

**COMPREHENSIVE  
WATER SYSTEM PLAN  
2009 UPDATE**

**TOWN OF LA CONNER  
SKAGIT COUNTY, WASHINGTON**

December, 2009



**CHS ENGINEERS, LLC**

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This report was prepared under the supervision of a  
Registered Professional Engineer.

Prepared by: \_\_\_\_\_

Approved by: \_\_\_\_\_

Date: \_\_\_\_\_

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*12/10/09*



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# **CHAPTER ONE**

## **DESCRIPTION OF WATER SYSTEM**

## **CHAPTER 1**

### **DESCRIPTION OF WATER SYSTEM**

#### **1.1 OWNERSHIP AND MANAGEMENT**

The Town of La Conner owns and operates a municipal Group A Community water distribution system. The system is regulated by the Washington State Department of Health (DOH). The La Conner water system is formally identified as:

La Conner Water Department, Skagit County  
System ID No. 433500

A copy of the current Water Facilities Inventory (WFI) Report is included at page 1-2.

The operation of the water system is under the control of the Director of Public Works. The Director reports directly to the Town Administrator. The Town Administrator reports to the Mayor. The water utility budget and all capital improvement projects are approved by the Town Council.

#### **1.2 AUTHORIZATION**

Recognizing the need for the continuing development and improvement of the Town's water facilities, the Town Council authorized CHS Engineers to proceed with the studies required to prepare an updated comprehensive water system plan, which will assure an orderly development of facilities within the Town's Water Service Area.

This Comprehensive Water System Plan (WSP) was prepared in accordance with WAC 246-290-100, WAC 246-293-230 and RCW 70.116.

#### **1.3 SYSTEM BACKGROUND**

##### **A. History**

The Town of La Conner's water system consists of a single steel above-grade storage reservoir, a distribution system consisting of approximately 22 miles of ¾" to 14" diameter water mains, and appurtenances such as valves, fire hydrants, pressure reducing valves and water services.

Like many similar systems, the La Conner water system has been improved and expanded throughout several decades. The original distribution system was constructed around 1930. Unfiltered water was supplied by the City of Anacortes and transmitted from the 24-inch diameter Anacortes transmission line on SR 20 through a 6-inch diameter steel line to the La Conner filtration plant. After filtration, the water was impounded in a 250,000 gallon, open, ground level

# WATER FACILITIES INVENTORY (WFI) FORM

ONE FORM PER SYSTEM

Quarter: 1

Updated: 10/21/2008

Printed: 10/01/2009

WFI Printed For: Annual

Submission Reason: Annual Update

RETURN TO: Northwest Regional Office, 20435 72nd Ave S STE 200, Kent, WA, 98032

1. STEM ID NO. 350 0	2. SYSTEM NAME LA CONNER WATER DEPT	3. COUNTY SKAGIT	4. GROUP A	5. TYPE Comm
-------------------------	--	---------------------	---------------	-----------------

<b>6. PRIMARY CONTACT NAME &amp; MAILING ADDRESS</b>  BRIAN W. LEASE [PUBLIC WORKS DIRECTO] PO BOX 400 LACONNER, WA 98257  <b>STREET ADDRESS IF DIFFERENT FROM ABOVE</b> ATTN BRIAN LEASE ADDRESS 12154 CHILBERG RD STE C CITY LA CONNER STATE WA ZIP 98257	<b>7. OWNER NAME &amp; MAILING ADDRESS</b>  LA CONNER, TOWN OF JOHN DOYLE PO BOX 400 LA CONNER, WA 98257  <b>STREET ADDRESS IF DIFFERENT FROM ABOVE</b> ATTN ADDRESS 204 DOUGLAS ST CITY LACONNER STATE WA ZIP 98257	<b>8. Owner Number</b> 003123  TITLE: ADMINISTRATOR
--	--	---

<b>9. 24 HOUR PRIMARY CONTACT INFORMATION</b> Primary Contact Daytime Phone: (360) 466-3933 Primary Contact Mobile/Cell Phone: (360) 840-3001 Primary Contact Evening Phone: (360) 466-3707 Fax: (360) 466-4293 E-mail: publicworks@townoflaconner.org	<b>10. OWNER CONTACT INFORMATION</b> Owner Daytime Phone: (360) 466-3125 Owner Mobile/Cell Phone: (360) 840-3001 Owner Evening Phone: (360) 466-3707 Fax: (360) 466-3901 E-mail:
--	--

WAC 246-290-420(9) requires that water systems provide 24-hour contact information for emergencies.

**11. TELLITE MANAGEMENT AGENCY - SMA (check only one)**

☒ Not applicable (Skip to #12)

☐ Owned and Managed SMA NAME: \_\_\_\_\_ SMA Number: \_\_\_\_\_

☐ Managed Only

☐ Owned Only

**12. WATER SYSTEM CHARACTERISTICS (mark ALL that apply)**

<input checked="" type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Commercial / Business <input type="checkbox"/> Day Care <input type="checkbox"/> Food Service/Food Permit <input type="checkbox"/> 1,000 or more person event for 2 or more days per year	<input type="checkbox"/> Hospital/Clinic <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Licensed Residential Facility <input checked="" type="checkbox"/> Lodging <input checked="" type="checkbox"/> Recreational / RV Park	<input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> School <input type="checkbox"/> Temporary Farm Worker <input checked="" type="checkbox"/> Other (church, fire station, etc.):
--	---	--

<b>13. WATER SYSTEM OWNERSHIP (mark only one)</b> <input type="checkbox"/> Association <input type="checkbox"/> County <input checked="" type="checkbox"/> City / Town <input type="checkbox"/> Investor <input type="checkbox"/> Private <input type="checkbox"/> Special District <input type="checkbox"/> State	<b>14. STORAGE CAPACITY (gallons)</b>  1,500,000
---	--

15	16	17	18												19	20	21					22	23	24					
SOURCE NUMBER	SOURCE NAME	INTERTIE	SOURCE CATEGORY												USE		TREATMENT					DEPTH	CAPACITY	SOURCE LOCATION					
	LIST UTILITY'S NAME FOR SOURCE AND WELL TAG ID NUMBER  Example: WELL #1 XYZ456  IF SOURCE IS PURCHASED OR INTERTIED, LIST SELLER'S NAME Example: SEATTLE	INTERTIE SYSTEM ID NUMBER	WELL	WELL FIELD	WELL IN A WELL FIELD	SPRING	SPRING FIELD	SPRING IN SPRINGFIELD	SEA WATER	SURFACE WATER	RANNEY / INF. GALLERY	OTHER	PERMANENT	SEASONAL	EMERGENCY	SOURCE METERED	NONE	CHLORINATION	FILTRATION	FLUORIDATION	IRRADIATION (UV)	OTHER	DEPTH TO FIRST OPEN INTERVAL IN FEET	CAPACITY (GALLONS PER MINUTE)	1/4, 1/4 SECTION	SECTION NUMBER	TOWNSHIP	RANGE	
	00C/ANACORTES	02200 C														X									0			00N	00E

# WATER FACILITIES INVENTORY (WFI) FORM - Continued

<b>1. SYSTEM ID NO.</b> 43350 0	<b>2. SYSTEM NAME</b> LA CONNER WATER DEPT	<b>3. COUNTY</b> SKAGIT	<b>4. GROUP</b> A	<b>5. TYPE</b> Comm
------------------------------------	---	----------------------------	----------------------	------------------------

	ACTIVE SERVICE CONNECTIONS	DOH USE ONLY! CALCULATED ACTIVE CONNECTIONS	DOH USE ONLY! APPROVED
<b>25. SINGLE FAMILY RESIDENCES (How many of the following do you have?)</b>	0	516	Unspecified
A. Full Time Single Family Residences (Occupied 180 days or more per year)	405		
B. Part Time Single Family Residences (Occupied less than 180 days per year)	0		
<b>26. MULTI-FAMILY RESIDENTIAL BUILDINGS (How many of the following do you have?)</b>			
A. Apartment Buildings, condos, duplexes, barracks, dorms	31		
B. Full Time Residential Units in the Apartments, Condos, Duplexes, Dorms that are occupied more than 180 days/year	98		
C. Part Time Residential Units in the Apartments, Condos, Duplexes, Dorms that are occupied less than 180 days/year	0		
<b>27. NON-RESIDENTIAL CONNECTIONS (How many of the following do you have?)</b>			
A. Recreational Services and/or Transient Accommodations (Campsites, RV sites, hotel/motel/overnight units)	3	3	
B. Institutional, Commercial/Business, School, Day Care, Industrial Services, etc.	201	201	
<b>28. TOTAL SERVICE CONNECTIONS</b>		720	

<b>29. FULL-TIME RESIDENTIAL POPULATION</b>												
A. How many residents are served by this system 180 or more days per year?	839											

<b>30. PART-TIME RESIDENTIAL POPULATION</b>	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. How many part-time residents are present each month?												
B. How many days per month are they present?												

<b>31. TEMPORARY &amp; TRANSIENT USERS</b>	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. How many total visitors, attendees, travelers, campers, patients or customers have access to the water system each month?	300	300	300	500	500	300	300	300	300	300	300	300
B. How many days per month is water accessible to the public?	31	28	31	30	31	30	31	30	30	31	30	31

<b>32. REGULAR NON-RESIDENTIAL USERS</b>	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. If you have schools, daycares, or businesses connected to your water system, how many students daycare children and/or employees are present each month?	400	400	400	400	400	400			400	400	400	400
B. How many days per month are they present?	20	20	20	20	20	10			10	20	20	20

<b>33. ROUTINE COLIFORM SCHEDULE</b>	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	2	2	2	2	2	2	1	1	2	2	2	2

**35. Reason for Submitting WFI:**

☐ Update - Change  
 ☐ Update - No Change  
 ☐ Inactivate  
 ☐ Re-Activate  
 ☐ Name Change  
 ☐ New System  
 ☐ Other \_\_\_\_\_

**36. I certify that the information stated on this WFI form is correct to the best of my knowledge.**

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PRINT NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_



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distribution reservoir. In 1951, the 6-inch diameter supply line was paralleled with an 8-inch diameter asbestos cement line. The 6-inch diameter line was subsequently abandoned because of excessive leakage.

Anacortes constructed a water filtration plant and began providing treated water to the Town of La Conner in the 1960's. The Town discontinued the operation of its filter plant and subsequently demolished the site.

Because of the expansion of major industries in the Town of La Conner (New England Fish Company, San Juan Island Cannery, and Moore-Clark Company), an in-line booster pump was installed on the 8-inch diameter supply line in 1965. This pump increased the capacity of the supply line to approximately 1,000 gpm.

In late 1969, a 14-inch diameter asbestos cement transmission line was constructed from the Anacortes transmission line to La Conner parallel to the existing 8-inch diameter supply line. This improvement increased the transmission capacity to approximately 3,000 gpm. Usage of the in-line booster station was discontinued following the installation of this new line. The booster pump station was dismantled and the building demolished after the lease on the property expired in 1980.

In 1979, the Town installed 590 feet of 12-inch water main on Sixth Street from State Street to 300 feet north of Birch Lane with fire hydrants providing fire flows to the school. Three seawater fire hydrants were installed on First Street at Caledonia Street, Calhoun Street, and Morris Street for pumping water directly from the Swinomish Channel for fire fighting adjacent to the channel. A master meter and vault were installed at Third Street just south of the new marina to provide more accurate measurement of water usage by the Port of Skagit County.

In October, 1980, the Town constructed a new 1.5-million gallon (MG) steel above-grade reservoir at the site of the old reservoir to replace the old reservoir.

The Town provides water to three separate subsystems: Shelter Bay, Skagit Beach and the Port of Skagit County Marina (see Figure 1.1). The marina system was transferred to the Town's ownership in 1995.

The Skagit Beach Development deeded its water system to the Town in an agreement dated February 1, 1977. Under this agreement, the Town will operate and maintain the system, making repairs as necessary. The Town, however, is not obligated to expand the system or make any improvements to the system.

The Town supplies water to the Shelter Bay system through a master meter located on the east side of the Swinomish Channel. The distribution system on the west side of the channel and connecting piping under the channel are owned, operated and maintained by the Shelter Bay Community. A copy of the Water

Supply Agreement between the Town and Shelter Bay is contained in Appendix A.

Since the 2001 Comprehensive Water System Plan update, the Town has upgraded water lines in several areas of the town. The Morris Street project replaced approximately 1,500 feet of existing 6" Asbestos Cement (AC) water main with 10" Ductile Iron (DI) pipe. The Town has also replaced the small water lines on residential streets between Maple Street and Whatcom Street and installed water lines on the hill in the alleys between South Second and South Third Streets from Douglas Street to Benton Street.

## **B. Topography**

The generally flat service area is in the floodplain of the Skagit River. The river is located about two miles to the southeast. Elevations range from 0 feet at sea level to 150 feet at the highest point. The Town of La Conner, at the south end of the service area, is located on the east bank of the Swinomish Channel. The channel forms the west boundary of the service area. The central part of Town is hilly with steeply sloping rocky bluffs and a rock outcropping rising above the surrounding area. The service area outside of town consists of agricultural floodplains, forested uplands, wetlands, priority habitats, and a complex system of river and marine waters. Topography for the Town was developed from aerial photogrammetry in conjunction with the development of the Town's Storm Water Management Plan. Contour elevations in five (5) foot increments are shown on Figure 1.3.

## **C. Soils**

There are three native soils groups, as identified by the Soil Conservation Service - Soil Survey, within the service area. All of the Town north of Morris Street and approximately half of the south part of Town is Skagit silt loam. The central and southern outcroppings consist of Fidalgo Lithic Xerochrepts - Rock Outcrop Complex. The southeast corner of the Town consists of Sumas silt loam. The surrounding area is intermingled Skagit silt loam and Sumas silt loam. The following are characteristic statements about these soil groups:

### **Skagit Silt Loam**

This very deep, poorly drained soil is found on flood plains and deltas. This soil is partially protected from flooding. It is formed in alluvium and volcanic ash. Slope is 0 to 1 percent and elevation is 0 to 50 feet.

Included in this unit are some soils that are very strongly acid or are salt-affected in the underlying material and soils that are sandy or have strata of mulch or peat in the underlying material.

Permeability of the Skagit soil group is moderate. Available water capacity is high. The delta area has a seasonal high water table that is at a depth of 6 to 24 inches from November to March, during the growing season, the water table is lowered to a depth of about 36 to 60 inches.

**Fidalgo-Lithic Xerochrepts-Rock Outcrop Complex, 3 to 30 percent slopes**

This soil unit is about 45 percent Fidalgo gravelly loam, 20 percent Lithic Xerochrepts, and 20 percent Rock outcrop. The components of this unit intricately intermingled.

Permeability of the Fidalgo soil is moderate and available water capacity is low to moderate. Permeability of the Lithic Xerochrepts is moderate and available water capacity is very low to low. Storm runoff is medium, and the hazard of water erosion is moderate. Rock outcrops consist of exposures of hard and mostly unweathered argillite and can occur at steep cliffs.

**Sumas Silt Loam**

This very deep, poorly drained soil is on flood plains and deltas. Slope is 0 to 2 percent. In some tidal areas are soils that are similar to this Sumas soil but have strongly acid to very strongly acid underlying material.

Permeability of this Sumas soil is moderate in the upper part and rapid in the lower part and available water capacity is moderately high. Areas affected by tides are moderately saline. Storm water runoff is very slow and the hazard of water erosion is minimal.

Given the characteristics of the soils groups described above, several generalities related to construction can be drawn. Construction in lower elevations can anticipate seasonally high groundwater. Underground piping should be constructed of impervious, corrosion resistant materials, such as PVC. Where ductile iron is required, it should be polywrapped to deter corrosion.

Excavation on the rock outcrops may require blasting. It would be advisable to perform soil borings and testing at the proposed site of any major structure or pipeline alignment to determine the underlying composition and potential for corrosion.

#### **D. Climate**

Climate data was obtained from the Western Regional Climate Center which maintains records from Mount Vernon, WA.

The average annual precipitation is about 32 inches with winter averages of about 3.5 inches per month and about 1.3 inches per month in summer. The average annual air temperature is about 51° F with average winter temperature of 49° F daytime and 37° F at night and average summer temperatures of 65° F daytime and in the 40's at night. The average frost-free season is 160 to 210 days.

#### **E. Surface Waters**

The service area is in the northern region of Puget Sound. The Swinomish Channel forms the west boundary of the service area. Higgins Slough and associated drainages are located within the north part of the service area. The District 15 drainage ditch crosses the north part of the Town and empties into the Channel. The mouth of the Skagit River and several sloughs, including Sullivan Slough, are outside the service area to the southeast.

The Swinomish Channel and the Skagit River have the greatest potential effect on the service area. The Higgins Slough and Sullivan Slough have only a limited potential impact.

The Swinomish Channel is a navigable waterway 6.5 miles long connecting Skagit Bay to the south with Padilla Bay to the north. Throughout its entire length, a 100-foot wide, 12-foot deep channel is maintained as part of an 11-mile long federal navigation project, maintained by the U.S. Army Corps of Engineers (COE). The channel is subject to strong tidal currents and bank erosion is common along the Town's waterfront due to La Conner's position on an outside bend of the channel and the COE's ongoing dredging activities. Expected tides range from a low of minus 1.48 feet to a high of 11.62 feet (NAVD 88).

The source of major flooding in the delta area fronting Padilla Bay to the north and Skagit Bay to the south is the Skagit River. The flood plain elevation in La Conner is typically one to two feet above ground elevation in the lower, generally flat areas of Town. Minor flooding may occur in La Conner when high tides from Skagit Bay and/or overland flood flows from the Skagit River outflank, overtop, or breach levees along the northern, eastern, and southern sides of the Town. Major floods of the Skagit River in the vicinity of La Conner are usually caused by a combination of extremely heavy winter rainstorms combined with rapid snow melt. Recent events, including major storms in 1990 and 1995, were responsible for flooding much of the agricultural land to the east of Town.

The Higgins Slough is a drainage path for the agricultural lands to the north of La Conner. The slough collects storm and irrigation water runoff and transports it westward to the Swinomish Channel.

**F. La Conner Stormwater System**

La Conner operates a stormwater collection system that consists of catch basins, storm drain lines, two pump stations and a treatment pond. The Town has increased the priority of collecting stormwater. The Town's general design policy is to review waterline replacement needs where stormwater installation is needed to maximize the efficiency of constructing utilities.

**G. Neighboring Purveyors**

As indicated on Figure 1, the area east of the Town's water service area is served by Skagit County Public Utility District No. 1. Fidalgo Island, west of the Swinomish Channel, is served by the Swinomish Tribal Community and the Shelter Bay Community. The Tribal Community purchases water from Anacortes and Shelter Bay is a wholesale customer of the Town.

**H. Ordinances**

Ordinances pertaining to the Town's Water System can be found in Chapter 12 and 15 of the Town's Municipal Code.

The Town's revised Water Cross Connection Standards, adopted by Ordinance No. 748 in 1999, sets forth a detailed cross connection control program. (See Appendix A of this plan)

The Town's *Comprehensive Plan*, adopted by Ordinance No. 674 in 1995 (updated in 2005), indicates a level of service standard for potable water of "157 gallons per capita per day at 65 psi; 157 gallons per day for three days' reserve" and a minimum fire flow of 500 gallons per minute. This Plan includes several recommended revisions, including changing to a level of service based on Equivalent Residential Units (ERU). These values are further discussed in Chapters 2 and 3 of this plan.

The Town's *Uniform Development Code*, adopted by Ordinance No. 671 in 1995, requires potable water service to all development in the Town. Such service shall meet or exceed minimum standards set by local and state agencies.

## 1.4 INVENTORY OF EXISTING FACILITIES

The Town's existing water system includes the following facilities:

- Source/Treatment: N/A – wholesale purchase from Anacortes
- Storage: one steel above-grade reservoir, 1,500,000 gallons
- Transmission/Distribution:

Diameter	¾"	1"	1-½"	2"	3"	4"	6"	8"	10"	12"	14"
Length, ft.	190	330	875	9,245	120	15,810	13,311	40,995	7,155	2,590	23,720

\*Total length equals 114,341 feet or approximately 21.7 miles.

- Booster Pump Stations: none
- Fire Hydrants: 88
- Valves:

Type	Isolation	Air Release	Pressure Reducing
Quantity	165	2	8

- Connections, Existing: 667
- Interties: Source from Anacortes at SR-20 and La Conner-Whitney Road; Wholesale supply to Shelter Bay Community across Swinomish Channel.

The existing system is shown on Figure 3.1.

The Town's Public Works Department operates and maintains the water system.



## 1.5 RELATED PLANS

The following is a list of planning documents, with a brief summary of each, that have been reviewed and have an impact on the development of a water system plan for the Town of La Conner:

**A. Skagit County Coordinated Water System Plan, July 2000**

The coordinated water system plan (CWSP) was the result of Skagit County being identified as a Critical Water Supply Area. The plan delineates existing and future water service areas and contains water demand forecasting data. The Town's water system plan is prepared in conformance with the CWSP.

**B. Skagit County Comprehensive Plan, June, 1997 (Rev. 2000)  
Skagit County Uniform Development Code 2000**

These documents address the non-UGA rural areas within the Town's Water Service Area, but outside of the Town's limits

**C. City of Anacortes Comprehensive Water Plan, January, 1992**

This document provides information related to the water supply for La Conner. (Anacortes reports that their Plan has been updated and is currently under review.)

**D. Town of La Conner Comprehensive Plan (GMA), December, 1995 (updated 2005)**

The Town's Comprehensive Plan provides for existing and future development planning data. The plan includes growth rates, zoning and land use.

**E. Town of La Conner Uniform Development Code, July, 1995**

This code establishes regulations and standards for land use decisions with the Town in accordance with the *Comprehensive Plan (GMA)*.

**F. Town of La Conner Sewer Comprehensive Plan and Facility Plan, August, 1996**

This document addresses the long term plans for construction, operation and maintenance of the sanitary sewer facilities that serve the La Conner area.

**G. Town of La Conner Storm Water Management Plan, June, 1995 (updated 2006)**

This document addresses the plan for construction of stormwater facilities within the Town.

- H. **Town of La Conner Comprehensive Water System Plan**, May, 2001  
This document is the prior water system plan. This document provides historical data and recommendations to assure an orderly development of facilities within the Town's Water Service Area.

## 1.6 COMMENTS FROM AGENCIES AND ADJACENT PURVEYORS

As part of the development of this plan, draft copies of the plan were supplied to the following organizations for review and comment:

Organization	Mailing Address	Comments YES	Comments NO
Washington State Department of Health Attn: Jennifer Kropack	20435 72 <sup>nd</sup> Ave S, Ste 200 MS: K17-12 Kent, WA 98032		
Skagit County Dept. of Health Attn: Lorna Parent	Courthouse Admin Bldg Rm 301 700 S. 2 <sup>nd</sup> Street Mount Vernon, WA 98273- 3864		
City of Anacortes Attn: Matt Reynolds	P.O. Box 547 Anacortes, WA 98221		
Shelter Bay Community Attn: Judy Grosvenor	1000 Shoshone Drive La Conner, WA 98257		
Swinomish Indian Tribal Community, Attn: John Petrich	P.O. Box 340 La Conner, WA 98257		
Skagit County PUD No. 1 Attn: Chris Shaff	P.O. Box 1436 Mount Vernon, WA 98273		

A summary of all comments received and response given is included in Appendix H.

## 1.7 SERVICE AREA CHARACTERISTICS

The existing, future, and retail service areas are the same and are addressed in this section.

The Town's water service area is indicated on Figure 1.1. It includes all of the Town's incorporated area and additional unincorporated commercial, light industrial, residential and agricultural areas of Skagit County east of Swinomish Channel. A copy of the Water Service Area Agreement is included in Appendix A.

<b>TABLE 1.1</b> <b>SERVICE AREA COMPONENTS</b>	
Town of La Conner, incorporated area	255 acres
Skagit County Platted Residential (Skagit Beach)	59 acres
Skagit County Commercial/Industrial	18 acres
Skagit County Agricultural	<u>2,713 acres</u>
Total Service Area	3,045 acres

The existing system consists of parallel transmission mains from SR 20 to the Town along La Conner-Whitney Road, the “Skagit Beach” distribution line along Downey Road and Channel Drive and the storage and distribution facilities within the Town Limits. Figure 3 indicates the location of existing facilities.

Zoning and land use within the service area is under the jurisdiction of the Town and Skagit County. Figure 1.2 is the Town’s Zoning Map. The current Town Limits are also the urban growth area limits with the exception of potential annexation of the Town’s wastewater treatment plant. Current zoning for unincorporated Skagit County is indicated on Figure 1.1.

## **1.8 SERVICE AREA AGREEMENTS**

The existing and future service area was established in the Skagit County CWSP. A copy of the Service Area Agreement is included in Appendix A.

## **1.9 SERVICE AREA POLICIES**

Policies and requirements specific to the water service area are addressed in Chapter 12 of the Town's Municipal Code. The following is a brief summary of key elements as currently addressed in the municipal code.

### **Wholesaling Water**

A specific policy has not been set. The Town does require a (negotiated) wholesale agreement that is approved by the Town Council prior to service.

### **Wheeling Water**

Neither the Town's policies or the supply agreement with Anacortes address transfer of water via the Town's water system.

### **Annexation**

The Town does not require annexation as a condition of service.

### **Direct Connection and Satellite/Remote Systems**

New development within the Town's corporate limits must connect to the Town's water system. The Town is not considering become a DOH-approved Satellite Management Agency (SMA).

The Town does not currently have a policy regarding connection/remote systems for development within the Town's water service area but outside of the Town's corporate limits. Skagit County UDC and CWSP standards will be applicable to all development outside of the Town's limits.

### **Design and Performance Standards**

The Town requires all design to be prepared by a licensed professional engineer and to meet all local and State guidelines. The Town has prepared and adopted the Infrastructure Improvements Project Manual. This manual contains all of the requirements, design standards and other pertinent information relating to replacement or expansion of the Town's water system. Design and performance standards are further discussed in Chapter 7. Development within the Town limits will be governed by the Town's policies. Development within the unincorporated area will be governed by both the Town and Skagit County policies.

### **Surcharge for Outside Customers**

The Town has reserved the right but does not currently impose an additional charge on customers outside of the Town's limits.

### **Formation of Local Improvements Districts Outside Legal Boundaries**

The Town does not have a specific policy regarding utility LID's outside of the Town's limits. The Town has assisted the Skagit Beach area through the use of a service agreement.

### **UGA and Water Service Extension**

In all cases, the developer is solely responsible for all costs associated with expanding the water system beyond its present locations and/or capacities. The Town may participate based upon its own determination.

### **Oversizing**

In all cases, the developer is solely responsible for all costs associated with expanding the water system beyond its present locations and/or capacities. The Town may participate based upon its own determination.

#### **A. Latecomers Agreements**

The Town allows Latecomer's Agreements subject to state law and Town ordinances. The Latecomer's Agreement provides for a window of 10 years, during which a developer may receive partial reimbursement of the installation cost.

### **Cross-Connection Control Policy**

The Town requires State-approved backflow devices installed on all potential sources of cross-connection. New development is approved prior to installation. The Town adopted Ordinance No. 748, revising the Cross Connection Control standards in July, 2000, (see Appendix A).

## **1.10 CONDITIONS OF SERVICE**

#### **A. Application**

An application for service shall be submitted to the Town's Public Works Director on forms provided by the Town.

**B. Construction and Materials**

All materials shall meet Town Standards (see Chapter 7 for more information).

**C. Fees**

The applicant is responsible for all costs including permit, design, review, construction, inspection, testing and General Facilities charge.

**1.11 COMPLAINTS**

Complaints pertaining to the Town's water system are referred directly to the Director of Public Works. Customers have access to complaint forms available both at Town Hall and the Public Works office to file a complaint or concern, request a check for water leak, request an adjustment on their bill as a result of a water leak, and submit a work order request. Once a form is filled out, the reporting party is contacted by Public Works as soon as possible. The completed forms are kept on file at the Public Works office.

## Local Government Consistency Review Checklist

Water System Name: La Conner Water Dept, Skagit Co. PWS ID: 433500

Planning/Engineering Document Title: Town of La Conner Comp. water system plan Plan Date: December 2009

Local Government with Jurisdiction: Town of La Conner, Town Planner

### WAC 246-290-108 Consistency with local plans and regulations:

Consistency with local plans and regulations applies to planning and engineering documents under WAC 246-290-106, 246-290-107, and 246-290-110(4)(b) (ii).

1) Municipal water suppliers must include a consistency review and supporting documentation in its planning or engineering document describing how it has addressed consistency with **local plans and regulations**. This review must include specific elements of local plans and regulations, as they reasonably relate to water service as determined by Department of Health (DOH). Complete the table below and see instructions on back.

Local Government Consistency Statement	Page(s) in Planning Document	Yes – No – Not Applicable
a) The water system service area is consistent with the adopted <u>land use and zoning</u> within the applicable service area.		
b) The <u>six-year growth projection</u> used to forecast water demand is consistent with the adopted city/county's population growth projections. If a different growth projection is used, provide an explanation of the alternative growth projection and methodology.		
c) Applies to <u>cities and towns that provide water service</u> : All water service area policies of the city or town are consistent with the <u>utility service extension ordinances</u> of the city or town.		
d) <u>Service area policies</u> for new service connections are consistent with the adopted local plans and adopted development regulations of all jurisdictions with authority over the service area [City(ies), County(ies)].		
e) <u>Other relevant elements</u> related to water supply are addressed in the water system plan, if applicable; Coordinated Water System plans, Regional Wastewater plans, Reclaimed Water plans, Groundwater Area Management plans, and Capital Facilities Element of Comprehensive plans.		

I certify that the above statements are true to the best of my knowledge and that these specific elements are consistent with adopted local plans and development regulations.

Signature \_\_\_\_\_

Date \_\_\_\_\_

Printed Name, Title, & Jurisdiction \_\_\_\_\_

## Consistency Review Guidance

### *For Use by Local Governments and Municipal Water Suppliers*

This checklist may be used to meet the requirements of WAC 246-290-108. When using an alternative format, it must describe all of the elements; 1a), b), c), d), and e), when they apply.

For **water system plans (WSP)**, a consistency review is required for the retail service area and any additional areas where a municipal water supplier wants to expand its water right's place of use.

For **small water system management programs**, a consistency review is only required for areas where a municipal water supplier wants to expand its water right's place of use. If no water right place of use expansion is requested, a consistency review is not required.

For **engineering documents**, a consistency review is required for areas where a municipal water supplier wants to expand its water right's place of use (water system plan amendment is required). For non-community water systems, a consistency review is required when requesting a place of use expansion. All engineering documents must be submitted with a service area map per WAC 246-290-110(4)(b)(ii).

**A) Documenting Consistency:** Municipal water suppliers must document all of the elements in a consistency review per WAC 246-290-108.

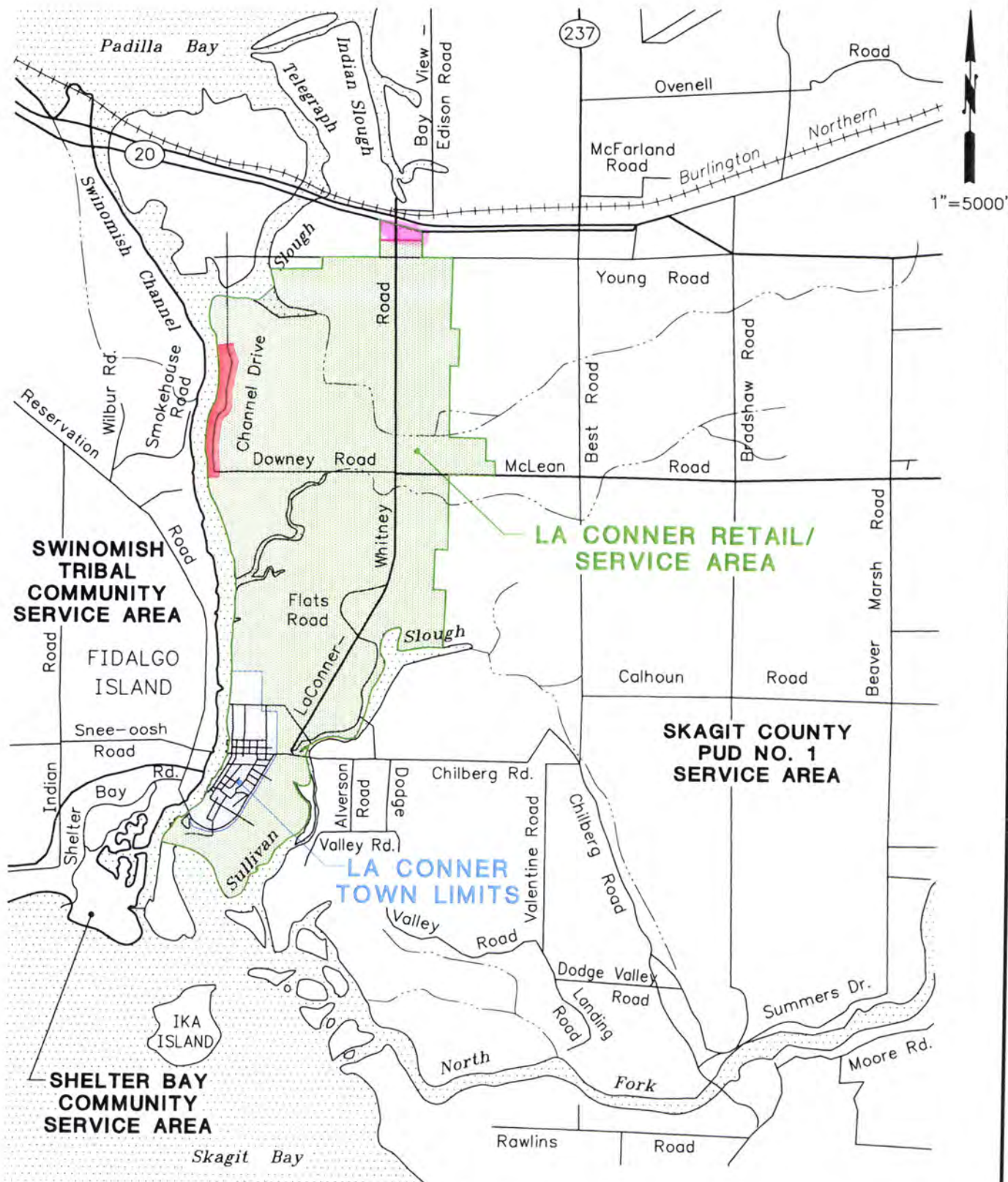
- 1 a) Provide a copy of the adopted **land use/zoning** map corresponding to the service area. The uses provided in the WSP should be consistent with the adopted land use/zoning map. Include any other portions of comprehensive plans or development regulations that are related to water supply planning.
- 1 b) Include a copy of the **six-year growth projections** that corresponds to the service area. If the local population growth rate projections are not used, provide a detailed explanation on why the chosen projections more accurately describe the expected growth rate. Explain how it is consistent with the adopted land use.
- 1 c) Include water service area policies and show that they are consistent with the **utility service extension ordinances** within the city or town boundaries. This applies to cities and towns only.
- 1 d) Include all **service area policies** for how new water service will be provided to new customers.
- 1 e) **Other relevant elements** related to water supply planning as determined by the department (DOH). See Local Government Consistency – Other Relevant Elements, Policy B.07, September 2009.

**B) Documenting an Inconsistency:** Please document the inconsistency, include the citation from the comprehensive plan or development regulation, and provide direction on how this inconsistency can be resolved.

**C) Documenting Lack of Consistency Review by Local Government:** Where the local government with jurisdiction did not provide a consistency review, document efforts made and the amount of time provided to the local government for their review. Please include: name of contact, date, and efforts made (letters, phone calls, and e-mails). In order to self-certify, please contact the DOH Planner.

The Department of Health is an equal opportunity agency. For persons with disabilities, this document is available on request in other formats. To submit a request, please call 1-800-525-0127 (TTY 1-800-833-6388).





### La Conner Water Service Area Zoning

- See Town Map (Figure 1.2)
- Skagit County Commercial/Light Industrial
- Skagit County Agricultural
- Skagit County Platted Residential (Skagit Beach)

**Town of La Conner  
Water System Plan**

**FIGURE 1.1**

**WATER SYSTEM  
SERVICE AREA & ZONING**



# TOWN OF La CONNER ZONING MAP

## LEGEND:

C		COMMERCIAL
I		INDUSTRIAL
P		PUBLIC USE
R		RESIDENTIAL
A		AGRICULTURAL DISTRICT (SKAGIT COUNTY)
M		INDUSTRIAL DISTRICT (SKAGIT COUNTY)
—		TOWN LIMITS
- - -		GROWTH MANAGEMENT LIMITS
- · - · -		HISTORIC PRESERVATION DISTRICT OVERLAY ZONE
— · — · —		ZONING BOUNDARY LINE
- - -		200' SHORELINE SETBACK
- · - · -		SKAGIT COUNTY ZONING BOUNDARIES (APPROX.)

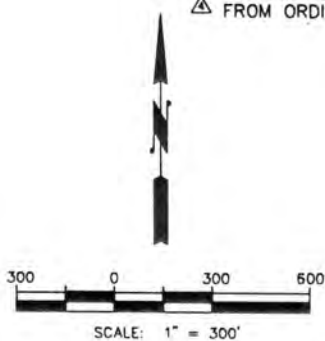
## AREA BREAKDOWN:

49.5 ACRES	COMMERCIAL
42.2 ACRES	INDUSTRIAL
52.8 ACRES	PUBLIC USE
+ 110.6 ACRES	RESIDENTIAL
255.1 ACRES	TOTAL TOWN LIMITS
16.5 ACRES	ADDITIONAL GROWTH MANAGEMENT LIMITS
51.1 ACRES	HISTORIC PRESERVATION DISTRICT OVERLAY ZONE

OFFICIAL ZONING MAP FOR  
THE TOWN OF LA CONNER.  
CERTIFIED AND ADOPTED BY  
RESOLUTION NO. 197 ON JUNE 14, 1994.

