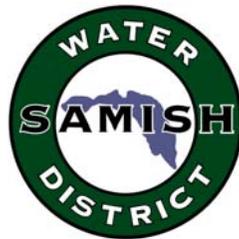


# SAMISH WATER DISTRICT COMPREHENSIVE SEWER PLAN



Prepared for



Prepared by  
Wilson Engineering, LLC  
July 2013

---

# Samish Water District

2195 Nulle Road  
Bellingham, Washington  
98229

## Comprehensive Sewer Plan



### BOARD OF COMMISSIONERS:

Michael F. Roberts, President  
Gordon J. Nolan, Secretary  
Herbert A. Barker, Commissioner

Byron Gaines, District Manager

Prepared By:

**WILSON ENGINEERING, L.L.C.**  
805 Dupont Street, Suite #7  
Bellingham, Washington 98225  
(360) 733-6100 (office); (360) 647-9061 (fax)



**Wilson**  
ENGINEERING, LLC

July 2013

# CONTENTS

---

Tables .....	iii
Acronyms .....	iv
<b>1 BACKGROUND .....</b>	<b>1</b>
1.1 Scope and Objective of Update .....	1
1.1.1 General.....	1
1.1.2 Scope and Objective .....	1
1.2 System Ownership, Operation and Service Boundary Information.....	1
1.2.1 District Office Location and Governing Information .....	1
1.2.2 District Operations Information .....	2
1.3 Existing District Boundaries and Sewer System Locations .....	2
1.3.1 General District Boundary Information.....	2
1.3.2 Public Water System Information .....	3
1.3.3 Water Conservation Measures .....	3
1.3.4 Growth Management Compliance .....	5
1.3.5 District Policy for Sanitary Sewer Overflow (SSO) Events.....	6
1.3.6 Limits of Samish Water District Sewer Utility .....	6
<b>2 EXISTING FACILITIES .....</b>	<b>1</b>
2.1 Wastewater Collection and Delivery System .....	1
2.1.1 Lake Samish Collection System .....	1
2.1.2 Lake Samish Lagoon Treatment Plant .....	2
2.1.3 Burlington Force Main Collection System.....	5
2.1.4 Remote Communication System.....	9
2.1.5 City of Burlington Wastewater Treatment Plant.....	10
2.1.6 Upper Skagit Indian Tribe (USIT) – Reserve Capacity Agreement.....	11
2.2 Industrial Wastewater Producing Facilities Within the District System.....	11
<b>3 SYSTEM CONNECTIONS &amp; FLOWS – CURRENT &amp; FUTURE.....</b>	<b>1</b>
3.1 Infiltration and Inflow .....	1
3.1.1 Lake Samish Collection System .....	1
3.1.2 Lake Samish Lagoon Treatment System.....	1
3.1.3 Burlington Force Main Collection System.....	2
3.2 Current Wastewater Flows.....	2
3.2.1 Lake Samish Collection System .....	2
3.2.2 Burlington Force Main Collection System.....	3
3.3 Future Wastewater Flows (6-Yr Projection) .....	4
3.3.1 Projected Customer/LUE Growth Within the System(6-Yr Projection)..	4
3.3.2 Lake Samish Collection System .....	5
3.3.3 Burlington Force Main Collection System.....	6
3.4 Combined 20-Year Projected Wastewater Flows and BOD Loading .....	6
<b>4 POSSIBLE FUTURE SEWER SERVICE REQUIREMENTS.....</b>	<b>1</b>
4.1 Possible Future Sewer Service Requirements Within the Lake Samish Collection System.....	1
4.1.1 Manley Road / Pacific Highway .....	1
4.2 Potential Sewer Growth Along the Burlington FM Collection System .....	1
4.2.1 Glenhaven Lakes .....	1

# CONTENTS

---

<b>5</b>	<b>SEWER RATE STRUCTURE AND REVENUE PLANNING</b>	<b>1</b>
5.1	Requirements for Connection to the District System	1
5.2	Revenue Planning	1
5.3	Sewer Rate Structure	1
5.3.1	Sewer Service Rates	1
5.3.2	General Facilities Charge (GFC)	2
5.3.3	Consumer Price Index (CPI)	2
<b>6</b>	<b>FUTURE IMPROVEMENT PROJECTS</b>	<b>1</b>
6.1	Future Maintenance and Operational Improvements	1
6.1.1	Sewer Inspection Program	1
6.1.2	Smoke Testing Program	1
6.1.3	Sewer I & I Projects – Miscellaneous Sewer Line Replacement and Repair	1
6.1.4	Sewer I & I Projects – Manhole Rehabilitation	1
6.1.5	Force Main Pressure Monitoring Program	1
6.1.6	Lake Samish Treatment Lagoon Maintenance	2
6.2	Future Administrative, Financial and Planning Improvements	3
6.2.1	Geographical Information System (GIS) Development	3
6.2.2	Implementation of Sewer Service Rate Recommendations	3
6.2.3	Update Existing Emergency Response Plan	3
6.2.4	Develop a Capacity, Management, Operations, and Maintenance (CMOM) Program	3
6.2.5	Develop a Reclaimed Water Treatment Plan	4
6.3	Future Capital Improvement Projects	4
6.3.1	Upgrade of Lake Samish Pump Station No. 4	4
6.3.2	Potential Burlington Force Main Upgrade – Joe Leary Slough	5
	<b>EXHIBITS</b>	<b>1</b>
	Exhibit A - General Sewer Facilities Map	1
	Exhibit B - Lake Samish Collection System	1
	Exhibit C - Lake Samish Lagoon Treatment Plant	2
	Exhibit D - Burlington Force Main Collection System	3
	Exhibit E - District Pump Facilities	4
	Exhibit F - Burlington Wastewater Treatment Agreement	5
	Exhibit G - Skagit Tribe Reserve Capacity Agreement	6
	Exhibit H - Sewer Rates Info	7
	Exhibit I - Potential Sewer Growth	8
	Exhibit J – Future and Capital Improvement Plan	9
	Exhibit K – Non-Project SEPA	10
	Exhibit L – Washington State and Whatcom County Approvals	11

## Tables

2.1 Lake Samish Collection System – Component Listing .....	2-2
2.2 Lagoon Area, Average Volumes & Detention Times .....	2-4
2.3 Burlington Force Main Collection System – Component Listing .....	2-8
2.4 Summary of Service Commitments along Burlington Collection System.....	3-2

## Figures

1.1 Water Wells and On-site Sewage Systems .....	1-4
2.1 - Samish Water District Headquarters.....	2-1
2.2 - LSPS No. 1, Submersible .....	2-2
2.3 - LSPS No. 6, Top-Mount.....	2-2
2.4 - Aerial View of Lake Samish Lagoon Treatment Facility .....	2-3
2.5 - LSPS No. 4 (Triplex, dry-pit) .....	2-4
2.6 - Thousand Trails PS No 11 .....	2-7
2.7 - Skagit Speedway PS No 16.....	2-7

## Acronyms and Abbreviations

Board	Samish Water District Board of Commissioners
BOD	Biochemical Oxygen Demand
ccf	100 cubic feet
CMOM	Capacity, Management, Operations, and Maintenance
District	Samish Water District
DOE	Washington State Department of Ecology
ERTS	Environmental Reports Tracking System
FM	Force Main
GMA	Growth Management Act
gpd	Gallons per Day
I/I, I & I	Inflow and Infiltration
LF	Lineal Foot
LSPS	Lake Samish Pump Station
LUE	Living Unit Equivalent
PLC	Programmable Logic Controller
PS	Pump Station
PUD	Public Utility Department
PVC	Polyvinyl Chloride
RCW	Revised Code of Washington
ROW	Right of Way
SCADA	Supervisory Control and Data Acquisition
SSO	Sanitary Sewer Overflow
SWD	Samish Water District
TSS	Total Suspended Solids
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
WWTP	Waste Water Treatment Plant
ULID	Utility Local Improvement District
USIT	Upper Skagit Indian Tribe

# 1 BACKGROUND

## 1.1 Scope and Objective of Update

### 1.1.1 General

This updated Comprehensive Sewer Plan for Samish Water District (District) has been prepared at the request of the District Board of Commissioners and in accordance with the Washington State Department of Ecology (DOE) guidelines as presented in WAC 173-240-50.

### 1.1.2 Scope and Objective

The purpose of this report is to provide a comprehensive overview of the existing sewage installations and treatment facilities currently operated and maintained by Samish Water District. In addition, this report addresses proposed future facilities development, population growth, and treatment alternatives.

This comprehensive plan covers the following topics:

- system owner/operator information,
- sewer system layout, including a description of the existing system boundaries,
- description of existing collection and treatment facilities,
- discussion of development trends within sewer district boundaries,
- discussion of existing and future collection and treatment issues such as current and future sewer flows, infiltration/inflow (I/I), BOD loading, treatment performance, and sludge disposal,
- discussion of the sewer rate structure and revenue planning,
- discussion of present and future development alternatives within the district boundaries,
- outline of future improvement projects within the District.

## 1.2 System Ownership, Operation and Service Boundary Information

### 1.2.1 District Office Location and Governing Information

The sewer collection and treatment facilities covered in this report are owned and operated by:

Samish Water District  
2195 Nulle Road - South Lake Samish  
Bellingham, Washington 98229  
(360) 734-5664 – Office Telephone  
(360) 715-1626 – Office Fax

The District is administered by a three-person Board of Commissioners (Board); each commissioner being elected to a six (6) year term. This Board meets monthly and holds special meeting sessions as the need arises.

## **1.2.2 District Operations Information**

The District is responsible for planning, construction, and operation/maintenance of all public sewer facilities within the District's boundaries around Lake Samish, Washington. In addition, the District is responsible for operation and maintenance of a 12-inch force main operating between the District's existing treatment lagoons and the City of Burlington Wastewater Treatment Plant (City of Burlington WWTP) including various branch line connections to that force main which service additional customers within the District's service area, as negotiated with Skagit County, (reference Exhibit "A"). The operation and maintenance of the District's facilities is overseen by the District Manager who works with a two-person support staff consisting of an operator and an office manager. The District contracts for legal counsel, consulting engineers, and auditors. The District operates out of their office at 2195 Nulle Road, Bellingham, Washington.

## **1.3 Existing District Boundaries and Sewer System Locations**

### **1.3.1 General District Boundary Information**

Samish Water District (formerly Whatcom County Water District No. 12) was created in 1970, and voter approval to construct a new sewer system within the District's Whatcom County district boundaries was obtained in 1972. Utility Local Improvement District No. 1 (ULID No. 1) was formed in 1973 to serve the majority of the Lake Samish area. ULID No. 1 received federal and state grant money for the design and construction of a sewer system capable of providing both immediate sewer service to those properties located inside the ULID No. 1 and future sewer service to those properties located outside the ULID No. 1 but inside the District boundaries. ULID No. 2, which serves the northwest portion of Lake Samish, was formed immediately after the formation of ULID No. 1, and provided for sewer service inside the ULID No. 2 area. Properties inside the ULIDs were assessed a fee to cover design, construction, and connection to the new sewer system at the time the ULIDs were formed. Properties located outside the ULIDs but inside the District boundaries were charged latecomers fees based on area assessments at the time of connection to the new sewer system.

The District's original Whatcom County boundary includes areas in southwestern Whatcom County which are situated around and/or in the immediate vicinity of Lake Samish. Subsequently, the District entered into an interlocal agreement with Skagit County relative to sewer service along the District's Burlington Force Main System which runs north/south along Old Highway 99 in Skagit County between the Lake Samish area and the City of Burlington's wastewater collection system. The extent of the District's existing sewer service boundaries are detailed on Exhibit A.

Samish Water District's wastewater system can be divided into the following three main components.

- 1) **Lake Samish Collection System** - The District currently owns and operates a wastewater collection system within its Whatcom County district boundary which provides sewer service to the Lake Samish area. The Lake Samish collection system wastewater is pumped into the District's Lagoon Treatment Plant.
- 2) **Lake Samish Lagoon Treatment Plant** – The District owns and operates a lagoon treatment plant which provides primary treatment for the wastewater collected from the Lake Samish Collection System. The influent wastewater is divided between two similar primary settling ponds. The treated wastewater is then pumped via a 12-inch sewer

force main (Burlington Force Main) to the Burlington WWTP for final treatment. The lagoon treatment plant is located adjacent to the District's headquarters on Nulle Road.

- 3) **Burlington Force Main Collection System** – Samish Water District has an existing interlocal agreement with Skagit County authorizing it to provide sewer service within a specified interlocal service area adjacent to the District's existing transport force mains within Skagit County, (reference Exhibit A). The District currently owns and operates a wastewater collection and force main transport system within this Skagit County interlocal service boundary which provides sewer service to a number of Skagit County residences and businesses. Additionally, this collection system provides wastewater collection and force main transport from the Cain Lake Area in Whatcom County.

### **1.3.2 Public Water System Information**

Samish Water District does not own or operate a public water system, however, there are currently five small, Group A/B public water systems operating inside the District's boundaries including;

- 1) Calmor Cove Club – (316 West Lake Samish Drive) – Group A,
- 2) Camp Lutherwood – (1185 Roy Road), Group A,
- 3) Samish Park (Whatcom County Parks, 673 N. Lake Samish Dr.) – Group A,
- 4) Manley Road – Calvin May – (570 Manley Road) – Group B,
- 5) Autumn Lane Mobile Park – (780 Autumn Lane) – Group B.

Skagit County Public Utility Department (Skagit PUD) owns and operates a public water system within Skagit County which extends all the way to the Whatcom/Skagit County border, just south of the District's existing district boundary.

### **1.3.3 Water Conservation Measures**

Since Samish Water District does not own or operate a public water system within its district boundaries, they have limited forum within which to discuss water conservation around the lake. Most residents (~95%) draw their potable water directly out of Lake Samish. Approximately 56 living unit equivalents (LUEs) are connected to the public water systems listed above which represents approximately 11% of the total customer base within the district boundaries. The District conducts public outreach regarding water conservation and other issues through messages included with monthly billings. Because the District is not public water purveyor for the area, it is impossible for them to provide an analysis of the anticipated impact on public sewer and treatment capacity related to water conservation measures in the area.

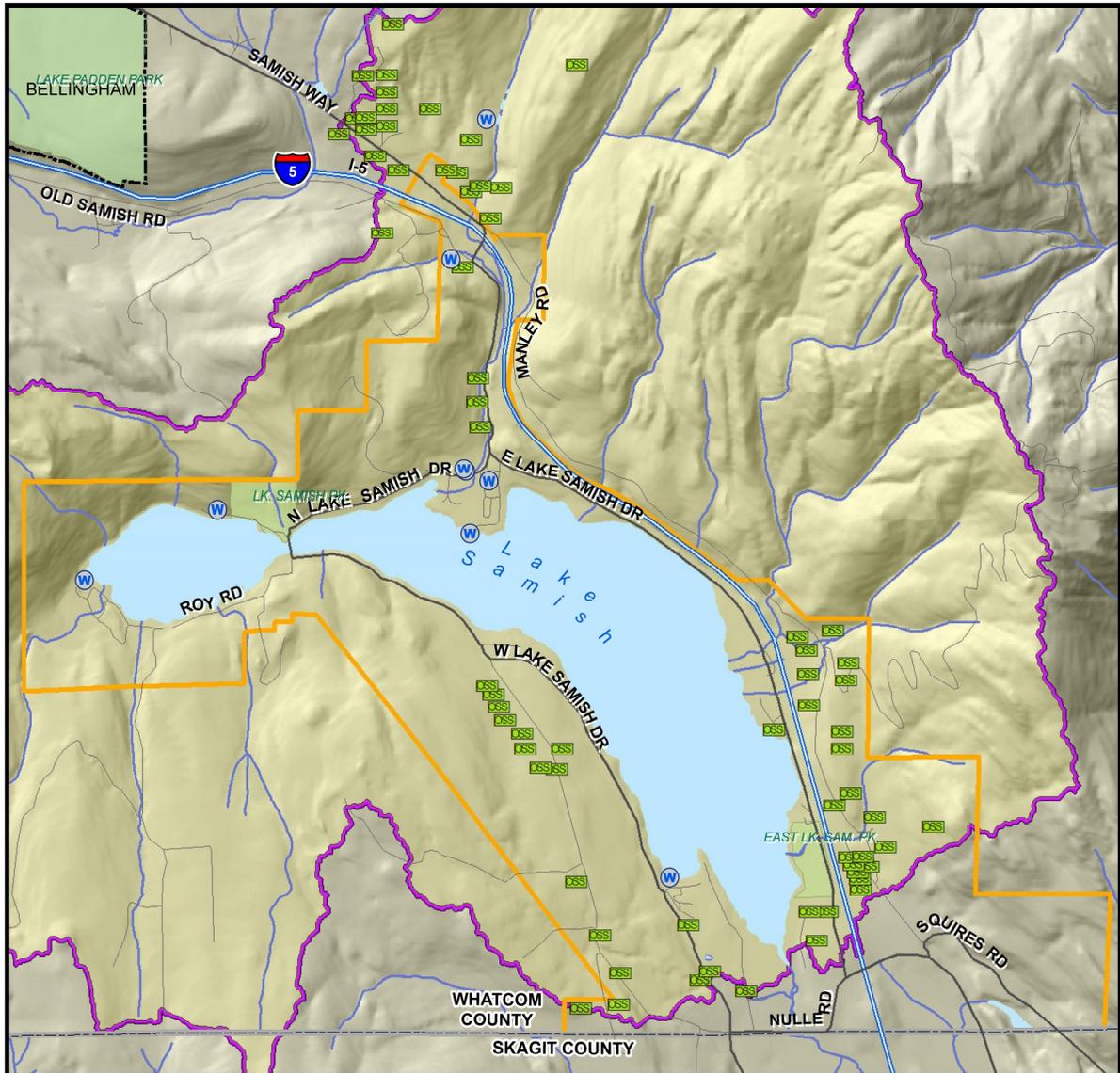
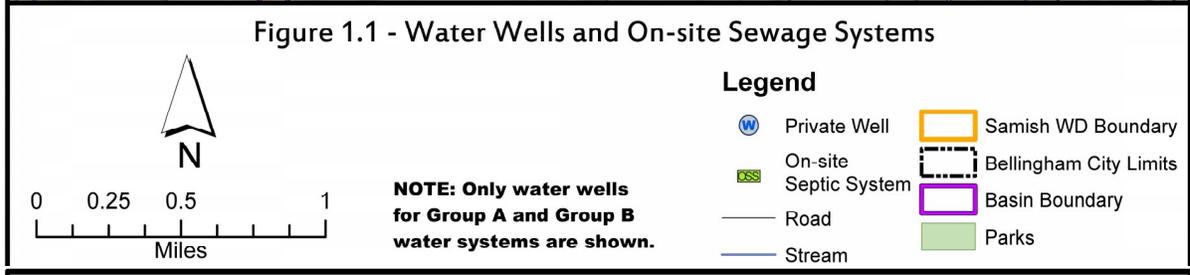


Figure 1.1 - Water Wells and On-site Sewage Systems



### **1.3.4 Growth Management Compliance**

Samish Water District recognizes Whatcom and Skagit Counties as the regulating authorities with regard to the Chapter 36.70A RCW Growth Management with the District's service area. Currently, both Whatcom and Skagit Counties have adopted comprehensive plans addressing this statute. Chapter 57.16.010 RCW Water-Sewer Districts – General Comprehensive Plan of Improvements states the following:

- 1) A water-sewer district's general comprehensive plan shall not provide for the extension or location of facilities that are inconsistent with the requirements of Chapter 36.70A.110 RCW Comprehensive Plans – Urban growth areas, and
- 2) Before becoming effective, the general comprehensive plan shall also be submitted to, and approved by resolution of, the legislative authority of every county within whose boundaries all or a portion of the district lies. In the case of Samish Water District, whose district boundaries reside entirely within Whatcom County, review of this general comprehensive plan will be performed by the Whatcom County Board of Commissioners. Chapter 57.16.010 RCW goes on to state that the general comprehensive plan shall be approved, conditionally approved, or rejected by the county legislative authority pursuant to the criteria outlined in Chapter 57.16.040 RCW which read;
  - a. Whether the proposed action in the area under consideration is in compliance with the development program that is outlined in the county comprehensive plan, or city or town comprehensive plan where appropriate, and its supporting documents;
  - b. Whether the proposed action in the area under consideration is in compliance with the basinwide water and/or sewage plan as approved by the state department of ecology and the state department of social and health services; and
  - c. Whether the proposed action is in compliance with the policies expressed in the county plan for water and/or sewage facilities.

As a part of this comprehensive planning effort, this general comprehensive plan has been presented to the Whatcom County Board of Commissioners, the Whatcom County Engineer, the Whatcom County Health Department, and the Washington Department of Ecology for review under the applicable statutes. In addition, courtesy copies of this plan have been provided to the following agencies:

- Whatcom County Planning and Development Department,
- Skagit County Departments of Public Works, Health, and Planning,
- City of Burlington Department of Public Works, Wastewater Division.

Every attempt has been made to coordinate with the Whatcom County Department of Planning and Development (esp. Long Range Planning) and the Skagit County Department of Planning regarding any growth management considerations under Chapter 36.70A RCW Growth Management. As the regulating authority for RCW 36.70A, Whatcom County Department of Planning and Development will determine what, if any, development will occur within the District's service area in Whatcom County. Additionally, Skagit County Department of Planning will be responsible for determining growth within the District's service area inside Skagit County.

As a long-range planning document, this plan endeavors to identify any possible future service requirements which may develop with the subject service area, (see Chapter 4 –

Possible Future Sewer Service Requirements). Sewer service to any of the areas outlined in Chapter 4 would be dependent upon receipt of approval from the county in which the area resides at the time sewer service was requested. With this document, Samish Water District is simply attempting to identify areas which may request or require sewer service in the future whether that be because of a change in zoning and/or land use designations or for the protection of public health and safety.

### **1.3.5 District Policy for Sanitary Sewer Overflow (SSO) Events**

In accordance with RCW 90.48.080, the District will report any spill which occurs within their service area. In the event of a spill, District staff will call the Environmental Reports Tracking System (ERTS) at Ecology's Northwest Regional Office (425-649-7000) and report where the spill occurred, what was spilled, provide an estimate of how much was spilled, and indicate whether or not the spilled material reached surface waters. Alternatively, the District will file a spill report online at the following website:

[http://www.ecy.wa.gov/programs/spills/forms/nerts\\_online/NWRO\\_nerts\\_online.html](http://www.ecy.wa.gov/programs/spills/forms/nerts_online/NWRO_nerts_online.html)

In addition, the District will contact the County Health Department to report any spill within their service area

### **1.3.6 Limits of Samish Water District Sewer Utility**

With this planning document, the Samish Water District Board of Commissioners hereby asserts its position that Samish Water District is not the sole and exclusive provider of sewer utility services for any areas outside its existing Whatcom County district boundaries.

## 2 EXISTING FACILITIES



Figure 2.1 - Samish Water District Headquarters (2195 Nulle Rd., Bellingham, WA)

### 2.1 Wastewater Collection and Delivery System

This section provides an overview of the existing facilities which comprise the three primary sewer system components:

- Lake Samish Collection System, (Whatcom County);
- Lake Samish Lagoon Treatment Plant, (Skagit County);
- Burlington Force Main Collection System (Skagit County).

The narrative includes a detailed itemization of the physical infrastructure of each system, an overview of the District's current control and communication SCADA system, a discussion of the current wastewater treatment agreement in place between the District and the City of Burlington to treat the District's wastewater, and an overview of the District's current "reserve capacity" agreement with the Upper Skagit Indian Tribe (USIT).

#### 2.1.1 Lake Samish Collection System

##### 1) System Description

Originally put into service in 1975, the Lake Samish sewer collection system consists of 8"-10" gravity lateral sewers feeding a 12"-18" interceptor system around Lake Samish with lift stations and force mains as summarized in the table below. This system provides sewage collection for all service connections inside the District's Whatcom County boundaries and delivers this wastewater to the Lagoon Treatment Plant for primary treatment. This system is equipped with eight (8) sewer pump stations which lift and transport wastewater collected around Lake Samish to the Lake Samish Lagoon Treatment Plant. Each lift station installation is comprised of a wet well, dry-pit or top-mounted pumping equipment, local pump station controls and a cellular telemetry communication system. In addition, Lift Stations #2, #3, #4, and #8 are equipped with emergency backup generator sets to insure normal pump station operation in the event of a power outage. The remaining lift stations have been fitted with onsite generator receptacle outlets for connection to the District's portable generator. Reference Exhibit E-0 through E-8 for flow schematics and pump station layout and equipment information for the collection system.



**Figure 2.2 - LSPS No. 1, Submersible**



**Figure 2.3 - LSPS No. 6, Top-Mount**

Table 2.1 summarizes the collection and delivery system components for the Lake Samish Collection System. Reference Exhibit “B” for additional information and mapping for this system.

**Table 2.1: Lake Samish Collection System - Component Listing**

System Component	Approximate Quantity
Sewer Manholes	200
4" Force Main	1,100 LF
8" Force Main	9,200 LF
8" Gravity Branch Sewer	9,300 LF
10" Gravity Branch Sewer	6,700 LF
12" Gravity Sewer Interceptor	31,500 LF
16"-18" Gravity Sewer Interceptor	2,300 LF
Sewer Lift Stations *	9 each
Lake Samish Pump Station No. 1	Duplex, submersible
Lake Samish Pump Station No. 2	Duplex, top-mount
Lake Samish Pump Station No. 3	Duplex, submersible
Lake Samish Pump Station No. 5	Duplex, top-mount
Lake Samish Pump Station No. 6	Duplex, top-mount
Lake Samish Pump Station No. 7	Duplex, top-mount
Lake Samish Pump Station No. 7A	Duplex, top-mount
Lake Samish Pump Station No. 8	Duplex, top-mount

\* See Exhibit “E” for additional information regarding these lift station installations.

## 2.1.2 Lake Samish Lagoon Treatment Plant

### 1) Treatment System Description

Constructed in 1975, the Lake Samish Lagoon Treatment Plant provides primary treatment for the wastewater collected in the Lake Samish Collection system. Reference Exhibit “C” for a schematic representation of lagoon treatment and pumping facilities.

The Lake Samish Lagoon Treatment Plant is serviced by one (1) sewer pump station (Lake Samish Pump Station No. 4), which is equipped with three pumps; two influent pumps (Pumps #1 and #2) and one effluent pump (Pump #3). The influent pumps lift wastewater received from the Lake Samish Collection System to a flow splitter box where the flow is split between the two primary treatment lagoons. The effluent pump transports the lagoon effluent, via the Burlington Force Main, to the City of Burlington Wastewater Treatment Plant for secondary treatment.

Reference Exhibit E-0 and E-4 for flow schematics and pump station layout and equipment information.



**Figure 2.4 - Aerial View of Lake Samish Lagoon Treatment Facility**

The original design of the lagoons was based on the “Recommended Standards for Sewage Works” by the Great Lakes-Upper Mississippi River Board of State Sanitary Engineers and provides for BOD and settleable solids reduction as well as storage capacity during peak flows. To allow for winter rainfall increases, lagoon levels are lowered during the late summer months to allow increased storage during the winter rains. Daily effluent lagoon pumping to the Burlington Force Main is timed to occur during off-peak, power usage periods. Since they were put online in 1975, the treatment lagoons have never been drained and/or cleaned. Based on a 2009 inspection, the sludge blanket accumulation in the lagoons is between 3 and 20 inches thick with 1.43% to 1.81% solids. These findings indicate that sludge removal is neither operationally imperative nor cost effective at this time. A copy of the Lagoon Inspection Report is included in Exhibit C-7.

Utilizing the District’s operations records from January 2007 through December 2009, Exhibit C-2 summarizes the average monthly lagoon depths and total monthly rainfall at each lagoon. Exhibit C-3 summarizes average monthly lagoon storage volumes and average detention times for both the summer and winter seasons. The average storage volume calculations take into account the existing sludge blanket thickness. The results of these calculations are summarized in Table 2.2, below. Exhibit C-4 details average monthly BOD and TSS concentrations in the treated lagoon wastewater versus average monthly detention times for the same period. C-5 plots the total monthly rainfall at the lagoons between January 2007 and December 2009.

**Table 2.2: Lagoon Area, Average Volumes & Detention Times**

Facility	Facility Size	Ave. Volume Summer (MG)	Ave. Volume Winter (MG)	Ave. Detention Time Summer (Days)	Ave. Detention time Winter (Days)
<b>Pump Station Facilities</b>					
- LSPS #4					
Influent Pumps	Duplex, Dry-Pit				
Effluent Pump	Simplex, Dry-Pit				
<b>Lagoon Treatment Facilities</b>					
Lagoon #1 (260' x 700')	173,400 SF	1.56	2.87	---	---
Lagoon #2 (260' x 680')	168,200 SF	3.01	4.01	---	---
TOTAL	341,600 SF	4.57	6.98	59.9	63.7



**Figure 2.5 - LSPS No. 4 (Triplex, dry-pit)**

## 2.1.3 Burlington Force Main Collection System

### 1) System Description

The Burlington Force Main Collection System consists of the following force main and gravity interceptor components.

- Burlington Force Main,
- Alger/Cain Lake Road Force Main,
- Buggia Force Main,
- Friday Creek Road Force Main,
- Marriott Lane Force Main,
- Bow Hill Road Gravity Main,
- Thousand Trails Force Main,
- Skagit Speedway Force Main.

The following is a brief description of the individual collection system branch components and the pumping facilities which comprise the Burlington Force Main Collection System. Table 2.3 summarizes the elements of each branch force main and/or gravity interceptors and the pumping facilities that are owned and maintained by the District. Reference Exhibit D for detailed customer listings, system mapping and flow records for this collection system.

**Burlington Force Main** - The Burlington Force Main forms the backbone of the Burlington Force Main Collection System by connecting the Lake Samish Lagoon Treatment Plant to the City of Burlington wastewater collection system. This force main serves as the primary transport conduit for all of the treated wastewater originating in the Lake Samish Collection System as well as the wastewater collected by the remaining force main and gravity interceptor branch mains in the Burlington Force Main Collection System. The Burlington Force Main is 12-inches in diameter (with the exception of a short, 8-inch diameter reach under Joe Leary Slough, reference Exhibit D) and consists of approximately 6.2 miles of asphalt concrete piping and 7.5 miles of PVC pressure piping. The force main discharges to the City of Burlington wastewater collection system at Burlington's Pump Station No. 6, (located in the Peterson Road ROW adjacent to the west ROW of Interstate 5). The 12" primary force main was constructed in 1975-76 under the original ULID No. 1 sewer improvement plan.

In 2005, the District replaced twelve (12) inline shutoff valves on the Burlington Force Main which were more than 20-years old and, in most cases, non-operational. The new valves ensure that District staff has the flexibility to shutoff and isolate sections of the force main for both routine maintenance and emergency response.

**Alger/Cain Lake Road Force Main** – The Alger/Cain Lake Road Force Main is a 5"/6" PVC sewer force main which transports wastewater from the Whatcom Meadows Campground to the Burlington Force Main (tie-in at approx. Sta. 581+95). Whatcom Meadows Campground is a recreational development of approximately 160 acres located just east of Reed Lake, Washington. The campground will contain approximately 1,200 camping units and sixteen (16) restroom/bathhouses at full build-out and is equipped with an internal, private gravity sewer collection system which collects wastewater and transports it to the Whatcom Meadows Pump Station No. 9 located just east of Cain Lake Road and approximately 4 miles east of Old Highway 99.

This wastewater is then pumped via the Alger/Cain Lake Road Force Main to the District's Burlington Force Main.

Current District allows connections to the Alger/Cain Lake Road Force Main for all parcels which directly abut the force main providing that these connections have prior approval from the governing county authorities and the parcel owners enter into a sewer service agreement with the District.

**Buggia Force Main** – The Buggia Force Main is a four-inch diameter, PVC force main, approximately 3,400 feet in length, which connects Alger Texaco Pump Station No. 10 to the Burlington Force Main (tie-in at approx. Sta. 580+00). The force main provides sewer service to Alger Texaco (Interstate 5 – Exit 240), a commercial storage property and one residential property adjacent to the pump station. The force main and pump station is owned and operated by the District.

For construction purposes, the cost recovery area for the Buggia Force Main was defined as all parcels abutting the force main. The District will allow connection to the Buggia Force Main for all parcels which lay within this cost recovery area. These new connections will require the property owner to enter into a sewer service agreement with the District and pay latecomers fees before connection.

**Friday Creek Road Force Main** – The Friday Creek Road Force Main is a 1-1/2-inch diameter, PVC force main, approximately 600 feet in length, which connects eight residential properties along Friday Creek Road to the Burlington Force Main (approx. tie-in at Sta. 510+65). The force main is owned and operated by the District up to, and including, the customer service valves for the individual services. The individual sewer grinder pump stations installed at the residences are privately owned and operated.

**Marriott Lane Force Main** – The Marriott Lane Force Main is a 2-inch diameter, high density polyethylene force main, approximately 600 feet in length, which will ultimately connect six residential properties along Marriott Lane to the Burlington Force Main (approx. tie-in at Sta. 626+50). The force main is owned and operated by the District up to, and including, the customer service valves for the individual services. The individual sewer grinder pump stations installed at the residences are privately owned and operated.

**Bow Hill Gravity Main** – The Bow Hill Branch Sewer Main is a branch gravity sewer which extends from its connection point to the Burlington Force Main (tie-in at approx. Sta. 369+50) westerly to an existing flowmeter vault located east of Darrk Lane and adjacent to the USIT's wastewater treatment plant. The Bow Hill Gravity Main serves as a gravity interceptor transporting wastewater pumped from the Thousand Trails Force Main. The gravity main also provides a backup connection for the USIT's wastewater treatment plant on Darrk Lane. See Section 2.1.6 for additional information regarding the reserve capacity agreement in place between the District and the USIT.

**Thousand Trails Force Main System** – The Thousand Trails Force Main System is a system of force mains connecting five sewer pump stations in the Thousand Trail Campground area and Washington Department of Transportation (WSDOT) rest areas to the Bow Hill Gravity Main. The force main system consists of approximately 6,500 feet of force main piping and connects the following pump stations to the Burlington Force Main Collection System:

Thousand Trails Pump Station Nos. 11, 12 and 13,  
WSDOT Pump Station Nos. 14 and 15.

Under the District's sewer service agreement with Thousand Trails Campground, the District was granted ownership, and operation and maintenance responsibilities for all of

the lift stations, gravity and force main piping, manholes, and emergency storage facilities associated with the Thousand Trails Campground internal sewer collection system.

WSDOT retains ownership, and operation and maintenance responsibilities for their private wastewater utilities at the rest area and for all underground sewer piping located between the rest stops and WSDOT Pump Station No. 15. The rest stop complex has been equipped with a 50,000 gallon storage tank, (located at the north-bound rest stop), which is utilized as a settling tank for the wastewater from both of the rest stops. The wastewater is then screened and flows by gravity to the interconnection point at WSDOT Pump Station No. 15. The District owns, operates, and maintains WSDOT Pump Station Nos. 14 and 15 and the associated force main piping.

**Skagit Speedway Force Main** – The Skagit Speedway Force Main is a 3-inch diameter, PVC force main, approximately 350 feet in length, which connects Skagit Speedway Pump Station No. 16 with the Burlington Force Main (tie-in at approximate Sta. 409+40). The force main services the Skagit Speedway complex and is owned and operated by the District.

**Burlington Force Main Collection System – Pumping Facilities** - The Burlington Force Main Collection System is equipped with eight (8) sewer pump stations which lift and transport wastewater collected in the Burlington Force Main service area to the Burlington Force Main. The Burlington Force Main then transports this wastewater to the City of Burlington’s Wastewater Treatment Plant for treatment and disposal. Reference Exhibit E-0 and Exhibits E-9 through E-16 for flow schematics and pump station layout and equipment information. District pump stations located in the Burlington Force Main Collection System are listed below along with their associated force mains.

- Whatcom Meadows PS No. 9 – to Alger/Cain Lake Road Force Main,
- Alger Texaco PS No. 10 – to Buggia Force Main,
- Thousand Trails PS No. 11 – to Thousand Trails Force Main,
- Thousand Trails PS No. 12 – to PS No. 11,
- Thousand Trails PS No. 13 – to PS No. 12,
- WSDOT PS No. 14 – to PS No. 13,
- WSDOT PS No. 15 – to PS No. 14,
- Skagit Speedway PS No. 16 – to Skagit Speedway Force Main,



Figure 2.6 - Thousand Trails PS No 11



Figure 2.7 - Skagit Speedway PS No 16

**Table 2.3: Burlington Force Main Collection System – Component Listing**

System Elements Owned and Operated by Samish Water District	Approximate Quantity
<b>Burlington Force Main</b>	
– 12" Pressure Force Main	72,320 LF
– 12" Inline Shutoff Valves	12
– Customer Service Shutoff Valves	45
– Air/Vacuum Relief Stations	21
– Sewer Lift Stations	1 (Lake Samish PS #4)
– Flowmeter	1
<b>Alger/Cain Lake Road Force Main</b>	
– 5"-6" Pressure Force Main	11,825 LF / 9,373 LF
– Air/Vacuum Relief Stations	4 stations
– Sewer Lift Stations	1 (Whatcom Meadows #9)
– Flowmeter	1
<b>Buggia Force Main</b>	
– 4" Pressure Force Main	3,400 LF
– Air/ Vacuum Relief Stations	1 stations
– Sewer Lift Stations	1 (Alger Texaco #10)
– Flowmeter	1
<b>Friday Creek Road Force Main</b>	
– 1 1/2" Pressure Force Main	600 LF
– Customer Service Shutoff Valves	8
<b>Marriott Lane Force Main</b>	
– 2" Pressure Force Main	600 LF
– Customer Service Shutoff Valves	6
<b>Bow Hill Gravity Main</b>	
– 8" Gravity Main	4,000 LF
– Gravity Manholes	2
– Flowmeter	1
– Gravity Siphons	1
<b>Thousand Trails Force Main</b>	
– 8" Gravity Main	1,100 LF
– 2"-6" Force Main	6,330 LF
– Gravity Manholes	6
– Sewer Lift Stations	5 (Thousand Trails #11-#13, WSDOT #14 & #15)
– Flowmeter	2 (Thousand Trails #11 & WSDOT #14)
<b>Skaqit Speedway Force Main</b>	
– 3" Pressure Force Main	350 LF
– Sewer Lift Stations	1 (Skaqit Speedway #16)
– Flowmeter	1
<b>Burlington Force Main – Pump Facilities</b>	
– Whatcom Meadows PS No. 9	Duplex, top-mount
– Alger Texaco PS No. 10	Duplex, submersible, grinder
– Thousand Trails PS Nos. 11, 12, 13	Duplex, submersible
– WSDOT PS No. 14	Duplex, submersible
– WSDOT PS No.15	Duplex, submersible, grinder
– Skaqit Speedway PS No.16	Duplex, submersible, grinder

### **2.1.4 Remote Communication System**

In 2002, the District's existing pump control system was replaced with a new remote communications system and SCADA reporting and data recording system. At that time, the District performed the following work:

- Removal and replacement of pump station equipment, controls and instrumentation at Lake Samish Pump Station Nos. 2, 5, 6, 7, 7A and 8, Whatcom Meadows PS No. 9, Thousand Trails PS Nos. 11, 12, and 13, as well as at WSDOT Pump Station Nos. 14 & 15.
- Installation of flowmeters at Lake Samish Pump Station No. 8, Whatcom Meadows Pump Station No. 9, Alger Texaco Pump Station No. 10, Thousand Trails Pump Station No. 11, WSDOT Pump Station No. 14, and Skagit Speedway Pump Station No. 16.
- Installation of remote communications equipment at all of the District's field pump stations.
- Installation of new master communications equipment and a new SCADA reporting and data recording system at the District's headquarters.

The Samish Water District Office headquarters, located at 2195 Nulle Road, houses the District's records, communications equipment, maintenance facilities and telemetry control systems for the balance of the District's sewer system. To provide emergency backup power capability at the office site, the District purchased and installed an emergency backup generator for the facility in 2004.

The following is an overview of the District's remote communications system and SCADA reporting and data recording system. In addition, future anticipated SCADA reporting upgrades are discussed.

#### **1) Current Remote Communication System**

The District relies upon a cellular paging network to communicate with remote installations. The network allows communication to and from each remote sewer pump station and the master control unit located at the District's headquarters. To accomplish this, each remote pump station is equipped with a remote telemetry unit (AirLink Raven CDMA) which is capable of utilizing cellular technology (Verizon Network) to communicate with the District headquarters computer system. The District computer then automatically sends Outlook messages (either in text or email format) to District employees outlining the nature of error or warning.

Incoming and outgoing information at both the remote pump station sites and the District headquarters is controlled by local, programmable logic controllers (PLCs). Alarm messages received from the remote pump stations are dispatched via email or text message to the District's cell phones. On-call personnel utilize a portable laptop computer to dial-up and log-in to the headquarters' AirLink CDMA and monitor system status.

#### **2) Current SCADA Reporting and Data Recording System**

Each of the District's remote pump station and flowmeter installations are connected to a centralized SCADA (Supervisory Control and Data Acquisition) system which allows the District to monitor and control remote facility functions. Each remote facility is equipped with a PLC which controls pump station functions and reports back, via the remote communication system, to the master PLC located at the District's headquarters. The received information is organized and reported to the operator through the use of customized SCADA screens displayed on the master computer monitor. Additionally, on-call personnel may utilize the portable laptop computer to log-in and view current pump

station status through the SCADA screens. The SCADA system is equipped with an archiving capability which allows for the automatic storage of historical operational data for later use.

Remote monitoring and control functions included in the SCADA reporting and data recording system are listed below. Reference Exhibit E-1 through E-16 for the current SCADA monitoring and control capabilities at each pump station.

- Alarms-
  - PA – Power Fail Alarm
  - SFA – Station Flood Alarm (drywell pump stations only)
  - HLA - High Level Alarm
  - HHLA – Redundant High Level Alarm
  - LLA – Low Level Alarm
  - LLLA – Redundant Low Level Alarm
  - IA- Intrusion Alarm
  - PFA - Pump Fail Alarm
  - PSFA - Pump Seal Fail Alarm (submersible pump stations only)
  - COMM - Communication Fail Alarm
  
- Monitoring Data-
  - Pump Run Time
  - Pump Status (On/Off)
  - Wet Well Level
  - Lake Samish Lake Level ( Lake Samish Pump Station No. 5 only)
  - Flow – Instantaneous (pump stations equipped with flowmeters only)
  - Flow – Totalized (pump stations equipped with flowmeters only)
  - Communication Link
  
- Control Data-
  - Pump Start/Stop
  - Alarm Reset
  - Wet Well Control Levels

### **2.1.5 City of Burlington Wastewater Treatment Plant**

#### **1) Wastewater Treatment Agreement**

Since beginning operations, the District has contracted with the City of Burlington to provide treatment and disposal of all wastewater originating from the District's collection facilities. Wastewater originating in the Lake Samish Collection System and the Burlington Force Main Collection System flow, via the Burlington Force Main, to the City of Burlington Wastewater Treatment Plant in Burlington, Washington.

In 2001, the District signed a new agreement with the City of Burlington for treatment of the District's wastewater. The wastewater flow and BOD loading limits established in the agreement are outlined below (reference Exhibit F).

- Lake Samish Collection System (Treated Wastewater)  
Treatment costs for lagoon effluent originating from the Lake Samish Collection System are comprised of a flow related component and a strength related (BOD or TSS) component. The following formula summarizes the rate calculation:

**Lagoon Treatment costs** = (flow component) + (strength component), where

**Flow component** = \$1.81 /ccf flow (with ccf defined as 100 cubic feet), and

**Strength component** = [(max. actual TSS or BOD, mg/L)/350 mg/L] x \$2.14

The rates set forth for this treatment cost calculation are subject to modification at the same time as the sewer rates of residential customers located in the City of Burlington, (reference Burlington Municipal Code 13.08). City of Burlington staff monitor the lagoon flow and TSS/BOD levels for monthly billing purposes.

- Burlington Force Main Collection System (Untreated Wastewater)  
Treatment costs for all wastewater originating from the Burlington Force Main Collection System are calculated at a rate of \$3.95 /ccf.

The rates set forth for this treatment cost calculation are subject to modification at the same time as the sewer rates of residential customers located in the City of Burlington, (reference Burlington Municipal Code 13.08). City of Burlington staff monitor the Burlington Force Main flow and TSS/BOD levels at Burlington Pump Station No. 6 for monthly billing purposes.

### **2.1.6 Upper Skagit Indian Tribe (USIT) – Reserve Capacity Agreement**

In 1995, the District entered into a “Wheeling Agreement” with the Upper Skagit Indian Tribe (USIT) to transport wastewater generated from the USIT’s enterprises in the vicinity of Exit 236 of Interstate-5 in Skagit County, WA to the City of Burlington, where it is treated under a separate agreement. From 1995 through April 2011, the District transported 100% of the USIT’s wastewater to the City of Burlington under this wheeling agreement.

In May 2011, the USIT completed construction and start-up of their own membrane treatment plant which now treats all of the Tribe’s wastewater flows and discharges the treated effluent to an onsite, sub-surface infiltration well. The original “Wheeling Agreement” was modified with a memorandum of understanding (dated November 2011) establishing a monthly “reserve capacity fee” to be paid by the USIT to the District to reserve backup capacity in the District’s system. In the case of an emergency at the USIT plant, this backup capacity can be used by the USIT tribe to transport tribal wastewater flows to the City of Burlington for treatment.

## **2.2 Industrial Wastewater Producing Facilities Within the District System**

There are currently no existing industrial wastewater producing facilities within either the District’s Whatcom County or Skagit County boundaries. At this time, the District does not anticipate the connection of any industrial wastewater producing facilities in the future. If, at some later date, a facility producing industrial wastewater connects to the District sewer facilities, pretreatment of said wastewater will be required in accordance with the District’s wastewater service agreement with the City of Burlington and all applicable local, state and federal regulations.

## 3 SYSTEM CONNECTIONS & FLOWS – CURRENT & FUTURE

### 3.1 Infiltration and Inflow

#### 3.1.1 Lake Samish Collection System

As detailed in Section 2, the Lake Samish sewer collection system consists of 8"-10" gravity lateral sewers feeding a 12" interceptor system around Lake Samish with lift stations and force mains. The District performed in-house smoke testing of the Lake Samish gravity sewer collection system in 1992, 1995 and 2002 to identify points of significant inflow and infiltration into the system. During the 1992 testing two significant defects were identified and repaired: an open sewer line to a temporary hookup and a broken sewer pipeline located in a high runoff area. Smoke testing during 1995 and 2002 revealed no additional significant defects in the Lake Samish gravity sewer system.

An analysis of the daily rainfall and the daily influent lagoon flow records show that the Lake Samish gravity sewer collection system shows a moderate flow increase during wet weather events. Exhibit C-6 graphically details the total monthly rainfall and the total monthly influent flow to the lagoons from January 2007 through December 2009. Months with higher rainfall are accompanied by increases in the total monthly influent flow to the lagoons.

The exact magnitude of the current I/I flows for the Lake Samish collection system are unknown, however, an estimate can be made utilizing the data from January 2008 through December 2009. A review of the rainfall data reveals that July 2008 and June 2009 were the two driest months within the study period. Assuming negligible I/I during these dry months, the average daily influent flows for those months can be used to calculate an average base domestic daily flow with no I/I (75,581 gallons per day). By comparing this average base daily influent flow to the average daily influent flows occurring in the wettest months (November 2008 & 2009), we can estimate the percentage of flow which is due to I/I at approximately 22.6% of the total flow of 97,800 gpd. Under State design criteria for new systems, typically 20% of the per capita flow figure is set aside for "normal" infiltration.

The District is committed to continued smoke testing in the collection system to identify any new, potential sources of I/I

#### 3.1.2 Lake Samish Lagoon Treatment System

Lake Samish is located in an area where regional topography generates a convergence zone resulting in high precipitation within the District's boundaries. These high precipitation levels result in a substantial rainfall contribution to the treatment lagoons that increase the volume of wastewater pumped to and treated by the City of Burlington WWTP. Over the past 10-years, rainfall in the area of the lagoons has ranged from 45 to 75 inches per year with a pronounced seasonal cycle. The average yearly rainfall over the past 3-years is 51 inches. Utilizing the District's historical records between January 2007 and December 2009, Exhibit C-5 summarizes total monthly rainfall in the lagoon area. Table 3.1 calculates the average monthly and daily I/I into the lagoons based upon average rainfall and evaporation rates for the area.

**Table 3.1: Calculation of Average Daily Lagoon Inflow/Infiltration Due to Precipitation & Evaporation**

Facility	Facility Size	Ave. Yearly Rainfall (inches)	Ave. Yearly Evaporation (inches)	Ave. Monthly Inflow/ Infiltration (gal)	Ave. Daily Inflow/ Infiltration (gal)
<b>Lagoon Treatment Facilities</b>					
Lagoon #1 (260' x 700')	173,400 SF	51	20	279,222	9,155
Lagoon #2 (260' x 680')	168,200 SF	51	20	270,849	8,880
<b>TOTAL</b>	<b>341,600 SF</b>			<b>550,071</b>	<b>18,035</b>

**3.1.3 Burlington Force Main Collection System**

For the majority of the Burlington Force Main and its associated branch force mains which operate under pressure, inflow and infiltration (I/I) is assumed to be minimal. However, for the small percentage of gravity sewer lines associated with the Burlington Force Main primary force main, the rate of I/I is unknown. Since most of the gravity sewer lines which are ultimately connected to the Burlington Force Main are not under the District’s jurisdiction, their operation and maintenance is not performed by the District staff. In most cases, however, the District did perform quality assurance inspections/testing either during the original construction of these systems or at the time of connection to the primary force main to insure that these side sewers complied with the District’s minimum quality standards.

There have been ongoing issues with inflow and infiltration in the Whatcom Meadows area due to a variety of issues ranging from problems during original construction to reduced operation and maintenance effort. The Whatcom Meadows PS No. 9 is equipped with a 50,000 gallon overflow vault to equalize the inflow from the campground during large wet weather events. During these high inflow events, the Whatcom Meadows Campground is required to pay all additional costs associated with the transport and treatment of the elevated flow. The District will continue to pressure the campground to improve the integrity of their collection system to reduce the I/I issues associated with the area.

Because there is no hard data characterizing the I/I along the Burlington Force Main, this planning effort has assumed an I/I rate equal to that identified for the Lake Samish Collection System, (i.e. 22.6%).

**3.2 Current Wastewater Flows**

**3.2.1 Lake Samish Collection System**

Currently, the District serves provides sewer service to approximately 403 customers within the Lake Samish Collection System which are comprised of both residential and commercial customers. The majority of these service connections are un-metered and based upon a usage assessment of one (1) living equivalent unit (LUE) per connection while a small percentage of these connections are either commercial or represent multiple living units, (such as trailer parks or campgrounds). Overall, the 403 existing sewer connections represent 516.50 LUEs within the Lake Samish Collection System. Referencing Exhibit C-6, monthly influent flows to the lagoons from the Lake Samish

Collection System between January 2007 and December 2009 have averaged approximately 2.41 million gallons per month (~78,920 gallons per day). Based upon a 30.5-day month, this means that the average daily flow per existing LUE is approximately 153 gallons per day including inflow and infiltration. Assuming an I/I rate of 22.6% (see section above), the average daily flow rate would be comprised of approximately 34.5 gallons per day in I/I and 118.3 gallons per day in domestic wastewater. Reference Table 3.2 for a summary of current total wastewater and I/I flows from the Lake Samish Collection System.

### **3.2.2 Burlington Force Main Collection System**

Currently, the District provides sewer service to approximately one hundred eleven (111) customers within the Burlington Force Main Collection System. Approximately 80 percent (80%) of these connections are un-metered and based upon a usage assessment of one (1) living equivalent unit (LUE) per connection. The remaining connections are commercial connections with sewer charges based either on water usage, existing sewer metering information or upon the LUE equivalent schedule as outlined in Exhibit H. Referencing Exhibit D-5, monthly wastewater flow along the Burlington Force Main (excluding flows from the Lake Samish Collection System) between January 2007 and December 2009 has averaged 2.95 million gallons per month. This monthly flow was comprised of two components; flow from the Skagit Casino facilities (under the USIT Wheeling Agreement) and flow from all the other customers within the Burlington Force Main Collection System. The USIT Wheeling Agreement comprised approximately 25% of the total flow from the Burlington Force Main Collection System.

Excluding the USIT Wheeling Agreement, the remaining 110 sewer connections represent 522.0 LUEs within the Burlington Force Main Collection. Referencing Exhibit D-4, monthly wastewater flows from the Burlington FM Collection System customers alone (excluding the treatment lagoon effluent flows and the USIT wheeling flows) have averaged approximately 2.95 million gallons per month (~96,540 gallons per day). Based upon a 30.5-day month, this means that the average daily flow per existing LUE is approximately 185 gallons per day including inflow and infiltration. Assuming an I/I rate of 22.6% (see section above), the average daily flow rate would be comprised of approximately 42 gallons per day in I/I and 143 gallons per day in domestic wastewater. In addition, the current USIT wheeling flows average approximately 32,990 gallons per day. Reference Table 3.2 for a summary of current total wastewater and I/I flows from the Burlington Force Main Collection System.

**Table 3.2: Current Totals for LUEs and Flow Statistics**

2010- CURRENT TOTAL SYSTEM CUSTOMER, LUE & FLOW STATISTICS (approximate quantities)						
	A	B	C	D	E	F
	Customers	LUEs	Current Ave. Daily Flows (gpd)	Ave. Daily Inflow/Infiltration Flows (gpd)	Ave. Daily Evaporation (gpd)	Total Ave. Daily Flows (gpd)
Lake Samish Collection System	403	516.50	61,084	17,836	--	78,920
Lagoon Treatment Facility	--	--	--	29,671	11,636	18,035
Burlington Force Main System	110	522.00	74,722	21,818	--	96,540
USIT Wheeling Agreement	1	--	32,990	--	--	32,990
<b>TOTAL SYSTEM</b>	<b>514</b>	<b>1,038.50</b>	<b>168,796</b>	<b>69,325</b>	<b>11,636</b>	<b>226,485</b>
Lake Samish Collection System	Calculated Average Daily Flow per LUE – (78,920gpd/516.5 LUEs = 152.80 gpd/LUE)					153 gpd/LUE
Burlington Force Main System	Calculated Average Daily Flow per LUE – (96,540gpd/522.0 LUEs = 184.94 gpd/LUE)					185 gpd/LUE

### 3.3 Future Wastewater Flows (6-Yr Projection)

The purpose of this section is to provide 6-yr projections for both the customer/LUE connections and the overall flow within the system. Projections are based upon the historical growth within the system over the last planning period (2004-2010).

#### 3.3.1 Projected Customer/LUE Growth Within the System(6-Yr Projection)

Table 3.3 provides a summary of the historical growth in customers/LUEs over the most recent planning period spanning from 2004 to 2010. Calculated growth rates for customers/LUEs are then used to project the growth expected over the future 6-year planning period of 2010 to 2016. By the end of 2016, the Lake Samish Collection System is projected to have a total of 433 customers with 546.5 associated LUEs. In addition, by the end of the 6-yr planning period, the Burlington Force Main Collection System is projected to have a total of 159 customers with 649.8 associated LUEs. At the end of the 2016, the Samish Water District, as a whole, is projected to have a total of 592 customers with 1,196.3 associated LUEs. These growth numbers have been used in the following sections to project expected average day flows for both the Lake Samish Collection System and the Burlington Force Main Collection System. Because the USIT has redirected their wastewater flows to their new treatment plant on Darrk Lane, there are no projected flows included for the Tribe.

**Table 3.3: Summary of Projected Customer and LUE Growth**

<b>CALCULATED SYSTEM GROWTH RATES FOR CUSTOMERS &amp; LUEs – 2004 to 2010</b>				
	<b>Lake Samish Collection System</b>		<b>Burlington Force Main System</b>	
	<b>Customers</b>	<b>LUEs</b>	<b>Customers</b>	<b>LUEs</b>
2004 Comprehensive Planning Period	375	488.50	64	394.23
2010 Comprehensive Planning Period	403	516.50	111	522.00
Net Change During Planning Period	+28 (*)	+28 (*)	+47	127.77
Growth Rate During Planning Period	+5 customers/yr	+5 LUEs/yr	+8 customers/yr	+21.30 LUEs/yr
2016 – Project Growth	433	546.50	159	649.80

\* Assuming only residential connections over the next six years, (1 LUE/customer)

**3.3.2 Lake Samish Collection System**

At this time, the Lake Samish Collection System has 403 customers representing 516.5 LUE's with an average, daily, per-LUE flow 153 gpd per LUE. By the end of 2016, the Lake Samish Collection System is projected to have a total of 433 customers with 546.5 associated LUEs. This results in the following 6-yr flow projections, (note that peak daily flows assume a peaking factor of two):

**Lake Samish Collection System – 6-Year Projected Flows**

**Average Daily Flow (6-year):** approx. 83,615 gallons per day.  
**Peak Daily Flow (6-year):** approx. 167,230 gallons per day.

Excluding commercial forestry parcels and parcels which have already been developed with onsite wastewater disposal, there are approximately 242 parcels remaining to be serviced within the District boundaries. With current zoning, these 270 parcels could develop into approximately 290 additional, single-LUE service connections to the Lake Samish Collection System. This results in the following build-out flow projections, (note that peak daily flows assume a peaking factor of two):

**Lake Samish Collection System – Buildout Projected Flows**

**Average Daily Flow (at Final Build-out):** approx. 123,395 gallons per day.  
**Peak Daily Flow (at Final Build-out):** approx. 246,790 gallons per day.

### 3.3.3 Burlington Force Main Collection System

In contrast to sewer service inside the District's Whatcom County boundaries, the decisions to allow new connection to the Burlington Force Main Collection System are made on a case by case basis. In 1980, the District entered into an "Interlocal Cooperative Agreement" with Skagit County whereby the District agrees not to enter into a sewer agreement with any property owner located within the District's Skagit County boundaries without that property owner first obtaining written approval to build from Skagit County. After this written approval is obtained from Skagit County, the District makes a case-by-case determination regarding sewer service for the applicant.

At this time, the Burlington Force Main System has 111 customers representing 522 LUEs with an average, daily, per-LUE flow of 185 gpd per LUE. By the end of the 6-yr planning period, the Burlington Force Main Collection System is projected to have a total of 159 customers with 649.8 associated LUEs. This results in the following 6-yr flow projections, (note that peak daily flows assume a peaking factor of two):

#### **Burlington Force Main Collection System – 6-Year Projected Flows**

**Average Daily Flow (6-year):** approx. 120,213 gallons per day,

**Peak Daily Flow (6-year):** approx. 240,426 gallons per day.

### 3.4 Combined 20-Year Projected Wastewater Flows and BOD Loading

The combined, 6-year projections for the entire Samish Water District system are as follows, (note that these totals include I/I associated with the open lagoon treatment system and assume a peaking factor of two):

#### **Combined District Wastewater Flows to the Burlington WWTP - 6-Year Projected Flows**

**Average Daily Flow (6-year):** 221,862 gallons per day,

**Peak Daily Flow (6-year):** 425,689 gallons per day.

Currently, the District has an average BOD concentration of 28 mg/l and an average TSS concentration of 46 mg/l in the wastewater discharged from the Lake Samish Lagoon Treatment Plant (Jan 2007 through Dec 2009). These average concentrations are down from the previous Comprehensive Plan data, most likely due to the increase in lagoon detention times. Additional connections along the Burlington Force Main Collection System which increase the volume of untreated wastewater in the system will act to offset this drop in BOD/TSS concentrations in the blended effluent. The final BOD/TSS strengths will depend upon the relative rate of growth within the two systems.

