges, taxing and governing authorities, and municipal services to appropriate areas.

Why Annex?

- ✓ Increase local government representation
- ✓ Accessibility of city staff and services
- ✓ Convenient local municipal court
- ✓ More concentrated Law Enforcement services
- ✓ Reduced rates for city services
- ✓ Codes and development plans based on local priorities and needs
- ✓ Tax revenue retained in local area
- ✓ Consistent and regular boundaries
- ✓ Greater efficiency for public services
- ✓ Removal of jurisdictional complications for properties in the Urban Growth Areas

Gig Harbor and the Future

With enhanced access and development interest, more and more property owners are considering annexation, be it for local land use control or urban services. To be considered for annexation, a property must be within the Urban Growth Area (UGA), an area designated by the County for urban development. The following is a brief summary of the annexation process most utilized by property owners to propose annexation, as outlined in State Law (RCW 35A.14):

Direct Petition Method Process

- The owners of no less than 10% of a proposed land area shall provide the city, in writing, a "Notice of Intention to Commence Annexation" (city form available), along with a legal description (land survey) of the proposed boundaries.
- The Gig Harbor City Council shall set a date to meet with the annexation proponents within 60 days of receiving the notice.
- Prior to the first public meeting, the City will send the proposed legal description to the Pierce County Boundary Review Board for acceptance.
- If the Gig Harbor City Council chooses to modify the proposed boundaries, another County and City review is required.
- When authorized by the City Council, an annexation petition can be circulated among affected property owners, stating any conditions of annexation arrived upon by the City Council.
- Owners of 60% of the assessed value of the proposed area must sign and date their endorsement of the petition and include documentation of property ownership when necessary.
- Within three days of receiving an authorized petition and appropriate filing fee, the City Clerk will transmit the petition and documentation to Pierce County for certification.
- Following certification, the Gig Harbor City Council shall hold a public hearing to fully consider the annexation request and vote to accept or reject it.
- The decision to annex an area can be appealed through a 45-day appeal period administered by Pierce County, followed by a legal city ordinance to make the annexation effective.

Annexations

Purpose

With enhanced access and development interest, more and more property owners are considering annexation, be it for local land use control or urban services. To be considered for annexation, a property must be within the Urban Growth Area (UGA), an area designated by the County for urban development.

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- The decision to annex an area can be appealed through a 45-day appeal period administered by Pierce County, followed by a legal city ordinance to make the annexation effective.

FAQs

PETITION FOR ANNEXATION TO THE CITY OF GIG HARBOR, WASHINGTON

The Honorable Mayor and City Council
City of Gig Harbor
3510 Grandview Street
Gig Harbor WA, 98335

Dear Mayor and City Council:

WE, the undersigned, who are the owners of a majority of the acreage and a majority of the registered voters residing in the area legally described on Exhibit "A" attached hereto and is geographically depicted on a Pierce County Assessor's parcel map on Exhibit "B" further attached hereto, lying contiguous to the City of Gig Harbor, Washington (an optional municipal code city), do hereby petition that such territory be annexed to and made a part of the City of Gig Harbor under the provisions of RCW 35A.14.420-450., and any amendments thereto, of the State of Washington.

The territory proposed to be annexed is within Pierce County, Washington, and is legally described on Exhibit "A", attached hereto.

WHEREFORE, the undersigned respectively petition the City Council of the City of Gig Harbor and ask:

(a) That appropriate action be taken to entertain this petition, fixing a date for a public hearing thereon and causing notice of the hearing to be published in one or more issues of a newspaper of general circulation in the City and posted in three public places within the territory proposed for annexation, and shall specify the time and place of hearing and invite interested persons to appear and voice approval or disapproval of the annexation; and

(b) That following such hearing, if the City Council determines to effect the annexation, it shall do so by ordinance, and that property so annexed shall become a part of the City of Gig Harbor, Washington, subject to its laws and ordinance then and thereafter in force.

The City of Gig Harbor Council meet with the initiators of the proposed annexation on __ _____. It was moved by Councilmember ____ and seconded by Councilmember _____ that the City of Gig Harbor accept the notice of intention to commence annexation proceedings and further authorize the circulation of an annexation petition subject to the following conditions:

1. All property within the territory hereby sought to be annexed shall be assessed and taxed on the same basis as property within the City of Gig Harbor is assessed and taxed to pay for the portion of any then-outstanding indebtedness of the City of Gig Harbor, which indebtedness has been approved by the voters,

contracted for, or incurred before, or existing at, the date of annexation and that the City of Gig Harbor has required to be assumed; and

2. Simultaneous adoption of proposed zoning regulations be required of the said area proposed for annexation as described in the City of Gig Harbor Comprehensive Plan adopted pursuant to Ordinance No. 686 of the City of Gig Harbor, and as implemented through the City Zoning Code, Title 17 of the Gig Harbor Municipal Code. Zoning is hereby established as _____.

This petition is accompanied by and has attached hereto as Exhibit "B", a diagram that outlines the geographic boundaries of the property sought to be annexed as depicted on a Pierce County Assessor's parcel map.

These pages are a group of pages containing identical text and prayer intended by the signers of this petition to be presented and considered as one petition and may be filed with other pages containing additional signatures which cumulatively may be considered as a single petition.

WARNING: Every person who signs this petition with any other than his or her true name, or who knowingly signs more than one of these petitions, or signs a petition seeking an election when he or she is not a legal voter, or signs a petition when he or she is otherwise not qualified to sign, or who makes herein any false statement, shall be guilty of a misdemeanor.

PRAYER OF PETITION: (1) Annexation of the area described in Exhibits "A" and "B", and (2) assumption of indebtedness of the City of Gig Harbor, and (3) adoption of the City of Gig Harbor Zoning Designation of _____.