MAYOR, TOWN OF LA CONNER

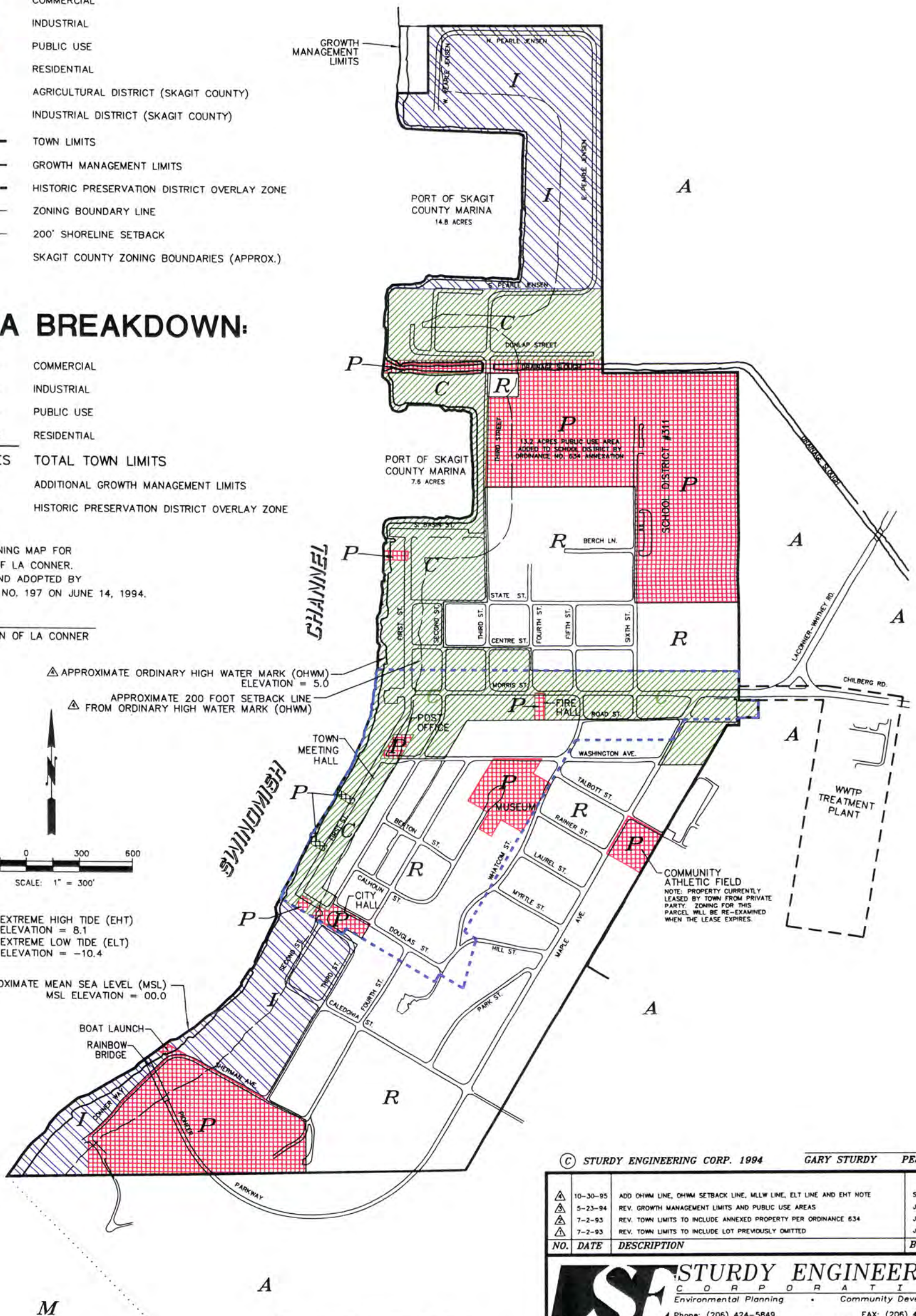
- △ APPROXIMATE ORDINARY HIGH WATER MARK (OHWM)  
ELEVATION = 5.0  
△ APPROXIMATE 200 FOOT SETBACK LINE  
FROM ORDINARY HIGH WATER MARK (OHWM)



- △ NOTE: EXTREME HIGH TIDE (EHT)  
ELEVATION = 8.1  
EXTREME LOW TIDE (ELT)  
ELEVATION = -10.4

- △ APPROXIMATE MEAN SEA LEVEL (MSL)  
MSL ELEVATION = 00.0

BOAT LAUNCH  
RAINBOW  
BRIDGE



WATER SYSTEM PLAN  
FIGURE 1.2

© STURDY ENGINEERING CORP. 1994 GARY STURDY PE22603

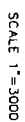
△	10-30-95	ADD OHWM LINE, OHWM SETBACK LINE, MLLW LINE, ELT LINE AND EHT NOTE	SB	GS
△	5-23-94	REV. GROWTH MANAGEMENT LIMITS AND PUBLIC USE AREAS	JA	GS
△	7-2-93	REV. TOWN LIMITS TO INCLUDE ANNEXED PROPERTY PER ORDINANCE 634	JA	GS
△	7-2-93	REV. TOWN LIMITS TO INCLUDE LOT PREVIOUSLY OMITTED	JA	GS
NO.	DATE	DESCRIPTION	BY	APVD.


**STURDY ENGINEERING**  
CORPORATION  
Environmental Planning • Community Development  
Phone: (206) 424-5849 FAX: (206) 424-3468  
2204 Riverside Dr. Suite 240, Mt. Vernon, Washington 98273

TOWN OF La CONNER  
ZONING MAP

PROJECT  
0108-04  
SHEET  
1 OF 1





 FIRE HYDRANT

• VALVE

**WATER MAIN**

● **PRESSURE REDUCING VALVE**

200 100 0 200 400

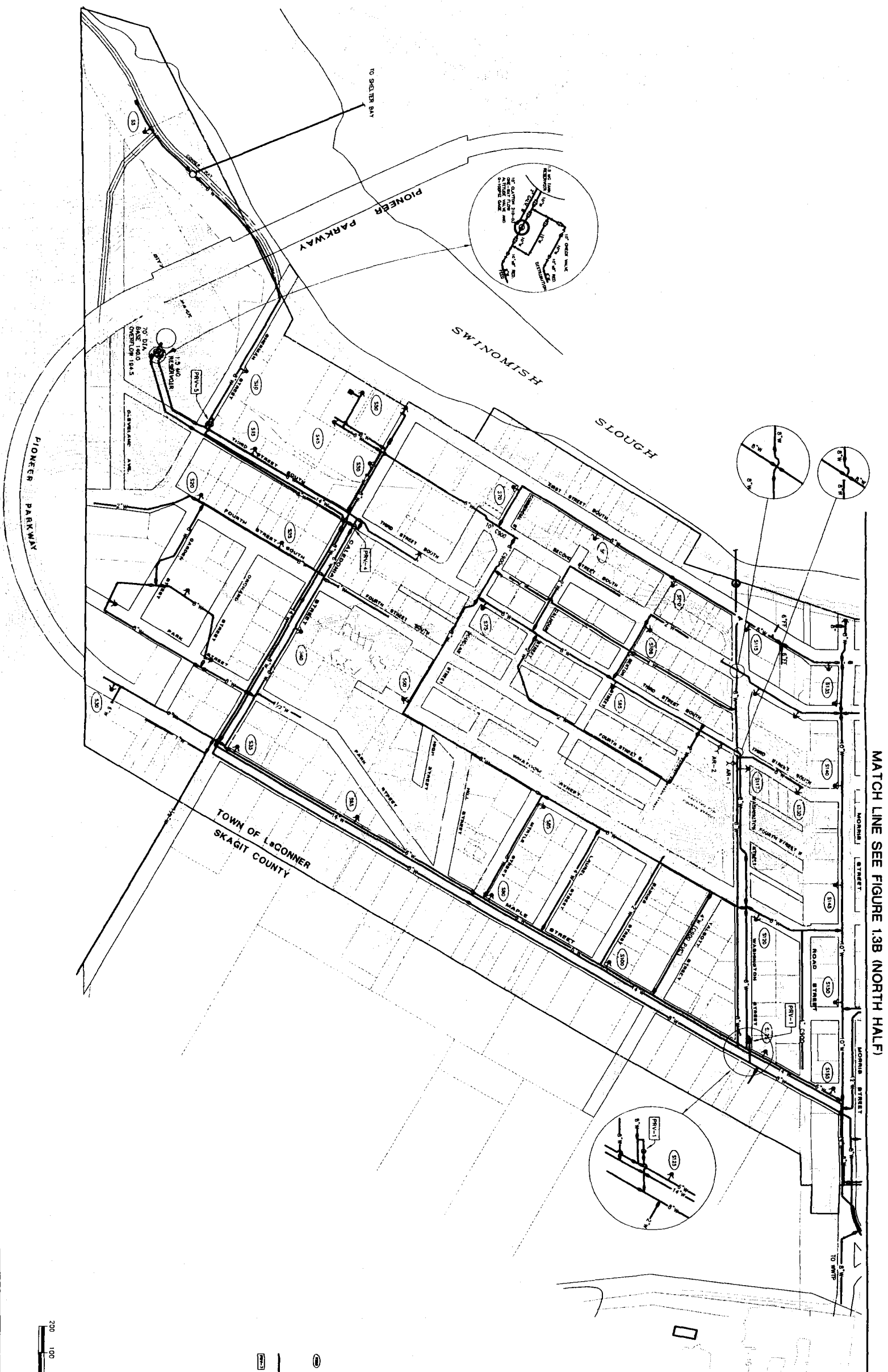
SCALE IN FEET

**FIGURE 1.3A (NORTH HALF)**

**TOWN OF LACONNER  
WATER SYSTEM PLAN  
SYSTEM FACILITIES MAP AND TOPOGRAPHY**

**CHS**  
CHS ENGINEERS, LLC  
12507 81st AVE ROAD, SUITE 101  
BELLEVUE, WA 98003 2900  
TEL (206) 617-3683 FAX (206) 637-0694

**CONS ENGINEERS, LLC**  
TEL (425) 612-3693 FAX (425) 637-7694



MATCH LINE SEE FIGURE 1.3B (NORTH HALF)

LEGEND

- FIRE HYDRANT
- VALVE
- WATER MAIN
- PRESSURE REDUCING VALVE

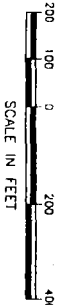


FIGURE 1.3B (SOUTH HALF)

TOWN OF LaCONNER  
WATER SYSTEM PLAN  
SYSTEM FACILITIES MAP AND TOPOGRAPHY

**CHS**  
CHS ENGINEERING, LLC  
3501 4th Ave Road Suite 101  
Bellingham, WA 98225-2500  
TEL: (360) 833-7342 FAX: (360) 833-7344



# **CHAPTER TWO**

## **PLANNING DATA AND WATER DEMAND FORECASTING**

## CHAPTER 2

### PLANNING DATA AND WATER DEMAND FORECASTING

#### 2.1 RESIDENTIAL POPULATION

The residential population served by the Town of La Conner Water Utility is comprised of two main groups; those residing within the Town's limits and those residing within the Town's water service area but outside of the Town's limits. Each group has different growth pressures and constraints.

##### 2.1.1 Residential Population within Town's Limits

According to the Office of Financial Management (OFM), the 2000 residential population within the Town's limits was 761 people. The Town's 2005 GMA Comprehensive Plan projects a 1 percent annual residential growth rate. Table 2.1 shows the population estimates.

<b>TABLE 2.1</b> <b>La Conner Residential Population: Existing And Future</b> <b>**Population within Town Limits only.</b>			
<u>Year</u>	<u>Existing</u> <u>Population</u>	<u>Year</u>	<u>Future</u> <u>Population</u>
1980	660	2009	918
1990	690	2014	964
2000	761	2019	1012
2003	760	2024	1063
2007	900	2029	1116
Note: Future population based on 1% annual growth.			

Actual growth has been lower than the 2005 estimate. For 2009, the Town estimates the actual population is 870.

### 2.1.2 Residential Population Outside Town Limits

Populations outside of the Town's Limits, but within the Town's water service area, consist of the Skagit Beach area and the less developed, mostly agricultural, unincorporated County area.

Additionally, the residential population of the Shelter Bay Water Service area will impact the Town's water system.

#### 2.1.2.A Skagit Beach

Skagit Beach is a small community of residential platted lots lying on the eastern bank of the Swinomish Channel. A 2007 evaluation of Skagit Beach's water system showed a total of 74 lots, with a potential for an additional 12 lots to be developed in the future.

The 2000 Census showed an average rural residential density of 2.60 persons/residence. 2007 Town records list a total of 74 accounts, resulting in an estimated current population of  $(74 \times 2.60)$  approximately 193. The buildout population is estimated at  $(86 \times 2.60)$  approximately 224. Table 2.2 shows the projected population based on a 1 percent growth rate.

**TABLE 2.2**  
**SKAGIT BEACH SUBAREA**  
**Residential Population: Existing and Future**

<u>Year</u>	<u>Existing Population</u>	<u>Year</u>	<u>Future Population</u>
2007	193	2009	197
		2014	207
		2019	217
		2024	228
		2029	239

**Note:** Future population based on 1% annual growth.



### *2.1.2.B Unincorporated County Area*

As discussed in Chapter 1 and shown on Figure 1, the majority of La Conner's water service area consists of unincorporated agricultural land. The Town's records show approximately 37 residential connections, the majority of which are situated along La Conner-Whitney Road and Downey Road. The Department of Ecology has no record of any private potable wells in this area. The 2007 estimated population for the agricultural area is  $(37 \times 2.60)$  approximately 96.

The CWSP projects that 80 percent of the total Skagit County population growth will occur within and around the urban centers, while the remaining 20 percent will occur in the rural areas. This assumption equates to a 0.7 percent growth rate for the rural/agricultural areas. Table 2.3 shows the estimated population growth.

**TABLE 2.3**  
**COUNTY SUB-AREA**  
**Residential Population: Existing and Future**

<u>Year</u>	<u>Existing Population</u>	<u>Year</u>	<u>Future Population</u>
2007	96	2009	97
		2014	100
		2019	104
		2024	108
		2029	111

**Note:** Future population based on 0.7% annual growth.

### 2.1.2. Shelter Bay

Shelter Bay is a planned residential community designed for approximately 914 lots. Shelter Bay estimates that 832 lots are developed. Shelter Bay has a wholesale water agreement with the Town (see Appendix A) that provides for a peak demand of 400,000 gallons per day (gpd). Although the Town is not responsible for growth planning beyond the contracted amount, the Town does need to estimate the future impact of continued growth within the Shelter Bay water system.

Given recent economic conditions, it is likely that Shelter Bay will experience a growth rate comparable to or lower than the Town of La Conner as they approach a buildout level.

### 2.1.3 Population

Table 2.4 summarizes the existing and estimated future residential populations within La Conner's water service area.

<b>TABLE 2.4 LA CONNER WATER SERVICE AREA RESIDENTIAL POPULATION SUMMARY</b>				
<u>Year</u>	<u>La Conner</u>	<u>Skagit Beach</u>	<u>County</u>	<u>Total</u>
2007	900	193	96	1,189
2009	918	197	97	1,212
2014	964	207	100	1,271
2019	1012	217	104	1,333
2024	1063	228	108	1,399
2029	1116	239	111	1,466

#### **2.1.4 Agricultural Use**

Historically, agricultural use of potable water for irrigation or processing has been a very small, seasonal, component of the total Town's water demand. There are no current contracts for agricultural irrigation. The Town has not adopted a specific position regarding the use of potable water for commercial agricultural irrigation. Instead, the Town reviews each application on a case by case basis. Withdrawals that would negatively impact existing customers are not allowed and any temporary use is subject to being turned off without notice.

When an application is received, it is reviewed by the Town staff and Engineer to determine feasibility, costs and impacts. The City of Anacortes is contacted to verify availability and impact of a significant increase of water usage.

### **2.2 WATER USE DATA AND SERVICE CONNECTIONS**

The Town of La Conner has approximately 667 connections, all of which have metered services. Meters used range from ¾" typical residential meters to a 6" meter for Shelter Bay. Each meter is read monthly via a "radio read" device, the data is then downloaded at Town Hall and processed. During the Fall of 2007, the Town switched billing software and currently maintains a historical data base of billing records.

In preparation for this plan, the Town staff forwarded all water meter consumption for 2007 to the engineers. The records have been analyzed by means of computer-based spreadsheets, primarily Microsoft EXCEL™. Table 2.5 is a summary of the type, number, and water use for each class of connections.

The Conservation Planning Requirements establishes data collection and reporting requirements. The Town's current procedures provide for collecting the core data needed but do not currently lend themselves to a convenient means of generating the reports. There is no formal means of tracking non-revenue water. Recommendations for improving this area of the operations are discussed in Chapter 6 of this Plan.

### **2.3 EQUIVALENT RESIDENTIAL UNIT (ERU)**

An Equivalent Residential Unit (ERU) is defined as the amount of water consumed by a typical single family residence. Calculation of an ERU shall be based on the data presented in Table 2.5 and is initially expressed in terms of annual Average Daily Demand (ADD) in gallons per day.

Typical water demand will vary yearly in response to climate and economic conditions. Calculation of the value for this report was performed by averaging

the historic yearly ADD for residential (Town) connections (see Table 2.5). The resulting ERU value is 170 ADD—gallons per day.

The Town's 2005 Comprehensive Plan (GMA) states a "level of service" of 157 gallons per capita per day. The GMA Plan does not discuss ERU values. We recommend that the town revise the Comprehensive Plan and resulting ordinances to include the definition of one ERU and establish that value as 170 ADD-gallons per day. The "level of service" standard should also be revised to the ERU basis to avoid conflicting standards.

## **2.4 PROJECTED LAND USE**

The land use patterns within the Town's water service area are not projected to change significantly over the 20-year planning horizon. Both the Town and Skagit County have completed GMA Comprehensive Plans. The land use and zoning, as discussed in Chapter 1 and shown on Figures 1 and 2, will remain in effect. Growth projections are based on existing zoning. General development patterns are discussed in Section 2.1.

## **2.5 PROJECTED NON-RESIDENTIAL WATER DEMANDS**

Table 2.5 is a summary of historical data and the connection breakdown used by the Town. Billing Code 1 - Residential (Town) and Code 5 - Residential (County) were discussed in previous sections. A 0.5 percent growth rate is used for future demand projections for both Residential (Town) and Residential (County). The remaining billing codes and applicable factors affecting each are discussed as follows:

***Code 2 - Commercial (Town).*** The Town's commercial sector is primarily linked to the service industry (lodging, restaurants, shopping) and is influenced by tourism. Water demand has been relatively stable and is expected to keep pace with residential population. A 1.0 percent growth rate is used for future demand projections.

***Code 3 - Industrial (Town).*** The Town's industrial users have fairly stable water use for light manufacturing. A 1.0 percent growth rate is used for future projections.

***Code 4 - Public Facilities (Town).*** This class groups the Town Hall, Public Works and other municipal owned facilities, including public restrooms. Future growth is expected to be slightly higher than the population growth rate as emphasis on tourism continues to attract visitors. A 1.5 percent growth rate will be used for future projections.

**Code 6 - Commercial (County).** This class primarily consists of agricultural related businesses and is projected to remain very stable. A 0.5 percent growth rate is used for future projections.

**Code 7 - Residential Multi-Family (Town).** This class of connections is expected to grow at the same rate as the overall residential population rate. A 1.0 percent growth rate will be used for future projections.

**Code 8 - Shelter Bay.** The Shelter Bay community represents 40 percent to 50 percent of the total water used by the La Conner water system. A growth rate of 0.50 percent will be used for future projections.

**Code 9 - Skagit County Port (Marina).** As the marina is of fixed size, water demand is linked to use with limited potential for facilities expansion. A growth rate of 0.5 percent will be used for future projections.

## **2.6 PROJECTED NON-REVENUE WATER DEMANDS**

As stated in Section 2.2, past metering errors and a lack of verifiable data has made it impossible, at present, to allocate non-revenue water demands between accounted for uses and water losses due to system breaks or leaks. In Chapter 6 of this report, we discuss operational changes to improve this situation in the future. For this report, we will use a total non-revenue water demand of 15 percent of the total water supplied. That volume will be further allocated as 5 percent to operations and 10 percent to loss.

## **2.7 WATER RATES**

The Town bills all accounts on a monthly basis. The bill contains two charges; a minimum fixed charge based on meter size and a rate charge based on the cubic feet of water consumed. The Town recently completed a water rate study and adopted the following rates:

The water user rate is \$2.32 per 100 cubic feet for all users except Shelter Bay, which is charged per contract. Minimum monthly service charges are as follows:

<b>Size</b>	<b>Service Charge</b>	<b>Included Consumption</b>
3/4" or less	\$ 16.34	0 cf
1"	\$ 32.68	500 cf
1-1/2"	\$ 49.02	1,200 cf
2"	\$ 65.36	1,800 cf
3"	\$ 98.04	2,600 cf

**TABLE 2.5**  
**SERVICE METER RECORD**  
**ANNUAL DATA SUMMARY**

ERU = 170 ADD-gpd

Billing Class	Desc./ Location	Item	Year 2007
1	<b>Residential</b> Town	13%	
		# of Accounts	338
		Total Use (CF/year)	2104171
		Average Day Use (gal)	43121
		Average Use (gpd/conn)	128
		Estimated ERU's	254
2	<b>Commercial</b> Town	9%	
		# of Accounts	105
		Total Use (CF/year)	1393949
		Average Day Use (gal)	28566
		Average Use (gpd/conn)	272
		Estimated ERU's	168
3	<b>Industrial</b> Town	1%	
		# of Accounts	11
		Total Use (CF/year)	121874
		Average Day Use (gal)	2498
		Average Use (gpd/conn)	227
		Estimated ERU's	15
4	<b>Public</b> Town	5%	
		# of Accounts	31
		Total Use (CF/year)	766624
		Average Day Use (gal)	15711
		Average Use (gpd/conn)	507
		Estimated ERU's	92
5	<b>Residential</b> County	6%	
		# of Accounts	119
		Total Use (CF/year)	1033199
		Average Day Use (gal)	21174
		Average Use (gpd/conn)	178
		Estimated ERU's	125
6	<b>Commercial</b> County	10%	
		# of Accounts	20
		Total Use (CF/year)	1693838
		Average Day Use (gal)	34712
		Average Use (gpd/conn)	1736
		Estimated ERU's	204
7	<b>Residential - Multi Fami</b> Town	1%	
		# of Accounts	8
		Total Use (CF/year)	238081
		Average Day Use (gal)	4879
		Average Use (gpd/conn)	610
		Estimated ERU's	29

**TABLE 2.5**  
**SERVICE METER RECORD**  
**ANNUAL DATA SUMMARY**

ERU = 170 ADD-gpd

Billing Class	Desc./ Location	Item	Year 2007
8	<b>Wholesale - Shelter Bay</b>	50%	
	County	# of Accounts	1
		Total Use (CF/year)	8120600
		Average Day Use (gal)	166417
		Average Use (gpd/conn)	166417
		Estimated ERU's	979
9	<b>Port</b>	5%	
	Town	# of Accounts	31
		Total Use (CF/year)	817169
		Average Day Use (gal)	16746
		Average Use (gpd/conn)	540
		Estimated ERU's	99
	<b>TOTALS</b>	100%	
		# of Accounts	<b>664</b>
		Total Use (CF/year)	<b>16289505</b>
		Average Day Use (gal)	<b>333823</b>
		Estimated ERU's	1964

CF = Cubic Feet, gpd = gallons per day

## **2.8 WATER DEMAND FORECAST**

Factors affecting the water demand forecast have been discussed in this chapter. Tables 2.6 and 2.7 summarize the project annual water demands in units of ADD-gpd, MDD-gpd, PHD-gpd, and ERU.



TABLE 2.6

**TOWN OF LA CONNER**  
**Projected Annual Water Demands 2009 - 2014**

1 ERU = 170 ADD-gpd

(See Section 3.1.5)

**Growth Projections**

Customer Class	2009 Demand ERU	2009 Demand gpd	2010 Demand ERU	2010 Demand gpd	2011 Demand ERU	2011 Demand gpd	2012 Demand ERU	2012 Demand gpd	2013 Demand ERU	2013 Demand gpd	2014 Demand ERU	2014 Demand gpd
Residential (Town)	256	43,553	257	43,771	259	43,990	260	44,210	261	44,431	263	44,653
Commercial (Town)	171	29,140	173	29,432	175	29,726	177	30,023	178	30,323	180	30,627
Industrial (Town)	15	2,548	15	2,574	15	2,599	15	2,625	16	2,652	16	2,678
Public (Town)	95	16,186	97	16,429	98	16,675	100	16,925	101	17,179	103	17,437
Skagit Beach (County)	86	14,542	86	14,615	86	14,688	87	14,762	87	14,835	88	14,910
Residential (County)	40	6,844	40	6,878	41	6,913	41	6,947	41	6,982	41	7,017
Commercial (County)	206	35,060	207	35,235	208	35,411	209	35,589	210	35,766	211	35,945
Residential Multi-Family (Town)	29	4,977	30	5,027	30	5,077	30	5,128	30	5,179	31	5,231
Shelter Bay	989	168,085	994	168,926	999	169,770	1,004	170,619	1,009	171,472	1,014	172,330
Port (Town)	99	16,914	100	16,998	100	17,083	101	17,169	101	17,255	102	17,341
***Non-Revenue Water	298	50,678	300	50,983	302	51,290	304	51,600	305	51,911	307	52,225
<b>Total Demands</b>	<b>2,285</b>	<b>388,528</b>	<b>2,299</b>	<b>390,867</b>	<b>2,313</b>	<b>393,223</b>	<b>2,327</b>	<b>395,596</b>	<b>2,341</b>	<b>397,986</b>	<b>2,355</b>	<b>400,393</b>
<b>Planning Totals</b>												
ADD - (gpd) (gpm)	388,528	270	390,867	271	393,223	273	395,596	275	397,986	276	400,393	278
MDD - (gpd) (gpm)	893,613	621	898,995	624	904,414	628	909,872	632	915,368	636	920,904	640
PHD - (gpd) (gpm)	1,407,861	978	1,415,653	983	1,423,500	989	1,431,403	994	1,439,362	1,000	1,447,378	1,005
<b>ADD - gpd/yr</b>	<b>141,812,568</b>		<b>142,666,523</b>		<b>143,526,536</b>		<b>144,392,661</b>		<b>145,264,951</b>		<b>146,143,461</b>	

\*\*\*Non-revenue water quantity estimated at 15% of total customer purchased quantity -- operations and system loss

TABLE 2.7

**TOWN OF LA CONNER**  
**Projected Annual Water Demands 2009 - 2029**

1 ERU = 170 ADD-gpd

(See Section 3.1.5)

**Growth Projections**

Customer Class	2009 Demand ERU	2009 Demand gpd	2014 Demand ERU	2014 Demand gpd	2019 Demand ERU	2019 Demand gpd	2024 Demand ERU	2024 Demand gpd	2029 Demand ERU	2029 Demand gpd
Residential (Town)	256	43,553	263	44,653	269	45,781	276	46,937	283	48,122
Commercial (Town)	171	29,140	180	30,627	189	32,189	199	33,831	209	35,557
Industrial (Town)	15	2,548	16	2,678	17	2,815	17	2,958	18	3,109
Public (Town)	95	16,186	103	17,437	110	18,784	119	20,236	128	21,800
Skagit Beach (County)	86	14,542	88	14,910	90	15,286	92	15,672	95	16,068
Residential (County)	40	6,844	41	7,017	42	7,194	43	7,376	44	7,562
Commercial (County)	206	35,060	211	35,945	217	36,853	222	37,784	228	38,738
Residential Multi-Family (Town)	29	4,977	31	5,231	32	5,498	34	5,778	36	6,073
Shelter Bay	989	168,085	1,014	172,330	1,039	176,681	1,066	181,143	1,092	185,717
Port (Town)	99	16,914	102	17,341	105	17,779	107	18,228	110	18,688
***Non-Revenue Water	298	50,678	307	52,225	317	53,829	326	55,491	337	57,215
<b>Total Demands</b>	<b>2,285</b>	<b>388,528</b>	<b>2,355</b>	<b>400,393</b>	<b>2,428</b>	<b>412,688</b>	<b>2,503</b>	<b>425,433</b>	<b>2,580</b>	<b>438,648</b>

**Planning Totals**

ADD - (gpd) (gpm)	388,528	270	400,393	278	412,688	287	425,433	295	438,648	305
MDD - (gpd) (gpm)	893,613	621	920,904	640	949,183	659	978,496	680	1,008,889	701
PHD - (gpd) (gpm)	1,407,861	978	1,447,378	1,005	1,488,327	1,034	1,530,772	1,063	1,574,782	1,094

ADD - gal/yr	141,812,568	146,143,461	150,631,257	155,283,062	160,106,375
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\*\*\*Non-revenue water quantity estimated at 15% of total customer purchased quantity -- operations and system loss

# **CHAPTER THREE**

## **SYSTEM ANALYSIS**

## CHAPTER 3

### SYSTEM ANALYSIS

#### 3.1 PERFORMANCE AND DESIGN STANDARDS

This chapter establishes criteria to be used in the planning and analysis of facilities that will be required by the Town to meet future consumer demand. The criteria include considerations of water supply, storage and distribution facilities. The design criteria are based on actual water usage records, recommended design standards by the Washington State Department of Health and other accepted standards normally used in the design and construction of water facilities.

The Public Water Systems Coordination Act and the procedures outlined in the Coordinated Water System Plan provide a set of minimum design and performance criteria for new water utilities and for all existing utilities planning to install capital facilities for expansion purposes.

The Washington State Department of Health's *Water System Design Manual*, dated August 2001, was utilized for this system analysis. The primary design criteria include maintaining 30 psi in the distribution system under peak hourly demand (PHD) design flow conditions and 20 psi under fire flow conditions.

##### 3.1.1 Abbreviations

In this report, a number of common technical terms and expressions have been abbreviated. These terms and their abbreviations are presented here.

ADD	Average Day Demand (gallons/day/ERU)
cfs	cubic feet per second
CWSP	Coordinated Water System Plan
DOH	Department of Health
ERU	Equivalent Residential Unit
gal	gallon(s)
gpcd	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
MDD	Maximum Day Demand (gallons/day/ERU)
MSL	Mean Sea Level
mgd	million gallons per day
PHD	Peak Hour Demand
ppm	parts per million

### **3.1.2 Reference Datum**

The planning of facilities in this study is based on the North American Vertical Datum of 1988 (NAVD 88). Prior to 2008, most of the Town's record drawings referenced the vertical datum to the National Geodetic Vertical Datum (NGVD)–1927 NGVD, Pacific Northwest Adjustment 1947–of mean sea level as elevation zero.

### **3.1.3 Period of Design**

In planning water facilities, it is necessary to design these facilities to be adequate over a specific period of time. This is known as the period of design. The period of design for this study will be 20 years. This means that, in the year 2029, the facilities proposed in this study may have reached their maximum capacity, assuming that the population projections are reached. Many of the components of the water system however, have much longer useful lives than 20 years and will continue to serve the community for years to come.

In planning facilities with capacities adequate for the next 20 years, it should not be construed that these requirements must be fulfilled initially. On the contrary, development of water sources and construction of storage should be phased with regional requirements and pipelines can be constructed in segments in accordance with localized needs.

### **3.1.4 Demand Factors: ADD, MDD and PHD**

Water demand forecasts are shown on Tables 2.6 and 2.7. The demand forecasts are represented in terms of the number of ERU's, with each ERU representing 170 gpd of Average Daily Demand (ADD). Different elements of the water system are sized by varying controlling factors, which are, in effect, multipliers of the ADD demand.

Currently, the Town reads water meters on a monthly basis. Anacortes also reads the Town's master supply meter on a monthly basis. The monthly data provided documentation for calculating the ADD for all consumer classes and the resulting ERU. The monthly data does not provide sufficient information to adequately quantify the daily and hourly variations that are seen in a water system.

Maximum Day Demand (MDD): DOH recommends two methods for estimating the MDD. DOH Equation 5-2 shows a typical  $MDD = 2 \times ADD$ , provided that  $ADD < 1,000$  gpd/ERU. Based on the Town's historical data, the average demand during the maximum month was 1.86 times the ADD. By definition, the MDD will be greater than average value for the maximum month ( $MDD > 1.86$ )

The Town of La Conner has been actively promoting tourism. Tourism is one of the factors that would cause an increase, over time, in the MDD factor.

Historical data from many western Washington water systems suggests that the MDD is typically 1.5 to 3.0 times the ADD.

The Skagit CWSP which reports typical urban MDD values ranging from 1.2 to 2.0 and typical rural MDD values ranging from 1.2 to 3.8. The representative value used in the CWSP is 2.6 for rural communities.

In order to prepare conservative demand forecasts, this report shall use the average of:

DOH Eq. 5-2 Value	= 2.00
Skagit County CWSP Value	= <u>2.60</u>
Average MDD	= 2.30

Peak Hourly Demand (PHD): PHD is used in the sizing of storage and piping. PHD has replaced the older standard of referring to the Maximum Instantaneous Demand (MID). DOH Eq. 5-3 is applicable for determining peak events and introduces a factor of 1.6 times the MDD.

Table 3.1 summarizes the factors used and the resulting values for future demand forecasting.

**TABLE 3.1**  
**Water Demand Factors and Projections 2009 - 2029**

## Water Demand Factors

<b>1 ERU =</b>	<b>170</b>	<b>ADD</b>	<b>(gpd)</b>	ERU = Equivalent Residential Unit	gpd = gallons per day
<b>MDD =</b>	<b>2.30</b>	<b>x ADD</b>	<b>(see Section 3.1.4)</b>	ADD = Average Annual demand	gpm = gallons per minute
<b>PHD =</b>	<b>1.60</b>	<b>x MDD</b>	<b>(per DOH)</b>	MDD = Maximum Day Demand	Mg/yr = Million Gallons per year
				PHD = Peak Hour Demand	cf/yr = cubic feet per year

## Water System Demand Projections

Year	# ERU	ADD				MDD				PHD gpm
		gpd	gpm	Mg/yr	cf/yr	gpd	gpm	Mg/yr	cf/yr	
2009	2285	388500	270	142	18957600	893600	621	326	43604800	993
2010	2299	390900	271	143	19074700	899100	624	328	43873200	999
2011	2313	393200	273	144	19186900	904400	628	330	44131800	1005
2012	2327	395600	275	144	19304000	909900	632	332	44400200	1011
2013	2341	398000	276	145	19421100	915400	636	334	44668600	1017
2014	2355	400400	278	146	19538200	920900	640	336	44937000	1023
2019	2428	412700	287	151	20138400	949200	659	346	46317900	1055
2024	2503	425400	295	155	20758200	978400	679	357	47742800	1087
2029	2580	438600	305	160	21402300	1008800	701	368	49226200	1121

### **3.1.5 Distribution System**

The water distribution system is required to provide dependable service. This is accomplished through interconnection and proper pipe line sizing which will result in adequate water pressure and fire protection for the community. Water pressure should be maintained between 30 and 80 psi through the use of pressure reducing valves, booster pump stations, and multiple level water storage reservoirs.

All water mains shall be designed in accordance with good engineering practice by a professional engineer to suit actual conditions at the project location. All pipelines shall be constructed in accordance with the requirements of the Town's policies and standards which have been accepted by the Department of Health. All water mains should be owned, operated and maintained by the Town.

In general, all water mains should be looped where feasible so dead-end lines are minimized. The usual standard size for all water mains are 8-, 10-, 12- and 14-inch diameter. The grid distribution mains in residential areas shall be at least 8-inch diameter.

In high-value districts, such as commercial, industrial, and multiple family developments, the minimum size of a water main the Town should be 10 inches in diameter. Larger mains may be required for high fire flow requirements or for mains with long distances between intersecting points. Detailed engineering design should be made for each individual system considering the specific fire flow requirements and hydraulic conditions for the development.

Fire hydrants should be placed according to Skagit County CWSP except where more stringent requirements are called for by the Town. Hydrant spacing within the Town shall be a maximum of 500 feet in single-family detached residential areas. Three hundred feet shall be the maximum spacing in multiple-family, multiple-family clustered, commercial, and industrial area. Any hydrant branch exceeding 50 feet in length shall be 8 inches in diameter. If conditions permit, no more than one hydrant should be installed on any dead-end 8-inch branch.

Valves should be installed at intersections, not to exceed 800 feet in the distribution system and ¼ mile in transmission mains. Valve spacing in commercial, industrial, and multiple-family districts shall not exceed 500 feet. Auxiliary valves shall be installed on each hydrant branch.



### **3.1.6 Fire Flow Standards and Performance**

Fire protection is of primary importance in nearly all communities. In most circumstances, water flows for fighting fire are the greatest imposition on the system. The minimum fire flow requirements for new system expansions will be required to follow the minimum design standards developed as part of the Coordinated Water System Plan. Fire Flow requirements within the UGA (Town Limits) will typically be 1,500 gpm for 60 minutes. Fire Flow requirements outside of the UGA are governed by the Skagit County CWSP. Figure 3.2 reproduces the CWSP requirements.

### 3.1.7 System Design Standards

System design standards are summarized in Table 3.2

<b>TABLE 3.2 SYSTEM DESIGN STANDARDS</b>	
Parameter	Minimum Standard
Water Quality	Federal Safe Drinking Water Act and State Statutes (DOH) for Maximum Contaminant Levels (WAC 246-290)
Maximum Day Demand	2.30 times ADD
Peak Hour Demand	1.60 times MDD
Storage	Per DOH
Fire Flow	Residential 1,500 gpm for 60 minutes Commercial/Industrial 1,500 gpm for 60 minutes Port (Marina) 2,000 gpm for 60 minutes Rural/Agricultural 500 gpm for 30 minutes
Refer also to Figure 3.2 for CWSP Requirements	
Minimum System Pressure	30 psi during PHD conditions 20 psi under fire flow conditions
Minimum Pipe Size	8" (4" with Town Approval for local distribution lines without fire flow)
Telemetry	To be determined. As necessary for monitoring automatic equipment.
Standby Power	To be determined depending on reliability needs.
Valve Spacing	All tees or crosses and maximum of 800 feet (residential) or 500 feet elsewhere.
Hydrant Spacing	Per Uniform Fire Code within Town. Per CWSP for rural area.
Construction Standards	See Chapter 7.
Cross-Connection Control	Per Accepted Procedure and Practice in Cross-Connection Control – Pacific Northwest Section – American Waterworks Association.

## FIGURE 3.2

### Skagit County CWSP

### FIRE FLOW REQUIREMENTS

Table 4-3  
Minimum Fire Flow Design Standards For  
New And Expanding Water Systems<sup>(1)</sup>

Land Use Designations Or Densities	Minimum Fire Flow (Gallons Per Minute)	Minimum Duration (Minutes)	Maximum Hydrant Spacing (Feet)
<b>Urban Growth Areas <sup>(2)</sup></b>			
Industrial	1500	60	<sup>(3)</sup>
Commercial	1500	60	<sup>(3)</sup>
Multi-Family Residential	1500	60	500
Single-Family & Duplex Residential	1000	60	500
<b>Non-Urban Growth Areas</b>			
Commercial / Industrial	1500 <sup>(4)</sup>	60 <sup>(4)</sup>	<sup>(4)</sup>
1 Dwelling Unit Per Lot Less Than 2.5 Acres	500 <sup>(5)</sup>	30 <sup>(5)</sup>	900 <sup>(5)</sup>
1 Dwelling Unit Per Lot 2.5 Acres Or Larger	NONE <sup>(5)</sup>	NONE <sup>(5)</sup>	NONE <sup>(5), (6)</sup>
Natural Resource Lands	NONE <sup>(5)</sup>	NONE <sup>(5)</sup>	<sup>(5), (6)</sup>

- (1) The design standards may be amended to reflect changes to Comprehensive Plan land use designations and/or their densities. Proposed amendments will be presented to the Skagit County CWSP WUCC for approval.
- (2) These criteria establish a minimum water system design standard. Each water system in an urban growth area must comply with the standards of the local government with jurisdiction. When there are different or conflicting standards, the most stringent standard shall apply. Prior to the issuance of a development permit, the approving authority shall establish fire flow, duration and hydrant spacing requirements.
- (3) As determined by the appropriate fire official.
- (4) Fire flow for individual buildings or groups of buildings is to be determined by the Skagit County Fire Marshal per Uniform Fire Code Appendix IIA and the Skagit County Fire Marshal policy on fire flow. The application of lesser or alternative standards shall be in accordance with Section 4.3.5 (Interpretation of Standards).
- (5) Fire flow will be required for a Conservation and Reserve Development (CaRD) land division as follows.