A summary of the 6-year system projections is included in Table 3.4. The peaking factor for the above projections was chosen based upon past flow records for the District. Historically, peak wastewater flows within the system have never been greater than 1.5-times the average day flows. For the purposes of this plan, a conservative peaking factor of 2.0 was used.

**Table 3.4: Summary of 6-year Flow Projections**

2016- TOTAL SYSTEM CUSTOMER, LUE & FLOW STATISTICS (projected quantities)						
	A	B	C	D	E	F
	Customers	LUEs	Ave. Daily Flows (gpd per LUE)	Ave. Daily Flows Including I/I (gpd)	Ave. Daily Evaporation (gpd)	Total Ave. Daily Flows (gpd)
Lake Samish Collection System	433	546.50	153	83,614	--	83,614
Lagoon Treatment Facility	--	--	--	29,671	11,636	18,035
Burlington Force Main System	159	649.80	185	120,213	--	120,213
<b>TOTAL SYSTEM</b>	<b>592</b>	<b>1,196.30</b>	<b>--</b>	<b>233,498</b>	<b>11,636</b>	<b>221,862</b>

## 4 POSSIBLE FUTURE SEWER SERVICE REQUIREMENTS

Potential developer extension/ULID facilities are not included in the Future Improvement Projects, because their occurrence is more speculative in nature than the planned infrastructure improvement projects outlined in this section. Please refer back to the earlier general discussion of GMA impacts with respect to extension of public sewer into undeveloped areas outside of Urban Growth Areas. The District may only provide sewer service where it is legally possible to do so considering then current County zoning and development regulations as enforced by Whatcom County and Skagit County. Every attempt has been made to coordinate with the Whatcom County Department of Planning and Development (esp. Long Range Planning) and the Skagit County Department of Planning regarding any growth management considerations under Chapter 36.70A RCW Growth Management.

### 4.1 Possible Future Sewer Service Requirements Within the Lake Samish Collection System

The District may be required to provide sewer service within the existing Lake Samish sewer collection system on an “as-needed” basis in those areas within the District boundaries not currently served by the gravity sewer collection system. At this time, there is one potential area where public sewer may be required (Reference Exhibit I for a map of this potential extension).

#### 4.1.1 Manley Road / Pacific Highway

Along Manley Road and Pacific Highway, (north of the I-5 Corridor) exists several residences which are currently served by individual, onsite septic systems. All of these existing residences are located inside the District’s original Whatcom County boundaries. In the event that any of the onsite systems for these residences failed and replacement of said system was not possible (RCW 36.70A.110), the Whatcom County Health Department may decide that connection to the District’s public sewer system was warranted. One option for providing District sewer service to this area could include formation of a ULID with construction of the sewer extension paid for by residence owners along the new line. Reimbursement for a portion of the original construction costs could be recouped through “late-comers” agreement. The new branch sewer force main could either be routed to the existing Lake Samish Lagoon Treatment Plant for treatment or tie directly to the 12” primary force main. Connection of the Manley Road / Pacific Highway properties could only occur if the County Health Department deemed it was warranted within the specific requirements of RCW 36.70A.110.

### 4.2 Potential Sewer Growth Along the Burlington FM Collection System

#### 4.2.1 Glenhaven Lakes

Glenhaven Lakes Development is an existing residential property development located immediately east of Cain Lake on Alger/ Cain Lake Rd. With a 1,250 lot potential at full build-out, the area is currently approximately 50% developed with all of the occupied lots serviced by individual septic systems. If lake pollution becomes an issue, the District may be approached to provide public sewer service in the interest of public health and safety. With its close proximity to the Alger/ Cain Lake Rd. Force Main, Glenhaven Lakes would be a prime candidate for addition to the District’s service area. Improvements associated with

this addition would include a local gravity sewer collection system within the development limits that would discharge to a new grinder pump station facility for transport to the existing Alger/ Cain Lake Road Force Main. As the GMA regulatory authority for this area, Whatcom County would need to approve any sewer extension required to service the Glenhaven Lakes area. The District has no existing commitment to provide sewer service to the Glenhaven Lakes area.

## **5 SEWER RATE STRUCTURE AND REVENUE PLANNING**

### **5.1 Requirements for Connection to the District System**

Properties within the District's original Whatcom County boundaries which were not charged a special assessment when the District was formed may connect to the District's sewer, or any other sewer where the District has an agreement with another agency and obtain sewer service by either paying a latecomer charge in cash or entering into a sewer service agreement with the District.

Properties which lay within the District's Skagit County boundaries may connect to the District's sewer or any other sewer where the District has an agreement with another agency and obtain sewer service by entering into a sewer service agreement or a developer's contract with the District.

Under current District policy, on the Alger Force Main, only new customers that are abutting the existing main can connect to the force main.

### **5.2 Revenue Planning**

In accordance with the District's current, adopted code (Samish Water District Code, 2001), the District performs a review of the sewer rate schedule annually to determine that these charges are sufficient to generate revenue to offset the cost of all necessary operation and maintenance of the District. In the event that this annual review indicates a necessary revision of user charges, the District shall promptly amend the rates set forth herein by formal resolution of the board of commissioners.

In 2010, the District commissioned a sewer rate study to examine the District's current sewer rate structure. The purpose of the study was to provide recommendations regarding sewer rate adjustments aimed at bringing revenues in line with annual operating and capital obligations while utilizing surplus cash reserved in the District's general and capital funds. The sewer rate study recommended a 5% rate increase to compensate for anticipated revenue losses associated with the USIT's conversion to "standby" transmission service. In addition, the study recommended implementation of a "reserve capacity fee" of \$4,400 per month to maintain backup capacity for the USIT flows. Finally, the sewer rate report reviewed and issued recommendations regarding the general facilities charge (GFC) to be charged to customers connecting to the system.

Recommendations from this 2010 rate study were implemented by the District and are reflected in the sewer rate information presented in the next section.

### **5.3 Sewer Rate Structure**

The District sewer service rates and charges outlined below shall be subject to change by resolution of the board of directors as conditions warrant.

#### **5.3.1 Sewer Service Rates**

The District's monthly charge for sewer service is comprised of two components; a District sewer service charge and a treatment charge. Customers are assigned into one of three classification types; residential, commercial and reserve capacity. The calculation of monthly sewer charges is based either on metered flow or on the assigned number of living

unit equivalents (LUEs) for a particular customer. The following is a discussion of the classification types.

- 1) Residential Classification – Customers in this classification are single family residences connected to the District system within either the Lake Samish Collection System or the Burlington Force Main Collection System. Residential customers are considered as one LUE per connection.
- 2) Commercial Classification – This classification refers to non-residential customers whose monthly sewer charges are computed based upon water or sewer meter records. In the event that metering data is not available for a non-residential customer, the District calculates the monthly charges using an LUE multiplying factor appropriate to the facility type. Reference Exhibit H for a complete listing of the Living Unit Equivalent (LUE) Factors used for each facility type.
- 3) Wheeling Classification – This classification refers to USIT’s current agreement with the District for reserve wheeling capacity to transport emergency wastewater flows in the event of an outage at their wastewater treatment facility on Darrk Lane, (see Exhibit G, Resolution 13-11 for details regarding this agreement). The USIT has negotiated a separate agreement with the City of Burlington for treatment and disposal of said wastewater. Under this “reserve capacity” agreement, the District is simply transporting, or “wheeling”, the Tribe’s wastewater to the City of Burlington for treatment.  
Reference Exhibit H, Resolution 10-11 for a tabulation of the current classification and sewer rate schedule for the District. Also included in this resolution are the rate adjustment schedules as recommended by the 2010 rate study.

### **5.3.2 General Facilities Charge (GFC)**

The District assesses the following GFCs (reference Exhibit H, Resolution 10-11):

- 1) GFC for sewer connection within the District’s original Whatcom County boundaries is \$4,713 per LUE.
- 2) GFC for property within the original District ULID receive a credit of 185 percent of the original area assessment against the \$4,713 per LUE.
- 3) GFC for sewer connection outside the District’s original Whatcom County boundaries is \$4,713 per LUE plus a capacity charge for the City of Burlington Wastewater Treatment Plant. This capacity charge is calculated as the City of Burlington’s general facilities charge for a single family residential connection.

### **5.3.3 Consumer Price Index (CPI)**

The District utilizes the following CPIs for fiscal planning and rate/wage adjustments (reference Resolution 06-03):

- 1) Annual adjustments for sewer service rates – Bellingham CPI,
- 2) Recommended cost of living allowance adjustments for District employee wages and salaries – Seattle/Everett/Bellevue CPI,
- 3) Budget preparation – Bellingham CPI.

## 6 FUTURE IMPROVEMENT PROJECTS

### 6.1 Future Maintenance and Operational Improvements

#### 6.1.1 Sewer Inspection Program

The District has an ongoing sewer inspection program. As a part of the regular maintenance program for their facilities, the District will continue to video portions of the collector system annually in an effort to identify possible points of I & I into the system. Areas to video are targeted based on pump run times (as an indication of I & I severity) and the majority of the work will be performed during the wet season in order to see active leaks. The District is also able to inspect manholes with the camera as they pass through them. If repair work is deemed necessary, the District will perform the work as part of their regular maintenance program.

#### 6.1.2 Smoke Testing Program

The District plans to perform future smoke testing within the Lake Samish Collection System to identify potential sources of inflow and infiltration within the system. To date, the collection system at the northern part of Lake Samish has been tested. As a part of the ongoing maintenance program for their facilities, the District will continue to smoke test previously untested portions of the collection system in an effort to identify possible points of inflow and infiltration into the system. In the event that a significant, potential I/I source is identified through the smoke testing program, the District will follow-up with a CCTV camera inspection of the subject area to determine if repair work is required. If repair work is deemed necessary, the District will perform said work as part of their regular maintenance improvement program.

#### 6.1.3 Sewer I & I Projects – Miscellaneous Sewer Line Replacement and Repair

The age of District's sewer collection and force main systems range from new to over forty years old and approaching the end of their expected design life. As a part of ongoing regular maintenance on the system, the District monitors the existing underground sewer lines for signs of leakage and/or failure. As a part of this project, the District will perform sewer repair and/or replacement work as necessary to ensure a functional and environmentally safe system. The line repairs include both trenchless spot repairs as well as repairs that require excavation.

#### 6.1.4 Sewer I & I Projects – Manhole Rehabilitation

The District staff have observed I & I that originates in the sewer manholes. The District is inspecting manholes for deterioration and leaks as part of their ongoing sewer videoing program and will develop a priority list of manholes in need of rehabilitation. Manhole rehabs within the County maintained roadway will include adjusting rims and covers as necessary to match the road grade.

#### 6.1.5 Force Main Pressure Monitoring Program

Currently, the District has little historical data regarding the hydraulic gradient and operating pressures of the Burlington Force Main during average day and peak flow conditions. This lack of data has put the District at a disadvantage with regard to the following:

## FUTURE IMPROVEMENT PROJECTS

---

- 1) Assessing current physical condition of the force main pipe interior, (i.e. is the force main experiencing excessive sedimentation or corrosion, and
- 2) Predicting normal operating pressures on the force main at potential customer connection points.

To address this situation, the District will put in place a systematic pressure monitoring program which will allow for the monitoring and recording of normal system operating pressures at various points along the force main. The program will be part of the District's ongoing maintenance program and will generate a historical database for the District to reference when assessing the pipeline's condition, planning future pipeline upgrade projects or providing design criteria for future customers who plan to hook-up to the force main.

Implementation of the subject pressure monitoring program and development of historical pressure database will have the following impacts:

- 1) Reduction in District staff time spent on identifying and locating force main problems related to physical deterioration of the pipe. Ongoing pressure monitoring coupled with comparisons to historical operating pressures will allow District staff to identify probable physical problems within the pipeline without the added costs of excavation and physical inspection.
- 2) Reduction in the District's liability exposure regarding design criteria supplied to prospective customers. With the development of a historical pressure profile for the force main, the District will be able to more accurately determine expected operating pressures on the force main resulting in more reliable design criteria. More reliable design criteria will ensure that future customer pressure systems are sized correctly to pump to the force main. This will reduce customer complaints and/or potential litigation regarding wastewater overflows on private property due to wastewater backflow along the customer force mains.

### 6.1.6 Lake Samish Treatment Lagoon Maintenance

- 1) **Biosolids Monitoring** - In 2009, the District commissioned Fire Mountain Farms to perform an evaluation of the wastewater treatment lagoons to determine the quantity and quality of the existing lagoon sludge blankets. Based upon this evaluation, the contractor provided recommendations as to the current and/or future need to remove biosolids from the lagoons. Report recommendations indicated that the current biosolid load in both lagoons was insufficient to warrant cleaning at this time. The report went on to recommend annual monitoring of the sludge blanket thickness to be performed by District personnel with a handheld field device (Sludge Judge or approved equal), and that annual samples of the sludge should be collected and tested for 503 metals to determine if copper contents are increasing.

## **6.2 Future Administrative, Financial and Planning Improvements**

### **6.2.1 Geographical Information System (GIS) Development**

In 2003, the District began preliminary development of a system-wide GIS to aid in planning, administration, and operation and maintenance record keeping for the District's facilities. To date, the GIS includes information regarding topography, property parcel, customer locations, zoning, and schematic locations of District facilities within the District's Whatcom County and Skagit County boundaries. As a part of this ongoing development program, the District will continue to augment and update the GIS to include some, or all, of the following:

- 1) watershed boundaries,
- 2) operation and maintenance record information,
- 3) facility specifications,
- 4) billing information,
- 5) customer service agreement information.

### **6.2.2 Implementation of Sewer Service Rate Recommendations**

District will continue to implement any recommendations resulting from the financial consultant's 2010 rate study. Any rate increases will assure that the District is adequately recovering the true costs of running the system, including paying back of all existing and anticipated loan funds. By adequately recovering the true costs for system operation and maintenance, the District staff will be able to perform routine maintenance activities which will add to the service life of the system, and to maintain the appropriate reserves required for emergencies.

### **6.2.3 Update Existing Emergency Response Plan**

Currently, the District has an existing Emergency Response Plan which outlines District priorities and activities in response to an emergency event such as; natural disaster, vandalism, catastrophic equipment failure, etc. As a part of this activity, the District will update the existing Emergency Response Plan, as necessary, to ensure compliance with applicable federal regulations and the requirements of the Department of Homeland Security.

### **6.2.4 Develop a Capacity, Management, Operations, and Maintenance (CMOM) Program**

As part of this activity, the District will prepare a CMOM Program in accordance with the requirements of any future CMOM and/or sanitary sewer overflow (SSO) regulations. The finished plan will include all of the performance components for municipal sanitary sewer collection systems as well as address the documentation requirements for the CMOM permit. At this time, implementation of the both the CMOM and SSO regulations are pending. Preparation of the formal CMOM program will begin upon adoption of these regulations by the applicable governing bodies.

### **6.2.5 Develop a Reclaimed Water Treatment Plan**

Samish Water District provides public sewer service to the residents located around Lake Samish, however, there is no comprehensive public water system servicing customers within the District boundary. Approximately 95% of the residents around the lake rely directly upon the lake for their potable water. The District takes wastewater from the lake residences and treats it to primary wastewater effluent standards before pumping it to the City of Burlington for secondary treatment and discharge. Effectively, this results in an inter-basin transfer of approximately 85,000-110,000 gallons per day from the Friday Creek Basin where the wastewater originates to the Skagit River Basin where the treated effluent is discharged.

In the early 1990s, WA Dept. of Fish and Wildlife (Fish and Wildlife) and WA Dept. of Ecology (Ecology) became concerned about the long-term effects of continued water appropriation for domestic use of Lake Samish and Friday Creek surface water. The concerns were related to the effect low flows in the creek were having on fish habitat. Ecology informed property owners around the lake that surface water withdrawals not tied to perfected water rights would not be allowed to continue unless these water users developed and implemented a plan to augment the in-stream flow in Friday Creek. To address this issue, Whatcom County assisted local residents with the planning, design and implementation of a retention dam at the Friday Creek outlet to seasonally mitigate lake discharge and augment/equalize in-stream flows in the creek.

In response to these issues, Samish Water District may undertake, in the future, to develop planning program which addresses the feasibility of locally treating Lake Samish wastewater to reclaimed water standards and reintroducing the reclaimed water to the Friday Creek basin via either surface or sub-surface effluent discharge. Potential benefits associated with this reclaim strategy would include; replenishment of lake water withdrawn for potable use, in-stream flow augmentation in Friday Creek, enhancement of riparian habitat, and discontinuance of inter-basin water transfers between Friday Creek Basin and the Skagit River basin.

## **6.3 Future Capital Improvement Projects**

### **6.3.1 Upgrade of Lake Samish Pump Station No. 4**

Lake Samish Pump Station No. 4 is located at the Lake Samish Lagoon Treatment Plant and has two functions: lifting wastewater into the lagoon and pumping primary-treated wastewater from the lagoons to the Burlington Force Main. The design life of the pump station is now exceeded, and it will be replaced once the District's decision regarding the implementation of wastewater reclamation is made. This upgrade project includes the conversion of Lake Samish PS No. 4 from dry pit/wet pit type pump station to a submersible type pump station.

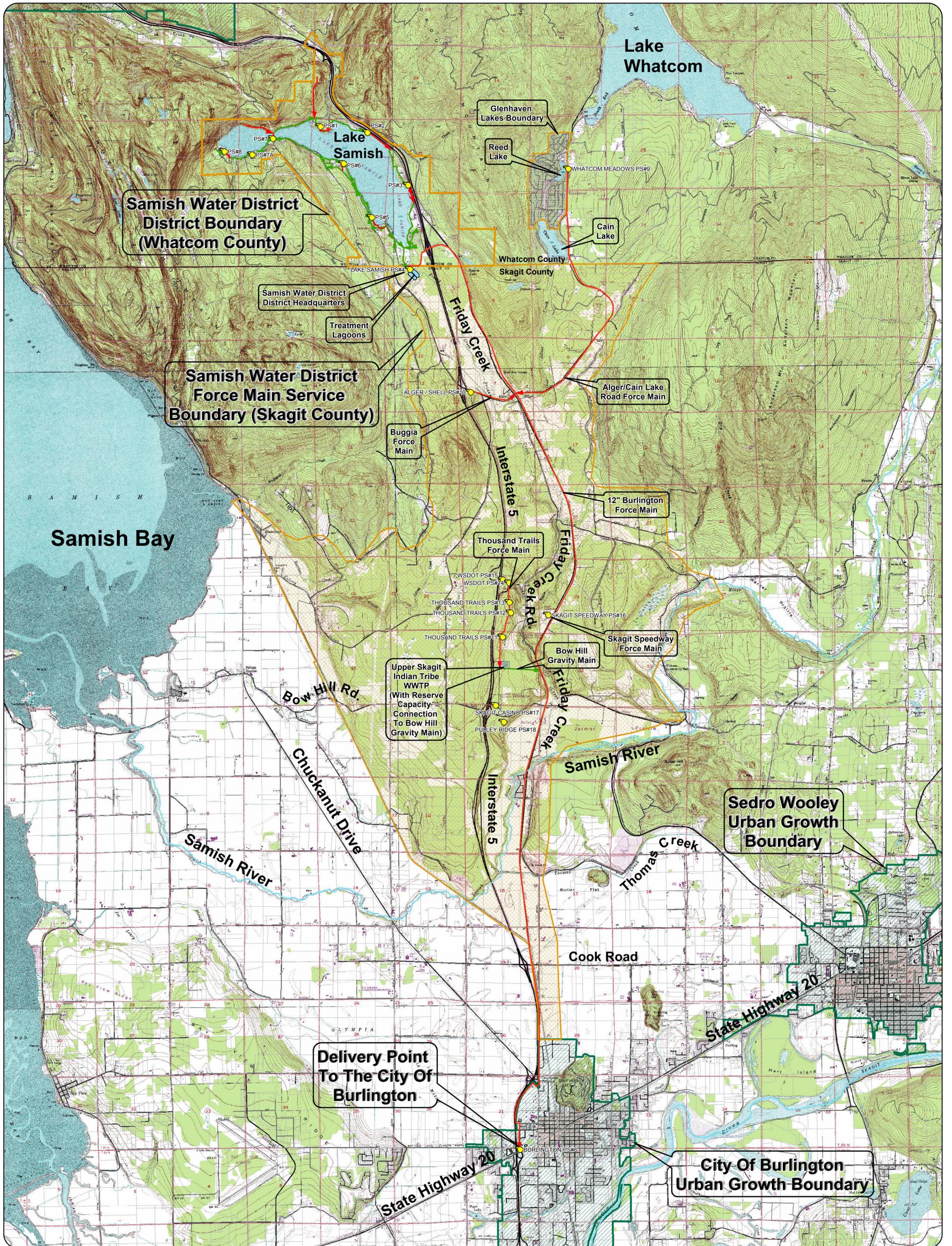
The change will improve reliability for the District's force main system by reducing operator callout hours spent responding to and servicing the outdated equipment. Equipment installed under the project will have higher efficiencies resulting in lower energy costs for the District. Additionally, the new, state-of-the-art equipment will have replacement parts readily available significantly reducing equipment downtime in the event that a repair is required. Finally, operator safety will be improved by conversion of Lake Samish PS Nos.4 to submersible type, as the operators will no longer have to enter the deep underground dry pump pits to service the pumps and perform routine operating checks. Routine operations and maintenance will take place from the surface thereby eliminating the need for a confined space entry.

### **6.3.2 Potential Burlington Force Main Upgrade – Joe Leary Slough**

The existing Burlington Force Main is constructed from 12-inch diameter piping with the exception of a 200 lineal foot section of 8-inch diameter piping installed under the Joe Leary Slough (~Station 160+25). A review of the current future flow projections for the Burlington Force Main indicates that the existing 8-inch force main section will be sufficient to handle the expected force main flows. If, however at a future date, the projected force main flows exceed the recommended flow limits for the 8-inch diameter section, the District may elect either upsize the existing 8-inch force main to 12-inch or to install a parallel force main section under the slough to accommodate the increased flow.

**EXHIBITS**

**Exhibit A - General Sewer Facilities Map**



0 0.225 0.45 0.9 1.35 1.8  
Miles  
Scale 1:36,000



## SAMISH WATER DISTRICT

### Comprehensive Sewer Plan Exhibit A - General Sewer Facilities Map

#### LEGEND:

- Pump Stations
- Force Main
- Gravity Main
- District Boundary
- Glenhaven Lakes Boundary
- Forced Main
- Agreement Area
- City Boundaries

#### WASHINGTON STATE



Wilson Engineering LLC disclaims the merchantability or warranty of fitness of this data for any particular purpose, either express or implied. No representation or warranty is made concerning the accuracy, currency, completeness or quality of data depicted. Any user assumes all responsibility for use, in-kind, and further agrees to hold Wilson Engineering harmless from and against any damage, loss, or liability arising from any use of this data.

GIS/GPS  
2010-014 BWD Sewer Comp Plan - 2010 Update  
Elizabeth Sterling, PE Map Revision 06/2013 RW

**Exhibit B - Lake Samish Collection System**

**SAMISH WATER DISTRICT**

Sewer Comprehensive Plan - 2010 Update

Exhibit B-1 Service Connection Listing - Lake Samish Collection System

Prepared by: E.A. Sterling, Wilson Engineering LLC

Date: June 2013

Customer No.	Contact Name	Billing			Service Location		Status	Billing Type
		Address	City	State	Address	System		
1	Thomas Aliotti	207 Friday Creek Rd.	Bellingham	WA	207 Friday Creek Road	LSCS	Active	Non-Metered
2	Doug Asbe	1827 Prescott Lane	Bellingham	WA	1827 Prescott Lane	LSCS	Active	Non-Metered
3	Gary L. & Melissa Griffen	467 West Lake Samish Drive	Bellingham	WA	467 West Lake Samish Drive	LSCS	Active	Non-Metered
4	Dave Baggenstos, Leslie Croot	575 West Lake Samish Drive	Bellingham	WA	575 West Lake Samish Drive	LSCS	Active	Non-Metered
5	Robert & Tammi Kruse	5167 Carriage Hills Drive	Rapid City	SD	651 East Lake Samish Drive	LSCS	Active	Non-Metered
6	Karen Alderson	579 Cedar Acres	Bellingham	WA	579 Cedar Acres	LSCS	Active	Non-Metered
7	Gerald L. Alford	1251 Roy Road	Bellingham	WA	1251 Roy Road	LSCS	Active	Non-Metered
13	Patricia Louise Allen	570 West Lake Samish Drive	Bellingham	WA	570 West Lake Samish Drive	LSCS	Active	Non-Metered
14	A M T Associates	2118 Riverside Dr., Suite 209	Mt. Vernon	WA	555 Cedar Acres	LSCS	Active	Non-Metered
16	Jeff Andrews	578 West Lake Samish Drive	Bellingham	WA	578 West Lake Samish Drive	LSCS	Active	Non-Metered
17	Ronald Arntzen	830 Autumn Lane	Bellingham	WA	830 Autumn Lane	LSCS	Active	Non-Metered
18	Jane Relin, Arlene Eharlich	250 Shallow Shore Road	Bellingham	WA	250 Shallow Shore Road	LSCS	Active	Non-Metered
19	Autumn Lane Mobile Park	780 Autumn Lane	Bellingham	WA	780 Autumn Lane	LSCS	Active	Non-Metered
20	Charles Ayres	675 East Lake Samish Drive	Bellingham	WA	675 East Lake Samish Drive	LSCS	Active	Non-Metered
21	Larry and Judy Azure	13 Eagle's Nest	LaConner	WA	1798 Samish Lane	LSCS	Active	Non-Metered
22	Valerie Baddorf	281 Friday Creek Road	Bellingham	WA	281 Friday Creek Road	LSCS	Active	Non-Metered
23	Gary K. Baker	875 East Lake Samish Drive	Bellingham	WA	875 East Lake Samish Drive	LSCS	Active	Non-Metered
25	Hal Barker	855 East Lake Samish Drive	Bellingham	WA	855 East Lake Samish Drive	LSCS	Active	Non-Metered
26	Herb Barker	P.O. Box 5006	Bellingham	WA	851 East Lake Samish Drive	LSCS	Active	Non-Metered
27	Mark & Julie Barr	270 Shallow Shore Road	Bellingham	WA	270 Shallow Shore Road	LSCS	Active	Non-Metered
28	James & Denise Beard	1532 7th Ave., W.	Seattle	WA	1830 Samish Lane	LSCS	Active	Non-Metered
29	David D. Beatty	1365 Roy Road	Bellingham	WA	1365 Roy Road	LSCS	Active	Non-Metered
30	Dolores Beauchene	289 Shallow Shore	Bellingham	WA	289 Shallow Shore Road	LSCS	Active	Non-Metered
31	David & Janice Beaudin	1417 Roy Road	Bellingham	WA	1417 Roy Road	LSCS	Active	Non-Metered
32	Samual & Natalie Beckett	1115 Spruce Avenue	Coquitlam	BC	1391 Roy Road	LSCS	Active	Non-Metered
33	Lennart Berglund	957 West Lake Samish Drive	Bellingham	WA	957 West Lake Samish Drive	LSCS	Active	Non-Metered
34	Sue Bergman	12282 Maple Crest Drive	Burlington	WA	290 Shallow Shore Road	LSCS	Active	Non-Metered
35	Mary Bianchini	33053 S. Skagit Highway	Sedro Woolley	WA	1288 Roy Road	LSCS	Active	Non-Metered
36	T.A. Bianco	203 2227 McAllister Avenue	Port Coquitlam	BC	431 East Lake Samish Drive	LSCS	Active	Non-Metered
37	Carol & Galen Biery Jr.	866 Autumn Lane	Bellingham	WA	866 Autumn Lane	LSCS	Active	Non-Metered
38	Margaret Binder	293 Friday Creek Road	Bellingham	WA	293 Friday Creek Road	LSCS	Active	Non-Metered
39	John & Susan Bond	878 Autumn Lane	Bellingham	WA	878 Autumn Lane	LSCS	Active	Non-Metered
40	Bonnie Bookter	2511 Lynn Street	Bellingham	WA	594 West Lake Samish Drive	LSCS	Active	Non-Metered
41	R.W. Bornhoft	1050 Larrabee Ave. #104 PMB # 32	Bellingham	WA	274 Shallow Shore Road	LSCS	Active	Non-Metered
42	Kevin Bowman	925 West Lake Samish Drive	Bellingham	WA	925 West Lake Samish Drive	LSCS	Active	Non-Metered
43	Ann D. Bremer	542 West Lake Samish Drive	Bellingham	WA	542 West Lake Samish Drive	LSCS	Active	Non-Metered
44	John & Caterina Bremer	590 West Lake Samish Drive	Bellingham	WA	590 West Lake Samish Drive	LSCS	Active	Non-Metered
45	Corrie A. Bremer	961 West Lake Samish Drive	Bellingham	WA	961 West Lake Samish Drive	LSCS	Active	Non-Metered
46	Steve Brinn	891 East Lake Samish Drive	Bellingham	WA	891 East Lake Samish Drive	LSCS	Active	Non-Metered
47	Helmut and Margie Sonnenschein	1268 Roy Road	Bellingham	WA	1275 Roy Road	LSCS	Active	Non-Metered
48	Michael Brook	3606 - 22nd Street S.E.	Puyallup	WA	496 West Lake Samish Drive	LSCS	Active	Non-Metered
49	Noel Brown	2211 Shallow Shore Lane	Bellingham	WA	2211 Shallow Shore Lane	LSCS	Active	Non-Metered
50	Randall & Debra Brown	418 West Lake Samish Drive	Bellingham	WA	418 West Lake Samish Drive	LSCS	Active	Non-Metered
51	Ron Brown	408 West Lake Samish Drive	Bellingham	WA	408 West Lake Samish Drive	LSCS	Active	Non-Metered
52	Ron Brown	408 West Lake Samish Drive	Bellingham	WA	409 West Lake Samish Drive	LSCS	Active	Non-Metered
53	Eleanor Bruland	701 - 11th Street #201	Bellingham	WA	247 Friday Creek Road	LSCS	Active	Non-Metered
54	Myrtle J. Bruland	235 Friday Creek Road	Bellingham	WA	235 Friday Creek Road	LSCS	Active	Non-Metered
55	Wallace G. Budd	2188 Shallow Shore Lane	Bellingham	WA	2188 Shallow Shore Lane	LSCS	Active	Non-Metered
56	Whatcom Skagit Mini Storage, Alge	P.O. Box 6029	Bellingham	WA	1761 Patrick Lane	LSCS	Active	Non-Metered
58	Daniel & Faith Bult	1333 Roy Road	Bellingham	WA	1333 Roy Road	LSCS	Active	Non-Metered
59	Teresa & Gregory Busch	17122 NE 126th Pl.	Redmond	WA	741 North Lake Samish Drive	LSCS	Active	Non-Metered
60	Calmor Cove Club	316 West Lake Samish Drive	Bellingham	WA	316 West Lake Samish Drive	LSCS	Active	Non-Metered
61	Dennis G. Carman	806 Comanche Drive	Mt. Vernon	WA	Cedar Acres	LSCS	Active	Non-Metered
62	William & Val Cartier	15440 36B Avenue	South Surrey	BC	425 East Lake Samish Drive	LSCS	Active	Non-Metered
63	Tom Christ	2440 Campus Road # 314	Honolulu	HI	1383 Roy Road	LSCS	Active	Non-Metered
64	Tom Christ	2440 Campus Road #314	Honolulu	HI	1389 Roy Road	LSCS	Active	Non-Metered
65	Dennis and Ericka Christensen	905 North Lake Samish Drive	Bellingham	WA	905 North Lake Samish Drive	LSCS	Active	Non-Metered
66	Tom Christianson	1651 134th St	Surrey	BC	1457 Roy Road	LSCS	Active	Non-Metered
67	Steve Clements	751 West Lake Samish Drive	Bellingham	WA	751 West Lake Samish Drive	LSCS	Active	Non-Metered
68	Paul & Wendy Clinton	823 East Lake Samish Drive	Bellingham	WA	823 East Lake Samish Drive	LSCS	Active	Non-Metered
69	Nita Clothier	446 West Lake Samish Drive	Bellingham	WA	446 West Lake Samish Drive	LSCS	Active	Non-Metered
70	W.A. & M.V. Coen	829 West Lake Samish Drive	Bellingham	WA	829 West Lake Samish Drive	LSCS	Active	Non-Metered
71	Charles A. Coen	668 West Lake Samish Drive	Bellingham	WA	668 West Lake Samish Drive	LSCS	Active	Non-Metered
72	Dan & Cindy Coen	1325 Roy Road	Bellingham	WA	1325 Roy Road	LSCS	Active	Non-Metered
73	Penny & John Cofrin	1404 Roy Road	Bellingham	WA	1404 Roy Road	LSCS	Active	Non-Metered
74	Ken Dahlquist	473 West Lake Samish Drive	Bellingham	WA	473 West Lake Samish Drive	LSCS	Active	Non-Metered
75	Clint and Rebecca Lewis	475 West Lake Samish Drive	Bellingham	WA	475 West Lake Samish Drive	LSCS	Active	Non-Metered
77	Janice Condrin Barry Antos	215 Friday Creek Road	Bellingham	WA	215 Friday Creek Road	LSCS	Active	Non-Metered
78	John L. Conway	1371 Roy Road	Bellingham	WA	1371 Roy Road	LSCS	Active	Non-Metered
82	Kevin L. Corey	P.O. Box 2688	Bellingham	WA	181 Shallow Shore Road	LSCS	Active	Non-Metered
83	Clifford A. Cram	1350 Roy Road	Bellingham	WA	1350 Roy Road	LSCS	Active	Non-Metered
84	Steve & Judy Cripps	228 Varsity Estate Links	Calgary	AB	476 West Lake Samish Drive	LSCS	Active	Non-Metered
85	C. C. Cummings	10442 -A Collins Road	Sedro Woolley	WA	439 East Lake Samish Drive	LSCS	Active	Non-Metered
86	Patrick W. Curry	817 West Lake Samish Drive	Bellingham	WA	817 West Lake Samish Drive	LSCS	Active	Non-Metered
87	Susan and Ronald Dahl	2491 Heights Drive	Ferndale	WA	1408 Roy Road	LSCS	Active	Non-Metered

# SAMISH WATER DISTRICT

Sewer Comprehensive Plan - 2010 Update

Exhibit B-1 Service Connection Listing - Lake Samish Collection System

Prepared by: E.A. Sterling, Wilson Engineering LLC

Date: June 2013

Customer No.	Contact Name	Billing			Service Location		Status	Billing Type
		Address	City	State	Address	System		
88	Jeff Shelman	480 West Lake Samish Drive	Bellingham	WA	480 West Lake Samish Drive	LSCS	Active	Non-Metered
89	Roy Davidson	790 Autumn Lane	Bellingham	WA	790 Autumn Lane	LSCS	Active	Non-Metered
90	Davis Samish Properties	3524 N. Woodland Drive	Mt. Vernon	WA	1778 Samish Lane	LSCS	Active	Non-Metered
91	Scott Davis	103 E. Holly #401	Bellingham	WA	324 West Lake Samish Drive	LSCS	Active	Non-Metered
92	Lucille Dayton, C/O Carla Dayton	6623 Tut Terrace	Bellingham	WA	1441 Roy Road	LSCS	Active	Non-Metered
93	Armin DeCaron	1142 Frederick Road	N. Vancouver	BC	929 West Lake Samish Drive	LSCS	Active	Non-Metered
94	George Lockman	223 Friday Creek Road	Bellingham	WA	225 Friday Creek Road	LSCS	Active	Non-Metered
96	Brad Desmul	999 West Lake Samish Drive	Bellingham	WA	999 West Lake Samish Drive	LSCS	Active	Non-Metered
97	Don & Kris Downs	1447 Roy Road	Bellingham	WA	1447 Roy Road	LSCS	Active	Non-Metered
98	Lambert Drey	816 DeLaFuente Street	Monterey Park	CA	1456 Roy Road	LSCS	Active	Non-Metered
99	Ardis Dumett	3361 46th N.E.	Seattle	WA	1442 Roy Road	LSCS	Active	Non-Metered
100	Roy & Sue Duvall	1029 Polte Road	Sedro Woolley	WA	365 Shallow Shore Road	LSCS	Active	Non-Metered
102	Chuck & Lorraine Earle	671 North Lake Samish Drive	Bellingham	WA	671 North Lake Samish Drive	LSCS	Active	Non-Metered
103	Susan & Karl Norland	870 Autumn Lane	Bellingham	WA	870 Autumn Lane	LSCS	Active	Non-Metered
104	Roy & Sue Duvall	1029 Polte Road	Sedro Woolley	WA	382 Shallow Shore Road	LSCS	Active	Non-Metered
105	Kathleen English	3808 Fraser Street	Bellingham	WA	1292 Roy Road	LSCS	Active	Non-Metered
106	Gregory D. Erickson	526 West Lake Samish Drive	Bellingham	WA	526 West Lake Samish Drive	LSCS	Active	Non-Metered
107	Greg Erickson	526 West Lake Samish Drive	Bellingham	WA	807 West Lake Samish Drive	LSCS	Active	Non-Metered
108	Gregory Erickson	526 West Lake Samish Drive	Bellingham	WA	675 North Lake Samish Drive	LSCS	Active	Non-Metered
109	June W. Erickson	1300 Roy Road	Bellingham	WA	1300 Roy Road	LSCS	Active	Non-Metered
110	Roy Ericsson	850 Autumn Lane	Bellingham	WA	850 Autumn Lane	LSCS	Active	Non-Metered
111	Robert A. Eshelman	5427 NE Penrith Road	Seattle	WA	231 Friday Creek Road	LSCS	Active	Non-Metered
112	Robert Eshelman	5427 NE Penrith Road	Seattle	WA	230 Friday Creek Road	LSCS	Active	Non-Metered
113	Rachel E. Esperson	1401 Roy Road	Bellingham	WA	1401 Roy Road	LSCS	Active	Non-Metered
114	Mervin Evanger	286 Shallow Shore Road	Bellingham	WA	286 Shallow Shore Road	LSCS	Active	Non-Metered
115	Lynn and Tracy Bell	723 11th Street	Bellingham	WA	839 East Lake Samish Drive	LSCS	Active	Non-Metered
116	Jeff & Susan Feemster	647 East Lake Samish Drive	Bellingham	WA	647 East Lake Samish Drive	LSCS	Active	Non-Metered
117	Chris Fellows	8420 S.E. 71st Street	Mercer Island	WA	567 Cedar Acres	LSCS	Active	Non-Metered
119	Brian R. Flannelly	#4 Greene Point Road	Bellingham	WA	4 Greene Point Road	LSCS	Active	Non-Metered
120	Rhonda Scholz, Lise Boughen	32249 Clinton Avenue	Abbotsford	BC	400 West Lake Samish Drive	LSCS	Active	Non-Metered
121	Allen & Gaye Forbes	12852-A 16th Ave. N.	Whiterock	BC	413 East Lake Samish Drive	LSCS	Active	Non-Metered
122	Doris Randall	283 West Lake Samish Drive	Bellingham	WA	2094 Fire Lane Road	LSCS	Active	Non-Metered
123	Dale B. French	887 East Lake Samish Drive	Bellingham	WA	887 East Lake Samish Drive	LSCS	Active	Non-Metered
124	Linda French	1926 Cedar Creek	Vancouver	BC	663 North Lake Samish Drive	LSCS	Active	Non-Metered
125	Brian Vankeulen	260 Friday Creek Road	Bellingham	WA	260 Friday Creek Road	LSCS	Active	Non-Metered
126	Brian Vankeulen	260 1/2 Friday Creek Road	Bellingham	WA	260 1/2 Friday Creek Road	LSCS	Active	Non-Metered
127	R. M. Funkhouser, Jr.	1826 Samish Lane	Bellingham	WA	1826 Samish Lane	LSCS	Active	Non-Metered
128	Tavis Gann	477 West Lake Samish Drive	Bellingham	WA	477 West Lake Samish Drive	LSCS	Active	Non-Metered
129	Kathleen Gann	212 Friday Creek Road	Bellingham	WA	212 Friday Creek Road	LSCS	Active	Non-Metered
130	Ed Sweitzer	1680 E. Smith Road	Bellingham	WA	931 West Lake Samish Drive	LSCS	Active	Non-Metered
131	Mich and Katie Gaston	1446 Roy Road	Bellingham	WA	1446 Roy Road	LSCS	Active	Non-Metered
132	Robert Gates	2506 West 5th Avenue	Vancouver	BC	258 Shallow Shore Road	LSCS	Active	Non-Metered
133	Robert Gertz	426 West Lake Samish Drive	Bellingham	WA	426 West Lake Samish Drive	LSCS	Active	Non-Metered
134	Paul Given	219 Friday Creek Road	Bellingham	WA	219 Friday Creek Road	LSCS	Active	Non-Metered
135	James & Lynne Glenovich	818 17th Street	Bellingham	WA	1356 Roy Road	LSCS	Active	Non-Metered
136	John M. Goodman	602 West Lake Samish Drive	Bellingham	WA	602 West Lake Samish Drive	LSCS	Active	Non-Metered
137	John M. Goodman	602 West Lake Samish Drive	Bellingham	WA	600 West Lake Samish Drive	LSCS	Active	Non-Metered
138	Brian Goose	21578 Thornton Ave.	Maple Ridge	BC	580 West Lake Samish Drive	LSCS	Active	Non-Metered
139	Robert C. Graham	4628 Sand Road	Bellingham	WA	1432 Roy Road	LSCS	Active	Non-Metered
140	Michael F. Grazier	1455 Roy Road	Bellingham	WA	1455 Roy Road	LSCS	Active	Non-Metered
141	George Herrmann	445 West Lake Samish Drive	Bellingham	WA	440 West Lake Samish Drive	LSCS	Active	Non-Metered
142	John Griffith, Jr.	780 North Lake Samish Drive	Bellingham	WA	780 North Lake Samish Drive	LSCS	Active	Non-Metered
143	Ernie N. Griffiths	25873 - 26th Avenue	Aldergrove	BC	2076 Fire Lane Road	LSCS	Active	Non-Metered
144	Johann E. Gruenheit	282 Shallow Shore Road	Bellingham	WA	282 Shallow Shore Road	LSCS	Active	Non-Metered
145	Ingrid Emanuels	11274-158 "A" Street	Surrey	BC	564 West Lake Samish Drive	LSCS	Active	Non-Metered
146	Natalie & Leif Hance	243 Friday Creek Road	Bellingham	WA	243 Friday Creek Road	LSCS	Active	Non-Metered
148	John and Janis Aamodt	1382 Roy Road	Bellingham	WA	1382 Roy Road	LSCS	Active	Non-Metered
149	Edwin V. Hanson	697 North Lake Samish Drive	Bellingham	WA	697 North Lake Samish Drive	LSCS	Active	Non-Metered
150	Randy Hanson	21104 43A Avenue	Langley	BC	2093 Fire Lane Road	LSCS	Active	Non-Metered
151	Eileen Harang	26 Greene Point	Bellingham	WA	28 Greene Point Road	LSCS	Active	Non-Metered
152	Gordon & Eileen Harang	26 Greene Point	Bellingham	WA	26 Greene Point Road	LSCS	Active	Non-Metered
153	Ola Harang	289 Friday Creek Road	Bellingham	WA	289 Friday Creek Road	LSCS	Active	Non-Metered
154	Marian Harang	289 Friday Creek Road	Bellingham	WA	291 Friday Creek Road	LSCS	Active	Non-Metered
155	Edward Harris H. Scharring	371 Shallow Shore Road	Bellingham	WA	371 Shallow Shore Road	LSCS	Active	Non-Metered
156	Charles and Doris Randall	283 West Lake Samish Drive	Bellingham	WA	2095 Fire Lane Road	LSCS	Active	Non-Metered
157	Harry & Kathleen Hawkins	294 Friday Creek Road	Bellingham	WA	294 Friday Creek Road	LSCS	Active	Non-Metered
158	N. R. Heathers	3030 Coolidge Drive	Bellingham	WA	310 Shallow Shore Road	LSCS	Active	Non-Metered
159	Susan Heer	5639 Sandiford Place	Richmond	BC	575 Cedar Acres	LSCS	Active	Non-Metered
160	Brian Jameson	1337 Roy Road	Bellingham	WA	1341 Roy Road	LSCS	Active	Non-Metered
161	Keith C. Held	851 West Lake Samish Drive	Bellingham	WA	851 West Lake Samish Drive	LSCS	Active	Non-Metered
162	Dale C. Henley	1780 Old Samish Road	Bellingham	WA	1794 Samish Lane	LSCS	Active	Non-Metered
163	Wade Alan Henley	2088 Fire Lane Road	Bellingham	WA	2088 Fire Lane Road	LSCS	Active	Non-Metered
164	Richard & Erica Herrmann	405 West Lake Samish Drive	Bellingham	WA	405 West Lake Samish Drive	LSCS	Active	Non-Metered
165	George Herrmann	445 West Lake Samish Drive	Bellingham	WA	445 West Lake Samish Drive	LSCS	Active	Non-Metered
166	Clarence L. Hess	225 North garden Street	Bellingham	WA	514 West Lake Samish Drive	LSCS	Active	Non-Metered

# SAMISH WATER DISTRICT

Sewer Comprehensive Plan - 2010 Update

Exhibit B-1 Service Connection Listing - Lake Samish Collection System

Prepared by: E.A. Sterling, Wilson Engineering LLC

Date: June 2013

Customer No.	Contact Name	Billing			Service Location		Status	Billing Type
		Address	City	State	Address	System		
167	Malcom & Joan Hewlett	425 Manley Road	Bellingham	WA	2220 Nulle Road	LSCS	Active	Non-Metered
168	David A. & Debbie Hewlett	295 Shallow Shore Road	Bellingham	WA	295 Shallow Shore Road	LSCS	Active	Non-Metered
169	J. C. Hickman	419 Bayside Road	Bellingham	WA	827 East Lake Samish Drive	LSCS	Active	Non-Metered
170	Thomas E. Hilton	813 West Lake Samish Drive	Bellingham	WA	813 West Lake Samish Drive	LSCS	Active	Non-Metered
171	James L. Swift	2200 89th Ave. N.E.	Clyde Hill	WA	911 East Lake Samish Drive	LSCS	Active	Non-Metered
172	Ronald & Joan Hjaltalin	4520 Wernett Road	Pasco	WA	262 Shallow Shore Road	LSCS	Active	Non-Metered
173	John W. Macpherson	3223 Eagleridge	Bellingham	WA	1362 Roy Road	LSCS	Active	Non-Metered
174	James Hobbs	17583 S. Sky Ridge Drive	Mount Vernon	WA	354 West Lake Samish Drive	LSCS	Active	Non-Metered
175	Michael & Nancy Holl	259 Friday Creek Road	Bellingham	WA	259 Friday Creek Road	LSCS	Active	Non-Metered
176	James Holstine	394 West Lake Samish Drive	Bellingham	WA	394 West Lake Samish Drive	LSCS	Active	Non-Metered
177	Terry Humphreys	659 E. Lake Samish Drive	Bellingham	WA	659 East Lake Samish Drive	LSCS	Active	Non-Metered
178	Jeff & Sandy Hunt	460 West Lake Samish Drive	Bellingham	WA	460 West Lake Samish Drive	LSCS	Active	Non-Metered
179	Eric Huntoon	658 West Lake Samish Drive	Bellingham	WA	658 West Lake Samish Drive	LSCS	Active	Non-Metered
180	Paul Isaacson	204 Shallow Shore Road	Bellingham	WA	326 Shallow Shore Road	LSCS	Active	Non-Metered
181	Gordon Iverson	398 Shallow Shore Road	Bellingham	WA	398 Shallow Shore Road	LSCS	Active	Non-Metered
182	Sharon Jackson	17827 159th Ave. N.E.	Woodinville	WA	421 East Lake Samish Drive	LSCS	Active	Non-Metered
183	Floyd Jacobsen	251 Friday Creek Road	Bellingham	WA	251 Friday Creek Road	LSCS	Active	Non-Metered
184	Bryan Jameson	1337 Roy Road	Bellingham	WA	1337 Roy Road	LSCS	Active	Non-Metered
185	Mike Jenkins	845 West Lake Samish Drive	Bellingham	WA	845 West Lake Samish Drive	LSCS	Active	Non-Metered
186	Robert & Cheryl Jens	2180 S.W. Marine Drive	Vancouver	BC	859 East Lake Samish Drive	LSCS	Active	Non-Metered
187	Roy Jewett	927 West Lake Samish Drive	Bellingham	WA	927 West Lake Samish Drive	LSCS	Active	Non-Metered
188	David E. Johnson	889 North Lake Samish Drive	Bellingham	WA	889 North Lake Samish Drive	LSCS	Active	Non-Metered
189	Millie & Jerry Johnson	935 West Lake Samish Drive	Bellingham	WA	935 West Lake Samish Drive	LSCS	Active	Non-Metered
190	Paul & Catherine Johnson	4047 West Mercer Way	Mercer Island	WA	30 Greene Point Road	LSCS	Active	Non-Metered
192	Bradley & Cathy Johnson	3430 201st Place S.E.	Bothell	WA	239 Friday Creek Road	LSCS	Active	Non-Metered
194	Arthur and Annette Vahratian	P.O. Box 13859	Mill Creek	WA	518 West Lake Samish Drive	LSCS	Active	Non-Metered
195	Lorne Jones	10499 Willow Grove	Surrey	BC	558 West Lake Samish Drive	LSCS	Active	Non-Metered
196	Trevor Jones	3688 Osler Street	Vancouver	BC	562 West Lake Samish Drive	LSCS	Active	Non-Metered
197	Janice P. Kelly	849 California Way	Redwood City	CA	2194 Shallow Shore Lane	LSCS	Active	Non-Metered
198	James J. Kelly, Jr.	189 Friday Creek Road	Bellingham	WA	189 Friday Creek Road	LSCS	Active	Non-Metered
199	Shawn & Misty Kemp	10132 127th Avenue N.E.	Kirkland	WA	1422 Roy Road	LSCS	Active	Non-Metered
200	Don & Judy Kesselring	322 Shallow Shore Rd.	Bellingham	WA	314 Shallow Shore Road	LSCS	Active	Non-Metered
202	Don & Judy Kesselring	322 Shallow Shore Rd.	Bellingham	WA	322 Shallow Shore Road	LSCS	Active	Non-Metered
203	David J. Klingensmith	267 Friday Creek Road	Bellingham	WA	267 Friday Creek Road	LSCS	Active	Non-Metered
204	Gloria A. Knudsen	443 East Lake Samish Drive	Bellingham	WA	443 East Lake Samish Drive	LSCS	Active	Non-Metered
205	Allen Koch	1435 Roy Road	Bellingham	WA	1435 Roy Road	LSCS	Active	Non-Metered
208	Clara Kruger	447 East lake Samish Drive	Bellingham	WA	447 East lake Samish Drive	LSCS	Active	Non-Metered
209	Bruce Kulander	7516 55th Place N.E.	Seattle	WA	721 East Lake Samish Drive	LSCS	Active	Non-Metered
210	Lake Samish Mobil Terrace	921 Autumn Lane	Bellingham	WA	921 Autumn Lane	LSCS	Active	Non-Metered
211	Steven H. Landau	2909 91st Ave. Ct. NW	Gig Harbor	WA	941 West Lake Samish Drive	LSCS	Active	Non-Metered
214	Wendell W. Larsen	2941 Plymouth Drive	Bellingham	WA	206 Shallow Shore Road	LSCS	Active	Non-Metered
215	W. B. Larson	211 Welwyn Road	Wilmington	DE	1282 Roy Road	LSCS	Active	Non-Metered
216	Paul Laugharn	2216 37th Street	Bellingham	WA	721 West Lake Samish Drive	LSCS	Active	Non-Metered
218	Richard Lemley	1019 Alderwood Lane	Sedro Woolley	WA	435 East Lake Samish Drive	LSCS	Active	Non-Metered
219	Litsun Lin	1892 Esquimalt Ave.	West Vancouver	BC	1834 Samish Lane	LSCS	Active	Non-Metered
220	Steve Lindberg	1344 Roy Road	Bellingham	WA	1344 Roy Road	LSCS	Active	Non-Metered
223	Richard & Marie Little	806 Autumn Lane	Bellingham	WA	806 Autumn Lane	LSCS	Active	Non-Metered
224	George Lockman	223 Friday Creek Road	Bellingham	WA	223 Friday Creek Road	LSCS	Active	Non-Metered
225	George Lockman	223 Friday Creek Road	Bellingham	WA	246 Friday Creek Road	LSCS	Active	Non-Metered
227	Dennis Lussier	648 West Lake Samish Drive	Bellingham	WA	648 West Lake Samish Drive	LSCS	Active	Non-Metered
228	Lutheran Camp Associates	1185 Roy Road	Bellingham	WA	1185 Roy Road	LSCS	Active	1
229	William MacDonald	770 Autumn Lane	Bellingham	WA	770 Autumn Lane	LSCS	Active	Non-Metered
230	Douglas & Linda MacGregor	29359 No. 111th Way	Scottsdale	AZ	881 East Lake Samish Drive	LSCS	Active	Non-Metered
231	Steve Marmon	#2 Greene Point Road	Bellingham	WA	2 Greene Point Road	LSCS	Active	Non-Metered
232	Dwayne Massey	1357 Roy Road	Bellingham	WA	1357 Roy Road	LSCS	Active	Non-Metered
233	Duncan May	14731 Cambie Rd.	Richmond	BC	346 West Lake Samish Drive	LSCS	Active	Non-Metered
234	Joy May	3111 - #7 Road	Richmond	BC	604 West Lake Samish Drive	LSCS	Active	Non-Metered
235	Tim and Penny Sherwood	466 West Lake Samish Drive	Bellingham	WA	466 West Lake Samish Drive	LSCS	Active	Non-Metered
237	Dan McCort	315 Shallow Shore Road	Bellingham	WA	315 Shallow Shore Road	LSCS	Active	Non-Metered
238	Robert K. McDonnell	230 Shallow Shore Road	Bellingham	WA	230 Shallow Shore Road	LSCS	Active	Non-Metered
239	SR McDonnell	234 Shallow Shore Road	Bellingham	WA	234 Shallow Shore Road	LSCS	Active	Non-Metered
240	Tom McGerr	24 Greene Point Road	Bellingham	WA	24 Greene Point Road	LSCS	Active	Non-Metered
241	Kimberly McHenry	644 West Lake Samish Drive	Bellingham	WA	644 West Lake Samish Drive	LSCS	Active	Non-Metered
242	Curtis B. McIvor	242 Shallow Shore Road	Bellingham	WA	242 Shallow Shore Road	LSCS	Active	Non-Metered
243	Thomas M. McMaster	358 Shallow Shore Rd	Bellingham	WA	358 Shallow Shore Road	LSCS	Active	Non-Metered
244	Thomas W. McNamara	4209 S.W. 98th Street	Seattle	WA	2077 Fire Lane Road	LSCS	Active	Non-Metered
245	Steve McQueary	264 Friday Creek Road	Bellingham	WA	264 Friday Creek Road	LSCS	Active	Non-Metered
246	Doug Wight	1400 Broadway	Bellingham	WA	908 North Lake Samish Drive	LSCS	Active	Non-Metered
247	Mike Mellott	215 Shallow Shore Road	Bellingham	WA	215 Shallow Shore Road	LSCS	Active	Non-Metered
248	H. L. Merke	22785 - 129th Avenue	Maple Ridge	BC	2090 Fire Lane Road	LSCS	Active	Non-Metered
249	Fred Meyers	627 East Lake Samish Drive	Bellingham	WA	627 East Lake Samish Drive	LSCS	Active	Non-Metered
250	Frederick P. Meyers	627 East Lake Samish Drive	Bellingham	WA	623 East Lake Samish Drive	LSCS	Active	Non-Metered
251	Howard Milewski	268 Friday Creek Road	Bellingham	WA	268 Friday Creek Road	LSCS	Active	Non-Metered
252	Russell C. Miller	1460 Ellis Street	Bellingham	WA	2040 Fire Lane Road	LSCS	Active	Non-Metered
253	James E. Minaker	263 Friday Creek Road	Bellingham	WA	263 Friday Creek Road	LSCS	Active	Non-Metered