Resident/Owner Signature	Printed Name	Address & Tax Parcel Number	Date Signed

EXHIBIT "B"

Canterwood & City of Gig Harbor Utility Extension Agreements

1) October 13, 1988
Initial agreement to extend sewer services (negotiated and drafted by Michael Wilson, Gig Harbor City Administrator and John Morrison, Canterwood General Manager) – 40,000 gallons per day capacity commitment. Annexation process addressed. Owner agrees to support conveyance of Canterwood's water system to the City.

2) November 30, 1990
Addendum to initial agreement to add 10,000 gallons more capacity.

3) March 31, 1992
Addendum #2 – addresses Canterwood Homeowners Assn maintaining STEP system.

4) December 1, 1992
Utility extension agreement – identifies the consequences of annexation and process. Land use: all development and redevelopment must comply with City standards, codes, comp plan, zoning standards. Conditions placed on Canterwood: a) Gig Harbor regulations would apply, b) zoning and c) Canterwood may be required to assume existing City indebtedness. Agreement also addresses the turn-over of sewer capital facilities to City.

5) March 31, 1992
Addendum which addresses that Canterwood homeowner's association should be responsible for managing and operating the STEP system within Canterwood.

6) December 29, 1993
Amendment to Dec. 1, 1992 to extend sewer capacity commitment for five years.

7) July 13, 1998
Amendment to Dec. 1, 1992 to extend sewer capacity commitment until Dec. 28, 2000.

8) October 16, 2001
Capacity agreement to discharge into City's sewerage system 30 ERUs. Waiver of right to protest formation of LID or ULID.

9) November 25, 2002
Capacity agreement to discharge into City's sewerage system an additional 50 ERUs. Same language as previous agreement.

10) May 3, 2004
Capacity agreement to discharge into City's sewerage system an additional 50 ERUs. Same language as previous agreement. This is the last agreement which addresses land use and annexation conditions and process. Conditions are limited to zoning and city indebtedness.

11) January 9, 2006
Amendment to May 3, 2004 agreement by adding an additional lot to the STEP system.

12) June 26, 2006
Second amendment to May 3, 2004 agreement by adding an additional lot to the STEP system.

City of Gig Harbor - Canterwood Annexation (Six-year Budget)

Revenues			2020	2021	2022	2023	2024	2025
	General Fund Operating & Capital							
	Property Tax	615,331,700 x 1.49 (2019)	917,000	930,000	945,000	959,000	973,000	988,000
	Property Tax (bond)	615,331,700 x 0.16 (2019)	98,000	99,500	101,000	97,000	102,500	
	Zoo Tax		14,400	14,600	14,800	15,000	15,200	15,400
	Sales Tax		28,000	29,000	30,000	31,000	32,000	33,000
	Utility Taxes		280,000	288,500	297,000	306,000	315,000	324,500
	Bldg. Permits		40,000	40,500	41,000	41,500	42,000	42,500
	Intergov./Impact Fees/Misc.		44,000	45,000	46,000	47,000	48,000	49,000
	Real Estate Excise (General Fund Capital)		258,000	265,000	273,000	282,000	290,000	299,000
			1,679,400	1,712,100	1,747,800	1,778,500	1,817,700	1,751,400
	Street Fund							
	State Shared Revenue		25,000	26,000	27,000	28,000	29,000	30,000
	Sales Tax - Criminal Justice		30,000	31,000	32,000	33,000	34,000	35,000
			55,000	57,000	59,000	61,000	63,000	65,000
	Storm Utility							
	Stormwater service fees		130,000	133,000	137,000	141,000	145,000	150,000
	General Fund/Street Fund/Storm Utility Revenue Totals		**1,864,400**	**1,902,100**	**1,943,800**	**1,980,500**	**2,025,700**	**1,966,400**
Expenditures			**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
	General Fund Operating & Capital							
	Police - 2 officers		216,000	222,000	230,000	236,000	243,000	250,000
	Police Support		128,000	132,000	136,000	140,000	144,000	148,000
	Building		65,000	67,000	69,000	71,000	73,000	7,500
	Admin. - Contract Services		60,000	62,000	64,000	66,000	68,000	70,000
	Planning		70,000	72,000	74,000	76,000	78,000	80,000
	Public Works		65,000	67,000	69,000	71,000	73,000	75,000
	Debt Services - revenue bonds		91,000	93,000	95,000	97,000	99,000	-
			695,000	**715,000**	**737,000**	**757,000**	**778,000**	**630,500**
	Street Fund							
	Salaries/Benefits (Canterwood streets private)		0	0	0	0	0	0
	Capital Expenses		0	0	0	0	0	0
	Storm Utility							
	Salaries/Benefits (maintained by Canterwood)		0	0	0	0	0	0
	Capital Expenses		0	0	0	0	0	0
	General Fund/Street Fund/Storm Utility Expenditure Totals		**695,000**	**715,000**	**737,000**	**757,000**	**778,000**	**630,500**
Revised: 7.23.19								

EXHIBIT "C"

EXHIBIT "D"

WAC 173-240-020

Definitions.

(1) "Approval" means written approval.

(2) "Construction quality assurance plan" means a plan describing the methods by which the professional engineer in responsible charge of inspection of the project will determine that the facilities were constructed without significant change from the department approved plans and specifications.

(3) "Department" means the Washington state department of ecology.

(4) "Domestic wastewater" means water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments or other places, together with the groundwater infiltration or surface waters that may be present.

(5) "Domestic wastewater facility" means all structures, equipment, or processes required to collect, carry away, treat, reclaim or dispose of domestic wastewater together with the industrial waste that may be present. In the case of subsurface sewage treatment and disposal, the term is restricted to mean those facilities treating and disposing of domestic wastewater only from:

(a) A septic tank system with subsurface sewage treatment and disposal and an ultimate design capacity exceeding fourteen thousand five hundred gallons per day at any common point; or

(b) A mechanical treatment system or lagoon followed by subsurface disposal with an ultimate design capacity exceeding three thousand five hundred gallons per day at any common point.