CaRD Characteristics	Fire Flow Requirement
5 or more lots	<p>Option 1: Fire flow of 500 gpm for 30 minutes with hydrant spacing of 900 ft. or,</p> <p>Option 2: Fire Marshal approved fire prevention water system that provides adequate pressure and flow to support NFPA 13D sprinkler systems is required for all residential dwellings. In addition, if the property is located in an Industrial Forest, Secondary Forest, or Rural Resource designated land the fire protection requirements as listed in Skagit County Code 14.04.190(14)(b)(iii)(b-e) also apply.</p>
4 or fewer lots	None required, unless the property is located in an Industrial Forest, Secondary Forest, or Rural Resource designated land. If the property is located in such designated land the fire protection requirements as listed in Skagit County Code 14.04.190(14)(b)(iii)(b-e) apply. However, NFPA 13D sprinklers are only applicable to residential dwellings.

As of the effective date of the CWSP, where in-fill development or extension of an existing water system occurs to serve an existing platted lot, the Skagit County Fire Marshal may limit the requirement for fire flow or fire suppression in accordance with Table 4-1 to the newly developed lot only. Group B public systems may choose to separate the fire flow from water flow. Separate tank and hydrant(s) location is subject to Skagit County Fire Marshal approval.

- (6) Hydrants shall be installed when water lines are installed or replaced and are capable of supplying a tanker truck with a minimum of 500 gallons per minute at a minimum residual pressure of 20 psi. Tanker truck filling hydrants are to be located at major roadway intersections and along roads at a spacing not to exceed one mile to assist in fire protection.

## **3.2 WATER QUALITY**

Group A public water systems must comply with the provisions of the Federal Safe Drinking Water Act (SDWA). Washington State's water quality provisions are contained in Chapter 246-290 WAC and generally incorporate the SDWA requirements.

The supplier of the Town's potable water, the City of Anacortes, draws its water from the Skagit River near the community of Avon, several miles northeast of the Town. The Anacortes water supply facility includes a diversion structure located in the Skagit River and a water treatment plant with flocculation, sedimentation, filtration and disinfection with chlorine.

As the supplier, Anacortes is required to treat the water in accordance with state and federal requirements for delivery to the Town. The Town, as the purchasing system, is required to maintain the water quality within its system in accordance with Chapter 246-290-300. The Town is required to:

1. Collect coliform samples per subsection (2).
2. Collect trihalomethane samples per subsection (6).
3. Perform distribution system residual disinfectant monitoring per WAC-246-290-440 or 694.
4. Perform lead and copper monitoring as required by federal regulations.
5. Perform asbestos monitoring as required by federal regulations.
6. Maintain a monitoring plan.

These requirements may be reduced by DOH subject to certain conditions.

A copy of the Town's Coliform Monitoring Plan is included in Appendix D.

## **3.3 SYSTEM DESCRIPTION AND ANALYSIS**

### **3.3.1 Source of Supply**

The Town's source of supply is via the City of Anacortes transmission mains along SR 20 and the Town's parallel 8-inch and 14-inch asbestos cement high pressure transmission mains along La Conner-Whitney Road from SR 20 into and through the Town. As indicated in the CWSP, Anacortes currently has approximately 30 MGD pumping capacity installed and has future plans to expand the treatment and pumping to 55 MGD. The Town and Anacortes review the Town's water consumption yearly and revise the purchase agreement to reflect anticipated demand. Increased demand within the La Conner system has been factored into the demand projections for Anacortes in the CWSP.

The Town's 8-inch and 14-inch mains were installed in 1965 and 1969, respectively, and are reportedly in good condition. The combined capacity of these mains is approximately 2,900 gpm (at 5 feet per second). The Town is not aware of any circumstances that would limit the ability of Anacortes to supply the necessary quality and quantity of water from the contractual and anticipated needs of the Town's water service area.

### 3.3.2 Storage

The Town has one steel, above-grade reservoir with a volume of 1,500,000 gallons. It was constructed in 1980 to replace the previous reservoir. As discussed below, its full volume is available for the system. It serves the only pressure zone in the Town's system and is filled directly from the Town's 8-inch transmission main.

The reservoir was recoated and structurally repaired in 2001. It is anchored to its foundation and spiral stairs provides access to the roof. The central screened roof vent serves as the base for a communication antenna. There is an internal ladder with a fall-restraint system. There is no cathodic protection system. Under typical demand conditions, water within the tank will be replaced approximately every 5 days.

Operational storage (OS) is required to meet demand when water is not being supplied by the source. The La Conner water system relies on a single supply of continuous pumped (by Anacortes) water from the Anacortes water transmission line. Anacortes is required by contract to use reasonable diligence to provide regular and uninterrupted service to the Town. The available rate of supply is greater than La Conner's demand and negates the need for operational storage. The operational storage volume required for the La Conner water system is zero.

Equalizing storage (ES) provides water during daily periods of system demand higher than the source capacity. From the information in Section 3.1.5.B., ES volume (as a function of supply capacity only) required is zero.

Standby Storage (SB) for a single source system is two times the ADD, by DOH criteria. SB will increase over time in conjunction with growth to the water system ADD.

Fire suppression storage is a function of the volume and duration of required fire flow. The Skagit CWSP reports that a minimum fire flow of 1,500 gpm for 60 minutes be available for typical residential construction. Commercial and industrial areas may require higher fire flows, as determined by the Fire Marshal. Currently, the Town and Fire Marshal have identified a peak fire flow of 2,000 gpm for one hour as applicable to storage requirements. DOH Eq. 9-4 determines the corresponding FSS volume:

$$\begin{aligned}\text{FSS Volume} &= \text{Fire Flow Rate} \times \text{Time Required} \\ \text{FSS Volume} &= 2,000 \text{ gpm} \times 60 \text{ min.} = 120,000 \text{ gallons}\end{aligned}$$

Dead storage is that volume not available to the water system. The Town's existing reservoir is filled from the high pressure Anacortes and Town transmission mains and an altitude valve is utilized to prevent overflow of the reservoir. The bottom elevation of the tank is above elevation 110 feet so the entire volume is available for the single Town pressure zone (0-100 feet elevation). Therefore, the DS volume for the Town is zero.

The existing and required storage volumes are summarized in Table 3.3.

TABLE 3.3  
STORAGE VOLUME  
(in gallons)

	2009	2010	2011	2012	2013	2014	2019	2024	2029
Operational Storage	0	0	0	0	0	0	0	0	0
Equalizing Storage	0	0	0	0	0	0	0	0	0
Standby Storage	776,900	781,660	786,420	791,180	795,940	800,700	825,520	851,020	877,200
Fire Suppression Storage	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000
Dead Storage	0	0	0	0	0	0	0	0	0
Total Required	896,900	901,660	906,420	911,180	915,940	920,700	945,520	971,020	997,200
Available	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Balance	603,100	598,340	593,580	588,820	584,060	579,300	554,480	528,980	502,800

### 3.3.3 Distribution System

#### A. General Description

The Town's water system begins at the supply source connection with Anacortes. 8" and 14" transmission mains, in parallel, transport the water from the intersection of La Conner-Whitney Road and Young Road to the southern end of the Town. The supply and transmission mains operate at a Hydraulic Grade Line (HGL) elevation of 230 feet (95 psi).

At the intersection of Maple Avenue and Morris Street, the transmission main forks. A 12-inch main extends west and north toward the Port of Skagit County Marina, while the 8" and 14" main continue south and west to the southern limits of the Town.

The transmission main connects to the Town's 1.5 MG storage reservoir, with inflow controlled by an altitude valve. The altitude valve typically maintains the tank water level and corresponding system pressure at an HGL elevation of 180 feet. Under normal operating conditions, much of the Town's demand is fed through the reservoir.

There are also several PRV taps that feed from the 8" and 14" transmission mains into the Town's distribution system. All of these PRV's are set to maintain a slightly lower HGL elevation of 170± feet. The only PRV that is in continuous operation is PRV No. 6 that supplies the north marina basin and surrounding commercial and industrial area.

The Town's distribution system consists of 10", 8", 6" and smaller looped piping. A complete inventory of the Town's in-place facilities is included in Section 1.4. A map of the Town's system, including appurtenances, is included as Figure 1.3.

Available evidence, such as system loss and maintenance inspection, suggests that the overall system is in acceptable condition with isolated locations requiring repair. The majority of system repairs have been made on the Town's oldest pipes and service lines. Corrosion leaks have developed on the steel piping; however, most repairs have been in response to damage from other construction work.

Historically, the Town's maintenance and operations programs have been reactive. The Town performs most system repairs and service line taps. Larger taps (6"+) and major water system repairs are typically contracted out.

Isolation valving and fire hydrants have generally adequate spacing and coverage. The Town does not have a specific program for exercising valves or hydrants.

Insert Table 3.3

## B. Hydraulic Capacity Analysis

The existing water system was analyzed with the computer software program WaterGEMS from Bentley. This program integrates the network analysis methods from the Kentucky Pipe software program (KYPIPE) with the graphical interface of AutoCAD.

The existing data (pipe diameter, length, roughness coefficient, junction demand and elevation, etc.) was used from the *2001 Comprehensive Water System Plan* and was entered into the model. The elevations were converted from NGVD 47 to NAV 88. The smallest pipe included in the model was 2-inch diameter. Water demand was distributed around the system based on review of actual customer water use records. Global demand factors were applied to the base demand distribution to achieve the existing or projected demand (ADD, MDD or PHD) considered in the various runs of the model. A roughness coefficient of 130 was initially assumed for all pipes. Boundary conditions such as reservoir altitude valve settings, PRV setting and normal supply pressure were entered in the model.

The Town verified modifications to the water system in terms of pipe replacement (size and material revisions, if applicable) and new pipe installation, confirmed sizes of PRV's, pressure settings and storage tank settings.

The 2001 peak hour demands were entered into the model to confirm the results were similar to those in the previous comprehensive plan model. Any differences were noted.

On May 16, 2008, four (4) separate fire hydrant flow tests were conducted by the Town's public works department. The tests were made by placing a 2" diffuser on the subject hydrant and then recording static and residential pressures within the Town's system.

The flow test results were then compared to hydraulic model runs for similar conditions. To improve the model's accuracy, the following revisions were required:

- Adding in minor losses for pipe reaches to account for the use of fittings and valves
- Revising the elevation and settings of the PRV's to model the current conditions of service the Town was observing
- Adding in minor losses at the PRV's to account for fittings
- Correctly modeling the PRV's with bypasses
- Adjusting the C factor from 130 to 120 for ductile iron pipes (to account for age)
- Conducting additional fire hydrant testing within the system and adjusting the losses in the model to correctly simulate the Town's current operating conditions



A preliminary fire flow test scenario was run with the criteria of 1,500 gpm required at all nodes. Areas not satisfying the fire flow requirements were identified and those nodes not applicable to fire flow testing were excluded.

Once the base model was calibrated, separate scenarios were created by globally increasing the demand to simulate peak hour demand (PHD) conditions for years 2008 through 2014 consecutively, 2018, 2023 and 2028. Fire flows of 1,500 gpm were introduced at several different junctions.

The Town's current water consumption is lower than the original 2008 forecasted demands. Conservatively, the 2008 hydraulic modeling numbers were used without any revisions for the adjustment in planning years.

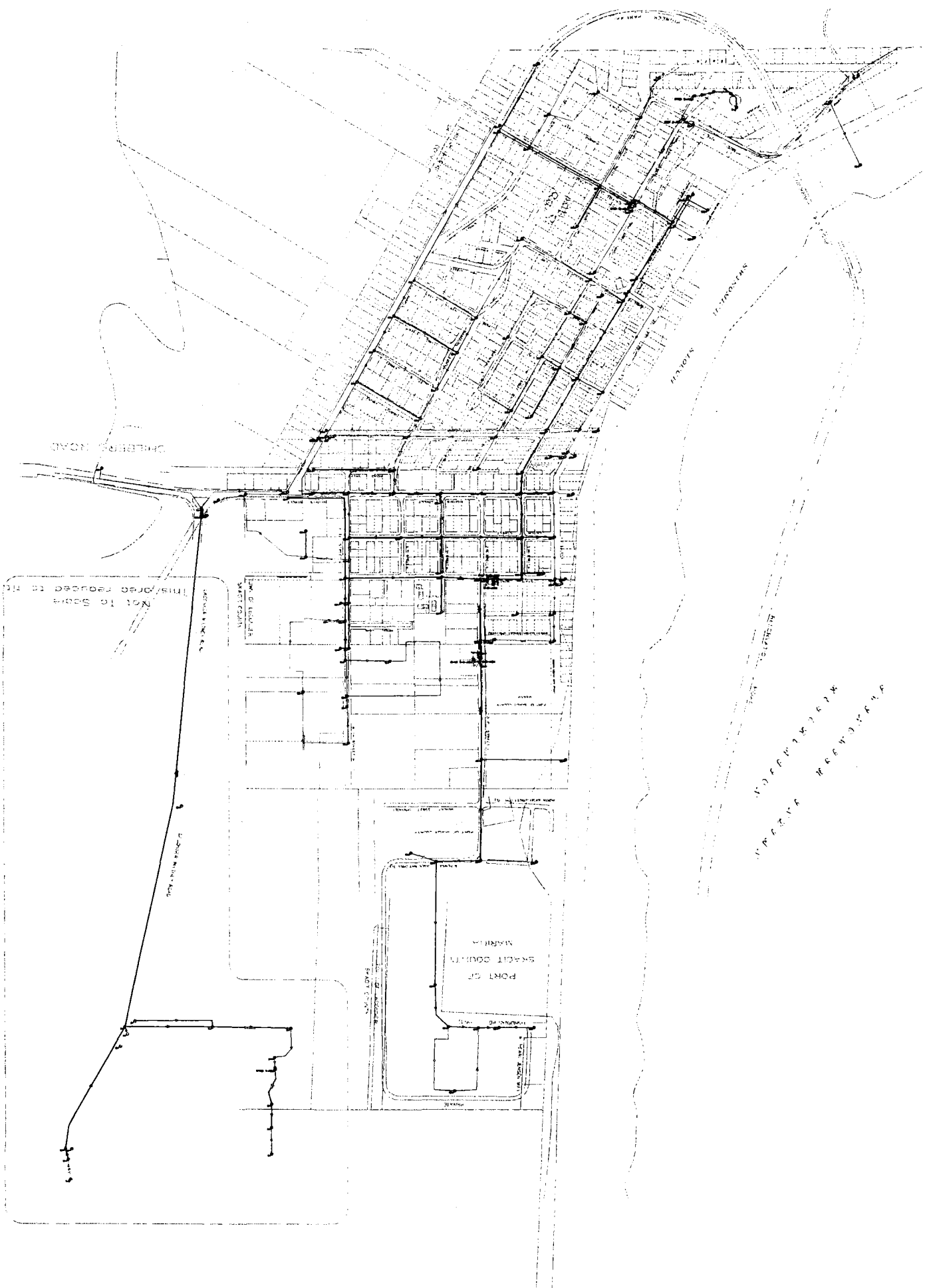
Figure 3.1 indicates the network analyzed, including the node and pipeline numbers. Copies of input and selected output data for the hydraulic analysis is included in Appendix C.

#### C. Skagit Beach Hydraulic Analysis

Skagit Beach (Channel Drive) is a separate community located north of La Conner at the west extent of Downey Road. Fireflow is not available, due to 4" and 2" piping that makes up the local distribution system. The Town has received a few complaints from homeowners along the north portion of Channel Drive, regarding low pressures. The Town has investigated and found that the low pressures were due to domestic water services being used to supply commercial agricultural irrigation. The Town has been in contact with the irrigation users and has limited irrigation use such that it does not impact the domestic users.

The area is fed from the high pressure transmission main in La Conner – Whitney Rd. by 2000 feet of 10" pipe, followed by over a mile of 4" pipe, and finally by 2000 feet of 2". The pressure problem arose due to the irrigators pulling water through the 4" pipe. Part of the solution has been to limit agricultural use to withdrawals through the 10" pipe only.

The existing 4" and 2" system is adequate to supply domestic demand for the platted residential lots, but will not support any additional demand. Any further development will require extending the 10" pipe further east on Downey Road and may require upsizing the 4" piping in Channel Dr.



LEGEND	
2"	
3"	
4"	
6"	
8"	
10"	
12"	
14"	
20"	



FIGURE 3.1

TOWN OF LACONNER  
WATER SYSTEM PLAN  
WATER SYSTEM MODEL

### **3.4 SUMMARY OF SYSTEM DEFICIENCIES**

The following system deficiencies have been identified from the preceding existing system analysis:

#### **Source of Supply**

No deficiencies have been identified.

#### **Storage**

The existing reservoir provides the required storage for the anticipated demands throughout the study period.

#### **Distribution System**

##### **A. General Distribution**

The hydraulic model indicated that the existing distribution system was adequate to meet future peak hour demands in all areas.

The Town personnel have reviewed the frequency of repairs and have included the following projects based upon the poor condition of service of the existing materials:

- Replace undersized main along 4<sup>th</sup> Street North, from Morris to Centre Street.
- Replace main along 1<sup>st</sup> Street South, from Douglas to Morris.
- Replace undersized main on Rainier Street.
- Upsize existing transmission main along La Conner/Whitney.

##### **B. Fire Flow**

Fire flow availability was limited in specific areas due to undersized lines. In order to meet existing and future fire flow requirements of 1,500 gpm for 60-minutes' duration and to promote the establishment of a 10" diameter loop through the Town, the following projects were developed:

- Replace main along 4<sup>th</sup> Street South (Hill top Fire Loop).
- Extend 10-inch main along 2<sup>nd</sup> Street, from Washington to Douglas and from Douglas to Caledonia.
- Upsize main along 3<sup>rd</sup> Street North, from State to Dunlap.

### 3.5 PROPOSED IMPROVEMENT PROJECTS

Table 3.4 lists the projects that are recommended to resolve or eliminate the existing and anticipated system deficiencies. The projects are listed in order with the highest priority projects listed first. The location and extent of the projects is shown on Figure 8.1.

<b>TABLE 3.4 PROPOSED IMPROVEMENT PROJECTS</b>			
<b>Project</b>	<b>Estimated Project Cost</b>	<b>Construction Date</b>	<b>Funding Source</b>
A. 4 <sup>th</sup> Street North Replacement	\$74,200	2014	Town
B. 2nd Street South Main Extension	\$171,356	2010	PWTF/Town
C. 2nd Street Main Extension	\$72,858	2010	PWTF/Town
D. 4th Street South Replacement	\$236,932	2011	PWTF/Town
E. 3 <sup>rd</sup> Street North Upsizing	\$252,350	2012	PWTF/Town
F. 1st Street South Replacement	\$341,700	2013	Town
G. Rainier Street Replacement	\$81,415	2014	Town
H. 12" Transmission Main	\$5,123,758	2020	PWTF/Town
Total Project Cost	\$6,354,567		

**\*\*Note:** All costs shown in 2008 dollars.

## **CHAPTER FOUR**

# **CONSERVATION PROGRAM, WATER RIGHTS ANALYSIS, SYSTEM RELIABILITY AND INTERTIES**

## CHAPTER 4

### CONSERVATION PROGRAM, WATER RIGHTS ANALYSIS, SYSTEM RELIABILITY AND INTERTIES

The State Departments of Health and Ecology co-published the most current conservation planning guidelines in a document entitled *Conservation Planning Requirements*, March 1994. This document provides guidelines for public water systems regarding water use reporting, demand forecasting, and conservation programs. Requirements varied according to the number of connections served by a purveyor. In general, these guidelines state that the selection and implementation of conservation measures were to be determined by comparing the cost of a proposed measure to the benefit value of the water to be conserved.

In 2003, the Washington State Legislature passed the Engrossed Second Substitute House Bill 1338, better known as the "Municipal Water Law." This law amends and clarifies sections of the Revised Code of Washington (RCW) pertaining to public water systems, including requirements for specific water conservation efforts. In summary, the law established that all municipal water suppliers must use water more efficiently in exchange for water right certainty. As regulation, Washington Administrative Code (WAC) 246-290 was amended effective January 22, 2007, to include the final rules developed from the Municipal Water Law. The new DOH code requirements mandate the development of a water use efficiency (WUE) program including WUE planning requirements, WUE goal setting and performance reporting, and distribution system leakage monitoring. For systems that serve less than 1,000 connections, the WUE program must have been implemented by January 22, 2008. Key elements include:

- Development of a WUE program
- Meeting the distribution leak standards
- Establishment of water saving goals through a public process
- Evaluation/implementation of WUE measures to manage water use and to reach the stated goals
- Annual reporting of progress towards meeting water-saving goals and using water efficiently

Group A municipal water suppliers that serve less than 1,000 connections must comply with the WUE requirements and deadlines as presented in Table 4.1A.

**Table 4.1A  
Town of La Conner  
WUE Requirements and Deadlines**

<i>Requirement</i>	<i>Deadline</i>
Install production meter(s)	January 22, 2007
Begin collecting production and consumption data	January 1, 2008
Include WUE program in planning documents	January 22, 2008
Set WUE goals	January 22, 2009
Submit service meter installation schedule	July 1, 2009
Submit first annual performance report	July 1, 2009
Complete installation of all service meters	January 22, 2017
Meet distribution leakage standard (based on 3-year rolling average)	July 1, 2011, or three years after installing all service meters

#### **4.1 WATER USE EFFICIENCY PROGRAM**

##### *4.1.1 Historical Town of La Conner Conservation Program*

The Town of La Conner does not have a formal conservation program. However, the Town has an ongoing meter replacement and leak detection program. They are also using reclaimed water at the wastewater treatment plant as wash water.

##### *4.1.2 Water Use Efficiency Rule Requirements and Town Compliance*

The WUE Rule has several requirements and corresponding compliance dates, as mentioned above in Table 4.1A. Some of the requirements are associated with water system comprehensive plans, while other requirements are independent of the six year water system planning cycle. Table 4.1B lists the requirements and shows that the Town is either currently in compliance or is on track to be in compliance.

**Table 4.1B**  
**Town of La Conner**  
**WUE Rule Requirements and Town Compliance**

<b>New Requirement</b>	<b>Compliance Date</b>	<b>Town in Compliance?</b>
Install production meter(s)	January 22, 2007	Yes – the source from Anacortes is metered.
Begin collection production and consumption data	January 1, 2008	Yes - the Town currently collect data for water purchased from Anacortes and water consumed by the Town.
Include WUE program in planning documents	January 22, 2008	Yes – the Town is implementing WUE in water system plan.
Set WUE goals	January 22, 2009	The Town has not formally adopted WUE goals, however they plan to lay out an action plan and adopt WUE plan by August 31, 2010.
Submit server meter installation schedule	July 1, 2009	All services within the Town's water system are currently metered. Any future services will be metered per the Town's infrastructure improvements manual.
Submit first annual performance report	July 1, 2009	July 1, 2011.
Completed installation of all service meters	January 22, 2017	All services within the Town's water system are currently metered. Any future services will be metered per the Town's infrastructure improvements manual.
Meet distribution leakage standard (based on 3-year rolling average)	July 1, 2011, or three years after installing all service meters	Yes – the Town meets the distribution system leakage of less than 10 percent of the annual production.

#### **4.1.3 Current Conservation Measures**

The Town's current conservation measures include:

- Source meters
- Service meters
- Leak detection and repair
- Using reclaimed water

##### **Source Meters**

The Town receives its source of supply from the City of Anacortes. There currently is a source meter installed.

##### **Service Meters**

All permanent and temporary service connections are metered.



### Leak Detection and Repair

The Town has an ongoing meter replacement and leak detection program.

### Reclaimed Water

The Town currently uses reclaimed water from the wastewater treatment plant as wash water.

#### *4.1.4 Estimated Savings Achieved by Historical Program*

There is no data available to make a direct comparison, however erring meters and minor system leaks in a poorly maintained system can easily account for 20% to 50% of water.

#### *4.1.5 Water Conservation Goal*

The Town's water conservation goals are to maintain unaccounted-for water to less than 10 percent. The Town plans to meet these goals by conducting a public relations program to remind customers to report inordinately high water bills and obvious leaks, conduct monthly reconciliation between water purchased and water billed, obtaining professional assistance, when deemed necessary, to trace and repair water system leaks.

#### *4.1.6 2008 – 2013 Water Conservation Measures*

The Town's conservation program for 2009 – 2014 consists of seven (7) conservation measures listed in Table 4.2. The program continues the existing measures as well as includes additional measures the Town can implement to further conserve water.

**Table 4.2  
Town of La Conner  
2009 - 2014 Conservation Program  
Conservation Measures**

Measure Description	Type			Implementation Schedule
	Internal (supply side)	External (demand side)	Customer Information	
1. Source Metering		X		Already in place
2. Customer Metering	X			Already in place
3. Leak Detection & Repair	X			Already in place
4. Reuse of Reclaimed Water		X		Already in place
5. Bill Showing Consumption History	X			2009-2014
6. Customer Information/Program Promotion			X	2009-2014
7. Bill Stuffers			X	2009-2014

#### Source Metering

This measure is currently in place. The Town will continue to maintain the source meter.

#### Customer Metering and Leak Detection and Repair

These measures are currently in place. The Town will continue to meter any new connections to the water system and the ongoing replacement and leak detection program, utilizing outside technical assistance where necessary.

#### Reuse of Reclaimed Water

This measure is currently in place. The Town may consider additional uses for reclaimed water throughout the service area, as they become financially viable.

### Customer Information/Program Promotion

The Town will consider participating in newspaper advertising to further customer's information on water conservation.

### Bill Stuffers

The Town will include informational brochures semi-annually with customer's monthly statements. One of those stuffers may include toilet tank leak detection dye tables.

#### *4.1.7 Customer Education*

To promote customer education, the Town plans to conduct a public education program on the conservation of water in conjunction with the required annual consumer confidence report. The Town may also institute a citizens' utility advisory committee to promote water conservation, participate in setting utility rates, and set priorities for improvements. In addition, the Town will be a leader by example to the public by making every effort to reduce water consumption in government facilities and adopt development codes that are receptive to new ideas and technologies for reducing water consumption.

#### *4.1.8 Projected Water Savings*

Given the Town's already low gpd/ERU of 170, the expectation of significant savings would not be realistic. The Town's main goal will be to maintain their modest use with a sub goal of reducing demand by 2% over the next 6 years.

#### *4.1.9 Evaluations/Performance Reporting*

A report must be made available to DOH, water customers, and the public by July 1<sup>st</sup> of every year. The report consists of total annual production, water distribution leak standards, WUE goals and progress on goal achievement from the previous year. The reporting requirement can be fulfilled by including the performance information in the Town's annual Customer Confidence Report (CCR).

#### *4.1.10 Measurable Outcomes*

The 2009 – 2014 WUE Conservation Program will aim to:

- Maintain the Town's unaccounted-for water to less than 10 percent.
- Reduce gpd/ERU by 2%.

#### *4.1.11 Goal Achievement Timeline*

Achievement of the Town's conservation goals will take place during the proposed six-year conservation program. The performance will be evaluated annually and if the program measures do not appear to be meeting the established conservation goal, appropriate modifications may be made to ensure the program's success.

#### *4.1.12 Distribution Leak Standard*

Under the WUE, all municipal water suppliers must maintain their distribution system leakage levels at or below 10 percent of their annual production, based on a rolling three-year average. If water suppliers are not meeting the standard, a Water Loss Control Action Plan must be developed and implemented.

The Town's three-year rolling average for water loss during the period January 2006 to July 2008 was 7.20%. Water loss totals, in percentage and volume, for this period are provided in Table 4.4.

The Town's current meter replacement and leak detection program has been very successful. Water loss during the early 1990's routinely exceeded 14%.

**Table 4.4**  
**Town of La Conner**  
**Water Loss January 2006 - July 2008**

	Anacortes Billed (gal)	La Conner Billed (gal)	Loss (gal)	Loss (%)	Yearly Average
Jan-06	7,841,284	7,672,655	(168,629)	-2.2%	
Feb-06	7,092,536	6,762,616	(329,920)	-4.7%	
Mar-06	8,065,684	7,077,621	(988,063)	-12.3%	
Apr-06	7,985,648	7,574,816	(410,832)	-5.1%	
May-06	12,226,808	11,612,909	(613,899)	-5.0%	
Jun-06	12,746,668	11,373,579	(1,373,089)	-10.8%	
Jul-06	19,270,724	17,728,124	(1,542,600)	-8.0%	
Aug-06	22,098,164	22,392,517	294,353	1.3%	
Sep-06	15,147,748	14,572,760	(574,988)	-3.8%	
Oct-06	9,980,564	9,074,497	(906,067)	-9.1%	
Nov-06	7,837,544	7,170,350	(667,194)	-8.5%	
Dec-06	8,331,972	7,274,158	(1,057,814)	-12.7%	<b>-6.7%</b>
Jan-07	8,488,304	7,238,329	(1,249,975)	-14.7%	
Feb-07	7,173,320	6,120,742	(1,052,578)	-14.7%	
Mar-07	8,138,240	6,586,252	(1,551,988)	-19.1%	
Apr-07	8,922,892	8,012,082	(910,810)	-10.2%	
May-07	12,490,104	10,703,917	(1,786,187)	-14.3%	
Jun-07	13,814,812	12,275,907	(1,538,905)	-11.1%	
Jul-07	18,339,464	16,973,631	(1,365,833)	-7.4%	
Aug-07	19,044,828	17,753,780	(1,291,048)	-6.8%	
Sep-07	13,967,404	13,868,975	(98,429)	-0.7%	
Oct-07	9,297,640	8,771,639	(526,001)	-5.7%	
Nov-07	7,970,688	6,812,088	(1,158,600)	-14.5%	
Dec-07	8,198,080	6,728,155	(1,469,925)	-17.9%	<b>-11.4%</b>
Jan-08	8,032,024	8,327,334	295,310	3.7%	
Feb-08	7,373,036	7,591,961	218,925	3.0%	
Mar-08	7,640,072	6,666,011	(974,061)	-12.7%	
Apr-08	8,138,315	7,693,756	(444,559)	-5.5%	
May-08	8,520,274	8,290,480	(229,794)	-2.7%	
Jun-08	11,023,126	10,641,826	(381,300)	-3.5%	
Jul-08	20,995,290	19,479,536	(1,515,754)	-7.2%	<b>-3.6%</b>

#### 4.1.13 Evaluation of Rate Structure

The Town conducted a water rate study with Katy Isaksen and Associates in the Fall of 2008, with final rates adopted in April 2009. The results of that study are reflected in Chapter 9.

#### *4.1.14 Evaluation of Reclaimed Water*

At this time, the Town of La Conner uses reclaimed water from the wastewater treatment plant as wash water.

#### *4.1.15 Water Supply Characteristics*

The Town of La Conner's water system was originally constructed around 1930 and supplied with water by the City of Anacortes. The Town's current contract with the City of Anacortes is for 162 million gallons, however the average amount purchased in 2006 was approximately 139 million gallons. The water from the City of Anacortes is pumped out of the Skagit River. It is treated at their water treatment plant and then pumped to a 3 million gallon reservoir. From there it is distributed throughout the City and sold to numerous purveyors, including the Town of La Conner.

The Town has a contract with the community of Shelter Bay for wholesale water. The Contract with Shelter Bay sets a limit of 20.0 million cubic feet per year, of which Shelter Bay uses approximately 9.0 million cubic feet.

The Town of La Conner does not directly hold any water rights. The City of Anacortes owns the water rights and has a contract with the Town. The City of Anacortes is obligated to deliver to the Town water derived from their rights, permits and claims.

## **4.2 SOURCE OF SUPPLY ANALYSIS**

The Department of Ecology requires water purveyors to demonstrate consideration of opportunities to optimize or obtain the use of existing sources already developed. An evaluation of other innovative methods to meet water needs should also be included. The source of supply should include analysis of the feasibility and cost effectiveness of implementing the alternatives in lieu of new source development. These alternatives are discussed below.

### *4.2.1 Enhanced Conservation Measures*

The Town is not considering alternative sources of supply at this time. Potential future options for additional water supply include enhanced conservation measures, such as those required for medium sized systems. Enhanced conservation measures are included in the Town's WUE program as described in Section 4.1 above.

#### *4.2.2 Water Right Changes*

The Town's supply is by wholesale agreement with the City of Anacortes. The current contract amount is for 162 million gallons. In 2006, the actual use was approximately 139 million gallons. The City of Anacortes reviews and amends the wholesale agreement on a three-year cycle.

#### *4.2.3 Interties*

The Town currently has an intertie with the Shelter Bay Community (including Eagle's Nest).

#### *4.2.4 Artificial Recharge*

Artificial recharge is the injection or infiltration of available surface water, typically from winter flow or other available water into an aquifer and its subsequent withdrawal. This potential supply method is not an option for the Town.

#### *4.2.5 Use of Reclaimed Water, Reuse, and other Non-Potable Sources*

The Town currently uses reclaimed water from the wastewater treatment plant as wash water.

#### *4.2.6 Treatment*

The Town's water is currently treated by the City of Anacortes. The type and level of treatment will need to be determined at such times as the sources are identified and located.

### **4.3 WATER RIGHT EVALUATION**

The Town does not directly hold any rights. The City of Anacortes owns the water rights and pursuant to a wholesale water supply contract with the Town, the City of Anacortes is obligated to deliver to the Town water derived from their rights, permits and claims.

### **4.4 WATER SUPPLY RELIABILITY ANALYSIS**

#### *4.4.1 Source Reliability*

The Town presently purchases all of its water from the City of Anacortes. The supply projections provided in the City of Anacortes's current Comprehensive Plan indicate that the City of Anacortes has adequate supply to meet the needs of the Town. This amount of supply is adequate to meet the Town's demand

forecasts, with conservation benefits, for at least six years. See Chapters 2 and 3 for more information regarding sources of supply.

As with source capacity, the City of Anacortes maintains the water quality of the water distributed by the Town. Per the City's current Comprehensive Plan, the reliability of the City's treatment facilities is considered extremely well.

#### **4.4.2 *Water Rights Adequacy***

The Town has no direct water rights.

#### **4.4.3 *Water Shortage Response Planning***

The Town has prepared a draft Emergency Response Plan which includes specific details regarding water shortage. For short-term outages, the Town will temporarily disconnect or disable non-essential connections. For longer-term outages, the Town will implement the use of trucking water from other areas as needed in addition to having customers heavily conserve water. A copy of the draft plan is included in Appendix D.

#### **4.4.4 *Well Monitoring Program***

The Town does not have any monitoring wells in their service area.

### **4.5 INTERTIES**

The Town has two interties currently in use: supply from the City of Anacortes and wholesale supply to the Shelter Bay Community. A previous intertie supplying water westerly to the Swinomish Tribal Community has not been used or maintained in several years. The two existing interties are described in Table 4.5. Current agreements associated with each intertie are included in Appendix A.



**TABLE 4.5  
EXISTING INTERTIES**

Parameter	Anacortes Intertie	Shelter Bay Intertie
Location (General)	On La Conner-Whitney Road approximately 300 feet south of SR 20.	East side of Swinomish Channel, approximately 200 feet south of Rainbow Bridge
Location (Lat./Long.)		
Date of First Use	1930's	1970
Purpose	Purchase of municipal/irrigation industrial water supply	Wholesale supply of municipal/irrigation water
Service Area	Town's water service area	Shelter Bay Community including Eagle's Nest
Current Use	Municipal/Industrial Supply	Municipal/Irrigation Supply
Meter	14" Hersey and 2" Bypass	6"

#### *4.5.1 Proposed Interties*

There are currently no new interties planned.

## **4.6 IDENTIFICATION OF SYSTEM IMPROVEMENTS**

### *4.6.1 Data Collection*

Currently, the Town is not accurately tracking Accounted For Non-Revenue Water. This, in turn, introduces an error in determining the actual water system losses. We recommend that all non-revenue water demand (metered or not) be estimated and recorded on a monthly basis. See Chapter 6 for further discussion.

### *4.6.2 Data Management and Reports*

Each month, the Town staff manually enters water service readings into the Town's computer-based billing system. The billing program generates the monthly or annual reports consistent with the data collection requirements outlined in Tables 4.1A and 4.1B.

Monthly analysis of meter readings is a valuable tool to assist the Public Works Department in managing the water system. Calculation of system losses should occur as soon as the data is available. A sudden increase or decrease in system losses may indicate a supply meter error or a major pipeline break that is not evident on the surface.

#### 4.6.3 Conservation Program Promotion

As listed in Section 4.1, the Town needs to implement additional program promotion.

Program Promotion can take several varied levels of involvement. The goal is to educate the customer base on the effects and means of water conservation.

There are several common practices that are feasible for La Conner, including:

Newspaper Advertising – Participate with other local water systems in financing advertisements.

Billing Insert Mailings – Include informational brochures with monthly statements.

- Include toilet tank leak detection dye tablets with monthly statements.

We recommend that this be done through inserts to the monthly water bill. The Town may develop its own material or may use inserts available from DOH, AWWA or other sources. The Town should set a goal of one promotion per quarter and establish an initial budget of \$1.00 per year per account, or approximately \$ 800 per year.

As Shelter Bay comprises a large portion of the Town's total demand, Conservation Program effectiveness will be increased if coordination and cooperation can lead to similar program promotion within the Town's wholesale users. When wholesale agreements are revised, Water Conservation Program requirements should be addressed and included.

# **CHAPTER FIVE**

## **SOURCE PROTECTION**

## **CHAPTER 5**

### **SOURCE PROTECTION**

#### **5.1 GENERAL**

As identified in Chapters 1, 2 and 3, the Town of La Conner purchases all of its water from the City of Anacortes. The City of Anacortes owns and operates a water treatment plant and the water transmission pipes leading from the plant to the Town's connection point. The Water Treatment Plant has a surface water intake structure located in the Skagit River east of Avon.

The Town has participated in the development of the Skagit County Coordinated Water System Plan and the Anacortes Comprehensive Water Plan. The Town will continue to support area-wide planning efforts and meet the terms of any agreements between the Town and the City of Anacortes. Authority for development and implementation of source protection lies with the City of Anacortes, other holders of water rights to the Skagit River Watershed and Skagit County government.

**CHAPTER SIX**

**OPERATION AND  
MAINTENANCE PROGRAM**

## **CHAPTER 6**

### **OPERATION AND MAINTENANCE PROGRAM**

#### **6.1 WATER SYSTEM MANAGEMENT AND PERSONNEL**

The Town of La Conner acquires all of its potable water from the City of Anacortes; therefore, the Town of La Conner does not own or operate water treatment and source of supply facilities. System components include only transmission, distribution and storage facilities.

The water system's business address is:

La Conner Water Department  
Post Office Box 400  
La Conner, Washington 98257

The Town's Public Works Department is comprised of four full-time employees including the director. The Public Works staff is responsible for the day-to-day field operations of the water system, stormwater system, transportation system and general Town maintenance.

Public Works Director:	Brian Lease
	Work Phone: (360) 466-3933

Administrative duties are divided between the Town Planner, the Public Works Supervisor and the Town's administrative staff. Budgets are approved by the Town Council.

The water system duties of the Public Works Director and operators include:

- Periodically inspect the water storage tank,
- Obtain required water samples and submit to approved laboratory for testing,
- Investigate complaints and reported problems,
- Locate water facilities as requested,
- Respond to emergency situations in the appropriate manner,
- Repair, or cause to be repaired, line breaks, valve or storage tank problems,
- Read water meters on a monthly cycle,
- Monitor, log, and calculate water loss statistics,

- Investigate and resolve reported cross-connection problems,
- Capital improvement budget formulation,
- Implementation of improvement program.

The duties of the Town administrative staff include:

- Maintain the Water Department's accounts and records.
- Produce and mail billing from meter readings obtained from the Public Works staff.