# SAMISH WATER DISTRICT

Sewer Comprehensive Plan - 2010 Update

Exhibit B-1 Service Connection Listing - Lake Samish Collection System

Prepared by: E.A. Sterling, Wilson Engineering LLC

Date: June 2013

Customer No.	Contact Name	Billing			Service Location		Status	Billing Type
		Address	City	State	Address	System		
254	Linda Mitchell	27589 Minkler Rd.	Sedro Woolley	WA	582 West Lake Samish Drive	LSCS	Active	Non-Metered
255	Frank & Bertha Monks	951 West Lake Samish Drive	Bellingham	WA	951 West Lake Samish Drive	LSCS	Active	Non-Metered
256	Jeff & Janet Monks	959 West Lake Samish Drive	Bellingham	WA	959 West Lake Samish Drive	LSCS	Active	Non-Metered
257	Steve Monson	266 Shallow Shore Rd.	Bellingham	WA	266 Shallow Shore Road	LSCS	Active	Non-Metered
261	George Muldrow	1390 Roy Road	Bellingham	WA	1386 Roy Road	LSCS	Active	Non-Metered
262	George Muldrow	1390 Roy Road	Bellingham	WA	1390 Roy Road	LSCS	Active	Non-Metered
263	Ronald & Lisa Mulka	567 West Lake Samish Drive	Bellingham	WA	567 West Lake Samish Drive	LSCS	Active	Non-Metered
264	Chris Renoud	492 West Lake Samish Drive	Bellingham	WA	492 West Lake Samish Drive	LSCS	Active	Non-Metered
265	Al Needler	779 North Lake Samish Drive	Bellingham	WA	779 North Lake Samish Drive	LSCS	Active	Non-Metered
266	Kevin Neff	255 Friday Creek Road	Bellingham	WA	255 Friday Creek Road	LSCS	Active	Non-Metered
267	Dick & Linda Nelson	P.O. Box 438	Anacortes	WA	643 East Lake Samish Drive	LSCS	Active	Non-Metered
268	Richard & Linda Nelson	P.O. Box 438	Anacortes	WA	633 East Lake Samish Drive	LSCS	Active	Non-Metered
269	Doug & Heather Nesbit	211 Friday Creek Road	Bellingham	WA	211 Friday Creek Road	LSCS	Active	Non-Metered
270	Gary L. Newman	801 West Lake Samish Drive	Bellingham	WA	801 West Lake Samish Drive	LSCS	Active	Non-Metered
272	Carl Nims	853 North Lake Samish Drive	Bellingham	WA	887 North Lake Samish Drive	LSCS	Active	Non-Metered
273	Gordon & Pam Nolan	1377 Roy Road	Bellingham	WA	1377 Roy Road	LSCS	Active	Non-Metered
274	Carolyn Nordtvedt	1366 Roy Road	Bellingham	WA	1366 Roy Road	LSCS	Active	Non-Metered
275	Roy & Kolleen Olsen	760 Autumn Lane	Bellingham	WA	760 Autumn Lane	LSCS	Active	Non-Metered
276	Randall Olson	329 Viewcrest Road	Bellingham	WA	899 East Lake Samish Drive	LSCS	Active	Non-Metered
277	Eric & Heidi Overton	5601 108th Pl. S.W.	Mukilteo	WA	374 West Lake Samish Drive	LSCS	Active	Non-Metered
278	L. E. Paradis	720 West Lake Samish Drive	Bellingham	WA	720 West Lake Samish Drive	LSCS	Active	Non-Metered
279	Matthew W. Peach	346 Shallow Shore Road	Bellingham	WA	346 Shallow Shore Road	LSCS	Active	Non-Metered
280	Barbara H. Pearsall	#20 Greene Point Road	Bellingham	WA	20 Greene Point Road	LSCS	Active	Non-Metered
281	Wallace Peck	1212 South 12th Street	Mount Vernon	WA	1796 Samish Lane	LSCS	Active	Non-Metered
282	Joene Peel	814 Lakeway Dr.; PMB 350	Bellingham	WA	459 West Lake Samish Drive	LSCS	Active	Non-Metered
284	David & Ann Peterson	905 East Lake Samish Drive	Bellingham	WA	905 East Lake Samish Drive	LSCS	Active	Non-Metered
285	David D. Peterson	810 Autumn Lane	Bellingham	WA	810 Autumn Lane	LSCS	Active	Non-Metered
287	Carol Phillips	2171 Shallow Shore Lane	Bellingham	WA	2171 Shallow Shore Lane	LSCS	Active	Non-Metered
288	Erik B. Pihl	14192 Bradshaw Road	Mount Vernon	WA	382 West Lake Samish Drive	LSCS	Active	Non-Metered
290	John & Kathy Ploeger	631 East Lake Samish Drive	Bellingham	WA	629 East Lake Samish Drive	LSCS	Active	Non-Metered
291	John & Kathy Ploeger	631 East Lake Samish Drive	Bellingham	WA	631 East Lake Samish Drive	LSCS	Active	Non-Metered
292	John Pont	238 Shallow Shore Road	Bellingham	WA	238 Shallow Shore Road	LSCS	Active	Non-Metered
293	Joel B. Pooley	6362 Doral Drive	Huntington Beach	CA	1812 Samish Lane	LSCS	Active	Non-Metered
294	Alexander Popoff	19805 Marine View Dr. S.W.	Seattle	WA	474 West Lake Samish Drive	LSCS	Active	Non-Metered
296	Dave Pros	1466 Roy Road	Bellingham	WA	1466 Roy Road	LSCS	Active	Non-Metered
297	Linda Pryor	342 Shallow Shore Road	Bellingham	WA	342 Shallow Shore Road	LSCS	Active	Non-Metered
298	Joanne Pulver	1100 13th Street.	Bellingham	WA	559 Cedar Acres	LSCS	Active	Non-Metered
300	Steve & Karen Rainwater	2414 Nulle Road	Bellingham	WA	2414 Nulle Road	LSCS	Active	Non-Metered
302	Charles R. Randall	283 West Lake Samish Drive	Bellingham	WA	283 West Lake Samish Drive	LSCS	Active	Non-Metered
303	William Ranford	106 5th Ave.	New Westminster	BC	598 West Lake Samish Drive	LSCS	Active	Non-Metered
304	Ryan and Tracy Geleyense	593 East Lake Samish Drive	Bellingham	WA	593 East Lake Samish Drive	LSCS	Active	Non-Metered
305	Mona C. Reardon	599 East Lake Samish Drive	Bellingham	WA	599 East Lake Samish Drive	LSCS	Active	Non-Metered
306	Wonja Kin	1411 Roy Road	Bellingham	WA	1411 Roy Road	LSCS	Active	Non-Metered
307	Christina & John C. Reid	47470 Chartwell Drive #20	Chilliwack	BC	596 West Lake Samish Drive	LSCS	Active	Non-Metered
309	Winston J. Renoud	486 West Lake Samish Drive	Bellingham	WA	486 West Lake Samish Drive	LSCS	Active	Non-Metered
310	Winston J. Renoud	486 West Lake Samish Drive	Bellingham	WA	492&1/2 West Lake Samish Drive	LSCS	Active	Non-Metered
311	Lyman Riley	3 Limetree Lane	Palos Verdes Pen.	CA	204 Friday Creek Lane	LSCS	Active	Non-Metered
312	Charles & Jacqueline Rinker	855 West Lake Samish Drive	Bellingham	WA	855 West Lake Samish Drive	LSCS	Active	Non-Metered
313	Michael & Patrice Roberts	681 North Lake Samish Drive	Bellingham	WA	681 North Lake Samish Drive	LSCS	Active	Non-Metered
314	Graham Robins, C/O Colliers Intern	200 Granville Street, 15/F	Vancouver	BC	1434 Roy Road	LSCS	Active	Non-Metered
315	J. Edward & Jill Roe	19314 - 63rd Ave. N.E.	Kenmore	WA	1806 Samish Lane	LSCS	Active	Non-Metered
317	Kenneth & May Rowland	322 Rowland Road	Sedro Woolley	WA	6 Greene Point Road	LSCS	Active	Non-Metered
318	Karl J. Rusch	275 Friday Creek Drive	Bellingham	WA	275 Friday Creek Drive	LSCS	Active	Non-Metered
319	Peter Rynders	563 Cedar Acres	Bellingham	WA	563 Cedar Acres	LSCS	Active	Non-Metered
320	Alice B. Sandin	330 Shallow Shore Road	Bellingham	WA	330 Shallow Shore Road	LSCS	Active	Non-Metered
321	Ivor Satero	141 Minorca Way	Millbrae	CA	2084 Fire Lane Road	LSCS	Active	Non-Metered
322	Darwin Schiffler	858 Autumn Lane	Bellingham	WA	858 Autumn Lane	LSCS	Active	Non-Metered
323	Al Schlemmer	1260 Roy Road	Bellingham	WA	1260 Roy Road	LSCS	Active	Non-Metered
324	Dan L. Schwardt	9006 Baring Way	Everett	WA	834-A Autumn Lane	LSCS	Active	Non-Metered
325	Todd & Karin Schwiesow	613 Summerland Road	Bellingham	WA	613 Summerland Road	LSCS	Active	Non-Metered
326	Tina Schwindt	620 West Lake Samish Drive	Bellingham	WA	620 West Lake Samish Drive	LSCS	Active	Non-Metered
328	Sharon Cody	482 West Lake Samish Drive	Bellingham	WA	482 West Lake Samish Drive	LSCS	Active	Non-Metered
329	Rudolph Sepich	822 Autumn Lane	Bellingham	WA	822 Autumn Lane	LSCS	Active	Non-Metered
330	Fred Sexton	892 North Lake Samish Drive	Bellingham	WA	888 North Lake Samish Drive	LSCS	Active	Non-Metered
331	Fred Sexton	892 North Lake Samish Drive	Bellingham	WA	892 North Lake Samish Drive	LSCS	Active	Non-Metered
332	Robert & Coleen Shimota	294 Shallow Shore Road	Bellingham	WA	294 Shallow Shore Road	LSCS	Active	Non-Metered
333	Robert Shimota	294 Shallow Shore Drive	Bellingham	WA	299 Friday Creek Road	LSCS	Active	Non-Metered
334	Gary Simons	1820 Samish Lane	Bellingham	WA	1820 Samish Lane	LSCS	Active	Non-Metered
335	Hazel Simpson	84250 Indio Springs Drive space #367	Indio	CA	835 East Lake Samish Drive	LSCS	Active	Non-Metered
340	Glen Smith	270 Friday Creek Road	Bellingham	WA	270 Friday Creek Road	LSCS	Active	Non-Metered
341	Joseph & Cong Chong	7231 Belair Drive	Richmond	BC	767 West Lake Samish Drive	LSCS	Active	Non-Metered
342	Richard & Janice Smith	207 Shallow Shore Road	Bellingham	WA	207 Shallow Shore Road	LSCS	Active	Non-Metered
344	Robert F. Smith, MD	618 West Lake Samish Drive	Bellingham	WA	618 West Lake Samish Drive	LSCS	Active	Non-Metered
345	Joe & Margret Soncarty	583 West Lake Samish Drive	Bellingham	WA	583 West Lake Samish Drive	LSCS	Active	Non-Metered
346	Helmut O. Sonnenschein	1268 Roy Road	Bellingham	WA	1268 Roy Road	LSCS	Active	Non-Metered

# SAMISH WATER DISTRICT

Sewer Comprehensive Plan - 2010 Update

Exhibit B-1 Service Connection Listing - Lake Samish Collection System

Prepared by: E.A. Sterling, Wilson Engineering LLC

Date: June 2013

Customer No.	Contact Name	Billing			Service Location		Status	Billing Type
		Address	City	State	Address	System		
347	Frederick Wah Soo	5830 Fremlin Street	Vancouver	BC	838 Autumn Lane	LSCS	Active	Non-Metered
348	Arthur C Soper	5473 Eglinton	Burnaby	BC	955 West Lake Samish Drive	LSCS	Active	Non-Metered
349	Neil Soper	973 Esquimalt Avenue	W. Vancouver	BC	949 West Lake Samish Drive	LSCS	Active	Non-Metered
351	Rita Sproule	1808 Edinburgh Street	New Westminster	BC	1450 Roy Road	LSCS	Active	Non-Metered
352	Ralph St. Andre	802 Autumn Lane	Bellingham	WA	802 Autumn Lane	LSCS	Active	Non-Metered
353	Derick Stebner Stebner Real Estate	1307 Cornwall Ave.	Bellingham	WA	673 North Lake Samish Drive	LSCS	Active	Non-Metered
355	William Stevenson	1840 Dublin Street	New Westminster	BC	729 East Lake Samish Drive	LSCS	Active	Non-Metered
356	Ryan & Patricia Stiles	1000 West Lake Samish Drive	Bellingham	WA	1000 West Lake Samish Drive	LSCS	Active	Non-Metered
357	Ryan & Patricia Stiles	1000 West Lake Samish Drive	Bellingham	WA	1490 Roy Road	LSCS	Active	Non-Metered
358	Paul H. Stoner Stoner Trust	1321 King Street Suite #1 PMB 305	Bellingham	WA	757 North Lake Samish Drive	LSCS	Active	Non-Metered
359	Craig Stoner	737 North Lake Samish Drive	Bellingham	WA	737 North Lake Samish Drive	LSCS	Active	Non-Metered
360	Dan & Lynne Stoner	1321 King Street Suite #1 PMB 305	Bellingham	WA	755 North Lake Samish Drive	LSCS	Active	Non-Metered
361	Colin Lowin	2603 "H" Street	Bellingham	WA	1431 Roy Road	LSCS	Active	Non-Metered
362	Marvin Strenler	1194 Pangborn	Lynden	WA	354 Shallow Shore Road	LSCS	Active	Non-Metered
363	Mike & Linda Sullivan	19 Orchard Road	Tacoma	WA	414 West Lake Samish Drive	LSCS	Active	Non-Metered
364	Robert P. Swan	296 Shallow Shore Road	Bellingham	WA	296 Shallow Shore Road	LSCS	Active	Non-Metered
365	Aloha Swanson	246 Shallow Shore Road	Bellingham	WA	246 Shallow Shore Road	LSCS	Active	Non-Metered
366	James D. & Victoria Hassi	539 Cedar Acres	Bellingham	WA	539 Cedar Acres Road	LSCS	Active	Non-Metered
367	William Tezak	1380 Roy Road	Bellingham	WA	1380 Roy Road	LSCS	Active	Non-Metered
368	John Thibault	1263 Roy Road	Bellingham	WA	1263 Roy Road	LSCS	Active	Non-Metered
369	Stewart & Beverly Thomas	370 Shallow Shore Road	Bellingham	WA	370 Shallow Shore Road	LSCS	Active	Non-Metered
370	Bart Thompson	617 Summerland Road	Bellingham	WA	625 Summerland Road	LSCS	Active	Non-Metered
372	Michael and Sonja Thorpe	815 17th Street	Bellingham	WA	22 Greene Point Road	LSCS	Active	Non-Metered
374	Albert Timmer	1398 Roy Road	Bellingham	WA	1398 Roy Road	LSCS	Active	Non-Metered
375	Paula C. Tiscornia	5646 East Mercer Way	Mercer Island	WA	571 Cedar Acres	LSCS	Active	Non-Metered
376	J. R. Tisdall	1815 C Street, Suite J-35	Bellingham	WA	212 Shallow Shore Road	LSCS	Active	Non-Metered
377	Tolson's Holding, Ltd.	P.O. Box 1464	Blaine	WA	1274 Roy Road	LSCS	Active	Non-Metered
378	Bruce and Kathleen Brown	2222 149th Ave. S.E.	Snohomish	WA	2222 Shallow Shore Lane	LSCS	Active	Non-Metered
380	William Unrein	842 Autumn Lane	Bellingham	WA	842 Autumn Lane	LSCS	Active	Non-Metered
385	Bill Vanderboom, Jr.	1800 Samish Lane	Bellingham	WA	1800 Samish Lane	LSCS	Active	Non-Metered
387	Dawn & Mark Vermeulen	8 Greene Point Road	Bellingham	WA	8 Greene Point Road	LSCS	Active	Non-Metered
388	Judith B. Visser	862 Autumn Lane	Bellingham	WA	862 Autumn Lane	LSCS	Active	Non-Metered
389	Eugene & Janet Vitalich	622-B West Lake Samish Drive	Bellingham	WA	620 West Lake Samish Drive	LSCS	Active	Non-Metered
390	Eugene & Janet Vitalich	622-A West Lake Samish Drive	Bellingham	WA	620 West Lake Samish Drive	LSCS	Active	Non-Metered
391	W.C. Courtney Insurance Agency Ltd	Don Terry 8119 120th Street	Delta	BC	1311 Roy Road	LSCS	Active	Non-Metered
392	Evelyn E. Wade	551 Cedar Acres	Bellingham	WA	551 Cedar Acres	LSCS	Active	Non-Metered
393	Jim Wagner	238 Friday Creek Road	Bellingham	WA	238 Friday Creek Road	LSCS	Active	Non-Metered
397	Suzanne G. Ward	350 West Lake Samish Drive	Bellingham	WA	350 West Lake Samish Drive	LSCS	Active	Non-Metered
398	Harry Warren	711 East Lake Samish Drive	Bellingham	WA	711 East Lake Samish Drive	LSCS	Active	Non-Metered
399	Whatcom County Fire No. 9	P.O. Box 31637	Bellingham	WA	693 West Lake Samish Drive	LSCS	Active	Non-Metered
400	Whatcom County Parks Dept.	3373 Mount Baker Highway	Bellingham	WA	367 East Lake Samish Drive	LSCS	Active	Non-Metered
401	Whatcom County Parks Dept.	3373 Mount Baker Highway	Bellingham	WA	323 East Lake Samish Drive	LSCS	Active	Non-Metered
402	Whatcom County Parks Dept.	3373 Mount Baker Highway	Bellingham	WA	311 East Lake Samish Drive	LSCS	Active	Non-Metered
403	Whatcom County Parks Dept.	3373 Mount Baker Hwy.	Bellingham	WA	673 North Lake Samish Drive Lake Sam	LSCS	Active	1
404	C. Jean Weber	1636 W. 65th Ave.	Vancouver	BC	831 East Lake Samish Drive	LSCS	Active	Non-Metered
405	Bill & Dawn Wefer	863 East Lake Samish Drive	Bellingham	WA	863 East Lake Samish Drive	LSCS	Active	Non-Metered
406	Fred W. Wefer, Jr.	867 East Lake Samish Drive	Bellingham	WA	867 East Lake Samish Drive	LSCS	Active	Non-Metered
407	Norman & Lorita Wefer	847 East Lake Samish Drive	Bellingham	WA	847 East Lake Samish Drive	LSCS	Active	Non-Metered
408	Winton Wefer	843 East Lake Samish Drive	Bellingham	WA	843 East Lake Samish Drive	LSCS	Active	Non-Metered
409	Shane G. Wefer	254 Friday Creek Road	Bellingham	WA	254 Friday Creek Road	LSCS	Active	Non-Metered
411	Roger Werger	20260 - 123 Avenue	Maple Ridge	BC	520 West Lake Samish Drive	LSCS	Active	Non-Metered
412	Michael & Teresa Werner	947 West Lake Samish Drive	Bellingham	WA	947 West Lake Samish Drive	LSCS	Active	Non-Metered
413	Steven R. Werner	679 North Lake Samish Drive	Bellingham	WA	679 North Lake Samish Drive	LSCS	Active	Non-Metered
416	Richard O. White	778 North Lake Samish Drive	Bellingham	WA	778 North Lake Samish Drive	LSCS	Active	Non-Metered
417	R. O. White	2611 West Crestline Drive	Bellingham	WA	1304 Roy Road	LSCS	Active	Non-Metered
418	Donald G. Whitener	1430 Roy Road	Bellingham	WA	1430 Roy Road	LSCS	Active	Non-Metered
419	Dale A. Whitney	451 East Lake Samish Drive	Bellingham	WA	451 East Lake Samish Drive	LSCS	Active	Non-Metered
420	Mary M. Whitten	11197 Via Vista	Nevada	CA	1278 Roy Road	LSCS	Active	Non-Metered
421	Fern Wibbens	781 West Lake Samish Drive	Bellingham	WA	781 West Lake Samish Drive	LSCS	Active	Non-Metered
422	Fern Wibbens	781 West Lake Samish Drive	Bellingham	WA	791 West Lake Samish Drive	LSCS	Active	Non-Metered
424	Doug Wight	780 Autumn Lane	Bellingham	WA	780 Autumn Lane	LSCS	Active	Non-Metered
425	Anita Witala	3202 206th Pl. S.W.	Lynnwood	WA	344 West Lake Samish Drive	LSCS	Active	Non-Metered
427	James & Rebecca Willson	921 West Lake Samish Drive	Bellingham	WA	921 West Lake Samish Drive	LSCS	Active	Non-Metered
428	Robert & Gillian Wilson	6527 Maple	Vancouver	BC	541 Cedar Acres	LSCS	Active	Non-Metered
429	Thomas Wold	1414 Roy Road	Bellingham	WA	1414 Roy Road	LSCS	Active	Non-Metered
430	Gary & Cheryl Wood	13276 - 20A Avenue	White Rock	BC	874 Autumn Lane	LSCS	Active	Non-Metered
434	Phillip & Delores Zimmerman	989 West Lake Samish Drive	Bellingham	WA	989 West Lake Samish Drive	LSCS	Active	Non-Metered
435	Joseph Zlotek	1254 Roy Road	Bellingham	WA	1254 Roy Road	LSCS	Active	Non-Metered
436	Laurence Parker	871 East Lake Samish Drive	Bellingham	WA	871 East Lake Samish Drive	LSCS	Active	Non-Metered
437	David and Kate Mauro	16 Greene Point Road	Bellingham	WA	16 Greene Point Road	LSCS	Active	Non-Metered
438	Robert Jarvis	792 Shaw Road	Bellingham	WA	1489 Lake Samish Road	LSCS	Active	Non-Metered
439	Donald and Mary Anderson	5914 Alameda Way W.	University Place	WA	18 Greene Point Road	LSCS	Active	Non-Metered
440	Michael Witala	3202 206th Place S.W.	Lynnwood	WA	351 West Lake Samish Drive	LSCS	Active	Non-Metered
442	Doug Nesbit	211 Friday Creek Road	Bellingham	WA	206 Friday Creek Road	LSCS	Active	Non-Metered
443	Anne Quigley	375 West Lake Samish Drive	Bellingham	WA	375 West Lake Samish Drive	LSCS	Active	Non-Metered

**SAMISH WATER DISTRICT**

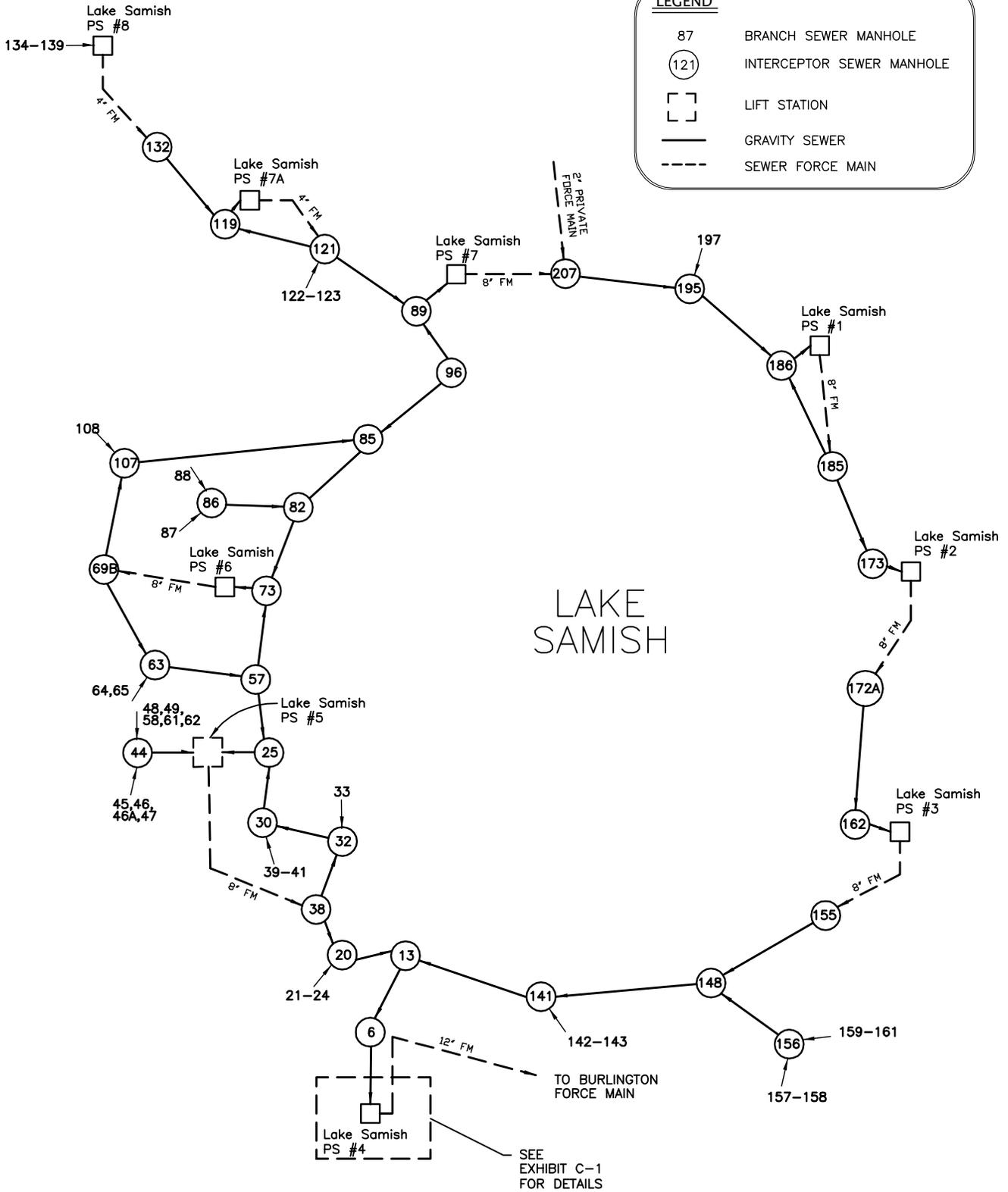
Sewer Comprehensive Plan - 2010 Update

Exhibit B-1 Service Connection Listing - Lake Samish Collection System

Prepared by: E.A. Sterling, Wilson Engineering LLC

Date: June 2013

Customer No.	Contact Name	Billing			Service Location		Status	Billing Type
		Address	City	State	Address	System		
446	Michael & Janis Knapp	P.O. Box 1685	Bellingham	WA	592 West Lake Samish Drive	LSCS	Active	Non-Metered
448	J.R. Tisdall	1815 "C" Street Suite J-35	Bellingham	WA	210 Shallow Shore Road	LSCS	Active	Non-Metered
452	Dennis Morgan	204 Shallow Shore Road	Bellingham	WA	204 Shallow Shore Road	LSCS	Active	Non-Metered
453	Tanya Roughead	808 Signal Court	Cocquiltam	BC	554 West Lake Samish Drive	LSCS	Active	Non-Metered
454	Lloyd W. Born	923 West Lake Samish Drive	Bellingham	WA	923 West Lake Samish Drive	LSCS	Active	Non-Metered
455	Carl E. Nims	853 West Lake Samish Drive	Bellingham	WA	853 West Lake Samish Drive	LSCS	Active	Non-Metered
456	Michael P & Gillian E. Brook	3606 22nd Street S.E.	Puyallup	WA	491 West Lake Samish Drive	LSCS	Active	Non-Metered
457	Michael P & Gillian E. Brook	3606 22nd Street S.E.	Puyallup	WA	497 West Lake Samish Drive	LSCS	Active	Non-Metered
464	Bruce Gustafson	729 North Lake Samish Drive	Bellingham	WA	729 North Lake Samish Drive	LSCS	Active	Non-Metered
465	Elsie English	841 Nevada Street	Bellingham	WA	1295 Roy Road	LSCS	Active	Non-Metered
466	Gene & Bryce Asay	P.O. Box 31985	Bellingham	WA	920 Finney Creek Lane	LSCS	Active	Non-Metered
467	Dennis a& Pamela Wilson	1809 Prescott Lane	Bellingham	WA	1809 Prescott Lane	LSCS	Active	Non-Metered
468	Stephen F. Austin	239 Shallow Shore Road	Bellingham	WA	239 Shallow Shore Road	LSCS	Active	Non-Metered
469	Nordco Group	P.O. Box 37	Bow	WA	500 West Lake Samish Drive	LSCS	Active	Non-Metered
471	Chris Renoud	1101 McKenzie Ave. Unit 307	Bellingham	WA	492 1/2 West Lake Samish Drive	LSCS	Active	Non-Metered
474	Jason & Cara Lind	940 Finney Creek Lane	Bellingham	WA	940 Finney Creek Lane	LSCS	Active	Non-Metered
480	Shekinah & Tina Aven	1798 Prescott Lane	Bellingham	WA	1798 Prescott Lane	LSCS	Active	Non-Metered
483	Nathan & Melissa Cornelsen	930 East Lake Samish Drive	Bellingham	WA	930 East Lake Samish Drive	LSCS	Active	Non-Metered
486	Christopher & Cynthia Fellows	8420 S.E. 71st Street	Mercer Island	WA	563 Cedar Acres Road	LSCS	Active	Non-Metered
489	Scott & Corrine Davis	334 West Lake Samish Drive	Bellingham	WA	334 West Lake Samish Drive	LSCS	Active	Non-Metered
490	Brad & Jean Imus	873 West Lake Samish Drive	Bellingham	WA	873 West Lake Samish Drive	LSCS	Active	Non-Metered
492	Mark Gauvin	2168 Meadowood Park	Burnaby	BC	665 East Lake Samish Drive	LSCS	Active	Non-Metered
494	Christian & Kari Glennon	1820 Prescott Lane	Bellingham	WA	1820 Prescott Lane	LSCS	Active	Non-Metered
505	Timofey Odushkin	1293 Roy Road	Bellingham	WA	1293 Roy Road	LSCS	Active	Non-Metered
511	Douglas & Bridgetta Malquist	460 Summerland Road	Bellingham	WA	460 Summerland Road	LSCS	Active	Non-Metered
514	Jeff Alton	1110 Ellis Street	Bellingham	WA	203 East Lake Samish Drive	LSCS	Active	Non-Metered
515	Jeff Hunt	460 West Lake Samish Drive	Bellingham	WA	458 West Lake Samish Drive	LSCS	Active	Non-Metered
518	Victoria Hassi	546 Cedar Acres Road	Bellingham	WA	546 Cedar Acres Road	LSCS	Active	Non-Metered



**SAMISH WATER DISTRICT –  
SCHEMATIC OF LAKE SAMISH COLLECTION SYSTEM**  
NOT TO SCALE

NO.	REVISIONS	BY	DATE

WILSON ENGINEERING, LLC  
 805 DUPONT STREET  
 BELLINGHAM, WA 98225  
 (360) 733-6100 • FAX (360) 647-9061  
 www.wilsonengineering.com

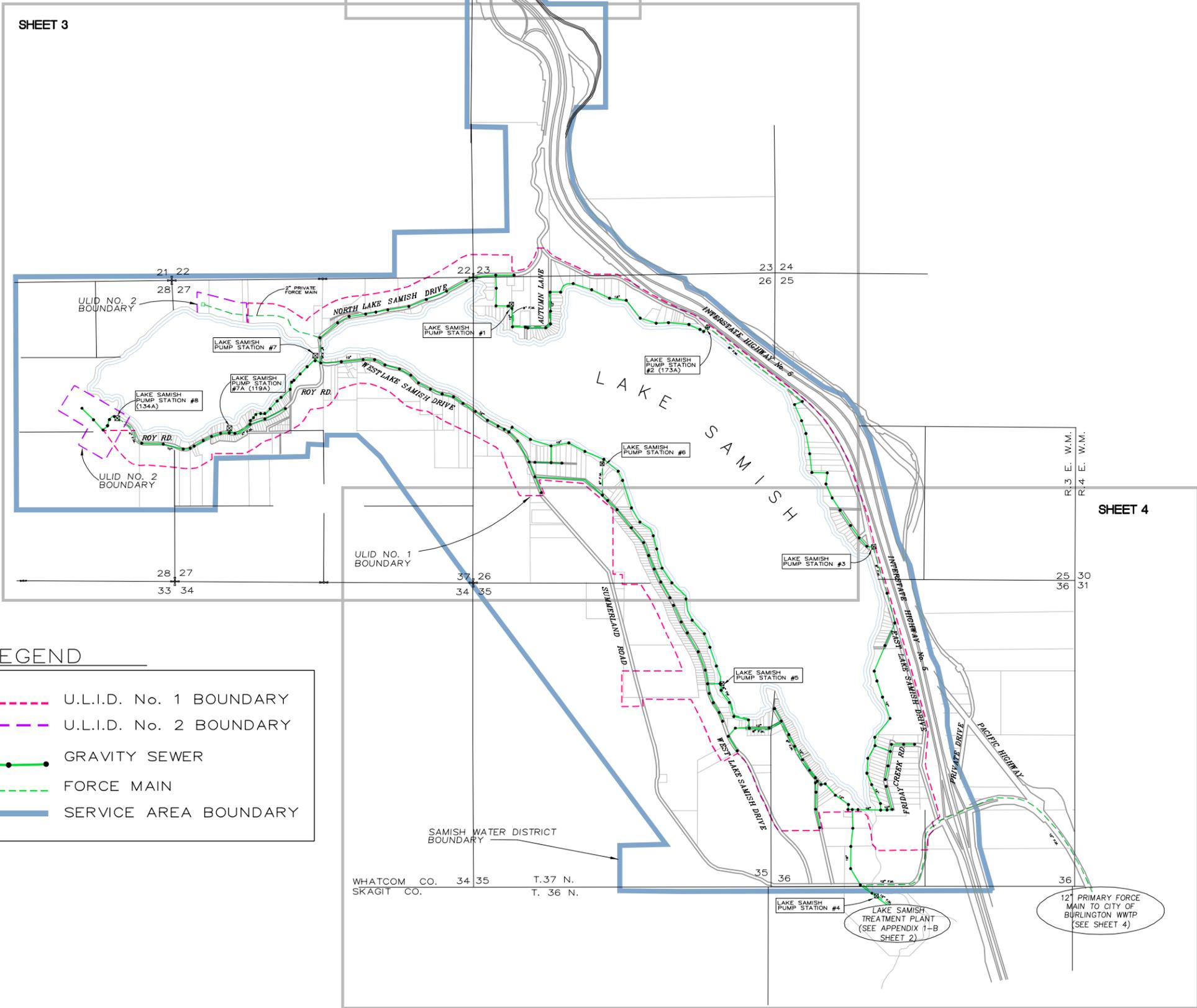
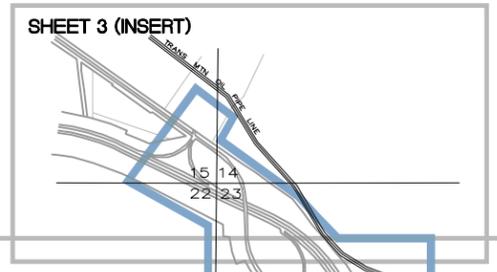


**LAKE SAMISH TRUNK SEWERS**

WEST LAKE SAMISH					
SECTION	LENGTH (LF)	DIAMETER	GRAVITY/FORCE	MINIMUM SLOPE (GM)	CAPACITY (GPM)
MH96 TO MH85	2084	12-INCH	GM	0.0024	3525
MH85 TO MH82	787	12-INCH	GM	0.0030	3525
MH86 TO MH82	259	8-INCH	GM	0.0849	1567
MH82 TO MH73(PS#6)	937	12-INCH	GM	0.0030	3525
PS#6(MH73) TO MH69B	570	8-INCH	FM	NA	600
MH69B TO MH107	680	10-INCH	GM	0.0075	924
MH107 TO MH85	898	8-INCH	GM	0.0220	1567
MH69B TO MH63	1584	10-INCH	GM	0.0080	2448
MH63 TO MH57	117	10-INCH	GM	0.1487	2448
MH57 TO MH73	2202	12-INCH	GM	0.0030	3525
MH57 TO MH25(PS#5)	2331	12-INCH	GM	0.0030	3525
MH44 TO MH25(PS#5)	129	8-INCH	GM	0.0000	1567
PS#5(MH25) TO MH38	2834	8-INCH	FM	NA	600
MH38 TO MH32	1038	12-INCH	GM	0.0030	3525
MH32 TO MH30	601	12-INCH	GM	0.0030	3525
MH30 TO MH25	1167	12-INCH	GM	0.0030	3525
MH38 TO MH22	224	8-INCH	GM	0.0491	1305
MH22 TO MH24	630	8-INCH	GM	0.0055	436
MH38 TO MH13	927	12-INCH	GM	0.0030	3525

EAST LAKE SAMISH					
SECTION	LENGTH (LF)	DIAMETER	GRAVITY/FORCE	MINIMUM SLOPE (GM)	CAPACITY (GPM)
PS#8 TO MH132	618	4-INCH	FM	NA	150
MH132 TO MH119	1644	10-INCH	GM	0.0026	2448
MH119 TO PS#7A	30	10-INCH	GM	0.0113	2448
PS#7A TO MH121	430	4-INCH	FM	NA	150
MH121 TO MH119	432	8-IN. & 10-IN.	GM	0.0115	1567 (MIN)
MH121 TO MH89	1418	10-INCH	GM	0.0056	799
MH96 TO MH89	1695	12-INCH	GM	0.0025	3525
MH89 TO PS#7	36	12-INCH	GM	0.0190	3525
PS#7 TO MH207	409	8-INCH	FM	NA	600
MH207 TO MH195	3335	12-INCH	GM	0.0030	3525
MH195 TO MH186	821	12-INCH	GM	0.0030	3525
MH186 TO PS#1	35	12-INCH	GM	0.0030	3525
PS#1 TO MH185	1830	8-INCH	FM	NA	900
MH185 TO MH186	1593	12-INCH	GM	0.0030	3525
MH185 TO MH173(PS#2)	2909	12-INCH	GM	0.0025	3525
PS#2(MH173) TO MH172A	2415	8-IN. & 10-IN.	FM	NA	600
MH172A TO MH162	3223	12-INCH	GM	0.0024	3525
MH162 TO PS#3	35	12-INCH	GM	0.0290	3525
PS#3 TO MH155	1434	8-INCH	FM	NA	635
MH155 TO MH148	2291	12-INCH	GM	0.0025	3525
MH156 TO MH148	266	8-INCH	GM	0.0620	1567
MH148 TO MH141	1152	12-INCH	GM	0.0025	3525
MH141 TO MH13	435	16-INCH	GM	0.0020	6267

COMBINED TO PS#4					
SECTION	LENGTH (LF)	DIAMETER	GRAVITY/FORCE	MINIMUM SLOPE (GM)	CAPACITY (GPM)
MH13 TO MH6	1338	18-INCH	GM	0.0020	7931
MH6 TO PS#4	150	18-INCH	GM	0.0079	7931



**LEGEND**

- - - U.L.I.D. No. 1 BOUNDARY
- - - U.L.I.D. No. 2 BOUNDARY
- GRAVITY SEWER
- - - FORCE MAIN
- SERVICE AREA BOUNDARY

N

1000 0 1000 2000  
SCALE FEET

DESIGNED BY: EAS  
 DRAWN BY: EAS/JIT  
 CHECKED BY: [ ]

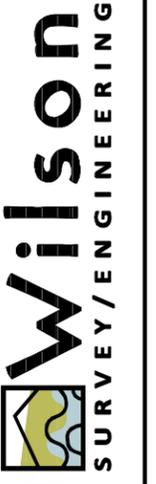
**SAMISH WATER DISTRICT**  
 EXHIBIT B-2 - SYSTEM MAPS  
 SEWER FACILITIES WITHIN THE LAKE SAMISH COLLECTION SYSTEM

DATE: JUNE 2013  
 SCALE: AS SHOWN  
 JOB NUMBER: 2009-008

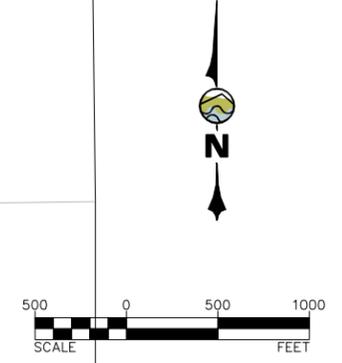
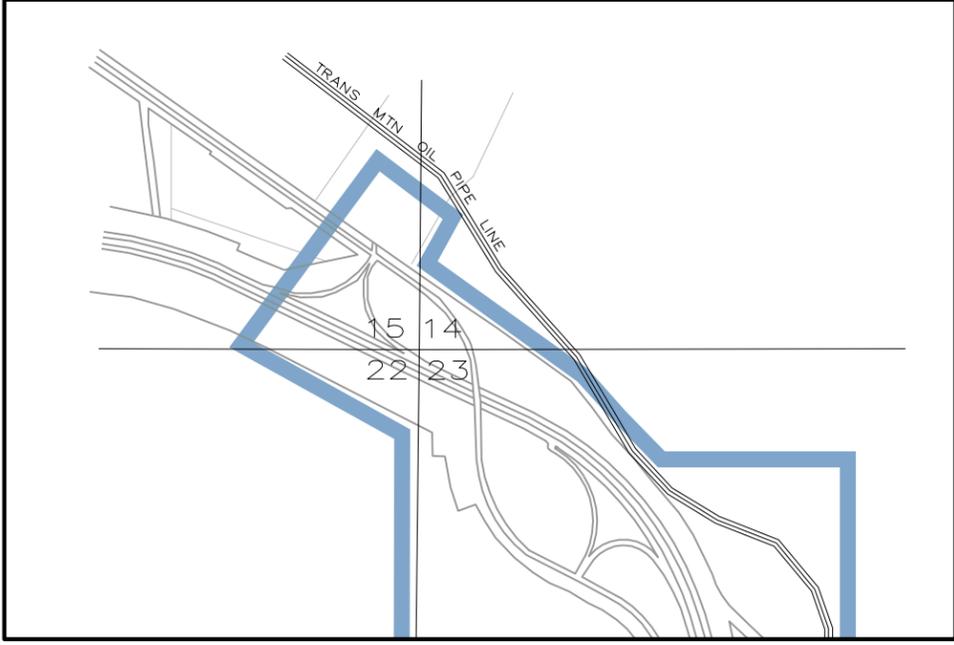
SHEET 2 OF 4

NO.	REVISIONS	BY	DATE

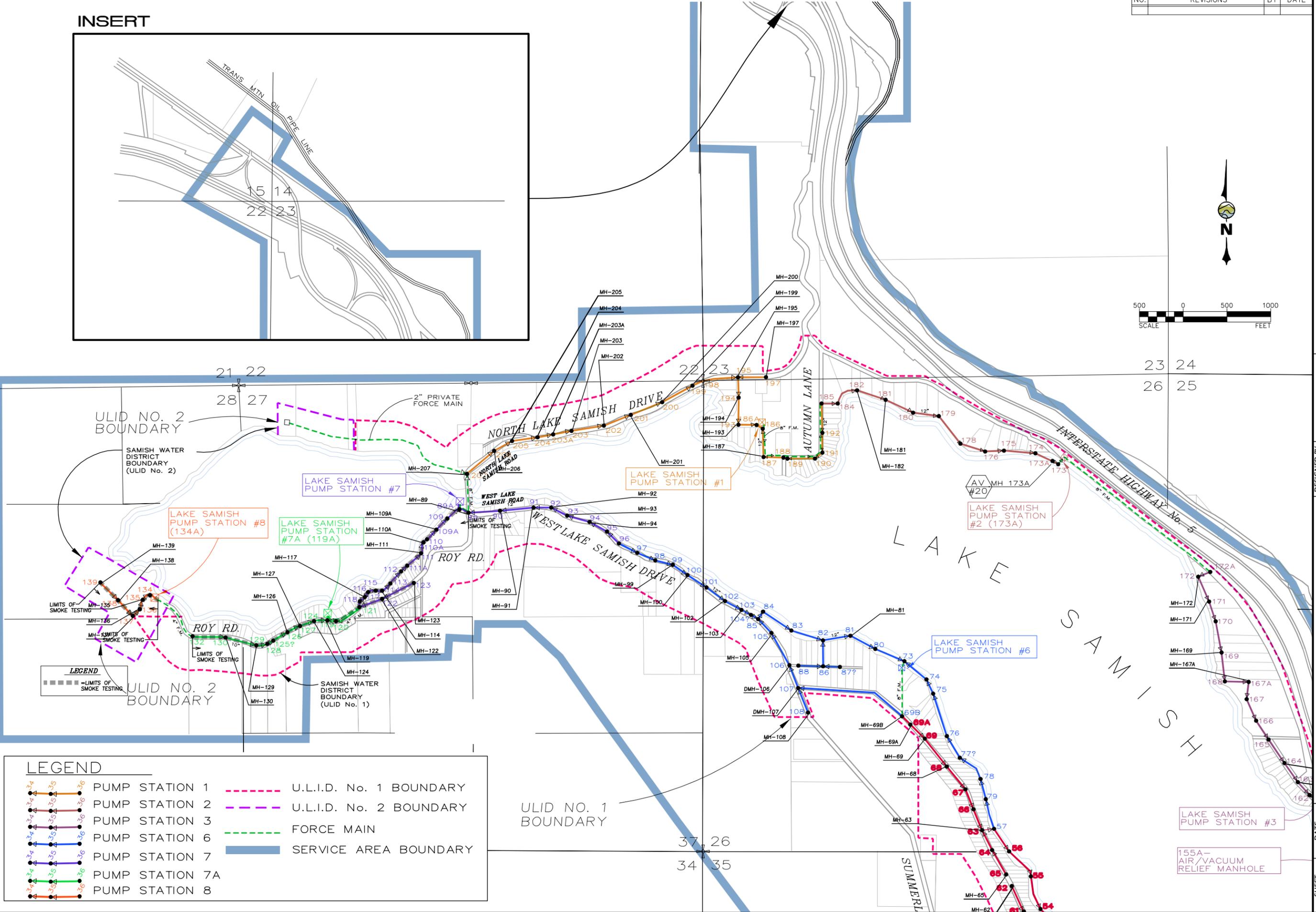
WILSON ENGINEERING, LLC  
 805 DUPONT STREET  
 BELLINGHAM, WA 98225  
 (360) 733-6100 • FAX (360) 647-9061  
 www.wilsonengineering.com



INSERT



W:\2010\2010-014 SWD Sewer Comp Plan - 2010 Update\Exhibits\Exhibit B - Lake Samish Collection System\2010-014 Exhibit B-2 SH-3-4.dwg, 6/25/2013 9:48:03 AM, AcroPlot.pc3, RDN



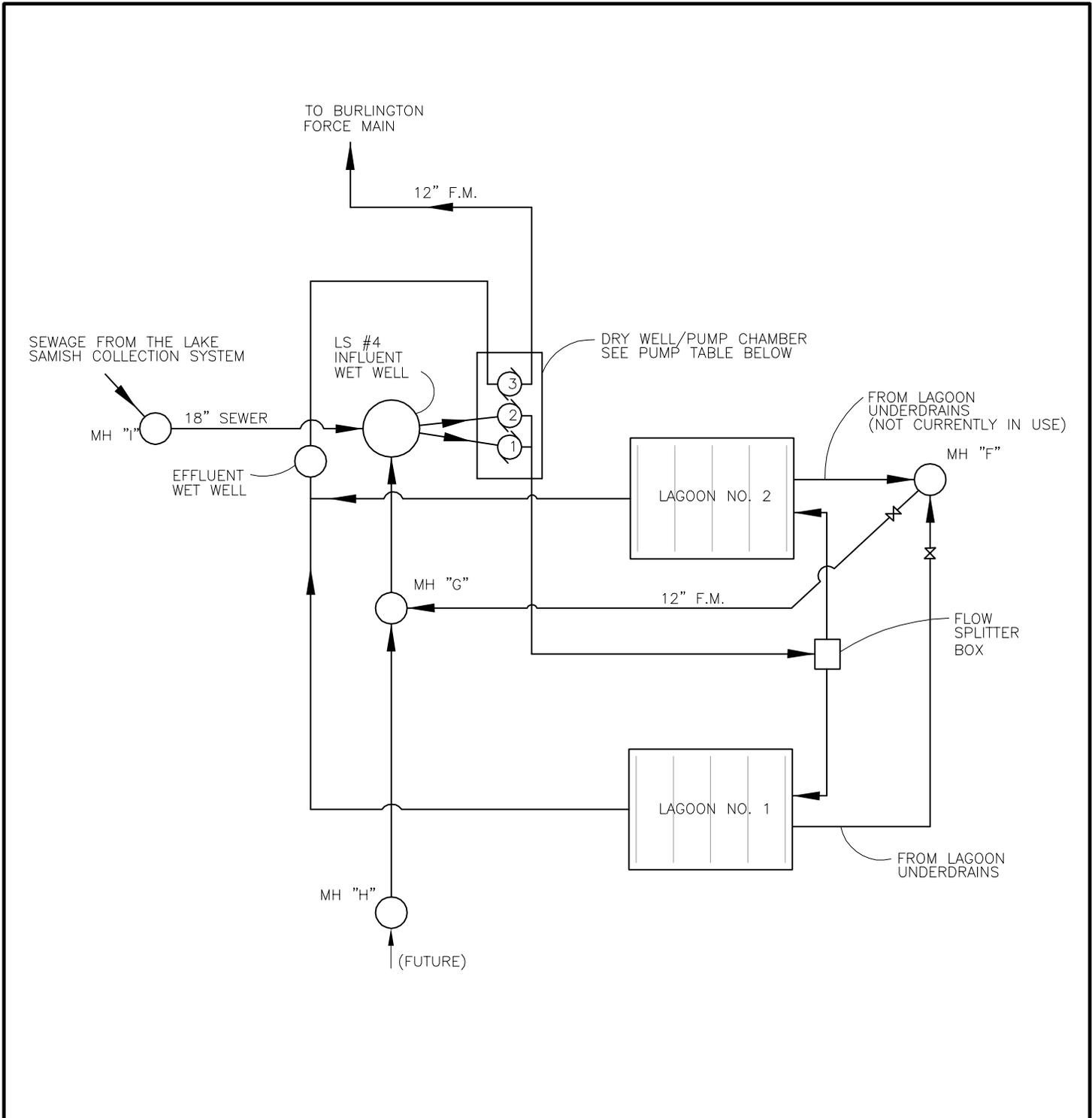
**LEGEND**  
 - - - - - LIMITS OF SMOKE TESTING

Symbol	Description
	PUMP STATION 1
	PUMP STATION 2
	PUMP STATION 3
	PUMP STATION 6
	PUMP STATION 7
	PUMP STATION 7A
	PUMP STATION 8
	U.L.I.D. No. 1 BOUNDARY
	U.L.I.D. No. 2 BOUNDARY
	FORCE MAIN
	SERVICE AREA BOUNDARY

DESIGNED BY	EAS
DRAWN BY	EAS/JT
CHECKED BY	
<b>SAMISH WATER DISTRICT</b>	
WASHINGTON COUNTY	
<b>EXHIBIT B-2 - SYSTEM MAPS</b>	
<b>SEWER FACILITIES WITHIN THE LAKE</b>	
<b>SAMISH COLLECTION SYSTEM</b>	
DATE	JUNE 2013
SCALE	AS SHOWN
JOB NUMBER	2010-014
SHEET	3 OF 4



**Exhibit C - Lake Samish Lagoon Treatment Plant**



**SAMISH WATER DISTRICT – SCHEMATIC FLOW DIAGRAM OF THE LAKE SAMISH TREATMENT PLANT FACILITIES**

NOT TO SCALE



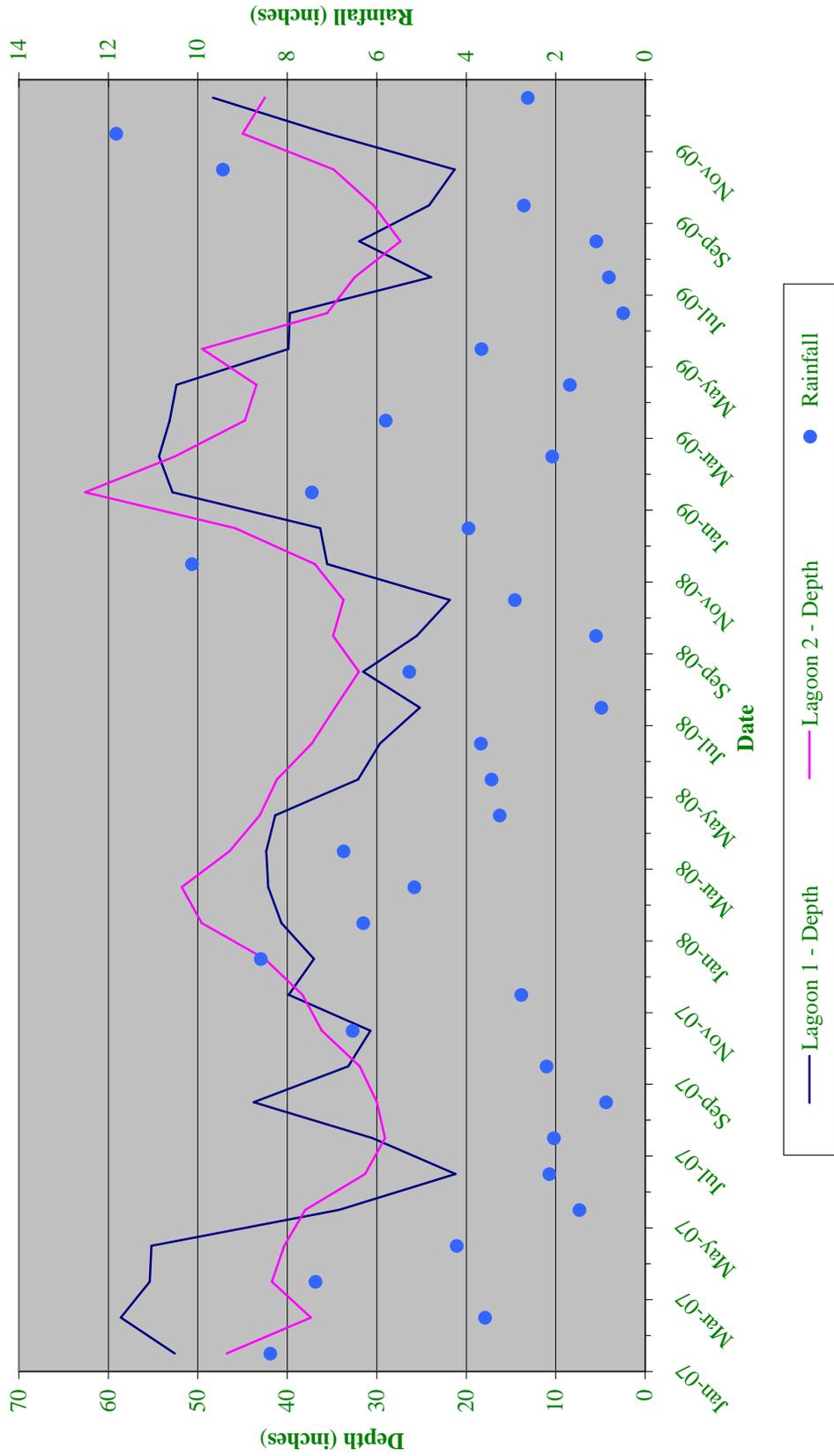
**Wilson**  
SURVEY/ENGINEERING

WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

<p><b>SAMISH WATER DISTRICT</b></p> <p>WHATCOM COUNTY WASHINGTON</p>		DATE	SHEET
		JUNE 2013	1
<p>EXHIBIT C-1</p> <p>SCHEMATIC OF SEWER FACILITIES WITHIN THE LAKE SAMISH COLLECTION SYSTEM</p>		SCALE	OF
		NONE	1
JOB NUMBER		2010-014	