Where the proposed system using subsurface disposal has received a state construction grant or a federal construction grant under the Federal Water Pollution Control Act as amended, such a system is a "domestic wastewater facility" regardless of size.

(6) "Engineering report" means a document that thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC **173-240-060** or **173-240-130**. In the case of a domestic wastewater facility project, the report describes the recommended financing method.

The facility plan described in federal regulation 40 C.F.R. 35 is an "engineering report." This federal regulation describes the Environmental Protection Agency's municipal wastewater construction grants program.

(7) "General sewer plan" means the:

(a) Sewerage general plan adopted by counties under chapter **36.94** RCW; or

(b) Comprehensive plan for a system of sewers adopted by sewer districts under chapter **56.08** RCW; or

(c) Plan for a system of sewerage adopted by cities under chapter **35.67** RCW; or

(d) Comprehensive plan for a system of sewers adopted by water districts under chapter **57.08** RCW; or

(e) Plan for sewer systems adopted by public utility districts under chapter **54.16** RCW and by port districts under chapter **53.08** RCW.

(f) The "general sewer plan" is a comprehensive plan for a system of sewers adopted by a local government entity. The plan includes the items specified in each respective statute. It includes the general location and description of treatment and disposal facilities, trunk and interceptor sewers, pumping stations, monitoring and control facilities, local service areas and a general description of the collection system to serve those areas. The plan also includes preliminary engineering in adequate detail to assure technical feasibility, provides for the method of distributing the cost and expense of the sewer system, and indicates the financial feasibility of plan implementation.

(8) "Industrial wastewater" means the water or liquid that carries waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or

WAC 173-240-104

Ownership and operation and maintenance.

(1) Except as provided in subsections (2) and (3) of this section, domestic sewage facilities will not be approved unless ownership and responsibility for operation and maintenance is by a public entity. If a waste discharge permit is required it must be issued to the public entity. Nothing in this rule precludes a public entity from contracting operation and maintenance of domestic sewage facilities.

(2) Ownership by nonpublic entities may be approved if the department determines the ownership is in the public interest: Provided, That there is an enforceable contract, approved by the department, between the nonpublic entity and a public entity with an approved sewer general plan that will assure immediate assumption of the system under the following conditions:

(a) Treatment efficiency is unsatisfactory either as a result of plant capacity or physical operation; or

(b) If such an assumption is necessary for the implementation of a general sewer plan.

(3) The following domestic wastewater facilities would not require public entity ownership, operation, and maintenance:

(a) Those facilities existing or approved for construction as of the effective date of this section, until such a time the facility is expanded to accommodate additional development.

(b) Those facilities which serve a single nonresidential, industrial, or commercial establishment. Commercial/industrial complexes serving multiple owners or tenants and multiple residential dwelling facilities such as mobile home parks, apartments, and condominiums are not considered commercial establishments for the purpose of this section.

[Statutory Authority: RCW 90.48.110. WSR 00-15-021 (Order 00-09), § 173-240-104, filed 7/11/00, effective 8/11/00. Statutory Authority: Chapters 43.21A and 90.48 RCW. WSR 83-23-063 (Order DE 83-30), § 173-240-104, filed 11/16/83.]

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

July 05, 2016

Mr. Mark Dorsey
Public Works Director
City of Port Orchard
216 Prospect Street
Port Orchard, WA 98366

Re: City of Port Orchard General Sewer Plan (June 2016)

Dear Mr. Dorsey:

Pursuant to RCW 90.48.110 and WAC 173-240-050, the above-referenced general sewer plan has been reviewed and, with the exception of references to privately-owned and maintained grinder pumps, is hereby approved. WAC 173-240-104 states that domestic sewage facilities (e.g. grinder pumps) are not approved unless ownership and responsibility of operation and maintenance is by a public entity. The City of Port Orchard has not clearly presented a case that privately-owned grinder pumps is of public interest. Therefore, Ecology has not approved private ownership of grinder pumps.

Sewage collection facilities within the planning area boundary shall be constructed according to the approved general sewer plan or amendments thereto. Prior to construction, the City is required to submit a written description of the project and written assurance that the extension is in conformance with the general sewer plan. Engineering reports and plans and specifications for planned collection facilities including sewer line extensions and pump stations, need not be submitted for approval, unless:

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.

If you have any questions concerning this approval, please contact Lazaro Eleuterio at lazaro.eleuterio@ecy.wa.gov or 425-649-7027.

Sincerely,

Kevin C. Fitzpatrick
Section Manager
NWRO Water Quality Section

KF:le:

cc: Randy Screws, Senior Operator at West Sound Utility District
Adam Schuyler, PE; BHC Consultants, LLC
Lazaro Eleuterio, Department of Ecology, Permit Manager
Department of Ecology Central Records, City of Port Orchard, WQ 4.5

Dear Mr. Schuyler:

The purpose of my writing is to comment on the City of Port Orchard's (City) response to Ecology's comment (#5) on privately-owned and maintained grinder pumps and the City's general sewer plan.

Under state regulation WAC 173-240-020(12), a "domestic wastewater facility" is defined and includes "all structures, equipment, or processes required to collect, carry away, treat, reclaim or dispose domestic wastewater together with the industrial waste that may be present". An interpretation of this definition includes all structures and equipment used to "collect" and "carry away" wastewater, which would include grinder pumps, STEP equipment, and gravity sewer lines. While both STEP equipment and gravity side sewers can be interpreted as "domestic wastewater facilities", they differ in that the STEP equipment has mechanical and electrical functions which a gravity side sewer doesn't. Further, a STEP system is more prone to mechanical failure with a much shorter life span (8-10 years) compared to a gravity side sewer. Ecology drafts NPDES permits that include septic tanks and septic tank effluent pump systems which provide primary treatment prior to conveyance to a wastewater treatment plant. These NPDES permits can account for lower percent removals for total suspended solids at the WWTP due to prior removal of some of the TSS by the STEP system. With respect to access rights to enter private property, these access rights would be one of the provisions incorporated into an enforceable contract between the City and the private homeowner. Accessing and connecting to an electrical service panel and the responsibilities, duties, and liabilities of the parties would also be stipulated under the terms and conditions of the enforceable contract.