## **6.2 OPERATOR CERTIFICATION**

The Public Works Supervisor is certified as a Water Distribution Manager I. A copy of staff certifications is included in Appendix D.

## **6.3 SYSTEM OPERATION AND CONTROL**

### **6.3.1 System Components**

The water system includes the following (see Figure 1.3):

- 1.5 million gallon storage tank
- pipelines ranging in size from ¾ inch to 14 inch
- isolation valves
- pressure reducing valves (PRV's)
- altitude valve
- service meters
- fire hydrants

### **6.3.2 Routine System Operation and Maintenance**

#### **Storage Tank**

The Water Department conducts a visual inspection on a weekly basis. The tank should be observed for signs of leakage. The coating on the tank and exterior ladder should be checked for boiling or delamination. Any deficiencies in the coating system should be scheduled for repair in order to prevent excessive oxidation. Operation of the reverse level sight gauge should be checked.

### Pipelines

The Water Department maintains a stock of repair couplings and pipe fittings. The department performs most emergency pipeline repairs. Large diameter ( $\geq 4''$ ) water main taps are contracted.

### Isolation Valves

Valves should be exercised annually as part of a valve maintenance program. Valve covers should be inspected for damage and replaced as necessary.

### PRV's and Altitude Valve

These valves should be visually inspected for damage on a weekly basis. Strainers should be cleaned semi-annually. Isolation valves should be exercised annually.

### Meters

Meters that are not operating or not operating satisfactorily are identified by the meter readers and repaired or replaced as necessary.

### Fire Hydrants

Fire hydrants should be inspected annually. Operation of the main valve should be verified. The valve should be exercised. Hose and pumper threads should be checked for damage as well as conformity to local fire department requirements. Caps should be checked for damage and ease of removal. Cap gasket should be checked and replaced as necessary. Hydrants should be flow tested and test documents filed for reference. Fire hydrant access should be clear of obstructions. Hydrants should be painted as necessary. Identified deficiencies should be addressed as soon as possible.

## **6.3.3 Equipment and Supplies**

As stated in the previous section, the Town maintains a stock of repair couplings. Repair parts for pipe sizes ranging from  $\frac{3}{4}$  inch to 14 inch are stocked. Needed repairs or minor improvements that cannot be performed by Town staff are contracted to local contractors. The Town maintains an inventory of service meters from  $\frac{3}{4}''$  to 2'' as well as meter setters.



## 6.4 WATER QUALITY MONITORING

The Town is required to perform bacteria testing once per month. This testing is performed at random locations selected by the Public Works Supervisor. The Town maintains a historical record of test locations.

The Town had been testing the water system for chlorine residual in the early 1990's. As the Town does not own or operate any disinfection facilities, the Public Works Director notified the Department of Health in 1996 that the Town would be discontinuing its chlorine monitoring. At that time, the Town's Public Works Director instituted a policy of testing chlorine daily. The Public Works Dept. has implemented the monitoring schedule shown in Table 6.1. A copy of the Town's Coliform Monitoring Plan is included in Appendix D.

**TABLE 6.1  
WATER UTILITY  
WATER QUALITY MONITORING PROGRAM**

Sample	Schedule	Location	Notes
Coliform Bacteria	1 <sup>st</sup> Monday of Month	Even Months – Town Hall Odd Months – PW Shop	Specific notification and retest requirements if test fails.
Chlorine Residual	Each work day	Typical – PW Shop Sub once per week: Skagit Beach, Town Hall North Marina Pioneer Park	Rotate subs such that each remote location is sampled at least once per month.  Send monthly report to DOH
Trihalomethanes	Yearly, each summer	2 total, same as Chlorine (above) alternate years	
Lead & Copper	Every Third Year, last 2000, Next 2003	10 representative samples	
Asbestos	Every Ninth Year, last 1999, Next 2008	Representative sample	
** Copies of all monitoring to be kept on file at PW office. **			

## **6.5 EMERGENCY RESPONSE PROGRAM**

The following are emergency procedures for typical Water Department emergencies.

### Water Line Break

- Contact the Public Works Director  
Phone: (360) 466-3933
- If the Public Works Supervisor cannot be reached, contact the Town's Emergency Contractor (Cuz Concrete)  
Phone: (360) 435-5531
- Inform the Contractor of the location of the break.
- Go to the location of the break. Close gate valves as necessary to isolate the break.

### Loss of Supply

The loss of the Anacortes supply can be quickly identified into one of two conditions:

- A. Loss of supply upstream of Anacortes master meter. Repairs required are the responsibility of the City of Anacortes.
  - 1. Verify lack of pressure and flow by observing pressure gauge and flow meter in master meter vault.
  - 2. Notify City of Anacortes.
  - 3. Notify Shelter Bay.
- B. Loss of supply downstream of Anacortes Master Meter (Town's Transmission Lines). Repairs required are the responsibility of the Town.
  - 1. Isolate the problem.
  - 2. Notify Shelter Bay.
  - 3. Proceed with repair.

## **6.6 SAFETY PROCEDURES**

The Water Department is frequently involved in water main repair and replacement projects that expenses them to heavy construction activities and Asbestos Cement Pipe. First-Aid kits should be located at the Water Shop and in all vehicles. All of the current Water Dept. personnel have received First-Aid training.

As noted in the water system inventory, a large portion of the existing system piping is Asbestos Cement (AC) Pipe. Asbestos is a hazardous material that is regulated locally by the Northwest

Air Pollution Authority (360) 428-1617. Patching, cutting and the disposal of AC pipe has specific operation and notification requirements.

Several of the Water Dept. staff members have completed training. The Department of Labor and Industries oversees and certifies worker training. Only a certified asbestos worker may cut AC pipe or evaluate the asbestos hazard on an AC pipe repair. Before a planned AC pipe replacement project proceeds, notification must be given to Northwest Air Pollution Authority (NWAPA). Additionally, notification may be given during or immediately after an emergency repair. A copy of NWAPA regulations, Section 570 – Asbestos Control Standards is included in Appendix D.

## **6.7 CROSS-CONNECTION CONTROL PROGRAM**

Washington State regulations place the primary responsibility for control of cross-connections with the water purveyor (La Conner). In 1979, the Town adopted Ordinance 464 which established cross-connection control requirements. However, the Town had not fully implemented policies and practices that would satisfy current regulations. In 1999 the Town adopted Ordinance 748 creating a Cross Connection Control Program. A copy of the program and ordinance is included in Appendix A.

An approved backflow prevention device is required on all cross-connections, or possible cross-connections. Each device is required to be inspected and tested prior to commissioning and on an annual basis thereafter.

The cross-connection control program includes the following elements.

- A Cross-Connection Control Specialist (CCS) will be delegated the responsibility and authority to organize and carry out the cross-connection control program. The specialist will be instructed as to the causes and hazards of unprotected cross-connections. Currently the Town has trained two of the Public Works staff as CCS.
- All existing facilities where cross-connections are suspected will be listed on a priority basis and inspected.
- Provisions will be made to route all applications for new services or for enlarging services through the CCS.
- All new construction is inspected for possible cross-connections. Plans are reviewed before construction.
- A list of backflow devices approved by the Department of Health is made available to each water user required to provide backflow protection.
- Adequate records, including date of inspection, results of inspection, recommended protection, list of all reduced pressure principle backflow devices (RPBE), double

check valve assemblies (DCVA and air gaps in the system, test and maintenance reports, and all correspondence between the Town, DOH, and the customer is kept and filed for reference.

- A program has been established to notify the customer as to the date when his backflow device is to be tested. (Most regulations required a minimum of once each year.) After installation, a device must be tested and approved before it is accepted by the Town.
- All test reports received on the backflow prevention will be updated into the computer records of history, ownership and maintenance will be kept current.

If an immediate hazard to health is caused by the cross-connection, water service to the premises will be discontinued until the cross-connection has been corrected.

Failure of the customer to cooperate in the installation, maintenance, testing or inspection of backflow prevention devices is grounds for the termination of water service to the premises or the requirement of an air gap separation. Authority to terminate the water service is included in the State regulations.

## **6.8 COMPLAINTS**

The Town has a formal system for handling complaints. See Section 1.11 for further discussion. Complaints, labor hours and materials (associated with complaints) should be tracked monthly to provide a yearly summary. The summary may assist in identifying specific problem lines or general areas of consumer dissatisfaction.

## **6.9 RECORDS AND REPORTS**

The Town administrative staff maintains all records pertaining to water use, billings, receipts and water utility financial records. The Public Works Director maintains records regarding the system facilities, utility locate requests, repairs, water quality monitoring and reporting.

The Town should monitor and document Non Revenue Water / Water Loss on an ongoing basis. To accomplish this, the operator should maintain an ongoing log of:

- Water Purchased (Monthly reading)
- Water Sold, by Customer Class (Monthly reading)
- Water Sold through temporary connections (ie. Fire hydrant meters)
- Estimated Water Loss through Operations or Maintenance ( ie. Line flushing, break repairs)

It is recommended the Town set up a “dummy” account with a billing rate of zero, to account for loss/consumption on water line breaks and for fire hydrant flushing.

By tallying all known incoming and outgoing water, the Town will have a realistic value of true water loss. The record should be ongoing, as meter reading timing differences will average out over a longer period of time. Also, all water use account records should be reviewed on a yearly basis. Significant or steady increases may indicate a line break or a change of use. A steady or sudden decrease may indicate a failing water meter

#### **6.10 OPERATIONS AND MAINTENANCE IMPROVEMENTS**

Several operations and maintenance improvements are discussed throughout this plan. Most of these concern administration functions and may cause an increase in the workload for the Water Department staff. The following is a summary of the recommended changes:

- Ensure compliance with asbestos control standards.
- Maintain a record of non-revenue water use.
- Maintain records of bacteriological sampling.
- Implement a routine schedule of valve inspection and exercising.

## **CHAPTER SEVEN**

# **DESIGN AND CONSTRUCTION STANDARDS**

## CHAPTER 7

### DESIGN AND CONSTRUCTION STANDARDS

#### 7.1 PROJECT REVIEW PROCEDURES

The Town of La Conner requires that all extensions or improvements to the Town's water system be approved by the Town. Application for a proposed project may be made directly to the Public Works Director. However, most projects will be handled through the Town Planner's office due to complexity and multiple permits required. Project application forms are available at the Town's offices.

In general, developers are given the choice of selecting their own engineer or utilizing the Town's Engineer to develop construction plans and specifications. La Conner Municipal Code 12.20 further details development requirements.

Before any project is approved for construction, it should be thoroughly reviewed by:

<u>Position</u>	<u>Responsibility</u>
Town Planner	Environmental and Growth Impacts Zoning Compliance Permit Requirements
Public Works Director/Town Engineer	Water System Impacts Shutdowns or Outages Cross-Connection Control Placement and Access Compliance with Standards

#### 7.2 DESIGN STANDARDS

The Town of La Conner has developed an *Infrastructure Improvements Manual*, which provides guidance for the installation, repair, replacement, or extension of streets and certain utilities furnished by the Town. The manual describes the process, includes checklists and forms, and provides design standards for streets, water, sewer, and storm drainage improvements.

The *Infrastructure Improvements Manual* was submitted to DOH for review and approval in May 2008. A copy of DOH's approval letter is included in the Appendices.

### **7.3 CONSTRUCTION CERTIFICATION AND FOLLOW-UP PROCEDURES**

All construction activity related to the Town's water system must be coordinated through the Water Department. The Town may inspect the construction and will perform testing prior to authorizing connection to a potable water main. All inspection and testing costs are to be paid by the Developer.

Testing may include soils compaction, pressure and purity, as applicable. Backflow prevention devices must be initially tested and certified prior to being placed in service.



# **CHAPTER EIGHT**

## **IMPROVEMENT PROGRAM**

## **CHAPTER 8**

### **IMPROVEMENT PROGRAM**

#### **8.1 OVERVIEW**

Chapter 3 of this plan presents the analysis and development of needed Capital Improvements to be undertaken within the next six years. Table 8.1 lists the recommended improvements and their estimated cost. The items have been prioritized and scheduled based on current information.

#### **8.2 CIP FUNDING**

As detailed in Chapter 9, it has been assumed that all CIP projects will be funded through a combination of cash-on-hand, connection charges and loans. It is not possible to accurately predict the actual amount of connection charge revenue or successful grant applications that will be available in any given year. Cost Estimates for each project are included at the end of this Chapter.

Table 8.1

## Town of LaConner

## Water Capital Improvement Plan

Map Letter	Year	Project Name	Description	Estimated Project Cost
A	2014	4th Street North Replacement	Undersized Replacement	\$74,200
B	2010	2nd Street South Main Extension	Washington to Douglas	\$171,356
C	2010	2nd Street Main Extension	Douglas to Caledonia	\$72,858
D	2011	4th Street South Replacement	Hilltop Fire Loop	\$236,932
E	2012	3rd Street North Upsizing	State to Dunlap	\$252,350
F	2013	1st Street South Replacement	Douglas to Morris - Size and Condition	\$341,700
G	2014	Rainier Street Replacement	Undersized Replacement	\$81,415
H	2020	12" Transmission Main	La Conner/Whitney	\$5,123,758

**\$6,354,567**



Date: 7/17/2008

## COST ESTIMATE

Checked: EH

Type: CIP

**Capital Improvement**  
**4th St. N. Replacement**

[illegible]

Date: 7/17/2008

Project #: 200712

## COST ESTIMATE

By: bp

Checked: EH

C : Town of La Conner

Subject: Water System Plan

Type: CIP

<b>Capital Improvement</b>	Type:
<b>2nd St. S. - Washington to Douglas</b>	

[illegible]

Date: 7/17/2008

## COST ESTIMATE

By: bp

Subject: Water System Plan

Capital Improvement Type: CIP

Type: CIP

**2nd St. S. - Douglas to Caledonia**

[illegible]

Date: 7/17/2008

Project #: 200712

## COST ESTIMATE

By: bp

Checked: EH

C : Town of La Conner

Subject: Water System Plan  
Capital Improvement  
4th St. S. Replacement

Type: CIP[illegible]



Date: 7/17/2008

## COST ESTIMATE

Checked: EH

**Subject: Water System Plan**  
**Capital Improvement**  
**3rd St. N. Upsizing**

Type: CIP[illegible]



Date: 7/17/2008

Project #: 200712

## COST ESTIMATE

By: bp

Checked: EH

**Town of La Conner**

Subject: Water System Plan

### Capital Improvement

Type: CIP

## Rainier Street

NO	DESCRIPTION	QUANTITY		MATL.	LABOR	EQUIP.	MISC.	TOTAL	EXTENSION
		MEAS	UNITS						
1	Mobilization	1	LS					\$5,000.00	\$5,000.00
2	8" D.I. - in place	450	LF					\$50.00	\$22,500.00
3	8" Gate Valve, box and cover	2	EA					\$1,000.00	\$2,000.00
4	Service Tap to Existing Meter	10	EA					\$380.00	\$3,800.00
5	Hot Tap to Existing Main	2	EA					\$1,500.00	\$3,000.00
6	Fire Hydrant	1	EA					\$2,500.00	\$2,500.00
7	Asphalt Repair (3ac/6cr)	550	SY					\$22.00	\$12,100.00
								subtotal	\$50,900.00
					Eng. =	Min.	Allied%	25.0%	\$12,700.00
								6 Year Contingency at 35%	\$17,815.00
								Project Total	\$81,415.00

Date: 7/17/2008

Project #: 200712

## COST ESTIMATE

By: bp

Owner: **Town of La Conner**

**Subject: Water System Plan**

Checked: EH

### Capital Improvement

Type: CIP

**Transmission Main - La Conner/Whitney**

[illegible]

# **CHAPTER NINE**

## **FINANCIAL PROGRAM**

## **CHAPTER 9**

### **FINANCIAL PROGRAM**

#### **9.1 RATE STUDY**

During the fall of 2008, the Town of La Conner contracted with Katy Isaksen & Associates (KIA) to complete a rate study. The projected revenues and operation and maintenance expenses were based on the 2008 budget, actual experience, known differences and key assumptions. A rate model was developed and the results were presented to the Town for input. After assumptions were refined, final recommendations were presented to the Town Council in the spring of 2009. Final water rates were approved by the Council and went into effect for the 2009-2010 period. A summary of KIA's rate study is included in Appendix E.

#### **9.2 IMPROVEMENT PROGRAM FINANCING**

The following projects are proposed as part of the CIP program. For each project identified, a possible funding source is identified. It is assumed that the Town would first fund the project out of its cash reserve account, rate increases, and new customer revenues. If adequate funding is not available from the cash reserve account, then it is assumed that the Town will apply for loans from the Public Works Trust Fund or other sources. This is summarized in KIA's summary.

#### **9.3 FINANCIAL VIABILITY TEST**

The Financial Viability Test (FVT) requirements for Group community water systems under 1,000 connections consist of four related financial tests. The FVT covers the six-year planning period in the WSP. The first three individual tests examine the adequacy of the utility's operating budget, operating cash reserve, and emergency reserve. The fourth test, the household income index analysis, allows the utility and the DOH to evaluate the water rate impact on system users of existing and additional operating procedures and/or capital improvements. All four individual tests are discussed in detail below.

##### **Test No. 1 - Develop an Operating Budget**

The first test requires the utility to develop an operating budget that demonstrates sufficient revenue to meet all of its incurred expenses. The initial operating budget is for a six-year period. Updates to the budget should be completed at least every three months, including impacts from projects and activities identified in the utility's Water System Plan.

To pass the test, revenues must be greater than expenses. Based on KIA's study, the Town of La Conner will use funds from their reserves; however will maintain an estimated ending balance

for each year within the six-year period of over \$300,000. Detailed information from KIA's study is included in Appendix E.

### **Test No. 2 - Create and Fund an Operating Cash Reserve**

The second test requires the utility to develop and fund an Operating Cash Reserve. The Operating Cash Reserve is essentially the "check-book balance" a utility must maintain to meet cash flow needs and provide contingency funds for unforeseen operating emergencies. Most utilities attempt to keep at least 1/8 of their annual operating and maintenance (O&M) and general and administrative (G&A) expenses in an Operating Cash Reserve to prevent potential cash flow problems. This 1/8 annual operating budget figure is established by DOH as Test No. 2.

Per KIA's study, the Town will maintain over their minimum target of \$50,000 in cumulative reserve during the six-year period (see summary in Appendix E for more information). Therefore, the Town of La Conner also passes this test.

### **Test No. 3 - Create and Fund an Emergency Reserve**

The third test requires the utility to demonstrate its ability to cover the costs of an emergency or failure of its most vulnerable system component. This can be accomplished either by 1) developing and funding an Emergency Reserve, or 2) obtaining an alternative financing arrangement. Generally, replacement of a production well, a source of supply, the largest pumping equipment, or key transmission lines represents the most expensive and difficult facility to replace and is used to estimate the minimum Emergency Reserve amount.

The Town does not maintain a separate emergency reserve fund. The most vulnerable component is the parallel transmission lines that supply water from Anacortes. The Town is planning to replace one of the transmission mains in 2020 and has accounted for the local match for a Public Works Trust Fund loan. The City passes Test No. 3.

### **Test No. 4 - Conduct Median Household Income Index Analysis**

The fourth and final test requires the utility to measure the rate impact of increased operating and facility expenses on its system users. To complete this test, the utility must

- 1) Compute 1½ percent of the respective County's average annual median household income (MHHI). The MHHI is a value computed by the U.S. Census Bureau.
- 2) Determine the current and projected average annual residential water bill for all six years.

- 3) Compare the existing and projected average annual residential bill to 1½ percent annual MHHI for all six years.

This analysis provides an indication of a residential connection's ability to pay the existing and projected rates. When rates exceed 1½ percent of the MHHI in any year of the budget, it suggests the utility's rates may not be affordable.

The 2007 U.S. Census lists the MHHI for Skagit County at \$51,486. The current and projected water bills were based on the average residential base rate of \$16.34 per month with an average additional usage of 600 cubic feet per month (at \$2.32 per cf). The average annual rate increase is 9.2% between 2009 and 2010. Between 2010 and 2011, there will be an increase in rates by approximately 12.6% (based on loan debt in 2011 and any adjustment in the rates from Anacortes – contract renews with the Town of La Conner every 3 years). In 2012-2013, there will be an increase by approximately 3.7% and 2.4%, respectively. In 2014, there will be another larger increase in rates, by approximately 7.0%, to account for any adjustment in rates from Anacortes.

<u>Current and Projected Water Bills</u>		<u>1½% of MHHI (2007)</u>
2008	\$330	\$772
2009	\$363	\$772
2010	\$396	\$772
2011	\$446	\$772
2012	\$463	\$772
2013	\$474	\$772
2014	\$507	\$772

Again, the Town easily passes Test No. 4. The tests demonstrate that the Town continues to maintain a financially-sound water utility that is adequately funded without being a hardship to the ratepayers.

#### **9.4 PROJECTED REVENUES AND EXPENSES**

Projecting future revenues and expenses with a high level of accuracy is difficult at best. Some categories may be projected with a high level of accuracy while others may range up and down over the years by a factor of ten or more. Some are even dependent upon the weather. Examples of this are repairs with a five-year range of \$600 to \$48,000 and water sales and water purchases which are significantly higher in hotter, drier years than in colder, wetter years.

Appendix E summarizes KIA's rate study, based on a series of key assumptions. The rate study and adopted rates provide a six-year outlook and allow the water utility to be managed while avoiding drastic impacts on the Town's customers.



**CHAPTER TEN**

**MISCELLANEOUS DOCUMENTS**

## **CHAPTER 10**

### **MISCELLANEOUS DOCUMENTS**

#### **10.1 STATE ENVIRONMENTAL POLICY ACT (SEPA)**

A SEPA Checklist has been prepared in support of the Town's proposed action to adopt this water system plan (see Appendix B). The Town is the Lead Agency and the Town's Planning Director is the designated SEPA official. The Town has reviewed the Checklist.

#### **10.2 AGREEMENTS**

As referenced in previous chapters, the intertie agreements with Anacortes and the Shelter Bay Community are included in Appendix A.

#### **10.3 OTHER DOCUMENTS**

Copies of Town Ordinances regarding Cross Connection Control are included in Appendix A.

# **APPENDIX A**

## **AGREEMENTS AND ORDINANCES**

**Ordinance No. 748  
(Cross Connection Control Program)**

**Ordinance No. 733**

**Anacortes Water Supply Agreement**

**Shelter Bay Wholesale Agreement**

# **Town of La Conner Cross Connection Program**

- 1) Ordinance number 748 adopted 7/99, with annual notice of inspection/testing requirements, beginning 7/00 and every July thereafter. (see attached ordinance for technical provisions). Letter of authorization from Skagit County building department authorizing water department personnel to inspect premises outside La Conner Town limits.
- 2) New connections are reviewed by county building department as part of permitting process, with additional evaluation by water department personnel before hookup. Periodic review to be done by on-site visits and observations, to be coordinated with meter reading activities throughout the year, to determine that no change of use or modification has occurred.
- 3) Degree of hazard and appropriate prevention procedures to be determined during annual inspection by designated program administrator who shall be a certified CCS 1. AWWA manual M14, 'Recommended Practice for Backflow Prevention and Cross Connection Control' along with UPC and WAC 246-290, 248-54-820, RCW 19.27, as well as the 'Cross Connection Control Guidance Manual for Small Systems' standards are to be followed.
- 4) Designated CCS administrator to coordinate with Public Works Director in development and implementation of new standards or policies, along with appropriate Department of Health and other agency personnel where required.
- 5) Backflow Incident Procedures:
  - a) immediate isolation of premises from public water supply
  - b) determination of incident and area(s) affected by physical inspection
  - c) degree of hazard and action required; i.e., isolation of water main(s), public and agencies to be notified, Etc.
  - d) other measures to be determined by appropriate entities.
  - e) completion of backflow incident report
- 6) Quality Assurance/ Certification: Forms to be provided for copies of tester certification, test kit calibration documentation, test report contents for each device tested along with a timeline, (30 days), for report submittal upon test completion to department.
- 7) Information/Education Program: Initial notification in the first year shall contain a brief explanation of the program along with additional information if requested. Copies of regulations will be available at the water department office. Additional information to be provided with consumer confidence report annually.

8) A master list and inventory shall be kept at the water department office including but not limited to; location of premises with backflow devices, the type of device, date of installation, date of inspection, name of inspector, owners name, installers name, manufacturer, repairs, etc. A list of backflow incident reports and a program summary report, along with other policies and procedures and regulations shall be kept under this program as well. All pertinent regulations and procedures involving cross connection control shall be kept updated and available in the appropriate location as well.

# **Town of La Conner**

## **ORDINANCE NO. 748**

### **AN ORDINANCE REVISING WATER CROSS CONNECTION STANDARDS**

*Whereas*, the Town of La Conner currently supplies potable water to its citizens; and

*Whereas*, current water cross connection requirements are contained in Chapter 12.25 of the La Conner Municipal code; and

*Whereas*, regulations covering cross connections are promulgated by the Washington State Department of Health (DOH); and

*Whereas*, it is deemed to be in the public interest and in compliance with DOH regulations to revise water cross connections standards for the Town of La Conner; and

*Whereas*, water cross connections pose a serious and immediate threat of contamination to the La Conner water system and to the health and welfare of the systems users.

**NOW THEREFORE BE IT ORDAINED** that the following water cross connection standards are adopted:

Section 1. Sections 12.25.010 and 12.25.020 of the current La Conner Municipal Code are hereby abolished.

Section 2. A new section 12.25.010 is hereby added to read:

#### **12.25.010 Definitions**

Air Gap Separation - The physical vertical separation between the free flowing discharge end of a potable water supply pipe line and the open or non-pressure receiving vessel.

Approved Backflow Prevention Assembly - An assembly which has been approved by the State and the Town, for preventing backflow.

Atmospheric Vacuum Breaker - (also known as an anti-syphon valve) A device consisting of a single check valve in the supply line that opens to the atmosphere when the pressure in the line drops to atmospheric.

Auxiliary Water Supply - Any supply of water used to augment the supply obtained through the Town's water system which serves the premises in question.

Backflow - The flow of water or other fluids in the direction opposite to the normal flow.

Backflow Prevention Assembly Tester - An individual who is certified by the State and approved by the Town to test Backflow Prevention Assemblies.

Check Valve - A valve that permits flow in only one direction.

Contaminant - Any physical, chemical, biological, or radiological substance or matter in water which may render water non-potable, according to State regulations.

Cross Connection - Any link or channel between piping which carries potable water and the piping or fixtures which carry non-potable water or other substances.

Cross Connection Inspector - An individual certified by the State and approved by the Town to inspect for cross connections.

Customer System - All plumbing, piping, and appurtenances on the customer side of the point of metering or connection.

Double Check Valve Assembly - An assembly of two independently acting check valves with a shut off valve on each side of the two check valves. The assembly also has test ports for checking the water tightness of each check valve.

Double Detector Check Valve Assembly - Same as a Double Check Valve Assembly with the addition of a water meter and an additional Double Check Valve Assembly bypassing the main line assembly for the purpose of measuring low or proportional flow.

Facility Survey - An on-site review of the water source, facilities, equipment, operation, and maintenance for the purpose of evaluating the hazards to the drinking water supply.

Pressure Vacuum Breaker Assembly - A mechanical assembly consisting of one spring loaded check valve in the supply line and a spring loaded air inlet on the downstream side of the check valve which will open to atmosphere when the pressure in the assembly drops below one pound per square inch. The complete assembly consists of two shut off valves and two test ports for checking water tightness of the check valve.

Reduced Pressure Backflow Prevention Assembly - (RP) An assembly for preventing backflow incorporating two check valves, a differential relief valve located between the two check valves, two shut off valves, one on each end of the assembly, test ports for checking water tightness of the check valves and the operation of the relief valve.

Reduced Pressure Detector Assembly (RPD) Same as an RP Assembly with the addition of a water meter and an additional RP Assembly bypassing the main line assembly for the purpose of measuring low or proportional flow.

Safe Drinking Water - (Potable Water) Water which has sufficiently low concentrations of microbiological, inorganic chemical, radiological or physical substances so that individuals drinking such water at normal levels of consumption will not be exposed to disease organisms or other substances which may produce harmful physical effects.

Secondary Contaminant - Contaminants which at levels generally found in drinking water do not present unreasonable risk to health, but do adversely affect taste, odor, or color.

Service Connection - The point of delivery of water at or near the property line, generally at the water meter.

Section 3. A new section 12.25.020 is hereby added to read:

**12.25.020 Customer System Open For Inspection**

The customer system shall be open for Facility Survey at all reasonable times to the Town to determine whether cross connections or other structural or sanitary hazards including violations of these regulations exist. When such a condition becomes known, the Town's Cross Connection Inspector shall cause the service to the premises to be immediately discontinued or denied by a physical break in the service until the customer has corrected the condition in conformance with these regulations.

Section 4. A new section 12.25.030 is hereby added to read:

**12.25.030 Backflow Prevention Requirements**

Backflow prevention assemblies shall be installed on each service line of a customer's system at or near the property line or immediately inside the building being served, but in all cases before the first branch line leading off the service line wherever, in the opinion of the Town's Cross Connection Inspector, any of the following conditions exist:

1. There is an auxiliary water supply which is, or could be, connected to the potable water piping.
2. Where there is piping for conveying liquids other than potable water, and where that piping is installed and operated in a manor which could cause a cross connection.
3. There are cross connections or intricate plumbing which make it impractical to ascertain whether or not a cross connection exists.
4. In the case where there has been a history of repeating the same or similar cross connection or a backflow, even though these have been removed or disconnected.
5. Where there is a building over two stories in height or any plumbing system that is greater than or equal to thirty feet above the water main from which it is served.
6. Where fire hydrants or fire systems are connected to the potable domestic water service within the property being served.
7. Where a single water service is used to supply three or more dwellings.
8. Where the water meter serving the property is one and one half inch or larger.
9. Where there is backflow or backsiphonage potential.
10. Where any fixture is subject to being submerged.
11. Where the system is not open for inspection.



Section 5. A new section 12.25.040 is hereby added to read:

**12.25.040 Type of Backflow Protection Required**

The type of protection required shall be commensurate with the degree of hazard which exists, in the opinion of the Town's Cross Connection Inspector, as follows:

1. An approved Air Gap of at least twice the inside diameter, but not less than one inch, of the incoming supply line measured vertically above the top rim of the vessel, or an approved Reduced Pressure Backflow Prevention Assembly shall be installed where the substance which could backflow is a contaminant or potentially hazardous to health. Examples would include, but not be limited to, hospitals, mortuaries, car washes, medical clinics, auxiliary water systems, etc.
2. An approved Double Check Valve Assembly shall be installed where the substance which could backflow is a secondary contaminant. Examples would include, but not be limited to, landscape irrigation systems, multiple dwelling units served by a single water service, etc.
3. An approved Pressure Vacuum Breaker or an Atmospheric Vacuum Breaker shall be installed where the substance which could backflow is objectionable but does not pose a risk to health and where there is no possibility of backpressure in the downstream piping.
4. In the case of all private fire systems, an approved Backflow Prevention Assembly installed to the Town's construction specifications shall be required. The Town may require a monitoring meter or detection system to detect unauthorized use or leakage within the system. The type of Backflow Prevention Assembly shall be as follows:
  - A. Low Hazard - Systems with or without a pumper connection but no auxiliary water supplies available, chemicals or additives, or other detectable cross connections require a Town approved Double Check Valve Assembly.
  - B. High Hazard - Systems with auxiliary water supplies, chemical additives, or other detectable cross connection shall require a Town approved Reduced Pressure Backflow Prevention Assembly.

Section 6. A new section 12.25.050 is hereby added to read:

**12.25.050 Approval of Assemblies**

All Backflow Prevention Assemblies required under this ordinance shall be of a type and model approved by the State and the Town of La Conner.

Section 7. A new section 12.25.060 is hereby added to read:

**12.25.060 Owners Duty For Inspection**

It shall be the duty of the assembly owner of any premise where backflow assemblies are installed to have the assembly tested and certified as working immediately upon installation, and at least once a year, or more often in those instances where successive inspections indicate repeated failure. The frequency of these tests or the replacement of the assembly because of repeated failure is at the sole discretion of the Town. The tests, repairs, and/or replacement of any backflow prevention assembly shall be at the sole and complete expense of the assembly owner and performed by a Backflow Prevention Assembly Tester who is currently certified by the State and approved by the Town. Test, repair, and/or replacement shall be performed within thirty (30) days of the test due date. The assembly owner is required to contact a Tester who can perform the test in the necessary time period. The Town will notify the owner each year when the assembly is due for testing. The assembly owner shall notify the Town a minimum of forty eight (48) hours in advance of when a test is to be performed, so that the Town's Cross Connection Inspector may witness the test if they so desire. Records of such tests, repairs, and/or replacement shall be submitted to the Town within ten (10) days of such tests, repairs, and/or replacement.

Section 8. A new section 12.25.070 is hereby added to read:

**12.25.070 Previously Installed Assemblies**

Backflow Prevention Assemblies which were approved at the time they were installed but are not on the current list of approved assemblies shall be permitted to remain in service provided they, in the opinion of the Town, are properly maintained, are commensurate with the degree of hazard, are tested at least annually, and perform satisfactorily. When assemblies of this type are moved, or require more than minimum maintenance, they shall be replaced by assemblies which are on the list of approved assemblies by the State and approved by the Town.

Section 9. A new section 12.25.080 is hereby added to read:

**12.25.080 Enforcement**

1. The Cross Connection Inspector shall cause the water service to the premise to be immediately discontinued or denied by a physical break in the service until the customer has corrected the condition in conformance with this ordinance in any of the following situations:
  - A. When it becomes known that a condition such as a cross connection, plumbing, structural, or sanitary hazard, or other violation of this ordinance is present.
  - B. In those cases of extreme emergency, and where an immediate threat to life or public health is found to exist.

- C. When, in other cases and after a reasonable length of time has been allowed as determined solely by the Town's Cross Connection Inspector, the tests, repairs, and/or replacement of assemblies or any other requirement within this ordinance is not performed in accordance with this ordinance.
2. Written notice of disconnection shall be provided to the property owner of record and the occupant. Within five (5) days thereafter, the owner or occupant may appeal the disconnection by filing an appeal with the Hearings Examiner who shall have authority to hear such appeal. The Hearings Examiner shall conduct an open record hearing and render a decision within ten (10) days of receipt of a properly filed appeal. The appeal must be accompanied with a fee of \$150.00 together with a \$300.00 deposit to be used to defray, in full or part, the actual cost of the Hearing Examiner's fees charged to the Town.

Dated this 13th day of July, 1999

Bud Moore  
MAYOR

ATTEST:

Debby Malarich  
TOWN CLERK

APPROVED AS TO FORM:

\_\_\_\_\_  
TOWN ATTORNEY



## TOWN OF LA CONNER

204 DOUGLAS ST. • P.O. Box 400  
LA CONNER, WASHINGTON 98257  
PHONE: (360) 466-3125 • FAX: (360) 466-3901

ERON BERG,  
MAYOR

GREG YOUNG,  
ADMINISTRATOR

Dear \_\_\_\_\_

The protection of the potable water supply of the Town of La Conner is a matter of mutual concern and benefit.

Pursuant to WAC 246-290-010 and RCW 19.27 along with Ordinance 748 regulating our Cross-Connection Control Program, our inspectors will be conducting inspections of the potable water system in building(s) under your control. This program is required under Health Department regulations and state law.

Some literature explaining the need for backflow prevention is attached for your information. Our inspector will phone to make appointments for someone to participate in the inspection and set a date for such inspection. Should you require further information on the Cross-Connection Program please feel free to contact the La Conner Water Department at 466-3933.

Thank you for your cooperation!

Yours truly,

*Brian Zease*

Cross-Connection Control Officer

# Inspection Report Cross-Connection and Backflow-Prevention Assembly

Name of Owner \_\_\_\_\_  
 Mailing Address \_\_\_\_\_  
 Name of Premises \_\_\_\_\_  
 Street Address \_\_\_\_\_  
 Location of Assembly \_\_\_\_\_ Install. Date \_\_\_\_\_  
 Type of Assembly \_\_\_\_\_ Manufacturer \_\_\_\_\_ Size \_\_\_\_\_  
 Model Number \_\_\_\_\_ Serial Number \_\_\_\_\_  
 Tested by (Firm Name) \_\_\_\_\_ Licensed Tester's Number \_\_\_\_\_  
 Business Address \_\_\_\_\_ Telephone \_\_\_\_\_  
 Date of Test \_\_\_\_\_ Fault \_\_\_\_\_  
 Reason for Failure (if apparent) \_\_\_\_\_  
 Maintenance \_\_\_\_\_  
 Date of Retest \_\_\_\_\_  
 I certify that I have tested the above assembly and that it meets the performance requirements of the  
 City of \_\_\_\_\_

\_\_\_\_\_  
(Signature Licensed Tester)

Pressure at Time of Test \_\_\_\_\_ psi. Drop Across Check Valve 1 \_\_\_\_\_ psid.

	Check Valve 1	Check Valve 2	Differential Pressure Relief Valve
Initial Test	1. Leaked _____ RP _____ psid 2. Closed Tight _____	1. Leaked _____ 2. Closed Tight _____	1. Opened at _____ psid reduced pressure 2. Did Not Open _____
R E P A I R S	_____ Cleaned: _____ Replaced: _____ Disc _____ Spring _____ Guide _____ Pin Retainer _____ Hinge Pin _____ Seat _____ Diaphragm _____ Other, describe _____ _____ _____ _____	_____ Cleaned: _____ Replaced: _____ Disc _____ Spring _____ Guide _____ Pin Retainer _____ Hinge Pin _____ Seat _____ Diaphragm _____ Other, describe _____ _____ _____ _____	_____ Cleaned: _____ Replaced: _____ Disc, upper _____ Disc, lower _____ Spring _____ Diaphragm, large _____ upper _____ lower _____ Diaphragm, small _____ upper _____ lower _____ Spacer, lower _____ Other, describe _____
Final Test	RP _____ psid Closed Tight _____	Closed Tight _____	Opened at _____ psid reduced pressure

Remarks: \_\_\_\_\_

## Backflow Incident Report Form

There are many backflow incidents which occur that are not reported. This is usually because they are of short duration and are not detected, the customer is not aware they should be reported, or it may not be known to whom they should be reported. The PNWS-AWWA Cross Connection Control Committee is making an effort to bring these incidents to the attention of water purveyors and the public. If you have any knowledge regarding incidents, please fill out a copy of this form and return it to the committee, c/o the individual named on the reverse side. In addition, the state or provincial health agency should be notified.

Reporting Agency: \_\_\_\_\_ Report Date: \_\_\_\_\_

Reported By: \_\_\_\_\_ Title: \_\_\_\_\_

Mail Address: \_\_\_\_\_ City: \_\_\_\_\_

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_ Telephone: \_\_\_\_\_

Date of Incident: \_\_\_\_\_ Time of Occurrence: \_\_\_\_\_

General Location (Street, etc.): \_\_\_\_\_

### Backflow Originated From:

Name of Premise: \_\_\_\_\_

Street Address: \_\_\_\_\_ City: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Telephone: \_\_\_\_\_

Type of Business: \_\_\_\_\_

### Description of Contaminants:

(Attach Chemical Analysis or MSDS if available)

\_\_\_\_\_  
\_\_\_\_\_

### Distribution of Contaminants:

Contained within customer's premise: Yes: \_\_\_\_\_ No: \_\_\_\_\_

Number of persons affected: \_\_\_\_\_

### Effect of Contamination:

Illness Reported: \_\_\_\_\_

Physical irritation reported: \_\_\_\_\_

\_\_\_\_\_

**Backflow Incident Report Form**

Page 2

Cross Connection Source of Contaminant  
(boiler, chemical pump, irrigation system, etc.)