**SAMISH WATER DISTRICT  
EXHIBIT C-2  
AVERAGE MONTHLY TREATMENT LAGOON DEPTHS AND TOTAL MONTHLY RAINFALL**

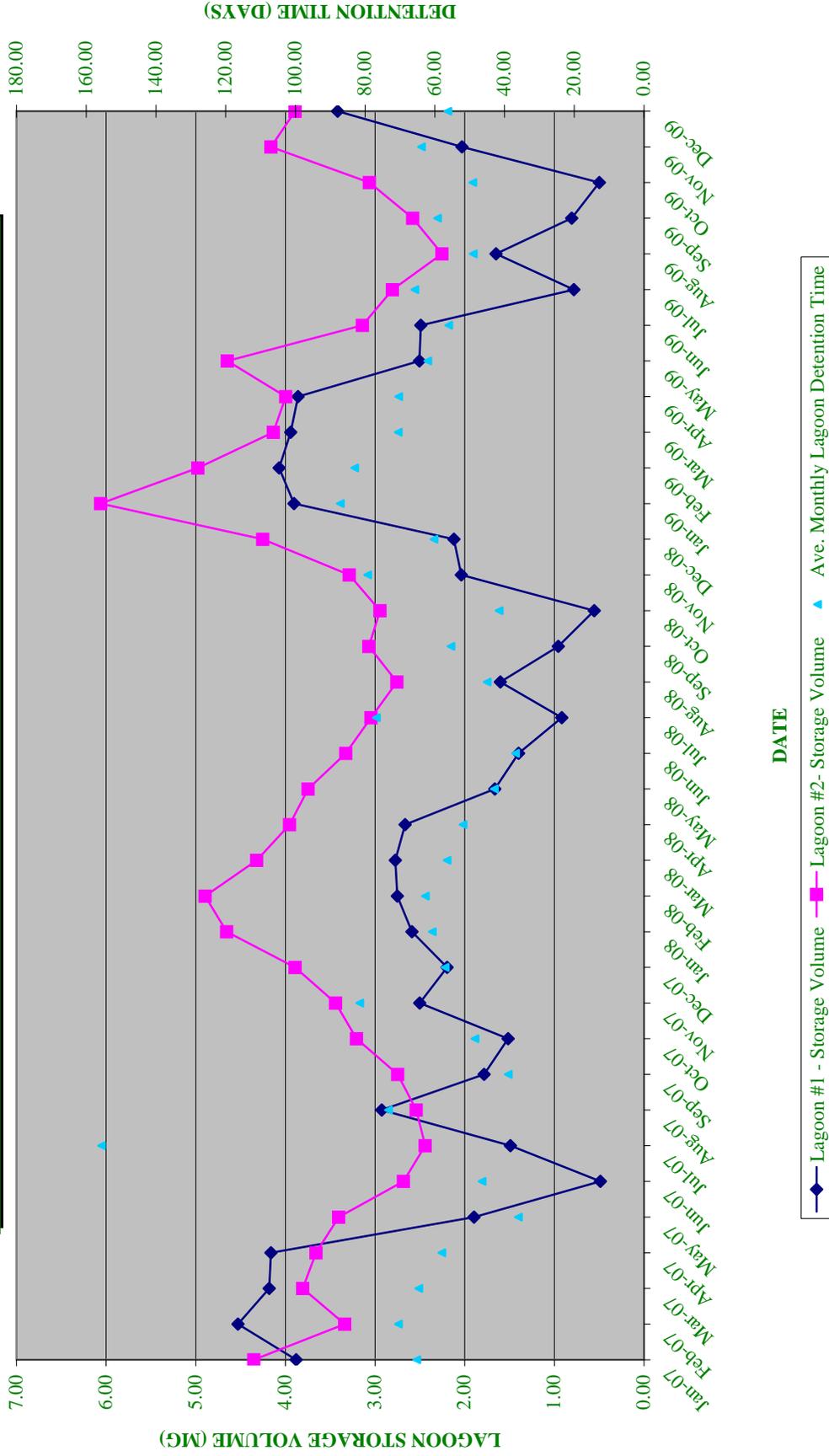
January 2007 through December 2009



**SAMISH WATER DISTRICT  
EXHIBIT C-3**

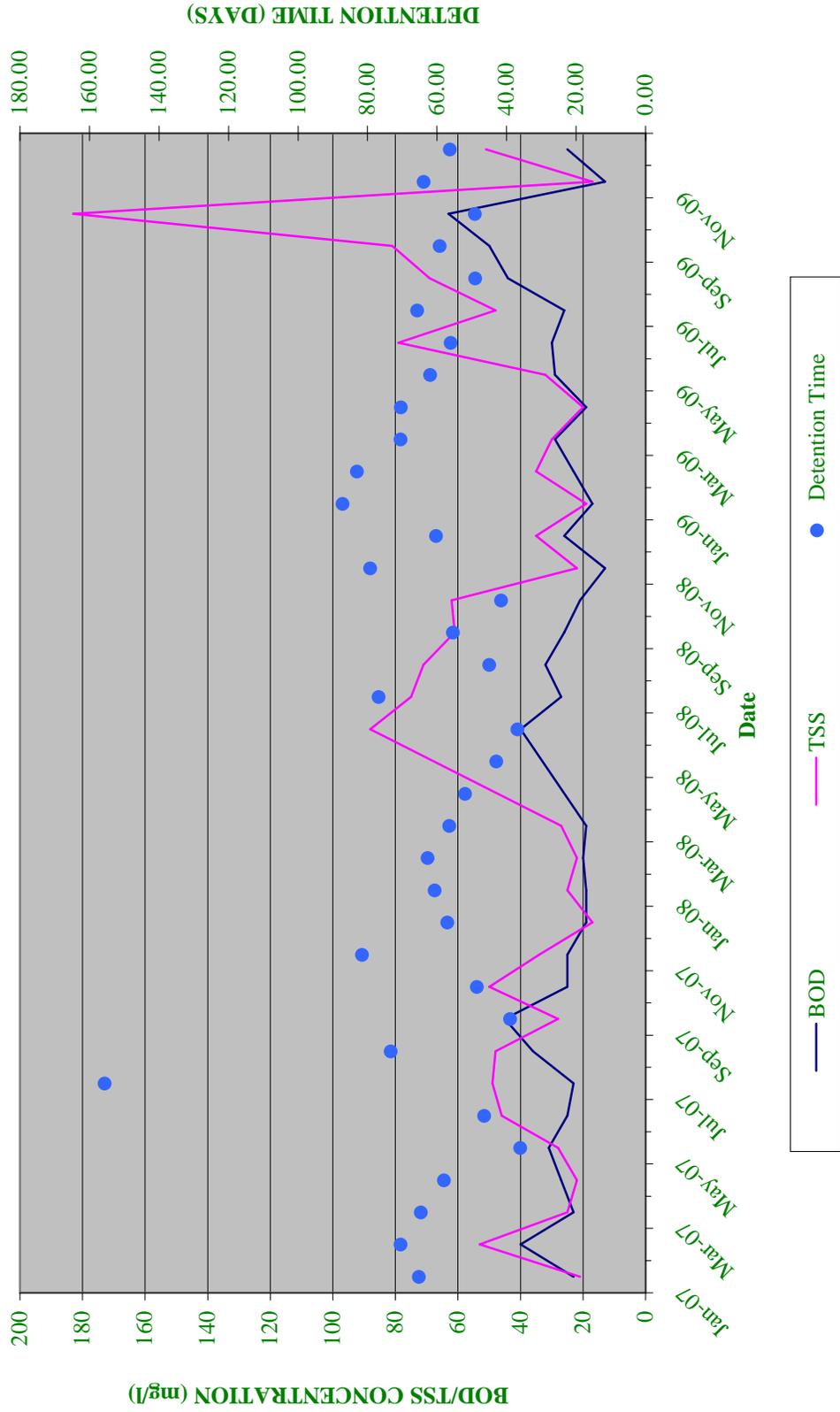
**AVERAGE MONTHLY TREATMENT LAGOON STORAGE VOLUMES AND DETENTION TIMES**

January 2007 through December 2009

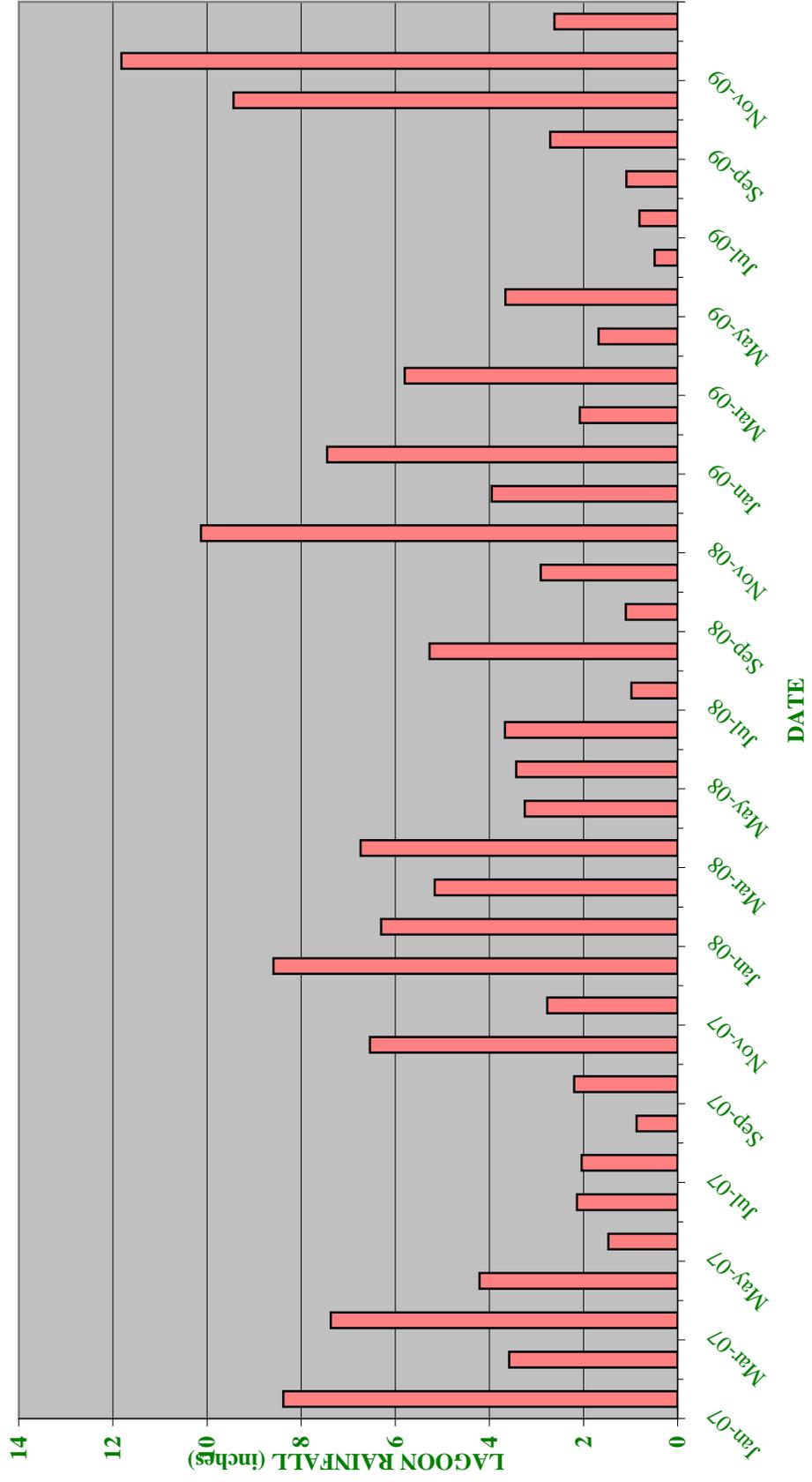


**SAMISH WATER DISTRICT  
EXHIBIT C-4**

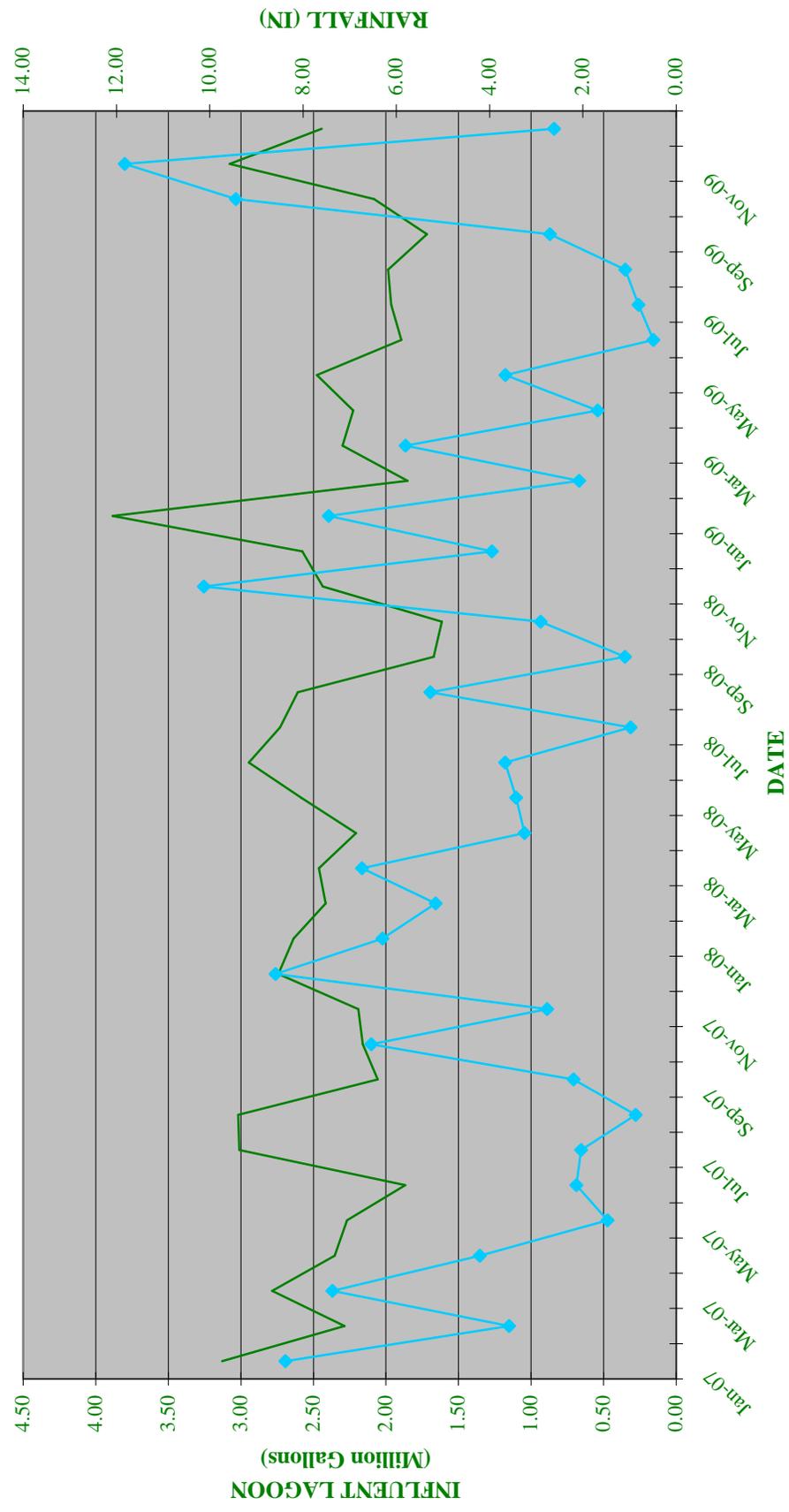
**AVERAGE MONTHLY TREATMENT LAGOON BOD, TSS AND DETENTION TIMES**  
January 2007 through December 2009



**SAMISH WATER DISTRICT**  
**EXHIBIT C-5**  
**TOTAL MONTHLY RAINFALL @ THE LAKE SAMISH LAGOON TREATMENT PLANT**  
 January 2007 through December 2009



**SAMISH WATER DISTRICT**  
**EXHIBIT C-6**  
**TOTAL MONTHLY INFLUENT FLOW TO THE LAGOONS AND TOTAL MONTHLY RAINFALL**  
 January 2007 through December 2009



— Lagoons - Influent Flow ◆ Rainfall

# SAMISH WATER DISTRICT WASTEWATER TREATMENT LAGOONS

evaluation by  
**ROBERT THODE, MES**  
**FIRE MOUNTAIN FARMS, Inc.**

**Project Scope:** Evaluate wastewater treatment lagoons for Samish Water District. Determine quantity and quality of sludge blanket in lagoons. Make recommendations as to current or future need to remove biosolids from lagoons.

**Date of evaluation:** May 29<sup>th</sup> 2009

**Basic Site Information:** Wastewater treatment lagoons are located at 2195 Nulle Road, Bellingham, Washington. There are two lagoons of more or less equal size. For the purposes of this report they are referred to as West lagoon and East lagoon, attached aerial photo shows they are not aligned true east west but one is more west than the other.

**Lagoon Cells:** Dimensions of the lagoon cells were approximately 600 ft. X 250 ft. with an average water depth of 35 inches in the West Lagoon and 46.5 inches in the East Lagoon. These are unlined earthen lagoons, (at least no visible membrane liner), constructed in the '70s and have not been cleaned out since put into service. There was no visible erosion or indications of compromised integrity of lagoon. Bottom of lagoon cells were solid and appeared to be relatively flat.

Information provided by operator was that lagoon cells operated in parallel with inflow split between cells equally. Based on sludge blanket depths, it would appear that this was not always the case as the West Lagoon has a much higher volume of sludge.

**West cell data:** Depth measurements were taken with a "sludge judge" at 25 locations. Sludge blanket percent solids was below the point that our "plate depth" unit would not work. Plate depth unit is our preferred method of determining blanket depth but sludge must be of a consistency that a one foot square plate will sit on top of the sludge. Depths ranged from 12 inches to 20 inches with an average of 16.7 inches. Samples were taken for lab analysis, four for Fecal Col., one composite for "503" metals and one composite for VARS. Average percent solids for this lagoon was 1.43%. Estimated dry tons in cell is 110.

**East cell data:** Depth measurements were taken with a "sludge judge" at 26 locations. Sludge blanket depths ranged from 3 inches to 9 inches with an average of 6.5 inches. Samples were taken for lab analysis, four for fecal Col., one composite for "503" metals and one composite for VARS. Average percent solids for this lagoon was 1.81%. Estimated dry tons in cell is 54

**Analytical Results Evaluation:** All results from lab analysis indicate that sludge blanket in lagoons meets class B biosolids standards for land application. Analytical lab results are attached for review.

There are three general areas that need to be met for biosolids to be land applied, pathogen reduction, potential pollutants and vector attraction reduction standard. Both lagoons were well within the pathogen limit of 2,000,000 CFU per dry gram and could be land applied without taking out of service. Potential pollutants ("503" metals) met table 3 limits. Table 3 is more stringent than table 1, which can still be land applied but with more restrictions. The only metal level that should be of concern to the water district is copper. Copper levels were 955 and 1270 for the two lagoons with the table 3 maximum 1500. If table 3 levels are exceeded the cost of disposal will increase greatly. The most likely source of copper in the waste stream is from copper pipes. Erosion of copper pipes increases if domestic water is not pH balanced. Sludge samples also easily passed VARS.

Prior to lagoon clean-out a sampling plan will need to be submitted to Department of Ecology and approved. Timing of sampling before land application is important as VARS testing takes about six weeks to get results so must be done early and the pathogen testing must be within 30 days of land application. Also nutrient data would be needed prior to land application.

**General Recommendations:** At this time it does not appear that a clean-out is needed in either cell. The east cell does not have sufficient depth of sludge blanket to be able to dredge effectively. The west cell could be dredged but cost per dry ton would be very high due to the low solids content of the blanket. Normal sludge blankets will be from 6 to 10 percent solids, the west cell was 1.43% and the east 1.81%. This would indicate that the holding/storage capacity of the lagoon is much greater than what is now in place. Unless there are problems meeting discharge limits, or other factors that I am unaware of, a clean-out at this time would not be necessary or economical.

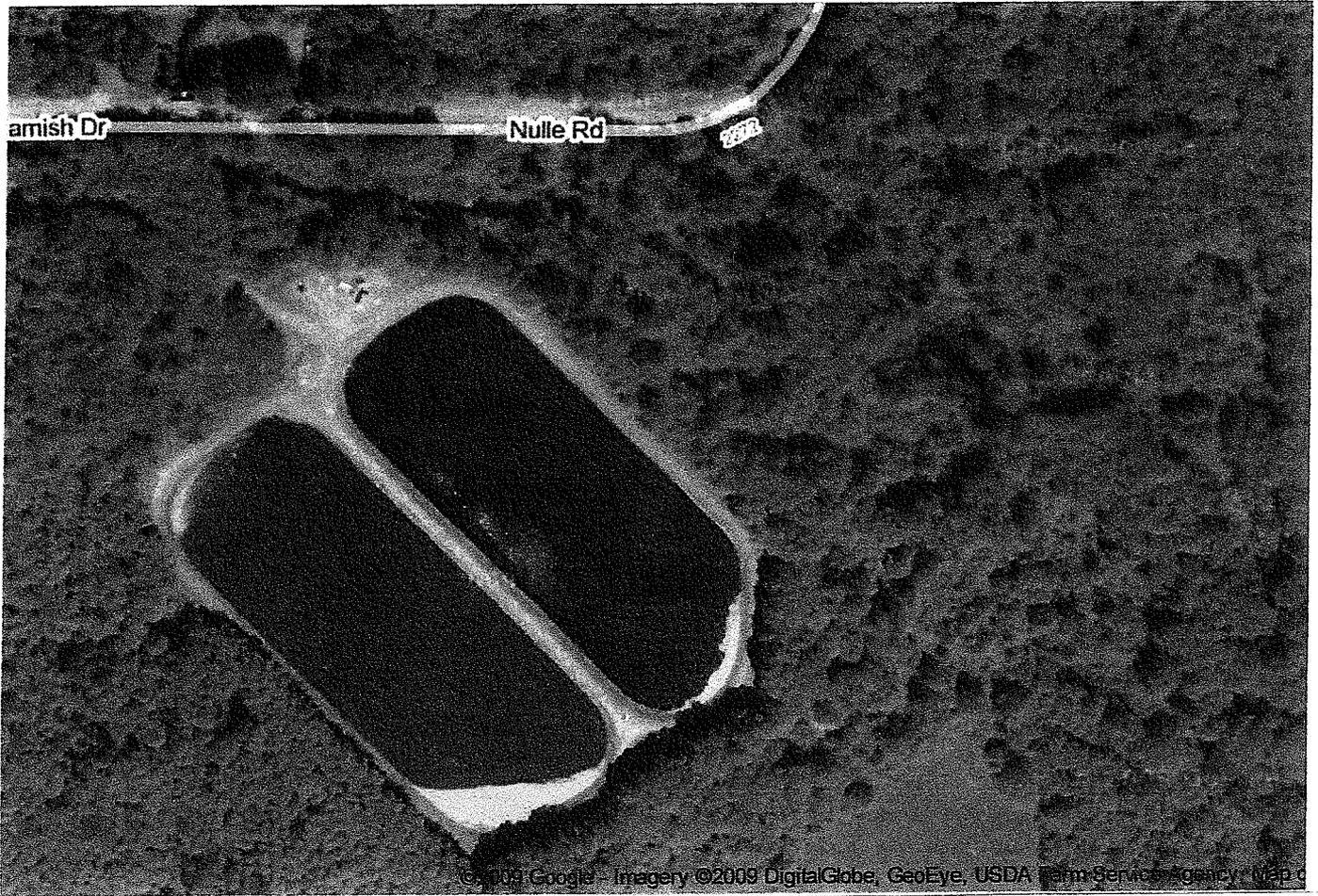
The only operational change I might suggest is that inflow be directed more into the East Lagoon so that sludge blanket depths equalize. Over twice as much solids are currently in the west cell indicating that it has been doing the majority of the treatment.

When the district decides it is time to clean-out the lagoon preplanning can reduce the cost significantly. The greatest cost savings would be in finding a local site and permitting it for biosolids. We could permit a site under our statewide coverage or the district could permit themselves. If a site is located within 20 miles biosolids could be dredged and then hauled out as liquid at considerably less than the cost of de-watering and shipping over the mountains. District will also need to seek coverage under the "Statewide Biosolids Management Plan" even if they are not doing the land application themselves. This is an easy thing to do but if it is not done early it could delay project due to SEPA and public notice requirements.

Continued monitoring of lagoon contents is recommended. Once annually the lagoon should be checked for depth of sludge blanket. This could be done easily by the operator with a sludge judge. Samples could be taken at the same time and checked for "503" metals to insure that copper contents are not increasing.

One last recommendation is to plan for the cost of dredging and land application now. Every year an amount should be set aside to pay for biosolids management when the time arises.

**SAMISH WATER DISTRICT  
WASTEWATER TREATMENT LAGOONS**



Exit 242 off of I-5, West on Nulle Road to site



Burlington WA 1620 S Walnut St - 98233  
 Corporate Office 800.755.9295 • 360.757.1400 • 360.757.1402fax  
 Bellingham WA 805 Orchard Dr Suite 4 - 98225  
 Microbiology 360.671.0688 • 360.671.1577fax

# Data Report

Client Name: Fire Mountain Farms, Inc.  
 856 Burnt Ridge Road  
 Onalaska, WA 98570

Reference Number: 09-07736  
 Project: Samish Lagoons  
 Report Date: 7/7/09  
 Date Received: 5/29/09  
 Peer Review: *YJA*

Sample Description: E1 - Samish WWTP								Sample Date: 5/29/09			
Lab Number: 16071								Collected By: Unknown			

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	63	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: E2 - Samish WWTP								Sample Date: 5/29/09			
Lab Number: 16072								Collected By: Unknown			

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	12	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: E3 - Samish WWTP								Sample Date: 5/29/09			
Lab Number: 16073								Collected By: Unknown			

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	168	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: E4 - Samish WWTP								Sample Date: 5/29/09			
Lab Number: 16074								Collected By: Unknown			

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	23	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: E5 - Samish WWTP								Sample Date: 5/29/09			
Lab Number: 16075								Collected By: Unknown			

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	12006	962		mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B	
7439-95-4	MAGNESIUM	4408	96.2		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-09-7	POTASSIUM	1007	96.2		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-23-5	SODIUM	1028	96.2		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7429-90-5	ALUMINUM	14074	19.2		mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-38-2	ARSENIC	11.4	1.92		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-43-9	CADIUM	ND	1.92		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-47-3	CHROMIUM	31.2	1.92		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	

**Notes:**

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested  
 PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.  
 D.F. - Dilution Factor

If you have any questions concerning this report contact us at the above phone number.

## Data Report

7440-50-8	COPPER	955	19.2	mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B
7439-92-1	LEAD	63.8	1.92	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7439-97-6	MERCURY	1.73	0.15	mg/Kg	2	7471A	6/2/09	CCN	HG_090602
7439-98-7	MOLYBDENUM	ND	1.92	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7440-02-0	NICKEL	47.0	1.92	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7782-49-2	SELENIUM	ND	1.92	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7440-66-6	ZINC	1201	19.2	mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B

Sample Description: W-1 - Samish WWTP							Sample Date: 5/29/09				
Lab Number: 16076							Collected By: Unknown				
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

E-14551	FECAL COLIFORM	16,800	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	
---------	----------------	--------	-------	--	-------	---	----------	--------	----	------------	--

Sample Description: W-2 - Samish WWTP							Sample Date: 5/29/09				
Lab Number: 16077							Collected By: Unknown				
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

E-14551	FECAL COLIFORM	3,000	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	
---------	----------------	-------	-------	--	-------	---	----------	--------	----	------------	--

Sample Description: W-3 - Samish WWTP							Sample Date: 5/29/09				
Lab Number: 16078							Collected By: Unknown				
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

E-14551	FECAL COLIFORM	14,000	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	
---------	----------------	--------	-------	--	-------	---	----------	--------	----	------------	--

Sample Description: W-4 - Samish WWTP							Sample Date: 5/29/09				
Lab Number: 16079							Collected By: Unknown				
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

E-14551	FECAL COLIFORM	3,500	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	
---------	----------------	-------	-------	--	-------	---	----------	--------	----	------------	--

Sample Description: W-5 - Samish WWTP							Sample Date: 5/29/09				
Lab Number: 16080							Collected By: Unknown				
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

7440-70-2	CALCIUM	19089	1000		mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B	
7439-95-4	MAGNESIUM	3795	100		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-09-7	POTASSIUM	1414	100		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-23-5	SODIUM	2142	100		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7429-90-5	ALUMINUM	17877	20.0		mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-38-2	ARSENIC	10.4	2.00		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-43-9	CADMIUM	ND	2.00		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-47-3	CHROMIUM	28.8	2.00		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	

**Notes:**

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.  
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.  
D.F. = Dilution Factor

## Data Report

7440-50-8	<b>COPPER</b>	1270	20.0	mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B
7439-92-1	<b>LEAD</b>	44.7	2.00	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7439-97-6	<b>MERCURY</b>	1.39	0.10	mg/Kg	1	7471A	6/2/09	CCN	HG_090602
7439-98-7	<b>MOLYBDENUM</b>	2.82	2.00	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7440-02-0	<b>NICKEL</b>	31.9	2.00	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7782-49-2	<b>SELENIUM</b>	ND	2.00	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7440-66-6	<b>ZINC</b>	1370	20.0	mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B

**Notes:**

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested  
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.  
D.F. - Dilution Factor

Am Test Inc.  
13600 NE 126TH PL  
Suite C  
Kirkland, WA 98034  
(425) 885-1664  
www.amtestlab.com



Professional  
Analytical  
Services

### ANALYSIS REPORT

Edge Analytical  
1620 S. Walnut  
Burlington, WA 98233  
Attention: Fran  
Project #: 09-07736  
PO Number: 09-07736  
All results reported on an as received basis.

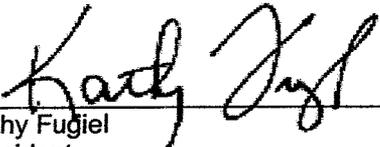
Date Received: 06/02/09  
Date Reported: 7/7/09

---

AMTEST Identification Number      09-A008545  
Client Identification                16081  
Sampling Date                        05/29/09, 12:00

#### Vector Attraction - Van Kleek Method

Initial TVS / Date	Final TVS / Date	Reduction	VAR Achieved
72.6 / 06/04/09	70.7 / 07/01/09	8.93	YES

  
Kathy Fugiel  
President



**Exhibit D - Burlington Force Main Collection System**

**SAMISH WATER DISTRICT**

**Sewer Comprehensive Plan - 2010 Update**

**Exhibit D-1 Service Connection Listing - Burlington Force Main Collection System**

Prepared by: E.A. Sterling

Date: June 2013

Customer No.	Contact Name	Billing			Service Location				Status	Billing Type	Comments
		Address	City	State	Address	District System					
8	Alger Bar & Grille, Down & Steve Thomas	1758 Old Hwy. 99 N. Rd.	Bellingham	WA	1748 Old Hwy. 99 N. Rd.	Burlington FM		Active	1	CSV-34	
9	Alger Valley Christian Center	1693 Old Highway 99 North Road	Bellingham	WA	1693 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-37	
10	Alger Christian Reformed Church	1475 Silver Run Lane	Bellingham	WA	1475 Silver Run Lane	Burlington FM		Active	Non-Metered		
11	Alger Food Mart	2180 Old Highway 99 North Road	Burlington	WA	2180 Old Highway 99 North Road	Alger/Cain Lk. Rd. FM		Active	Non-Metered	CSV-25	
12	Alger Shell, Paul Given	219 Friday Creek Road	Bellingham	WA	1454 Lake Samish Road	Buggia FM		Active	1		
15	A M T Associates	2118 Riverside Dr., #209	Mt. Vernon	WA	9596 Old Highway 99 N. Rd.	Burlington FM		Active	Non-Metered		
24	Nathan & Sara Baker	6399 Old Highway 99 North Road	Burlington	WA	6399 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-06	
76	Kenneth E. Colyn	2902 Old Highway 99 North Road	Burlington	WA	2902 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-19	
79	Cook Road Gas & Go LLC	9572 Old Hwy 99 N. Road	Burlington	WA	9572 Old Highway 99 North Road Union	Burlington FM		Active	1	CSV-02	
80	Cook Road Shell	9440 Old Highway 99 N. Road	Burlington	WA	9440 Old Hwy. 99 North Road	Burlington FM		Active	1	CSV-03	
81	Karen Cooley	1605 Old Highway 99 North Road	Bellingham	WA	1605 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-39	
95	Mike Hughes	16431 57th Ave S.E.	Snohomish	WA	2750 Old Hwy 99 North Road	Burlington FM		Active	Non-Metered	CSV-23	
118	Cheri Fenstermaker	31309 Crawford Loop Road	Darrington	WA	1500 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-41	
147	Tami Hannan	3248 Old Highway 99 North Road	Burlington	WA	3248 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-17	
191	Roderick & Loretta Johnson	225 Alder Drive	Sedro Woolley	WA	18970 Minnie Road	Burlington FM		Active	Non-Metered	CSV-26	
193	Jeanie & Scott Johnston	3069 Friday Creek Road	Burlington	WA	3069 Friday Creek Road	Burlington FM		Active	Non-Metered		
201	Ron & Francis Kesselring	4024 Old Highway 99 North Road	Burlington	WA	4024 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-13	
206	Upper Skagit Tribe	18189 Bow Hill Road	Bow	WA	18189 Bow Hill Road	Bow Hill FM #1		Inactive	1	CSV-08	
207	William Fritsch	18215 Marriott Lane	Bellingham	WA	18286 Marriott Lane	Mariott Ln. FM		Active	Non-Metered	CSV-44	
212	Lang's Honey Skep Patrick Ray	18898 Dahlstedt Road	Burlington	WA	18898 Dahlstedt Road	Burlington FM		Active	Non-Metered	CSV-04	
213	Anthony & Lori LaPoma	696 Old Highway 99 North Road	Bellingham	WA	696 Old Highway 99 N. Rd.	Burlington FM		Active	Non-Metered	CSV-45	
221	David Lingenfelter	18898 Minnie Road	Burlington	WA	18898 Minnie Road	Burlington FM		Active	Non-Metered	CSV-27	
222	Ronald and Lori Hay	3401 Old Highway 99 North Road	Burlington	WA	3401 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-15	
226	Vic Longoria	343 Old Highway 99 North Road	Burlington	WA	3435 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-15	
236	J. M. McCormick	652 N.W. 85th Avenue N.	Seattle	WA	19387 Parson Creek Road	Burlington FM		Active	Non-Metered	CSV-14	
258	Mike & Amber Morris	1877 Old Highway 99 North Road	Burlington	WA	1877 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-30	
259	Alfred & Sherry Mortensen	P.O. Box 948	Burlington	WA	5065 Old Highway 99 North Rd.	Burlington FM		Active	Non-Metered	CSV-09	
260	Michelle R. Mousseau	1133 Old Hwy 99 N. Rd.	Bellingham	WA	1133 Old Hwy 99 N. Rd.	Burlington FM		Active	Non-Metered	CSV-43	
271	Jeff & Nancy Nichols	3431 Old Highway 99 North Rd.	Burlington	WA	3431 Old Highway 99 North Rd.	Burlington FM		Active	Non-Metered	CSV-15	
283	Harold & Carolyn Pennington	2788 Old Highway 99 North Road	Burlington	WA	2788 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-20	
286	Terri Peterson	3093 Friday Creek Road	Burlington	WA	3093 Friday Creek Road	Burlington FM		Active	Non-Metered		
289	Troy & Cindi Plendl	19889 Cedarvale Road	Mt. Vernon	WA	7478 Butler Hill Road	Burlington FM		Active	Non-Metered	CSV-05	
295	Tim & LaDonna Prater	2747 Old Highway 99 North Road	Burlington	WA	2747 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-22	
299	Robert Quigley	2101 Friday Creek Road	Burlington	WA	2101 Friday Creek Road	Burlington FM		Active	Non-Metered	CSV-29	
301	Chad Ramsey	3062 Old Highway 99 North Road	Burlington	WA	3062 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-18	
308	Phyllis Reinhold	2640 Friday Creek Road	Burlington	WA	2640 Friday Creek Road	Burlington FM		Active	Non-Metered	CSV-23	
316	James & Linda Ross	1667 Old Highway 99 North Rd.	Bellingham	WA	1667 Old Highway 99 North Rd.	Burlington FM		Active	Non-Metered	CSV-38	
327	Bob & Lori Scott	5020 Edgewood Lane	Paradise	CA	3351 Old Hwy 99 North Rd.	Burlington FM		Active	Non-Metered	CSV-16	
336	Associated Petroleum Products	P.O. Box 248	Sedro Woolley	WA	9552 Old Highway 99 N. Rd.	Burlington FM		Active	Non-Metered		
337	Skagit Speedway	P.O. Box 911	Burlington	WA	19112 Morton Road	Skagit Speedway FM		Active	Non-Metered	CSV-10	
338	Skagit Speedway, Inc.	P.O. Box 911	Burlington	WA	4796 Old Highway 99 North Rd.	Skagit Speedway FM		Active	1	CSV-11	
339	Frederick Smith	4109 Old Highway 99 North Rd.	Burlington	WA	4109 Old Highway 99 North Rd.	Burlington FM		Active	Non-Metered	CSV-12	
343	Robert Smith	618 West Lake Samish Drive	Bellingham	WA	Old Highway 99 N. Rd.	Burlington FM		Active	Non-Metered		
350	Albert & Judith Sperry	P.O. Box 933	Burlington	WA	3047 Friday Creek Road	Burlington FM		Active	Non-Metered		
354	Bill Stevenson	3119 Friday Creek Road	Burlington	WA	3119 Friday Creek Road	Burlington FM		Active	Non-Metered		
371	Patrick Ray	18898 Dahlstedt Road	Burlington	WA	18920 Dahlstedt Road	Burlington FM		Active	Non-Metered	CSV-04	
373	Thousand Trails, Inc.	5409 North Darrk Lane	Bow	WA	5409 Darrk Lane	Thousand Trails FM		Active	Non-Metered	CSV-08	
379	Vaughn Turner	2882 Old Highway 99 North Road	Burlington	WA	2882 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-20	
382	Bow Hill Land Co. Property Upper Skagit Indian Tribe	25944 Community Plaza	Sedro Woolley	WA	25944 Community Plaza	Pulley Ridge FM		Active	Non-Metered	CSV-08	
383	Skagit Valley Casino Resort Upper Skagit Indian Tribe	25944 Community Plaza	Sedro Woolley	WA	5984 Darrk Lane	Bow Hill FM #2		Active	1	CSV-08	
384	PGT Golf Course Upper Skagit Indian Tribe	25944 Community Plaza	Sedro Woolley	WA	25944 Community Plaza	Bow Hill FM #1		Active	Non-Metered	CSV-08	
386	Ed Varhaug	1781 Old Highway 99 North Road	Burlington	WA	1781 Old Hwy 99 North Road	Burlington FM		Active	Non-Metered	CSV-31	
394	Chuck & Laurie Wagoner	2822 Old Highway 99 North Road	Burlington	WA	2822 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-20	
395	Cory Sanchez	2777 Old Highway 99 N. Rd.	Burlington	WA	2777 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-21	
396	William E. Walker	3046 Old Highway 99 North Road	Burlington	WA	3046 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-18	
410	Mike & Dorothy Weidkamp	P.O. Box 242	Burlington	WA	1553 Old Highway 99 North Rd.	Burlington FM		Active	Non-Metered	CSV-40	
414	Whitcom Meadows Camping Association, C/O Ken Shellberg	478 Cain Lake Road	Sedro Woolley	WA	478 Cain Lake Road	Alger/Cain Lk. Rd. FM		Active	Non-Metered	CSV-32	
415	Whispering Firs Motel	1745 Old Hwy 99 N. Road	Burlington	WA	1745 Old Hwy 99 N. Road	Burlington FM		Active	1	CSV-36	
423	Jerry Wiesendanger	2185 Old Highway 99 North Road	Burlington	WA	2185 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-24	
426	Michael Wiles	18981 Minnie Rd.	Burlington	WA	18981 Minnie Road	Burlington FM		Active	Non-Metered	CSV-28	
431	Washington State DOT	3920 Airport Way	Bellingham	WA	Bow Hill I-5 Rest Area Mile Post 239	Thousand Trails FM		Active	1	CSV-08	
432	Samish Fish Hatchery	5585 Old Highway 99 North Road	Burlington	WA	5585 Old Highway 99 North Road	Burlington FM		Active	Non-Metered	CSV-07	
433	Washington State Patrol	10945 Chuckanut Drive	Burlington	WA	10945 Chuckanut Drive	Burlington FM		Active	Non-Metered	CSV-01	
441	Chris and Sam MacDonald	4518 Old Hwy 99 N. Rd.	Burlington	WA	4518 Old Highway 99 N. Rd.	Burlington FM		Active	Non-Metered		
444	Thomas & Barbara Jean Couvion	3395 Old Hwy 99 N. Rd.	Burlington	WA	3395 Old Hwy 99 N. Rd.	Burlington FM		Active	Non-Metered		
445	Skagit Bow Hill Gas & Food Market	24944 Community Plaza	Sedro Woolley	WA	18494 Bow Hill Road	Burlington FM		Active	Non-Metered		
447	Upper Skagit Indian Tribe	24944 Community Plaza	Sedro Woolley	WA	18495 Bow Hill Road	Burlington FM		Active	Non-Metered		
449	Cory Sanchez	2777 Old Highway 99 North Road	Burlington	WA	2781 Old Highway 99 North Road	Burlington FM		Active	Non-Metered		
450	Rico and Jackie Romano	18219 Marriott Lane	Bellingham	WA	18219 Marriott Lane	Burlington FM		Active	Non-Metered		
451	Charles E. Sue Bradshaw	18215 Marriott Lane	Bellingham	WA	18215 Marriott Lane	Burlington FM		Active	Non-Metered		
458	Chan Mun Samuth	1017 Old Highway 99 North Road	Bellingham	WA	1017 Old Highway 99 North Road	Burlington FM		Active	Non-Metered		
459	Keith Mason	2381 Old Highway 99 North Road	Burlington	WA	2381 Old Highway 99 North Road	Burlington FM		Active	Non-Metered		
460	Jerry Sr. Hayes	1432 Old Highway 99 North Road	Bellingham	WA	1432 Old Highway 99 North Road	Burlington FM		Active	Non-Metered		
461	Thomas Smallwood	319 Cain Lake Road	Sedro Woolley	WA	319 Cain Lake Road	Alger/Cain Lk. Rd. FM		Active	Non-Metered		
462	Alger Shell Real Estate LLC	219 Friday Creek Road	Bellingham	WA	1458 Lake Samish Road	Burlington FM		Active	Non-Metered		
463	Steve and Traci Pedersen	1881 Old Highway 99 North Road	Burlington	WA	1881 Old Highway 99 North Road	Burlington FM		Active	Non-Metered		
472	Richard & Lillian Wallace	c/o Lampert & Eskridge 4636 Van	Sherman Oaks	CA	2288 Nulle Road	Burlington FM		Active	Non-Metered		
473	Daniel Wichers	18284 Marriott Lane	Bellingham	WA	18284 Marriott Lane	Burlington FM		Active	Non-Metered		
475	Alexander Cramer	443 Cain Lake Road	Sedro Woolley	WA	443 Cain Lake Road	Alger/Cain Lk. Rd. FM		Active	Non-Metered		
476	Andrew and Amber Senour	451 Cain Lake Road	Sedro Woolley	WA	451 Cain Lake Road	Alger/Cain Lk. Rd. FM		Active	Non-Metered		
477	Magdaleno and Lydia Trevino	18288 Marriott Lane	Bellingham	WA	18288 Marriott Lane	Burlington FM		Active	Non-Metered		
478	Pat and Maria Curran	795 Summerhill Drive	Sedro Woolley	WA	795 Summerhill Drive	Burlington FM		Active	Non-Metered		
479	Ben Fehrer	c/o 246 Skagit Way	LaConner	WA	18260 Marriott Lane	Burlington FM		Active	Non-Metered		
481	Christopher R. Chapman	18780 Colony Road	Bow	WA	18780 Colony Road	Burlington FM		Active	Non-Metered		
482	Sengnine Sisouk	2302 Nulle Road	Burlington	WA	2302 Nulle Road	Burlington FM		Active	Non-Metered		
484	Jodee Heinrichs	459 Cain Lake Road	Sedro Woolley	WA	459 Cain Lake Road	Burlington FM		Active	Non-Metered		
485	Joel Murray	1215 Old Highway 99 North Road	Bellingham	WA	1215 Old Highway 99 North Road	Burlington FM		Active	Non-Metered		
487	Kathryn and Guy Hollstein	2306 Nulle Road	Bellingham	WA	2306 Nulle Road	Burlington FM		Active	Non-Metered		
488	Skagit Ridge Hotel	25944 Community Plaza	Sedro Woolley	WA	18444 Bow Hill Road	Burlington FM		Active	Non-Metered		
491	Paul M. Szwyzkowski	180 Nulle Woods Court	Bellingham	WA	180 Nulle Woods Court	Burlington FM		Active	Non-Metered		
493	Richard and Linda Price	485 Cain Lake Road	Sedro Woolley	WA	485 Cain Lake Road	Burlington FM		Active	Non-Metered		

**SAMISH WATER DISTRICT**

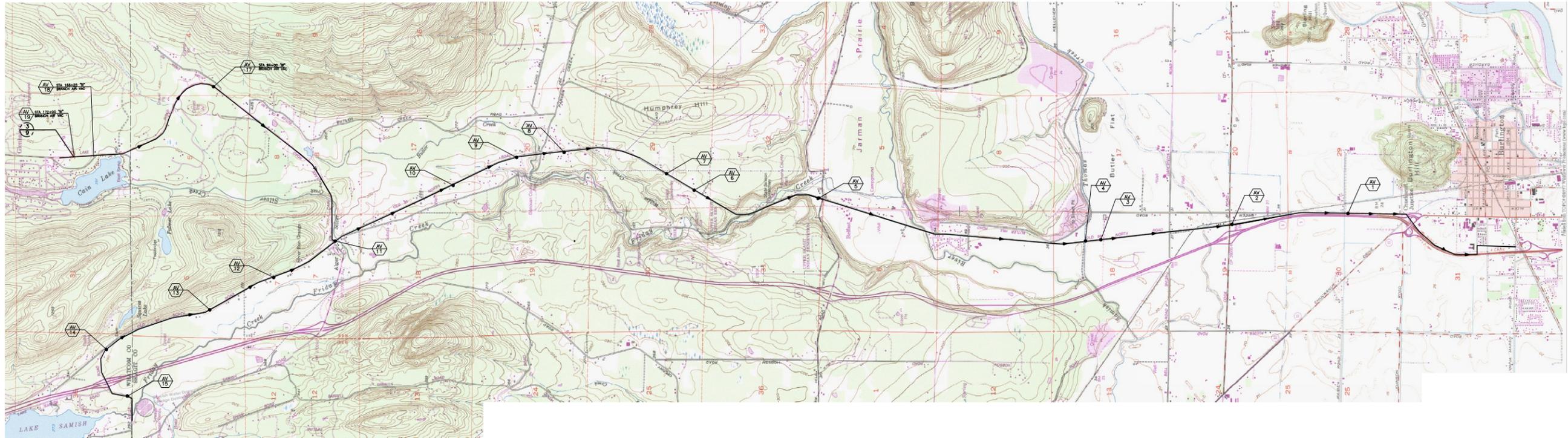
Sewer Comprehensive Plan - 2010 Update

Exhibit D-1 Service Connection Listing - Burlington Force Main Collection System

Prepared by: E.A. Sterling

Date: June 2013

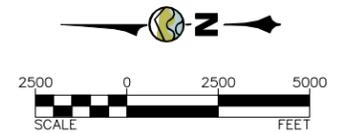
Customer No.	Contact Name	Billing			Service Location		District System	Status	Billing Type	Comments
		Address	City	State	Address					
495	Upper Skagit Indian Tribe	25944 Community Plaza	Sedro Woolley	WA	5765 Dark Lane		Active	Non-Metered		
496	Fairfield Inn	9384 Old Highway 99 North Road	Bellingham	WA	9384 Old Highway 99 North Road		Active	1		
497	William E. Kramer	1442 Sunset Avenue	Ferndale	WA	2859 Old Highway 99 North Road		Active	Non-Metered		
498	John Milchenko	2855 Old Highway 99 North Road	Bellingham	WA	2855 Old Highway 99 North Road		Active	Non-Metered		
499	Robert and Gail Thomas	450 Fir Lane	Sedro Woolley	WA	450 Fir Lane		Active	Non-Metered		
500	Jeffrey & Jacqueline Crandall	P.O.Box 2095	Mount Vernon	WA	583 Lakeside Drive		Active	Non-Metered		
501	Jeffrey A. Crandall	P.O.Box 2095	Mount Vernon	WA	583 Lakeside Drive		Active	Non-Metered		
502	Karen Cooley	1605 Old Highway 99 North Road	Bellingham	WA	1605 Old Highway 99 North Road		Active	Non-Metered		
503	Jack In The Box, Inc. #8379	c/o Advantage IQ, P.O.Box 2440	Spokane	WA	9408 Old Highway 99		Active	1		
504	Harold Miller	1625 Old Highway 99 North Road	Bellingham	WA	1625 Old Highway 99 North Road		Active	Non-Metered		
506	Gale H. Lowell	19382 Parson Creek Road	Burlington	WA	19382 Parson Creek Road		Active	Non-Metered		
507	Stephen & Sally McCreight	446 Fir Lane	Sedro Woolley	WA	446 Fir Lane		Active	Non-Metered		
508	Stephen & Sally McCreight	443 Fir Lane	Sedro Woolley	WA	443 Fir Lane		Active	Non-Metered		
509	Randall and Patricia Roberts	185 Nulle Woods Court	Bellingham	WA	185 Nulle Woods Court		Active	Non-Metered		
510	Kenneth Vaughan	18769 Colony Road	Bow	WA	18769 Colony Road		Active	Non-Metered		
512	Kenneth Cave	19507 Parson Creek Road	Burlington	WA	19507 Parson Creek Road		Active	Non-Metered		
513	William and Janet Lindstrom	19366 Parson Creek Road	Burlington	WA	19366 Parson Creek Road		Active	Non-Metered		
516	Tom Aliotti	207 Friday Creek Road	Bellingham	WA	165 Nulle Woods Court		Active	Non-Metered		
517	Larson Cook Road LLC	Roeter Cook Road LLC, 810 2nd Ave	Seattle	WA	9596 Old Highway 99		Active	1		
519	Jack Burns	3507 Friday Creek Road	Burlington	WA	3507 Friday Creek Road		Active	Non-Metered		



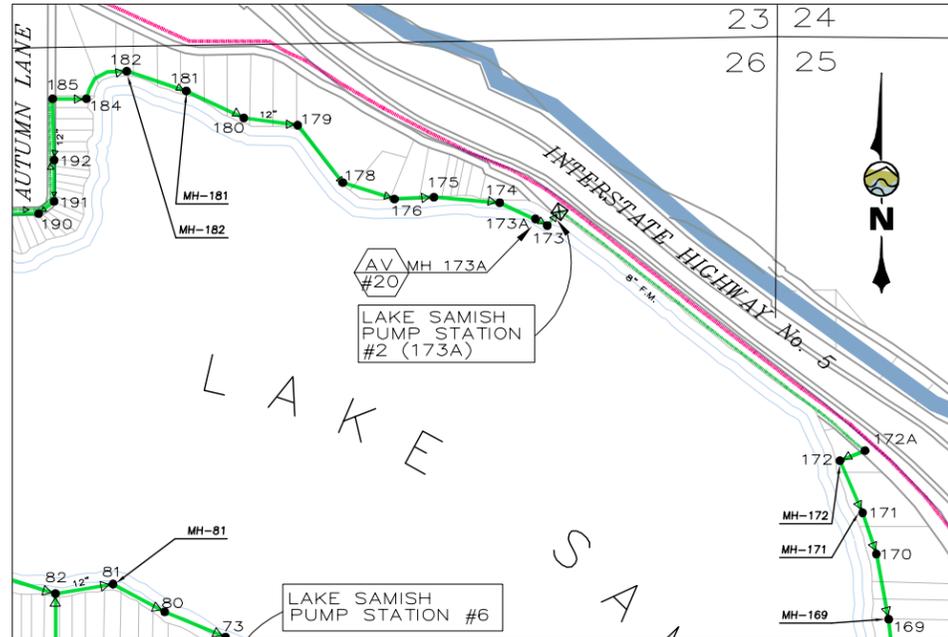
**BURLINGTON FORCE MAIN OVERALL**

**LEGEND**

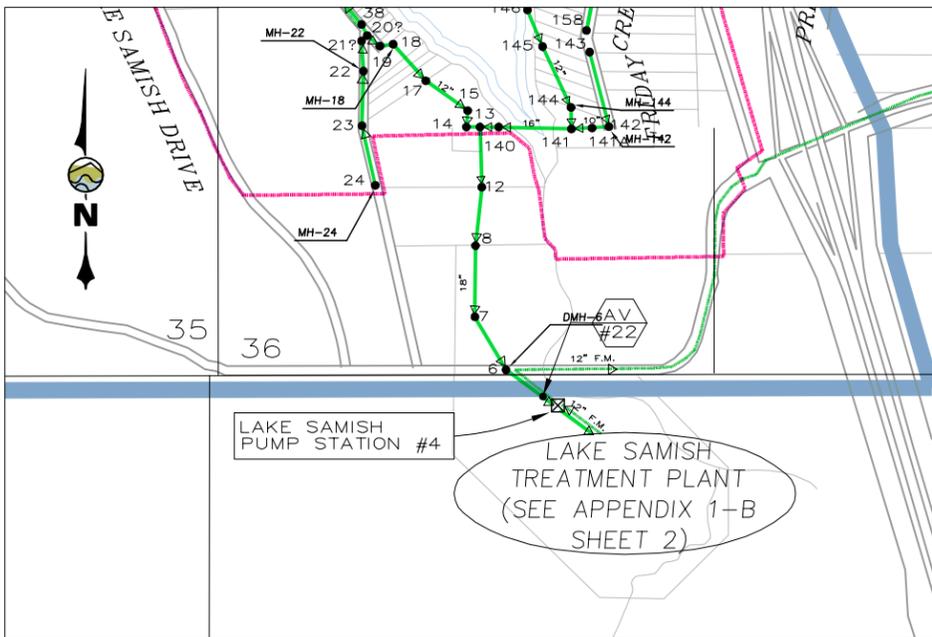
	GRAVITY SEWER
	FORCE MAIN



**AV#20 LOCATION**



**AV#22 LOCATION**



BURLINGTON FORCE MAIN COLLECTION SYSTEM			
MAJOR FORCE MAINS	LENGTH (LF)	DIAMETER	CAPACITY (GPM)
BURLINGTON FORCE MAIN	~72,320	12-IN *	1300
LSPS#4 TO BURLINGTON PS#6	~21,120	5-IN / 6-IN	242
ALGER/CAIN LAKE FORCE MAIN	~3,400	4-IN	84
THOUSAND TRAILS FORCE MAIN	~6,500	3-IN / 4-IN	276

\*~120 LF 8-IN PIPE AT O'LEARY SLOUGH

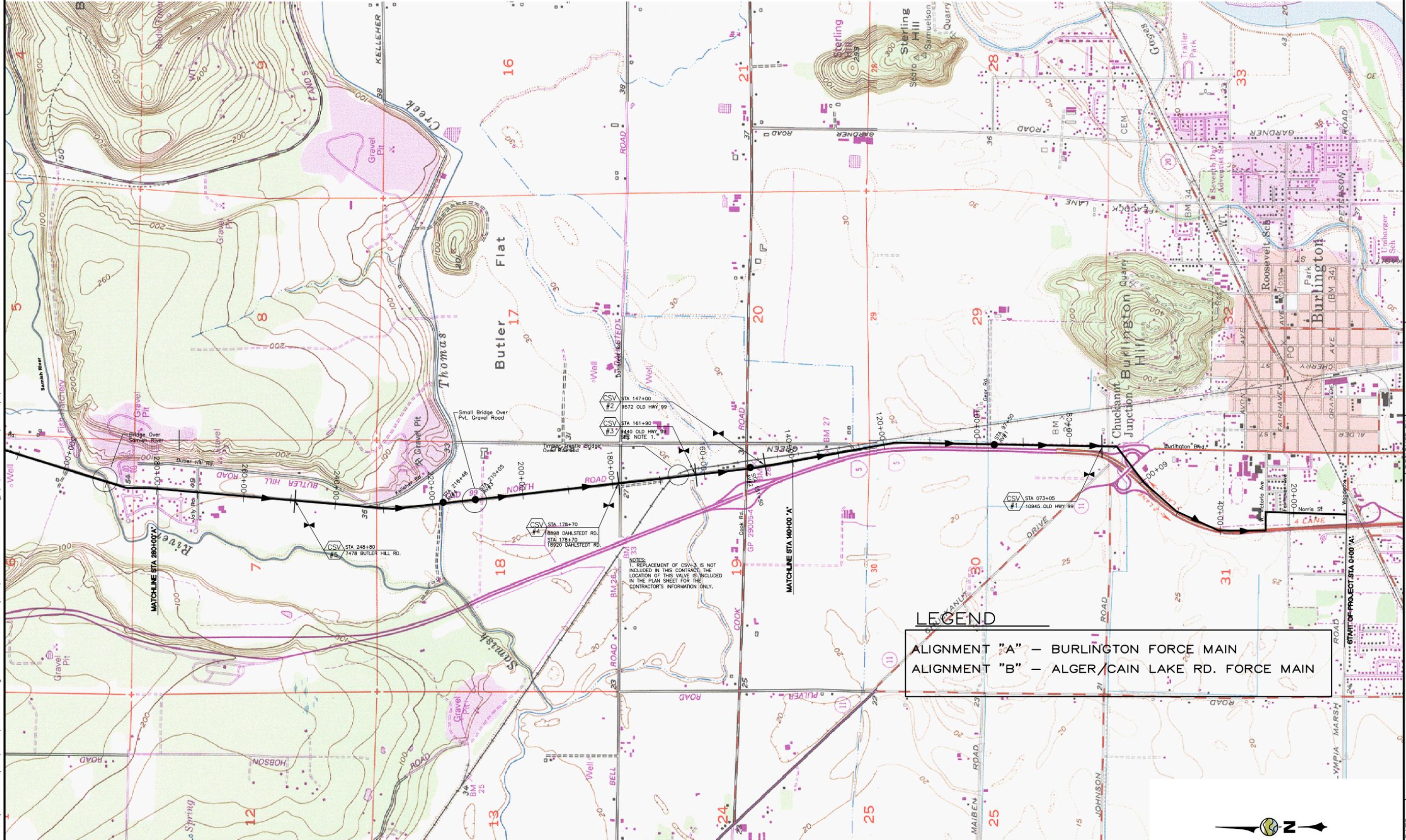


DESIGNED BY: EAS  
 DRAWN BY: EAS/NIT  
 CHECKED BY:

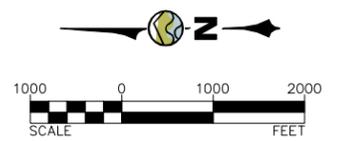
SAMISH WATER DISTRICT  
 WASHINGTON  
 EXHIBIT D-2 - SYSTEM MAPS  
 BELLINGHAM  
 SEWER FACILITIES WITHIN THE BURLINGTON  
 FORCE MAIN COLLECTION SYSTEM

SHEET: 1 OF 4  
 DATE: JUNE 2013  
 SCALE: AS SHOWN  
 JOB NUMBER: 2010-014

W:\2010\2010-014 SWD Sewer Comp Plan - 2010 Update\Exhibits\Exhibit D - Burlington Force Main Collection System\2010-014 Exhibit D-2\_Sht2.dwg, 6/25/2013 9:17:15 AM, AcrePlot.pc3, RDN

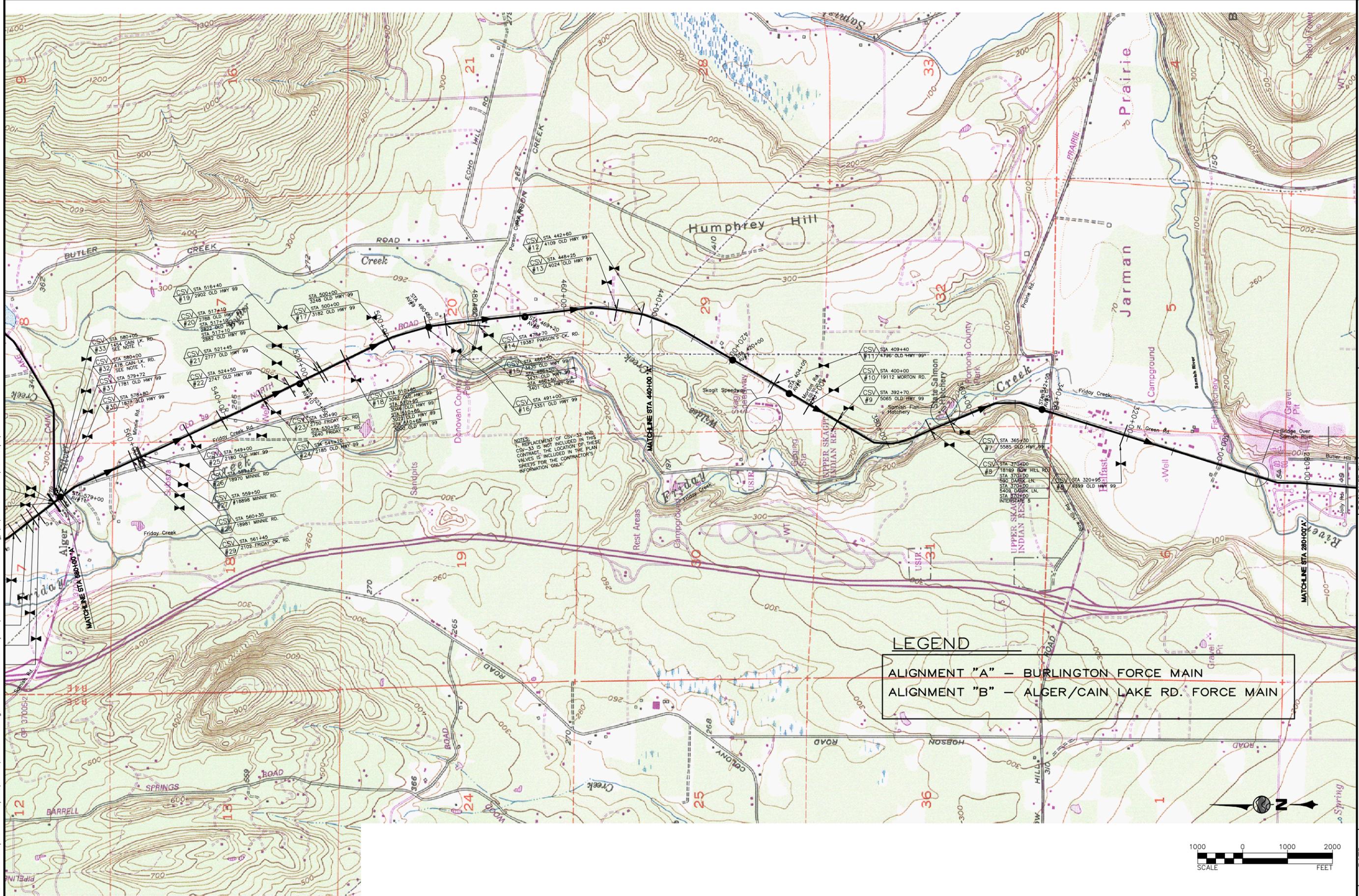


**LEGEND**  
 ALIGNMENT "A" - BURLINGTON FORCE MAIN  
 ALIGNMENT "B" - ALGER/CAIN LAKE RD. FORCE MAIN



SHEET	DATE	DESIGNED BY		
	JUNE 2013	EAS		
2	SCALE	DRAWN BY		
	AS SHOWN	WASHINGTON		
OF	JOB NUMBER	CHECKED BY		
		EAS/JT		
4	2010-014	SAMISH WATER DISTRICT		
		EXHIBIT D-2 - SYSTEM MAPS		
		SEWER FACILITIES WITHIN THE BURLINGTON		
		FORCE MAIN COLLECTION SYSTEM		
WILSON ENGINEERING, LLC 805 DUPONT STREET BELLINGHAM, WA 98225 (360) 733-8100 • FAX (360) 647-9661 www.wilsonengineering.com				