Per state regulation (WAC 173-240-104), domestic sewage facilities will not be approved (i.e. general sewer plans, engineering reports, plans and specifications) unless ownership and responsibility for operation and maintenance is by a public entity. Ownership by nonpublic entities may be approved if the Department determines that ownership is in the public interest and that there is an enforceable contract between the nonpublic entity and a public entity with an approved sewer plan that will assume immediate assumption of the system should problems arise. The City's General Sewer Plan does not clearly present a case that privately-owned grinder pumps is of public interest and an enforceable contract has not been submitted to Ecology for review. The purpose of the enforceable contract is to assure that the privately-owned grinder pumps are properly operated and maintained, and consequently, the waters of the state are protected. At this time, Ecology will only grant a conditional approval for the City's general sewer plan and note in our letter that Ecology does not approve privately owned grinder pumps. If the City provides a compelling reason why private ownership is in the public interest and provides an approvable, enforceable contact, Ecology will grant full approval of the general sewer plan. Ecology envisions one master enforceable contract which is consistent for all parties involved in lieu of individual tailored contracts.

Ecology's Water Quality program's senior management team has agreed to have work performed on development of a policy to potentially allow for private ownership of grinder pumps under certain circumstances and after certain criteria and conditions are met. However, due to time constraints and limited resources, no work on the policy has been achieved to date. Until a formal policy has been approved and formally in place, Ecology believes that grinder pumps should be owned and maintained by public entities.

Sincerely,

Lazaro Eleuterio

EXHIBIT "E"

Water Surcharge - Annexation Agreement

Why a Water Surcharge?

In 1969, Olympia established a water surcharge for customers who receive water and are outside the City limits in Olympia Municipal Code (OMC 13.04.390). This surcharge was put in place to:

- Recover the higher costs associated with delivering water outside the City.
- Provide an incentive for annexation consistent with the Growth Management Act.

Eliminate Your Water Surcharge

Do you live in the Urban Growth Area (UGA) and pay a surcharge for water? Did you know that property owners who reside outside the Olympia City limits but use City water, are eligible for a reduction in their water bill?

Agreement of Annexation

If you are paying the 50 percent surcharge, in addition to the standard rate for City water, you have an option. The Olympia municipal code allows for the elimination of this surcharge to property owners who sign an Agreement to Annex with the City of Olympia. Visit the City's OMC webpage to view the applicable codes (13.04.240, 13.04.242 and 13.04.390).

Why Sign the Agreement?

By signing the agreement, you will no longer have to pay the surcharge. This will affect the size of your bill, especially during the summer months with heavy water use. Here are some important facts to know about the agreement.

- The agreement must be signed and notarized by all property owners.
- Signing does not automatically make your property part of the City.
- Signing does allow the City Council to consider your annexation when growth and other factors warrant the inclusion of your property into the City.

For more information on the water surcharge and the annexation agreement, view our Frequently Asked Questions form. If you still have questions about how annexation works, call 360.753.8391.

Questions About the Annexation Form?

- **Physical Address:** City Hall - 601 4th Ave E
- **Mailing Address:** PO Box 1967, Olympia, WA 98507
- **Hours:** M - F from 8 a.m. to 4 p.m. (except for City-recognized holidays)
- **Phone:** 360.753.8391
- **Washington State Relay Service for Hearing Impaired:** 7-1-1 or 1.800.833.6384.

48 Wn.2d 342, SWAN J. FAXE, Respondent, v. THE CITY OF GRANDVIEW, AppellantCHRIS JENSON, Respondent, v. THE CITY OF GRANDVIEW, Appellant

EXHIBIT "F"

[No. 33279. Department Two. Supreme Court February 16, 1956.]

SWAN J. FAXE, Respondent, v. THE CITY OF GRANDVIEW, Appellant.

CHRIS JENSON, Respondent, v. THE CITY OF GRANDVIEW, Appellant.«1»

[1] CONSTITUTIONAL LAW - GRANTS OF SPECIAL PRIVILEGES OR IMMUNITIES - CLASS LEGISLATION. Const. Art. I, § 12, providing that no law shall be passed granting to any citizen, class of citizens, or corporation other than municipal, privileges or immunities which upon the same terms shall not equally belong to all citizens or corporations, has as its aim and purpose the securing of equality of treatment to all persons without undue favor on one hand or hostile discrimination on the other; and compliance with this aim and purpose requires that the legislation under examination apply alike to all persons within a class, and reasonable grounds must exist for making a distinction between those within and those without a designated class.

[2] SAME. A legislative act is not violative of Const. Art. I, § 12, so long as the classification involved is reasonable and has a fair basis; and a discrimination is valid if not arbitrary in the legislative sense, and a classification may rest on narrow distinctions.

[3] WATERS AND WATERCOURSES - PUBLIC WATER SUPPLY - DOMESTIC AND MUNICIPAL PURPOSES - WATER RENTS - UNIFORMITY OF CHARGES - CLASSIFICATION OF CONSUMERS - REASONABLENESS. A municipality operating its waterworks has the right to classify consumers under reasonable classification based upon such factors as the cost of service, the purpose for which it is received, the amount received, or any other matter which presents a substantial difference as a ground for distinction.

[4] SAME. The amount of rate differential between two classifications of consumers of a city's water service has no bearing on the question of discrimination and is relevant only on the question of reasonableness of rates.

«1» Reported in 294 P. (2d) 402.

[5] SAME. Held that a city had reasonable ground for establishing, for rate-making purposes, a separate class consisting of nonresident water users; and it did not thereby breach its duty to fix nondiscriminatory rates for water service to them.