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---

Cause of Backflow:  
(main break, fire flow, etc.)

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---

Corrective Action Taken to Restore Water Quality:  
(main flushing, disinfection, etc.)

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Corrective Action Ordered to Eliminate or Protect from Cross Connection:  
(type of backflow preventer, location, etc.)

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Previous Cross Connection Survey of Premise:

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

Types of Backflow Preventer Isolating Premise:

RPBA: \_\_\_\_\_ RPDA: \_\_\_\_\_ DCVA: \_\_\_\_\_ DCDA: \_\_\_\_\_ PVBA: \_\_\_\_\_ SVBA: \_\_\_\_\_

AVB: \_\_\_\_\_ Air Gap: \_\_\_\_\_ None: \_\_\_\_\_ Other Type: \_\_\_\_\_

Date of Latest Test of Assembly: \_\_\_\_\_

Notification of State [Provincial] Health Department:

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Person Notified: \_\_\_\_\_

Attach sheets with additional information, sketches, and/or media information, and mail to:

*PNWS-AWWA  
c/o George Bratton  
1252 S. Farragut Drive  
Coupeville WA 98239*

EXHIBIT C

AMENDMENT NO. 1

This Amendment, effective January 1, 2008, replaces and supersedes Exhibit B and prior amendments to the Water Supply Agreement entered into January 1, 2006 between the City of Anacortes and the Town of La Conner.

1. Water Charges for the period of 1/1/2008 to 12/31/2010:

Capital Cost	\$6,416/ month
Fixed Operating Cost (estimate)	\$3,790 / month
Variable Operating Cost (estimate)	\$152.42 / million gallons

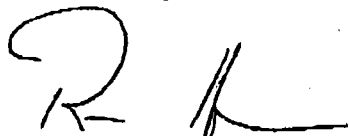
2. Committed Water Volume for the period 1/1/2008 to 12/31/2010:  
Annual: 162 million gallons

3. Water Pressure:  
Dependent on service location

All other terms and conditions of the original contract shall remain in effect.

IN WITNESS WHEREOF, the parties hereto executed this Contract Amendment as of the day and year above written.

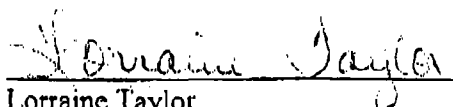
TOWN OF LA CONNER



Ramon M. Hayes  
Mayor

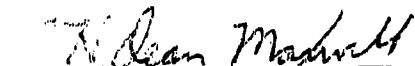
Dated: 2. 15. 08

ATTEST:



Lorraine Taylor  
City Clerk


CITY OF ANACORTES



H. Dean Maxwell  
Mayor

Dated: 2/20/08

ATTEST:



Steve Hoglund  
City Clerk/Treasurer



## WATER SUPPLY AGREEMENT

This agreement entered into this 1<sup>st</sup> day of January 2006 between the City of Anacortes, hereinafter referred to as "the City," and Town of La Conner is for the purpose of the City supplying water to La Conner, hereinafter referred to as "the Customer." It replaces and supersedes any previous agreements or understandings between the parties.

The Customer is entering into this agreement to secure a supply of water for its industrial and/or municipal water supply requirements. The City owns and operates a Water Supply System, has water available to serve the Customers, and is willing to supply water according to the terms and conditions of this agreement.

The City's Water Supply System is defined for purposes of this agreement to include: 1) the water intake and treatment facilities near Avon on the Skagit River; and 2) the City's water transmission pipelines from the water treatment facilities to Sharpe's Corner.

In accordance with this agreement, the City agrees to supply the Customer water in accordance with the following terms and conditions:

### 1. Quantity

The City agrees to supply quantities and pressures of water at location(s) and in amounts as stated in this agreement (Exhibits A & B), and any subsequent amendments to this agreement (Exhibit C).

### 2. Delivery Points

**2.1 Approved Delivery Points** The City shall deliver water to the Customer at the approved delivery points listed in Exhibit A.

**2.2 New Delivery Points** The Customer may request service at additional delivery points subject to the approval of the City. The City may approve new service connections consistent with the concept that the Water Supply System is not a distribution system but the Customer has responsibility for constructing and maintaining a distribution system adequate for its service area.

The Customer shall be responsible for paying all costs associated with installing new service connections. The connection shall include the necessary piping and valves, metering equipment of standard manufacture, and suitable isolating or backflow prevention devices as appropriate. If required by the City, the meter shall be of a type capable of transmitting continuous readings to the City's Water Treatment Plant. The Customer shall prepare the design for the proposed service connection, submit it to, and receive the approval of the City prior to its installation. The City shall own the meter and be responsible for maintaining it in good repair.

### **3 Quality of Water**

The City shall operate and maintain its Water Supply System in order to supply water for municipal and industrial purposes that meets the water quality standards of the Washington State Department of Health and the U.S. Environmental Protection Agency, including periodic revisions to these standards. The City shall employ the normal care and practices of water utilities with respect to meeting water quality standards.

The City shall not be liable to the Customer for failure to meet the water quality standards for reasons that are outside the control of the City. The Customer shall hold the City harmless from any water quality related claim for damages by third parties served by the Customer, to the extent that the claim arises out of Customer's negligence.

### **4 Rates and Charges**

The City has established the following rates and charges and billing procedures for customers of its Water Supply System, which apply to this agreement.

**4.1 Rate Structure** The City has defined the following costs associated with the facilities, operation and maintenance of its water supply system:

**Capital Cost** Those costs incurred for the betterment and rehabilitation of the Water Supply System. Includes amounts paid from revenues, water system funds, and debt service on bonds issued for the betterment or rehabilitation of the system.

**Fixed Operating Cost** The cost of labor, supervision, supplies, utilities, services, taxes, insurance, and all other expenses required to operate and maintain the Water Supply System other than those items included under Variable Operating Cost.

**Variable Operating Cost** The cost of chemicals and electric power required to deliver water from the Water Supply System.

**4.2 Cost Allocation** The Customer shall pay its proportionate share of the Capital Cost, Fixed Operating Cost, and Variable Operating Cost. These costs shall be allocated as follows:

**Capital Cost** Allocated to all Water Supply System customers based on the Committed Volume of water to each customer in proportion to the total water supply requirements.

**Fixed Operating Cost** Allocated to all Water Supply System customers based on the metered water volume of each customer as a percentage of the total metered volume of all customers, with the following exceptions:

- 1) Administrative support services and all employee benefits shall be allocated to customers in the same proportions that the total cost of all other Personnel Services is divided among them.
- 2) The State Excise Tax shall be allocated based on actual (or projected) billings to each of the customers. In accordance with Washington State Law, no Excise Tax will be assessed to wholesale customers purchasing water for resale.

**Variable Operating Cost** Allocated to all Water Supply System customers in accordance with the metered water volume of each customer as a percentage of the total metered volume of all customers.

#### **4.3 Billing Basis**

- 1) The Capital Cost Allocation to customers is determined each time a water rate analysis is prepared by the City and is set for the ensuing rate period (usually 3 to 5 years). Each customer's "committed" volume used to calculate the Capital Cost for the rate period shall be agreed upon between the City and the Customer based upon current usage and estimated increased water requirements during the rate period. The current Capital Cost is shown in Exhibit B.
- 2) The Fixed and Variable Operating Costs shall be determined each year as part of the City's budgeting process. Rates current as of the date of this agreement are shown on Exhibit B and are used as the basis for the customer billings according to the volume of water used. The City will calculate the unit Fixed and Variable Operating Costs for the period based upon projected operating costs and projected water use and will notify the customers of these rates (Exhibit C). These revised costs will be used as the basis for billing customers over the billing period. Periodically, but not to exceed two years, the City will calculate and report actual costs and retroactively adjust each customer's charges (i.e., increase or decrease) to actual costs.

**4.4 Billing** The City shall read the Customer meters each month, calculate, and issue a bill to the Customer. The bill shall identify the Capital Cost, the Fixed Operating Cost, the volume of metered water delivered to the Customer during the month, and the corresponding Variable Operating Cost. The Capital Cost and Fixed Operating Cost are payable regardless of the volume of water consumed while the Variable Operating Costs shall be paid according to the volume of metered water delivered to the Customer. Payment by the Customer is due within 15 days of the receipt of the bill.

**4.5 Late Payment** If a bill remains unpaid after 30 days, the City will assess interest on the delinquent amount at the rate of 12% per annum. If a bill still is not paid

after 90 days, the City may use other remedies legally available to it, including shutting off service to enforce payment.

4.6 Additional Charge During the rate period, the Customer is entitled to the quantity of water fixed as the basis for the capital charge (Committed Volume). Should the Customer use an annual volume greater than the Committed Volume shown on Exhibit B or as amended on Exhibit C, it shall pay the current Commercial rate (Outside of City water sales) for the quantity in excess of the Committed Volume.

5. Metering

The volume of water delivered to the Customer shall be measured by metering equipment installed in accordance with Article 2. The meter shall be maintained and read by the City. It shall be tested by the City periodically, but not less than once per year, to assure its continuing accuracy and conformance to the standards of measurement and service accepted in the water industry. The Customer has the right to be notified ahead of time and be present at any of the regularly scheduled tests. The cost of conducting such tests shall be borne by the City. These tests may also be conducted at other times at the request of the Customer and the Customer may elect to have a representative witness the meter test. If the meter is accurate, the Customer shall pay for the cost of the test; but if the test reveals an inaccuracy of more than 2 percent, the City shall pay for the test. If an inaccuracy of more than 2 percent is discovered, all billings for water furnished hereunder for one-half the time from the date of the preceding test shall be adjusted. The adjustment shall be for the full amount in excess of 2 percent.

6. Continuity of Service

The City shall use reasonable diligence to provide a regular and uninterrupted supply to the Customer's approved delivery point(s), but shall not be liable to the Customer for damages, breach of contract, or otherwise for interruption of service or curtailment of supply for any cause beyond the control of the City. These could include, but are not limited to, Acts of God, sabotage, war, fires, floods, earthquakes, power failure or other catastrophes, strikes, or failure or breakdown of the Water Supply System. The Customer shall hold the City harmless from any claim for damages related to continuity of service by third parties served by the Customer, to the extent that the claim arises out of Customer's negligence.

7. Conflicts

To the extent that there is any inconsistency between the provisions of this agreement, any exhibit incorporated as part of this agreement, or subsequent amendments and other rules and regulations of the City, the provisions of this agreement shall control.

8. Future Supply

8.1 Service Area This agreement between the City and the Customer is to supply water to the Customer's existing industrial operations and/or water service area. In this regard, the Customer agrees not to increase its industrial operations, to add new customers, or to expand its service area in a manner that would increase its water requirements by more than 10 percent without the prior approval of the City.

8.2 Water Supply Requirements The City operates its Water Supply System for the purpose of delivering an adequate supply of good quality water to all of its customers. The City agrees to maintain and to operate its system so as to meet the volumes contracted for by its customers and to supply additional volumes as may be required by the Customer in the future, consistent with the needs of all its customers.

8.3 Future Improvements The City will plan and develop water supply facilities that may become necessary in the future to replace existing facilities or to expand the capacity of its Water Supply System to meet growing demands. The City may require appropriate commitments from its customers prior to proceeding with system improvements.

9. Termination

Either the City or the Customer shall have the right to terminate this agreement by giving at least one year written notice of its desire to do so.

10. Term

Subject to the provisions of paragraph 9 of this Agreement, this agreement shall take effect on January 1, 2006, and remain in full force and effect until December 31, 2025. Either party can request amendment or renegotiation of this agreement not more frequently than on an annual basis.

11. Records Inspection

The City shall maintain and make available for inspection at reasonable times all records pertaining to the water system. These records shall be maintained for a minimum 3-year period.

12. Addresses

All notices and billing required hereunder shall be sent to the following addresses:

CITY OF ANACORTES  
Mailing: PO Box 547  
Anacortes, WA 98221  
Physical: 904 6<sup>th</sup> Street  
Anacortes, WA 98221

CUSTOMER  
Notices and Billing:  
PO Box 400  
La Conner, WA 98257

13. Applicable Law

This Agreement and all disputes arising thereunder shall be governed by Washington State Law.

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the day and year first above written.

CITY OF ANACORTES

By: H. Dean Maxwell  
H. Dean Maxwell, Mayor

ATTEST:

Wanda Johnson  
Wanda Johnson, City Clerk

TOWN OF LA CONNER

By: Wayne Everton  
Wayne Everton, Mayor

ATTEST:

Debby Malarchick  
Debby Malarchick, City Clerk

## EXHIBIT A

Dated: January 1, 2006

Water Supply Agreement between the City of Anacortes and Town of La Conner.

Approved Metered Service Connections:

No.	Size	Brand	Type	Location	Reading System
1	8"	Sensus		La Conner Whitney Rd& SR 20	Automated
2	2"	Sensus		La Conner Whitney Rd& SR 20	Automated

**EXHIBIT B**

Dated: January 1, 2006

Water Supply Agreement between the City of Anacortes and Town of La Conner.

1. Water Charges:

Capital Cost	\$ 4,400 / Month
Fixed Operating Cost (2005 Estimate)	\$ 3,880 / Month
Variable Operating Cost (2005 Estimate)	\$ 135.75 / Million Gallons

2. Committed Water Volume:

Annual: 162 Million Gallons

3. Water Pressure: 120 psi



## Water Supply Supplemental Agreement

This Supplemental Agreement, entered into this 30<sup>th</sup> day of November, 1998 between the Town of La Conner (Town) and the Shelter Bay Community, Inc., (Customer) is for the purpose of amending the Water Supply Agreement (1992 Agreement) currently in place between the parties dated September 25, 1992.

Section 1. Section 4 "Rates" of the 1992 Agreement is hereby changed to read:

4. Rates. The following rates are established for water supplied to the Shelter Bay Community:

Base Rate for 6 inch meter	\$126.04
First 9,650 cubic feet per month	\$0.00
Per each 100 cubic feet above 9,650	\$1.19
Capital Surcharge per month	\$1,840.75

The parties recognize and agree that an annual inflationary adjustment shall be applied automatically to the Base Rate (currently \$126.04) and to the Variable Rate (currently \$1.19). The inflationary adjustment shall be equal to 100% of the prior calendar year's inflation rate (CPI-U Seattle). This adjustment shall be made as of April 1<sup>st</sup> of each year (for water consumed in March) with the first adjustment being on April 1, 1999.


The parties also recognize and agree that the Capital Surcharge listed above represents the Shelter Bay Community's share of the pass-thru Anacortes Capital Charge the Town of La Conner currently pays. This fee (currently \$4,118.00 per month) is prorated to Shelter Bay based on their percentage share of water consumed (currently 44.7%). It is agreed and understood by the parties that this capital charge shall not be inflationary adjusted but will rather be adjusted following any change in the capital charge to the Town by the City of Anacortes.

Section 2. This Supplemental Agreement will take effect as of the December 1, 1998 billings (for water consumed in November 1998)

Section 3. All other provisions of the 1992 Water Supply Agreement remain unchanged.

IN WITNESS WHEREOF, the parties hereto have executed this Supplemental Agreement as of the day and year first above written.

  
\_\_\_\_\_  
Mayor, Town of La Conner

  
\_\_\_\_\_  
President, Board of Directors, Shelter Bay

Attest:

  
\_\_\_\_\_  
Town Clerk

  
\_\_\_\_\_  
Secretary, Shelter Bay Community

WATER SUPPLY AGREEMENT

This Agreement, entered into this 25th day of September, 1992, between the Town of LaConner (Town) and the Shelter Bay Community, Inc., (Customer) is for the purpose of the Town supplying water to the Customer. It replaces and supersedes any previous agreements or understandings between the parties. This agreement shall be incorporated into the Skagit Coordinated Water System Plan.

The Customer is entering into this Agreement in order to secure a reliable and safe supply of household water. The Town has water available to serve the Customer and is willing to supply water according to the terms and conditions of this Agreement.

The Town's water system is defined for purposes of this Agreement as a 1.5 million gallon reservoir, which receives water from the Anacortes water system, and an eight inch line leading to a point on the east side of the Swinomish Channel, south of the bridge. At this point, which shall be known as the "delivery point", the line connects to a six inch meter and transmission line under the Channel to Shelter Bay. The Customer is responsible for all of the system downstream of the six inch meter.

1. Quantity. The Town agrees to supply water to the delivery point at 90 pounds per square inch in amounts up to a peak demand of 400,000 gallons per day. This Agreement does not address Customer's needs for fire flow protection, nor shall the Town be held liable for any shortfall in this regard.

2. Quality. The Town shall operate and maintain its water supply system in accordance with the standards set by the Washington State Department of Social and Health Services and the U.S. Environmental Protection Agency, including periodic revisions or updates to these standards. The Town shall employ normal care and practices expected of water utilities in meeting the above described water quality standards.

3. Liability. The Town shall not be liable to the Customer for failure to meet the water quality standards for reasons that are beyond the control of the Town. The Town shall only be liable for any water-related claim in which negligence by the Town is proven. The Customer shall hold the Town harmless from any water quality related claim for damages by a third party served by the Customer to the extent that such claim arises out of the negligence of the Customer, or others, or is due to causes beyond the control of the Town.

4. Rates. Under Ordinance No. 445, dated January 10, 1978, the Town established the following rates and charges for residential customers:

Fixed fee per month for 6 inch meter	\$130.75
First 9,650 cu.ft per month	\$0.00
Per each 100 cu.ft. above 9,650	\$1.30

The parties recognize that the primary supplier, the City of Anacortes, is undergoing a continuing study and adjustment of water rates. Therefore, the above rates shall govern until May 1, 1993, at which time the rate structure will be negotiated with

the Customer, based on the amount of increase imposed by the City of Anacortes in its wholesale rate. Water rates shall then be reviewed and be adjusted at three year intervals thereafter.

5. Billing. On or before the tenth day of each month, the Customer will receive an invoice showing cubic feet of water consumed during the previous month and the charges. This amount shall be paid to the Town not later than the first day of the following month. A late fee of 1.5% of the amount due shall be assessed for payments postmarked after the first day of the following month.

6. Meter. The six inch meter is the property of the Town, and it shall be maintained and be read by the Town. It shall be tested annually by an independent testing company acceptable to the Town. The Customer shall be notified in advance of testing and shall have the right to have a witness present. The costs of conducting the regular tests shall be borne by the Town. Testing may also be conducted at other times at the request of the Customer, in which case the customer shall pay for the test if the test reveals an inaccuracy of 2 percent or less. If the test reveals an inaccuracy greater than 2 percent, then the Town shall pay for the test, and in addition, shall recompute all billings for one half of the time from the date of the previous test to the date of the current test. The adjustment, whether credit or debit from the Customer's point of view, shall be for the amount in excess of the 2 percent.

7. Continuity of Service. The Town shall use reasonable dili-

gence to provide a regular and uninterrupted supply of water to the Customer's delivery point, but shall not be liable to the Customer for damages, breach of contract, or otherwise for interruption of service or curtailment of supply for any cause beyond the control of the Town. These could include, but are not limited to, Acts of God, sabotage, war, fires, floods, earthquakes, strikes, or failure or breakdown of the water supply system. The Town shall only be responsible for continuity failures in those cases where negligence by the Town is proven. The Customer shall hold the Town harmless from any claim of damage related to continuity of service by third parties served by the Customer, to the extent that such claim arises out of the negligence of the Customer, or others, or is due to causes beyond the control of the Town.

8. Conflicts. To the extent that there is any inconsistency between the provisions of this Agreement, any exhibit incorporated in this Agreement, or any amendments made to it, and the rules and regulations of the Town or the Customer, then this Agreement shall control.

9. Future Supply.

9.1 Service Area. The service area shall be the roughly 942 platted lots and the marina/clubhouse complex of Shelter Bay, plus the plat of Eagles Nest and a portion of the Dr. Joe Division #2 lots. The Customer agrees not to expand its service area in a manner that would increase its water requirements by more than 10 percent without prior approval by the Town. It is

agreed that, if the Customer develops needs for water over and above the ability of the Town to supply, then the Customer shall have the right to seek other sources of water.

9.2 Capacity Limitations. It is agreed that the Town shall have the right to limit future increases in water use or peak demands should the total system usage approach the capacity of the LaConner water supply system. However, the Town agrees to consult with the Customer in those cases where growth would have an impact on the Towns' ability to supply the Customer with the quantity specified in paragraph 1, above.

9.3 Future Improvements. The Town may plan and develop water supply facilities that may become necessary to replace existing facilities, to expand capacity, to take advantage of technological advances, or to comply with changes in regulatory directives. The Town may require a cost sharing commitment from the Customer prior to proceeding with system improvements.

10. Disputes. In the event of any dispute under this Agreement which results in litigation, the prevailing party shall have the right to collect court costs and attorney fees from the losing party. This Agreement and all disputes arising thereunder shall be governed by the laws of the State of Washington.

11. Term. This contract shall remain in force in perpetuity, or until such date as the parties hereto shall mutually agree to terminate it.

12. Records Inspection. The Town shall maintain and make available for inspection at reasonable times all records per-

taining to the water system. These records shall be maintained for at least four years, after which time they may be destroyed upon mutual agreement of the parties.

13. Notices. All notices and billings shall be sent to the following addresses:

Town of LaConner  
Attn: Mayor  
Box 400  
LaConner, WA 98257

Shelter Bay Community  
Attn: Manager  
Box A  
LaConner, WA 98257

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the day and year first above written.

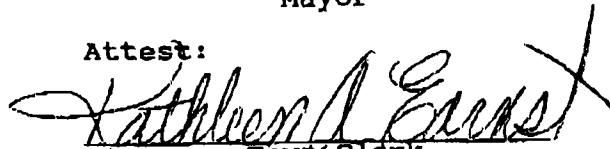
The Town of LaConner

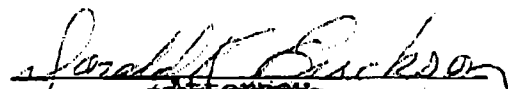
Shelter Bay Community, Inc.

  
Mayor

  
President, Board of Directors

Attest:

  
Town Clerk

  
Attorney-  
Secretary &

# **APPENDIX B**

## **SEPA CHECKLIST**



## ENVIRONMENTAL CHECKLIST

### A. BACKGROUND

**1. Name of proposed project (if applicable):**

*Town of La Conner Comprehensive Water System Plan*

**2. Name of Applicant:**

*Town of La Conner*

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

*204 Douglas Street  
Post Office Box 400  
La Conner, Washington 98257  
(360) 466-3125  
Brian Lease, Public Works Director*

**4. Date checklist prepared:**

*December, 2009*

**5. Agency requesting checklist:**

*Town of La Conner*

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

*Adoption of Water Comprehensive Plan – May, 2010*

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

*The Town of La Conner will implement the comprehensive plan according to the construction schedule outlined in Chapter 8 of the plan.*

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

*The Town has adopted the Town of La Conner Comprehensive Plan that includes a Critical Areas map and other sections on critical areas.*

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.

*No.*

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

*Town of La Conner  
Skagit County  
Washington State Department of Health*

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).

*The Water Comprehensive Plan discusses the service area characteristics, population, land use and projects the growth within the Town's urban growth area. The plan discusses design criteria, water demand, the existing system and proposed system improvements. The plan develops a proposed six-year Capital Improvement Plan.*

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 details plans submitted with any permit applications related to this checklist.

*The Town of La Conner service area is located in southwestern Skagit County in portions of Sections 24, 25 and 36, Township 34 North, Range 2 East, W.M. and Sections 19, 30 and 31. Township 34 North, Range 3 East, W.M. Refer to Figure 3 of the plan for topography and boundary information.*

## B. ENVIRONMENTAL ELEMENTS

### 1. Earth

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

*Generally flat with some hills and local, steep slope formations near the center of Town.*

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

*Approximately 50%.*

- 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.**

*Three primary soil groups are identified in the Soil Survey for Skagit County Area, Washington, U.S.D.A., May, 1992. Very deep, moderately well to poorly drained, clay/sandy loams comprise the majority of the area's soil.*

Number

Name

55	<i>Fidalgo-Lithic Xerochrepts-Rock Outcrop Complex, 3 to 30 percent slopes</i>
123	<i>Skagit Silt Loam</i>
136	<i>Sumas Silt Loam</i>

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

*No. There are regulated slopes (15% min. over 10' elevation change) within the Town and in the south portion of the service area that are regulated by the Critical Areas Ordinance.*

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

*Water line trenches for repair/replacement and developer extensions will be excavated and backfilled as much as possible with native material. The town or county may require imported backfill depending on condition and type of native soil. Bedding and backfill will come from local suppliers.*

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

*Erosion during construction is possible but should be minimal. Construction erosion requirements will be imposed. Construction, within the Town's limits, will typically take place in the public right-of-way, minimizing or eliminating the need for additional clearing. Implementing best management practices such as those contained in the Town's Stormwater Management Plan will minimize erosion during construction.*

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

*No plans to cover water line with impervious surfaces other than those existing in the right-of-way. These include asphalt and concrete road surfaces.*

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

*The construction documents will require the Contractor to utilize erosion/sedimentation control measures to prevent erosion by covering erodible embankments, hydroseeding, filter fabric and straw bale filters and other measures as necessary to meet local and state requirements. The Contractor will be required to schedule operations such that the excavation, embankment and restoration work proceeds commensurate with his ability to complete restoration, mulching, seeding, and other erosion control measures immediately following disturbance of the earth. Implementing best management practices such as those contained in the Town's Stormwater Management Plan will minimize erosion during construction.*

## **2. 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.**

*Normal dust and machinery emissions during construction; no emissions after construction. The Contractor will be required to limit emissions as required by the appropriate regulatory agencies and to control dust emissions so as not to damage property or vegetation or create a nuisance for the public.*

- 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:**

*Contractor will be required to control dust during construction, within the Town's limits, via sweeping and washing.*

**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.**

*Swinomish Channel forms the west boundary of the service area. Higgins Slough drains the north portion of the service area into Swinomish Channel. The District 15 drainage ditch across the north part of the Town empties into the Channel. The Skagit River, Sullivan Slough, and other sloughs are located southeast of the service area. A wetland area is delineated on the Town's Critical Areas Map.*

- 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.**

*Individual projects will be designed and constructed in compliance with all applicable local, State and Federal requirements. Some projects may require construction within 200 feet of said waters and will be subject to the appropriate shoreline permits.*

- 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.**

*Generally, all areas impacted by construction will be restored to original contours. Construction will consist of excavation of water line trench (average 3' deep, ½ CY per foot of trench) and installation of pipe and backfill with native materials. If required by the Town or County, due to poor materials and close proximity to or location within roadway, backfill gravel will replace native material in about half of the trench cross-section. Backfill gravel would come from local materials yards.*

- 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.**

*Yes. Approximately 200 acres, or 77 percent of the Town and most of the service area outside the town is at or below the 100 year flood elevation of 11.52 feet (NAVD 88).*

- 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.**

*No.*

- 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 storm water):**

- 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.**

*Completed projects will not result in an appreciable amount of increased impervious area. Current drainage patterns will not be altered by the finished projects.*

*Stormwater runoff impacting the construction zones will be intercepted for sedimentation control prior to release to its normal outfall.*

*Typical construction documents will require the Contractor to utilize sedimentation control facilities per the specifications and local/state requirements to ensure that sediment-laden water does not enter the natural drainage system.*

- 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:

*Erosion/sedimentation control facilities will be required as discussed in response to 3.c.1. above. New construction would be in accordance with local development regulations.*

#### 4. Plants

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

<u>X</u>	Deciduous tree: alder, maple, aspen, other, <u>cottonwood</u>
<u>X</u>	Evergreen tree:, <u>fir</u> , <u>cedar</u> , <u>pine</u> , other
<u>X</u>	Shrubs
<u>X</u>	Grass
<u>X</u>	Pasture
<u>X</u>	crop or grain
<u>X</u>	wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
<u>X</u>	water plants: water lily, eelgrass, milfoil, other
<u>X</u>	other types of vegetation

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

*Low growing vegetation such as grasses, forbs, small shrubs and trees along the roadside shoulders may be directly affected by excavation within existing road rights-of-way. Cut trees will be replaced with native plant nursery stock, and the road shoulder/ditch areas will be reseeded with native grasses and forbs.*

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

*None.*

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

*Avoidance: The following measures may be incorporated into the construction plans, for projects within the study area, to avoid impacts to existing plant communities and other wildlife habitat features.*

- *The projects will be planned to limit construction impact to within existing road rights-of-way where feasible.*
- *Large trees and native plants of significance will be flagged and avoided where feasible.*

*Reduction of Unavoidable Impacts:* *The following measures may be incorporated into the construction plans, for projects within the study area, to reduce unavoidable impacts to existing plant communities and other wildlife habitat features.*

- *Vegetable will be cleared, where needed, or laid-over rather than removed by excavation.*
- *Topsoil from the trench will be stockpiled separately for short periods of time and replaced above the subsoil fill. This approach will allow for the survival of plant regenerative parts (root, stems, rhizomes and seeds)( present in the exiting topsoil.*
- *Silt fences and hay bales will be placed in areas of steep slope to avoid erosion and sedimentation of wetland plant communities.*

*Compensatory Mitigation Measures:* *The following measures may be incorporated into the construction plans, for projects within the study area, to compensate for unavailable impacts to existing plant communities and other wildlife habitat features.*

- *Large woody debris will be left on-site as nurse logs and wildlife habitat features.*
- *Disturbed areas will be hydroseeded with a seed mixture containing native grasses and forbs.*
- *Native plant tree and shrub nursery stock will be planted to compensate for unavoidable loss or larger trees and portions of native plant communities.*

## **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: steelhead, smelt



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

*Bald eagles, peregrine falcons, marbled marlet have been reported in nearby areas. No nesting states have been reported within the service area.*

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

*The service area lies within the north-south migration route of birds along the Pacific coastline. The area is not part of a migration route for large mammals.*

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

*None.*

**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.**

*Fuel for operation of equipment during construction.*

- 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:**

*None.*

**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.**

*Main risk would occur during construction from machinery and construction practices. This could include spills of small amounts of oil and gas because of improper filling and/or machinery failures.*

- 1) **Describe special emergency services that might be required.**

*Spill clean-up services during construction.*

- 2) **Proposed measures to reduce or control environmental health hazards, if any:**

*Contractors are required to have periodic safety meetings and comply with WISHA.*

**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.**

*Equipment noise during construction of projects.*

- 3) **Proposed measures to reduce or control noise impacts, if any:**

*Limit construction to daylight hours. Construction noise will be regulated by Federal, State and local noise standards.*

**8. Land and Shoreline Use**

- a. **What is the current use of the site and adjacent properties?**

*Construction is typically planned within public road rights-of-way. The Town is primarily residential with a supporting amount of business-commercial. The service area outside of town consists of agricultural floodplains, forested uplands, wetlands, priority habitats, and a complex system of river and marine waters.*

- b. **Has the site been used for agriculture? If so, describe.**

*Large portions of the water service area is currently zoned and utilized for agriculture.*

**c. Describe any structures on the site.**

*Various residential and commercial structures can be found within the Town and surrounding water service area.*

**d. Will any structures be demolished? If so, what?**

*No.*

**e. What is the current zoning classification of the site?**

*Current zoning in town is shown in the Plan, per Town of La Conner Zoning Map. The rest of the service area is zoned as shown on Figure 1 of the plan.*

**f. What is the current comprehensive plan designation of the site.**

*Same as 8.e above.*

**g. If applicable, what is the current shoreline master program designation of the site?**

*Urban, historic*

**h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.**

*Approximately 3.1 acres of the Town has been designated as Wetlands. The wetland site is located in the southeastern area of the Town and does not include any of the projects identified in the Capital Improvement Plan.*

**i. Approximately how many people would reside or work in the completed project?**

*Projected Permanent Residential Population of the Town:*

<u>Year</u>	<u>2008</u>	<u>2013</u>	<u>2018</u>	<u>2023</u>
<i>Population</i>	<i>909</i>	<i>955</i>	<i>1003</i>	<i>1053</i>

**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:**

*Review and approval by Town of La Conner, Skagit County, and Washington State Department of Ecology.*

## **9. Housing**

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**

*None.*

- 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?**

*All projects identified in the Capital Improvement Plan are not likely to involve above grade structures.*

- 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?**

*Pioneer Park, shopping, marinas, sports fields, marine viewing, arts and cultural centers, museums and historic areas can all be found within the Town's limits.*

- 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.**

*The Civic Garden Club is on the State Historic Register. The La Conner Historic Preservation District is a locally-designated area of preservation that includes structures along North 1<sup>st</sup> Street that are on the National Register.*

- b. **Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.**

*See response to 13.a. above.*

- c. **Proposed measures to reduce or control impacts, if any:**

*Specific projects will be reviewed for impact and appropriate action implemented. As most projects will take place within the existing roadway and road shoulders, conflicts are not likely.*

#### **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.**

*State, County and Town roads and highways provide public access to and through the Town. See Figure 3 in the plan for a detailed map of existing Town roads.*

- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?**

*Yes, Skagit Public Transit Benefit Area (SKAT) has several stops within the Town's limits.*

- c. How many parking spaces would the completed project have? How many would the project eliminate?**

*None.*

- 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).**

*Repair and/or replacement of water mains may require trenching through existing roadways. Proper roadway patching and/or paving overlays, in accordance with Town or County standards will be evaluated for each specific project.*

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

*The service area is adjacent to the Swinomish Channel which is used as a water transport route.*

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

*Town staff work throughout the Town with normal operation and maintenance activities. Additional traffic will result from construction activities.*

- g. Proposed measures to reduce or control transportation impacts, if any:**

*None.*

**15. Public Services**

- a. **Would the project result in an increased need of public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.**

*Construction of proposed facilities will occur in conjunction with infill development supporting increased population in the area. An increase in population will require increased public services.*

- 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.**

*Adoption of the Water Comprehensive Plan will provide the Town with a responsible means of maintaining existing water service while planning for future capacity, as required. Future construction activities will consist of trenching for water line installation and modifications. The Town of La Conner will operate and maintain the completed system.*

**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: 12/10/09

#### D. SUPPLEMENTAL SHEET FOR NONPROJECT 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?

*Temporary increase in noise and air emissions due to construction of proposed water facilities. As the community grows, water lines and improvements to existing lines will be required.*

Proposed measures to avoid or reduce such increases are:

*Require compliance with local and state regulations.*

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

*No.*

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

*Implementing a comprehensive plan reduces the overall amount of construction activity and minimizes the effects of development.*

3. How would the proposal be likely to deplete energy or natural resources?

*Installation of materials, use of electricity, diesel oil and fuel are required in relatively small amounts. The Plan is not expected to have a significant impact on natural resources.*

Proposed measures to protect or conserve energy and natural resource are:

*Energy conservation may be realized through appropriate materials and processes that would be required for each element of construction and ongoing operation.*

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?

*The implementation of the plan will not have a significant impact on environmentally sensitive areas. Most of the proposed facilities will be installed along existing transportation and utility corridors. Some projects may involve construction in critical areas, such as wetlands. Each project will be permitting and constructed in accordance with the appropriate regulations.*

*Proposed measures to protect such resources or to avoid or reduce impacts are:*

*Comply with local and state requirements. Implementing a comprehensive plan reduces the overall amount of construction activity and minimizes. The effects of development.*

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 plan will not significantly affect land and shoreline use. The proposal would provide new facilities and improve existing facilities, keeping in compliance with existing land and shoreline use plans.*

*Proposed measures to avoid or reduce shoreline and land use impacts are:*

*None. No significant impacts are anticipated.*

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

*This proposal will not significantly increase demands on transportation or public services and utilities.*

*Proposed measures to reduce or respond to such demand(s) are:*

*None. No significant impact is anticipated.*

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

*No conflicts.*

## **APPENDIX C**

### **HYDRAULIC ANALYSIS**

**IN EFFORTS TO REDUCE PAPER WASTE, THE DATA FROM THE  
HYDRAULIC ANALYSIS IS NOT INCLUDED WITH THIS  
SUBMITTAL. IT IS AVAILABLE UPON REQUEST.**

**APPENDIX D**

**MISCELLANEOUS DOCUMENTS  
AND STAFF CERTIFICATIONS**

**STAFF CERTIFICATIONS**

**CONSUMER CONFIDENCE REPORT**

**COLIFORM MONITORING PLAN**

**DRAFT EMERGENCY RESPONSE PLAN**

**COMPLAINT FORMS**

**DOH APPROVAL OF STANDARD CONSTRUCTION SPECIFICATIONS**

**SECTION 570 – ASBESTOS CONTROL STANDARDS**

The State of Washington  
Department of Health

# Certificate of Competency



The Department of Health, Water Works Operator Certification Program for the State of Washington  
Hereby Recognizes


**BRIAN W. LEASE**

as a

**WATER DISTRIBUTION MANAGER 1**

and certifies that this individual has met the established qualifications and has passed the  
above water works operator certification examination.

Witnessed under my hand this 6TH day  
of JANUARY, 2000

  
Cheryl L. Berger  
Water Works Operator Certification Program Manager

CERTIFICATE NO. 7950

This certificate shall be in full force and effect when accompanied by an annual renewal card.

DOH 331-007 (Rev 12/95)

The State of Washington  
Department of Health

# Certificate of Competency



The Department of Health, Water Works Operator Certification Program for the State of Washington  
Hereby Recognizes


**BRIAN W. LEASE**

as a

**Cross Connection Control Specialist 1**

and certifies that this individual has met the established qualifications and has passed the  
above water works operator certification examination.

Witnessed under my hand this 2nd day  
of June, 19 99

  
Cheryl L. Bengner  
Water Works Operator Certification Program Manager

CERTIFICATE NO. 7950

This certificate shall be in full force and effect when accompanied by an annual renewal card.  
DOH 331-007 (Rev 12/95)




# Certificate of Competency

**Bradley William Pritchard**

is hereby certified as a Water Works Operator in the State of Washington. This individual has met the established qualifications of the Washington State Department of Health and has passed the Water Works Operator Certification exam for this classification.

**Classification: Water Distribution Manager I**

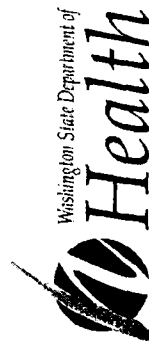
**Certificate Number: 011226**

  
Cheryl L. Berger  
Water Works Certification Program Manager

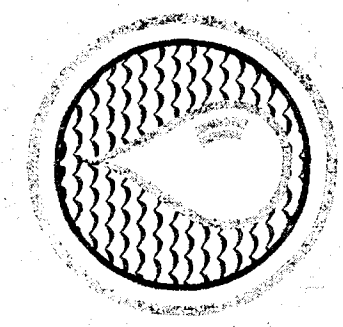
January 7, 2009

Date

*This certificate shall be in full force and effect when accompanied by an annual validation card.*



HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER



# Certificate of Competency

**Salome Q. Pena**

is hereby certified as a Water Works Operator in the State of Washington. This individual has met the established qualifications of the Washington State Department of Health and has passed the Water Works Operator Certification exam for this classification.