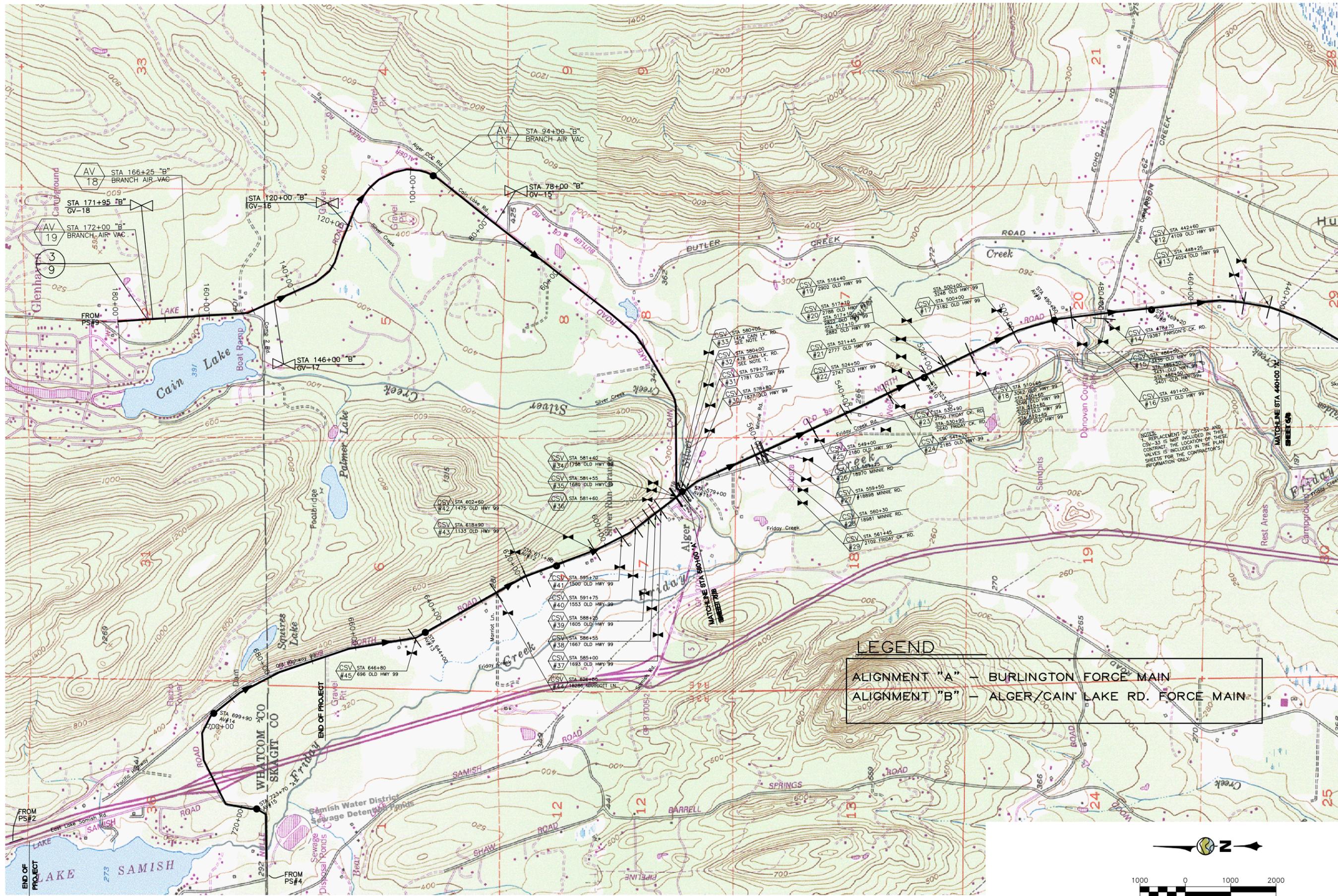
W:\2010\2010-014 SWD Sewer Comp Plan - 2010 Update\Exhibits\Exhibit D - Burlington Force Main Collection System\2010-014 Exhibit D-2\_S113.dwg, 6/25/2013 9:17:30 AM, AcroPlot.pc3, RDN



**LEGEND**  
 ALIGNMENT "A" - BURLINGTON FORCE MAIN  
 ALIGNMENT "B" - ALGER/CAIN LAKE RD. FORCE MAIN

<p><b>Wilson</b> SURVEY/ENGINEERING</p>		WILSON ENGINEERING, LLC 805 DUPONT STREET BELLINGHAM, WA 98225 (360) 733-6100 • FAX (360) 647-9061 www.wilsonengineering.com	
		DESIGNED BY EAS	DRAWN BY EAS/JCS
SAMISH WATER DISTRICT		WASHINGTON	
EXHIBIT D-2 - SYSTEM MAPS		SELLINGHAM	
SEWER FACILITIES WITHIN THE BURLINGTON		FORCE MAIN COLLECTION SYSTEM	
SHEET <b>3</b>	DATE JUNE 2013	SCALE AS SHOWN	JOB NUMBER 2010-014
OF <b>4</b>			

W:\2010\2010-01-4 SVD Sewer Comp Plan - 2010 Update\Exhibits\Exhibit D - Burlington Force Main Collection System\2010-01-4 Exhibit D-2\_Sht4.dwg, 6/25/2013 9:17:46 AM, AcroPlot.pc3, RDN

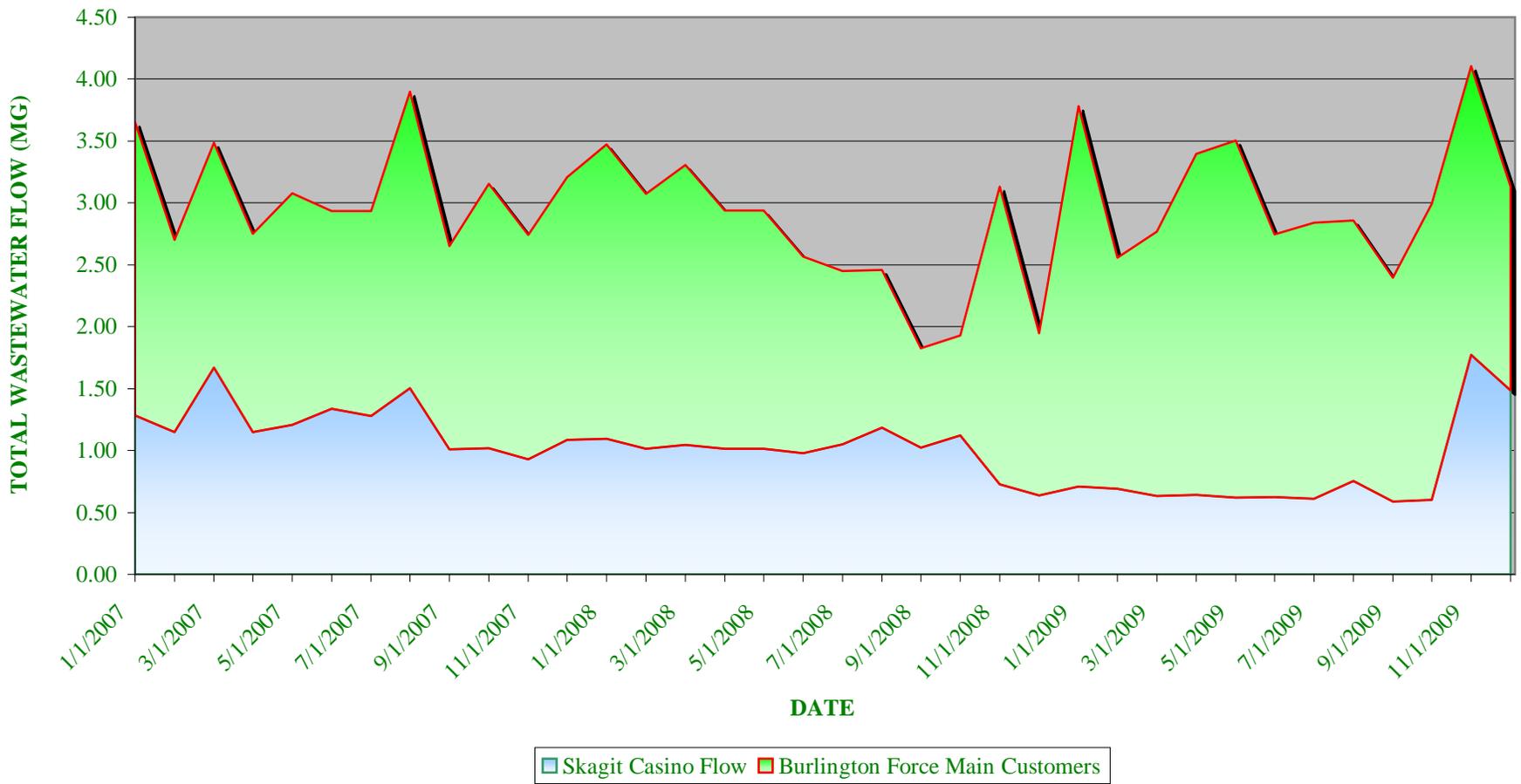


**LEGEND**  
 ALIGNMENT "A" - BURLINGTON FORCE MAIN  
 ALIGNMENT "B" - ALGER/CAIN LAKE RD. FORCE MAIN

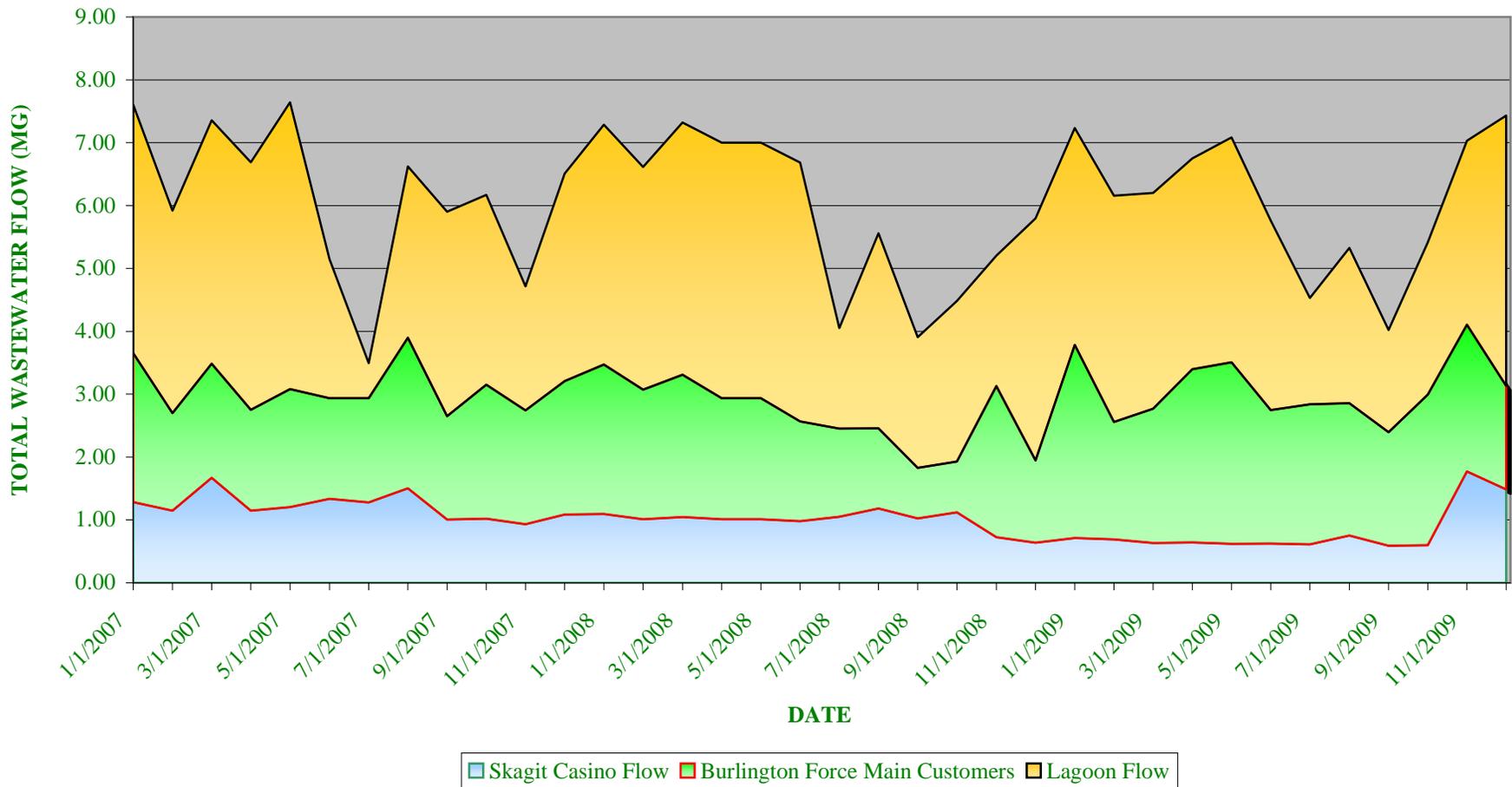
<p><b>Wilson</b> SURVEY/ENGINEERING</p>		DESIGNED BY EAS	
		DRAWN BY EAS/JCS	
DATE JUNE 2013		CHECKED BY	
SCALE AS SHOWN		INFORMATION WASHINGTON	
SHEET 4		JOB NUMBER 2010-014	
OF 4		SAMISH WATER DISTRICT EXHIBIT D-2 - SYSTEM MAPS SEWER FACILITIES WITHIN THE BURLINGTON FORCE MAIN COLLECTION SYSTEM	

WILSON ENGINEERING, LLC  
 805 DUPONT STREET  
 BELLINGHAM, WA 98225  
 (360) 733-8100 • FAX (360) 647-9061  
 www.wilsonengineering.com

**SAMISH WATER DISTRICT**  
**EXHIBIT D-3**  
**TOTAL MONTHLY WASTEWATER FLOW -**  
**BURLINGTON FORCE MAIN COLLECTION SYSTEM**  
 January 2007 through December 2009



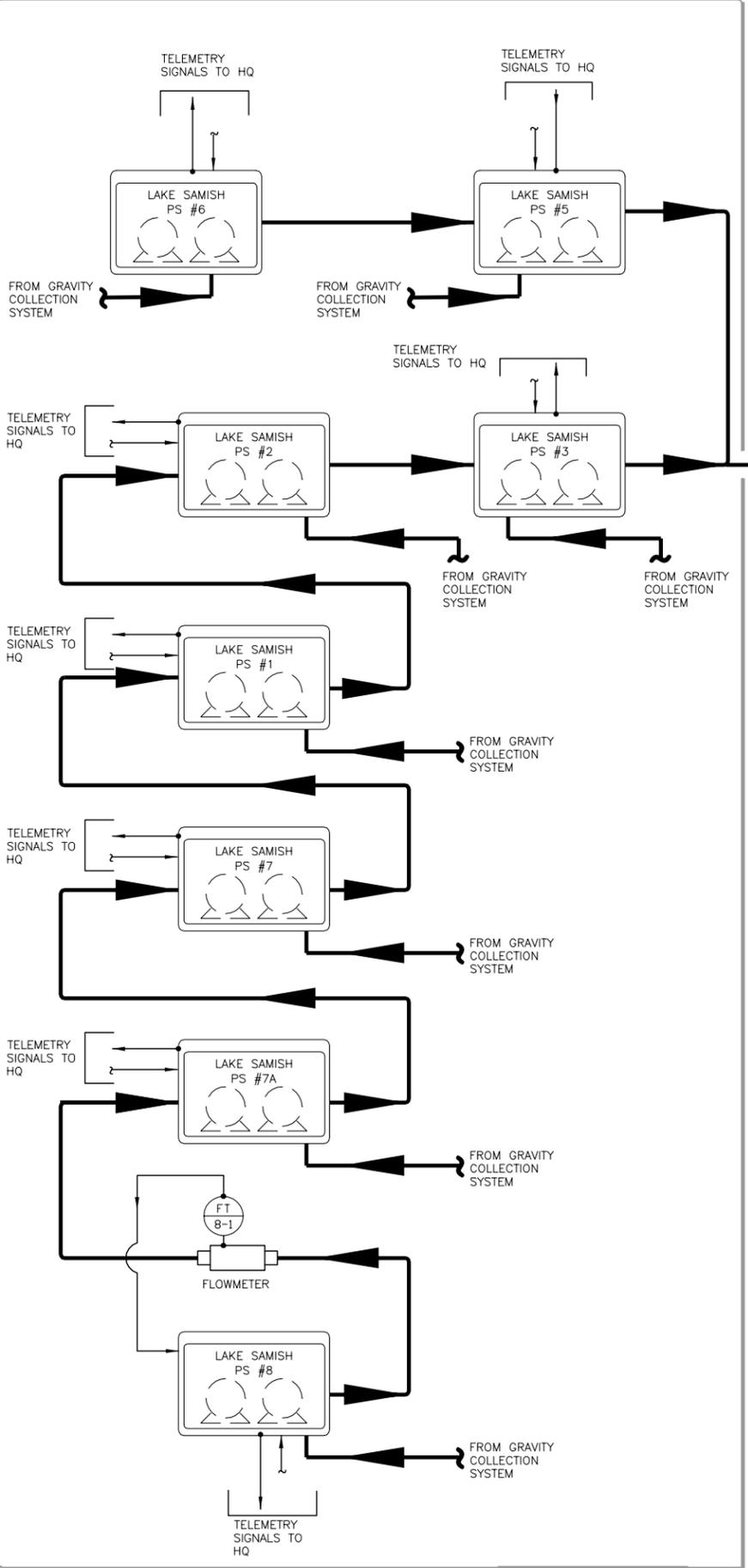
**SAMISH WATER DISTRICT**  
**EXHIBIT D-4**  
**TOTAL MONTHLY WASTEWATER FLOW -**  
**LAKE SAMISH COLLECTION SYSTEM & BURLINGTON FORCE MAIN COLLECTION SYSTEM**  
 January 2001 through December 2003



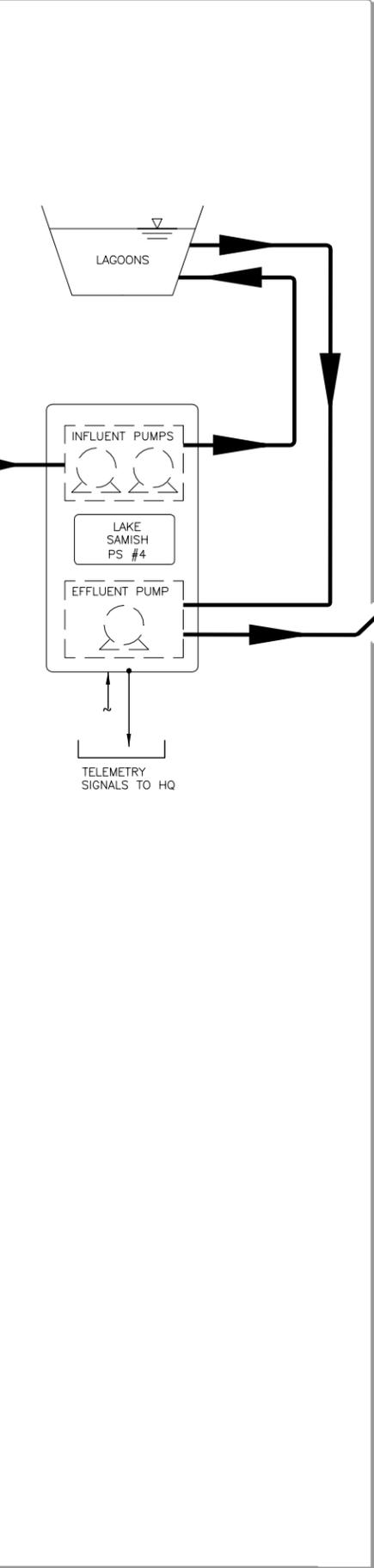
**Exhibit E - District Pump Facilities**

NO.	REVISIONS	BY	DATE

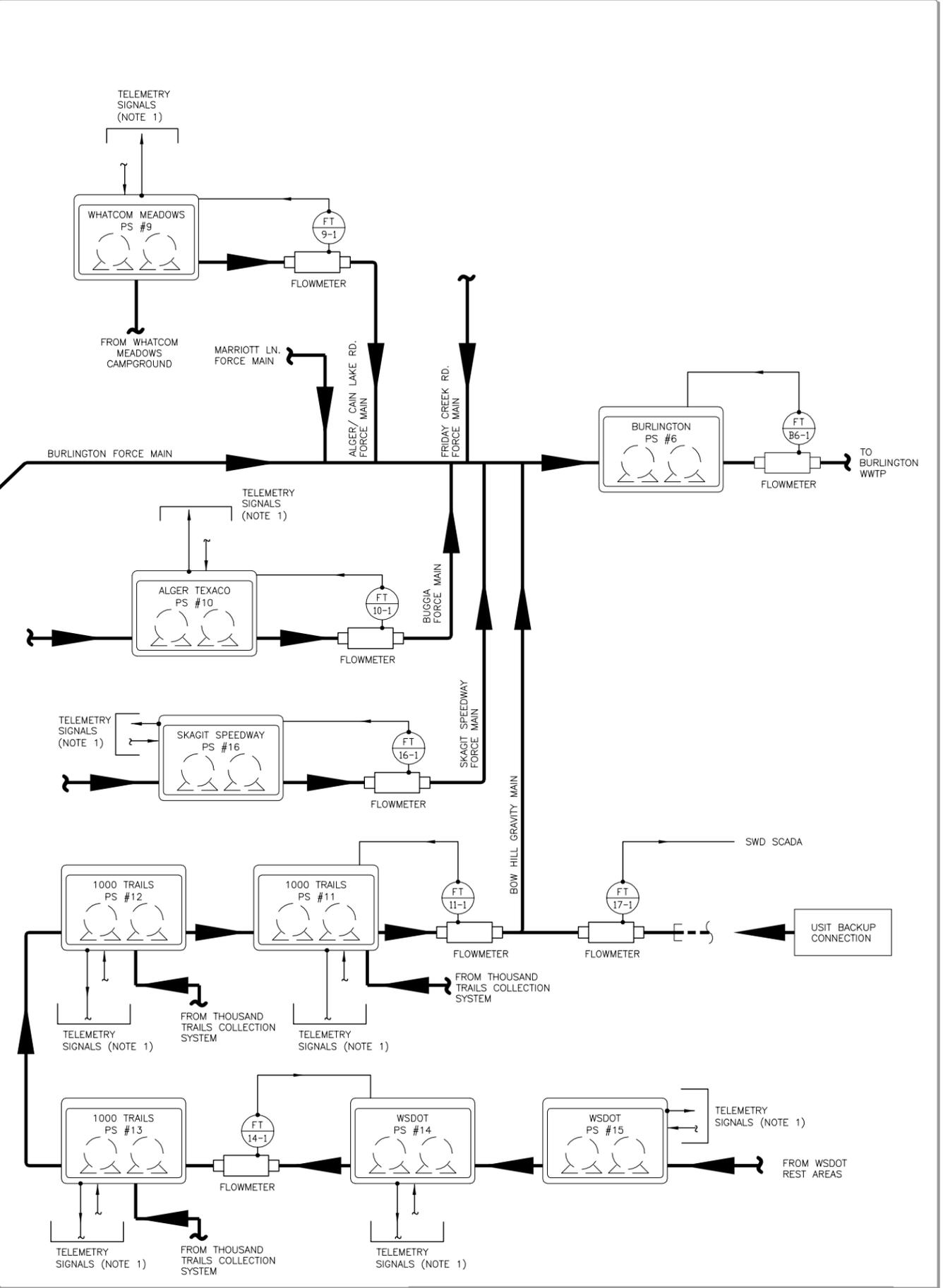
**SAMISH WATER DISTRICT - LAKE SAMISH COLLECTION SYSTEM**



**SAMISH WATER DISTRICT - LAKE SAMISH LAGOON TREATMENT PLANT**



**SAMISH WATER DISTRICT - BURLINGTON FORCE MAIN COLLECTION SYSTEM**



W:\2010\2010-014 SWD Sewer Comp Plan - 2010 Update\Exhibits\Exhibit E - District Pump Facilities\0014 Exhibit E-0.dwg, 6/6/2013 8:48:01 AM, AcroPlot.pc3, RDN

WILSON ENGINEERING, LLC  
 805 DUPONT STREET  
 BELLINGHAM, WA 98225  
 (360) 735-6100 • FAX (360) 647-9061  
 www.wilsonengineering.com

**Wilson**  
SURVEY/ENGINEERING

DESIGNED BY: EAS  
 DRAWN BY: EAS  
 CHECKED BY:

**SAMISH WATER DISTRICT**

COMPREHENSIVE SEWER PLAN

EXHIBIT E-0 - SWD WASTEWATER SYSTEM

SCHEMATIC FLOW DIAGRAM

DATE: JUNE 2013  
 SCALE: NONE  
 JOB NUMBER: 2010-014

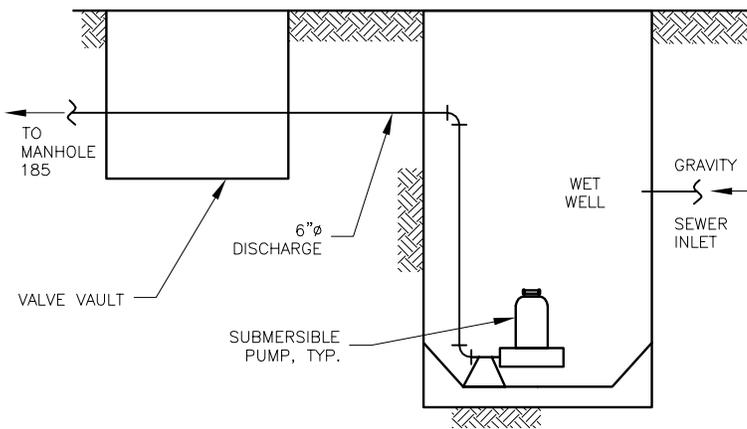
WHATCOM COUNTY  
 WASHINGTON

SHEET 1 OF 1

**LAKE SAMISH PUMP STATION NO. 1**

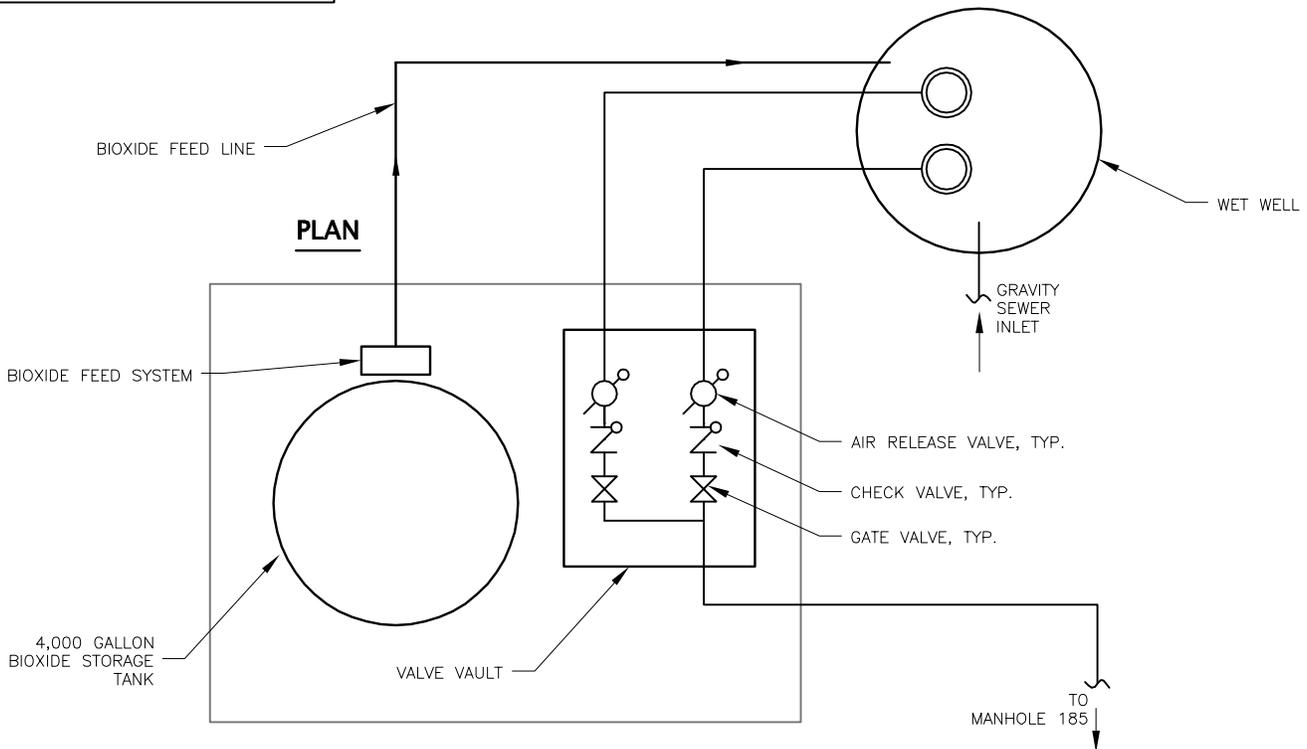
STATION DESCRIPTION:	DUPLEX, WET WELL SEWER LIFT STATION
PUMP INSTALLATION DATE:	2006
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	900 GPM @ 25 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3127.181
PUMP MOTOR:	7.5 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	BIOXIDE FEED SYSTEM
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	SFA - STATION FLOOD ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L - REMOTE/LOCAL



**PROFILE**

NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.



**SAMISH WATER DISTRICT -  
LAKE SAMISH PUMP STATION NO. 1**

NOT TO SCALE



WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

**SAMISH WATER DISTRICT**

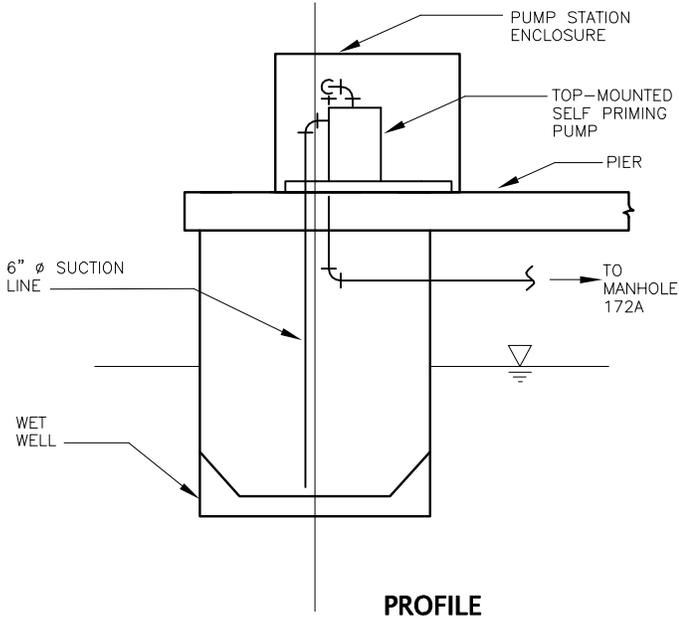
WHATCOM COUNTY WASHINGTON  
**COMPREHENSIVE SEWER PLAN  
EXHIBIT E-1 - PUMPING FACILITIES  
Lake Samish Pump Station No. 1**

DATE	JUNE 2013	SHEET	1
SCALE	NONE	OF	17
JOB NUMBER	2010-014		

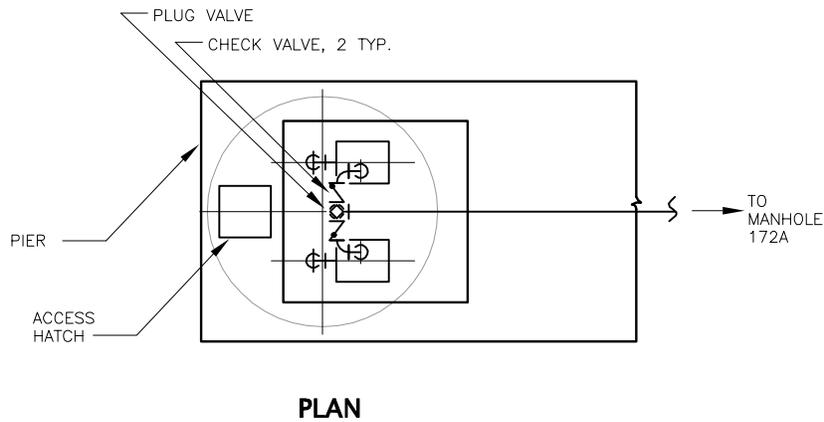
**LAKE SAMISH PUMP STATION NO. 2**

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	600 GPM @ 49 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T6A3S-B
PUMP MOTOR:	20 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	---
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	HHLA - REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	LLLA - REDUNDANT LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
	PFA - PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L - REMOTE/LOCAL



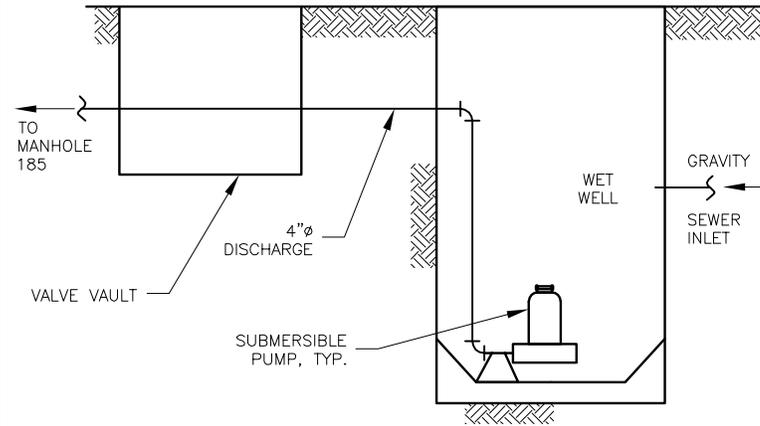
NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.



**SAMISH WATER DISTRICT -  
LAKE SAMISH PUMP STATION NO. 2**

NOT TO SCALE

**LAKE SAMISH PUMP STATION NO. 3**

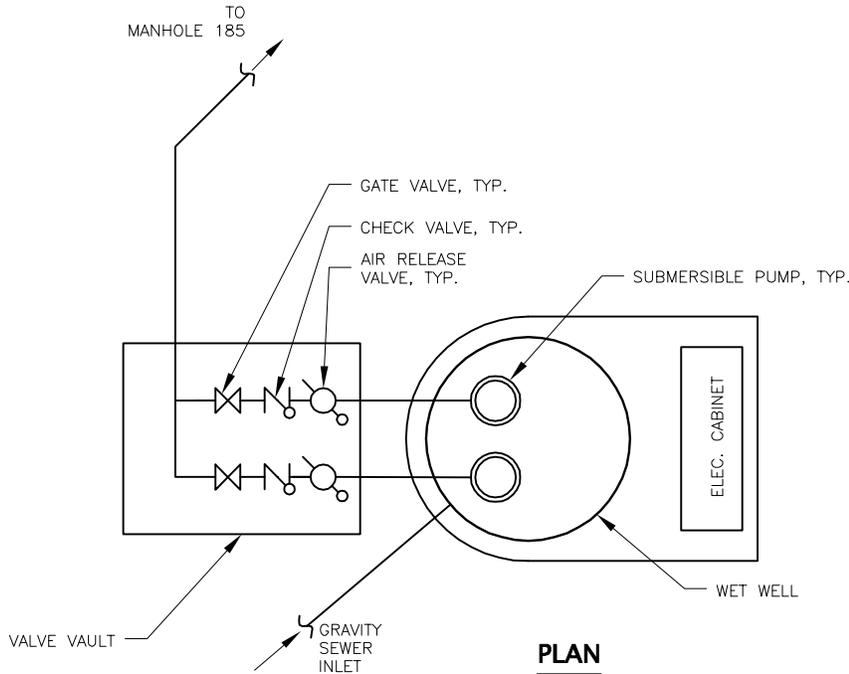


**PROFILE**

NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.

STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2006
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	635 GPM @ 42 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3127.181
PUMP MOTOR:	10 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	--
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	SFA - STATION FLOOD ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L - REMOTE/LOCAL



**PLAN**

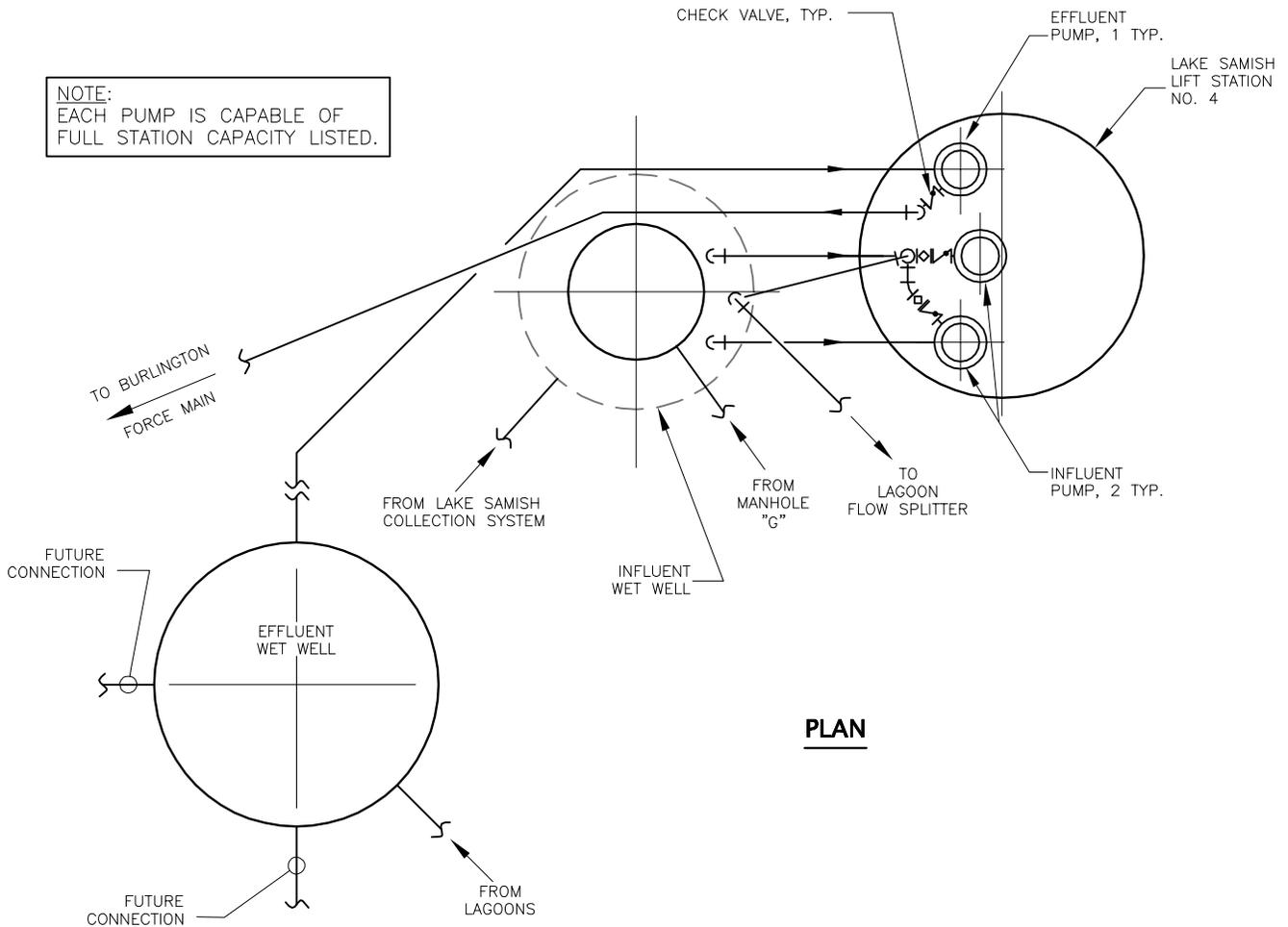
**SAMISH WATER DISTRICT -  
LAKE SAMISH PUMP STATION NO. 3**

NOT TO SCALE

**LAKE SAMISH PUMP STATION NO. 4**

STATION DESCRIPTION:	DUPLEX INFLUENT STATION SIMPLEX EFFLUENT STATION		
PUMP INSTALLATION DATE:	1975	SCADA:	
OWNER:	SAMISH WATER DISTRICT	ALARMS:	PA – POWER FAIL ALARM (R/L) SFA – STATION FLOOD ALARM (R/L) HLA – HIGH LEVEL ALARM (R/L) LLA – LOW LEVEL ALARM (R/L) IA – INTRUSION ALARM
INFLUENT PUMP SYSTEM		MONITORING:	PUMP RUN TIME (L)
STATION CAPACITY:	1300 GPM @ 40 TDH	CONTROL:	PUMP START/STOP (L)
EQUIPMENT:	ALLIS-CHALMERS, MO. 400, TYPE NSWV		ALARM RESET (L)
PUMP MOTOR:	20 HP, 3 PHASE, 460 VOLTS		WET WELL CONTROL LEVEL (L)
EFFLUENT PUMP SYSTEM			
STATION CAPACITY:	700 GPM @ 53 TDH		
EQUIPMENT:	ALLIS-CHALMERS, MO. 400, TYPE NSWV		
PUMP MOTOR:	20 HP, 3 PHASE, 460 VOLTS		
ADDL. STATION EQUIPMENT	INFLUENT & EFFLUENT FLOWMETERS		

R/L – REMOTE/LOCAL



**PLAN**

**SAMISH WATER DISTRICT –  
LAKE SAMISH PUMP STATION NO. 4**

NOT TO SCALE



WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

**SAMISH WATER DISTRICT**

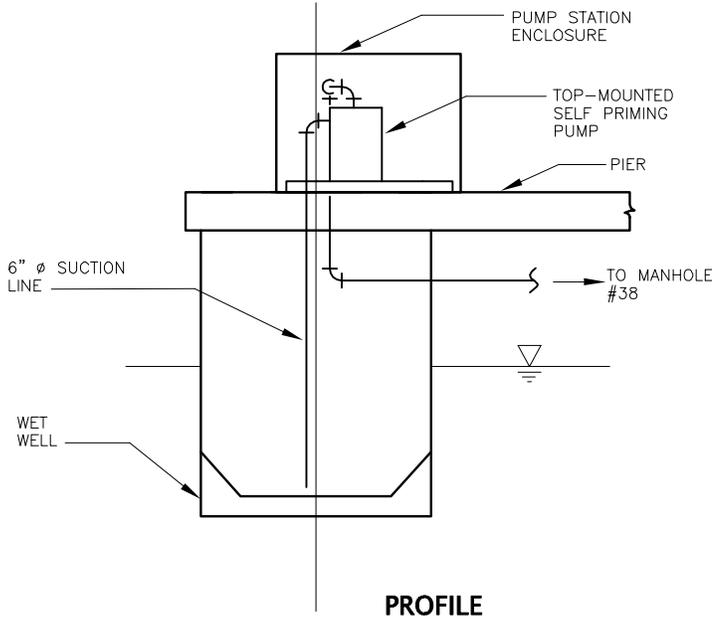
WHATCOM COUNTY WASHINGTON  
COMPREHENSIVE SEWER PLAN  
EXHIBIT E-4 – PUMPING FACILITIES  
Lake Samish Pump Station No. 4

DATE	JUNE 2013	SHEET	4
SCALE	NONE	OF	17
JOB NUMBER	2010-014		

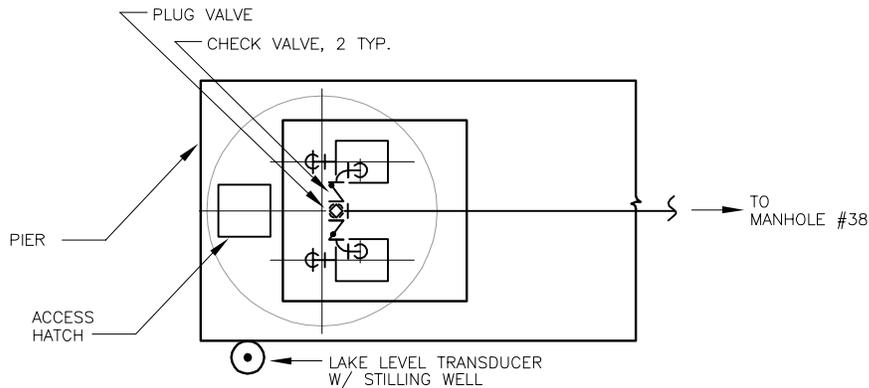
**LAKE SAMISH PUMP STATION NO. 5**

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	600 GPM @ 38 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T6A3S-B
PUMP MOTOR:	15 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	LAKE LEVEL TRANSDUCER
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	HHLA - REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	LLLA - REDUNDANT LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
	PFA - PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
	LAKE LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L - REMOTE/LOCAL



NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.



**SAMISH WATER DISTRICT -  
LAKE SAMISH PUMP STATION NO. 5**

NOT TO SCALE



WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

**SAMISH WATER DISTRICT**

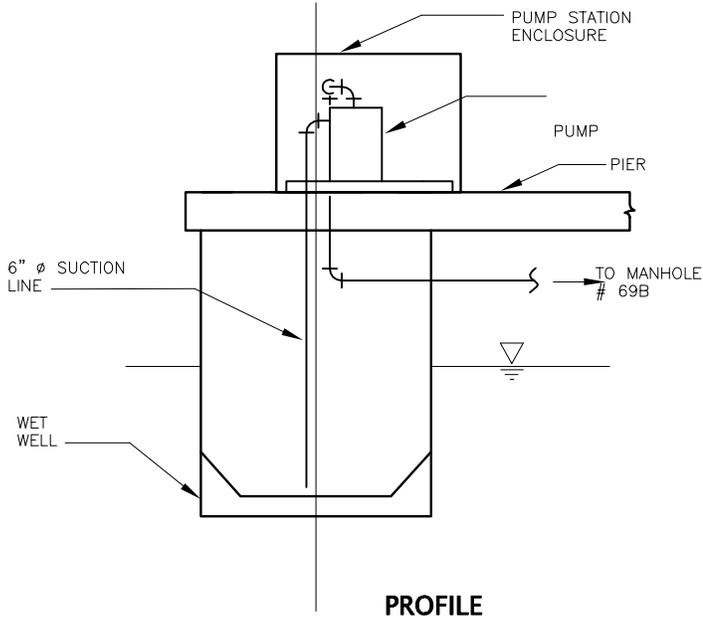
WHATCOM COUNTY WASHINGTON  
COMPREHENSIVE SEWER PLAN  
EXHIBIT E-5 - PUMPING FACILITIES  
Lake Samish Pump Station No. 5

DATE	JUNE 2013	SHEET	5
SCALE	NONE	OF	17
JOB NUMBER	2010-014		

**LAKE SAMISH PUMP STATION NO. 6**

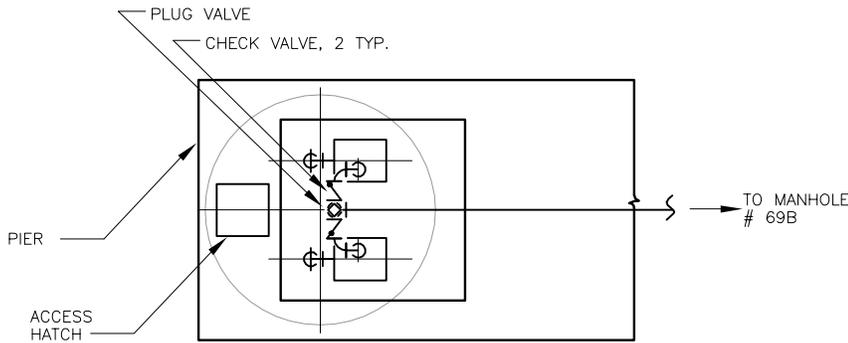
STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	600 GPM @ 66 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T6A3S-B
PUMP MOTOR:	25 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	---
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	HHLA - REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	LLLA - REDUNDANT LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
	PFA - PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L - REMOTE/LOCAL



**PROFILE**

NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.



**PLAN**

**SAMISH WATER DISTRICT -  
LAKE SAMISH PUMP STATION NO. 6**

NOT TO SCALE



WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061

www.wilsonengineering.com

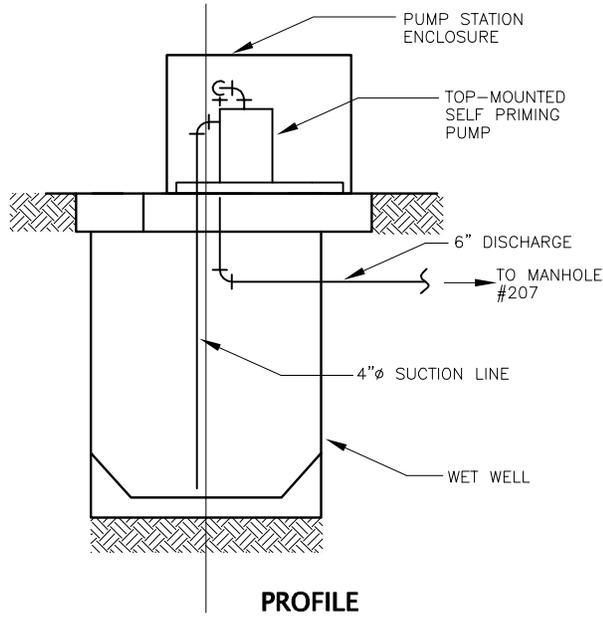
**SAMISH WATER DISTRICT**

WHATCOM COUNTY WASHINGTON

**COMPREHENSIVE SEWER PLAN  
EXHIBIT E-6 - PUMPING FACILITIES  
Lake Samish Pump Station No. 6**

DATE	JUNE 2013	SHEET	6
SCALE	NONE	OF	17
JOB NUMBER	2010-014		

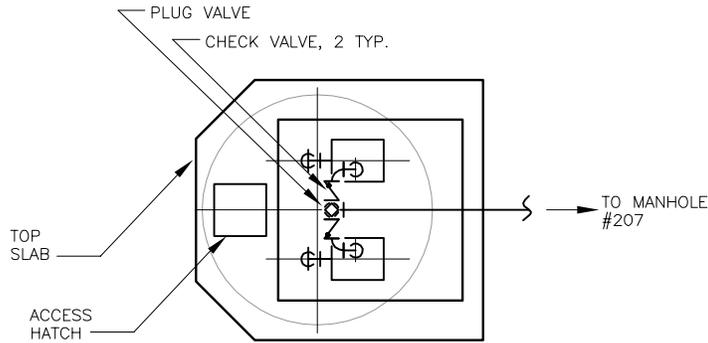
**LAKE SAMISH PUMP STATION NO. 7**



NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	600 GPM @ 25 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T6A3S-B
PUMP MOTOR:	7.5 HP, 240V/3 PHASE
ADDL. STATION EQUIPMENT:	---
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	HHLA - REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	LLLA - REDUNDANT LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
	PFA - PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

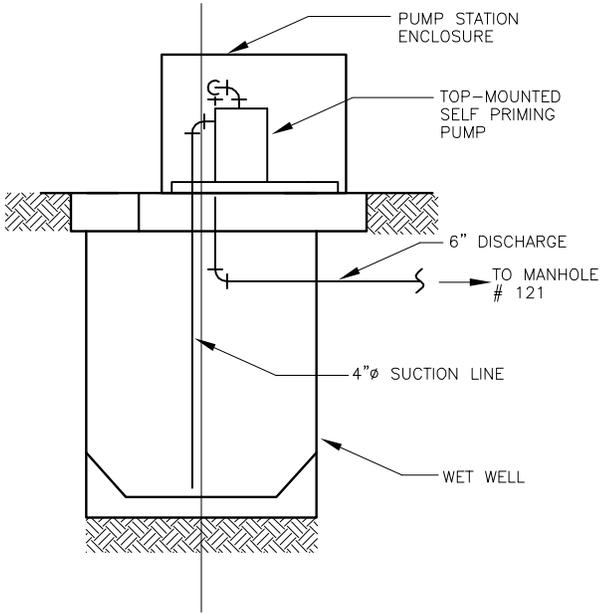
R/L - REMOTE/LOCAL



**SAMISH WATER DISTRICT -  
LAKE SAMISH PUMP STATION NO. 7**

NOT TO SCALE

**LAKE SAMISH PUMP STATION NO. 7A**

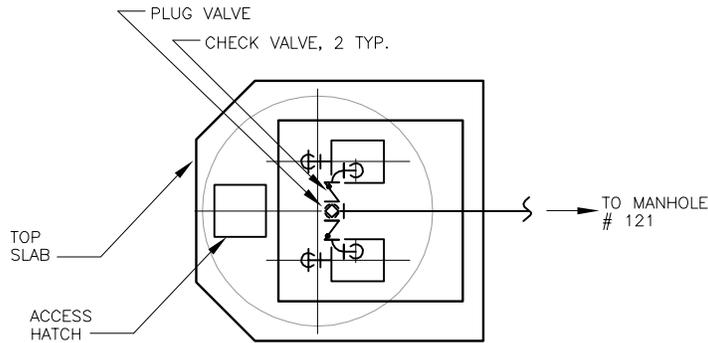


**PROFILE**

NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	150 GPM @ 32 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T4A3S-B
PUMP MOTOR:	5 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	---
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	HHLA - REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	LLLA - REDUNDANT LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
	PFA - PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L - REMOTE/LOCAL

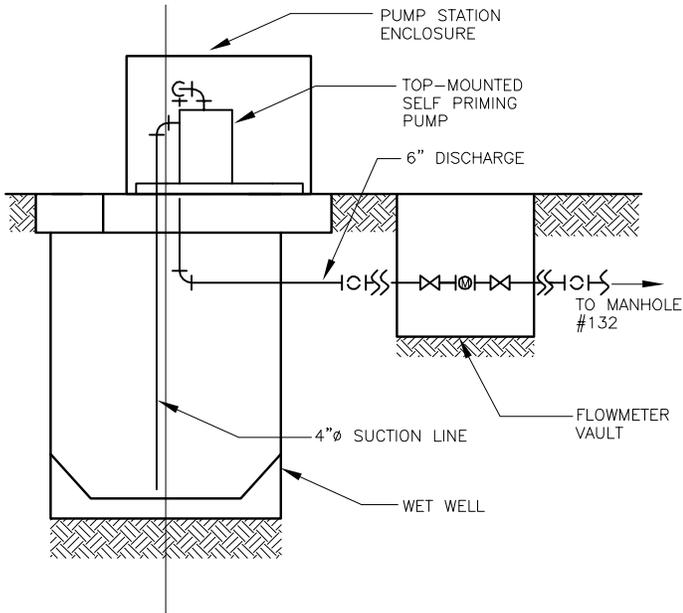


**PLAN**

**SAMISH WATER DISTRICT -  
LAKE SAMISH PUMP STATION NO. 7A**

NOT TO SCALE

**LAKE SAMISH PUMP STATION NO. 8**

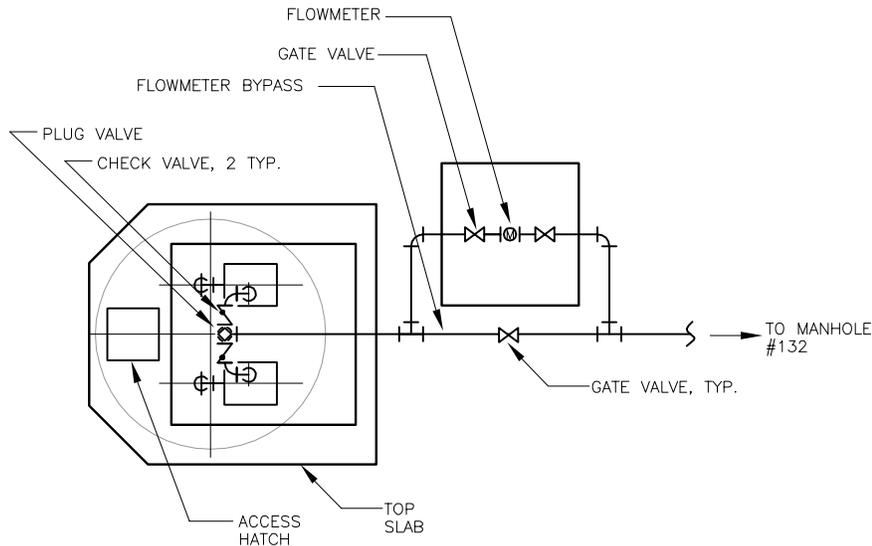


**PROFILE**

NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	100 GPM @ 21 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T4A3S-B
PUMP MOTOR:	3 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	UNIMAG FLOWMETER
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	HHLA - REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	LLLA - REDUNDANT LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
	PFA - PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
	FLOW-INSTATANEOUS (R/L)
	FLOW- TOTALIZED (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L - REMOTE/LOCAL



**PLAN**

**SAMISH WATER DISTRICT -  
LAKE SAMISH PUMP STATION NO. 8**

NOT TO SCALE



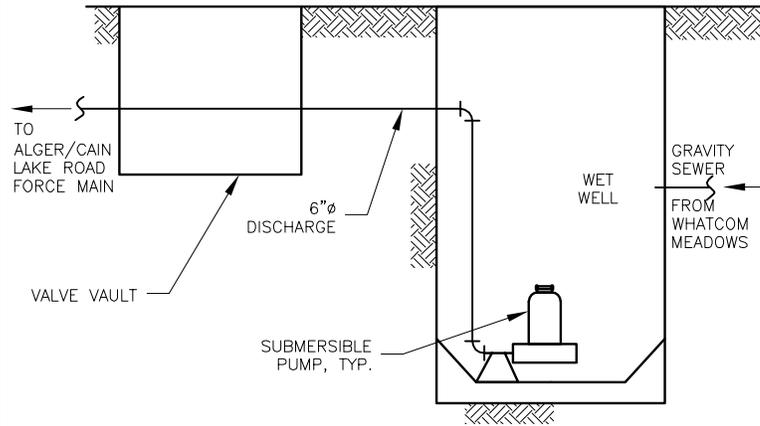
WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

**SAMISH WATER DISTRICT**

WHATCOM COUNTY WASHINGTON  
COMPREHENSIV SEWER PLAN  
EXHIBIT E-8 - PUMPING FACILITIES  
Lake Samish Pump Station No. 8

DATE	JUNE 2013	SHEET	9
SCALE	NONE	OF	17
JOB NUMBER	2010-014		

**LAKE SAMISH PUMP STATION NO. 9**



**PROFILE**

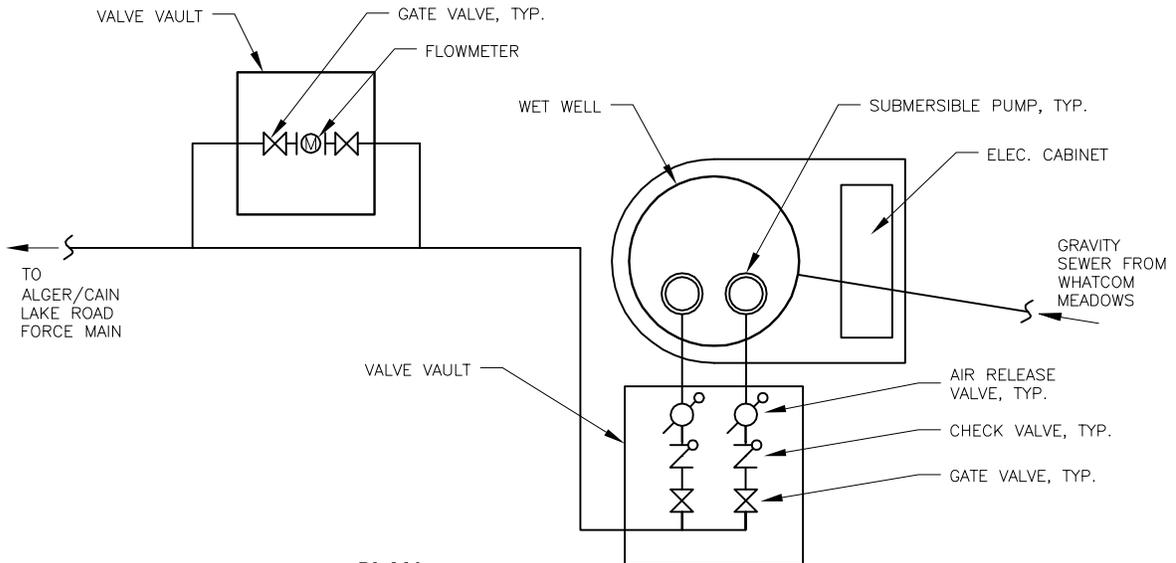
STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2006
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	242 GPM @ 137 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3153.181
PUMP MOTOR:	23 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	--
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	SFA - STATION FLOOD ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L - REMOTE/LOCAL

**NOTES:**

1. WHATCOM MEADOWS PUMP STATION NO. 9 IS EQUIPPED WITH A 50,000 GALLON UNDERGROUND STORAGE TANK.

**NOTE:**  
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.



**PLAN**

**SAMISH WATER DISTRICT - LAKE SAMISH PUMP STATION NO. 9**

NOT TO SCALE



WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

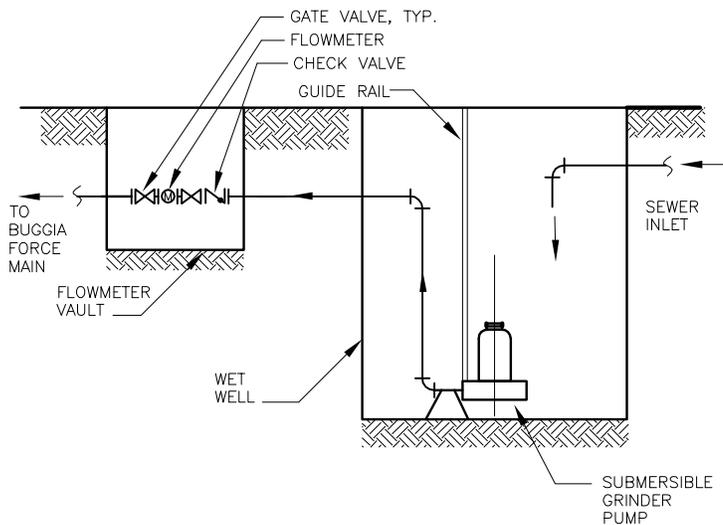
**SAMISH WATER DISTRICT**

WHATCOM COUNTY WASHINGTON  
**COMPREHENSIVE SEWER PLAN**  
**EXHIBIT E-9 - PUMPING FACILITIES**  
**Whatcom Meadows Pump Station No. 9**

DATE	JUNE 2013	SHEET	10
SCALE	NONE	OF	
JOB NUMBER	2010-014		17

**ALGER TEXACO PUMP STATION NO. 10**

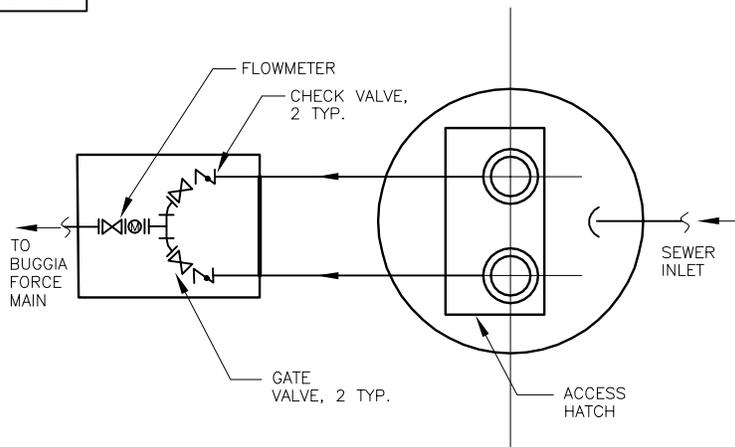
STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE GRINDER TYPE SEWER LIFT STATION
PUMP INSTALLATION DATE:	1995
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	84 GPM @ 78 FT. TDH
EQUIPMENT:	MYERS MODEL # WG50H
PUMP MOTOR:	5 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	UNIMAG FLOWMETER
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
	FLOW-INSTATANEOUS (R/L)
	FLOW-TOTALIZED (R/L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)



**PROFILE**

R/L - REMOTE/LOCAL

NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.