[6] SAME. The "just and reasonable" rate which RCW 80.40.010 requires to be fixed by a city for nonresident water users is such as gives it a fair compensation for the services rendered, yielding a fair return to it upon the value of the property as a going concern used for the public at the time it is being used.

[7] SAME. Some reasonable discretion must abide in the officers whose duty it is to fix rates for nonresident water service, and unless the courts can say from all the circumstances that the rate fixed is an excessive one and disproportionate to the service rendered, the judgment of the officers fixing the rate must stand.

[8] SAME. Rates fixed by a city for utility service to inhabitants are presumptively reasonable, and one who challenges them as unreasonable has the burden of proof; and the same principle applies with regard to a challenge to the reasonableness of nonresident utility rates.

[9] SAME. Proof of a water rate differential in favor of residents does not make a prima facie showing that nonresident rates are unreasonable.

[10] SAME. Where the classification of water services for rate-making purposes is proper, the proportion of required revenue which is assigned to each class is a legislative function, which is not subject to court review unless the resulting rate to the complaining party is unjust and unreasonable.

[11] SAME. In an action by nonresident customers of a city's water system to prohibit the city from charging them a rate in excess of that fixed for residents, held that the plaintiffs did not maintain the burden of proving that the city breached its duty to fix just and reasonable rates for water service to them.

[12] SAME. In such an action, held that there is no basis for the finding and conclusion of the trial court that, in fixing water rates for nonresident consumers, the city acted arbitrarily.

Appeal from a judgment of the superior court for Yakima county, Nos. 38356, 39050, Willis, J., entered November 15, 1954, upon findings in favor of the plaintiffs, in consolidated actions for injunctive relief, tried to the court. Reversed.

Gordon Blechschmidt, Velikanje, Velikanje & Moore, and Paul M. Goode, for appellant.

Kenneth C. Hawkins and Chaffee & Aiken, for respondents.

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[5] See 49 A. L. R. 1239; 56 Am. Jur. § 27.

A. C. Van Soelen, Arthur Schramm, James Arneil, Kenneth A. Cole, Leslie R. Cooper, B. A. Farley, Paul F. Schiffner James B. Hovis, Elwood Hutcheson, Ralph G. Swanson, John McSherry, Jr., and Lawrence S. Cleman, amici curiae.

HAMLEY, C. J. -

This action brings into question an ordinance of the city of Grandview increasing rates for water service rendered outside the city limits.

Two nonresident customers, in separate suits which were later consolidated for trial and appeal, sought to have the ordinance declared void. They also sought an injunction prohibiting the city from charging nonresident customers a rate in excess of that fixed for residents. In addition, they asked that the city be ordered to refund the amount of the rate increase charged and collected since passage of the ordinance. In each case, the plaintiff alleged that the provision of the ordinance increasing water rates for nonresidents was void because such rates were discriminatory, arbitrary, unreasonable, and excessive.

The consolidated cases were tried before the court without a jury. The evidence tended to establish the following basic facts: Grandview, a city of the third class, has operated a water system for domestic, commercial, and industrial purposes once 1911. The initial construction of the distribution lines and well was financed by general obligation bonds in the amount of eighteen thousand dollars, issued in 1911, and sixteen thousand dollars, issued in 1918. These bonds have long since been paid by means of special tax levies on property within the city. All extensions and improvements to the system since then, with certain exceptions noted below, have been financed by water, and water and sewer, revenue bonds. The total replacement cost of the entire system, as of the date of the trial, was $633,926.

In January, 1949, an ordinance was enacted setting a minimum rate of $2.50 for the first three thousand gallons delivered to a resident user. The ordinance established an additional thirty-cent charge above this minimum for nonresident users. The following year, plaintiff Swan J. Faxe, a nonresident, arranged to receive water service from the

city. He did so by bearing the cost of installing a lateral line and meter, connected to the city's Orchard Tract main. This main carried water from a well outside the city to the city water system. Other nonresidents similarly situated made like arrangements. The cost to the nonresident customers of installing these laterals ranged from one hundred dollars to $1,134. Plaintiff Chris Jenson, also a nonresident, purchased his property after the laterals were installed, but while the 1949 water rates were still in effect.

Between 1949 and 1952, a need developed for an expanded water supply to meet growing water requirements both within and without the city limits. In order to finance a new revenue bond issue for this purpose, city officials determined that rate increases were necessary. This led to the enactment, on June 3, 1952, of the ordinance here in question. This ordinance increased certain commercial rates. It did not change the minimum monthly rate of $2.50 for residents. For nonresidents, however, it provided that, in lieu of the thirty-cent surcharge previously in effect, there would be a minimum rate equal to one hundred fifty per cent of the minimum rate for residents. The effect of the ordinance was to raise nonresident rates from $2.80 a month to $3.75, while making no increase in the $2.50 minimum rate for residents of the city.

In enacting this ordinance, city officials relied largely upon the advice of the bonding company which handled the city's financing and of Don E. Gray, a consulting engineer employed by the city. The bonding company advised that the rate of $2.50 for a minimum supply for residents was a feasible maximum for service inside the city, and that any higher rate would reflect on the city's credit. A partial survey was made of the cost of delivering water to nonresidents. However, there was no analysis of the comparative costs of delivering water to residents and nonresidents.

In keeping with the advice of the experts, the 1952 ordinance was designed to provide one hundred fifty per cent of the revenue bond debt service, after paying the expense of operation and maintenance. The rates under the new ordinance yield to the city $1,881 more a year from the one

hundred sixty-five nonresident users than they paid prior to its enactment. The fifty per cent differential thus exacted from nonresidents of Grandview is to be compared to differentials ranging from twenty per cent to three hundred per cent by nonresident water customers of several other cities of Washington.