**Classification: Water Distribution Manager 1**

**Certificate Number: 011119**

  
Cheryl L. Bergner  
Water Works Certification Program Manager

**October 10, 2005**

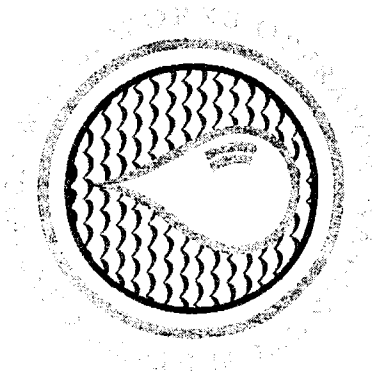
Date

***This certificate shall be in full force and effect when accompanied by an annual validation card.***



Washington State Department of Health  
Environmental Health Programs  
Division of Drinking Water

HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER



# Certificate of Competency

**Salome Q. Pena**

is hereby certified as a Water Works Operator in the State of Washington. This individual has met the established qualifications of the Washington State Department of Health and has passed the Water Works Operator Certification exam for this classification.

**Classification:** Cross Connection Control Specialist

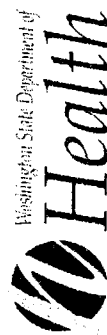
**Certificate Number:** 011119

  
Cheryl L. Bengner  
Water Works Certification Program Manager

**June 12, 2006**

Date

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Washington State Department of Health  
Environmental Health Program  
Division of Drinking Water

HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER



# Town of La Conner Water Department

## Consumer Confidence Report

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January 1 - December 31, 2008

**Introduction:** In 1996 Congress re-authorized the Safe Drinking Water Act (SDWA) which requires the EPA to set regulations limiting the amounts of certain contaminants in water provided by public water systems. As a part of this we will be providing you, our customers with information on a yearly basis, regarding the types of testing done and contaminants that were detected during the previous year. The purpose of these reports is to provide consumers with information, which will allow them to make informed choices regarding their drinking water.

**Service and Quality:** The La Conner Water Department is committed to providing our customers with a safe and reliable supply of high-quality drinking water, along with superior customer service. Together with the Anacortes Water Department and various governmental agencies, we are working to utilize the latest information and technologies to provide you with safe drinking water. In 2008 the Town of La Conner Water Department had no violations of EPA water quality standards.

**Sources:** The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water moves through the air, over the surface of the land and through the ground, it dissolves naturally occurring minerals and in some cases, radioactive materials and can also pick up substances resulting from the activities of humans and the presence of animals.

Our water comes from a surface water source, originating at the City of Anacortes water treatment plant on the Skagit River near Mount Vernon. The Skagit River basin covers over 3,000 square miles from British Columbia, Canada to Skagit Bay near La Conner. It passes through portions of Skagit, Snohomish, and Whatcom counties, and through dams, forests, farms and several cities and towns with numerous businesses and industries along the way.

The La Conner water system extends from the Farmhouse Inn at SR 20, along La Conner-Whitney Rd. to La Conner, and provides water to the Skagit Beach community as well as wholesale water to Shelter Bay community. Our system has 19.5 miles of piping ranging from 1½-inches to 14 inches in diameter. We have a 1.5 million gallon reservoir which provides fire protection, pressure balancing and up to 3 days of water supply under normal conditions in the event of a disruption of water from Anacortes.

### **Contaminants that may be present in source water include:**

**Microbial Contaminants:** such as viruses and bacteria from sewage and septic tanks, livestock or wildlife.

**Inorganic Contaminants:** such as salts and metals, which can be naturally-occurring or resulting from urban storm-water runoff, industrial or domestic wastewater, petroleum production, mining or farming. **Pesticides and Herbicides:** which may come from residential, urban storm-water runoff and agriculture.

**Organic chemical contaminants:** including synthetic and volatile organic compounds, which are byproducts of industrial processes and petroleum production, gas stations, urban storm-water runoff, and septic systems.

**Radioactive contaminants:** which can be naturally occurring, or the result of petroleum production or mining activities.

### **Facts**

Drinking water, both bottled and tap may be reasonably expected to contain at least small amounts of some contaminants. **The presence of contaminants does not necessarily indicate that your water poses a health risk.** More information about contaminants and potential health effects can be obtained by calling the EPA's SDWA hotline at 1-800-426-4791 or their website: <http://www.epa.gov/safewater/hfacts.html>. Additional information can be found at [www.doh.gov/](http://www.doh.gov/) and [www.awwa.org/](http://www.awwa.org/). In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The FDA establishes regulations for bottled water. A contaminant is defined as any substance or matter in water. Not all contaminants are harmful and some are of concern only above certain levels. The EPA has established both primary and secondary standards for drinking water.

***Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons undergoing chemotherapy, people with transplanted organs, people with AIDS/HIV or other immune system disorders, some elderly and infants can be particularly at risk for infections. These people should seek advice from their health care providers. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4971.***



### Test Results

**Chlorine:** Average chlorine residual was .19 ppm with the range of detection ranging from .03 - .37 ppm

Contaminant (units)	MCLG	MCL	Level Detected	Range of Detections	Violations	Date of Sample	Typical Source of Contamination
<b>Lead (ppb)</b>	0	.015	.004	<.0016- .004	<b>None</b>	2008	Corrosion of household plumbing. Erosion of natural deposits.
<b>Copper (ppm)</b>	1.3	1.3	.036	.005 - .036	<b>None</b>	2008	Same as above, also leaching from wood preservatives.
<b>Total Trihalomethanes ug/l</b>	0	80	21.7	8.5 – 33.7	<b>None</b>	2008	By-product of drinking water chlorination.
<b>Halo-Acetic Acids</b>	0	60	15.95	8.5 – 22.2	<b>None</b>	2008	" "
<b>Arsenic</b>	0	100	0	0	<b>None</b>	2002	Leaching of mineral deposits, industrial activities, mining.
<b>Unregulated Contaminants</b>	0	0	0	0	<b>None</b>	2002	Industrial, Petrochemical, Production, Agriculture

In 2002 the EPA lowered the maximum allowable levels of Arsenic from 50 ppb to 10 ppb. There was no detectable level of Arsenic found in our water, from testing by both the Anacortes water department and ourselves. Arsenic is a known carcinogen and can cause circulatory problems and skin damage.

### CITY OF ANACORTES WATER TREATMENT PLANT TEST RESULTS

[WWW.cityofanacortes.org](http://WWW.cityofanacortes.org)

**Arsenic:** In February 2002, the Environmental Protection Agency (EPA) tightened the maximum contaminant level (MCL) for arsenic. They reduced the level from 50 parts per billion (ppb) to 10 ppb, a goal that water utilities need to reach by January 2006. Some people who drink water that contains arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of contracting cancer. **Annual testing found no arsenic detected in our water.**

**Microbial Contaminants:** Potentially harmful microorganisms that may be naturally occurring or introduced by humans. A total of 52 finished water samples were collected from the Anacortes Water Treatment Plant sample tap and analyzed in 2008. **No detectable levels of coliform bacteria were found in any of these samples.** No drinking water bacteriological sample collected at the Anacortes Water Treatment Plant has ever failed to make compliance.

**Inorganic Chemicals:** Chemicals primarily introduced from groundwater filtering through natural geologic formations or by human activities. **The Anacortes Water Treatment Plant's finished water test results in 2008 were less than the minimum level of analytical accuracy for all regulated inorganic compounds.**

**Pesticides and Herbicides:** May come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses. **The Anacortes Water Treat Plant's finished water test results for 2006 were less than the minimum level of analytical accuracy for all regulated pesticides and herbicides.**

**Organic Chemicals:** Contaminants such as pesticides produced from agricultural and industrial activities. **The finished water produced by the Anacortes Water Treatment Plant in 2008 had no detected organic compounds, other than trihalomethanes, a by-product of the disinfection process.**

**Radioactivity:** Occurs in water due to natural mineral deposits, fall-out from nuclear detonations, and from medical/scientific research and industrial processes. **The test results of the Anacortes Water Treatment Plant's finished water are less than the minimum level of analytical accuracy for all regulated radionuclides.**

**Cryptosporidium and Giardia:** Microscopic organisms that, when ingested, can result in diarrhea, fever, and other symptoms of gastrointestinal illness. They are found in most rivers and streams, including the Skagit River. **Neither organism has ever been detected in the Anacortes Water Treatment Plant's finished water.** Regulations require monthly testing of the raw water and quarterly testing of the finished water.

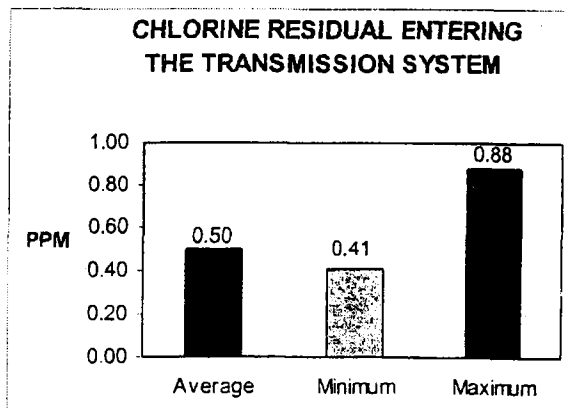
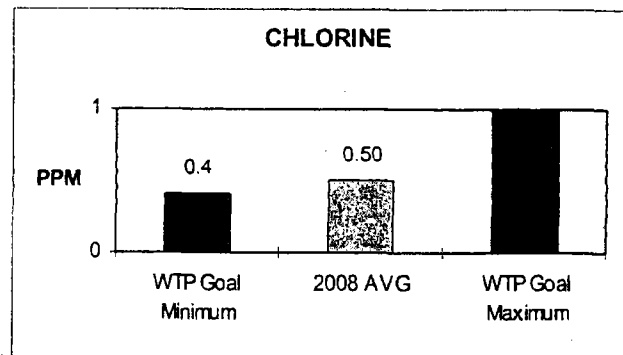
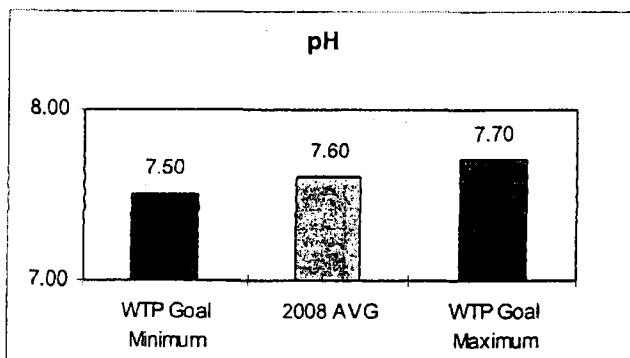
## PROTECTING THE PUBLIC HEALTH

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health. A contaminant is defined as any substance or matter in water. However, not all contaminants are harmful and some contaminants are of a concern only above certain levels. The EPA has established primary and secondary standards for drinking water. All treatment plant operators are certified as required by Washington State Department of Health (DOH). All of the Wastewater Treatment Plants located above our river intake are regulated and permitted by the Department of Ecology (DOE). The Water Treatment Plant maintains good communication with the upstream Wastewater Treatment Plants to assure timely notification of any potential discharge concerns. Also, the DOE is aware of the need to protect our drinking water Intake Structure and assures this through the secondary standards that are incorporated into the wastewater permits.



**Secondary Standards** are non-enforceable guidelines that relate to the taste, odor, and appearance of drinking water.

CONTAMINANT (UNITS)	MCLG	MCL	LEVEL DETECTED	RANGE OF DETECTIONS	VIOLATION	TYPICAL SOURCE OF CONTAMINATION
Turbidity (NTU)	N/A	0.30	0.022 AVG	0.020-0.147	NONE	Soil Runoff
Total Trihalomethanes (ppb)	0	80.0	27.24 AVG	14.4-44.1	NONE	By-product of drinking w chlorination



**Coliform Monitoring Plan for:****Town of La Conner****A. System Information**

<b>Water System Name</b> Town of La Conner	<b>County</b> Skagit	<b>System I.D. Number</b> 433500
<b>Attach copy of current WFI</b>		
<b>Number of Routine Samples Required Monthly by Regulation: TWO (2)</b>	<b>Number of Sample Sites Needed to Represent the Distribution System: Four (4)</b>	

**B. Routine and Repeat Sample Locations**

<b>Location/Address for Routine Sample Sites</b>	<b>Location/Address for Repeat Sample Sites</b>
<b>X1. 622 2<sup>ND</sup> Street</b>	<b>1-1. 622 2<sup>nd</sup> Street</b>
	<b>1-2. 704 2<sup>nd</sup> Street (US)</b>
	<b>1-3. 616 2<sup>ND</sup> Street (DS)</b>
<b>X2. 304 Morris Street</b>	<b>2-1. 304 Morris Street</b>
	<b>2-2. 306 Morris Street (US)</b>
	<b>2-3. 220 Morris Street (DS)</b>
<b>X3. Pioneer Park</b>	<b>3-1. Pioneer Park</b>
	<b>3-2. 1112 Conner way (US)</b>
	<b>3-3. 1320 Conner way (DS)</b>
<b>X4. Port of Skagit County P.R Dock</b>	<b>4-1. Port of Skagit P.R Dock</b>
	<b>4-2. 900 Pearle Jenson Way (US)</b>
	<b>4-3. 920 Pearle Jenson WAY (DS)</b>

### C. Routine Sample Rotation Schedule

Month	Routine Site(s)	Month	Routine Site(s)
January	X1, X2	July	X1, X2
February	X3, X4	August	X3, X4
March	X1, X2	September	X1, X2
April	X3, X4	October	X3, X4
May	X1, X2	November	X1, X2
June	X3, X4	December	X3, X4

### D. Month Following Unsatisfactory Samples

Location/Address for <u>Routine</u> Sample Site(s) Unsatisfactory the Previous Month	Location/Address for the five <u>Routine</u> Sample Sites
X1. 622 2 <sup>nd</sup> Street	1. 622 2 <sup>nd</sup> Street
	2. 304 Morris Street
	3. Pioneer Park
	4. 704 2 <sup>nd</sup> Street (US)
	5. 616 2 <sup>ND</sup> Street (DS)
X2. 304 Morris Street	1. 304 Morris Street
	2. Pioneer Park
	3. 622 2 <sup>nd</sup> Street
	4. 306 Morris Street (US)
	5. 220 Morris Street (DS)
X3. Pioneer Park	1. Pioneer Park
	2. 622 2 <sup>nd</sup> Street
	3. 304 Morris Street
	4. 1112 Conner way (US)
	5. 1320 Conner way (DS)

<b>X4. port of Skagit County P.R Dock</b>	<b>1. Port of Skagit County P.R Dock</b>
	<b>2. 304 Morris Street</b>
	<b>3. 622 2<sup>nd</sup> Street</b>
	<b>4. 900 Pearle Jenson way (US)</b>
	<b>5. 920 Pearle Jenson way (DS)</b>

### **E. Preparation Information**

<b>System Name</b> Town of La Conner	<b>Date Plan Completed</b>	<b>Dates Modified</b> 2-6-08				
<b>Name of Plan Preparer</b> Brian Lease	<b>Position</b> Public Works Director	<b>Daytime Phone #</b> (360) 466-3933				
<table border="1"> <tr> <td><b>State Reviewer</b></td> <td><b>Date Last Review</b></td> </tr> <tr> <td> </td> <td> </td> </tr> </table>			<b>State Reviewer</b>	<b>Date Last Review</b>		
<b>State Reviewer</b>	<b>Date Last Review</b>					

### **F. System Map**





# **Emergency Response Guide for Town of La Conner Public Drinking Water System**

**November 2009**

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# Section 1.

## Emergency Response Mission and Goals

Use the mission statement and goals to help focus emergency planning and response.

### Emergency response mission and goals

<b>Mission statement for emergency response</b>	In an emergency, the mission of the Town of La Conner water system is to protect the health, property and the environment of our customers by being prepared to respond immediately to a variety of events that may result in contamination of the water or disruption of water supply.
<b>Goal 1</b>	Be able to quickly identify an emergency and initiate timely and effective response actions.
<b>Goal 2</b>	Be able to quickly notify local, state, and federal agencies to assist in the response.
<b>Goal 3</b>	Protect public health by being able to quickly determine if the water is unsafe to drink or use and being able to immediately notify customers effectively of the situation and advise them of appropriate protective action.
<b>Goal 4</b>	To be able to quickly respond and repair damages to minimize system down time.

## Section 2.

### System Information

Keep this basic information readily available for when you need it for emergency responders, repair people, and the news media.

#### System information

<b>System identification number</b>	433500	
<b>System name and address</b>	Town of La Conner Public Works 12154 CHILBERG RD La Conner WA 98257	
<b>Directions to the system</b>	From I-5 South, Exit 221 (Conway) left (West) onto Pioneer Highway 534, Right (West) through Conway on Fir Island Rd which becomes Best Rd, Left on Chilberg Rd. The Public Works shop is located behind (South) of the Fire Station and Waste Water Treatment Plant. Left 400ft before Roundabout	
<b>Basic description and location of system facilities</b>	The Town of La Conner owns and operates a municipal Group A water distribution system consisting of a single steel above-grade 1.5 MG storage reservoir, approximately 20 miles of ¾" to 14" diameter distribution water mains and valves, fire hydrants, pressure reducing valves and water services. The source is an intertie and purchase with Anacortes that delivers treated water.	
<b>Location/Town</b>	Skagit County, section 36, T 34 N, R 2 E	
<b>Population served and service connections from Division of Drinking Water records.</b>	839 people	659 connections
<b>System owner (the owner should be listed as a person's name)</b>	Town of La Conner	
<b>Name, title, and phone number of person responsible for maintaining and implementing the emergency plan.</b>	Brian Lease Public Works Director	360-466-3933 Phone 360-840-3001 Cell

## Section 3.

### Chain of Command – Lines of Authority

The first response step in any emergency is to inform the person at the top of this list, who is responsible for managing the emergency and making key decisions.

#### Chain of command – lines of authority

Name and title	Responsibilities during an emergency	Contact numbers
Brian Lease Public Works Director	Responsible for overall management and decision making for the water system. The PW Director is the lead for managing the emergency, providing information to Town Officials, regulatory agencies, the public and news media. All communications to external parties are to be approved by the PW Director.	Work: 360-466-3933 Cell: 360-840-3001 Home: 360-466-3707
Brad Pritchard Public Works Foreman	The PW Foreman reports to the PW Director, and assumes the Director's responsibilities should the Director be unreachable in an emergency. The Foreman is responsible for maintaining the water system, performing inspections, maintenance, sampling, relaying critical information, assessing and providing recommendations to the Director.	Cell: 360-840-6529
Salome Pena Public Works Maintenance	Reports to Foreman. Assists the Public Works Foreman performing inspections, maintenance and sampling and relaying critical information, assessing and providing recommendations to the Director.	Cell; 360-840-9012
Kevin Palaniuk Public Works Maintenance	Reports to Foreman. Delivers door hangers and supports water system Foreman.	Cell: 360-630-4248
Lynn Berry Public Works Maintenance	Reports to Foreman. Delivers door hangers and supports water system Foreman.	Cell: 360-840-3684
Evan Henke Town Engineer	Reports to PW Director. Provides engineering assessment and support to the water utility.	Work: 425-637-3693 Cell: 425-830-1775

## Section 4.

### Events that Cause Emergencies

The events listed below may cause water system emergencies. They are arranged from highest to lowest probable risk.

#### Events that cause emergencies

Type of event	Probability or risk (High-Med-Low)	Comments
Broken Water Main	High	While infrequent (avg. once per year) this is the most common event to effect the system.
Earthquake	High	2001 Nisqually earthquake resulted in several minor water main breaks. While very infrequent, an earthquake has the potential to severely damage the water system and disrupt the source supply.
Floods	Med	Primary risk is at the supply source - Anacortes
Drought	med	Primary risk is at the supply source - Anacortes
Cross Connections	Low	
Cold Weather	Low	
Windstorm	Low	
Terrorism	Low	
Disease	Low	

## Section 5.

### Severity of Emergencies

Decisions on severity should be collaborative among system personnel, but are ultimately made by the person in charge of the emergency. The information for making such a decision will accumulate over time, and may result in changes in the assessment of severity.

Communicate each assessment of severity immediately to all those dealing with the emergency. Make sure staff have cell phones, pagers, or radios when they are in the field.

#### Level I – Normal

**Description: The Town of La Conner water system considers the following as level I emergencies: La Conner Public Works handles this level of tasks**

- **Distribution and service line breaks**

The system has specific response activities identified for these types of emergencies, including proper sampling, disinfection, and pressure testing activities. System personnel are advised and are directed to work on the problem and are usually capable of resolving the problem within 24 hours. If it is determined that the problem will take longer than 24 hours to resolve and storage is likely to be drawn down below a safe operating level, the situation will be elevated to level II.

#### Level II – Minor

**Description: The Town of La Conner water system considers the following as level II emergencies: La Conner Public Works handles this level of tasks**

- Disruption in supply such as a transmission main line break, backflow, and loss of pressure.
- Storage is not adequate to handle disruption in supply.
- An initial positive coliform or E. coli sample.
- An initial primary chemical contaminant sample.
- A minor act of vandalism.
- Drought, with a noticeable and continuing decline of source water level.

#### Level III – Significant

**Description: The Town of La Conner water system considers the following as level III emergencies: La Conner Public Works will need to contact mutual aid for this level.**

- A verified acute confirmed coliform MCL or E. coli/fecal positive sample requiring immediate consideration of a health advisory notice to customers.
- A confirmed sample of another primary contaminant requiring immediate consideration of a

health advisory notice to customers.

- A loss or complete malfunction of the water treatment facilities for the surface water source, including chlorination.
- A major line break or other system failure resulting in a water shortage or requiring system shutdown.
- An act of vandalism or terrorist threat such as intrusion or damage to a primary facility.
- An immediate threat to public health of the customers and an advisory is required.
- Severe drought significantly affecting source.

#### **Level IV – Catastrophic Disaster/Major Emergency**

**Description: The Town of La Conner water system considers the following as level IV emergencies: La Conner Public Works will need to contact mutual aid for this level**

- Earthquake that shuts down the system or impacts sources, lines, etc.
- Act of terrorism possibly contaminating the water system with biological or chemical agents.
- Flood that infiltrates system facilities and sources.
- Storm that significantly damages power grid and system facilities.
- Mudslide or other earth shift that causes failure of transmission line.

## **Section 6. Emergency Notification**

### **Notification call-up lists**

Use these lists to notifying important parties during of an emergency.

#### **Local notification list**

Local Law Enforcement day Skagit County Sheriff-911	Local Law Enforcement night Skagit County Sheriff-911
Fire Dept day La Conner Fire Dept-911	Fire Dept night La Conner Fire Dept-911
Ambulance service day 911	Ambulance service night 911
Local Health Jurisdiction day Skagit County Health Dept 360-336-9380	Local Health Jurisdiction after hours Skagit County Health Dept 360-336-9380
Water Testing Laboratory day Edge Analytical 360-757-1400	Water Testing Laboratory after hours Edge Analytical 360-757-1400



Local emergency management day 360-428-3250	Local emergency management after hours 911
Water System Operator day 360-840-3001 360-840-6529	Water System Operator night 360-840-3001 360-840-6529
Neighboring Water System day Anacortes WP 360-428-1598 PW 360-293-1919	Neighboring Water System night Anacortes WP 360-428-1598 PW 360-293-1919
Neighboring Water System day Shelter Bay 360-466-3805	Neighboring Water System night Shelter Bay 360-466-3805
News Media Contact	Local Radio Station KBRC 360-424-1430

#### State notification list

State Police day Washington State Patrol 911	State Police night Washington State Patrol 911
Division of Drinking Water Regional Office day 253-395-6750	Division of Drinking Water after hours 253-395-6750
State testing laboratory day	▪ State testing laboratory after hours

#### Service/repair notification list

Electrician day D.E.C Brad Quinton 360-428-6055	
Electric Utility day PSE 888-225-5773	Electric Utility night PSE 888-225-5773
CHS Engineers LLC Evan Henke 425-637-3693 425-830-1775	
Pumps and Water Parts Specialist Ferguson 360-757-9794	Water Parts Specialist H.B Jaeger 360-707-5958
Soil Excavator day La Conner Public Works 360-466-3933	Soil Excavator night La Conner Public Works 360-840-3001
Equipment Rental day Birch Equipment 360-293-7788	Equipment Rental night Birch Equipment 360-293-7788
Catapult Heavy Construction 360-428-8811	Arne Svendsen Trucking 360-424-0258
McNeill Industries Control Valve Services 800-829-5167 253-677-8911	C. Johnson Construction Inc. 360-675-4848

## Notification procedures

### Notifying water system customers

<b>Who is Responsible:</b>	The <b>Public Works Director</b> is ultimately responsible for making the decision to notify customers regarding potential water Emergency. The Public Works Director should consult with field staff to make the decision. Once the decision is made procedures for notification will be initiated.
<b>Procedures:</b>	<ul style="list-style-type: none"><li>• Public Works Director confers with key staff to verify problems.</li><li>• Public Works Director organizes staff to develop the message to be delivered to the customers.</li><li>• Public Works Director consults with state drinking water staff regarding the problem.</li><li>• Public Works Director with assistance from staff prepares door hangers, signs and radio message.</li><li>• Water system Foreman continues to investigate problem and make repairs as necessary.</li><li>• Water system Foreman continuously updates the water system manager on water shortage.</li><li>• Once water Emergency is resolved, re-notify customers.</li></ul>

### Alerting local law enforcement, state drinking water officials, and local health

<b>Who is Responsible:</b>	The <b>Public Works Director</b> is ultimately responsible for making the decision to notify State and local officials regarding water Emergency. The Public Works Director should consult with field staff to make the decision. Once the decision is made procedures for notification will be initiated.
<b>Procedures:</b>	<ul style="list-style-type: none"><li>• Public Works Director confers with key staff to verify problems.</li><li>• Public Works Director organizes staff to develop the message to be delivered to state and local officials.</li><li>• Public Works Director alerts local law enforcement, state drinking water officials, and local health regarding the problem.</li></ul>

### Contacting service and repair contractors

<b>Who is Responsible:</b>	<b>The Town of La Conner Public Works Director and/or Town Engineer</b>
<b>Procedures:</b>	After assessing the nature of repairs needed, Public Works Director and/or the Town Engineer will refer to the Town's Small Works Roster and direct the mitigation/repair with the selected available contractor.

### Contact neighboring water systems, if necessary

<b>Who is Responsible:</b>	<b>Public Works Director, Public Works Foreman</b>
<b>Procedures:</b>	Phone call to Anacortes and Shelter Bay and inform of the event and isolation of the water systems.

### Procedures for issuing a health advisory

<b>Who is Responsible:</b>	<b>Public Works Director and Public Works Foreman</b>
<b>Procedures:</b>	After a level III or IV is determined contacting local agencies such as DOH. <ul style="list-style-type: none"><li>• Call Radio station with public information.</li><li>• Inform staff to prepare and hand deliver door hangers.</li></ul>

### Other procedures, as necessary

<b>Who is Responsible:</b>	<b>Public Works Director and Public Works Foreman</b>
<b>Procedures:</b>	Monitor water reservoir level

## Section 7.

### Water Quality Sampling

If contamination is suspected, notify and work with the local health jurisdiction and State DOH, Division of Drinking Water (DDW) regional office to help identify what testing should be done. This may help prevent illness or even death.

#### Water quality sampling

Sampling parameter	Do we have procedures? Yes/No	Basic steps to conduct sampling (sites, frequency, procedures, lab requirements, lab locations, contacts, etc.)
Coliform Bacteria	Yes	Two samples per month.
Heterotrophic Plate Count (HPC)	No	
Chlorine Residual	Yes	Daily.
Chlorine Demand	No	
Nitrate/Nitrite	No	
Total Organic Carbon (TOC)	No	
Total Halogenated Organic Carbon (TOX)	No	
Cyanide	No	

## Section 8. Effective Communication

Communication with customers, the news media, and the general public is a critical part of emergency response.

### Designated public spokesperson

Designate a spokesperson (and alternates) for delivering messages to the news media and the public (see Section 6 for news media contacts in local notification list).

### Designate a spokesperson and alternates

Spokesperson	Alternate 1	Alternate 2
Mayor	Administrator	Public Works Director

### Key messages

**Develop possible messages in advance, and update them as the emergency develops:**

- - We are taking this incident seriously and doing everything we can to resolve it.
  - Our primary concern is protecting our customers' health.
  - Another important concern is keeping the system operational and preventing damage.
  - What we know right now is \_\_\_\_\_
  - The information we have is incomplete. We will keep you informed as soon as we know more.
  - We have contacted state and local officials to help us respond effectively.
  - If you think you may be ill or need medical advice, contact a physician.
  - We are sampling the water and doing tests to determine whether there is contamination.
- Etc.

## **Health advisories**

During events when water quality and human health are in question, it may be necessary to issue a health advisory that gives advice or recommendations to water system customers on how to protect their health when drinking water is considered unsafe. These advisories are issued when the health risks to the consumers are sufficient, in the estimation of the water system or state or local health officials, to warrant such advice.

Health advisories usually take the form of a drinking water warning or boil water advisory. Communication during these times is critical. Health advisories should always be well thought out and provide very clear messages.

The Division of Drinking Water has put together a number of tools, including fact sheets, brochures, forms, and templates to help prepare for a health advisory. These are on the Web at: <http://www.doh.wa.gov/ehp/dw>

## Section 9.

### The Vulnerability Assessment

This is an evaluation of each water system component to identify weaknesses or deficiencies that may make them susceptible to damage or failure during an emergency. It also assesses facilities for security enhancements that may guard against unauthorized entry, vandalism, or terrorism.

#### Facility vulnerability assessment and improvements identification

System component	Description and condition	Vulnerability	Improvements or mitigating actions	Security improvements
<b>Source</b>	Purchased intertie with Anacortes, one valve isolation	Long transmission lines subject to earth movement or excavation damage	Ensure isolation valves are properly functioning and locations are easily accessible and identifiable.	
<b>Storage</b>	1.5 MG steel tank Storage reservoir is in sound condition, but reservoir hatches could be accessed and locks could be broken.	Vandals could access reservoir hatches. Also, the reservoir could be prone to shaking and settling resulting from an earthquake.	Frequent inspections of locks and signs of unauthorized entry	Security Cameras
<b>Distribution</b>	Approximately 20 miles of water main with a number of valves, PRVs, ARVs, Fire Hydrants	Possible injection points	Frequent inspections of locks and signs of unauthorized entry	

## Section 10.

### Response Actions for Specific Events

In any event there are a series of general steps to take:

1. Confirm and analyze the type and severity of the emergency.
2. Take immediate actions to save lives.
3. Take action to reduce injuries and system damage.
4. Make repairs based on priority demand.
5. Return the system to normal operation.

The following tables identify the assessment, set forth immediate response actions, define what notifications need to be made, and describe important follow-up actions.

#### A. Power outage/Energy Shortage

<b>Assessment</b>	La Conner Water system does not require power for daily in-system operation. The Town's pressure source, Anacortes, does have emergency power generators to keep their pumps operating during most short term power outages. Loss of power may result in a loss of pressure and would require that the water system begin drawing solely from the stand-by water reserves stored in the hill top reservoir.
<b>Immediate actions</b>	Confirm status of power/pressure with Anacortes. If outage is going to persist for longer than 12 hours: Notify Shelter Bay of condition and request that they immediately begin conservation measures. Dispatch crews to shut down all temporary and/or irrigation connections.
<b>Notifications</b>	Depending upon estimate of length of time – prepare public notification of need for conservation and/or rationing.
<b>Follow-up actions</b>	Following supply restoration, allow the reservoir to fill before restoring all connections.



**B. Transmission or main break**

<b>Assessment</b>	High probability of at least one significant break per year
<b>Immediate actions</b>	Assess likely impact. Locate and isolate, confirm positive pressure, sanitize parts, repair and flush, also the nature of the break may require testing before its back in service. If location and/or volume will impact total supply, treat as a loss of supply and initiate conservation measures
<b>Notifications</b>	Notify Shelter Bay, Fire Department and Public as appropriate.
<b>Follow-up actions</b>	Update all as new information and schedules are available.

**C. Distribution line break**

<b>Assessment</b>	Due to a concerted effort by the Town, most of the distribution lines are looped and breaks can be isolated to maintain a majority of connections in service.
<b>Immediate actions</b>	Locate and isolate, confirm positive pressure, sanitize parts, repair, and flush also the nature of the break may require testing before its back in service.
<b>Notifications</b>	Inform the customers affected by the service disruption when service will be restored.
<b>Follow-up actions</b>	

#### D. Chlorine treatment equipment failure

<b>Assessment</b>	La Conner purchases pretreated water from Anacortes. La Conner does not require additional treatment.
<b>Immediate actions</b>	Contact water supplier (Anacortes) for briefing and timeline. Scheduled testing for Chlorine Residual, upon notification of loss of disinfection – increase sampling schedule for bacteria.
<b>Notifications</b>	Notify Shelter Bay
<b>Follow-up actions</b>	Depending on timeline, begin conservation and/or public notification

#### E. Treatment equipment

<b>Assessment</b>	La Conner purchases pretreated water from Anacortes. La Conner has no treatment equipment.
<b>Immediate actions</b>	contact water supplier (Anacortes) for briefing and timeline. Depending on timeline, consider isolating system from supply and drawing on reserves.
<b>Notifications</b>	Notify Shelter Bay
<b>Follow-up actions</b>	Depending on timeline, begin conservation and/or public notification

#### F. Source pump failure

<b>Assessment</b>	La Conner does not use booster pumps in its water system. See assessment for Power Failure
<b>Immediate actions</b>	
<b>Notifications</b>	
<b>Follow-up actions</b>	

## G. Microbial (coliform, E. coli) contamination

<b>Assessment</b>	<p>The water is tested for coliform bacteria weekly and any test result that gives a positive indication of coliform requires additional sampling. After a sample failure, 3 repeat samples must be collected. The Department of Health must be notified within 10 days of any sample indicating the presence of coliform and by the end of the workday when the Town has been notified of the presence of fecal coliform or E-Coli.</p> <p>Upon notification by the Health Department of a non-acute maximum contaminant level violation for coliform bacteria, the Town has 14 days to report the violation to the local newspaper. This report shall provide a clear, concise, and simple explanation of the violation. There must be a discussion of potential adverse health effects and any segment of the population that may be at a higher risk, and the steps the Town has taken, or is taking to remedy the situation.</p> <p>If fecal coliform or E. coli is present, then an acute violation of the total coliform rule exists and the Town has to notify the customers within 72 hours.</p> <p>After bad samples have been confirmed, don't assume that the source water is contaminated. Water draws, new construction or a possible cross-connection may be the cause of the problem.</p>
<b>Immediate actions</b>	
<b>Notifications</b>	
<b>Follow-up actions</b>	

## H. Volcanic Activity

<b>Assessment</b>	La Conner's location does not put it at high risk of a direct exposure to volcanic activity. The Mt. Baker system does have the potential to have a severe impact on the Skagit River and the Anacortes water intake and treatment facility.
<b>Immediate actions</b>	See Power Failure
<b>Notifications</b>	
<b>Follow-up actions</b>	

## I. CIVIL DISORDER/TERRORISM/BOMB THREAT

<b>Assessment</b>	<p>The Federal Bureau of Investigation has defined terrorism as "the unlawful use of force or violence against persons or property to intimidate or coerce a government; the civilian population; or any segment of it, in furtherance of political or social objectives."</p> <p>The potential occurrences could be the result of actions from domestic or international groups. The terrorist actions could be expected to come about as a result of grievances, real or imagined, toward activities of some governmental entity, or as retaliation for some governmental act.</p> <p>Although Town facilities are secured, it would not be difficult to inflict damage if someone was intent upon doing so. Town employees are also at risk due to their exposure to the public, either as targets or innocent passersby.</p>
<b>Immediate actions</b>	
<b>Notifications</b>	
<b>Follow-up actions</b>	

## J. Severe Cold

<b>Assessment</b>	<p>Our area of the Puget Sound region rarely sees the severe cold that occurs in other parts of the country. We do, however, see temperatures below freezing last for a week to ten days at a time.</p> <p>Long periods of below freezing weather can have a huge impact upon the Town. Meters that are not well protected will start freezing, as may some service lines. This will create long hours for the field crew, under harsh working conditions, creating the chances of fatigue, sickness, or injury.</p>
<b>Immediate actions</b>	Dispatch crews to repair lines.
<b>Notifications</b>	Seasonal reminder to public to protect pipes wherever possible.
<b>Follow-up actions</b>	

## K. Drought

<b>Assessment</b>	<p>Drought is defined as a "condition of climatic dryness that is severe enough to reduce soil moisture and water below the minimum necessary for sustaining plant, animal, and human life systems."</p> <p>A lengthy drought combined with extremely hot weather could create a cause for concern. Severe problems could occur in the event water shortages require rationing. In addition to the inconvenience of being without water for daily needs, it would become difficult to fight any fires should they occur. Grass and brush fires could spread rapidly due to the lack of moisture content in the vegetation. Historically, drought has not been a major concern for this area. The most recent drought of concern in the summer of 1992 did nothing more than cause minor inconvenience for the customers and create minor economic hardships.</p> <p>During times of water shortages the Town follows procedures established in the City of Anacortes Water Shortage Response Plan. A prolonged emergency would require conservation measures by the Town. This would involve contacting the local news media and mailing notices to the customers. Going door to door or using vehicles with loud speakers are methods of customer notification that are also used by the Town.</p> <p>The Department of Health and the City of Anacortes Water treatment Department would be kept informed so water quality could be closely monitored. The phone number for the DOH is 360-336-9380, and the number for the Anacortes Water treatment plant is 360-428-1598.</p> <p>Emergency water supply points would depend upon the extent of the disaster. Pre-planned points may be unusable after an emergency, so none should be specifically listed. A general location of supply points would be to use schools and churches as they have large parking lots and grass areas. In a major emergency, this would be coordinated through Skagit County Office of Emergency Management and their Emergency Operations Center. Their number is 360-428-3250.</p>
<b>Immediate actions</b>	Initiate the Water Shortage Plan
<b>Notifications</b>	
<b>Follow-up actions</b>	

## **L. Flood**

<b>Assessment</b>	<p>Of all the natural hazards that affect this area, floods are the most common and cause the most property damage. Flooding in this area usually occurs between October and February. Long periods of heavy rainfall and mild temperatures are normally the cause. Runoff of low elevation snow often contributes to flooding.</p> <p>The impact upon the Town during a flood would be minimal. The greatest concerns would be from plugged storm drains and the possible washout associated with them. Water quality from the City of Anacortes could suffer during times of heavy rains due to increased turbidity in the water. Employees may not be able to get to work in a timely manner due to impassable roads.</p>
<b>Immediate actions</b>	
<b>Notifications</b>	
<b>Follow-up actions</b>	

## **M. Earthquake**

<p><b>Assessment</b></p>	<p>An earthquake is the shaking of the ground caused by an abrupt shift of rock along a fracture in the earth called a fault. The greatest numbers of earthquakes in Washington are felt in the Puget Sound area. The principal ways that earthquakes cause damage are by strong ground shaking and by secondary effects of ground failures such as landslides, liquefaction, subsidence, and tsunamis.</p> <p>The risk of earthquakes is high in Washington, but not the same in all areas. Site conditions and the type of soil or rock affect the amount of shaking and the potential for damage. Solid rock or bedrock does not increase the shaking. Soft materials such as mud, artificial fill and layers of sand and clay make the consequences of ground shaking much worse. Many steep slopes will experience landslides, while flood plain and areas of artificial fill will be subject to liquefaction.</p> <p>Fire, a disaster in itself, frequently accompanies earthquakes. Fire usually occurs as a result of damaged electrical equipment, broken gas lines, fuel spills, disrupted heating equipment or any combination of these. These fires can break out in multiple locations in a short period of time causing the fire-fighting resources to be over-extended. Additional impacts would come from transportation route interruptions and the lack of water due to broken main lines.</p> <p>The Town could be severely affected by an earthquake. Water lines could be broken, the facilities damaged, and the source of water from the City of Anacortes disrupted or made not fit for human consumption. Each of these problems requires a different approach for solution.</p> <p>For broken main lines, the crew would start to valve off affected areas to stop the leakage and to conserve water for the rest of the community. Outside help would be needed to help make repairs to the main lines so that water would be available. In a worse case scenario, water would have to be brought in for people to drink. If the main lines could not be repaired quickly, fire protection would not be available and the chances of increased property damage would be greater.</p> <p>If the water supply were to be contaminated or to turbid for consumption, "boil water" notices would need to be made to the public, or potable water would need to be brought into the area. Additional staff members would be needed to alert</p>
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customers of the problems with the water, take water quality samples, and to flush main lines after the system is restored.