**PLAN**

**SAMISH WATER DISTRICT -  
ALGER TEXACO PUMP STATION NO. 10**

NOT TO SCALE



WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

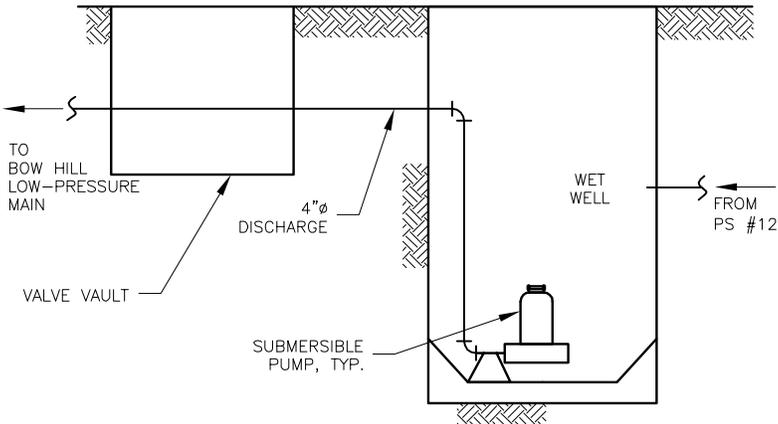
**SAMISH WATER DISTRICT**

WHATCOM COUNTY WASHINGTON  
COMPREHENSIVE SEWER PLAN  
EXHIBIT E-10 - PUMPING FACILITIES  
Alger Texaco Pump Station No. 10

DATE	JUNE 2013	SHEET	11
SCALE	NONE	OF	17
JOB NUMBER	2010-014		

**THOUSAND TRAILS PUMP STATION NO. 11**

STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2009
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	276 GPM @ 51.1 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3102.090 SH
PUMP MOTOR:	6.5 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	--
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	SFA - STATION FLOOD ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

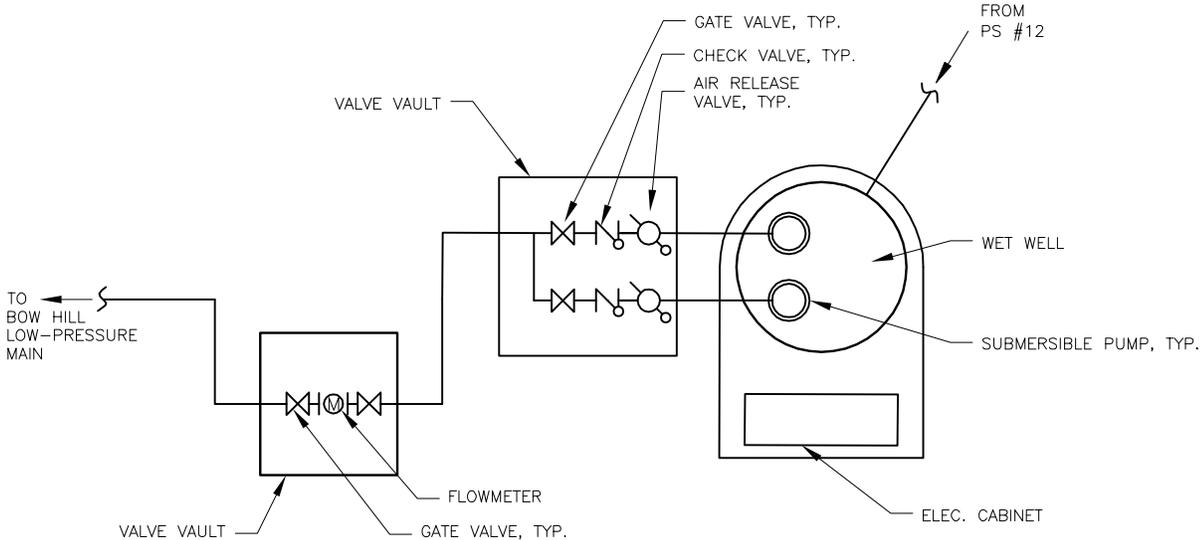


**PROFILE**

NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.

R/L - REMOTE/LOCAL

- NOTES:
- THOUSAND TRAILS PUMP STATION NO. 11 IS EQUIPPED WITH 4,750 GALLONS OF UNDERGROUND STORAGE.



**PLAN**

**SAMISH WATER DISTRICT -  
THOUSAND TRAILS PUMP STATION NO. 11**

NOT TO SCALE



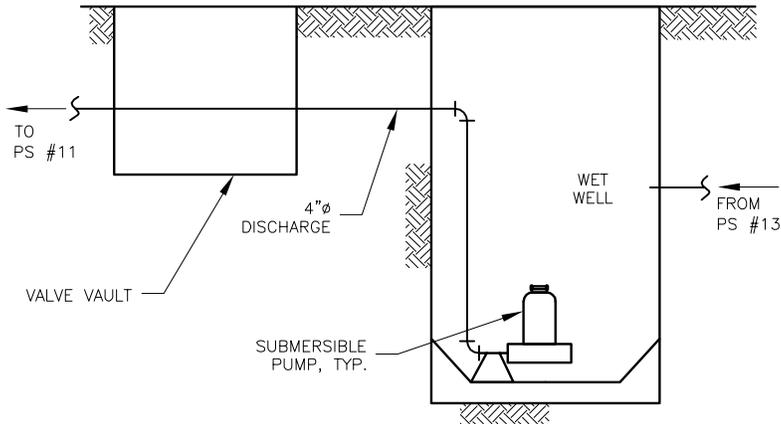
WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

**SAMISH WATER DISTRICT**

WHATCOM COUNTY WASHINGTON  
COMPREHENSIVE SEWER PLAN  
EXHIBIT E-11 - PUMPING FACILITIES  
Thousand Trails Pump Station No. 11

DATE	JUNE 2013	SHEET	12
SCALE	NONE	OF	17
JOB NUMBER	2010-014		

**THOUSAND TRAILS PUMP STATION NO. 12**



**PROFILE**

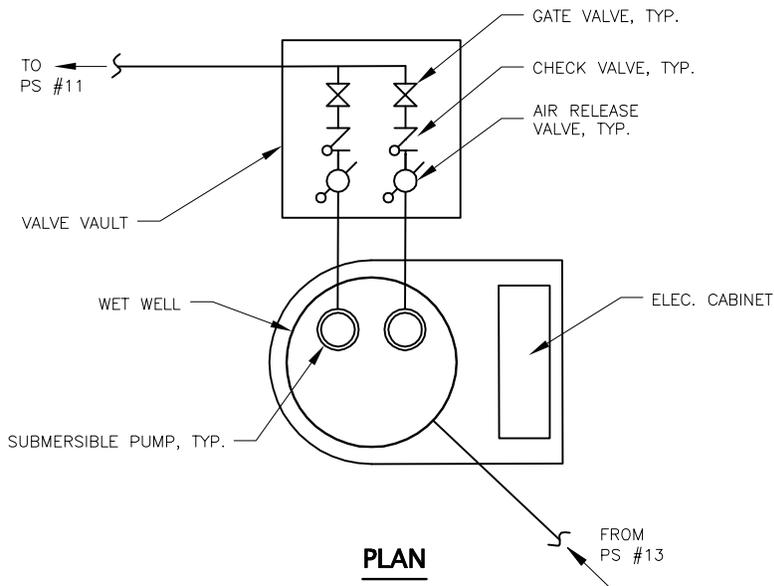
**NOTE:**  
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.

STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2009
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	180 GPM @ 68.9 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3102.090 SH
PUMP MOTOR:	6.5 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	--
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	SFA - STATION FLOOD ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L - REMOTE/LOCAL

**NOTES:**

1. THOUSAND TRAILS PUMP STATION NO. 12 IS EQUIPPED WITH 517 GALLONS OF UNDERGROUND STORAGE.



**PLAN**

**SAMISH WATER DISTRICT - THOUSAND TRAILS PUMP STATION NO. 12**

NOT TO SCALE



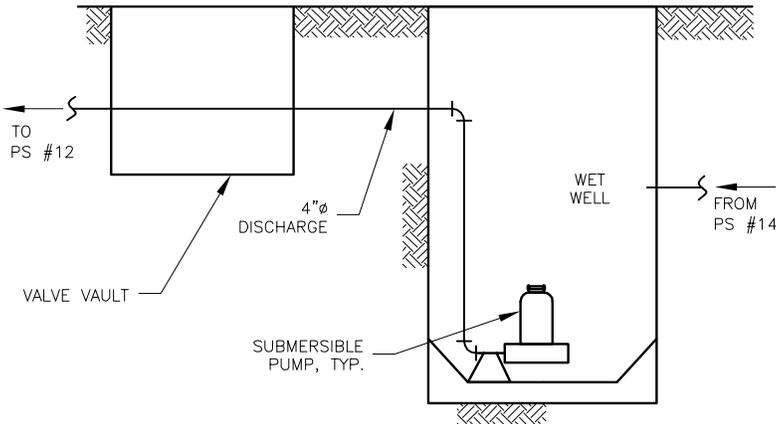
WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

**SAMISH WATER DISTRICT**

WHATCOM COUNTY WASHINGTON  
COMPREHENSIVE SEWER PLAN  
EXHIBIT E-12 - PUMPING FACILITIES  
Thousand Trails Pump Station No. 12

DATE	JUNE 2013	SHEET	13
SCALE	NONE	OF	
JOB NUMBER	2010-014		17

**THOUSAND TRAILS PUMP STATION NO. 13**



**PROFILE**

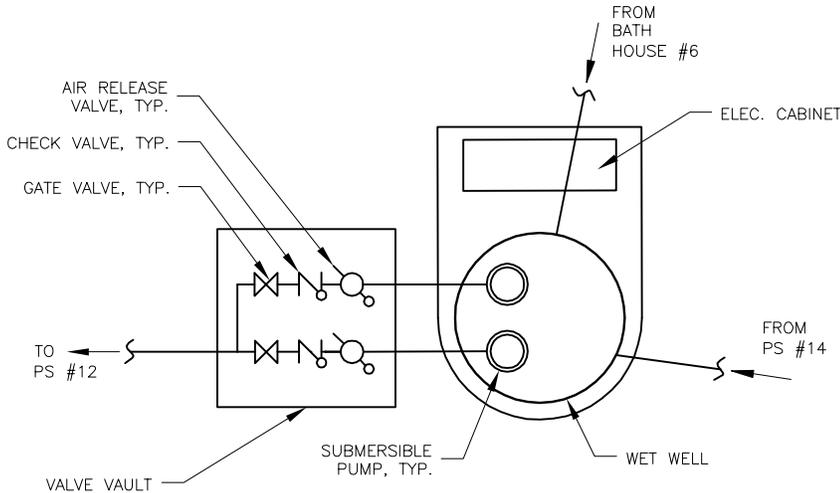
**NOTE:**  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.

STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2009
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	160 GPM @ 72.6 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3102.090 SH
PUMP MOTOR:	6.5 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	--
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	SFA - STATION FLOOD ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	IA - INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L - REMOTE/LOCAL

**NOTES:**

1. THOUSAND TRAILS PUMP STATION NO. 13 IS EQUIPPED WITH 1,034 GALLONS OF UNDERGROUND STORAGE.



**PLAN**

**SAMISH WATER DISTRICT -  
THOUSAND TRAILS PUMP STATION NO. 13**

NOT TO SCALE



WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

**SAMISH WATER DISTRICT**

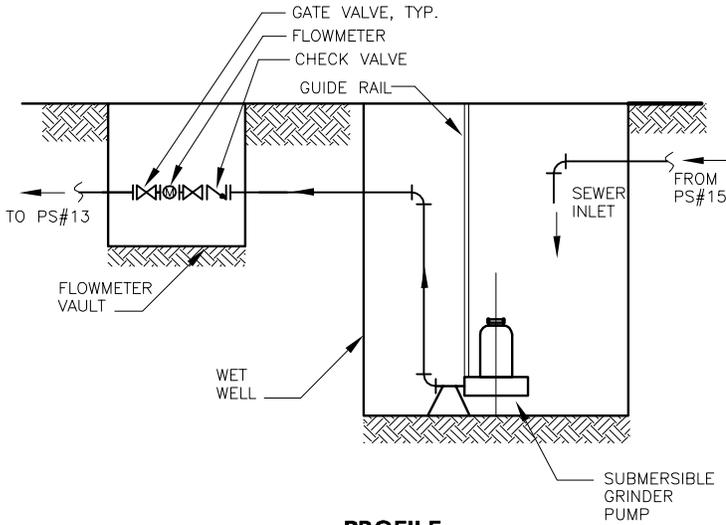
WHATCOM COUNTY WASHINGTON  
COMPREHENSIVE SEWER PLAN  
EXHIBIT E-13 - PUMPING FACILITIES  
Thousand Trails Pump Station No. 13

DATE	JUNE 2013	SHEET	14
SCALE	NONE	OF	
JOB NUMBER	2010-014		17

**WSDOT PUMP STATION NO. 14**

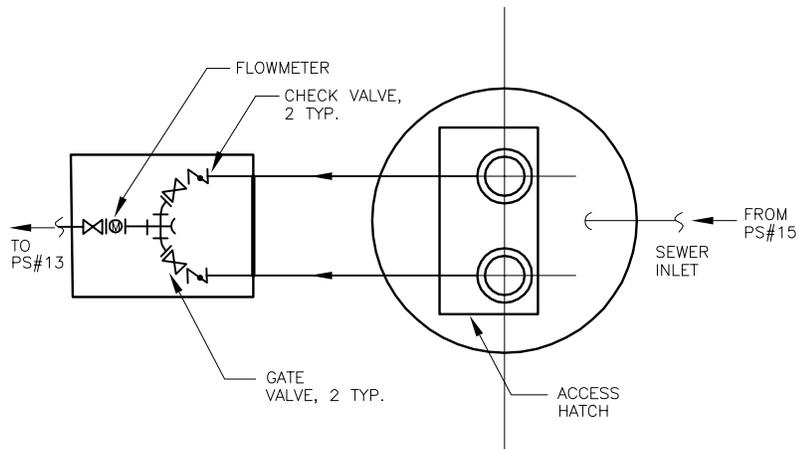
STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE, GRINDER TYPE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	67 GPM @ 60 FT. TDH
EQUIPMENT:	MYERS MODEL # WGX 30H-21-25
PUMP MOTOR:	3 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	UNIMAG FLOWMETER
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	HHLA - REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	LLLA - REDUNDANT LOW LEVEL ALARM (R/L)
	PFA - PUMP FAIL ALARM (R/L)
	PSF - PUMP SEAL FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
	FLOW-INSTANTANEOUS (R/L)
	FLOW-TOTALIZED (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L - REMOTE/LOCAL



**PROFILE**

NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.



**PLAN**

**SAMISH WATER DISTRICT -  
WSDOT PUMP STATION NO. 14**

NOT TO SCALE



WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

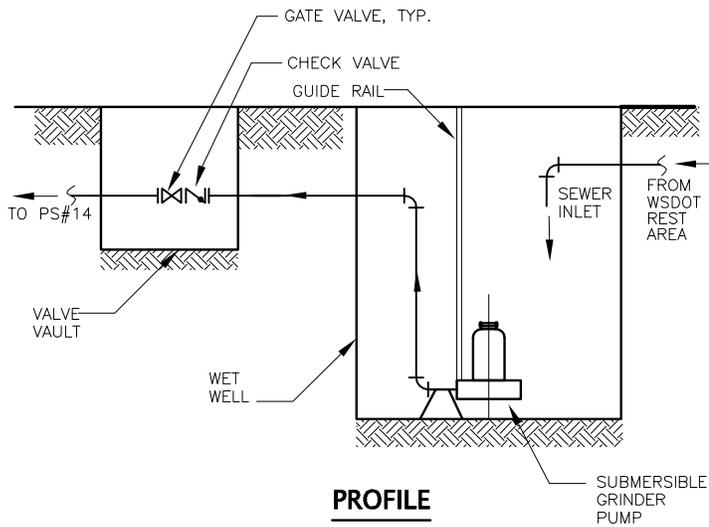
**SAMISH WATER DISTRICT**

WHATCOM COUNTY WASHINGTON

**COMPREHENSIVE SEWER PLAN  
EXHIBIT E-14 - PUMPING FACILITIES  
WSDOT Pump Station No. 14**

DATE	JUNE 2013	SHEET	15
SCALE	NONE	OF	17
JOB NUMBER	2010-014		

**WSDOT PUMP STATION NO. 15**

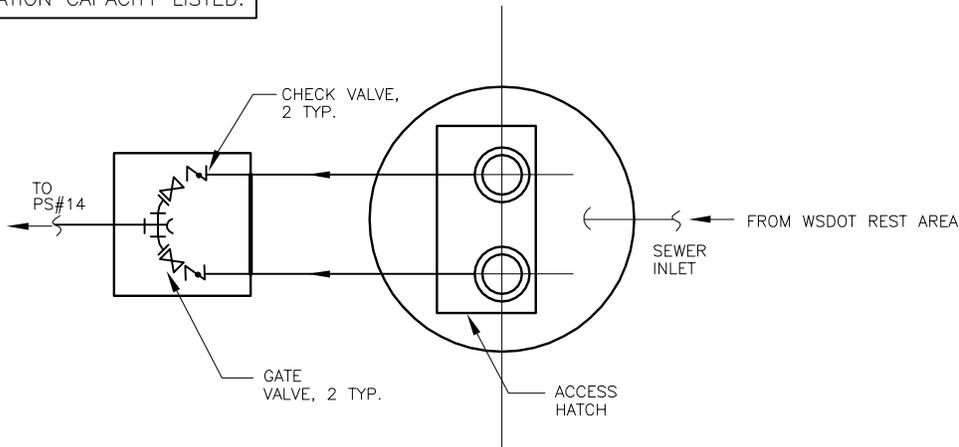


**PROFILE**

STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE, GRINDER TYPE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	64 GPM @ 42 FT. TDH
EQUIPMENT:	MYERS MODEL # WGX 30-21-25
PUMP MOTOR:	3 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	---
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	HHLA - REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA - LOW LEVEL ALARM (R/L)
	LLLA - REDUNDANT LOW LEVEL ALARM (R/L)
	PFA - PUMP FAIL ALARM (R/L)
	PSF - PUMP SEAL FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L - REMOTE/LOCAL

NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.



**PLAN**

**SAMISH WATER DISTRICT -  
WSDOT PUMP STATION NO. 15**

NOT TO SCALE



WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

**SAMISH WATER DISTRICT**

WHATCOM COUNTY WASHINGTON

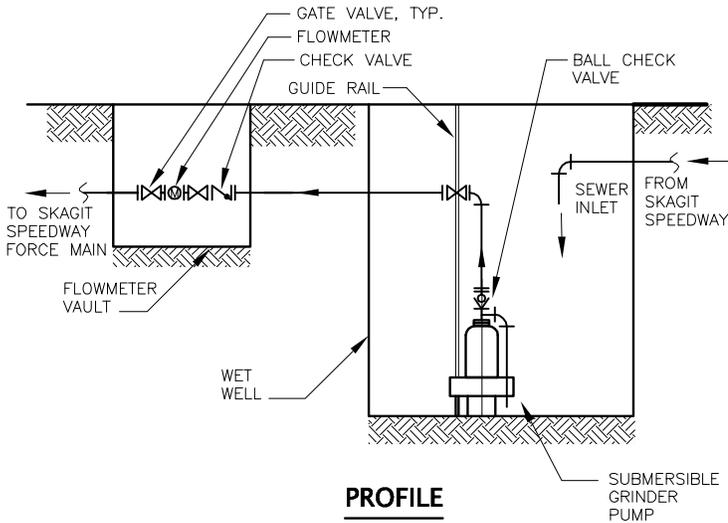
**COMPREHENSIVE SEWER PLAN  
EXHIBIT E-15 - PUMPING FACILITIES  
WSDOT Pump Station No. 15**

DATE	JUNE 2013	SHEET	16
SCALE	NONE	OF	17
JOB NUMBER	2010-014		

**SKAGIT SPEEDWAY PUMP STATION NO. 16**

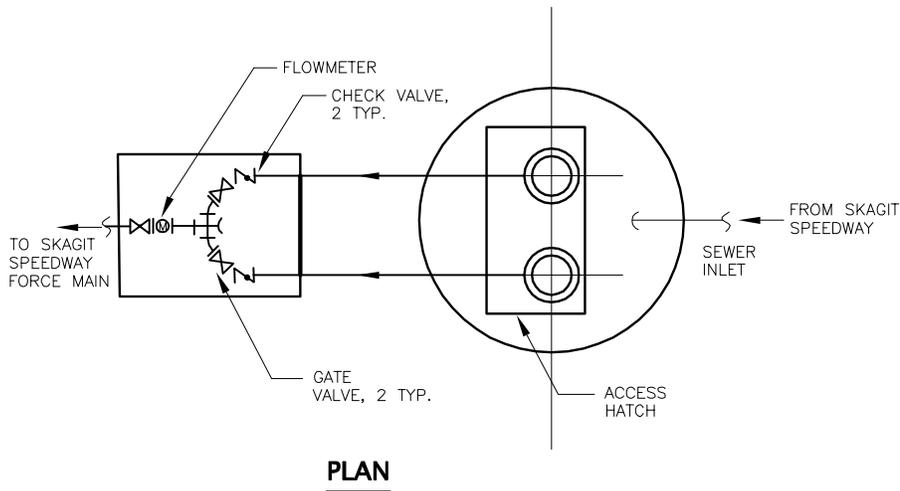
STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE, GRINDER TYPE SEWER LIFT STATION
PUMP INSTALLATION DATE:	1986
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	95 GPM @ 25 FT. TDH
EQUIPMENT:	HYDROMATIC MODEL #G2FX300
PUMP MOTOR:	3 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	UNIMAG FLOWMETER
SCADA:	
ALARMS:	PA - POWER FAIL ALARM (R/L)
	HLA - HIGH LEVEL ALARM (R/L)
	PSF - PUMP SEAL FAIL ALARM (L)
MONITORING:	PUMP RUN TIME (L)
	FLOW-INSTATANEOUS (R/L)
	FLOW-TOTALIZED (R/L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L - REMOTE/LOCAL



**PROFILE**

NOTE:  
EACH PUMP IS CAPABLE OF  
FULL STATION CAPACITY LISTED.



**PLAN**

**SAMISH WATER DISTRICT -  
SKAGIT SPEEDWAY PUMP STATION NO. 16**

NOT TO SCALE



WILSON ENGINEERING, LLC  
805 DUPONT STREET  
BELLINGHAM, WA 98225  
(360) 733-6100 • FAX (360) 647-9061  
www.wilsonengineering.com

**SAMISH WATER DISTRICT**

WHATCOM COUNTY WASHINGTON  
COMPREHENSIVE SEWER PLAN  
EXHIBIT E-16 - PUMPING FACILITIES  
Skagit Speedway Pump Station No. 16

DATE	JUNE 2013	SHEET	17
SCALE	NONE	OF	17
JOB NUMBER	2010-014		

**Exhibit F - Burlington Wastewater Treatment Agreement**

12  
5  
2

Contract for

Wastewater Treatment and Disposal

Between

The City of Burlington

And

Whatcom County Water District No. 12

January 2001



## TABLE OF CONTENTS

	Page
Section 1 ..... Introduction	1
Section 2 ..... Recitals	1&2
Section 3 ..... Definitions	2&3
Section 4 ..... Ownership and Management	3&4
4.1 Ownership .....	3
4.2 Wastewater Delivery .....	3&4
Section 5 ..... Excess Discharge	4&5
5.1 Maximum Flow .....	4
5.2 WWD# 12 Surcharge .....	4
5.3 Surcharge Rate .....	4
5.4 Additional Costs .....	5
5.5 Meter and Sampler .....	5
Section 6 ..... Payments	5
6.1 Billing .....	5
6.2 WWD#12's Customers .....	5
6.3 Unpaid Bills .....	5
6.4 Disputed Bills .....	5
6.5 Assertion of Claims .....	5
Section 7 ..... Exclusivity	5&6
7.1 WWD#12 Service Area .....	5
7.2 City Income .....	6
Section 8 ..... BOD and TSS Sampling	6
8.1 Responsibility .....	6
8.2 Performance .....	6
Section 9 ..... Standards for Maintenance and Operation	6&7
9.1 Standards .....	6
9.2 Connections .....	7
9.3 I & I .....	7
9.4 Meter Recalibration .....	7
Section 10 ..... Pre-Treatment	7
Section 11 ..... Books and Records	7&8
11.1 Books .....	7
11.2 WWD#12 Planning .....	7
11.3 City Cooperation .....	7&8
11.4 No Capacity Representation-Planning .....	8

	Page
Section 12 .....	Indemnification and Hold Harmless 8
12.1 City .....	8
12.2 WWD#12 .....	8
12.3 Survival .....	8
Section 13 .....	Term of Contract 8&9
Section 14 .....	Notice 9
Section 15 .....	Assignment 9
Section 16 .....	Successors and Assigns 9
Section 17 .....	Amendments or Modifications 9
Section 18 .....	Consent to Jurisdiction 10
Section 19 .....	Dispute Resolution 10
Section 20 .....	Prior Agreement Superseded 10
Section 21 .....	Unresolved Claims 10
Section 22 .....	Severability of Invalid Provisions 10
Section 23 .....	Governing Law 10
Section 24 .....	Attorney Fees 10
Section 25 .....	Force Majeure 10
Section 26 .....	Execution 11
Attachments:	
Exhibit A .....	Map of WWD#12's Service Area
Exhibit B .....	Rates and Charges Schedule

This Contract is a manifestation of the good faith efforts of the District and City to maintain sewer treatment services by the City of the Wastewater of District. This Contract replaces prior agreements between the Parties regarding Wastewater treatment services and sets out the terms and conditions of the relationship for the term of this Contract.

**SECTION 3. Definitions.** For the purposes of this Contract, the following words and terms shall have the following meanings:

"BOD" means five-day biochemical oxygen demand.

"City" means the City of Burlington or its successor.

"City System" means the system of sewerage, consisting of a sanitary sewage collection system and sewage treatment facilities owned and operated by the City.

"City System Plan" means the 1990 Sewer Comprehensive Plan and the 1997 Facility Plan, approved by the Department of Ecology, or as such is later amended.

"Daily Flow" means the total flow of wastewater during any twenty-four (24) hour period.

"Delivery Point" means the point where the District Wastewater is delivered into the City System at the east right-of-way of Interstate 5 as shown on "**Exhibit A**" attached hereto and by this reference incorporated herein.

"DOE" means the Washington State Department of Ecology, or its successor.

"Domestic Wastewater" means Domestic Wastewater as that term is defined in WAC 173-221-030(9).

"Effective Date" means the date of Contract execution by City and District as set forth in Section 1 of this Contract.

"Equivalent Residential Unit (ERU)" means the equivalent of one residential unit for the purpose of computing general facilities charges. One (1) ERU equals 178 gallons per day (gpd).

"Facilities" means the City's Wastewater treatment facilities as described in the City of Burlington 1997 Facilities Plan or as such is later amended.

"Flow" means the volume of Wastewater per unit of time.

"Industrial Wastewater" means Industrial Wastewater as that term is defined in WAC 173-221-030(15), and that is subject to such pretreatment requirements that may be established under this Contract.

"NPDES Permit" means a National Pollutant Discharge Elimination System Permit granted to the City or to the District, as applicable, pursuant to chapter 90.48 RCW and the Federal Water Pollution Control Act, as amended.

"Parties" means the City and District.

"Permitted Capacity" is the Wastewater capacity and BOD/TSS removal capacity authorized by the applicable NPDES permit for the Treatment Plant.

"Treatment Plant" means the City's Wastewater Treatment Plant located at Burlington, Skagit County.

"Tribal Facilities" are Upper Skagit Indian Tribe's facilities currently connected to District's force main.

"TSS" means total suspended solids.

"Uncontrollable Circumstances" means riots, wars, insurrections, civil disturbances, labor strikes or work stoppage, vandalism or acts of terrorism, volcanic eruptions, lightning, landslides, earthquakes, flood, excessive rainfall or other acts of nature outside the control of the Parties.

"Wastewater" means sanitary sewage only, and includes Domestic Wastewater and Industrial Wastewater.

" District Contract Daily Flow" means 250,000 gallons per day.

" District Service Area" means the District area as depicted on the map attached hereto and by this reference incorporated herein as "Exhibit A"; which includes the Lagoon System and the Downstream System as depicted by the WWD#12 comprehensive plan.

" District System" means the system of sewerage, consisting of a sanitary sewage collection system, primary treatment lagoons and force mains owned and operated by District. That portion of the District System that includes a primary lagoon treatment facility whereby the sewage from that part of the District collection system is treated before being pumped into the force main is known as the "Lagoon System", and that portion of the District System that includes the District System downstream of the Lagoon System, which the sewage is not treated before being pumped into the force main is known as the "Downstream System".

#### **SECTION 4. Ownership and Management.**

##### **4.1 Ownership.**

A. City. The City owns and operates the City System and shall be solely responsible for the cost and maintenance of the City System including the effluent meter and sampling stations set forth in Section 5 below, subject to the applicable terms of this Contract. The District shall not own or acquire any ownership interest in the City System by this Contract.

B. District. The District owns and operates the District System, and shall be solely responsible for the cost and maintenance of the District System, including the force main where it joins the City System, subject to any applicable terms of this Contract. The City shall not own or acquire any ownership interest in the District System except as otherwise stated herein.

##### **4.2 Wastewater Delivery.**

A. Wastewater Delivery. The City shall receive Wastewater of the District, not to exceed District Contract Daily Flow, delivered at the Delivery Point to the City System. Wastewater received by the City from the District and originating within District Service Area or otherwise shall be considered Wastewater of the District except for that Wastewater of the Tribal facilities (which is covered by separate contract between each Party and the Tribal facilities), and any other Wastewater also specifically excluded by separate written contract. The District shall pay for treatment and disposal of the District's Wastewater in accordance with the terms of this contract.

B. Rates and Charges. Rates and charges for City receipt and treatment of Wastewater from the District shall be governed by this Contract and as set forth in " **Exhibit B,**" attached hereto and by this reference incorporated herein. The City shall have exclusive authority to establish rates and charges for Wastewater services provided to City customers other than the District. The District shall have exclusive authority to establish rates and charges for Wastewater services within the District Service Area or subject to District control except as agreed upon in writing by the Parties.

C. District Contract Daily Flow Modification. Any modification to the District Contract Daily Flow must be by a written amendment to this Contract between the District and the City. Any discharge by the District in excess of the District Contract Daily Flow shall be subject to the surcharge and remedies set forth herein. The payment of a connection charge to the City for a connection to the District's Downstream System shall constitute an amendment to the Contract increasing the daily flow capacity in an amount equal to the number of ERUs for which a connection charge is paid.

D. Flow through Joint Interceptor Systems. This District shall provide detention ponds so that the effluent shall be delivered to the City outside the peak Flow periods of the City, which shall be as mutually agreed between the Parties. The peak discharge rate from the District detention ponds to the joint interceptor system shall not exceed 1100 gallons per minute. The period of discharge shall not exceed 12 hours per day and at times as mutually agreed upon by the Parties. This paragraph shall remain in effect until the City's current system upgrade is completed, at which time the City shall notify the District in writing of District no longer having the requirement regarding delivery of the effluent outside the peak hours of the City as set forth in this paragraph.

## **SECTION 5. Excess Discharge.**

5.1 Maximum Flow. The District shall not discharge into the City System more than the District Contract Daily Flow. The acceptance by the City of any of the District's excess discharge shall create no right, title or interest in the District to any additional Treatment Plant capacity. The City reserves the right at any time with or without cause, at the City's sole discretion, to refuse to accept any of the District's discharge in excess of District Contract Daily Flow. In addition to the remedies provided in this Contract, in the event the District discharges Wastewater into the City System in excess of the District Contract Daily Flow and causes the Treatment Plant to exceed its Permitted Capacity and it appears that such excess discharge is likely to occur again, the City shall have the exclusive right to construct at the sole cost and expense of the District Flow restriction devices to limit discharge to the City System to the District Contract Daily Flow. The City shall have recourse to injunctive relief in an arbitration proceeding set forth herein, to the extent necessary to enforce such right.

5.2 District Surcharge. If the District discharges an amount of Wastewater greater than the District Contract Daily Flow for 5 (five) days during any 30 (thirty) day period, District shall negotiate with the City for the purchase of additional capacity in the City System for use by the District; such negotiations and purchase of excess capacity shall be made within 12 months of the City notifying District they are exceeding such Flow. Until additional capacity is acquired by the District within the maximum 12 months, discharge in excess of the District Contract Daily Flow shall be a violation of the Contract Daily Flow and subject to the surcharge and remedies set forth herein and as stated in Exhibit B.

5.3 Surcharge Rate The District shall pay to the City, in addition to the regular rate set forth in Section 4.2(B) herein, a surcharge rate for each gallon of Wastewater discharged or delivered by the District to the City in excess of District Contract Daily Flow. The surcharge rate for each gallon in excess of the District Contract Daily Flow shall be levied in the amount equal to the downstream rate set forth in Section 4.2(B) herein. The surcharge rate shall be in addition to regular rate charged to District and all other charges to the District set forth herein, and shall not be the exclusive remedy to the City for Wastewater discharged by the District in excess of District Contract Daily Flow.

5.4 Additional Costs. In the event Wastewater discharged by the District, whether by excess flow or prohibited substances as defined in the Burlington Municipal Code, causes the Treatment Plant to violate applicable law, regulations or permits (including the applicable NPDES permit), the District shall pay, in addition to the surcharge applicable to excess Flow set forth herein, such additional costs to include but not be limited to fines, attorney fees (from citizens' suits or otherwise) and penalties (other than those surcharges levied by the City as set forth herein), including associated administrative, legal and engineering costs incurred by the City.

5.5 Meter and Sampler. The City owns and maintains an influent meter ("meter") and sampler ("sampler") to measure and sample all influent to the City System from the District System at the Delivery Point. The District shall provide an effluent meter ("meter") and sampler ("sampler") to measure and sample all Wastewater at the point of the Lagoon System Wastewater discharge for the City's exclusive use. The effluent meter and sampler at the point of the Lagoon System Wastewater discharge shall be constructed by March 15, 2001. The Tribe owns an effluent meter and sampler which is jointly operated and maintained by the City and the District. The City will provide the District upon request the monitoring records from the points of entry along with the billing. Note that there are three points of entry; 1) Lagoon Effluent, 2) Upper Skagit Indian Tribe; and 3) City of Burlington, Pump Station No. 6.

## **SECTION 6. Payments.**

6.1 Billing. On or before the fifteenth (15th) day of each calendar month, the City shall bill the District for all service under this Contract for the immediately preceding calendar month. A bill that has been properly addressed and deposited in the United States mail shall be deemed to be presented to the District for payment. The District's monthly payments shall be due and payable in the office of the City's Clerk-Treasurer on the forty-fifth (45th) day after the billing date appearing on the bill. The billing date shall not be earlier than the date the City deposits the District's bill in the mail. The District shall pay interest on monthly payments received by the City after the forty-fifth (45th) day after the billing date at the same interest rate applied by the City to other late payments for sewer service.

6.2 District's Customers. The District shall be responsible for billing and collecting from its customers.

6.3 Unpaid Bills. In the event that any payment due under this Contract shall remain unpaid and undisputed for forty-five (45) days after the billing date, then the payment shall be considered delinquent.

6.4 Disputed Bills. If the District believes that a bill from the City is in error, the District shall notify the City and provide any supporting documents within forty-five (45) days after the billing date. Notice of disputed bills shall include payment of undisputed amounts and fifty percent (50%) of disputed amounts. Within ten (10) days thereafter the District and the City shall meet to attempt to resolve the dispute. If the dispute cannot be resolved, then the City and District shall proceed pursuant to Section 19, "Dispute Resolution." Any amounts in dispute paid by the District shall be deposited by the City in an interest-bearing account established by District and City, and such amounts shall be held in the account pending resolution of the dispute pursuant to Section 19. The District shall continue to pay subsequent monthly bills as provided in this Section 6.

6.5 Assertion of Claims. Claims not so asserted within the time frames set forth herein shall be waived unless the Party for good cause shown did not know or, in the exercise of reasonable diligence, did not have reason to know of the claim.

## **SECTION 7. Exclusivity.**

7.1 District Service Area. The City acknowledges the District as the exclusive purveyor of Wastewater services within the District Service Area. The City shall not contract with any other person to provide Wastewater service within the District Service Area without the written consent of the District except as already contracted between the City and the Tribal facilities.

7.2 City Income. Wastewater received by the City from any source other than from the District, the District System or the District Service Area shall be considered Wastewater of the City for all purposes, including wastewater of the Tribal facilities and all other customers covered by separate contract within District service area. The District shall have no right, title, interest or claim, past or present with respect to any income (including but not limited to amounts held currently in City System funds or accounts) received by the City for such Wastewater. Such income shall be considered income received from the City's customers and shall not be used to offset the District's obligations under this Contract in any way.

## **SECTION 8. BOD and TSS Sampling.**

8.1 Responsibility. The City Shall be responsible for routine collection and analysis of BOD and TSS samples of Wastewater from the District System entering from the Lagoon System into the force main and Wastewater from the District force main entering into City System. Sampling of District Wastewater entering from the Lagoon System into the force main , and the District Wastewater entering the City System, shall be coordinated at the point of source of Wastewater other than that of District, in order to allow calculation of the BOD and TSS entering the City System that is not attributable to the District System.

### **8.2 Performance**

A. Testing Standards. BOD and TSS analysis shall be performed in accordance with the latest NPDES Permit or, in the absence of an NPDES Permit, in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, or successor agency.

B. Sampling – General. Samples shall be as representative as possible of the overall Wastewater stream and shall be no less than continuous, uninterrupted 24-hour Flow-proportionate composite samples, or by such other procedures as are mutually agreed between the Parties. Sampling shall occur no less frequently than twice per week. Either Party may take additional samples at its option. At its option and at its cost, the District may request that the City take additional samples. Also, at its option, representatives of the District may attend the sampling. The City shall give reasonable notice of the date and time of sampling. Sampling shall be scheduled so that, to the maximum extent reasonably feasible, the volume-weighted samples gathered during a month accurately reflect the BOD concentration and TSS concentration of the total Flow during that month.

C. Split Sampling. Either party shall prepare split samples and when such split samples are made, either party shall give a split sample to the representative of the other party who attends such sampling. If no representative attends the sampling, the sampling party shall properly preserve the split sample at the Treatment Plant until noon the following day.

D. Testing. Laboratories accredited by DOE shall do analysis of samples. Either party shall provide copies of its Quality Assurance/Quality Control ("QA/QC") results to the other Party, and either Party may observe the other Party's testing procedures.

## **SECTION 9. Standards for Maintenance and Operation.**

9.1 Standards. The District and the City shall maintain and operate their respective systems in accordance with operating standards established by the United States Environmental Protection Agency and DOE. If the Flow meter, sampler or other equipment indicate excess Flow or other deficiencies in the respective systems or maintenance or operation of those systems, the deficiencies shall be corrected immediately.

9.2 Connections. The District may allow connection to the District System of sewerage system or improvements that are within or adjacent to the District Service Area, provided that such sewerage systems or improvements comply with the standards for maintenance and operation set forth in this Contract and comply with City Ordinances, State and Federal Laws.

9.3 I&I. Wastewater collection systems shall not include roof or foundation drains and shall exclude surface or ground water, except for incidental infiltration and inflow.

9.4 Meter Recalibration. The meter measuring the District Wastewater at the point of Wastewater leaving the Lagoon System will be recalibrated twice per year by District and Delivery Point measuring total influent will be recalibrated twice per year by the City. In addition, if there is a reasonable basis by either party to believe that another recalibration is needed, either party shall perform such recalibration by request at their expense, unless the additional recalibration requested shows the meter to be within +/- 2% accuracy, in which case the cost of the additional recalibration shall be paid in full by requesting party. Representatives of each Party shall have a right to observe the recalibration. Certification of the recalibration will be made available upon request.

**SECTION 10. Pretreatment.** The District shall maintain Wastewater pretreatment of Wastewater from the Lagoon System which comply with the terms of this contract. District shall be responsible within the District Service Area for implementing an industrial Wastewater pretreatment program, including but not limited to procedures, forms, and instructions; categorizing and identifying dischargers; keeping records; tracking compliance; establishing annual limits; sampling, testing and monitoring; preparing control documents and permits; issuing control documents and permits; enforcing compliance; and collecting any special fees, penalties or other associated extraordinary charges.

**SECTION 11. Books and Records.**

11.1 Books. The Parties shall keep full and complete books of accounts for all costs and expenses related to this Contract, for the time period required by State law.

11.2 District Planning.

A. District Planning for Additional Capacity. When the District discharges for three consecutive months an amount of Wastewater greater than 85% of the District Contract Daily Flow or when the projected discharges would exceed the District Contract Daily flow within five years, whichever comes first the District shall commence planning and submit to the City within one (1) year a plan and schedule for management of District Wastewater.

B. The Plan. The plan must meet the requirements of WAC 173-240-060, "Engineering Report," and shall specify any contracts, legislative action, methods for financing, or other arrangements necessary to achieve this requirement.

11.3 City Cooperation. The City shall cooperate and participate in the District's planning efforts and make available to the District information possessed by the City regarding District Wastewater, including the Tribal facilities and any other contracted customers within the District service area. The City shall be considered a consulted agency under WAC 197-11-724, but shall have no financial obligation regarding District planning.

11.4 No Capacity Representation -- Planning. Expansion of the Treatment Plant shall be at the sole and absolute discretion of the City. Except as provided herein, the City makes no representation or assurance regarding the availability of the Treatment Plant for District Wastewater in excess of District Contract Daily Flow. In the event the City determines to construct additional improvements to the Treatment Plant or construct new or acquire additional Wastewater treatment facilities, that increase capacity for Wastewater treatment and disposal, the City has no obligation to allocate new capacity to the District except as provided herein, and the District has no obligation to the City for costs of such new or additional facilities.

## **SECTION 12. Indemnification and Hold Harmless.**

12.1 City. The City shall indemnify, defend and hold the District, its officers, agents and employees harmless from all suits, claims or liabilities of any nature, including attorney fees, costs and expenses, for or on account of injuries or damages sustained by any person or property resulting from the acts or omissions of and to the extent harm is caused by the City, its agents or employees in connection with the maintenance and operation of the City System. If suit in respect to the above is filed, the City shall appear and the City shall provide the District with an attorney to defend the suit at the City's own cost and expense, and if judgement is rendered or settlement made requiring payment of damages by the District, its officers, agents or employees, the City shall pay the same.

12.2 District. The District shall indemnify, defend and hold the City, elected officials, its officers, agents and employees harmless from all suits, claims or liabilities of any nature, including attorney fees, costs and expenses, for or on account of injuries or damages sustained by any person or property resulting from the acts or omissions of and to the extent harm is caused by the District, its agents or employees in connection, or related to, this Contract, including the maintenance and operation of the District's Wastewater System. If suit in respect to the above is filed, the District shall appear and the District shall provide the City with an attorney to defend the suit at the District's own cost and expense, and if judgment is rendered or settlement made requiring payment of damages by the City, elected officials, its officers, agents or employees, the District shall pay the same.

12.3 Survival. The obligations of this Section shall survive the termination of this contract.

## **SECTION 13. Term of Contract.**

13.1. The term of this Contract shall be the chronological period commencing January 15, 2001, and amended upon December 31, 2005, so long as written notice of the parties' intent to amend this Contract has been given by one party to the other party as set forth in Section 13.2 of this Contract. In the event that no such notice is given, this Contract will renew automatically for successive periods of five years each, "each a successive term" thereafter unless amended at the end of a term by either party as set forth in Section 13 of this Contract.

13.2. The anticipated term of this Contract is as set forth herein. Provision is made for a primary term and successive terms. In the event that neither party gives written notice as provided in this Section 13, then the successive term shall become the primary term under the same terms and conditions as set forth in this Contract.

13.3. Notice required under this Section 13 shall be given as follows:

A. Notice shall be mailed as set forth in Section 14 of this Contract, a minimum of 180 (one-hundred-eighty) calendar days prior to the current end of the then primary term of this Contract.

B. The Notice shall advise the other party in writing of its intent to amend this Contract at the end of the then primary term of the Contract.

C. It shall be the responsibility of each party to provide any change of address information to the other party and, until such notification is provided in writing, the other party shall have the right to rely upon the correctness of the address most recently provided.

D. Notice shall not<sup>be</sup> deemed to have been effectuated unless the communication has been posted in the United States Postal Service with proper postage prepaid and properly addressed.

13.4. Notwithstanding any other provisions of this Contract, the term of this Contract shall be from January 15, 2001 through December 31, 2020 unless terminated or amended earlier by written agreement of the parties. Upon termination of this Contract on December 31, 2020, it is the intent of the parties to negotiate a new contract for Wastewater Treatment and Disposal.

**SECTION 14. Notice.** Except as otherwise stated in this Contract, all notices and payments relating to this Contract shall be made in writing and shall be deemed duly served if and when mailed, first class postage prepaid, or delivered to the following addresses:

- | (1) City  | District  |
|---|---|
| Mayor<br>City of Burlington<br>900 E. Fairhaven<br>Burlington, WA 98233<br>(360) 755-0531   | Whatcom Water District #12<br>Board of Commissioners, President<br>2195 Nulle Rd.<br>Bellingham, WA 98226<br>(360) 734-5664       |
| with copies to:<br>[2] Clerk/Treasurer<br>City of Burlington<br>900 E. Fairhaven<br>Burlington, WA 98233<br>(360) 755-0531<br>fax: (360) 755-9565 | District Manager<br>Whatcom Water District #12<br>2195 Nulle Rd.<br>Bellingham, WA 98226<br>(360) 734-5664<br>fax: (360) 715-1626 |
| [3] Burlington City Attorney  | Law Offices of Slater & Slater<br>103 E. Holly, Suite 418<br>Bellingham, WA 98225   |
| [4] Wastewater Sewer Treatment<br>Department Supervisor   |   |

**SECTION 15. Assignment.** This contract may not be assigned by either Party without the prior written consent of the Party not seeking assignment. No provision of this Contract shall prevent the District or the City from contracting with a third party to perform its obligations under this Contract consistent with the terms of this Contract. No provision of this Contract shall prevent the District or the City from contracting to provide Wastewater services to third parties consistent with the terms of this Contract.

**SECTION 16. Successors and Assigns.** This Contract shall be binding on the successors in interest and permitted assigns of the City or the District.

**SECTION 17. Amendment or Modifications.** This Contract may not be amended or modified except as provided for in Section 13 herein or as agreed to in writing by the Parties and approved by the City Council and the District Commissioners.

**SECTION 18. Consent to Jurisdiction.** As determined pursuant to State and Federal law.

**SECTION 19. Dispute Resolution.** If for any reason either party fails to comply with any provision of this Contract or any obligation assumed hereunder, the parties shall timely meet and confer in an good faith to agree on a resolution and cure of such breach. If the parties are unable to resolve and/or cure the claimed breach, then the parties may then avail themselves of any and all legal and equitable remedies.

**SECTION 20. Prior Agreements Superseded.** This Contract contains the complete understanding of the Parties. The 1974 Agreement is superseded except as expressly provided in this Contract.

**SECTION 21. Unresolved Claim.**

21.1 Except as otherwise stated herein, this Contract shall not affect claims of either Party related to any prior Agreements. Upon execution of this Contract, the Parties shall have no claim against each other arising out of either Party's interest and/or obligations of the 1974 Agreement, except as provided for herein and except for amounts owed to the City from District for the remainder of the year 2000.

21.2 All claims for attorney fees and expenses incurred prior to the Effective Date are waived.

**SECTION 22. Severability of Invalid Provisions.** In the event a court of competent jurisdiction determines any part of this Contract to be invalid and unenforceable, the remaining provisions shall not be affected but shall remain in full force and effect, and the District and the City shall use their best efforts to construe the remaining provisions to carry out the intent of this Contract.

**SECTION 23. Governing Law.** This Contract shall be construed and governed in accordance with the laws of the State of Washington

**SECTION 24. Attorney Fees** Each Party shall bear its own attorney fees related to the negotiation and execution of this Contract.

**SECTION 25 . Force Majeure.**

25.1. In the event either Party is rendered unable, wholly or in part, by the occurrence of Uncontrollable Circumstances, to carry out any of its obligations under this Contract, then the obligations of the Party, to the extent affected by such occurrence and to the extent that due diligence is being used to resume performance at the earliest practicable time, shall be suspended during the continuance of any inability so caused to the extent provided but for no longer period. Any time that a Party intends to assert the occurrence of an event of Uncontrollable Circumstances as a basis to suspend performance, that Party shall notify the other Party immediately or as soon as reasonably possible, setting forth the particulars of the situation. Notice shall again be given immediately after the effect of the occurrence of such event has ceased.

25.2. If the Treatment Plant or City sewer pipes that carry District Wastewater are damaged or destroyed due to explosion, landslides, floods, epidemics, fire, vandalism, or other events for which the City is obligated to carry insurance, the City shall act diligently to promptly collect and apply insurance proceeds to the correcting or reconstructing of the Treatment Plant or City sewer pipes.

**SECTION 26. Execution.**

IN WITNESS WHEREOF the Parties have executed duplicate originals of this Contract between the City of BURLINGTON and the Whatcom Water District #12 on the Effective Date.

**CITY OF BURLINGTON**

By Roger Tjeerdsma  
Roger "Gus" Tjeerdsma, Mayor

ATTEST:

Richard A. Patrick  
Richard A. Patrick, Finance Director

Approved as to Form:

M. K. Nitteberg  
Marilyn K. Nitteberg, City Attorney

Approved as to Content and Form:

Jon T. Aarstad  
Jon T. Aarstad, City Administrator

Roger LaRue  
Roger LaRue, Sewer Supervisor

Rod Garrett  
Rod Garrett, Public Works Director

**ATTACHMENTS.**

- [1] Exhibit "A" - Map of District's Service Area
- [2] Exhibit "B" - Rates and Charges Schedule

**WHATCOM COUNTY WATER  
DISTRICT NO. 12**

By Jeffrey R. Eemster  
Jeffrey R. Eemster, President and Commissioner

ATTEST:

Herbert A. Barker  
Herbert A. Barker, Secretary and Commissioner

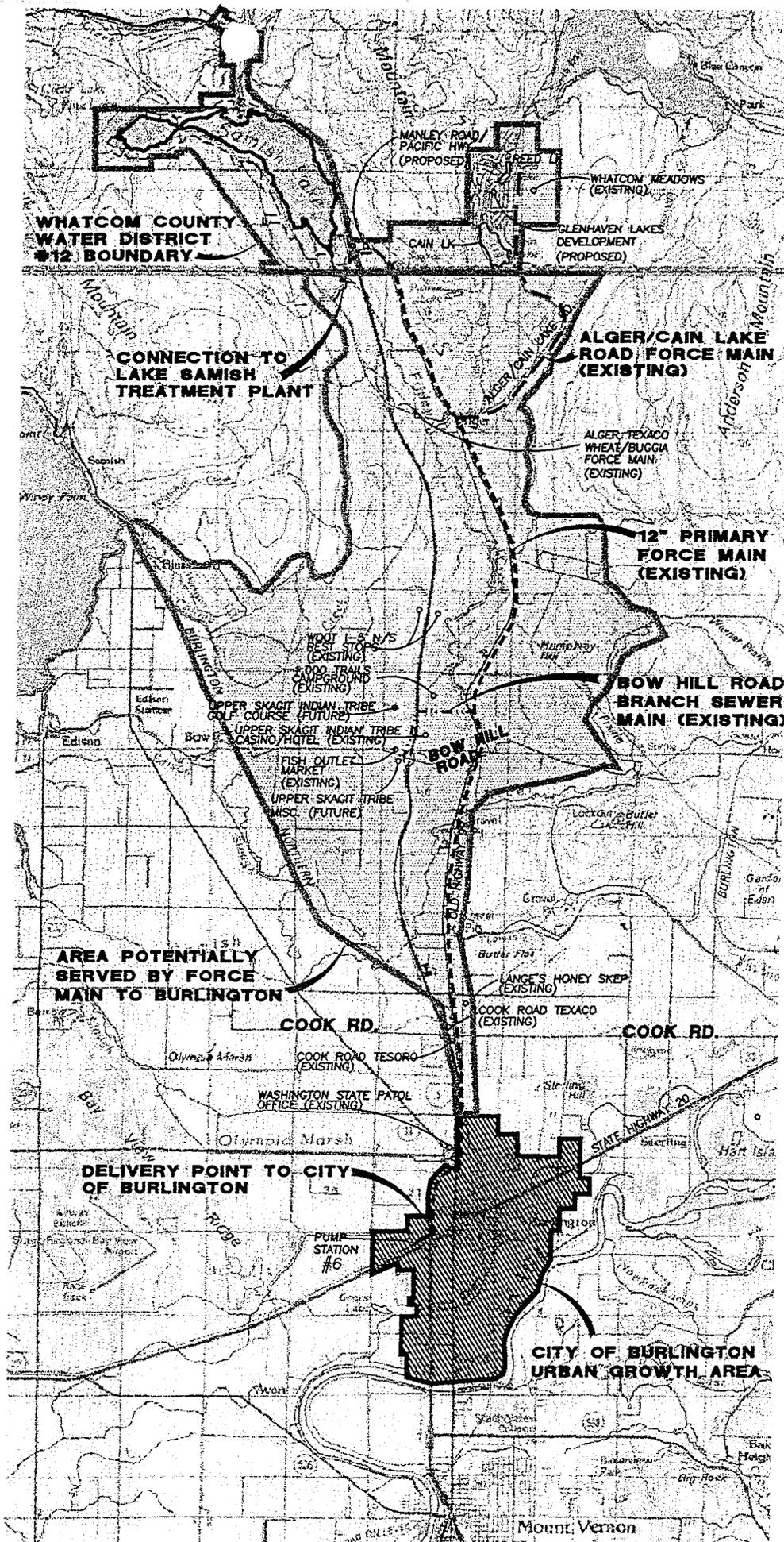
Approved as to Form:

J. Timothy Slater  
J. Timothy Slater, Attorney for District

Approved as to Content and Form:

Terry M. Klimpel  
Terry M. Klimpel, District Manager





**WHATCOM COUNTY WATER DISTRICT NO. 12**  
**Sewer Force Main Map - Lake Samish to City of Burlington WWTP**

EXHIBIT  
 A

JOB #00131  
 1/11/01  
 BSC/JMP/ENC

## Exhibit "B"

### RATES AND CHARGES

#### 1. Lagoon System:

**Lagoon Treatment Adjustment; No Flow Adjustment; No 25% Surcharge**

\$3.95/ccf=\$1.81/ccf flow related plus \$2.14/ccf strength related (BOD or TSS)

Lagoon customers would pay \$0.32/ccf instead of \$2.14/ccf (for BOD or TSS of 51.5 mg/L)

Charge to lagoon customers=\$2.14/ccf (\$1.81/ccf flow related plus \$0.32/ccf strength related)

Note: Actual District bill would be based on measured BOD and TSS concentrations as defined in the Burlington Municipal Code 13.08, which is, and any subsequent modification thereto, incorporated herein by reference.