There are fifty-five fire hydrants within the city limits and one outside. Several of those within the city limits are across the street from nonresidents. Neither resident nor nonresident customers pay any additional water rate for standby service from these hydrants. The city fire hydrants and city fire department equipment have been used in fighting fires beyond the city limits, no charge being made for such service.

All mains and laterals, both inside and outside the city, are flushed by the city without charge. The city also performs certain repair and maintenance services without charge. It costs about 11.2 cents more per month to read the meters of nonresident customers than to read the meters of resident customers.

A connection to the city water system has the effect of increasing the value of the real estate served. Within the city, this redounds to the benefit of the city through increased assessed valuations for tax purposes. While the assessed valuation of real estate served outside the city is likewise increased, this does not financially benefit the city.

In the past, some overhead expenses attributable to the operation of the city water system have been paid out of the city's general fund. Among such items were salaries, insurance premiums, legal expenses, and a judgment. New accounting procedures have been established, however, under which this expense will hereafter be borne by the water department.

Upon this showing, the trial court entered findings and a decree favorable to plaintiffs. The court found and concluded that the increased nonresident rates and the provision of the ordinance effectuating such increase were "discriminatory, arbitrary, unreasonable, excessive," and therefore void. Enforcement of the ordinance was enjoined, and

plaintiffs obtained judgments against the city in sums equal to the amounts of the increase paid by them since passage of the ordinance.

The city appeals, challenging each of the quoted reasons given for declaring the ordinance void.

Appellant and respondents appear to agree that, in rendering water service to respondent nonresidents, Grandview is under a duty to fix rates which are just and reasonable, not unduly discriminatory, and not arbitrarily arrived at.

With regard to the fixing of rates which are just and reasonable, this duty is prescribed by statute. See RCW 80.40.010 (Laws of 1951, chapter 252, § 1, p. 791).

With regard to the imposing of rates which are not unduly discriminatory, appellant predicates such duty upon Art. I, § 12, of the state constitution. This provision forbids the passage of any law granting special privileges or immunities. While agreeing that Grandview has such a duty, and apparently concurring in the view that Art. I, § 12, gives rise thereto, respondents also rely upon common-law principles as establishing such a duty.

The tests to be applied in determining whether the duty to fix nondiscriminatory rates has been breached are substantially the same, whether such duty is based upon the constitutional provision or common-law principles. Compare State ex rel. Bacich v. Huse, 187 Wash. 75, 59 P. (2d) 1101, with Durant v. Beverly Hills, 39 Cal. App. (2d) 133, 102 P. (2d) 759, and Caldwell v. Abilene (Tex. Civ. App.), 260 S. W. (2d) 712. We will therefore assume, without deciding, that such a duty exists by virtue of Art. 1, § 12, of the state constitution.

The duty of Grandview to avoid arbitrary action in fixing such rates is implicit in the other named duties with which the city is chargeable.

The basic question presented on this appeal, therefore, is whether the city of Grandview breached any of these duties.

We will first consider the duty of Grandview to fix nondiscriminatory rates for water service to these nonresidents.

Art. I; § 12, of the state constitution, provides that no law shall be passed granting to any citizen, class of citizens, or corporation other than municipal, privileges or immunities which, upon the same terms, shall not equally belong to all citizens or corporations.

[1] The aim and purpose of this constitutional provision is to secure equality of treatment to all persons without undue favor on the one hand or hostile discrimination on the other. Compliance with this aim and purpose requires that the legislation under examination apply alike to all persons within a class, and reasonable ground must exist for making a distinction between those within and those without a designated class. State ex rel. Bacich v. Huse, 187 Wash. 75, 59 P. (2d) 1101.

For the purpose of fixing rates, the 1952 ordinance placed nonresident water users in a class separate from resident water users. There is no contention or finding that the ordinance does not apply alike to all persons within the nonresident class. Therefore, under the rule of the Bacich case, supra, the finding of undue discrimination against nonresident water users is sustainable only if it appears that reasonable ground did not exist for classifying nonresidents separate from residents for rate-making purposes.

This brings us to a discussion of the grounds relied upon for making such a distinction. As in the case of all cityowned utility systems (and unlike privately-owned utility systems), Grandview constructed and now maintains and operates its water system primarily for the benefit of its own inhabitants. Citizens of the city, through financial contributions either in the form of taxes or rates in excess of operating expenses, have paid for the system. By the exercise of their elective franchise, such citizens have assumed responsibility for the management of the system. The general credit of the city has been a factor in the success of the enterprise. In many other ways, direct and indirect, the general city government has provided support and stability for the water system.

After the city and its citizens had gradually developed the water system over a period of nearly forty years, respondent

nonresidents sought and obtained permission to connect. They found the system a going concern. They were not required to assume any of the past burden or accept any future responsibility, save for providing a lateral connection and the payment of rates. While much of the system within the city is of no direct benefit to respondents, they could not have obtained service had not a financially sound utility been developed.

The cost of rendering service to nonresidents is greater than to residents. This is true not only in respect to the reading of meters, but also in the servicing and repair of lines. It is true that nonresidents, unlike resident users, have paid for their own lateral lines. It must be borne in mind, however, that such laterals remain the property of the nonresident customers and hence do not represent a capital contribution to the city system.

The city gains an indirect benefit from rendering water service to resident users in the form of higher property valuations. No such indirect benefit is realized from service to nonresidents. Other facts, some favorable to the city and some to respondents, have been considered, but are not discussed because they seem to about balance out.

[2] In Garretson Co. v. Robinson, 178 Wash. 601, 35 P. (2d) 504, after referring to a number of constitutional provisions, including Art. I, § 12, we said:

"A legislative act is not violative of any of the constitutional provisions mentioned so long as the classification involved is reasonable and has a fair basis. It is generally held that the courts will not look too nicely into legislative acts to determine whether a reasonable distinction exists. A discrimination is valid if not arbitrary in the legislative sense, and a classification may rest on narrow distinctions." (p. 605)

[3] The following statement, while made in discussing a city's common-law (as distinguished from constitutional)duty to fix nondiscriminatory rates, is also pertinent:

"It is well established that a municipal corporation operating its water works or other public utility has the right to classify consumers under reasonable classification based

upon such factors as the cost of service, the purpose for which the service or product is received, the quantity or amount received, the different character of the service furnished, the time of its use or any other matter which presents a substantial difference as a ground for distinction." Caldwell v. Abilene (Tex. Civ. App.) 260 S. W. (2d) 712, 714.