The loss of the office facilities would not impact operations as severely. The staff could find other buildings in which to work and the equipment could be stored inside any fenced and secure area. The greatest concern would be for the preservation of Town records and their restoration.

The intensity of an earthquake is a measure of the amount of ground shaking at a particular site. The Modified Mercalli Intensity Scale is now the scale most commonly used to rank quakes.

1. Not felt except by a few persons under especially favorable circumstances.
2. Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.
3. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing cars may rock slightly. Vibration similar to the passing of a truck.
4. Felt indoors by many, outdoors by a few during daylight. At night, some awakened. Dishes, windows, doors disturbed, walls make a cracking sound. Sensations like a heavy truck striking the building. Standing cars rock noticeably.
5. Felt by nearly everyone, many awakened. Some dishes, windows broken. Unstable object overturned. Pendulum clocks may stop.
6. Felt by all, many frightened. Some heavy furniture moved a few instances of fallen plaster. Damage slight.
7. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures, some chimneys broken. Noticed by persons driving cars.
8. Damage slight in specially designed structures, considerable in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, and walls. Heavy furniture overturned.
9. Damage considerable in specially designed structures, well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse.

	<p>Buildings shifted off foundations.</p> <p>10. Some well built wooden structures destroyed, most masonry and frame structures destroyed with foundations. Rails bent.</p> <p>11. Few, if any masonry structures remain standing. Bridges destroyed. Rails bent greatly.</p> <p>12. Damage total. Lines of sight and level distorted. Objects thrown into the air.</p>
<b>Immediate actions</b>	Isolation and assessment of damage.
<b>Notifications</b>	
<b>Follow-up actions</b>	

**N. Hazardous materials spill in vicinity of sources or system lines**

<b>Assessment</b>	<p>Hazardous materials incidents may occur at any time or place, when and where such materials are present under circumstances in which they may be released in sufficient volume and proximity to sensitive receptors and/or environments. The potential impact is dependent upon the nature of the material, conditions of the release, and area involved.</p> <p>The Town has few materials that could be classified as hazardous, and these are in very small quantities. The greatest hazard would come from someone transporting materials through the Town or from another source.</p> <p>The only major impact upon the Town in a hazardous materials spill would be if the substance penetrated the reservoir. This would cause contamination of the water supply and force the Town to stop supplying water until the contaminant could be neutralized and the water made safe for consumption.</p> <p>Minor impacts could occur to employees as they may be forced to evacuate the area, or detour to other routes in traveling to or from work.</p>
<b>Immediate actions</b>	Isolate impacted area.
<b>Notifications</b>	Notify affected parties.
<b>Follow-up actions</b>	

## O. Wind Storm

<b>Assessment</b>	<p>The problems arising from a windstorm are two fold. First is the damage that occurs in the form of downed trees, power lines, signs, and to buildings. The secondary hazard that occurs is with power and other utility failures. Winds of destructive velocity occur quite often in this region with damage ranging from local areas to the entire Puget Sound region.</p> <p>The National Weather Service classifies winds from 38 to 55 MPH as being gale force; from 56 to 74 MPH as storm force winds; and in excess of 75 MPH as hurricane force winds. Destructive winds like these normally occur between October and March, and approach from the south or southwest.</p> <p>The most recent windstorm of significance was the Inauguration Day Storm in January 1993. Winds were clocked at over 80 MPH and caused hundreds of thousands of dollars in damage. This storm resulted in the President declaring the area a disaster region so Federal aid could be made available.</p> <p>A windstorm of destructive velocity could strike this area with little warning. Because of the nature of these storms, there is no one area that is more at risk than any other is, so everyone must be prepared.</p> <p>The major disruption to Town services would come in the form of power outages, damage to facilities from falling trees, and the inability of crews to travel due to debris on the roads. Without power, the office functions would cease as the computer system and phones would not operate.</p>
<b>Immediate actions</b>	See Power Failure
<b>Notifications</b>	
<b>Follow-up actions</b>	

**P. TELECOMMUNICATION INTERRUPTION OR FAILURE**

<b>Assessment</b>	<p>Communications systems may suffer disruptions from natural or technological disasters. Transmission stations, landlines, satellites, cellular systems, and other facilities cannot be made completely secure and, therefore, are vulnerable to disruptions. Satellites are vital in that they provide communication capabilities outside of our local area. Although they are not subject to natural disasters, they are subject to system failures like any other communication device.</p> <p>While interruptions in communications would create inconveniences for the public, it could raise far more serious consequences with emergency services. Poor or non-existent communications could turn what is a minor emergency into a disaster situation.</p>
<b>Immediate actions</b>	Assemble staff and initiate emergency communications procedures
<b>Notifications</b>	Police and Fire services.
<b>Follow-up actions</b>	

**Q. Other**

<b>Assessment</b>	
<b>Immediate actions</b>	
<b>Notifications</b>	
<b>Follow-up actions</b>	

## Section 11. Alternative Water Sources

### Intertie to adjacent water supply system

Water systems within one-quarter mile of our system	Feasibility of connecting
PUD	Costly \$500,000. plus

### Alternate source(s) of water

Alternative sources	Names	Phone	Availability	Is the water safe for drinking?
Bottled Water Suppliers.	Crystal Springs	800-453-0293	24hr	Yes

## Section 12. Curtailling Water Usage

### Curtailling water use

Water curtailment measures	Actions
Restrict outside water usage including watering lawns, washing cars, etc. Request curtailment of inside usage.	<ul style="list-style-type: none"> <li>• Upon making the decision that curtailment is needed:</li> <li>• Draft door hanger with curtailment messages.</li> <li>• Post on customer doors.</li> <li>• Contac KBRC AM news to announce curtailment message.</li> <li>• Monitor system usage and spot check meter usage if time is available.</li> </ul> Continue message as long as curtailment is warranted.
Shut off all temporary and irrigation meters.	

## Section 13. Returning to Normal Operation

### Returning to normal operations

Action	Description and actions
Inspect, flush, and disinfect the system,	Water system operator and support staff inspect all system facilities, ensure all water quality tests have been done and the system has been flushed and disinfected if necessary. Water system operator makes a report to the water system manager. Water system manager makes decision on current condition of system.
Verification of water quality	Water system manager verifies water quality sampling results.
Coordinate with DOH	Water system manager coordinates with DOH on system condition and water quality results.
Notify customers	Water system manager meets with water system operator and communications lead to write notice to customers. Water system manager directs communications lead to distribute public notice.



## Section 14. Training and Rehearsals

### Training

Identify staff position training needs and expectations.

Position	Training needs and expectations
Water System Manager	Emergency response communications, emergency response planning, issuing health advisories
Water System Foreman	Emergency response communications, emergency response planning, suspicious activity training
Field support	Emergency response communications, suspicious activity training
Administrative Support	Emergency response communications, emergency response planning,

### Emergency rehearsals

Schedule for drills, tabletop exercises, and other ways to practice emergency response:

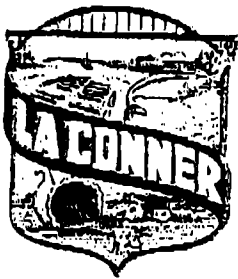
Event	Description	People and organizations involved	Date
Quarterly Training	Review the Emergency Response Plan with Staff, focusing on lines of communication and targeting a different specific event each quarter	Public works staff	Every 3 months

## Section 15. Plan Approval

### Plan approval

This plan is officially in effect when reviewed, approved, and signed by the following people:

Name/Title	Signature	Date
Brian Lease – Public Works Director		
Ramon Hayes - Mayor		



# TOWN OF LA CONNER

## Citizen Complaint or Concern

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Reporting Party: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Address: \_\_\_\_\_

Nature and location of problem: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Taken by: \_\_\_\_\_

### Routed To:

☐ Mayor ☐ Administrator ☐ Public Works ☐ Sewer ☐ Police

☐ Planning ☐ Clerk/Treasurer ☐ Other \_\_\_\_\_

### For Town Use:

Comments/Observations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Actions/Recommendations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Completion Date: \_\_\_\_\_

Citizen follow-up date: \_\_\_\_\_

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

204 DOUGLAS ST.

P.O. Box 400

LA CONNER, WA 98257

PHONE: (360) 466-3125

FAX: (360) 466-3901

WWW.CI.LA-CONNER.WA.US

TTY #1-800-833-6388



# TOWN OF LA CONNER

## REQUESTED CHECK FOR WATER LEAK

Date: \_\_\_\_\_ Account #: \_\_\_\_\_

Customer Name: \_\_\_\_\_

Meter Location: \_\_\_\_\_

Meter Number: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

.....  
**OFFICE USE ONLY**

Water Leak:    YES    or    NO    Date: \_\_\_\_\_

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

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Action: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Date returned to customer: \_\_\_\_\_

204 DOUGLAS ST.  
P.O. BOX 400  
LA CONNER, WA 98257  
PHONE: (360) 466-3125  
FAX: (360) 466-3901  
WWW.CI.LA-CONNER.WA.US  
TTY #1-800-833-6388





**TOWN OF LA CONNER**  
**Request for Adjustment/Water Leak**

Date of Request: \_\_\_\_\_

Account # \_\_\_\_\_

Property Owners Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Location of Leak: \_\_\_\_\_

\*\*\*\*\*

Action taken: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Leak Verified by \_\_\_\_\_ of Public Works

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature: \_\_\_\_\_

Or

Copy of Repair Invoice dated \_\_\_\_\_

Submitted by \_\_\_\_\_ (copy attached)

Approved by \_\_\_\_\_

Signature \_\_\_\_\_

\*\*\*\*\*

Requests before Council:

Date submitted to La Conner Town Council: \_\_\_\_\_

Approved ☐ Denied ☐

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Town of La Conner



## Public Works Department Work Order Form

Date: \_\_\_\_\_

Division:

Water

Streets

Drainage

Park & Port

Problem: \_\_\_\_\_  
\_\_\_\_\_

Date of Occurrence: \_\_\_\_\_ Time of Occurrence: \_\_\_\_\_

Date & Time Received: \_\_\_\_\_

Received by: \_\_\_\_\_

Name of Reporting Party: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Nature of Repairs/Action Taken: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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



STATE OF WASHINGTON

DEPARTMENT OF HEALTH

20435 72nd Ave. S., Suite 200, K17-12 • Kent, Washington 98032 -2358

May 27, 2008

BRIAN LEASE  
LA CONNER WATER DEPT  
PO BOX 400  
LACONNER WA 98257

SUBJECT: LA CONNER WATER DEPT ID#43350  
SKAGIT COUNTY  
STANDARD CONSTRUCTION SPECIFICATIONS  
SUBMITTAL #08-0514

Dear BRIAN LEASE:

On May 12, 2008, our office received the referenced documents submitted for approval per WAC 246-290. This submittal has been assigned the unique identification number shown on the last line of the subject heading. Please use this number on all future correspondence or additional submittals pertaining to this project. Also, please allow about six weeks from the date of receipt for a response before calling to check on the status. Consideration may be given for expedited review of projects solving an existing public health problem. If you wish to request expedited review, please provide written justification supporting your request.

Upon completion of the review, you will receive either the approval letter or a comment letter identifying items which need to be satisfactorily addressed to gain department approval. The letter will be accompanied by the invoice requesting payment of the fee for the review. The fee covers one more submittal on this project. Please note that the payment of the review fee does not guarantee approval of the submittal. If additional review letters and submittals are required, another invoice for additional fees charged will be sent with the final approval letter.

**Please note:** Departmental approval of your construction documents is required before you commence any water system construction. Failure to obtain the required approvals may subject you to enforcement action which may include civil penalties as authorized by Chapter 70.119A RCW. The Department is under no obligation to accept or approve any component installed or constructed prior to approval and you may be required to expose system components for DOH inspection and rebuild/replace if necessary to meet Department requirements.

Please call me at (253) 395-6750 if you have any questions on this letter.

Sincerely,

Kimberly Moseng  
Northwest Drinking Water Operations

cc: BETH PODLESKI, CHS ENGINEERS INC





Received

JUN 09 2008

CHS ENGINEERS

STATE OF WASHINGTON

DEPARTMENT OF HEALTH

20435 72nd Ave. S., Suite 200, K17-12• Kent, Washington 98032 -2358

June 5, 2008

BRIAN LEASE  
LA CONNER WATER DEPT  
PO BOX 400  
LA CONNER WA 98257

Subject: La Conner Water Dept (ID# 43350)  
Skagit County  
Standard Construction Specifications  
Submittal #08-0514

Dear Mr. Lease:

The standard plans and specifications for water distribution main projects received in this office May 12, 2008 have been reviewed and, in accordance with the provisions of WAC 246-290 are hereby **APPROVED**. The approval issued herein is only valid as it relates to current standards outlined in WAC 246-290, effective February 14, 2008. Future revisions in the rules may be more stringent and require facility modifications or corrective action.

With this approval and consistent with WAC 246-290-125(2) the Town of La Conner may elect to proceed with the installation of distribution main extensions *provided that*:

The Town maintains on file completed construction completion reports (a copy of which is attached) in accordance with WAC 246-290-125(2) and WAC 246-290-120(5) and makes them available for review upon request by the department.

Regulations establishing a schedule of fees for review of planning, engineering and construction documents have been adopted (WAC 246-290-990). An invoice for \$ 565.00 is enclosed. Please remit your complete payment in the form of a check or money order within thirty days of the date of this letter to: **DOH, Revenue Section, P.O. Box 1099, Olympia, WA 98507-1099.**

Nothing in this approval shall be construed as satisfying other applicable federal, state, or local statutes, ordinances and regulations.

Sincerely,

Nancy Feagin, P.E.  
Regional Engineer  
NW Drinking Water Operations  
(253) 395-6765

Enclosures

cc: Lorna Parent, Skagit County Health Department  
Beth Podleski, CHS Engineers  
Jennifer Kropack, DOH





# CONSTRUCTION COMPLETION REPORT FOR DISTRIBUTION MAIN PROJECTS

In accordance with WAC 246-290-120(5), a **Construction Completion Report** is required for all construction projects. Under the submittal exception process for distribution main projects, designed by a professional engineer but not submitted to DOH for approval, the report does not need to be submitted. **However, the purveyor must keep the Construction Completion Report on file and make it available for review upon request by DOH in accordance with WAC 246-290-125 (2)(b).** Furthermore:

- (1) The report form **must** bear the seal, date and signature of a professional engineer (PE) licensed in the state of Washington; and
- (2) Per WAC 246-290-120(5)(c), the amount of change in the physical capacity of a system must be documented, if the project results in a change in physical capacity.

**LA CONNER WATER DEPT**

Name of Water System

**BRIAN LEASE**

Name of Purveyor (Owner or System Contact)

**PO BOX 400**

Mailing Address

**LACONNER, WA 98257**

City

State

Zip

DOH System ID No.: **43350**

Date Water System Plan that includes

Standard Construction Specifications

Date Standard Specifications

Approved by DOH: **6/5/2008**

PROJECT NAME AND DESCRIPTIVE TITLE:

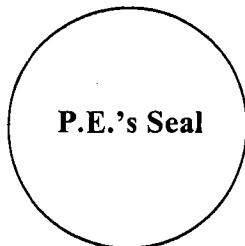
(Include the name of any development project and number of services.)

Date Project or Portions Thereof Completed

## PROFESSIONAL ENGINEER'S ACKNOWLEDGMENT

The undersigned professional engineer (PE), or his/her authorized agent, has inspected the above-described project that, as to layout, size and type of pipe, valves and materials, and other designed physical facilities, has been constructed and is substantially completed in accordance with construction documents reviewed by the purveyor's engineer. In the opinion of the undersigned engineer, the installation, physical testing procedures, water quality tests, and disinfection practices were carried out in accordance with state regulations and principles of standard engineering practice.

I have reviewed the disinfection procedures, pressure test results, and results of the bacteriological test(s) for this project and certify that they comply with the requirements of the construction standards/specifications approved by DOH.



Date Signed

Name of Engineering Firm

Name of PE Acknowledging Construction

Mailing Address

City

State

Zip

Engineer's Signature

State/Federal Funding Type (if any)

*Please keep a completed, signed, and stamped copy on file.*

☒ NWRO Drinking Water  
Department of Health  
20435 72<sup>nd</sup> Ave. S, Ste 200  
Kent, WA 98032-2358  
(253) 395-6750

☐ SWRO Drinking Water  
Department of Health  
PO Box 47823  
Olympia, WA 98504-7823  
(360) 236-3030

☐ ERO Drinking Water  
Department of Health  
1500 W. Fourth Ave, Suite 305  
Spokane, WA 99201  
(509) 456-3115

For persons with disabilities, this document is available on request in other formats. To submit a request, please call 1-800-525-0127 (TTY 1-800-833-6388).

## Regulations

### SECTION 570 - ASBESTOS CONTROL STANDARDS

**570.1** The Board of Directors of the Northwest Clean Air Agency recognize that asbestos is a serious health hazard. Any asbestos fibers released into the air can be inhaled and can cause lung cancer, pleural mesothelioma, peritoneal mesothelioma or asbestosis. The Board has, therefore, determined that any asbestos emitted to the ambient air is air pollution. Because of the seriousness of the health hazard, the Board of Directors has adopted this regulation to control asbestos emissions from asbestos removal projects in order to protect the public health. In addition, the Board has adopted these regulations to coordinate with the EPA asbestos NESHAP, the OSHA asbestos regulation, the Washington Department of Labor and Industries asbestos regulations, the Washington Department of Ecology Dangerous Waste regulation, and the solid waste regulations of Island, Skagit and Whatcom Counties

#### 570.2 DEFINITIONS

- a. **AHERA BUILDING INSPECTOR** means a person who has successfully completed the training requirements for a building inspector established by EPA Asbestos Model Accreditation Plan; Interim Final Rule (40 CFR Part 763, Appendix C to Subpart E, I.B.3) and whose certification is current.
- b. **AHERA PROJECT DESIGNER** means a person who has successfully completed the training requirements for an abatement project designer established by EPA regulations (40 CFR 763.90(g)) and whose certification is current.
- c. **ASBESTOS** means the asbestiform varieties of actinolite, amosite (cummingtonite-grunerite), tremolite, chrysotile (serpentine), crocidolite (riebeckite), or anthophyllite.
- d. **ASBESTOS-CONTAINING MATERIAL** means any material containing more than one percent (1%) asbestos as determined using the method specified in EPA regulations Appendix A, Subpart F, 40 CFR Part 763, Section I, Polarized Light Microscopy.
- e. **ASBESTOS-CONTAINING WASTE MATERIAL** means any waste that contains or is contaminated with asbestos-containing material. Asbestos-containing waste material includes asbestos waste from control equipment, materials used to enclose the work area during an asbestos project, asbestos-containing material collected for disposal, asbestos-contaminated waste, debris, containers, bags, protective clothing, or HEPA filters. Asbestos-containing waste material does not include samples of asbestos-containing material taken for testing or enforcement purposes.
- f. **ASBESTOS PROJECT** means any activity involving the abatement, renovation, demolition, removal, salvage, clean up, or disposal of asbestos-containing material, or any other action that disturbs or is likely to disturb any asbestos-containing material. It includes the removal and disposal of stored asbestos-containing material or asbestos-containing waste material. It does not include the application of duct tape, rewettable glass cloth, canvas, cement, paint, or other non-asbestos materials to seal or fill exposed areas where asbestos fibers may be released.
- g. **ASBESTOS SURVEY** means a written report describing an inspection using the procedures contained in EPA regulations (40 CFR 763.86), or an alternate method that has received prior written approval from the Control Officer, to determine whether materials or structures to be worked on, renovated, removed, or demolished (including materials on the outside of structures) contain asbestos.
- h. **COMPETENT PERSON** means a person who is capable of identifying asbestos hazards and selecting the appropriate asbestos control strategy, has the authority to take prompt corrective measures to eliminate them, and has been trained and is currently certified in accordance with the standards established by the Washington State Department of Labor & Industries, the federal Occupational Safety & Health Administration, or the United

States Environmental Protection Agency (whichever agency has jurisdiction).

- i. **COMPONENT** means any equipment, pipe, structural member, or other item covered or coated with, or manufactured from, asbestos-containing material.
- j. **DEMOLITION** means wrecking, razing, leveling, dismantling, or burning of a structure, making the structure permanently uninhabitable or unusable.
- k. **FRIABLE ASBESTOS-CONTAINING MATERIAL** means asbestos-containing material that, when dry, can be crumbled, disintegrated, or reduced to powder by hand pressure or by the forces expected to act upon the material in the course of demolition, renovation, or disposal. Such materials include, but are not limited to, thermal system insulation, surfacing material, and cement asbestos products.
- l. **LEAK-TIGHT CONTAINER** means a dust-tight and liquid-tight container, at least 6-mil thick, that encloses asbestos-containing waste material and prevents solids or liquids from escaping or spilling out. Such containers may include sealed plastic bags, metal or fiber drums, and sealed polyethylene plastic.
- m. **NONFRIABLE ASBESTOS-CONTAINING MATERIAL** means asbestos-containing material that, when dry, cannot be crumbled, disintegrated, or reduced to powder by hand pressure or by the forces expected to act on the material in the course of demolition, renovation, or disposal.
- n. **OWNER-OCCUPIED, SINGLE-FAMILY RESIDENCE** means any non-multiple unit building containing space for uses such as living, sleeping, preparation of food, and eating that is currently used by one family who owns the property as their domicile. This term includes houses, mobile homes, trailers, detached garages, houseboats, and houses with a "mother-in-law apartment" or "guest room". This term does not include rental property or multiple-family units, nor does this term include any mixed-use building, structure, or installation that contains a residential unit.
- o. **PERSON** means any individual, firm, public or private corporation, association, partnership, political subdivision, municipality, or government agency.
- p. **RENOVATION** means altering a facility or a component in any way, except demolition.
- q. **SURFACING MATERIAL** means material that is sprayed-on, troweled-on, or otherwise applied to surfaces including, but not limited to, acoustical plaster on ceilings, paints, fireproofing materials on structural members, or other materials on surfaces for decorative purposes.
- r. **SUSPECT ASBESTOS-CONTAINING MATERIAL** means material that has historically contained asbestos including, but not limited to, surfacing material, thermal system insulation, roofing material, fire barriers, gaskets, flooring material, and siding.
- s. **THERMAL SYSTEM INSULATION** means material applied to pipes, fittings, boilers, tanks, ducts, or other structural components to prevent heat loss or gain.

### 570.3 ASBESTOS SURVEY REQUIREMENTS

- a. Requirements for Renovations: It shall be unlawful for any person to cause or allow a renovation unless the property owner or the owner's agent determines whether there are suspect asbestos-containing materials in the work area and obtains an asbestos survey of any suspect asbestos-containing materials by an AHERA building inspector. An AHERA building inspector is not required for asbestos surveys associated with the renovation of an owner-occupied, single-family residence.
  - 1. If there are no suspect materials in the work area, this determination shall either be posted at the work site or communicated in writing to all contractors involved in the renovation.
  - 2. It is not required that an AHERA building inspector evaluate any material presumed to be asbestos-containing material.
  - 3. Except for renovations of an owner-occupied, single-family residence, only an AHERA building inspector may determine that a suspect material does not contain

asbestos.

4. A summary of the results of the asbestos survey shall either be posted by the property owner or the owner's agent at the work site or communicated in writing to all persons who may come into contact with the material.
- b. Requirements for Demolitions: It shall be unlawful for any person to cause or allow any demolition unless the property owner or the owner's agent obtains an asbestos survey by an AHERA building inspector of the structure to be demolished.
  1. It is not required that an AHERA building inspector evaluate any material presumed to be asbestos-containing material.
  2. Only an AHERA building inspector may determine that a suspect material does not contain asbestos.
  3. A summary of the results of the asbestos survey shall either be posted by the property owner or the owner's agent at the work site or communicated in writing to all persons who may come into contact with the material

#### **570.4 NOTIFICATION REQUIREMENTS**

- a. General Requirements: It shall be unlawful for any person to cause or allow any work on an asbestos project or demolition unless a complete notification, including the required fee and any additional information requested by the Control Officer, has been submitted to the NWCAA on approved forms, in accordance with the advance notification period requirements contained in 570.4(d) of this Regulation.
  1. The duration of an asbestos project shall be commensurate with the amount of work involved.
  2. Notification is not required for asbestos projects involving less than 10 linear feet or 48 square feet (per structure, per calendar year) of any asbestos-containing material.
  3. Notification is not required for removal and disposal of the following nonfriable asbestos-containing materials: caulking, window glazing, or roofing. All other asbestos project and demolition requirements remain in effect except as provided by Section 570.
  4. Notification is required for all demolitions of structures with a greater than 120 square feet footprint even if no asbestos-containing material is present. All other demolition requirements remain in effect.
  5. The written notification shall be accompanied by the appropriate nonrefundable fee as set forth in 570.4(d) of this Regulation unless prior arrangements for payment have been made with the NWCAA.
  6. A copy of the notification, all amendments to the notification, the asbestos survey, and any Order of Approval for an alternate means of compliance shall be available for inspection at all times at the asbestos project or demolition site.
  7. Notification for multiple asbestos projects or demolitions may be filed by a property owner on one form if all the following criteria are met:
    - a. The work will be performed continuously by the same contractor; and
    - b. A work plan is submitted that includes: a map of the structures involved in the project including the site address for each structure; the amount and type of asbestos-containing material in each structure; and the schedule for performing asbestos project and demolition work. For projects where a detailed work schedule cannot be provided the asbestos contractor and/or the demolition contractor shall participate in the NWCAA's work schedule fax program and will continue to participate in the program throughout the duration of the project.
  8. Annual Notification

A property owner may file one annual notification for asbestos projects to be conducted on one or more structures, vessels, or buildings during each calendar year if all of the following conditions are met.

- a. The annual notification shall be filed with the NWCAA before commencing work on any asbestos project included in an annual notification;
- b. The total amount of asbestos-containing material for all asbestos projects from each structure, vessel, or building in a calendar year under this section is less than 260 linear feet on pipes or less than 160 square feet on other components; and
- c. The property owner submits quarterly written reports to the Control Officer on NWCAA-approved forms within 15 days after the end of each calendar quarter.

b. Amendment

1. Mandatory Amendments

An amendment shall be submitted to the Control Officer for the following changes in a notification:

- a. Increases in the project type or job size category that increase the fee or change the advance notification period;
- b. Changes in the type of asbestos-containing material that will be removed; or
- c. Changes in the start date, completion date, or work schedule, including hours of work. Asbestos contractors or property owners participating in the NWCAA work schedule fax program are not required to submit amendments for work schedule changes occurring between the start and completion dates

c. Emergencies

The Control Officer may waive the advance notification period, if the property owner submits a written request that demonstrates to the Control Officer that an asbestos project or demolition must be conducted immediately because of any of the following:

1. There was a sudden, unexpected event that resulted in a public health or safety hazard;
2. The project must proceed immediately to protect equipment, ensure continuous vital utilities, or minimize property damage;
3. Asbestos-containing materials were encountered that were not identified during the asbestos survey; or
4. The project must proceed to avoid imposing an unreasonable burden.

d. Notification Period and Fees

PROJECT	SIZE OR TYPE	NOTIFICATION PERIOD	FEE
Owner-Occupied, Single Family Residence (asbestos project and/or demolition)	All	Prior Notice	\$25

\*Demolitions with asbestos projects involving less than 10 linear feet or less than 48 square feet may submit an asbestos project notification under this project category and will be eligible for the 3-day notification period.

PROJECT	SIZE OR TYPE	NOTIFICATION PERIOD	FEE
All Other Demolitions with no asbestos project	All	10 days	\$0
Asbestos Project	10-259 linear ft. 48-159 square ft.	3 days	\$150
Asbestos Project	260-999 linear ft. 160-4,999 sq. ft.	10 days	\$300
Asbestos Project	> 1,000 linear ft. > 5,000 sq. ft.	10 days	\$500
Emergency	570.4 (c)	Prior Notice	\$0
Amendment	570.4 (b)	Prior Notice	\$0
Alternate Means of Compliance (demolitions or friable asbestos-containing materials)	570.7 (a) or (c)	10 days	Add'l fee equal to project fee
Alternate Means of Compliance (non-friable asbestos-containing materials)	570.7 (b)	10 days	Add'l fee equal to project fee
Annual	570.4 (a)(8)	Prior Notice	\$500

\*Demolitions with asbestos projects involving less than 10 linear feet or less than 48 square feet may submit an asbestos project notification under this project category and will be eligible for the 3-day notification period.

The Control Officer may waive the asbestos project fee and notification period, by written authorization, for disposal of unused and intact or abandoned (without the knowledge or consent of the property owner) asbestos-containing materials. All other asbestos project and demolition requirements remain in effect.

#### **570.5 ASBESTOS REMOVAL REQUIREMENTS PRIOR TO RENOVATION OR DEMOLITION**

- a. Removal of Asbestos Prior to Renovation or Demolition: Except as provided in 570.7(c) of this Regulation, it shall be unlawful for any person to cause or allow any demolition or renovation that may disturb asbestos-containing material or damage a structure so as to preclude access to asbestos-containing material for future removal, without first removing all asbestos-containing material in accordance with the requirements of this regulation. Asbestos-containing material need not be removed from a component if the component can be removed, stored, or transported for reuse without disturbing or damaging the asbestos.
- b. Exception for Hazardous Conditions: Asbestos-containing material need not be removed prior to a demolition, if the property owner demonstrates to the Control Officer that it is not accessible because of hazardous conditions such as: structures or buildings that are structurally unsound and in danger of imminent collapse, or other conditions that are immediately dangerous to life and health. The property owner must submit the written determination of the hazard by an authorized government official or a licensed structural engineer, and must submit the procedures that will be followed for controlling asbestos

emissions during the demolition or renovation and disposal of the asbestos-containing waste material.

#### **570.6 PROCEDURES FOR ASBESTOS PROJECTS**

- a. **Training Requirement:** It shall be unlawful for any person to cause or allow any work on an asbestos project unless it is performed by persons trained and certified in accordance with the standards established by the Washington State Department of Labor and Industries, the federal Occupational Safety and Health Administration, or the United States Environmental Protection Agency (whichever agency has jurisdiction) and whose certification is current. This certification requirement does not apply to asbestos projects conducted as part of a renovation in an owner-occupied, single-family residence performed by the resident owner of the dwelling.
- b. **Asbestos Removal Work Practices:** Except as provided in 570.7(c) of this Regulation, it shall be unlawful for any person to cause or allow the removal of asbestos-containing material unless all the following requirements are met:
  1. The asbestos project shall be conducted in a controlled area, clearly marked by barriers and asbestos warning signs. Access to the controlled area shall be restricted to authorized personnel only.
  2. If a negative pressure enclosure is employed it shall be equipped with transparent viewing ports, if feasible, and shall be maintained in good working order.
  3. Absorbent, asbestos-containing materials, such as surfacing material and thermal system insulation, shall be saturated with a liquid wetting agent prior to removal. Any unsaturated, absorbent, asbestos-containing materials exposed during removal shall be immediately saturated with a liquid wetting agent.
  4. Nonabsorbent, asbestos-containing materials, such as cement asbestos board or vinyl asbestos tile, shall be continuously coated with a liquid wetting agent on any exposed surface prior to and during removal. Any dry surfaces of nonabsorbent, asbestos-containing materials exposed during removal shall be immediately coated with a liquid wetting agent.
  5. Metal components (such as valves, fire doors, and reactor vessels) that have internal asbestos-containing material are exempt from the requirements of 570.6(b)(3) and 570.6(b)(4) if all access to the asbestos-containing material is welded shut or the component has mechanical seals, which cannot be removed by hand, that separate the asbestos-containing material from the environment.
  6. Except for surfacing materials being removed inside a negative pressure enclosure, asbestos-containing materials that are being removed, have been removed, or may have fallen off components during an asbestos project shall be carefully lowered to the ground or a lower floor, not dropped, thrown, slid, or otherwise damaged.
  7. All asbestos-containing waste material shall be sealed in leak-tight containers as soon as possible after removal but no later than the end of each work shift.
  8. All absorbent, asbestos-containing waste material shall be kept saturated with a liquid wetting agent until sealed in leak-tight containers while saturated with a liquid wetting agent. All nonabsorbent, asbestos-containing waste material shall be kept coated with a liquid wetting agent until sealed in leak-tight containers while coated with a liquid wetting agent.
  9. The exterior of each leak-tight container shall be free of all asbestos residue and shall be permanently labeled with an asbestos warning sign as specified by the Washington State Department of Labor and Industries or the federal Occupational Safety and Health Administration.
  10. Immediately after sealing, each leak-tight container shall be permanently marked with the date the material was collected for disposal, the name of the waste generator, and the address at which the waste was generated. This marking must

be readable without opening the container.

11. Leak-tight containers shall not be dropped, thrown, slid, or otherwise damaged.
  12. The asbestos-containing waste material shall be stored in a controlled area until transported to an approved waste disposal site.
- c. Method of Removal for Nonfriable Asbestos-Containing Roofing Material: The following asbestos removal method shall be employed for asbestos-containing roofing material that has been determined to be nonfriable by a Competent Person or an AHERA Project Designer:
1. The nonfriable asbestos-containing roofing material shall be removed using methods such as spud bar and knife. Removal methods such as sawing or grinding shall not be employed;
  2. Dust control methods shall be used as necessary to assure no fugitive dust is generated from the removal of nonfriable asbestos-containing roofing material;
  3. Nonfriable asbestos-containing roofing material shall be carefully lowered to the ground to prevent fugitive dust;
  4. After being lowered to the ground, the nonfriable asbestos-containing roofing material shall be immediately transferred to a disposal container; and
  5. Each disposal container shall have a sign identifying the material as nonfriable asbestos-containing roofing material

#### **570.7 COMPLIANCE WITH OTHER RULES**

Other government agencies have adopted rules that may apply to asbestos projects regulated under these rules including, but not limited to, the U.S. Environmental Protection Agency, the Occupational Safety and Health Administration, and the Department of Labor and Industries. Nothing in the Agency's rules shall be construed as excusing any person from complying with any other applicable local, state, or federal requirement.

#### **570.8 DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL**

- a. Except as provided in 570.8(c) of this Regulation, it shall be unlawful for any person to cause or allow the disposal of asbestos-containing waste material unless it is deposited within 10 days of removal at a waste disposal site authorized to accept such waste.
- b. Waste Tracking Requirements: It shall be unlawful for any person to cause or allow the disposal of asbestos-containing waste material unless the following requirements are met:
  1. Maintain waste shipment records, beginning prior to transport, using a form that includes the following information
    - a. The name, address, and telephone number of the waste generator;
    - b. The approximate quantity in cubic meters or cubic yards;
    - c. The name and telephone number of the disposal site operator;
    - d. The name and physical site location of the disposal site;
    - e. The date transported;
    - f. The name, address, and telephone number of the transporter; and
    - g. A certification that the contents of the consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition to transport by highway according to applicable international and government regulations.
  2. Provide a copy of the waste shipment record to the disposal site at the same time the asbestos-containing waste material is delivered.
  3. If a copy of the waste shipment record, signed by the owner or operator of the



disposal site, is not received by the waste generator within 35 calendar days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the disposal site to determine the status of the waste shipment.

4. If a copy of the waste shipment record, signed by the owner or operator of the disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter, report in writing to the Control Officer. Include in the report, a copy of the waste shipment record and a cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.
  5. Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.
- c. Temporary Storage Site: A person may establish a facility for the purpose of collecting and temporarily storing asbestos-containing waste material if the facility is approved by the Control Officer and all the following conditions are met:
1. Accumulated asbestos-containing waste material shall be kept in a controlled storage area posted with asbestos warning signs and accessible only to authorized persons;
  2. All asbestos-containing waste material shall be stored in leak-tight containers and the leak-tight containers shall be maintained in good condition;
  3. The storage area must be locked except during transfer of asbestos-containing waste material; and
  4. Storage, transportation, disposal, and return of the waste shipment record to the waste generator shall not exceed 90 days.
- d. Disposal of Asbestos Cement Pipe: Asbestos cement pipe used on public right-of-ways, public easements, or other places receiving the prior written approval of the Control Officer may be buried in place if the pipe is covered with at least 3 feet or more of non-asbestos fill material. All asbestos cement pipe fragments that are 1 linear foot or less and other asbestos-containing waste material shall be disposed of at a waste disposal site authorized to accept such waste.

PASSED: November 12, 1998; AMENDED: July 14, 2005, November 8, 2007

## **APPENDIX E**

# **UTILITY RATE STUDY SUMMARY**

## **TOWN OF LA CONNER UTILITY RATE STUDY SUMMARY Final Recommendations 2009**

### **EXECUTIVE SUMMARY**

Katy Isaksen & Associates was contracted to complete a rate study for the water and sewer utilities, including sewer compost. The goal was to develop a balanced six-year plan to include operating expenses, debt repayment, capital improvements and reserves for 2009-2014 along with the rates necessary to fund the program.

KI&A presented a draft outlook in November, 2008 that indicated revenue was not sufficient to meet the expenses. The rate study committee worked hard to refine assumptions and capital improvement plans to be reasonably conservative and result in a balanced six-year rate outlook, focusing on 2009 & 2010. On March 24, 2009, the recommendations were presented to the Council.

### **Rate Study Recommendations:**

- **Long Term Outlook**
- **Stable Rates Over Time**
- **Sustainable Plan**
- **Reasonably Conservative Assumptions**
- **Revenue & Expenditures Are Balanced**
- **Maintain Reserves For Known Future Large Project**
- **Debt Paid By Rates Each Year**
- **Focus On 2009 & 2010, Review For 2011 Anacortes Rate**

The Town has a long-term contract for the City of Anacortes to supply water to meet the Town's needs. The price is adjusted every three years with the next adjustment for 2011. The recommended monthly rates at this time are focused on 2009 & 2010 to be reviewed when the Anacortes adjustment is known during fall 2010.