Calculation for strength related charge above 51.5 mg/L BOD or TSS;

$\$1.81/\text{ccf plus } ((\text{actual mg/L divided by } 350 \text{ mg/L}) \text{ multiplied by } \$2.14) = \text{Lagoon charge/ccf}$

The rates set forth under this paragraph 1 of Exhibit B, shall be increased or decreased at the same time as the sewer rates of residential customers located in the City of Burlington set forth in Burlington Municipal Code 13.08, as per the accepted formula used for the Lagoon Treatment Adjustment.

#### 2. Downstream System:

Flow will be billed as all other in-City customers in accordance with Burlington Municipal Code 13.08, which rate is currently \$3.95/ccf. Burlington Municipal Code 13.08 and subsequent modifications thereto, are incorporated herein by reference.

Calculation for sewer charge to Downstream System,

$\$3.95/\text{ccf multiplied by } ((\text{total flow at point of entry minus Tribe flow minus Lagoon flow}) \text{ divided } 748) = \text{Downstream System charge/ccf}$

#### 3. General Facilities Charges:

The general facilities charge for residential and commercial property owners seeking to connect to the sewer system shall be charged at the same rate (except as stated under "\*" below) and in the same manner as set forth in resolution 9-95 of Burlington City Council on June 22, 1995, any subsequent modifications thereto and/or all resolutions referenced therein, thereby incorporating such herein by reference.

\* The fee for additional capacity shall be \$18.10 per gallon of daily flow. The connection fee to downstream system customers for Bulk Water shall be \$18.10.

**Exhibit G - Skagit Tribe Reserve Capacity Agreement**

**SAMISH WATER DISTRICT COMPREHENSIVE PLAN - EXHIBIT G**

**SAMISH WATER DISTRICT**

**EXECUTIVE SUMMARY FOR ACTION**

**BOARD OF COMMISSIONERS MEETING DATE:** November 10, 2011

<b>AGENDA ITEM:</b> Resolution 13-11: Approve a Memorandum of Agreement (MOA) between the District and Upper Skagit Indian Tribe and amending the Parties 1995 agreement for use of the Districts sewage disposal line.	<b>AGENDA SECTION:</b> NEW BUSINESS
<b>PREPARED BY:</b> Byron Gaines	<b>AGENDA NUMBER:</b> VI-H
<b>ATTACHMENTS:</b> 1. Resolution No. 13-11 2. Copy of MOA and amendment to the the 1995 agreement	<b>APPROVED BY:</b> 

Please find attached a resolution approving an MOA between the District and the Upper Skagit Indian Tribe and an amendment to the Parties 1995 Agreement for Use of the Districts Sewage Disposal line.

The Districts Attorney (Tim Slater) will be present to answer any questions

<b>RECOMMENDED ACTION:</b> Approval of Resolution 13-11
<b>COMMISSIONERS ACTION:</b>

**NOW, THEREFORE, BE IT RESOLVED**, that the 2011 MOA attached hereto is approved and the President of the Board of Commissioners, Michael Roberts, is authorized to sign the 2011 MOA and all documents provided for in the 2011 MOA on behalf of the district, including an excise tax affidavit, if required, relative to the transfer of the West Pipeline. The District's approval of the 2011 MOA is contingent upon the City of Burlington and the Tribe entering into an MOA for back-up treatment; upon receipt of Fifty Thousand Dollars (\$50,000) from the Tribe; and receiving a signed Tribal Resolution, all as provided for in the 2011 MOA attached hereto.

**ADOPTED** by the Board of Commissioners of the Samish Water District, Whatcom County, Washington, at a Regular Meeting thereof this \_\_\_\_\_ day of November, 2011.

By \_\_\_\_\_  
Commissioner

By \_\_\_\_\_  
Commissioner

ATTEST:

By \_\_\_\_\_  
Commissioner and Secretary of Said Board

## RESOLUTION NO. 13-11

**A RESOLUTION** of the Board of Commissioners of Samish Water District, Whatcom County, Washington (the "District") approving a Memorandum of Agreement between the District and Upper Skagit Indian Tribe (the "Tribe"), amending the Parties 1995 Agreement for Use of Sewage Disposal Line and other matters.

**WHEREAS**, the Tribe and the District previously entered into an Agreement for Use of Sewage Disposal Line (the "1995 Wheeling Agreement") to transport wastewater generated from the Tribe's enterprises in the vicinity of Exit 236 off I-5 in Skagit County, Washington, where it is treated under a separate agreement between the Tribe and the City of Burlington. The 1995 Wheeling Agreement was recorded under Skagit County Auditor's #9601030041; and

**WHEREAS**, the Tribe has now developed its own wastewater treatment plant (the "MBR Plant") to treat wastewater generated from the Tribe's Bow Hill Land Holdings in the vicinity of Exit 236 off I-5 and has requested that the District provide back-up wheeling capacity; and

**WHEREAS**, the Tribe and the District have negotiated an amendment to the 1995 Wheeling Agreement to provide for use of the district's sewer pipeline on a back-up basis in the event of the necessity of shutting down the MBR Plant for a limited period-of-time (the "2011 MOA", a copy of which is attached hereto and made a part hereof); and

**WHEREAS**, the 2011 MOA also provides for the District transferring to the Tribe its rights in a certain section of sewer line referred to in the 2011 MOA as the "West Pipeline" for the sum of Fifty Thousand Dollars (\$50,000); and

**WHEREAS**, the District is not currently using the West Pipeline and has no use for said West Pipeline given that the properties for which the West Pipeline was constructed to serve are now owned and/or controlled by the Tribe and the Tribe has informed the District that it intends to treat all wastewater generated by Bow Hill Land Holdings at its MBR Plant; and

**WHEREAS**, the Parties have agreed to terminate various sewer service agreements covering the land owned by the Tribe west of I-5 in the vicinity of Exit 236, said sewer service agreements being identified in the Notice of Termination attached to the 2011 MOA as Exhibit D; and

**WHEREAS**, the Commissioners of the District find that the 2011 MOA is in the District's best interest.

**AMENDMENT TO SAMISH WATER DISTRICT/UPPER SKAGIT  
AGREEMENT FOR USE OF SEWAGE DISPOSAL LINE AS A  
MEMORANDUM OF AGREEMENT FOR  
BACK-UP WASTEWATER TRANSMISSION AND OTHER MATTERS**

AMENDMENT entered into this 10th day of November, 2011 by and between the Upper Skagit Indian Tribe, a federally recognized Indian tribe (hereinafter "Tribe") and the Samish Water District (hereinafter "District").

WHEREAS, the Tribe and the District entered into an Agreement for Use of Sewage Disposal Line dated November 21, 1995, recorded under Skagit County Auditor's #9601030041 (hereinafter as the "Agreement for Use of Sewage Disposal Line"), to provide use of the District's existing sewer line to transport the Tribe's wastewater generated from its enterprises at and in the vicinity of Exit 236 off Interstate 5 in Skagit County, Washington (hereinafter the Tribe's "Bow Hill Land Holdings") to the City of Burlington (hereinafter as "Burlington") treatment plant where it is treated pursuant to a separate agreement between the Tribe and Burlington; and

WHEREAS, the District has its own separate agreement with Burlington, dated January 23, 2001, to provide treatment of the District's wastewater (excluding wastewater generated by the Tribe), said Agreement being recorded under Skagit County Auditor's #200102020095; and

WHEREAS, the term of the Agreement for Use of Sewage Disposal Line was to remain in effect for so long as the District maintained an agreement for wastewater treatment with the City of Burlington; and

WHEREAS, the Tribe has now informed the District that it will be constructing a membrane wastewater treatment and disposal system (hereinafter as the "MBR Plant") for the purpose of treating the wastewater from the Tribe's Bow Hill Land Holdings; and

WHEREAS, the Tribe's has supplied an exhibit showing the Tribe's current land holdings in the vicinity of Exit 236, all as set forth on Exhibit A attached hereto and made a part hereof (the District taking no position on Exhibit A as to its accuracy); and

WHEREAS, the parties acknowledge that the Tribe may, in the future, add to its Bow Hill Land Holdings in the vicinity of Exit 236; and

WHEREAS, the MBR Plant is sited on the Tribe's land holdings at Bow Hill and Exit 236; and

WHEREAS, notwithstanding the Tribe's anticipated treatment and disposal of wastewater through the MBR Plant, the Tribe believes it would be prudent to have back-up wheeling capacity access from the District for delivery to the Burlington treatment plant; and

WHEREAS, simultaneously herewith, the Tribe has negotiated an agreement with the City of Burlington for back-up services (hereinafter as the "Burlington 2011 MOA") whereby Burlington has agreed to accept for treatment on a back-up basis wastewater from the Tribe's Bow Hill Land Holdings; and

WHEREAS, the parties wish to amend the Agreement for Use of Sewage Disposal Line to allow for the use of the District's sewer pipeline by the Tribe on a back-up basis as provided for herein.

NOW THEREFORE, in furtherance of the relationship between the Tribe and the District and the mutual promises and benefits contained herein, the adequacy of which is hereby acknowledged, and for other good and valuable consideration, the parties hereby agree as follows:

1. This Memorandum of Agreement shall be referred to as the "2011 MOA".

2. The Agreement for Use of Sewage Disposal Line between the parties is amended to include this 2011 MOA.
3. Notwithstanding any terms with respect to the Agreement for Use of Sewage Disposal Line, in the event of a conflict between the terms of this 2011 MOA and the Agreement for Use of Sewage Disposal Line, the provisions of this 2011 MOA shall be controlling.
4. The parties acknowledge that the MBR Plant will undergo a period of testing and initial operation (hereinafter as the "Initial Period"). During the Initial Period, the Tribe shall continue to send treated and/or untreated effluent through the District's pipeline to Burlington for treatment in the same manner as it has done previously and the District shall bill the Tribe in the same manner as it has billed in the past.
5. If, as and when, during the Initial Period, the MBR Plant commences operating in such a manner that it shall be unnecessary for the Tribe to send treated or untreated effluent down the District's pipeline, then the terms of this 2011 MOA shall apply with respect to payments and services and the District shall serve as a back-up/fail safe wastewater transmission system (hereinafter as the "Back-up Period") for those periods when the MBR Plant is closed for operation and the Tribe's wastewater needs to be diverted to Burlington for treatment through the District's wastewater pipeline.
6. The parties agree that, when the circumstances of paragraph 5 require wastewater transmission during the Back-up Period, then the Tribe shall send no more than

60,000 gallons per day of treated or untreated effluent down the District's pipeline to the Burlington Sewer Treatment Plant (hereinafter as an "Event").

7. The Tribe intends to build and maintain sufficient storage capacity so that it shall limit the transmittal of wastewater down the District's pipeline during an Event to the said 60,000 gallons per day.
8. As part of the MOA with Burlington, the Tribe and Burlington have agreed that Burlington shall bill, and the Tribe shall pay, for all effluent sent by the Tribe to Burlington through the District's pipeline, as measured by the discharge flow meter at the MBR plant (also referred to as the MBR metering station and which is depicted in Exhibit B hereto as the meter vault) which is to be installed by the Tribe prior to any wastewater being discharged into the District's pipeline. The District's agreement to allow use of its sewer pipeline to transport the Tribe's wastewater is conditioned on Burlington not counting such flows against the District's contracted capacity limits with Burlington.
9. The Tribe agrees that, if, as and when an Event occurs during the Back-up Period, it will cooperate with the District to attempt to minimize the impact on the District's then existing transmission capacity so long as such accommodation doesn't impact the operation of the present and future Bow Hill Land Holdings serviced by the MBR Plant in the vicinity of Exit 236. This may be accomplished, for example, by sending certain volumes of wastewater through the District's wastewater transmission lines during off peak hours.
10. The Tribe's instantaneous discharge rate into the District's gravity sewer main/pipeline running from the MBR Plant to Old Highway 99 shall not exceed

243 gallons per minute (GPM) without the prior review and written consent of the District, which consent shall not be unreasonably withheld based on a third party engineering analysis obtained at the Tribe's sole cost. Notwithstanding any other provision herein, if the District agrees to an increase in the Tribe's instantaneous discharge rate, the Tribe shall be solely responsible for all costs associated with downstream infrastructure improvements required to accommodate any increase in the maximum instantaneous discharge rate of 243 GPM.

11. In order to cause the District to reserve the 60,000 gallon per day of pipeline capacity for use by the Tribe on a back-up basis, the Tribe hereby agrees to pay a monthly reserve capacity fee of \$4,400.00 per month (hereinafter as the "Reserve Capacity Fee") billed by the District on its regular schedule commencing at the start of the Back-up Period (hereinafter as the "Back-Up Period Start Date"). The amount of the Reserve Capacity Fee shall be increased or decreased commencing on the third anniversary of the commencement of the Reserve Capacity Fee as determined by the start of the Back-up Period and each year thereafter on the anniversary date by the change (increase or decrease) in the Consumer Price Index Urban Wage Earners and Clerical Workers ("CPI-W") U.S. Cities, June to June.
12. In any month in which an Event occurs, the Tribe shall be billed, in addition to the Reserve Capacity Fee, for actual gallon usage for that said month. Said billing shall be based on the lowest commercial, preferred customer rate provided by the District to its commercial customers. Said billing rate shall only be applied to the volume of wastewater sent to the Burlington treatment plant, as measured by the

flow meter which measures the amount of effluent discharged into the District's pipeline by the Tribe (i.e.: the MBR metering station). If, as and when an Event occurs during the Back-up Period, Tribe shall give the District not less than 24 hours advance notice that the Tribe shall be discharging treated and/or untreated effluent into the District pipeline for transmission to the City of Burlington wastewater treatment plant.

13. Notice under this MOA shall be deemed given when it is sent either by fax or email to the other party as follows:

- a) If to the District:

Fax: 360-715-1626

Email: [samishwaterdistrict@comcast.net](mailto:samishwaterdistrict@comcast.net)

Attn: General Manager (currently Byron Gaines)

- b) If to the Tribe:

Attn: General Manager and Office of Tribal Attorney

Fax: 360-854-7004

Email: [Pateus@aol.com](mailto:Pateus@aol.com); [dhawkins@upperskagit.com](mailto:dhawkins@upperskagit.com)

14. The Tribe shall provide the District 60 days' written notice of its intent to convert from the Initial Period to the use of the pipeline under the Back-up Period and, therefore, the necessity of commencing with the Reserve Capacity Fee monthly billing.

15. Unless the Tribe provides Notice of an earlier Back-Up Period Start Date, the latest date for commencement of the Back-up Period, with or without notice, shall be January 1, 2012.

16. To date, the Tribe has paid the District hook-up charges under the Agreement for Use of Sewage Disposal Line for 234.8 LUEs, each LUE being equivalent to 185 gallons per day for a total of 43,440 gallons per day. If, during any 180 consecutive day period, the Tribe shall discharge into the District's sewer line an average of more than 43,440 gallons per day of effluent/wastewater, then the Tribe shall owe hook-up fees for so much of the effluent/wastewater that exceeds 43,440 gallons per day up to the maximum of 60,000 gallons per day. The hook-up charge shall be calculated as follows: the average gallons per day exceeding 43,440 divided by 185 gallons multiplied by the District's then current connection charge per LUE, PROVIDED the District's current connection charge shall apply for the first three years of this Agreement after which time the hook-up/connection charge per LUE shall be the District's then current connection charge for its best commercial customers. For example, if the Tribe were to discharge into the District's line an average of 45,290 gallons per day over a consecutive 180 day period, the Tribe would be required to pay hook-up fees on an additional 10 LUEs ( $45,290 - 43,440 = 1,850 \div 185 = 10$  LUEs). Said hook-up fees are due within 30 days of billing by the District. The maximum number of additional LUEs for which the Tribe is potentially responsible given the 60,000 gallon per day limitation is 89.5 ( $60,000\text{gpd} - 43,440 = 16,560\text{gpd} \div 185 = 89.5$ ). Nothing herein shall obligate the District to accept more than 60,000 gallons of effluent per day from the Tribe.

17. The parties acknowledge that currently there exists a 4 inch sewer pipeline running through the right of way of Interstate 5, west of I-5 at Exit 236, Skagit

County, Washington (hereinafter as the "West Pipeline"). The West Pipeline is unused, and crosses under I-5 to the point where the West Pipeline will hook up into the Tribe's metering system for the MBR Plant. Attached hereto and made a part hereof as Exhibit B is a survey, prepared by Pacific Survey and engineering. Shown in the insert on page 2 of Exhibit B as the east edge of the meter vault, is the point east of which the District retains ownership of its existing sewer pipeline running east to Old Highway 99 (hereinafter as the "East Pipeline") and west of which the District is conveying the existing sewer line to the Tribe (West Pipeline). The east edge of the meter vault shown in Exhibit B shall be referred to herein as the "Point of Demarcation". Except for the West Pipeline, the District retains all of its existing rights, including retaining sole ownership of its existing sewer line and existing easement rights servicing the Thousand Trails Campground and the Washington State Department of Transportation rest stop.

18. Irrespective of the actual ownership of the West Pipeline and simultaneously with the execution of this 2011 MOA, the District shall deed its rights, title and any interest which it may have in the West Pipeline up to the Point of Demarcation reflected in Exhibit B, by Quit Claim Deed and Assignment of License, Franchise and Easement Rights to the Tribe, PROVIDED, HOWEVER, the District shall reserve and retain any existing easement rights that it has to access the East Pipeline from North Dark Lane, (the road running to the Thousand Trails Campground from Bow Hill Road); it being the intent of the parties that the District retain the same access it currently has to the East Pipeline. Attached

hereto as Exhibit C is the Quit Claim Deed and Assignment to be executed by the District.

19. In consideration of the Quit Claim Deed and Assignment of License, Franchise and Easement Rights, the Tribe agrees to hold the District harmless from any third party claim that any such property owner is entitled to hook-up to the West Pipeline for sewer services.
20. In consideration of the Quit Claim Deed and Assignment of License, Franchise and Easement Rights to the West Pipeline, and simultaneously with such transfer, the Tribe shall pay the District the sum of \$50,000.
21. As further consideration for the transfer of the West Pipeline, the Tribe hereby agrees that it shall not compete with the Samish Water District with respect to providing wastewater services to any property except those either owned by the Tribe or over which the Tribe has jurisdiction.
22. The parties agree that the District pipeline from the metering station ("Metering Station") to be installed by the Tribe with respect to the MBR Plant down to Old Highway 99 (East Pipeline) shall remain in the ownership of the District.
23. The parties further agree that, in the event that the District needs to repair or replace the East Pipeline, the Tribe shall be responsible for one-third of such costs up to a maximum of \$100,000. The said maximum cost of \$100,000 shall be increased commencing with the fifth year of this 2011 MOA by the CPI-W as defined above. The District warrants that there are no current plans for any maintenance or replacement of the East Pipeline.
24. The Metering Station is a partial flume meter as specified by the District.

25. When the Metering Station is placed into operation and so long as this 2011 MOA is in full force and effect, the Tribe shall grant the District access to the Metering Station and its software for the purpose of verifying the accuracy of its readings. The foregoing right of access shall not be construed or act as creating an encumbrance on Tribal real property.
26. Notwithstanding the right of access, the sole responsibility for maintenance, replacement and repair of the metering system in the Metering Station shall be the responsibility of the Tribe. The Tribe agrees to maintain the metering station/equipment so that it accurately counts any wastewater discharged by the Tribe into the District's pipeline.
27. The parties acknowledge that the Tribe maintains and pays for LUE's for a number of the fee lands it owns west of the I-5 interstate (the "LUE's"). The LUE's owned by the Tribe are covered under Sewer Service Agreements set forth in the Notice of Termination of Sewer Service Agreements attached hereto as Exhibit D and made a part hereof. Simultaneously with the execution of this 2011 MOA, the LUE's west of the I-5 interstate are hereby terminated, the Tribe having no further economic need for the LUE's and the District has no further obligation with respect to those properties. The Parties agree to sign and record Exhibit D with the Skagit County Auditor's office. The Tribe represents and warrants that it owns in fee simple status the properties subject to the Sewer Service Agreements listed in Exhibit D.
28. Any disputes which arise with respect to this 2011 MOA shall be resolved by informal discussions between the parties. If after informal discussions and not

sooner than 60 days after the commencement of the informal discussions the parties are unable to resolve any differences, then either party may seek to litigate the matter in the Superior Court of Skagit County, Washington; which shall be the exclusive jurisdiction and venue for resolving disputes. The law of the State of Washington shall apply to any such court action.

29. If, as a result of a final court decision the actions of the Tribe are found to not comply with the terms of this 2011 MOA and the District has incurred liability to the City of Burlington as a result of such non-compliance, then the Tribe shall be responsible for such costs to the City of Burlington and agrees to hold the District harmless for all such costs.
30. In the event the District obtains a monetary judgment against the Tribe, said judgment may be satisfied by collecting against assets owned by the Tribe to the extent allowed by law, including but not necessarily limited to, proceeds from the Tribe's Bow Hill Land Holdings, but excluding any assets or funds which are exempt or otherwise protected from execution by law. This provision shall be interpreted, applied and limited so as to be consistent with the law.
31. Tribe hereby agrees to a limited waiver of sovereign immunity solely for the purpose of the enforcement of the terms of this 2011 MOA.
32. At the sole election of the Tribe, and upon 60 days notification to the District, the Tribe shall be entitled to terminate this 2011 MOA Amendment and the monthly Reserve Capacity Fee at any time after December 21, 2016.
33. This 2011 MOA shall remain in effect until terminated by the Tribe, as provided for herein, or until such time as the District no longer sends its own wastewater

(as compared to wastewater generated by the Tribe) to Burlington for treatment, as provided for in the Agreement for Use of Sewage Disposal Line. This agreement may also be terminated by written agreement of the parties.

34. Attached hereto as Exhibit E is the Tribal Resolution authorizing the execution of this MOA, the limited waiver of sovereign immunity and authorizing the Tribal chairman to sign this 2011 MOA on behalf of the Tribe. The Tribe shall provide the District with a duplicate original of the Tribal Resolution. The Tribe further represents and warrants that there are no other authorizations or signatures necessary to make this 2011 MOA binding upon the Tribe. Further, if it is subsequently determined that any third party or agency authorization/approval is required, the Tribe irrevocably agrees to submit a formal written request for such authorization/approval. The Tribe further agrees to indemnify and hold the District harmless from any claims arising or related to the lack of all necessary approvals of this MOA. The provisions of this paragraph shall be severable from the rest of this MOA and shall be enforceable pursuant to the dispute resolution provisions of this MOA as a stand-alone obligation of the Tribe.
35. This 2011 MOA shall not be modified, except in writing signed by the parties hereto.
36. This 2011 MOA represents the entire agreement of the parties hereto.
37. This 2011 MOA shall not be assigned except with the express written consent of both parties.
38. This 2011 MOA shall inure to the benefit of the parties hereto and their successors in interest, if any.

39. This 2011 MOA shall become effective and in full force and effect when signed by the parties hereto and when simultaneously herewith the MOA with Burlington with respect to the Back-up Period is signed and binding on the Tribe and Burlington.
40. Except as specifically modified by this 2011 MOA, the terms and provisions of the Agreement for Use of Sewage Disposal Line shall remain in full force and effect.
41. This Agreement may be executed in counterparts by each party. When so executed, the parties shall attach the signature pages to the original(s) of this Agreement and when so attached, this Agreement shall be binding upon the parties hereto.

Dated the date first above written.

UPPER SKAGIT INDIAN TRIBE

SAMISH WATER DISTRICT

By: \_\_\_\_\_

By: \_\_\_\_\_

Jennifer R. Washington, Chairman

President, Board of Commissioners

**Exhibit H - Sewer Rates Info**

SAMISH WATER DISTRICT COMPREHENSIVE PLAN - EXHIBIT H

SAMISH WATER DISTRICT

EXECUTIVE SUMMARY FOR ACTION

BOARD OF COMMISSIONERS MEETING DATE: September 14, 2011

<b>AGENDA ITEM:</b> Resolution No. 10-11: Revised General Facilities Charge (GFC)	<b>AGENDA SECTION:</b> NEW BUSINESS
<b>PREPARED BY:</b> Byron Gaines	<b>AGENDA NUMBER:</b> VI-G
<b>ATTACHMENTS:</b> Resolution No. 10-11	<b>APPROVED BY:</b> 

Financial Consulting Solutions Group (FCS Group) was retained by the Samish Water District to review the Sewer General Facilities Charge and recommended changes to said charge. Therefore, please find an attached Resolution which reflects FCS Group recommendations. The new GFC will be \$4,713 which replaces the old charge of \$3,671.

**RECOMMENDED ACTION:**

Discussion and action

**COMMISSIONERS ACTION:**

# RESOLUTION NO. 10-11

A RESOLUTION of the Board of Commissioners of Samish Water District, Whatcom County, Washington, Revising the Sewer General Facilities Charges by amendment of Resolution No, 13-90, 04-99, 06-03, and 04-09

**WHEREAS**, Resolution No. 13-90, was adopted by the Board of Commissioners on the 11<sup>th</sup> day of December 1990, which established the District's Sewer General Facilities Charges (GFC), with said resolution having previously been amended by Resolution No. 04-99, May 1999 Resolution No. 06-03, March 2003 and then again Resolution No. 04-09 and

**WHEREAS**, the District has retained Financial Consulting Solution Group, Inc. (FCS Group) to review the Sewer General Facilities Charges and recommended changes to the charges as appropriate, and

**WHEREAS**, Financial Consulting Solution Group, Inc. (FCS Group) has determine and recommend that the District should increase its GFC

**NOW, THEREFORE, BE IT RESOLVED**, that Board of Commissioners of Samish Water District, Whatcom County, Washington, that Resolution No. 13-90 as amended by Resolution No. 04-99, Resolution No. 06-03 and Resolution 04-09 be is hereby amended as follows:

**Section 1:** The following Sewer General Facilities Charge (FFC) shall apply to any new connection to the sewer system of Samish Water District;

- A. A GFC of \$4,713 for each living unit equivalents (LUE's) Defined as the flow equivalent to that of an average single-family residence. The list of LUE's as defined to Resolution No. 03-99, shall be used to determine the total number of LUE's particular use, which will be multiplied by the GFC to calculate the GFC for a particular connection.
- B. In no case shall the GFC be less than the charge to a single-family residence.
- C. For properties having previously paid and area charge, a credit shall be made against the GFC determined for the property on the basis of 185% of the area charge previously paid to the District.
- D. In addition to the District's GFC, properties outside the District, connecting to the force main, shall be assessed the then current City of Burlington's General facilities charge, ~~as prescribed in the "Contract for Wastewater Treatment and Disposal" dated January 2004.~~

**Section 2:** The GFC as defined in Section 1 shall also be applied to any existing service, which due to expansion, reconstruction, or a change in the nature of establishment served, which would increase the sewage volume generated as estimated by the methods defined in Section 1. For such services, the GFC shall be based on the difference between the estimated numbers of LUE's for the current service and the estimated numbers of LUE's for the expanded service

**Section 3:** there shall be no refunds of the GFC for termination or reduction of service.

**BE IT FURTHER RESOLVED**, that any resolution or parts of resolutions previously adopted by the District which are in conflict with this resolution are hereby repealed or amended insofar as they conflict with the provisions of this Resolution.

**ADOPTED** by the Board of Commissioners of Samish Water District, Whatcom County, Washington, at the special meeting thereof, held this 14th day of September 2011.

By \_\_\_\_\_  
Commissioner

By \_\_\_\_\_  
Commissioner

ATTEST:

By \_\_\_\_\_  
Commissioner and Secretary of said Board

Samish Water District, WA

Final Draft Report for  
2011 Wastewater Rate &  
GFC Update

June, 2011

FCS GROUP  
Redmond Town Center  
7525 166th Avenue NE, Suite D-215  
Redmond, WA 98052  
T: 425.867.1802  
F: 425.867.1937

This entire report is made of readily recyclable materials,  
including the bronze wire binding and the front and  
back cover, which are made from post-consumer  
recycled plastic bottles.

June 25, 2011

Byron Gaines, General Manager  
Samish Water District  
2195 Nulle Road  
Bellingham, WA 98229

Subject: 2011 Wastewater Rate & GFC Update

Dear Mr. Gaines:

We are pleased to issue this report documenting the 2011 Wastewater Rate & GFC Update and discussing our assumptions, methodology, and recommendations. In summary:

- ◆ We are proposing a 5.0% rate increase for 2012, primarily due to the anticipated revenue loss associated with the Upper Skagit Tribe's conversion to "standby" transmission service. This rate increase reflects recent negotiations between the District and the Tribe, in which the Tribe has agreed to:
  - Pay the District under the existing wheeling rate structure for the remainder of 2011 – based on District estimates, this equates to a 2011 payment of roughly \$250,000.
  - Pay the District a "capacity reservation charge" of \$4,400 per month (equating to \$52,800 per year) beginning in 2012.

It is worth noting that we developed a conceptual framework for the "capacity reservation charge" as part of this study – Appendix B of this report discusses our approach and calculations in further detail. The District might find this information useful in the event that the Tribe ever wishes to expand its reservation of capacity in the District's wastewater system.

Applicable rates and charges with this increase can be found in **Exhibit V.1**.

- ◆ We are proposing that the general facilities charge (GFC) be split into functional components to improve the equity of the District's GFC structure, recognizing that each customer should only pay once for treatment capacity (either with the District or with Burlington). We are also proposing a significant increase to the GFC per LUE which, for financial planning, we assume would become effective on January 1, 2012.

For the Lake Samish Collection System, the GFC would increase from \$3,671 per LUE to \$4,713 per LUE; for the Burlington Force Main System, the District's share of the GFC would increase from \$3,671 per LUE to \$3,889 per LUE. Note that customers in the Burlington Force Main System are also subject to the City of Burlington's GFC, which as of June 2010 was \$4,505 per dwelling unit (per Section 13.04.045 of the Burlington Municipal Code). Even with these increases, the District's GFC would remain within a reasonable range of charges imposed by other jurisdictions in Whatcom County and Skagit County.

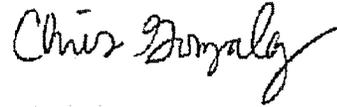
June 25, 2011  
Byron Gaines, General Manager of Samish Water District  
2011 Wastewater Rate & GFC Update

It has been a pleasure to support the District in this effort, and we thank you for your assistance during this process. Please contact our office at (425) 867-1802 with any questions about this report.

Sincerely,



Ed Cebron  
Principal



Chris Gonzalez  
Project Consultant

# TABLE OF CONTENTS

---

<b>Chapter I: Introduction &amp; Background .....</b>	<b>1</b>
<b>Chapter II: Fiscal Policies.....</b>	<b>2</b>
A. Utility Reserves.....	2
B. Capital Funding.....	3
C. Financial Performance.....	3
<b>Chapter III: Wastewater General Facilities Charge Update .....</b>	<b>5</b>
A. Existing Cost Basis .....	5
B. Future Cost Basis.....	6
C. Customer Base .....	6
D. GFC Calculation .....	7
<b>Chapter IV: Wastewater Utility Revenue Requirement Analysis.....</b>	<b>9</b>
A. Key Assumptions.....	9
B. Capital Funding Strategy .....	10
C. Operating Forecast.....	11
D. Policy-Based & Other Revenue Needs.....	11
E. Revenue Sufficiency.....	12
E-1. Cash Flow Sufficiency Test .....	12
E-2. Coverage Sufficiency Test .....	12
E-3. Evaluation of Revenue Sufficiency.....	13
<b>Chapter V: Recommendations .....</b>	<b>15</b>

# CHAPTER I: INTRODUCTION & BACKGROUND

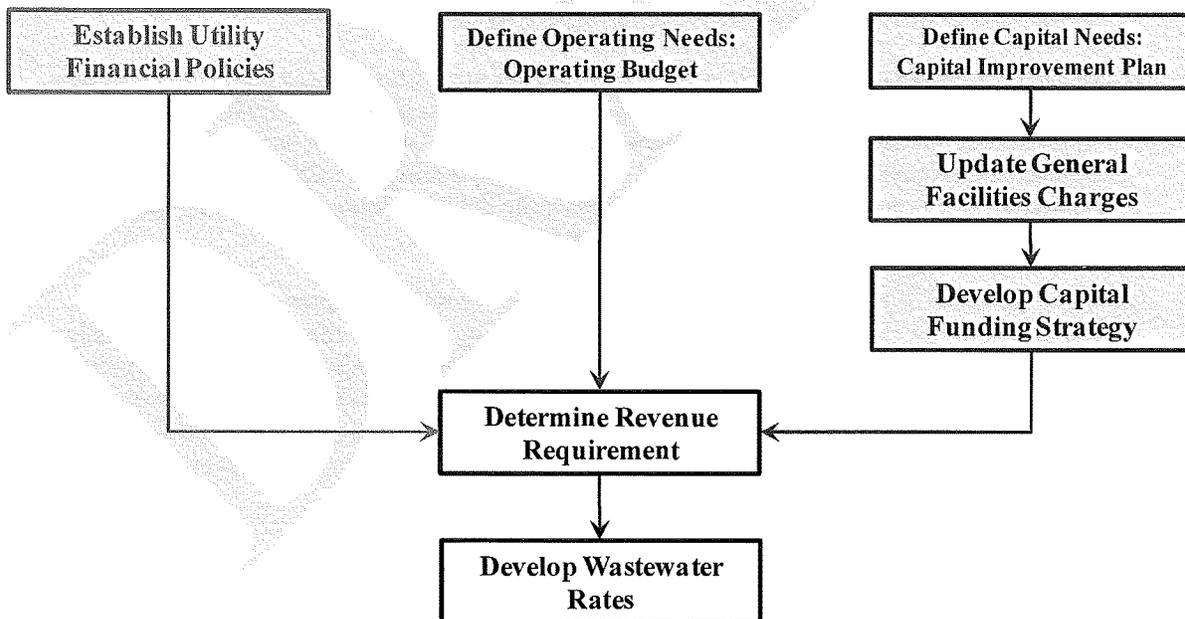
In September 2010, the District authorized FCS GROUP to perform a review of its wastewater rates and general facilities charges (GFCs) that would address a number of relevant financial issues, including:

- ◆ Planning for anticipated capital needs
- ◆ Updating wastewater general facilities charges
- ◆ Establishing a capacity reservation charge for the Upper Skagit Tribe, based on its request to reserve capacity in the District's wastewater system
- ◆ Adjusting rates to account for the loss of the Upper Skagit Tribe as a wheeling customer (under the current service arrangement, the District transports the Tribe's wastewater to the City of Burlington's treatment facilities)

The District has expressed interest in revisiting its wastewater rates to reflect current revenue and cost projections and evaluating the adequacy of the District's existing wastewater rates.

**Exhibit I.1** illustrates the rate study process:

**Exhibit I.1: Rate Planning Methodology**



This report discusses the various aspects of the process used to develop wastewater rates for the District.

## CHAPTER II: FISCAL POLICIES

---

The basic framework for evaluating utility revenue needs consists of a set of fiscal policies. These policies, which can address a variety of topics including cash management, capital funding strategy, financial performance, and rate equity, are intended to promote long-term financial viability for the District's wastewater utility.

### A. UTILITY RESERVES

Reserves are a key component of any utility financial strategy, as they provide the flexibility to manage variations in costs and revenues that could otherwise have an adverse impact on ratepayers. For the purpose of financial planning for the District's wastewater utility, resources are separated into three funds:

- ◆ **General (Operating) Fund:** Operating reserves provide a minimum unrestricted fund balance needed to accommodate the short-term cycles of revenues and expenses. These reserves are intended to address both anticipated and unanticipated changes in revenues and expenses by providing a "cushion" to cover cash balance fluctuations. Anticipated changes may include billing and receipt cycles, payroll cycles, and other payables; examples of unanticipated changes include the loss of a large customer or, as recently witnessed, sudden changes to the economy. This analysis assumes a target minimum balance equal to 60 days of operating expenses for the District's wastewater utility, which equates to roughly \$148,000 based on the operating expense projections included in the District's 2011 Budget.
- ◆ **Capital Fund:** This pool of resources represents the hub of the wastewater utility's capital activity. Inflows include general facilities charges, capital grants and other contributions, and other money set aside for capital purposes; the District spends these funds on capital improvement projects. This analysis does not assume a minimum balance above zero for this reserve on the premise that the District would issue debt (or delay capital expenditures) as needed to fund costs that exceed other available resources.
- ◆ **Bond Reserve:** When the District issues revenue bonds to fund capital costs, it agrees to comply with the covenants established for those bonds. The covenants generally include a reserve requirement where the District would keep one year's debt payment in a reserve to protect against default risk (the reserve could then be used to make the final payment on the related bond). Because this analysis contemplates the use of revenue bonds to fund projected capital expenditures, it includes a bond reserve to comply with the anticipated reserve requirements.

**Exhibit II.1** summarizes the projected cash balances as of the end of 2010:

**Exhibit II.1: Beginning 2010 Cash Balances**

Utility Fund Balances as of 12/31/09	General Fund	Capital Fund	Bond Reserve	Total
Cash	\$ 174,594	\$ 2,602	\$ -	\$ 177,196
Investments	\$1,093,261	\$ 1,813	\$ -	\$1,095,074
<b>Total</b>	<b>\$1,267,855</b>	<b>\$ 4,415</b>	<b>\$ -</b>	<b>\$1,272,270</b>

**Exhibit II.1** shows that the District has about \$1.3 million in cash and investments, which is well above the minimum target balance discussed above. Based on the projected 2010 revenues and expenditures, the District will begin 2011 with a comparable balance.

**B. CAPITAL FUNDING**

The District can use a variety of funding sources to pay for capital costs:

- ◆ **Grants/Developer Contributions:** These funds are outside sources of funding that derive from third-party sources and contribute toward certain capital projects – the District would most rationally use this money to fund project costs before tapping its own resources. This analysis does not assume the availability of any grant or developer funding.
- ◆ **Capital Fund Cash:** This is the pool of money that the District has set aside for capital purposes, and would include GFC revenues (to the extent that it is not used for debt repayment or passed through to the City of Burlington), interest earned on money in the Capital Fund, and money transferred to the Capital Fund from other funds.
- ◆ **Loans:** To the extent that low-cost loans are available, they would be used to supplement cash funding for projects. Examples include the Public Works Trust Fund (PWTF) Program and the Rural Development Program of the United States Department of Agriculture (USDA). These funds generally require the availability of a loan program, and may come with other requirements. This analysis does not assume the availability of any low-cost loans, aside from what the District has historically secured (and is currently repaying).
- ◆ **Revenue Bonds:** Revenue bonds would be used to cover capital needs in excess of other available resources. They are considered less desirable than other forms of debt due to their relatively high interest rates and additional coverage requirements; they require the District to pledge its wastewater utility revenues for their repayment.

**C. FINANCIAL PERFORMANCE**

The utility’s financial performance policies define the minimum standards for annual financial performance. The District’s budget process establishes a common utility standard for a balanced budget. Beyond that minimum, the utility budgeting process should also meet the minimum reserve requirements outlined above. In general, this standard results in an annual requirement for positive cash flow from operations. A possible short-term exception would be when the General Fund balance exceeds the relevant minimum balance requirements and the District makes an explicit decision to use the surplus to “buy down” or phase in rate increases.

The second criterion relates to utility debt. Revenue bonds often come with a required minimum annual debt service coverage ratio that requires the District to set its utility rates so that “net revenues” are equal to a multiple of annual revenue bond debt service. The bond covenants define “net revenues” for this calculation, but “net revenues” can generally be thought of as operating revenues less cash operating expenses. In this revenue bond coverage test, all subordinate debt is excluded from the calculation on the premise that such debt would hold a junior position and would only be repaid after revenue bond payments are satisfied.

A common requirement for utility bond coverage is a coverage ratio of 1.25, meaning that the utility must generate enough revenue to cover operating expenses plus 125% of annual revenue bond debt service. This coverage requirement must be met annually; because this test aims to evaluate annual performance, use of reserves generally does not count toward coverage. It should be noted that the coverage test does not consider system reinvestment (depreciation) funding, other rate-funded capital outlays, or reserve funding needs, it is conceptually possible that the District could meet its coverage requirements yet end up negative cash flow after all debt service is paid.

Besides being a legal requirement, the coverage ratio actually realized is an important statistic used to rate a utility’s financial integrity and ability to meet its debt obligations. Revenue generated to comply with coverage requirements may be used for capital purposes, and may reduce the amount of revenue needed to meet cash needs in subsequent years – it can also be used to meet capital requirements (and may thus reduce future borrowing), but generally cannot be held over to reduce coverage needs in subsequent years.

## CHAPTER III: WASTEWATER GENERAL FACILITIES CHARGE UPDATE

General facilities charges (GFCs), a form of connection charge authorized in the Revised Code of Washington (RCW) 57.08.005 (11), are imposed as a condition of service on new customers connecting to the system. In addition to any other costs related to physically connecting a customer to the system, the GFC is typically based on a blend of historical and planned future capital investment in system infrastructure – its underlying premise is that growth (future customers) will pay for growth-related costs that the utility has incurred (or will incur) to provide capacity to serve new customers. The GFC cost basis excludes costs associated with assets funded by grants and developer contributions on the premise that a utility should not recover a cost that it did not incur.

The District serves customers in two service areas: the Lake Samish Collection System and the Burlington Force Main System. New connections in the District's service area pay GFCs based on where they are located. All new connections pay the District's wastewater GFC, which is currently \$3,671 per living-unit equivalent (LUE) per District Resolution No. 06-03; customers in the Burlington Force Main System also pay a treatment GFC for capacity at the Burlington Wastewater Treatment Plant, plus a flat permit fee imposed by Burlington.

The methodology used in calculating the proposed GFC is summarized below in **Exhibit III.1**.

### **Exhibit III.1: GFC Methodology**

$$\text{GFC} = \frac{\text{Existing System Cost} + \text{Future Project Costs}}{\text{Existing Customer Base} + \text{Future Growth Served}}$$

This method views the system from an aggregate perspective, acknowledging that existing and future facilities will benefit both existing and future customers. The GFC is computed by dividing both existing and future costs by the total number of existing and future customers. This method is relatively easy to implement and explain to customers.

The following sections expand on the GFC analytical method and provide a summary of the calculation.

### A. EXISTING COST BASIS

The GFC cost basis includes costs associated with existing assets to recognize that those assets will provide benefit to new customers – per the District's most recent schedule of wastewater system assets, the total cost of the existing wastewater system was approximately \$9.2 million. In addition to this documented cost of existing assets, RCW 57.08.005 (11) allows the District to recover a provision for interest accrued on those assets. Conceptually, this interest provision (which is limited to ten years of

interest accrual on each asset) attempts to account for opportunity costs that the District's customers incurred by supporting investments in infrastructure rather than having it available for investment or other uses. Based on the available asset inventory, the existing cost basis includes \$4.5 million in interest. This cost basis is adjusted to reflect:

- ◆ **Construction Work In Progress:** The District has about \$1.4 million invested in capital projects that are currently underway. These projects are not completed or booked as assets, but do represent an investment made by the District in the system – consequently, the cost of construction work in progress is added to the GFC cost basis.
- ◆ **Grant & Developer Funding:** Grant funding is deducted from the cost basis on the premise that the GFC should only recover costs actually funded by the District. The District's Comprehensive Sewer Plan indicates that the District received about \$4.8 million in grants for the construction of the original wastewater system. In addition, the District's Financial Statements indicate that the District received \$1.4 million in contributions (excluding historical GFC payments) as of 1995. These funds (and related interest accrual) are deducted from the cost basis.

With these adjustments, the existing cost basis includes about \$5.0 million in project costs.

## B. FUTURE COST BASIS

The District's Comprehensive Sewer Plan was the primary source of information for the future cost basis. The Plan identified only one major capital project for the six-year planning period – the replacement of Lift Station No. 4. Because this project is attributable to the use of Lift Station No. 4 by existing customers and does not add system capacity *per se*, the projected cost (about \$787,000 in 2010 dollars) is not included in the cost basis for the GFC.

## C. CUSTOMER BASE

The customer base is separated into two groups.

- ◆ The existing customer base is based on an inventory of LUEs provided in the 2010 Comprehensive Sewer Plan. Based on this data, the existing customer base consists of 1,039 LUEs (516.5 in the Lake Samish Collection System, 522.0 in the Burlington Force Main System).
- ◆ Growth in the customer base is estimated based on the six-year projections provided in the Comprehensive Sewer Plan. The projections indicate that the Lake Samish Collection System will grow to approximately 544.5 LUEs by the end of the six-year system planning period, corresponding to an average annual growth rate of about 0.9%; the Burlington Force Main System is projected to grow at a rate averaging roughly 1.5% per year, reaching a total of 570.0 LUEs by 2016. Extrapolating these growth rates to the ten-year period permitted under RCW 57.08.005 (11), this analysis assumes about 130 LUEs of growth between the two service areas.

Because the Upper Skagit Tribe is planning to convert to “standby” service and has negotiated specific terms with the District that do not contemplate a material expansion of capacity reserved for the Tribe, LUEs associated with the Tribe are not included in the customer base for the GFC calculation. However, like the District's other customers, the Tribe should be subject to a GFC for reserved capacity above what it has paid for through historical GFC payments. The District should consider updating its GFCs if and when the Tribe purchases additional reserved capacity in the system, as such investments would trigger reductions in the GFCs for the District's other customers.

## D. GFC CALCULATION

Exhibit III.2 summarizes the GFC calculation using the components discussed above.

### Exhibit III.2: Water GFC Calculation

GFC Calculation	Treatment	Other	Total
Existing Plant-In-Service as of 12/31/09	\$291,302	\$8,909,787	\$9,201,089
Plus: Accrued Interest on Existing Plant	173,061	4,320,722	4,493,782
Plus: Construction Work In Progress	-	1,366,702	1,366,702
Less: Grant Funding	-	(4,825,682)	(4,825,682)
Less: Customer Contributions (Excluding GFCs)	-	(1,413,555)	(1,413,555)
Less: Interest Accrued on Contributed Assets	-	(3,813,683)	(3,813,683)
Total Existing Cost Basis	\$464,363	\$4,544,291	\$5,008,654
Projected Capital Expenditures (Current Dollars)	\$ -	\$ 906,493	\$ 906,493
Less: Repair & Replacement Projects	-	(906,493)	(906,493)
Net Future Cost Basis	\$ -	\$ -	\$ -
Number of Existing LUEs	517	1,039	
Plus: System Capacity with 10-Year CIP	48	130	
Total Number of LUEs	564	1,168	
<b>Total Wastewater GFC per LUE</b>	<b>\$823</b>	<b>\$3,889</b>	<b>\$4,713</b>

To enhance the equity of the District's GFC structure, the proposed structure introduces a split between treatment and other system components. This change intends to avoid double charging new customers in the Burlington Force Main System for treatment capacity, given that their wastewater flows directly to the Burlington Treatment Plant without passing through the District's lagoon system. In Exhibit III.2, the treatment GFC is computed by dividing the District's investment in treatment infrastructure by the number of LUEs (existing plus 10-year growth) in the Lake Samish Collection System; the GFC for other system components is computed by dividing the related cost basis by the number of LUEs (existing plus 10-year growth) in both the Lake Samish Collection System and the Burlington Force Main System. Growth in the Lake Samish Collection System would pay both the "treatment" and "other" charges shown in Exhibit III.2, for a total charge of \$4,713 per LUE; growth in the Burlington Force Main System would pay the "other" charge of \$3,889 to the District and Burlington's prevailing GFC.

The proposed GFC for the Lake Samish Collection System (\$4,713 per LUE) is about 28% higher than the current charge of \$3,671 per LUE. There are three key drivers behind the increase in the GFC:

- ◆ The net GFC cost basis increased by about \$968,000 (24%), due to the addition of assets and the accrual of interest on assets since the GFC was last calculated (2002). Note that the District has periodically adjusted the calculated GFC for inflation, offsetting the impact of this change.
- ◆ The customer base has decreased, partially due to a reduction in the projected growth rates based on recent experience. However, it is also worth noting that the "growth horizon" used in the calculation has changed. The existing charge is based on an allocation of costs to existing customers and growth over a 20-year period, which was justifiable given the capital projects that were contemplated at that time. The updated calculation, which does not include any future project costs in the cost basis, only considers ten-year growth for consistency with RCW 57.08.005 (11). The net impact is a 12% reduction in the customer base used in the calculation.

- ◆ The proposed methodology involves allocating treatment-related costs exclusively to customers in the Lake Samish Collection System. This change decreases the number of LUEs used in this calculation, increasing the charge per LUE in the Lake Samish Collection System.

Despite this increase, the updated charge is within a reasonable range of wastewater GFCs imposed by other jurisdictions in the area. **Exhibit III.3** provides a comparative survey of wastewater GFCs:

**Exhibit III.3: Wastewater GFC Survey**

Jurisdiction	Wastewater GFC per LUE
City of Sedro-Woolley	\$8,926
<i>Samish Water District (Proposed, Burlington Force Main System)</i>	<i>\$8,394</i>
City of Bellingham	\$7,637
<i>Samish Water District (Existing, Burlington Force Main System)</i>	<i>\$7,626</i>
City of Ferndale	\$6,050
City of Nooksack	\$6,000
City of Mount Vernon	\$5,360
City of Lynden	\$5,205
Lake Whatcom Water & Sewer District	\$5,201
<i>Samish Water District (Proposed, Lake Samish Collection System)</i>	<i>\$4,713</i>
City of Burlington (Outside City Limits)	\$4,505
<i>Samish Water District (Existing, Lake Samish Collection System)</i>	<i>\$3,671</i>
City of Everson	\$3,500
City of Burlington (Inside City Limits)	\$3,130
Whatcom County Water District #13	\$3,125
City of Sumas	\$3,125
Birch Bay Water & Sewer District	\$2,935
Town of La Conner	\$2,432

**Exhibit III.3** shows a considerable range in wastewater general facilities charges for utilities in Whatcom County and Skagit County. A number of factors can explain this range, including:

- ◆ **Scale of the Utility:** Larger utilities benefit from “economies of scale,” where the average cost per customer decreases as the number of customers increases.
- ◆ **Age of Facilities:** The cost of constructing facilities generally increases over time. Given that the GFC represents a “snapshot” of the cost of the system, a high charge may indicate recent (or planned near-term) investments in infrastructure. Likewise, a low GFC may indicate a relatively old system that has not recently been expanded or replaced.
- ◆ **Policies:** There are various methods to calculating GFCs – certain methods more aggressively recover costs from growth, while others facilitate more moderate charges. In addition, utilities may phase in or delay increases to mitigate impacts to development.

The existing GFC structure for the Lake Samish Collection System is near the middle of the spectrum shown in **Exhibit III.3**; with the proposed increase, the District’s GFC would remain consistent with this relative ranking. The GFC structure for the Burlington Force Main System is and would remain near the high end, primarily because customers in this service area have to pay the District’s GFC in addition to Burlington’s GFC.

# CHAPTER IV: WASTEWATER UTILITY REVENUE REQUIREMENT FORECAST

---

The revenue requirement is the amount of revenue that rates must generate to enable the District to meet the various financial obligations of its wastewater utility. This analysis has two main purposes – it serves as a means of evaluating the utility’s fiscal health and adequacy of current rate levels, and it sets the basis for near- and long-term rate planning. The rate revenue requirement is defined as the net difference between total revenue needs and the revenue generated through non-rate sources. Hence, the revenue requirement analysis involves defining and forecasting both needs and resources.

## A. KEY ASSUMPTIONS

Before a revenue requirement analysis can be done a series of assumptions are formulated to create a basis for the analysis. The assumptions affecting the analysis are discussed below.

- ◆ **Growth:** To represent current trends in customer growth and to add a measure of conservatism, District customer growth is assumed to be about 0.9% per year for the Lake Samish Collection System and about 1.5% per year for the Burlington Force Main System, resulting in an aggregate system growth rate of about 1.2% per year. In the near-term, these growth projections add 12-13 LUEs to the system each year. Growth from the Tribe is not included in these estimates, as the District and the Tribe have negotiated specific terms for reserving capacity in the District’s system. Based on the proposed payment structure, this analysis assumes that the amount of capacity reserved for the Tribe remains constant.
- ◆ **Debt Financing Terms:** This analysis assumes that the District issues revenue bonds to pay for capital costs not covered by other sources. These bonds are assumed to have an interest rate of 5.0%, a repayment term of 20 years, an issuance cost equal to 2.0% of the amount issued, and a reserve requirement equal to one year’s debt service.
- ◆ **Inflation:** This analysis assumes that costs increase with inflation.
  - Capital costs are assumed to increase by 3.5% per year, based on a long-term average of the ENR Construction Cost Index.
  - Operating costs are generally assumed to increase by 3.0% per year, based on near-term projections of the Seattle Consumer Price Index (CPI) released by the Washington State Economic and Revenue Forecast Council (ERFC). It is worth noting that while the ERFC forecast actually suggests annual inflation rates that are on the order of 2.0% for the next several years, this analysis retains a higher rate of 3.0% per year as a more conservative basis for financial planning.
  - Certain operating costs are assumed to increase with CPI inflation and customer growth – examples include utilities (power for pumping, which increases with the volume pumped) and postage (which increases with the number of customers billed).

## B. CAPITAL FUNDING STRATEGY

The District must fund its projected capital costs through a combination of cash resources and debt issuance. The financial forecast assumes the following conceptual capital funding hierarchy:

- ◆ Any available grant funds or developer contributions would be considered first, as they are essentially free money that generally comes with a specific purpose and restrictions on use. As noted above, this analysis does not assume the availability of any such funding for the District.
- ◆ Anticipated low-cost loans (PWTF) would then be used, if any are available. The analysis does not assume the availability of any such loans.
- ◆ Cash resources are next in line, including projected GFC revenue allocated to capital funding, money generated from system reinvestment funding, and available cash reserves (to the extent that they exceed the policy minimum balances). It should be noted that at present, the District does not appear to have an explicit policy to fund system reinvestment through rates (but funds various repair and maintenance projects as needed).
- ◆ Revenue bonds are a relatively high-cost debt with additional coverage requirements, and as such are the last resort for any costs in excess of other available resources.

**Exhibit IV.1** shows the capital funding strategy, based on the costs and resources projected in the financial forecast.

**Exhibit IV.1: 2011 – 2016 Capital Funding Strategy**

	2011	2012	2013	2014	2015	2016
<b>Projected Costs:</b>						
2011 PS #4 Improvements	\$ 57,339	\$ -	\$ -	\$ -	\$ -	\$ -
2011 General Fund Projects	28,566	-	-	-	-	-
PS #4 Replacement	-	-	530,612	354,171	-	-
<b>Total</b>	<b>\$ 85,905</b>	<b>\$ -</b>	<b>\$ 530,612</b>	<b>\$ 354,171</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Projected Funding Sources:</b>						
General Fund Cash	\$ 28,566	\$ -	\$ 480,612	\$ 219,388	\$ -	\$ -
Capital Fund Cash	57,339	-	50,000	134,784	-	-
Revenue Bond Proceeds	-	-	-	-	-	-
<b>Total</b>	<b>\$ 85,905</b>	<b>\$ -</b>	<b>\$ 530,612</b>	<b>\$ 354,171</b>	<b>\$ -</b>	<b>\$ -</b>

**Exhibit IV.1** indicates that the District should be able to fund the projected capital expenditures with cash and avoid debt issuance during the study period. This finding assumes \$700,000 in funding from General Fund cash, along with \$50,000 in revenue derived from the planned sale of a sewer line (under Interstate 5) to the Tribe – in the event that interim expenditures significantly reduce the cash balance left in the General Fund, revenue bond issuance may be required.

## C. OPERATING FORECAST

Operating expense projections for 2011 are generally based on the District's 2011 Budget. The forecast of operating expenses beyond 2011 is also based on this information, generally reflecting annual inflationary increases. Operating revenues are also forecasted to offset projected operating expenses – these revenues are generally assumed to grow with customer growth. As an exception to this, the analysis computes interest earnings on projected reserve balances assuming an annual interest earnings rate of 1.15% for 2011 and 2012 and increasing to 2.00% in 2013 and 3.00% thereafter based on the District's experience investing funds in the Whatcom County Investment Pool.

Wastewater rate revenue levels for 2011 are initially based on 2010 actual revenues and adjusted for growth, assuming that the Tribe's 2011 payments are consistent with what it has paid in prior years (\$250,000 per year based on District estimates). For 2012 and subsequent years, the projected revenue from the Tribe is adjusted to reflect a negotiated "capacity reservation charge" of \$4,400 per month (\$52,800 per year).

## D. POLICY-BASED & OTHER REVENUE NEEDS

Other costs that the District's wastewater rates must fund include:

- ◆ **Existing Debt Service:** The District currently has two outstanding P WTF Loans. The 2002 P WTF Loan (PW-02-691-046) generates an annual debt payment of roughly \$48,000 in the near-term; the 2005 P WTF Loan (PW-05-691-050) requires an annual payment of about \$65,000. These loans are 20-year loans, meaning that the District will finish repaying them in 2022 and 2025, respectively. As noted above, the capital funding strategy shown in **Exhibit IV.1** does not contemplate additional debt issuance to fund the projects that are currently planned.
- ◆ **System Reinvestment (Depreciation) Funding:** The District does not currently fund system reinvestment through wastewater rates, but it is worth noting that a number of utilities have been implementing system reinvestment funding policies to generate cash funding for future capital needs. Depreciation expense, a measure of the decline in asset value associated with use by existing customers, is most often used to determine an appropriate annual funding benchmark. Based on the District's 2007 – 2009 Financial Statement, the District could justify funding roughly \$157,000 per year based on the original cost depreciation of its wastewater system assets. However, another common policy benchmark is depreciation net of debt principal repayment – this benchmark intends to recognize that customers are still paying for system assets through the debt service included in their rates, and should not be simultaneously charged for assets and their replacement. Given that the District's annual debt service payments currently include about \$107,000 in debt principal, the District could use this benchmark to justify about \$50,000 per year in additional system reinvestment funding through rates. Though not necessarily an issue for the District at this time, system reinvestment funding remains a prudent long-term financial policy. The District would have considerable flexibility in establishing a funding benchmark, having to balance the benefits of additional cash funding (less debt issuance and overall cost) with the desire to promote "generational equity" in capital funding between existing and future customers.
- ◆ **Reserve Funding:** As previously noted, this analysis assumes that the District maintains an operating reserve with a minimum target balance equal to 60 days (roughly 16.4%) of projected operating expenses. It is worth noting that as operating expenses are projected to increase over time, the target balance for the operating reserve increases – if the operating reserve balance is projected to fall short of its moving target, rates must generate a surplus to cover the difference.