[4] The amount of rate differential between two classifications of customers has no bearing on the question of discrimination. It is relevant only on the question of reasonableness of rates, to be dealt with below. As the court said in Fox Point v. Public Service Comm., 242 Wis. 97, 7 N. W. (2d) 571:

"Once it is established that the services are different, a difference in the rates for each is immaterial so far as lawfulness is concerned. It may be of importance in the question of reasonableness, but that is not before us now." (pp. 102, 103)

[5] Applying these principles to the facts of this case as summarized above, we conclude that Grandview had reasonable ground for establishing, for rate-making purposes, a separate class consisting of nonresident water users. We therefore hold that, in enacting the 1952 ordinance, Grandview did not breach its duty to fix nondiscriminatory rates for water service to respondent nonresidents.

Did Grandview, in enacting such ordinance, breach its statutory duty to fix "just and reasonable" rates for such service?

This court has not had occasion to construe or apply the term "just and reasonable," as used in RCW 80.40.010. However, a somewhat similar term, used in a general utility regulatory statute of the state, has received court interpretation. RCW 80.28.010 [cf. Rem. Rev. Stat., § 10362] provides that charges made by gas, electrical, or water companies, shall be "just, fair, reasonable, and sufficient." In North Coast Power Co. v. Public Service Comm., 114 Wash. 102, 194 Pac. 587, we stated that this statutory provision meant that, all things considered, the charges shall not be so low as, among other things, to deprive the company of

means to render adequate service, nor so high as to unduly burden the public.

Substantially the same principle has been announced with reference to the duty of a common carrier to exact no more than reasonable rates. In Puget Sound Elec. R. v. Railroad Comm., 65 Wash. 75, 117 Pac. 739, this court said:

"The carrier is entitled to adequate recompense for the service it performs. The individual is entitled to a rate that he can reasonably afford to pay for the service he requires." (p. 84)

The "adequate recompense" to which a private utility company is entitled is usually equated with a reasonable return on the investment devoted to a public use. See State ex rel. Seattle v. Public Service Comm., 107 Wash. 17, 180 Pac. 913; North Coast Power Co. v. Kuykendall, 117 Wash. 563, 201 Pac. 780; State ex rel. Pacific Tel. & Tel. Co. v. Department of Public Service, 19 Wn. (2d) 200, 142 P. (2d)498.

The statement in Dillon on Municipal Corporations concerning the duty of a municipality, irrespective of statute, to charge resident consumers no more than a reasonable rate, is also helpful here. It is there stated:

"No exact rule can be laid down which is applicable to all eases. Each case must be decided upon its special facts as it arises. The interests of the corporation and of the public in the determination of the question require that it be viewed from opposite standpoints, and two controlling considerations have been laid down representing the opposing interests to which all others are subordinate. As to the public, a reasonable rate is not higher than the services are worth to them, not in the aggregate, but as individuals. From the standpoint of the public, the value of the services is to be considered and not exceeded. As to the corporation rendering the services, a reasonable rate is

EXHIBIT "G"

ORDINANCE NO. 1235

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF GIG HARBOR, WASHINGTON, RELATING TO THE PROVISION OF WATER AND SEWER SERVICE OUTSIDE THE CITY LIMITS; AMENDING SECTIONS 13.04.080 AND 13.32.030 OF THE GIG HARBOR MUNICIPAL CODE RELATING THE GENERAL FACILITY CHARGE FOR WATER AND SEWER CONNECTIONS OUTSIDE THE CITY LIMITS; REPEALING CHAPTER 13.34 OF THE GIG HARBOR MUNICIPAL CODE AND REPLACING WITH A NEW CHAPTER 13.34 ESTABLISHING CONDITIONS FOR OWNERS OF PROPERTY IN OUTSIDE THE CITY LIMITS TO RECEIVE WATER OR SEWER SERVICE FROM THE CITY; PROVIDING FOR SEVERABILITY AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, RCW 35.67.310 and RCW 35.92.200 authorize the City to provide water and sewer service to property beyond the city limits; and

WHEREAS, the City may provide water and sewer service to property beyond its limits under such terms, conditions and payments as may be required by the City and evidenced in a written agreement between the City and the property owners; and

WHEREAS, the Washington State Supreme Court has held that the conditions a city may impose on the provision of such service are not limited to those relating to capacity, as long as they are reasonable and lawful (*MT Development LLC v. City of Renton*, 140 Wn. App. 422 (2007), *Yakima County Fire Protection District v. Yakima*, 122 Wn.2d 371 (1993)); and

WHEREAS, the City of Gig Harbor currently provides water and sewer to property lying outside the City limits upon the applicant's compliance with the City's conditions as set forth in chapter 13.34 GHMC, including a condition for properties within the urban growth area to annex as a condition of connection; and

WHEREAS, the City Council desires to remove the requirement for annexation of properties in the urban growth area as a condition of connection; and

WHEREAS, the City's SEPA Responsible Official issued a Determination of Non-significance for this Ordinance on February 6, 2012; and

WHEREAS, the Gig Harbor City Council considered the Ordinance at first reading and public hearing on March 12, 2012; Now, therefore,

THE CITY COUNCIL OF THE CITY OF GIG HARBOR, WASHINGTON, ORDAINS AS FOLLOWS:

Section 1. Section 13.04.080 of the Gig Harbor Municipal Code is hereby amended to add a new subsection C to read as follows:

13.04.080 Water system general facility charge.

A. The city shall charge the following fees to connect to the water utility system:

Meter Size	Capacity Factor(s)	General Facility Charge
3/4"	1.0	$ 6,180.00
1"	1.67	10,320.00
1-1/2"	3.33	20,580.00
2"	5.33	32,940.00
Over 2"		Negotiable

B. Any remodel and/or use change shall pay the difference between the new use and/or size and the previous use and/or size. No refund shall be allowed for use and/or size reduction.