## E. REVENUE SUFFICIENCY

With revenues and expenses defined and projected, the next step is to define the amount of revenue needed to meet the wastewater utility's financial needs and policy objectives. The financial forecast defines the level of revenue needed via a series of tests:

### E-1. Cash Flow Sufficiency Test

Conceptually, the cash flow test determines the amount of revenue the wastewater utility needs to generate in order to meet its cash obligations. The cash flow obligations relating to rates include:

- ◆ Operating, maintenance and administrative expenses
- ◆ Debt service payments
- ◆ Rate-funded capital expenditures
- ◆ Depreciation funding or system reinvestment (currently not funded)
- ◆ Additions to operating reserves

Offsetting these obligations are various sources of revenue, including:

- ◆ Wastewater rate revenues
- ◆ General Fund interest earnings
- ◆ Interest earned on bond reserves, if used for debt repayment
- ◆ Miscellaneous operating and non-operating revenues
- ◆ Use of bond reserves to make final-year payments

To satisfy this test, wastewater rate revenue must be sufficient to meet the projected cash flow needs. Capital resources such as bond proceeds or GFC revenues are not typically considered available for meeting these cash flow needs, but become part of the resources used for capital project funding. This analysis assumes that the District's share of the projected annual GFC revenue is kept in the Capital Fund and used for project funding (the District passes the Burlington share of the GFC revenue stream on to the City of Burlington). This policy promotes financial conservatism by avoiding reliance on growth-dependent charges to meet the utility's financial objectives, especially in light of the current economy.

### E-2. Coverage Sufficiency Test

Revenue bond covenants include a bond coverage requirement in which the District would agree to collect enough revenue so that "net revenue" (defined as rate revenue plus interest earnings and miscellaneous operating revenue, less cash operating expenses) covers a multiple of annual debt service costs. This analysis assumes a bond coverage requirement of 1.25 times annual debt service, meaning the District would need to set rates to generate enough rate revenue to cover expenses plus 1.25 times debt service as a minimum legal level. Note that this calculation excludes replacement funding, reserve funding, and PWTF Loan debt service; as it is a test of annual financial performance, it also precludes the use of reserves to cover shortfalls in net revenue. Because all of the District's existing debt service is attributable to PWTF Loans (and the capital funding strategy does not indicate a need for additional debt issuance for at least the next six years), coverage is not an issue for the District during the study period.

### E-3. Evaluation of Revenue Sufficiency

The cash flow and coverage sufficiency tests each provide a different perspective on how much revenue is appropriate and, while satisfying all of the defined objectives may seem daunting, doing so helps ensure that appropriate rate adjustments, if any, fulfill the utility's near-term needs and long-term goals. Similarly, this multi-faceted approach reduces the utility's financial risk and increases financial stability – any near-term increases which result will help to ensure lower and more stable long-term rates.

It should be noted that it is relatively common for these benchmarks to overlap, ensuring in tandem that each separate objective is met at all times. For example, producing a coverage ratio of 1.25 times annual debt service may generate positive cash flow, concurrently satisfying both sufficiency tests. **Exhibit IV.2** shows the 2011 – 2016 revenue requirement forecast.

**Exhibit IV.2: 2011 – 2016 Wastewater Utility Revenue Requirement Forecast (Baseline)**

Revenue Requirement Analysis	2010	2011	2012	2013	2014	2015	2016
<b>Revenues:</b>							
Wastewater Rate Revenue	\$ 1,047,055	\$ 1,056,203	\$ 869,066	\$ 879,260	\$ 889,589	\$ 900,054	\$ 910,656
Other Operating Revenues	29,376	25,633	26,200	23,861	30,495	30,625	30,757
<b>Total</b>	<b>\$ 1,076,431</b>	<b>\$ 1,081,836</b>	<b>\$ 895,265</b>	<b>\$ 903,122</b>	<b>\$ 920,084</b>	<b>\$ 930,679</b>	<b>\$ 941,413</b>
<b>Expenses:</b>							
Operating Expenses	\$ 888,714	\$ 900,494	\$ 927,881	\$ 956,106	\$ 985,194	\$ 1,015,173	\$ 1,046,068
Debt Service	114,614	114,276	113,741	113,207	112,672	112,137	111,602
System Reinvestment Funding	-	-	-	-	-	-	-
Reserve Funding	-	-	-	-	-	-	-
<b>Total</b>	<b>\$ 1,003,328</b>	<b>\$ 1,014,770</b>	<b>\$ 1,041,623</b>	<b>\$ 1,069,313</b>	<b>\$ 1,097,866</b>	<b>\$ 1,127,310</b>	<b>\$ 1,157,670</b>
<b>Net Surplus (Deficiency) Before Rate Adjustments</b>	<b>\$ 73,103</b>	<b>\$ 67,066</b>	<b>\$ (146,358)</b>	<b>\$ (166,191)</b>	<b>\$ (177,783)</b>	<b>\$ (196,631)</b>	<b>\$ (216,257)</b>
<b>Annual Wastewater Rate Adjustment</b>	<b>0.0%</b>	<b>0.0%</b>	<b>17.5%</b>	<b>1.8%</b>	<b>0.9%</b>	<b>1.6%</b>	<b>1.6%</b>
<b>Cumulative Wastewater Rate Adjustment</b>	<b>0.0%</b>	<b>0.0%</b>	<b>17.5%</b>	<b>19.7%</b>	<b>20.8%</b>	<b>22.7%</b>	<b>24.7%</b>
<b>Wastewater Rate Revenue After Adjustments</b>	<b>\$ 1,047,055</b>	<b>\$ 1,056,203</b>	<b>\$ 1,021,287</b>	<b>\$ 1,052,110</b>	<b>\$ 1,074,494</b>	<b>\$ 1,104,563</b>	<b>\$ 1,135,578</b>
<b>Net Cash Flow</b>	<b>\$ 73,103</b>	<b>\$ 67,066</b>	<b>\$ -</b>				
<b>Coverage Ratio Realized</b>	<b>(N/A)</b>						

**Exhibit IV.2** shows a significant rate increase in 2012 to offset the revenue loss from the Upper Skagit Tribe, which currently pays about \$250,000 per year as a wheeling customer. Based on recent negotiations between the District and the Tribe, the Tribe's payments will decrease from about \$250,000 per year to \$52,800 per year – this revenue loss of about \$200,000 per year represents about 17.7% of the District's annual rate revenue.

It is worth noting that the District currently has money in the General Fund that it could use to phase in the initial rate increase. **Exhibit IV.3** presents an alternate, phased wastewater rate forecast:

**Exhibit IV.3: 2011 – 2016 Wastewater Utility Revenue Requirement Forecast (Phased)**

Revenue Requirement Analysis	2010	2011	2012	2013	2014	2015	2016
<b>Annual Wastewater Rate Adjustment</b>	<b>0.0%</b>	<b>0.0%</b>	<b>5.0%</b>	<b>5.0%</b>	<b>5.0%</b>	<b>5.0%</b>	<b>3.3%</b>
<b>Cumulative Wastewater Rate Adjustment</b>	<b>0.0%</b>	<b>0.0%</b>	<b>5.0%</b>	<b>10.3%</b>	<b>15.8%</b>	<b>21.6%</b>	<b>25.6%</b>
<b>Wastewater Rate Revenue After Adjustments</b>	<b>\$ 1,047,055</b>	<b>\$ 1,056,203</b>	<b>\$ 912,519</b>	<b>\$ 969,384</b>	<b>\$ 1,029,811</b>	<b>\$ 1,094,021</b>	<b>\$ 1,143,439</b>
<b>Net Cash Flow</b>	<b>\$ 73,103</b>	<b>\$ 67,066</b>	<b>\$ (104,578)</b>	<b>\$ (81,630)</b>	<b>\$ (48,549)</b>	<b>\$ (17,178)</b>	<b>\$ -</b>
<b>Coverage Ratio Realized</b>	<b>(N/A)</b>	<b>(N/A)</b>	<b>(N/A)</b>	<b>(N/A)</b>	<b>(N/A)</b>	<b>(N/A)</b>	<b>(N/A)</b>

The phased strategy shown in **Exhibit IV.3** spreads the upfront rate increase over four years, drawing down the General Fund balance to meet the utility's financial obligations. As previously stated, this analysis assumes the use of \$700,000 in the General Fund to fund the replacement of Pump Station No. 4. If unanticipated expenditures further reduce the General Fund balance, the District's ability to manage the projected wastewater rate increases would decline (possibly requiring larger and/or accelerated rate increases).

DRAFT

## CHAPTER V: RECOMMENDATIONS

Key recommendations resulting from the 2010 Wastewater Rate & GFC Update include:

- ◆ Adopt a near-term wastewater rate strategy of 5.0% annual increases from 2012 – 2015 as shown in **Exhibit IV.3**. This rate strategy envisions using money in the General Fund to phase in the wastewater rate increases, covering some of the anticipated revenue losses from the Upper Skagit Tribe. **Exhibit V.1** summarizes the proposed 2012 wastewater rate structure:

### **Exhibit V.1: Proposed 2011 Wastewater Rate Structure**

Wastewater Rates: Lake Samish Collection System	2011 (Existing)	2012 (Proposed)	2013 (Projected)	2014 (Projected)	2015 (Projected)
Class 1 – Residential: Monthly Charge per LUE	\$49.76	\$52.25	\$54.86	\$57.60	\$60.48
Class 2 – Commercial: Monthly Charge per LUE	\$49.76	\$52.25	\$54.86	\$57.60	\$60.48
Volume Charge per 100 cf*	\$8.16	\$8.57	\$9.00	\$9.45	\$9.92

Wastewater Rates: Burlington Force Main System	2011 (Existing)	2012 (Proposed)	2013 (Projected)	2014 (Projected)	2015 (Projected)
Class 1 – Residential: Monthly Charge per LUE	\$67.96	\$71.36	\$74.93	\$78.67	\$82.61
Class 2 – Commercial: Monthly Charge per LUE	\$67.96	\$71.36	\$74.93	\$78.67	\$82.61
Volume Charge per 100 cf*	\$11.15	\$11.71	\$12.29	\$12.91	\$13.55

\*Commercial volume charge applies to usage above 750 cf per month.

**Exhibit V.2** provides a comparison of the monthly wastewater bill that a single-family home (1 LUE) with 750 cubic feet per month of wastewater flow would pay in various jurisdictions. This comparison shows sample bills under the District's existing (2011) rate structure and proposed (2012) rate structure.

**Exhibit V.2: Monthly Wastewater Bill Comparison**

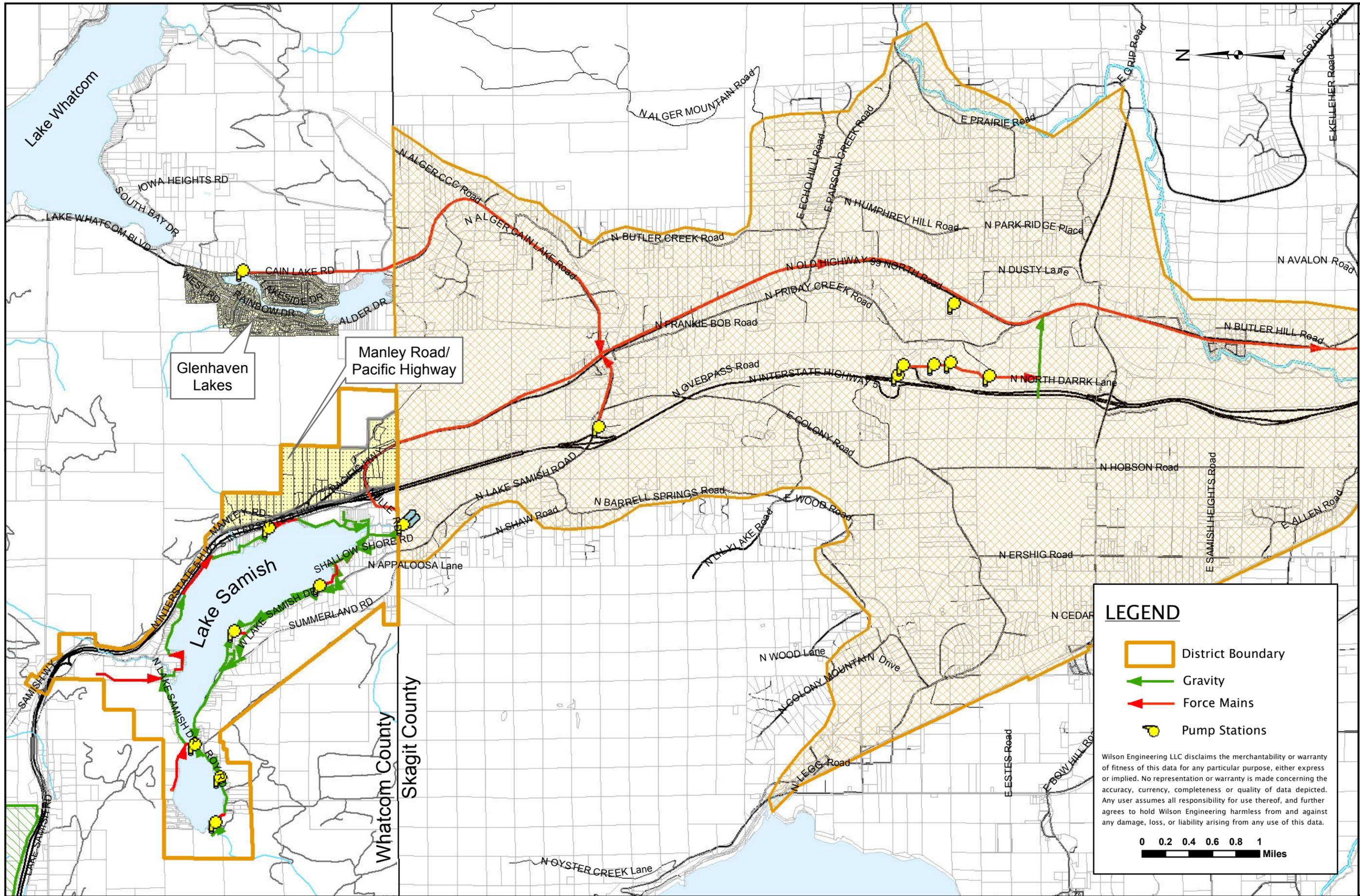
Jurisdiction	Average Residential Bill @ 750 cf/Month
City of Blaine	\$81.31
<i>Samish Water District (Proposed, Burlington Force Main System)</i>	<i>\$71.36</i>
<i>Samish Water District (Existing, Burlington Force Main System)</i>	<i>\$67.96</i>
Lake Whatcom Water & Sewer District	\$60.13
City of Burlington (Outside City Limits)	\$54.55
City of Sedro-Woolley	\$53.25
<i>Samish Water District (Proposed, Lake Samish Collection System)</i>	<i>\$52.25</i>
City of Mount Vernon	\$51.70
<i>Samish Water District (Existing, Lake Samish Collection System)</i>	<i>\$49.76</i>
Town of La Conner	\$49.13
City of Ferndale	\$44.59
City of Burlington (Inside City Limits)	\$43.64
City of Nooksack	\$41.50
City of Everson	\$39.00
City of Sumas	\$37.29
City of Lynden	\$36.01
City of Bellingham	\$29.35
Birch Bay Water & Sewer District	\$27.13

In the comparison shown in **Exhibit V.2**, the District’s rates in the Lake Samish Collection System fall in the middle of the range. The rates in the Burlington Force Main System are near the high-end of the spectrum, but it is worth noting that the bills shown in **Exhibit V.2** are for “inside” rates – customers outside of these utilities’ boundaries generally pay higher rates. Customers in the Burlington Force Main System are treated as “outside-District” customers for the purpose of imposing wastewater rates.

- ◆ Adopt the wastewater GFC structure shown in **Exhibit III.2**, which establishes separate GFC components for treatment facilities and other wastewater facilities. All customers would pay the “other facilities” charge of \$3,889 per LUE; new connections in the Lake Samish Collection System would pay a treatment charge of \$823 per LUE (based on the District’s historical investments in its lagoon treatment system and capacity at the City of Burlington’s Treatment Plant) while new connections in the Burlington Force Main System would pay the prevailing GFC imposed by the City of Burlington. This change intends to enhance the equity of the District’s GFC structure by recognizing that customers should only be charged once for treatment capacity.

It is important to note that the findings expressed in this report generally rely on a number of assumptions regarding costs, revenues, customer growth, and policy-based requirements. These assumptions and the related projections may vary significantly from what actually happens – as a result, the District should periodically review the financial status of its wastewater utility to verify that the recommended rates are generating an adequate amount of revenue to meet the utility’s financial needs.

**Exhibit I - Potential Sewer Growth**



Glenhaven Lakes

Manley Road/  
Pacific Highway

### LEGEND

- District Boundary
- Gravity
- Force Mains
- Pump Stations

Wilson Engineering LLC disclaims the merchantability or warranty of fitness of this data for any particular purpose, either express or implied. No representation or warranty is made concerning the accuracy, currency, completeness or quality of data depicted. Any user assumes all responsibility for use thereof, and further agrees to hold Wilson Engineering harmless from and against any damage, loss, or liability arising from any use of this data.

0 0.2 0.4 0.6 0.8 1 Miles

DATE	JUNE 2013	SHEET	1
SCALE	1" = 48,000'	OF	1
JOB NUMBER	2010-014		

WHATCOM COUNTY

Samish Water District

Exhibit I - Potential Sewer Growth

Projection: NAD\_1927\_UTM\_Zone\_10N  
 Transverse\_Mercator  
 False\_Easting: 500000.000000  
 False\_Northing: -5000000.000000

805 DUPOINT STREET  
 BELLINGHAM WA 98225  
 FAX: (360) 647-9061  
 (360) 733-6100



**Exhibit J – Future and Capital Improvement Plan**

**SAMISH WATER DISTRICT**

Sewer Comprehensive Plan - 2011 Update

Exhibit J - Operation & Maintenance and Capital Improvement Plan

Prepared by: E.A. Sterling, Wilson Engineering LLC

Date: June 2013

Project No.	Future Improvement Project - Description	Anticipated Project Schedule	Work to be Performed by	Anticipated Costs At Time of Construction Incl Sales Tax (see Note 1)
<b>A. Maintenance and Operational Improvements</b>				
1	Bioxide System Expansion		District Staff / Contractor	\$30,000
2	Lake Samish Treatment Lagoons – Sludge Monitoring Program		District Staff / Contractor	\$310,000
3	Force Main Pressure Monitoring Program		District Staff	---
4	Smoke Testing Program		District Staff / Contractor	\$7,500/year
<b>B. Administration, Financial and Planning Projects</b>				
1	Geographical Information System (GIS) Development		District Staff / Engineer	\$7,500
2	Lake Samish Watershed Committee (WRIA 3)		District Staff	---
3	Sewer Service Rate Increases		District Staff	---
4	Update Existing Emergency Response Plan		District Staff / Engineer	---
<b>C. Capital Improvement Projects</b>				
1	Installation of Emergency Backup Generator Power at Whatcom Meadows Pump Station No. 9		District Staff / Contractor	\$ 40,000
2	Upgrade of Lake Samish Pump Station No. 4		District Staff / Engineer / Contractor	\$ 950,000
3	Miscellaneous Sewer Line Replacement and Repair		District Staff / Engineer / Contractor	Unknown @ this time
4	Parallel Force Main Installation – Joe Leary Slough		District Staff / Engineer / Contractor	Unknown @ this time

**Exhibit K – Non-Project SEPA**

ENVIRONMENTAL CHECKLIST

*Purpose of checklist:*

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

*Instructions for applicants:*

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

*Use of checklist for nonproject proposals:*

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

*Samish Water District Comprehensive Sewer Plan – 2012 Update*

2. Name of applicant: *Samish Water District*

3. Address and phone number of applicant and contact person:

*2195 Nulle Road*

*Bellingham, Wa 98229*

*Phone: (360) 734-5664*

*Byron Gaines, District Manager*

4. Date checklist prepared: *May 8, 2012*

5. Agency requesting checklist: *Samish Water District*

6. Proposed timing or schedule (including phasing, if applicable):

*The Comprehensive Sewer Plan- 2012 Update details anticipated activities related to operating and maintaining the existing sanitary sewer system within Samish Water District's boundaries. The plan identifies replacement of pump stations and related apparatus in the collection system. of future water reclamation. The anticipated upgrade activities identified in the plan should not require separate environmental review as they are constructed, but may require site specific environmental permits, which will be acquired. Water reclamation will receive further environmental review. Construction plans will incorporate*

*environmental-impact mitigating features and methods.*

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

*This Comprehensive Sewer Plan Update is prepared in accordance with WAC 173-240-50 and is scheduled to be updated each time the District proposes previously unidentified expansions or renovations, or every six (6) years, whichever time period is shorter. It is anticipated that the improvement work described in this plan will be constructed in a series of phases over the coming years. The actual occurrence and timing will be dependent upon a combination of factors including resident support, governmental mandate, and funding.*

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

*None*

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

*None*

10. List any government approvals or permits that will be needed for your proposal, if known.

*It is anticipated that the following governmental approvals will be required:*

*Whatcom County*

- *Review and approval of the Comprehensive Sewer Plan by the County Engineer, and County Health Official.*
- *Review and approval of the Comprehensive Sewer Plan by the County Council.*
- *Shoreline Substantial Development Permit for construction within 200 feet of Lake Samish and associated wetlands.*
- *Critical Areas Ordinance compliance review, conducted as part of the Shoreline Substantial Development Permit.*
- *County Engineer, Building Division and Planning Department: Review and approval of the construction plans, in phases, for all improvements within County road right-of-way, and all significant structures. Issues such as the import of trench backfill material, spoil disposal, temporary and permanent erosion and sedimentation control measures will be addressed by the construction plans.*

*Department of Ecology*

- *NPDES Stormwater Permit for Construction Activity which disturbs more than one acre – may be required depending upon size of individual projects.*
- *Ecology may need to issue a 401 Water Quality Certification in support of a Corps of Engineers wetlands permit, if any required.*
- *Ecology must concur with any issuance of a Shoreline Substantial Development Permit by Whatcom County.*

*Dept. of Fish and Wildlife*

- *Hydraulic Project Approval may be required for construction plans if any stream crossings are impacted. Crossings without impact to the creek cross-section below the Ordinary High Water Mark do not require a*

HPA.

Corps of Engineers

- o *Nationwide Corps permits may be required if wetlands cannot be completely avoided during project design and construction.*

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

*This Comprehensive Sewer Plan – 2012 Update for Samish Water District has been prepared in accordance with the Washington State Department of Ecology (DOE) guidelines as presented in WAC 173-240. The purpose of the Plan is to provide a comprehensive overview of the existing sanitary sewer collection within the Samish Water District boundaries and service areas.*

*The Plan describes proposed future facilities development, population growth, and facilities improvement alternatives for the District. The Plan covers the following topics:*

- o *existing sanitary sewer system layout map including District boundaries and service areas.*
- o *system owner/operator information*
- o *location of any industrial wastewater producing facilities within the District’s boundaries,(of which there are none at this time),*
- o *description of existing facilities and how they will be upgraded,*
- o *discussion of odor control improvements within the system,*
- o *discussion of anticipated wastewater flow within the District’s boundaries and service areas over the next six years.,*
- o *discussion of sewer rate structures and revenue planning,*
- o *discussion of future improvement projects, including possible water reclamation.*

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

*The Comprehensive Sewer Plan covers the basin surrounding Lake Samish, Washington which is located immediately west of Interstate 5 approximately five (5) miles south of Bellingham, Washington. In addition, the Comprehensive Sewer Plan describes the District’s existing, out-of-District sewer service areas in Skagit County and the existing sewer force main along Old Highway 99 which transports wastewater to the City of Burlington Wastewater Treatment Plant for treatment.*

**B. ENVIRONMENTAL ELEMENTS**

**1. Earth**

- a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous,  
other . . . . .

*The area surrounding Lake Samish is hilly with some steep, mountainous slopes. The areas within the District’s Skagit County service areas range from moderately hilly to flat floodplain.*

- b. What is the steepest slope on the site (approximate percent slope)?

*The steepest section of existing sewer line described in this Plan is a segment leading uphill from Lake Samish Pump Station No. 2 to its alignment along East Lake Samish Drive. For approximately 75 lineal feet, the existing force main route might have an approximate slope of 40%. With respect to proposed improvement construction, maximum grading slopes will be approximately 10% or less. Impact-mitigating designs (i.e. route change or construction method) will be identified when construction plans are*

prepared.

- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

*The soils in the Lake Samish area are generally classified as Squalicum-Chuckanut-Nati (Source: Soil Survey of Whatcom County Area, Washington. U.S.D.A., Soil Conservation Service, 1987 survey data). There is no known prime agricultural farmland in the existing Lake Samish portion of the sewer system.*

*In the Skagit County section of the sewer system, soils are generally classified as Skagit-Sumas-Field or Tokul-Skipopa-Dystric-Xerorchrepts (Source: Soil Survey of Skagit County Area, Washington. U.S.D.A., Soil Conservation Service, 1989 survey data). There is some prime agricultural farmland adjacent to the District force main through Skagit County.*

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

*None known, but steep slopes in the Lake Samish region generally will require mitigating design features, to be identified during final design. In addition, the Whatcom County Critical Areas Map identifies limited areas immediately around the lake which have increased likelihood of liquefaction in the event of an earthquake. The plan generally describes upgrading of existing facilities, not construction of new facilities through undisturbed areas.*

- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

*The improvements outlined under this plan propose minimum filling and/or grading as necessary to ensure adequate site drainage away from structures. Sources of fill for these projects will be local gravel quarries.*

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

*Yes, but mitigating techniques (best management practices during and after construction) are required by County regulations, and will be provided.*

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

*For all improvement projects proposed within the Comprehensive Sewer Plan, the surface will be restored to its existing condition (i.e. already impervious or not).*

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

*Geotechnical designs to promote slope stability, and implementation of runoff control and erosion and sedimentation control measures per guidelines in the 2001 Department of Ecology Stormwater Management Manual for Western Washington will be implemented.*

- a. **Air**

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

*Dust and equipment exhaust emissions are expected during construction. Infrequent emergency generator exhaust at existing pump stations equipped with emergency generators is expected after the project is complete. The District will comply with burn*

*regulations in effect at the time of construction.*

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

*No.*

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

*None.*

**3. Water**

**a. Surface:**

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

*The District's boundaries surround Lake Samish. There are associated tributary streams leading to Lake Samish, and Friday Creek leading out from Lake Samish at the southern end. There are significant wetlands along the southern shores of the Lake.*

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

*Maintenance and operations work on existing pump stations and facilities may require work within 200 feet of Lake Samish and its associated streams and creeks. Reclaimed water treatment may require construction of a treatment facility within 200 feet of Lake Samish, Friday Creek, or Bear Creek.*

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

*Negligible.*

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

*No.*

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

*Some areas immediately adjacent to Lake Samish lie within the 100-year flood plain. In addition, portions of the District's 12-inch force main in Skagit County lie within the 100-year flood plain.*

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

*No.*

b. Ground:

- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

*Reclaimed water meeting Class A discharge standards may be discharged for groundwater recharge.*

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

*None*

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

*None.*

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

*No.*

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

*None.*

4. **Plants**

a. Check or circle types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other  
 evergreen tree: fir, cedar, pine, other  
 shrubs  
 grass  
 pasture  
 crop or grain  
 wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other  
 water plants: water lily, eelgrass, milfoil, other  
 other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

*Trees, grasses, and understory will be removed only to the extent necessary for maintenance or upgrading the sewer system. The amount removed is determined by the nature and extent of the work.*

- c. List threatened or endangered species known to be on or near the site.

*None known.*

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

*None.*

## 5. Animals

- a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other:

- b. List any threatened or endangered species known to be on or near the site.

*Bald eagles (listed as "threatened") may be located in the areas covered by this Comprehensive Sewer Plan – 2012 Update; no specific locations are known. Listed as "threatened", Bull Trout may be present in Friday Creek, Lake Samish or its tributaries. Chinook salmon, also listed as "threatened" may be located in Friday Creek. A Department of Fish and Wildlife representative has indicated that these species may be present, but does not have evidence that they are.*

- c. Is the site part of a migration route? If so, explain.

*The area is part of the Pacific Flyway bird migration route. Geese and other waterfowl winter in the Lake Samish area.*

- d. Proposed measures to preserve or enhance wildlife, if any:

*Clearing will be kept to the minimum necessary. The majority of facilities construction would occur in previously disturbed areas such as road right-of-ways and existing pump station sites.*

*Aquatic species will be protected from habitat harm through construction-phase erosion and sedimentation control Best Management Practices identified in the Department of Ecology Stormwater Management Manual for the Puget Sound.*

*The long-term operation of the sewer system is not anticipated to be harmful to any threatened wildlife or aquatic species. The existing sewer system has been in operation for more than thirty-five years.*

## 6. Energy and natural resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

*Electricity will power the District's pump stations. Emergency backup generators will utilize diesel, natural gas or propane as an energy source.*

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

- c. What kinds of energy conservation features are included in the plans of this proposal?  
List other proposed measures to reduce or control energy impacts, if any:

*The District has recently performed an energy efficiency analysis for the District headquarters, and recommendations from that analysis are being implemented. Additionally, the District is in the process of installing high-efficiency motors at the pumps stations.*

**7. Environmental health**

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal?  
If so, describe.

*No. The proposed improvements to the public sewer system would reduce exposure to the potential health hazards such as raw sewage. However, during installation of new facilities there are always risks associated with general construction activities, but they are not exclusive to this proposal..*

- 1) Describe special emergency services that might be required.

*None.*

- 2) Proposed measures to reduce or control environmental health hazards, if any:

*The upgrades to the existing public sewer system are itself a measure to reduce exposure to the potential health hazards of raw sewage.*

**b. Noise**

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

*None.*

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

*Construction noise will occur short-term. Long term noise from the pump station motors and backup generators will be attenuated by enclosures.*

- 3) Proposed measures to reduce or control noise impacts, if any:

*None.*

**8. Land and shoreline use**

- a. What is the current use of the site and adjacent properties?

*The area contains primarily single family residences and mobile homes, but also includes a County park, private camp,*

*agricultural lands and a fire station.*

b. Has the site been used for agriculture? If so, describe.

*Yes, some areas surrounding the Skagit County portion of the sewer system have been used for agriculture.*

c. Describe any structures on the site.

Service Area:

*The vast majority of structures in the Whatcom County service area are private residences and mobile homes around Lake Samish. Within the Skagit County portion of the service area, there are both residential and agricultural structures at rural densities.*

Facility Sites:

*Pump Station facilities are generally comprised of the following structures; collection wet wells, pump station packages with housings, electrical and control panels and generator structures (as necessary). The District Headquarters is housed in a wood frame structure which includes the District offices and maintenance facilities*

d. Will any structures be demolished? If so, what?

*Yes, some existing pump station equipment and enclosures will be removed and replaced at PS #4.*

e. What is the current zoning classification of the site?

*Current zoning designations for the area covered by this Comprehensive Sewer Plan are RR2, R2A, R5A, R10A, ROS, TC, CF and RF.*

f. What is the current comprehensive plan designation of the site?

*In accordance with the Whatcom County Comprehensive Plan, the current comprehensive plan designations for the Lake Samish portion of the sewer system are;*

- Suburban Enclaves,*
- Resort/Recreational Subdivisions,*
- Public Recreation.*

*In accordance with the Skagit County Comprehensive Plan, the current comprehensive plan designations for the Skagit County portion of the sewer system are;*

- Rural Reserve,*
- Agricultural – Natural Resource Land,*
- Rural Reserve – Natural Resource Land,*
- Rural Reserve – Natural Resource Land w/ Mineral Resource Overlay.*

g. If applicable, what is the current shoreline master program designation of the site?

*In accordance with the Whatcom County Shoreline Management Program issued by the Whatcom County Planning Department (Feb 2007 Edition), Lake Samish has the following shoreline designations;*

- Conservancy - Northwest shore and southern tip of lake with two isolated areas on the eastern shore,*
- Aquatic - Lake,*
- Shoreline Residential – South, west & northeast shore of lake*

*Lake Samish has not been designated as a “Shoreline of Statewide Significance” or “Lake of Statewide Significance.”*

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

*The area surrounding Lake Samish has been classified as an "environmentally sensitive" area. In addition, areas along the shoreline of Friday Creek (within the Skagit County service area) have been classified as "environmentally sensitive".*

i. Approximately how many people would reside or work in the completed project?

*Lake Samish Service Area - Approximately one thousand people already live in the area (estimated from +/- 400 homes and mobile homes). The ultimate population based on zoning potential might reach 2,800. It is very unlikely that this entire increase would occur during the six year planning horizon of this Comprehensive Sewer Plan.*

*Skagit County Service Area – The District currently has approximately 110 commercial and residential sewer connections within the Skagit County Service Area. The District expects to continue to add connections within this service area at an average rate of eight connection per year.*

j. Approximately how many people would the completed project displace?

*None.*

k. Proposed measures to avoid or reduce displacement impacts, if any:

*None.*

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

*None. The proposed improvement projects included in the Comprehensive Sewer Plan – 2012 Update are operations and maintenance upgrades to an already-existing sewer system. Development around this existing sewer system is currently in compliance with local land use and area zoning. The proposed improvement projects will not change this status.*

## 9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

*No housing units will be provided by this proposal. Zoning determines potential housing densities, and market conditions determine whether housing will be constructed to match zoned potential.*

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

*None.*

c. Proposed measures to reduce or control housing impacts, if any:

*None.*

**10. Aesthetics**

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

*None.*

- b. What views in the immediate vicinity would be altered or obstructed?

*None.*

- c. Proposed measures to reduce or control aesthetic impacts, if any:

*None.*

**11. Light and glare**

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

*None.*

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

*No.*

- c. What existing off-site sources of light or glare may affect your proposal?

*None.*

- d. Proposed measures to reduce or control light and glare impacts, if any:

*None.*

**12. Recreation**

- a. What designated and informal recreational opportunities are in the immediate vicinity?

Designated Recreational Opportunities: *The Lake Samish area is home to the following recreational areas: Whatcom County's Samish Park, one (1) parcel of undeveloped county park property, a public boat launch, and the private Lutheran Camp Association campground.*

Informal Recreational Opportunities: *biking, hiking, swimming, boating, fishing, and nature watching.*

*There is no anticipated impact to the above outlined recreational activities as a result of this proposal.*

b. Would the proposed project displace any existing recreational uses? If so, describe.

*No.*

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

*None.*

**13. Historic and cultural preservation**

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

*None known.*

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

*None known.*

c. Proposed measures to reduce or control impacts, if any:

*None.*

**14. Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

*The Lake Samish portion of Samish Water District is served by Interstate 5; North, West, and East Lake Samish Roads; Roy Road; Summerland Road; and Nulle Road.*

*The Skagit County service area of Samish Water District is served by State Highway 99, Alger/Cain Lake Road and Lake Samish Road.*

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

*Not relevant to proposal.*

c. How many parking spaces would the completed project have? How many would the project eliminate?

*Not relevant to proposal.*

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

*No.*

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

*No.*

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

*The completed improvement projects will not augment the level of vehicular use by operators.*

*This proposal serves existing and future residential development, but does not create the development. Vehicle trip projections are addressed when zoning designations and subdivision applications are reviewed by Whatcom County.*

- g. Proposed measures to reduce or control transportation impacts, if any:

*None.*

#### 15. Public services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

*County land use plans determine the potential need for public services. The District already provides public sewer service to meet zoned demand.*

- b. Proposed measures to reduce or control direct impacts on public services, if any.

*None.*

#### 16. Utilities

- a. Circle utilities currently available at the site:  electricity, natural gas,  water, refuse  service,  telephone,  sanitary sewer,  septic system,  other.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

*No changes will be made to the existing level of utility service.*

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: .....

Date Submitted: .....

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

(do not use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

- 1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

*The proposed Comprehensive Sewer Plan – 2012 Update outlines operation and maintenance projects by the District necessary for the upkeep of the existing sewer system. If this Comprehensive Sewer Plan is adopted and implemented, construction work could cause the following;*

- temporary minor erosion control problems
- temporary noise due to construction

Proposed measures to avoid or reduce such increases are:

*During the final planning stage for the proposed construction projects, the District will develop plans specifically tailored to each project to minimize the disruptive effects the construction will have on the surrounding area.*

- 2. How would the proposal be likely to affect plants, animals, fish, or marine life?

*We anticipate that the proposed improvement projects will have no net effect on the plants, animals, fish or marine life.*

*The majority of construction would take place in areas already disturbed by sewer facilities, so impacts to wildlife are minimal. After construction, the improvement sites will be largely unmanned and very quiet, so not disturbing to adjacent wildlife.*

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

*The District will develop plans specifically tailored to each project to minimize the disruptive effects the construction will have on plant and animal life in the surrounding area.*

- 3. How would the proposal be likely to deplete energy or natural resources?

*No depletion of energy or natural resources is anticipated with the approval of this proposal.*

Proposed measures to protect or conserve energy and natural resources are:

*New pump stations specify high-efficiency motors. Additionally, the District is currently implementing recommendations from a recent energy efficiency analysis of their headquarter buildings which will result in a reduction in energy consumption.*

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

*Construction work outlined in this proposal could have a temporary disruptive effect on the parks and flood plains in the area. However, since most construction work would take place in areas already disturbed by sewer facilities, the net effect of this work would be very localized.*

Proposed measures to protect such resources or to avoid or reduce impacts are:

*The District will develop plans specifically tailored to each project to minimize the disruptive effects the construction will have on the surrounding area.*

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

*The District currently provides sewer service in a manner compatible with existing land use and shoreline plans. The improvement projects outlined under this Comprehensive Sewer Plan will not alter this status.*

Proposed measures to avoid or reduce shoreline and land use impacts are:

*Final construction plans will incorporate construction-phase mitigation measures where necessary .*

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

*Any increased demands on transportation or public services and utilities will be due to development and population increases which occur in accordance with "then-current" county zoning and building regulations. The proposed Comprehensive Sewer Plan only exists to provide planning for potential future demand.*

Proposed measures to reduce or respond to such demand(s) are:

*This proposed Comprehensive Sewer Plan would enable the District to continue to provide sewer service in accordance with current land use policies and demands*

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

*There are no identified conflicts with local, state, or federal laws or requirements for the protection of the environment anticipated with the approval of this proposal.*



2195 Nulle Road  
Bellingham, WA 98229-9329  
Phone: (360)-734-5664  
Fax: (360)-715-1626  
e-mail: [wcd12@aol.com](mailto:wcd12@aol.com)

**Board of Commissioners:**

Michael F. Roberts  
Herbert A. Barker  
Bob Merrill

**District Manager:**

Byron Gaines

**DETERMINATION OF NON-SIGNIFICANCE (DNS)  
Samish Water District  
Comprehensive Sewer Plan – 2012 Update**

**Description of proposal:** The Comprehensive Sewer Plan – 2011 Update details anticipated activities related to continuing to provide public sewer service within Samish Water District's boundaries, and other sewer service areas in Skagit and Whatcom County provided under Interlocal agreements and sewer service agreements. The plan identifies replacement of pump stations and related apparatus of the collection system, and future water reclamation considerations. The anticipated maintenance activities identified in the plan should not require separate environmental review as they are constructed, but may require site-specific environmental permits. Construction plans will incorporate environmental-impact mitigating features and methods. Water reclamation will require additional environmental review.

**Proponent:** Samish Water District

**Location of proposal, including street address, if any:** Samish Water District Office, 2195 Nulle Road, Bellingham, WA, 98229, and the boundaries of the Samish Water District. Map and description attached.

**Lead agency:** Samish Water District

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

Pursuant to WAC 197-11-340(2), the lead agency will not act on this proposal for 14 days from the date of issuance indicated below. Comments must be received by \_\_\_\_\_.

**Responsible Official:** Byron Gaines

**Title:** District Manager

**Telephone:** (360) 734-5664

**Address:** 2195 Nulle Road, Bellingham, WA 98229

**Date:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

Any agency or person may appeal this determination to the Samish Water District, Board of Commissioners. Application for appeal must be filed on a form provided by Samish Water District at 2195 Nulle Road, Bellingham, WA 98229, no later than the end of the business day on \_\_\_\_\_.

You should be prepared to make specific factual objections. Contact Samish Water District to read or ask about the procedures for SEPA appeals.

**Exhibit L – Washington State and Whatcom County Approvals**



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

September 24, 2013

Mr. Byron Gaines  
Samish Water District  
2195 Nulle Road  
Bellingham, WA 98229

RE: Approval of Samish Water District July 2013 Comprehensive Sewer Plan

Dear Mr. Gaines:

The Samish Water District Comprehensive Sewer Plan (dated July 2013) was submitted to the Department of Ecology (Ecology) for review and approval. In accordance with the Revised Code of Washington (RCW) 90.48.110 and Washington Administrative Code (WAC) 173-240-010 through 180, Ecology hereby approves the above-referenced Comprehensive Sewer Plan.

Ecology's review and approval authority is limited to assuring compliance and consistency with the appropriate rules, regulations, guidelines, and planning and design criteria. The owner retains full responsibility for the technical completeness, accuracy and adequacy of this document, and for obtaining other required permits and approvals.

While reviewing the plan, Ecology took note of a letter attachment from the Whatcom County Planning and Development Services (dated July 29, 2013) in which they state that they are satisfied that the above-referenced Comprehensive Sewer Plan is consistent with the requirements of the Growth Management Act and with the Whatcom County Comprehensive Plan. In accordance with RCW 36.70A.103, State agencies like Ecology are required to comply with the local growth management comprehensive plans. Including this feedback from Whatcom County with the Sewer Plan submittal was helpful and appreciated in light of our responsibilities under RCW 36.70A.103.

Nothing in this approval shall be construed as satisfying other applicable federal, state or local statutes, ordinances or regulations.

If you have any questions, please contact Tonya Lane in our office at [tlan461@ecy.wa.gov](mailto:tlan461@ecy.wa.gov) or 425-649-7050.

Sincerely,

Kevin C. Fitzpatrick  
Water Quality Section Manager

KF:TL

cc: Elizabeth Sterling, P.E., Wilson Engineering L.L.C.

**PUBLIC WORKS DEPARTMENT  
FRANK M. ABART  
DIRECTOR**



**ENGINEERING SERVICES  
JOSEPH P. RUTAN, P.E.**  
County Engineer/Assistant Director  
5280 Northwest Drive  
Bellingham, WA 98226-9098  
Phone: 360. 676.6730  
Fax: 360. 676.6558

November 5, 2013

Ms Elizabeth Sterling, PE  
Wilson Engineering, LLC  
805 Dupont Street  
Suite 71  
Bellingham, WA 98225

**Subject: Samish Water District  
Comprehensive Sewer Plan – 2013 Update**

Reference: (a) October 30, 2013 Wilson Engineering Memo same subject  
(b) RCW 57.16.010(6)  
(c) November 2, 2012 County Engineer letter same subject

Dear Ms Sterling:

In reply to reference (a) memo, and in accordance with reference (b) RCW, I do hereby unconditionally approve the July 2013 *Comprehensive Sewer Plan* for Samish Water District that you stamped on 10/30/2013. This approval supersedes the four conditional approvals that reference (c) letter reflects.

Sincerely,

Joseph P. Rutan, PE  
County Engineer/Assistant Director

Enc.

Copy: County Council  
County Executive  
Public Works Director  
Engineering Services Development Division Manager  
Engineering Services Traffic Division Senior Engineering Technician (ENCs)

---

TO: Joe Rutan, Whatcom County Public Works & Engineering  
Sandy Peterson, Whatcom County Public Works & Engineering

FROM: Elizabeth Sterling, Wilson Engineering LLC 

SUBJECT: Samish Water District – Sewer Comprehensive Plan Update  
WHATCOM COUNTY PUBLIC WORKS  
ENGINEERING DEPARTMENT

JOB NO.: 2010-014

DATE: October 30, 2013

OCT 30 2013

---

Gentlemen:

We've been coordinating with Dana Brown-Davis in the Council's Office to provide the materials necessary to place Samish Water District's most recent sewer comprehensive plan update on the Council agenda for approval. It was brought to our attention yesterday that four comments included in your original review letter, (attached), had not been addressed in the final update. We are providing an updated plan which now addresses these comments. The modifications were minor and affected only two pages of the plan. The following is a summary of the changes:

- Comment #1 – Re-stamp and re-execute the PE seal on the *Plan* cover page using the correct version per WAC 196-23-010. – *Stamp has been revised.*
- Comment #2 – Manhole rehabilitation projects (see *Plan* page 6-1 paragraph 6.1.4) where the manholes exist in a County maintained road must include adjusting rims and covers as necessary to match the road grade. – *Comment #2 language has been added to paragraph 6.1.4.*
- Comment #3 – Delete: "with" on *Plan* page 6-2 paragraph 6.1.6.1) line 7 – *Deleted.*
- Comment #4 – Address in the *Plan* somewhere (say section 2.1.2) the fact that, per *Plan* page 6-2 paragraph 6.1.6.2) wastewater trucks dump their contents into the lagoon. Include in the *Plan* the approximate frequency of truck discharges, the approximate quantity of a typical discharge, the types of discharges (e.g., septic tank contents), and discharge monitoring and testing protocols. – *Section 6.1.6.2 has been removed from the Plan. Per conversation with Byron Gaines (SW District Manager), the District no longer lets wastewater trucks discharge into the treatment lagoons.*

We are including one hardcopy of the plan for your review and approval. We have also delivered one copy of this updated plan to Ms. Brown-Davis in the Council's Office. It is our hope that the sewer plan will still make the agenda for consideration by Council on November 12th.

If you have any questions or require any additional information, please don't hesitate to contact me.

Thank you,

Liz Sterling  
Wilson Engineering LLC

**RCW 57.16.010**

**General comprehensive plan of improvements — Approval of engineer, director of health, and city, town, or county — Amendments.**

Before ordering any improvements or submitting to vote any proposition for incurring any indebtedness, the district commissioners shall adopt a general comprehensive plan for the type or types of facilities the district proposes to provide. A district may prepare a separate general comprehensive plan for each of these services and other services that districts are permitted to provide, or the district may combine any or all of its comprehensive plans into a single general comprehensive plan.

(1) For a general comprehensive plan of a water supply system, the commissioners shall investigate the several portions and sections of the district for the purpose of determining the present and reasonably foreseeable future needs thereof; shall examine and investigate, determine, and select a water supply or water supplies for such district suitable and adequate for present and reasonably foreseeable future needs thereof; and shall consider and determine a general system or plan for acquiring such water supply or water supplies, and the lands, waters, and water rights and easements necessary therefor, and for retaining and storing any such waters, and erecting dams, reservoirs, aqueducts, and pipe lines to convey the same throughout such district. There may be included as part of the system the installation of fire hydrants at suitable places throughout the district. The commissioners shall determine a general comprehensive plan for distributing such water throughout such portion of the district as may then reasonably be served by means of subsidiary aqueducts and pipe lines, and a long-term plan for financing the planned projects and the method of distributing the cost and expense thereof, including the creation of local improvement districts or utility local improvement districts, and shall determine whether the whole or part of the cost and expenses shall be paid from revenue or general obligation bonds.

(2) For a general comprehensive plan for a sewer system, the commissioners shall investigate all portions and sections of the district and select a general comprehensive plan for a sewer system for the district suitable and adequate for present and reasonably foreseeable future needs thereof. The general comprehensive plan shall provide for treatment plants and other methods and services, if any, for the prevention, control, and reduction of water pollution and for the treatment and disposal of sewage and industrial and other liquid wastes now produced or which may reasonably be expected to be produced within the district and shall, for such portions of the district as may then reasonably be served, provide for the acquisition or construction and installation of laterals, trunk sewers, intercepting sewers, syphons, pumping stations or other sewage collection facilities, septic tanks, septic tank systems or drainfields, and systems for the transmission and treatment of wastewater. The general comprehensive plan shall provide a long-term plan for financing the planned projects and the method of distributing the cost and expense of the sewer system and services, including the creation of local improvement districts or utility local improvement districts; and provide whether the whole or some part of the cost and expenses shall be paid from revenue or general obligation bonds.

(3) For a general comprehensive plan for a reclaimed water system, the commissioners shall investigate all portions and sections of the district and select a general comprehensive plan for a reclaimed water system for the district suitable and adequate for present and reasonably foreseeable future needs thereof. The general comprehensive plan must provide for treatment plants or the use of existing treatment plants and other methods and services, if any, for reclaiming water and must, for such portions of the district as may then reasonably be served, provide for a general system or plan for acquiring the lands and easements necessary therefor, including retaining and storing reclaimed water, and for the acquisition or construction and installation of mains, transmission mains, pumping stations, hydrants, or other facilities and systems for the reclamation and transmission of reclaimed water throughout such district for such uses, public and private, as authorized by law. The general comprehensive plan must provide a long-term plan for financing the planned projects and the method of

distributing the cost and expense of the reclaimed water system and services, including the creation of local improvement districts or utility local improvement districts; and provide whether the whole or some part of the cost and expenses must be paid from revenue or general obligation bonds.

(4) For a general comprehensive plan for a drainage system, the commissioners shall investigate all portions and sections of the district and adopt a general comprehensive plan for a drainage system for the district suitable and adequate for present and future needs thereof. The general comprehensive plan shall provide for a system to collect, treat, and dispose of storm water or surface waters, including use of natural systems and the construction or provision of culverts, storm water pipes, ponds, and other systems. The general comprehensive plan shall provide for a long-term plan for financing the planned projects and provide for a method of distributing the cost and expense of the drainage system, including local improvement districts or utility local improvement districts, and provide whether the whole or some part of the cost and expenses shall be paid from revenue or general obligation bonds.

(5) For a general comprehensive plan for street lighting, the commissioners shall investigate all portions and sections of the district and adopt a general comprehensive plan for street lighting for the district suitable and adequate for present and future needs thereof. The general comprehensive plan shall provide for a system or systems of street lighting, provide for a long-term plan for financing the planned projects, and provide for a method of distributing the cost and expense of the street lighting system, including local improvement districts or utility local improvement districts, and provide whether the whole or some part of the cost and expenses shall be paid from revenue or general obligation bonds.

(6) The commissioners may employ such engineering and legal service as in their discretion is necessary in carrying out their duties.

(7) Any general comprehensive plan or plans shall be adopted by resolution and submitted to an engineer designated by the legislative authority of the county in which fifty-one percent or more of the area of the district is located, and to the director of health of the county in which the district or any portion thereof is located, and must be approved in writing by the engineer and director of health, except that a comprehensive plan relating to street lighting shall not be submitted to or approved by the director of health. The general comprehensive plan shall be approved, conditionally approved, or rejected by the director of health and by the designated engineer within sixty days of their respective receipt of the plan. However, this sixty-day time limitation may be extended by the director of health or engineer for up to an additional sixty days if sufficient time is not available to review adequately the general comprehensive plans.

Before becoming effective, the general comprehensive plan shall also be submitted to, and approved by resolution of, the legislative authority of every county within whose boundaries all or a portion of the district lies. The general comprehensive plan shall be approved, conditionally approved, or rejected by each of the county legislative authorities pursuant to the criteria in RCW 57.02.040 for approving the formation, reorganization, annexation, consolidation, or merger of districts. The resolution, ordinance, or motion of the legislative body that rejects the comprehensive plan or a part thereof shall specifically state in what particular the comprehensive plan or part thereof rejected fails to meet these criteria. The general comprehensive plan shall not provide for the extension or location of facilities that are inconsistent with the requirements of RCW 36.70A.110. Nothing in this chapter shall preclude a county from rejecting a proposed plan because it is in conflict with the criteria in RCW 57.02.040. Each general comprehensive plan shall be deemed approved if the county legislative authority fails to reject or conditionally approve the plan within ninety days of the plan's submission to the county legislative authority or within thirty days of a hearing on the plan when the hearing is held within ninety days of submission to the county legislative authority. However, a county legislative authority may extend this ninety-day time limitation by up to an additional ninety days where a finding is made that ninety days is insufficient to review adequately the general comprehensive plan. In addition, the commissioners and the county legislative authority may mutually agree to an extension of the deadlines in this section.

If the district includes portions or all of one or more cities or towns, the general comprehensive plan shall be submitted also to, and approved by resolution of, the legislative authorities of the cities and towns before becoming effective. The general comprehensive plan shall be deemed approved by the city or town legislative authority if the city or town legislative authority fails to reject or conditionally approve the plan within ninety days of the plan's submission to the city or town or within thirty days of a hearing on the plan when the hearing is held within ninety days of submission to the county legislative authority. However, a city or town legislative authority may extend this time limitation by up to an additional ninety days where a finding is made that insufficient time exists to adequately review the general comprehensive plan within these time limitations. In addition, the commissioners and the city or town legislative authority may mutually agree to an extension of the deadlines in this section.

Before becoming effective, the general comprehensive plan shall be approved by any state agency whose approval may be required by applicable law. Before becoming effective, any amendment to, alteration of, or addition to, a general comprehensive plan shall also be subject to such approval as if it were a new general comprehensive plan. However, only if the amendment, alteration, or addition affects a particular city or town, shall the amendment, alteration, or addition be subject to approval by such particular city or town governing body.

[2009 c 253 § 4; 1997 c 447 § 18; 1996 c 230 § 501; 1990 1st ex.s. c 17 § 35; 1989 c 389 § 10; 1982 c 213 § 2; 1979 c 23 § 2; 1977 ex.s. c 299 § 3; 1959 c 108 § 6; 1959 c 18 § 6. Prior: 1939 c 128 § 2, part; 1937 c 177 § 1; 1929 c 114 § 10, part; RRS § 11588. Cf. 1913 c 161 § 10.]

**Notes:**

**Finding -- Purpose -- 1997 c 447:** See note following RCW 70.05.074.

**Part headings not law -- Effective date -- 1996 c 230:** See notes following RCW 57.02.001.

**Severability -- Part, section headings not law -- 1990 1st ex.s. c 17:** See RCW 36.70A.900 and 36.70A.901.

**PUBLIC WORKS DEPARTMENT  
FRANK M. ABART  
DIRECTOR**



**ENGINEERING SERVICES  
JOSEPH P. RUTAN, P.E.**  
County Engineer/Assistant Director  
5280 Northwest Drive  
Bellingham, WA 98226-9098  
Phone: 360. 676.6730  
Fax: 360. 676.6558

November 2, 2012

Ms Elizabeth Sterling, PE  
Wilson Engineering, LLC  
805 Dupont Street  
Suite 71  
Bellingham, WA 98225

**Subject: Samish Water District  
Comprehensive Sewer Plan – 2012 Update**

Reference: (a) Your 2012.09.13 letter same subject  
(b) RCW 57.16.010(6)

Dear Ms Sterling:

In reply to reference (a) letter, and in accordance with reference (b) RCW, I do hereby conditionally approve subject *Comprehensive Sewer Plan* for Samish Water District. My four approval conditions follow:

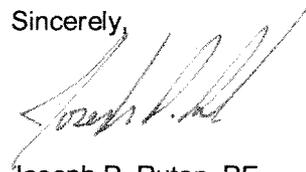
1. Re-stamp and re-execute the PE seal on the *Plan* cover page using the correct version per WAC 196-23-010.
2. Manhole rehabilitation projects (see *Plan* page 6-1 paragraph 6.1.4) where the manholes exist in a County maintained road must include adjusting rims and covers as necessary to match the road grade.
3. Delete: "with" on *Plan* page 6-2 paragraph 6.1.6.1) line 7.
4. Address in the *Plan* somewhere (say section 2.1.2) the fact that, per *Plan* page 6-2 paragraph 6.1.6.2) wastewater trucks dump their contents into the lagoon. Include in the *Plan* the approximate frequency of truck discharges, the approximate quantity of a typical discharge, the types of discharges (e.g., septic tank contents), and discharge monitoring and testing protocols.

Please also note the following related to this approval:

- All work performed in a County right-of-way requires a Revocable Encroachment Permit as a prerequisite. See Whatcom County Code (WCC) 12.16 for additional information. Gary Johnson, 360.676.6730, is the County's Permit coordinator.
- Depending on the scope of work of any given District planned sewer system facilities project, the County might require:
  - Other permits (e.g., building, conditional use, land disturbance, shoreline) as a prerequisite to project execution, and
  - Stormwater management documentation, with possible consequent engineered stormwater management system design.
- To accommodate our desire to minimize disturbance to County roadway surfaces, we encourage the District to locate, where feasible, new or reworked sewer system facilities outside the existing pavement of any improved County roadways.

- We encourage the District to accomplish, to the maximum extent feasible, its planned sewer system projects that will involve work in County right-of-ways in advance of our planned road projects to minimize roadway patching that would otherwise occur if not coordinated.

Sincerely,



Joseph P. Rutan, PE  
County Engineer/Assistant Director

Copy: County Council  
County Executive  
Public Works Director  
Engineering Services Development Division Manager  
Engineering Services Traffic Division Senior Engineering Technician (ENCs)

**PUBLIC WORKS DEPARTMENT  
FRANK M. ABART  
DIRECTOR**



**ENGINEERING SERVICES  
JOSEPH P. RUTAN, P.E.**  
County Engineer/Assistant Director  
5280 Northwest Drive  
Bellingham, WA 98226-9098  
Phone: 360. 676.6730  
Fax: 360. 676.6558

2013.08.19

Ms Elizabeth Sterling, PE  
Wilson Engineering, LLC  
805 Dupont Street  
Suite 71  
Bellingham, WA 98225

**Subject: Samish Water District  
Comprehensive Sewer Plan – 2013 Update**

Reference: (a) 2013.08.14 Wilson Engineering letter same subject  
(b) 2012.11.02 County Engineer letter similar subject

Dear Ms Sterling:

In reply to your reference (a) letter request that I review and approve the *Samish Water District Comprehensive Sewer Plan 2013 Update*, my reference (b) letter approval conditions for the *2012 Plan Update* still apply. Please note, however, that the *2013 Plan Update* does not reflect the four approval conditions from reference (b) letter.

Sincerely,

Joseph P. Rutan, PE  
County Engineer/Assistant Director

Copy: County Council  
County Executive  
Public Works Director  
Engineering Services Development Division Manager  
Engineering Services Traffic Division Senior Engineering Technician (ENCs)

**WHATCOM COUNTY  
Health Department**

*Leading the community in promoting health  
and preventing disease.*



**Regina A. Delahunt**  
Director  
**Greg Stern, M.D.**  
Health Officer

October 7, 2013

Elizabeth A. Sterling  
Wilson Engineering LLC  
805 Dupont Street, Suite 7  
Bellingham, WA 98225

Elizabeth A. Sterling,

In accordance with RCW 57.16.010 (7) the Whatcom County Health Department has reviewed and hereby approves the Samish Water District Comprehensive Sewer Plan 2013 Update as submitted.

If you have any questions, please feel free to contact us.

Sincerely,

A handwritten signature in cursive script that reads "John J. Wolpers".

John J. Wolpers  
Environmental Health Manager

Cc: Dana Brown-Davis-County Council

**WHATCOM COUNTY**

Planning & Development Services  
5280 Northwest Drive  
Bellingham, WA 98226-9097  
360-676-6907, TTY 800-833-6384  
360-738-2525 Fax



**J.E. "Sam" Ryan**  
Director

July 29, 2013

Elizabeth Sterling, P.E.  
Wilson Engineering LLC  
805 Dupont Street, Suite #7  
Bellingham, WA 98225

Dear Ms. Sterling,

We have reviewed the revisions to the Samish Water District Comprehensive Sewer Plan forwarded to Whatcom County PDS on July 26, 2013. These revisions respond to comments from PDS relayed during our conference call on July 11, 2013 regarding consistency between the Whatcom County Comprehensive Plan, GMA and the proposed update to the Samish Water District Comprehensive Sewer Plan. After careful review, PDS is satisfied that the text modifications to the Sewer Plan satisfy the consistency requirements of the GMA and the Whatcom County Comprehensive Plan.

Thank you for your attention to this matter. Please feel free to contact me if you have questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Personius", is written over a horizontal line.

Mark Personius  
Long Range Planning Manager

Cc: Matt Aamot, PDS  
Dana Brown-Davis, County Council