C. Water system general facility charge for connections outside the city limits shall be charged at 1.5 times the city rates.

Section 2. Section 13.32.060 - Amended. Section 13.32.060(A) of the Gig Harbor Municipal Code is hereby amended as follows:

13.32.060 Sewer general facilities charges.

A. The city shall impose a sewer general facilities charge of $8,540 per equivalent residential unit to connect to the sewer system. The sewer general facilities charge for connection to the Shorecrest Community Septic System is $13,300 per equivalent residential unit. The sewer general facilities charge for all other sewer connections outside the city limits shall be charged at 1.5 times the standard city rate.

Section 3. Chapter 13.34 of the Gig Harbor Municipal Code is repealed in its entirety and replaced with the following new chapter 13.34 to read as follows:

EXHIBIT "H"

20-Year Life Cycle Analysis of an Effluent Sewer (STEP) System City of Lacey, Washington

Bill Cagle[1*], Terry Cargil[2], Roger Dickinson[2]

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[2] City of Lacey, Washington

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ABSTRACT

A well-balanced O&M program for municipal effluent sewer (STEP) systems results in customer satisfaction and low life cycle costs. Too little maintenance — a "reactive maintenance" approach — leads to premature equipment failure and dissatisfied customers. However, too much maintenance can increase costs unnecessarily. Having tried both approaches over the course of 24 years, the City of Lacey, Washington, worked with its STEP equipment manufacturer to develop an O&M protocol that provides customers with service that is both satisfactory and economical, even when compared with O&M costs of other wastewater collection systems, such as gravity sewers. With substantially lower up-front capital and repair/replacement costs, and with O&M costs that are virtually the same as those of gravity sewers, the life cycle costs of Lacey's STEP sewer are clearly lower than those of a typical gravity sewer.

KEYWORDS: life cycle analysis, STEP sewer, effluent sewer, gravity sewer, City of Lacey, operation and maintenance (O&M) costs, repair and replacement (R&R) costs, preventive maintenance, Full Service Maintenance (FSM), Bioxide Injection

INTRODUCTION — LACEY'S STEP HISTORY

The City of Lacey, Washington was an early adopter of a decentralized sewer technology known as STEP (Septic Tank Effluent Pump) sewers, in which raw sewage is captured in a watertight, underground tank at each property, and only filtered liquid effluent is pumped through shallowly buried, small-diameter collection lines to a treatment facility. Lacey has owned and operated STEP sewers since 1989. This 24-year period is long enough to provide empirical, real-world data for accurate life cycle cost analyses.

Lacey's STEP system currently has approximately 3,000 STEP connections and is designed to accommodate 6,000–7,000 in the future. The STEP pressure mains range from 50 to 400 mm (2 to 16 in.) in diameter and span about 88.5 km (55 miles).

Lacey owns and operates three different types of collection technologies comprising approximately 12,000 gravity sewer connections, 3,000 STEP connections, and 102 grinder pump connections. Lacey's STEP system intersects with its existing gravity sewer core infrastructure before being pumped through transmission mains to the regional treatment plant.

A regional growth boom in the 1980s spurred new development into areas with limited wastewater infrastructure. The immediate need for new infrastructure motivated the City of Lacey to seek less expensive alternatives to gravity sewers and, in 1989, Lacey piloted septic tank effluent gravity (STEG) sewers in a small development of 10 residential connections. After

the pilot project was deemed a success, the City decided to expand the use of this relatively new effluent sewer technology. Initially, STEP was installed in new developments where wastewater infrastructure was not available. STEP systems were also installed in areas on the periphery of the city's wastewater service boundaries.

The City of Lacey, Washington, owns and operates three different types of wastewater collection systems: gravity, STEP, and grinder.

In the late 1980s, STEP technology was still in its infancy, and the benefits of proactive maintenance had not been fully documented. In fact, proactive maintenance and asset management were rarely a part of utility protocols, in general. Additionally, in these early STEP systems, pump screens and controls were problematic components. The situation in Lacey was no different. In the first eight years after its installation, Lacey's new STEP sewer received very little proactive maintenance, and the system experienced component-related problems, such as collapsing screens. By the late 1990s, operating costs began to escalate as reactive call-outs increased.

By 1998 the City of Lacey had 1,400 connections (see Figure 1) and was experiencing 365 call-outs annually, which represented 26 percent of total connections. STEP operating costs were beginning to impact other wastewater operation and maintenance (O&M) programs.

IMPLEMENTING AN AGGRESSIVE, FULL-SERVICE MAINTENANCE PROGRAM

In 1998, to improve STEP system reliability, Lacey implemented a highly aggressive "Full Service Maintenance" program (FSM). The concept of FSM was untested, and, although reliability improvements were anticipated, the magnitude of the improvement could not be fully evaluated without implementation. Lacey's FSM included the following protocols:

1) STEP system start-up inspection: All new systems would be inspected after installation, before service began.
2) STEP system repairs: When responding to an alarm call, operators would perform both reactive and proactive work — including pumping the tank, replacing the floats, and cleaning the pump — each time they were called to the site.
3) Odor control: To eliminate all odor complaints, Bioxide® injection systems were installed upstream of locations where the STEP system discharged into the gravity sewer, and biweekly readings were to be taken at all injection points, along with quarterly maintenance. No odor complaint was considered acceptable, and odor complaints were treated as an emergency call-out.
4) STEP air release maintenance: All air release valves were to be removed and cleaned annually.