### **Recommended Monthly Rates**

<b>Recommended Monthly Rates</b>	<b>Existing</b>	<b>2009</b>	<b>2010</b>
<b><u>WATER</u></b>			
Base (for 3/4" Meter)		16.34	17.84
Volume (per 100 cf)		2.32	2.53
<b>Average Single Family* - WATER</b>	<b>\$ 27.48</b>	<b>\$ 30.26</b>	<b>\$ 33.04</b>
<b><u>SEWER</u></b>			
Base		14.20	15.45
Volume (per 100 cf)		3.87	4.21
High Strength Volume (per 100cf)		5.16	5.60
<b>Average Single Family* - SEWER</b>	<b>\$ 34.13</b>	<b>\$ 37.42</b>	<b>\$ 40.72</b>
<b>TOTAL WATER + SEWER</b>	<b>\$ 61.61</b>	<b>\$ 67.68</b>	<b>\$ 73.76</b>
Monthly Increase		\$ 6.07	\$ 6.08

*\*Average Single Family uses 600 cubic feet (cf) of water per month.*

### **Water**

In addition to changes in the Water base and volume rates, two other recommendations were provided to phase in adjustment of larger meter sizes to become more equitable. First, to adjust the base rates with a multiplier that represents the comparison to a 3/4-inch typical residential meter. Second, to begin reducing the water allowance for larger meter sizes and continue reducing over several years to increase

the equity among meter sizes. Both of these adjustments should continue to be phased in over the next several years to increase equity.

<b>Other Adjustments to Water for 2009 &amp; 2010:</b>		
1. Adjust Larger Meter Multiplier to 3/4" Meter		
2. Begin Reducing Allowance for Larger Meters		
<u>Meter Size</u>	<u>Multiplier</u>	<u>Allowance (cf)</u>
1"	2.0	500
1.5:	3.0	1200
2"	4.0	1800
3"	6.0	2600
4" (no customers)	25.0	0
6"	by negotiation	

The Town also provides water to the Shelter Bay community according to the terms of a contract. The rates are to be adjusted annually based on the change in the consumer price index and to be further adjusted when the Anacortes rates change every three years.

## **Sewer**

In addition to the recommended changes in the base, volume and high-strength volume rates the sewer program is supported by the sewer compost program. Should the sewer compost program change in a significant manner and result in less revenue, the sewer rates could ultimately be affected.

The Town provides wastewater treatment and disposal services to the Swinomish Tribe per contract. This was not reviewed as part of the rate study.

## **Sewer Compost**

The sewer and sewer compost programs have recently been split into two separate funds for accounting. The sewer compost program supports the sewer program by paying \$170,000 per year for sewer service. Should the sewer compost program change significantly and result in reduced revenue, the sewer rates may be affected and require additional adjustment. The sewer compost fees and charges are market-based and were not reviewed as part of this rate study.

## **Target Minimum Fund Balances**

The target minimum fund balance for water and sewer include 20% of operating expense. Water includes an additional \$225,000 set aside for the local match on the large capital project to replace a 12" transmission main. Sewer Compost includes six-months of operating expense to provide time for the sewer program to adjust should it be necessary.

## **Next Planned Update**

The next planned update is scheduled for the latter part of 2010 when the new Anacortes rates are known. Of course, the Town will review annually during the budget process to ensure the outlook remains reasonable.

## BACKGROUND

The Town of La Conner had been adjusting utility rates annually based on the change in the Consumer Price Index (CPI) for a number of years. This allowed the utility rates to keep up with inflation-based cost increases but did not address additional cost increases in recent years due to the dramatic change in fuel costs. From another perspective, some wondered whether the Town was setting its utility budget to meet the revenue anticipated instead of setting the budget according to prioritized need. The Town was also updating the Water System Plan and anticipated a list of capital improvements that would need to be prioritized and funded.

Katy Isaksen & Associates was contracted to complete a utility rate study for water, sewer and sewer compost. The goal was to develop a balanced six-year plan to include operating expenses, debt repayment, capital improvements and reserves for 2009-2014 along with the rates necessary to fund the program.

During the fall of 2008, the rate study committee met several times and Ms. Isaksen developed a draft six-year outlook based on the budget, past and anticipated expenditures, capital improvements and conservative assumptions. The revenue was clearly not sufficient to meet the needs in water or sewer and sewer compost had a surplus. A draft summary report was presented to the Town Council in November 2008 to help the Council understand the outlook.

The level of rate differential was not acceptable and a number of policy alternatives were discussed to provide input in adjusting the assumptions. The rate study committee continued to meet, refine assumptions and adjust the capital program to result in a reasonably conservative outlook for the utilities. The final recommendations were presented to the Town Council at its March 24, 2009 meeting.

This report summarizes the key assumptions included in the rate outlook and is provided as a reference for Town staff to carry out the plan and adjust as necessary.

## RATE STUDY METHODOLOGY

The rate model was developed to estimate future revenues and expenditures based on the 2008 budget, actual experience, known differences and key assumptions. A six-year projection of revenue and expenditures was made and a revenue sufficiency test was applied to determine whether revenue and expenses were in balance. The bottom line is either an increase or use of reserves for each year in the study period. On an annual basis, any surplus revenue goes to increase reserves and any deficiency is covered by using reserves.

UTILITY REVENUE SUFFICIENCY
Operating Revenue
- <u>Operating Expense</u>
= Net Operating Income
+ Transfer in from Cumulative Reserve
- <u>Capital Outlay</u>
= Annual Increase/(Use) of Reserves

Using reserves on an annual basis is not a sustainable utility practice. This would be the same as paying your monthly bills from your savings account. Once it has been depleted, there is no more to spend. Certainly this may happen from time to time to accomplish capital improvements after reserves have been built up over a period of years but this practice is limited to the cash in reserve.

In developing the rate outlook, care is taken to match ongoing revenue sources (i.e. operating revenue) with ongoing expenditures (i.e. operating expense) to ensure that each utility will be able to support itself on an annual basis. The primary sources of ongoing operating revenue in each utility are the service charges.

If revenue is not sufficient to meet planned needs, the utility has several options to consider: reduce expenses, review assumptions to be not as conservative, borrow for capital projects or delay, reduce reserves or increase rates.

The Town Council is required to adopt a balanced budget each year. The budget specifies revenue, expenditures and transfers. With a budget, the expenditures are constrained by the anticipated revenue. The rate study asks what is necessary to best manage the system for this year and into the future, and then determines what the impact on rates would be to achieve such a scenario. It is then the responsibility of the Town Council to adopt the rates they determine to be best.

## **UTILITY OPERATING FUNDS**

The Town has established an operating fund for each utility. Revenue and expenditures are accounted for in the following funds:

- Fund 401 Water
- Fund 409 Sewer
- Fund 412 Sewer Compost

Reserves are held in the operating fund balances to provide for cash flow. In addition, the reserves for future capital or replacement are typically transferred to the Cumulative Reserve Fund 301 and identified as water or sewer.

The sewer compost operations with market-based rates has been supporting the sewer program and helping to keep sewer rates low. In order to provide time to adjust should market forces change, the compost fund maintains at least 6-months of operating expense in the fund balance. Water and sewer each maintain 2-months of operating expense in the minimum fund balance. These target minimum fund balances were set as part of the rate study process. In addition, water maintains a set aside of \$225,000 in the fund balance to provide the local match for a costly replacement project of approximately \$4.5 million in 2015.

There is no existing debt outstanding for the water, sewer or sewer compost.

## **SUMMARY OUTLOOK BY UTILITY**

The full six-year outlook is included at the end of this report. This section describes the elements and focuses on the outlook and rate recommendations for 2009 and 2010.

**Operating Revenue** – The primary source of operating revenue is from service charges. Other sources include penalties, temporary hydrant sales, permit and plan checking or engineering fees, investment interest, sale of assets and other miscellaneous revenue.

**Operating Expense** – Operations, maintenance, administration and debt repayment are included in the Operating Expense portion of the rate model. Capital improvements are separated in the rate model.

**Net Operating Income** – The model subtracts the operating expense from the operating revenue to indicate the Net Operating Income in each year. A healthy utility will have a positive net operating income (bring in more money than it spends) each year. This is used to invest in capital improvements and replacement, or set into reserves for future capital replacement.

**Available For Capital Outlay** – This line includes the Net Operating Income and any other capital-related funding source planned to support capital outlay. A transfer in from Cumulative Reserve is the other key element in funding capital outlay. The model may vary from the Town's budget for transfers from cumulative reserve in order to tie the funding source with the planned capital expenditure.

**Capital Outlay** – The capital expenditures include ongoing capital outlay, capital improvements identified in the comprehensive plans and anticipated set-asides for capital replacement that may not yet be specifically identified. It is important to fund a certain level of ongoing capital replacement to ensure that

reserves are built up to avoid emergencies and reduce the need for borrowing (detail in 6-Year CIP Section).

**Annual Increase/(Use) Of Reserves** – This is essentially the bottom line for each utility in the rate model, either the Town is adding to, or using, reserves at the end of each year. In a perfect world, this number would be zero and all of the needs would be specifically identified prior to this bottom line. The goal is to avoid negative numbers whenever possible in this line.

**Additional Revenue from Rate Adjustments** – This line provides an estimate of the additional revenue that is anticipated to be generated from the recommended rate adjustments. The calculation assumes the new rates are in place for 12-months each year.

**Revised Increase/(Use) of Reserves** – This is the revised bottom line after considering rate adjustments.

**Estimated Ending Balance This Scenario** – This line provides an estimate of the anticipated ending balance in the operating fund of each utility. In an effort to keep rate increases down, the estimated ending balance is compared to the target minimum balance described below.

**Target Minimum Balance** – The water, sewer and sewer compost operating funds all carry a fund balance. A target minimum fund balance is determined and tested in the rate model to ensure each utility remains healthy. The target minimum fund balance for water and sewer include 20% of operating expense. Water includes an additional \$225,000 set aside for the local match on the large capital project to replace a 12" transmission main. Sewer Compost includes six-months of operating expense to provide time for the sewer program to adjust should it be necessary.

**Average Single Family per Month** – The average single family customer in La Conner uses 600 cubic feet of water per month. This line indicates what this customer would pay per month.

## Water

The Net Operating Income for Water remains positive through 2009 and is anticipated to be negative in 2010. After adding capital outlay activity, the Annual Increase or Use of Reserves shows that additional revenue or reserves will be required for 2009 and 2010 (\$48,714 and \$148,172 respectively).

<b>WATER SUMMARY OUTLOOK</b>	<b>Est. 2008</b>	<b>Base Yr 2009</b>	<b>Projected 2010</b>
Operating Revenue	453,472	431,291	431,786
Operating Expense	<u>438,400</u>	<u>425,442</u>	<u>441,139</u>
Net Operating Income	15,072	5,849	(9,353)
Available for Capital Outlay	70,135	32,786	(9,353)
Capital Outlay	<u>73,033</u>	<u>81,500</u>	<u>138,819</u>
Annual Increase/(Use) of Reserves	(2,898)	(48,714)	(148,172)
Add'l Revenue from Rate Adjustments	<u>0</u>	<u>66,138</u>	<u>116,595</u>
Revised Increase/(Use) of Reserves	(2,898)	17,424	(31,577)
Est. Ending Balance This Scenario	<b>348,381</b>	<b>365,806</b>	<b>334,229</b>
Target Minimum Balance		310,000	313,000
Test End Bal. to Target Min.		Ok	Ok
<b>Average Single Family / Month</b>	<b>\$27.48</b>	<b>\$30.26</b>	<b>\$33.04</b>

The additional revenue from rate adjustments includes estimated revenue from Shelter Bay, adjustment for the base factors and beginning to eliminate allowances on larger meter sizes, and the recommended rate increases. While the revised increase or use of reserves after rate adjustment is negative at (\$31,577) in 2010, the Ending Balance remains above the target minimum and meets the test.

The largest water expense is the cost of purchased water from Anacortes. The purchase rates are adjusted every three years with the current agreement in place for 2008-2010. The Anacortes rates include both a fixed and variable component along with a capital element based on the capital improvements planned by Anacortes that contractual customers participate in funding. Because this element is estimated in the model with a 12% anticipated increase in 2011, it is recommended that the rate outlook be updated when the Anacortes rates are known. This will avoid either charging too much or too little and is a good timeframe for planning rates.

The Town also has a contract with Shelter Bay to provide water from Anacortes. This is a separate agreement that allows the capital charges from Anacortes to be passed on and the operating rates to be adjusted annually to keep up with inflation. As the Water System Plan has identified capital improvements that Shelter Bay should contribute to, it would be good to begin discussions with Shelter Bay.

## Sewer

The sewer operating expenses are exceeding operating revenue, thus the sewer utility is not currently self-sufficient. The Town recently split the sewer and sewer compost operations into separate funds. Beginning 2009, the sewer revenue includes sewer service charges of \$170,000 from sewer compost. This results in a positive net operating income for 2009.

<b>SEWER SUMMARY OUTLOOK</b>	<b>Est. 2008</b>	<b>Base Yr 2009</b>	<b>Projected 2010</b>
Total Sewer Operating Revenue	385,332	524,507	525,121
Sewer Operating Expenses	<u>441,011</u>	<u>508,780</u>	<u>546,160</u>
Net Operating Income	(55,679)	15,727	(21,039)
Available for Capital Outlay	60,252	150,727	(21,039)
Capital Outlay	<u>43,480</u>	<u>185,000</u>	<u>30,000</u>
Annual Increase/(Use) of Reserves	16,772	(34,273)	(51,039)
Add'l Revenue from Rate Adjustments	0	<u>34,238</u>	<u>67,861</u>
Revised Increase/(Use) of Reserves	16,772	(35)	16,821
<b>Est. Ending Balance This Scenario</b>	<b>105,175</b>	<b>105,140</b>	<b>121,961</b>
Target Minimum Balance		101,756	109,232
Test End Bal. to Target Min.		ok	ok
<b>Average Single Family / Month</b>	<b>\$34.13</b>	<b>\$37.42</b>	<b>\$40.72</b>

After adding the capital activity, it is anticipated that the sewer utility will be short an estimated \$34,273 in 2009 and \$51,039 in 2010. The rate adjustment was calculated to bring this positive by 2010. The sewer rates should also be reviewed in late 2010 along with water to ensure a healthy utility. If the compost activities were to generate less revenue, the sewer rates could be affected.

The Town provides wastewater treatment and disposal services to the Swinomish Tribe per contract. This was assumed to continue per contract and was not reviewed as part of the rate study.

## Combined Water + Sewer Impact on Average Single Family

<b>Average Single Family / Month using 600 cubic feet per month</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Water</b>	<b>\$27.48</b>	<b>\$30.26</b>	<b>\$33.04</b>
<b>Sewer</b>	<b>\$34.13</b>	<b>\$37.42</b>	<b>\$40.72</b>
<b>Combined Water + Sewer</b>	<b>\$61.61</b>	<b>\$67.69</b>	<b>\$73.76</b>
<i>Increase in Avg. Sing Fam / Mo.</i>		\$ 6.07	\$ 6.07

The average single family customer will see an increase of \$6.07 per month for water and sewer.



## Sewer Compost

The sewer compost fees are market-based and were not reviewed with the rate study. The summary indicates that the sewer compost operation is generating a surplus. In the past, this has been used to keep the sewer rates low. Now that the two operations are separately accounted for, the Town anticipates charging the compost operation for sewer service. The base summary includes a \$170,000 annual charge that shows as revenue in the sewer fund.

<b>SEWER COMPOST SUMMARY OUTLOOK</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Operating Revenue	458,776	451,900	451,900
Operating Expense	87,476	294,730	311,613
Net Operating Income	371,301	157,170	140,287
Capital Outlay	33,763	133,000	172,000
Annual Increase/(Use) of Reserves	337,538	24,170	(31,713)
One-time transfers from Compost Fund		(520,000)	
<b>Estimated Ending Balance</b>	<b>859,263</b>	<b>363,433</b>	<b>331,720</b>
Target Minimum Balance	43,738	147,365	155,806
Test End Bal. to Target Min.	ok	ok	ok

A one-time transfer is anticipated from the Compost fund for \$520,000 (\$350,000 to police services and \$170,000 to sewer service). The estimated ending balance is well above the target minimum however the reserves are contributing \$31,713 to the capital outlay planned in 2010. As the outlook is expanded in the future, this situation should be monitored to ensure that the compost operation remains healthy and not living on reserves. The target ending balance is set at 6-months of operating expense to provide a buffer should the market conditions change. Such a change also has the potential to negatively affect the sewer rates so it should be reviewed annually during the budget process.

## SIX-YEAR CAPITAL IMPROVEMENT PROGRAM (CIP)

The planned six-year capital improvements and funding sources are detailed for each utility in this section. These were included in the summary outlook above as capital outlay.

### Water

The six-year water capital improvements will be funded by rates, reserves or debt. Projects C, D, E and F are assumed to be funded with a Public Works Trust Fund (PWTF) loan to be repaid over 20 years. The other projects are assumed to be funded by rates or cumulative reserve.

<b>WATER 6-YEAR CIP</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
A. Trans Isolation Valves	10,000					
B. 4th St No Replacement						62,607
C. 2 <sup>nd</sup> St So Main Extension		171,356				
D. 2 <sup>nd</sup> St Main Extension		72,858				
E. 4th St So Replacement			236,932			
F. 3rd St No Upsizing				252,350		
G. 1st St So Replacement					341,700	
H. Rainier St Replacement						81,415
<b>Total 6-Year CIP</b>	<b>\$10,000</b>	<b>\$244,214</b>	<b>\$236,932</b>	<b>\$252,350</b>	<b>\$341,700</b>	<b>\$144,022</b>
<b>CIP Funding Source</b>	<i>Rates/ Reserve</i>	<i>PWTF Loan</i>	<i>PWTF Loan</i>	<i>PWTF Loan</i>	<i>Rates/ Reserve</i>	<i>Rates/ Reserve</i>

The rate model includes the anticipated local match of \$36,675 (5%) in 2010 and annual debt for the PWTF loan of \$50,611 beginning 2012. In addition, the average annual set aside of \$97,144 to cumulative reserves to fund projects A, B, G and H. Just beyond the six-year CIP, a \$4.5 Million 12"

transmission main replacement project is scheduled for 2015. The current water fund balance includes \$225,000 for the local match required for a second PWTF loan.

It should be noted that the State legislature as a result of the economic downturn put the PWTF program on hold for two years. There was no PWTF construction application cycle in May 2009. It is anticipated that the next round of construction applications will be in May 2010. Attention should be paid to the process at the beginning of 2010 to determine the possibilities. In the meantime, funds collected through rates and identified to fund capital improvements may be transferred to the cumulative reserve while waiting to proceed. The Town will manage the CIP projects based on the funding available and prioritized need.

The legislature did provide a new Rural Counties Grant Program to promote the creation of jobs. The PWTF staff is developing the process with application anticipated out in August 2009 and due in early September 2009. This is a one-time program with a total of \$9.5 Million.

### Sewer

The 2009 sewer capital improvements are funded by rates and reserves. Future improvements will be reviewed and determined as the identified projects are completed. An annual set aside for future capital improvements is included to ensure that funds are available within the sewer utility to fund replacement projects.

<b>SEWER 6-YEAR CIP</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Marina Lift Station	95,000	-	-	-	-	-
Digester 1 Aeration	30,000	-	-	-	-	-
Washdown Water Improvements	20,000	-	-	-	-	-
Biosolids Dewatering	40,000	-	-	-	-	-
Future Capital Improvements	-	30,000	30,000	30,000	30,000	30,000
<b>Total Sewer CIP</b>	<b>\$185,000</b>	<b>\$30,000</b>	<b>\$30,000</b>	<b>\$30,000</b>	<b>\$30,000</b>	<b>\$30,000</b>
<b>CIP Funding Source</b>	<i>Rates/ Reserve</i>	<i>Rates/ Reserve</i>	<i>Rates/ Reserve</i>	<i>Rates/ Reserve</i>	<i>Rates/ Reserve</i>	<i>Rates/ Reserve</i>

An annual set aside of \$30,000 will be used for improvements or moved to cumulative reserves each year. This annual amount will continue to be reviewed to ensure that sufficient funding is available in the future.

### Sewer Compost

The sewer compost improvements have been identified through 2011 and are intended to be funded by sewer compost fees or reserves. Specific replacement projects are not anticipated beyond 2011, so an annual set aside has been included.

<b>SEWER COMPOST 6-YR CIP</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Improvements-Buildings	8,000	8,000	8,000	8,000	8,000	8,000
Machinery/Equip-Sewer Compost	15,000	15,000	15,000	15,000	15,000	15,000
Digester 1 Aeration	30,000	-	-	-	-	-
Biosolids Dewatering (Ph 1)	80,000	-	-	-	-	-
Biosolids Dewatering (Ph 2)	-	100,000	-	-	-	-
Compost Cover	-	49,000	-	-	-	-
Septage Receiving	-	-	185,000	-	-	-
Future Capital Improvements	-	-	-	80,000	80,000	80,000
<b>Total Sewer Compost CIP</b>	<b>\$133,000</b>	<b>\$172,000</b>	<b>\$208,000</b>	<b>\$103,000</b>	<b>\$103,000</b>	<b>\$103,000</b>
<b>CIP Funding Source</b>	<i>Compost Fees</i>	<i>Compost Fees</i>	<i>Compost Fees</i>	<i>Compost Fees</i>	<i>Compost Fees</i>	<i>Compost Fees</i>

In addition to the specific CIP projects, the following annual capital programs will be funded with compost fee revenue: improvements to buildings at \$8,000, machinery and equipment replacement at \$15,000, and future capital improvement set aside of \$80,000 beginning 2012.

## OTHER RATE ISSUES

**Water Rate Structure** – The water rates include a base rate that increases by meter size and a volume charge on water usage in excess of an allowance. The allowance increases as the meter size increases. The majority of meters are ¾" and do not include any allowance. While this increasing allowance sounds fair, it essentially equalizes all rates so the customers are paying the same regardless of meter size. Because larger meter sizes demand more water instantaneously, the larger meters should pay more than the smaller meters that demand less just to turn on the tap. Removing the allowance will increase the equity in the water rates.

In addition to the water allowances, the base rates were reviewed in comparison to the typical ¾" meter. The factor (base rate per meter size divided by base rate for ¾" meter) was calculated. A target was established and the first step in moving toward equity has been included in the recommended 2009 rates as shown below.

Water Rates	2009 factor to ¾" meter	Target factor to ¾" meter	2009 Allowance incl in Base	Target Allowance incl in Base
¾" Meter	1.00	1.00	0	0
1" Meter	2.00	2.00	500	0
1-1/2" Meter	3.00	3.00	1,200	0
2" Meter	4.00	5.00	1,800	0
3" Meter	6.00	12.00	2,600	0
4" Meter (no customers)	25.00	25.00	0	0
6" Meter	negotiate	Negotiate	negotiate	negotiate
			cubic feet	cubic feet

The Town should continue to move toward the targets as the opportunity arises. The goal is to remove all allowances, other than those included in specific contracts, and to adjust the base rates in relation to the ¾" typical single family meter in La Conner. Because these adjustments will affect the customers in addition to any general rate adjustments, care should be taken to phase in the equity. One opportunity would be to adjust for equity during the Non-Anacortes change years by say 10-15% per year.

There are water customers outside of Town that receive water service. The rates are the same as the in-town customers, however the outside of Town customers are responsible for the cost of keeping their system up to code and any replacements that may be necessary. This has been implemented through the use of surcharges for the appropriate customers when the Town has made the improvements.

**Agricultural Rates** – The Town provides water for certain agricultural uses through temporary meters. Discussions about this type of use resulted in the idea of contacting Anacortes to look into direct wheeling of water specific to the agricultural uses instead of using temporary meters from La Conner's supply. This may be more direct and could result in lower costs but would be up to the agricultural community to pursue with Anacortes.

**Sewer Rate Structure** – The sewer rates include a base rate per customer plus a volume rate on either normal strength or high strength waste discharged to the system. This is an equitable system that is clear and makes sense. No additional adjustments are recommended at this time.

**Sewer Compost Fees** – The sewer compost fees are market-based and were not reviewed in this rate study.

**Connection Charges** - The Town anticipates new connections equivalent to three new single family homes per year. The connection charges are low for the area and should be further reviewed. The Town's investment into each system should be determined and will require research.

## COMPARISON TO OTHER JURISDICTIONS

While it is always nice to see how your rates compare to other jurisdictions, it is important to remember that each system must be self-sufficient in the short- and long-term. Single family customers in La Conner average 600 cubic feet of water per month. The rates for this average single family customer are compared in the following table that was prepared in November 2008.

<b>Single Family Monthly Rates @ 600 cf/Mo</b>			
<b>SFR 600 cf</b>	<b>Water</b>	<b>Sewer</b>	<b>Water + Sewer</b>
Concrete	\$20.80	\$79.87	\$100.67
Sedro-Woolley*	\$30.35	\$48.50	\$78.85
Langley	\$37.16	\$35.36	\$72.52
<b>LaConner Recommended</b>	<b>\$30.26</b>	<b>\$37.42</b>	<b>\$67.68</b>
Burlington*	\$30.35	\$31.65	\$62.00
<b>LaConner</b>	<b>\$27.48</b>	<b>\$34.13</b>	<b>\$61.61</b>
Anacortes	\$10.04	\$41.29	\$51.33
*Skagit PUD	\$30.35		\$30.35

*\*Skagit PUD provides water service to Burlington & Sedro-Woolley.*

The recommended combined rate in La Conner for water and sewer is \$67.68 per month for the average single family customer. While this is an increase, La Conner's relative position does not change much with some rates higher and some lower around Skagit County cities. It is interesting to note that population alone does not dictate the higher or lower rates. The 2007 population in Concrete was very similar to La Conner and yet their sewer rates are more than double.

The connection charges were also compared for the same Skagit County communities. The connection fees for single family include the capital buy-in for the general system. They do not include permit fees, installation, inspection or local facilities required to serve the property. La Conner has the lowest combined water and sewer connection fees as show in the following table.

<b>Single Family Connection Fees</b>			
	<b>Water</b>	<b>Sewer</b>	<b>Water + Sewer</b>
Langley	\$9,932	\$5,191	\$15,123
Sedro-Woolley*	\$2,340	\$8,926	\$11,266
Anacortes	\$2,827	\$6,675	\$9,502
Concrete	\$6,303	\$2,655	\$8,958
Burlington*	\$2,340	\$3,754	\$6,094
<b>LaConner</b>	<b>\$1,010</b>	<b>\$2,432</b>	<b>\$3,442</b>
*Skagit PUD	\$2,340		\$2,340

*\*Skagit PUD provides water service to Burlington & Sedro-Woolley.*

## FULL SCENARIOS TO FOLLOW:

- Final Scenarios (pages 11-14)
- Detailed Operating Revenue & Expense (pages 15+)

Town of La Conner Utility Rate Study	KI EST. 2008	PRE BDGT 2009	PROJ. 2010	PROJ. 2011	PROJ. 2012	PROJ. 2013	PROJ. 2014	3/24/2009 Comments
<b>WATER - PREFERRED SCENARIO: MEET OPERATIONS + CIP WITH DEBT &amp; RATES</b>								
<b>Water Operating Revenue</b>								
Water Sales	422,687	423,181	423,676	424,171	424,665	425,160	425,655	avg. sing fam = \$27.48 (600cf)
Other Water Revenue	30,785	8,110	8,110	8,110	8,110	8,110	8,110	
<b>Total Water Operating Revenue</b>	<b>453,472</b>	<b>431,291</b>	<b>431,786</b>	<b>432,281</b>	<b>432,775</b>	<b>433,270</b>	<b>433,765</b>	
<b>Water Operating Expenses</b>	<b>438,400</b>	<b>425,442</b>	<b>441,139</b>	<b>475,689</b>	<b>496,555</b>	<b>518,666</b>	<b>562,434</b>	
<b>Net Operating Income</b>	<b>15,072</b>	<b>5,849</b>	<b>(9,353)</b>	<b>(43,408)</b>	<b>(63,780)</b>	<b>(85,396)</b>	<b>(128,670)</b>	
Percent of Water Sales	n/a	n/a	2%	10%	15%	20%	30%	Cumulative %
Transfer In from Cum. Reserve	55,063	26,937	-	-	-	-	-	09=Remain 2nd St. (82-55)
<b>Total Revenue for Capital Outlay</b>	<b>70,135</b>	<b>32,786</b>	<b>(9,353)</b>	<b>(43,408)</b>	<b>(63,780)</b>	<b>(85,396)</b>	<b>(128,670)</b>	
Computer Hardware/Software	3,388	-	-	-	-	-	-	
2 <sup>nd</sup> St - Morris to Washington	-	68,000	-	-	-	-	-	
Machinery/Equip-Water	1,147	-	2,000	2,000	2,000	2,000	2,000	
Water - Truck/Snow Plow	-	3,500	3,000	3,000	3,000	3,000	3,000	
Rate-funded CIP	19,814	10,000	97,144	97,144	97,144	97,144	97,144	to Cum. Res. For CIP
New Debt For CIP			36,675	50,611	50,611	50,611	50,611	Local Match in '10, Debt in '11+
Contributions to Cumulative Reserve	48,684							
<b>Total W Capital Outlay</b>	<b>73,033</b>	<b>81,500</b>	<b>138,819</b>	<b>152,756</b>	<b>152,756</b>	<b>152,756</b>	<b>152,756</b>	
<b>Rate Structure Adjustments</b>								
Est. Increase - Shelter Bay		19,269	23,351	28,236	33,124	38,015	42,909	Base/Vol by CPI, Cap by Anac.
Add'l Revenue: Adj. Base & Allowance		3,600	7,200	11,700	15,500	15,500	15,500	Adj. lrg meter base & allowance
<b>Total W Rate Adjustment</b>	<b>0</b>	<b>22,869</b>	<b>30,551</b>	<b>39,936</b>	<b>48,624</b>	<b>53,515</b>	<b>58,409</b>	
<b>Annual Increase/(Use) of Reserves</b>	<b>(2,898)</b>	<b>(25,844)</b>	<b>(117,621)</b>	<b>(156,228)</b>	<b>(167,911)</b>	<b>(184,637)</b>	<b>(223,017)</b>	
Percent of Water Sales	1%	6%	28%	37%	40%	43%	52%	Cumulative %
<b>Test Alternative Rate Scenario</b>								
Increase in Monthly Base Rate		\$1.50	\$1.50	\$2.25	\$0.75	\$0.50	\$1.50	
Increase in Volume Rate /100 cf		\$0.21	\$0.21	\$0.32	\$0.11	\$0.07	\$0.21	same % as base
Proposed Rate Sched - Base	14.84	16.34	17.84	20.09	20.84	21.34	22.84	
Proposed Rate Sched - Vol /100cf	2.11	2.32	2.53	2.85	2.96	3.03	3.24	
<b>Average Single Family / Month</b>	<b>\$27.48</b>	<b>\$30.26</b>	<b>\$33.04</b>	<b>\$37.21</b>	<b>\$38.60</b>	<b>\$39.52</b>	<b>\$42.30</b>	<b>Avg. 600 cf per mo.</b>
Increase in Avg. Sing Fam / Mo		\$2.78	\$2.78	\$4.17	\$1.39	\$0.93	\$2.78	
Add'l Rate Revenue this Scenario		43,269	86,044	150,205	171,592	185,850	228,625	
<b>Est. Ending Balance This Scenario</b>	<b>348,381</b>	<b>365,806</b>	<b>334,229</b>	<b>328,207</b>	<b>337,888</b>	<b>333,107</b>	<b>338,709</b>	
Target Minimum Balance		310,000	313,000	320,000	324,000	329,000	337,000	20% oper exp: 85k+ \$225k=\$310k
Test End Bal. to Target Min.		Ok	ok	ok	ok	ok	ok	incl. 225k local match 12" trans
Cumulative Reserve - Water	110,419	83,482	180,626	277,771	374,915	130,360	83,482	Target Minimum = \$50k



SEWER	2009	2010	2011	2012	2013	2014	3/24/2009
<b>Sewer Operating Revenue</b>							
Sewer Service Charges	348,337	348,951	349,565	350,179	350,793	351,407	avg. sing fam = \$34.11 (600cf)
Compost Sewer Service Charges	170,000	170,000	170,000	170,000	170,000	170,000	sewer service to compost facil
Other Sewer Operating Revenue	6,170	6,170	6,170	6,170	6,170	6,170	
<b>Total Sewer Operating Revenue</b>	<b>524,507</b>	<b>525,121</b>	<b>525,735</b>	<b>526,349</b>	<b>526,963</b>	<b>527,577</b>	
<b>Sewer Operating Expenses</b>							
<b>Net S Operating Income</b>	<b>508,780</b>	<b>546,160</b>	<b>577,512</b>	<b>611,683</b>	<b>648,067</b>	<b>686,822</b>	
Percent of Sewer Sales	15,727	(21,039)	(51,777)	(85,334)	(121,104)	(159,246)	Cumulative
Transfer In from Cumulative Reserve	135,000	-	-	-	-	-	45%
<b>Total S Revenue for Capital Outlay</b>	<b>150,727</b>	<b>(21,039)</b>	<b>(51,777)</b>	<b>(85,334)</b>	<b>(121,104)</b>	<b>(159,246)</b>	
<b>Sewer Capital Outlay</b>							
Machinery/Equipment	-	-	-	-	-	-	
Marina Lift Station	95,000	-	-	-	-	-	
Digester 1 Aeration	30,000	-	-	-	-	-	60k total, 50% split w/compost
Washdown Water Improvements	20,000	-	-	-	-	-	
Biosolids Dewatering	40,000	-	-	-	-	-	120k total, 33% split w/compost
Future Capital Improvements	-	30,000	30,000	30,000	30,000	30,000	Set schedule for future
<b>Total S Capital Outlay</b>	<b>185,000</b>	<b>30,000</b>	<b>30,000</b>	<b>30,000</b>	<b>30,000</b>	<b>30,000</b>	
<b>Annual Increase/(Use) of Reserves</b>	<b>(34,273)</b>	<b>(51,039)</b>	<b>(81,777)</b>	<b>(115,334)</b>	<b>(151,104)</b>	<b>(189,246)</b>	
Percent of Sewer Sales	10%	15%	23%	33%	43%	54%	Cumulative
<b>Test Alternative Rate Scenario</b>							
Increase in Monthly Base Rate	\$1.25	\$1.25	\$1.00	\$1.00	\$1.00	\$1.50	
Increase in Volume Rate /100 cf	\$0.34	\$0.34	\$0.27	\$0.27	\$0.27	\$0.41	same % as base
Proposed Rate Sched - Base	12.95	15.45	16.45	17.45	18.45	19.95	
Proposed Rate Sched - Vol/100cf	3.53	4.21	4.48	4.76	5.03	5.44	
<b>Average Single Family / Month</b>	<b>\$34.13</b>	<b>\$40.72</b>	<b>\$43.35</b>	<b>\$45.99</b>	<b>\$48.63</b>	<b>\$52.58</b>	<b>Avg. 600 cf per mo.</b>
Increase in Avg. Sing Fam / Mo	\$3.29	\$3.29	\$2.64	\$2.64	\$2.64	\$3.95	
Add'l Rate Revenue this Scenario	34,238	67,861	94,760	121,658	148,557	188,905	
<b>Est. Ending Balance This Scenario</b>	<b>105,140</b>	<b>121,961</b>	<b>134,943</b>	<b>141,267</b>	<b>138,720</b>	<b>138,379</b>	
Target Minimum Balance	101,756	109,232	115,502	122,337	129,613	137,364	20% oper exp
Test End Bal. to Target Min.	ok	ok	ok	ok	ok	ok	
<b>COMBINED WATER &amp; SEWER</b>							
<b>Average Single Family / Month</b>	<b>\$61.61</b>	<b>\$67.69</b>	<b>\$73.76</b>	<b>\$80.56</b>	<b>\$84.58</b>	<b>\$88.15</b>	<b>\$94.88</b>
Increase in Avg. Sing Fam / Mo.	\$ 6.07	\$ 6.07	\$ 6.07	\$ 6.80	\$ 4.02	\$ 3.56	\$ 6.73

SEWER COMPOST		2009	2010	2011	2012	2013	2014	3/24/2009
Total SWR Compost Oper Rev		451,900	451,900	451,900	451,900	451,900	451,900	
Total SWR Compost Oper Exp		294,730	311,613	318,354	325,896	333,847	342,232	Incl. Sewer Service \$170k per yr.
Net SWR Compost Operating Income		157,170	140,287	133,546	126,004	118,053	109,668	
S Compost Capital Outlay								
Improvements-Buildings	8,000	8,000	8,000	8,000	8,000	8,000	8,000	
Machinery/Equip-Sewer Compost	15,000	15,000	15,000	15,000	15,000	15,000	15,000	
Digester 1 Aeration	30,000	-	-	-	-	-	-	60k total, 50% split w/sewer
Biosolids Dewatering (Ph 1)	80,000	-	-	-	-	-	-	120k total, 67% split w/sewer
Biosolids Dewatering (Ph 2)	-	100,000	-	-	-	-	-	
Compost Cover	-	49,000	-	-	-	-	-	
Septage Receiving	-	-	185,000	-	-	-	-	
Future Capital Improvements	-	-	-	-	80,000	80,000	80,000	
Total S Compost Cap Outlay		133,000	172,000	208,000	103,000	103,000	103,000	
Annual Increase/(Use) of Reserves		24,170	(31,713)	(74,454)	23,004	15,053	6,668	
Beginning Compost Fund Balance		859,263	363,433	331,720	257,267	280,271	295,324	
One-time transfer to Sewer Operations		(170,000)						
One-time transfer for Police Services		(350,000)						
Est. Ending Balance		363,433	331,720	257,267	280,271	295,324	301,992	
Target Minimum Balance		147,365	155,806	159,177	162,948	166,924	171,116	6 months operating expense
Test End Bal. to Target Min.		ok	ok	ok	ok	ok	ok	

CAUTION: THIS SCENARIO RELIES ON COMPOST FUND BALANCE TO MEET CAPITAL IMPROVEMENTS IN YEARS 2010-2011. IN ADDITION, \$170,000 EACH YEAR IS CHARGED TO THE COMPOST FUND TO MAINTAIN LOW SEWER RATES. ANY REDUCTION IN COMPOST REVENUE OR INCREASES IN COSTS MAY HAVE AN AMPLIFIED EFFECT ON BOTH COMPOST AND SEWER.



## DETAILED OPERATING PROJECTIONS

The scenarios on the previous pages present the final scenarios and recommended rates. This section provides the detailed operating revenue and expense from the rate model. Any rate study is a projection of revenue and expenses based on a series of assumptions. Actual experience may be higher or lower but the intent is to apply reasonably conservative assumptions to provide the six-year outlook and allow the utilities to be managed while avoiding drastic impacts on customers.

<b>KEY ASSUMPTIONS</b>							<b>Comments</b>
New Customer ERUs	3	3	3	3	3	3	Assume 6 mos in 1st yr
Annual Growth	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Salary/Benefit Escalation	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	Same as General
General Cost Escalation	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Fuel/Utilities Cost Escalation	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	contract every 3-yrs: 08, 11,
Water Purchased from Anacortes	0.0%	0.0%	0.0%	0.0%	0.0%	12.0%	14

<b>Town of La Conner</b>		<b>BUDGET</b>	<b>KI. EST.</b>	<b>PreBdgt</b>	<b>PROJ.</b>	<b>PROJ.</b>	<b>PROJ.</b>	<b>PROJ.</b>	<b>PROJ.</b>	<b>Comments</b>
<b>Utility Rate Study</b>		<b>2008</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>FINAL VERSION</b>
<b>WATER</b>										<b>FINAL VERSION</b>
<b>Water Operating Revenue - 401</b>										
Water Sales	454,000	422,687	423,181	423,676	424,171	424,665	425,160	425,655	425,655	avg. single family=600cf
Water Hydrant Meter -Temp	6,000	19,103	6,000	6,000	6,000	6,000	6,000	6,000	6,000	avg. sing fam = \$27.48
Water Meter - New Const	0	4,733	1,000	1,000	1,000	1,000	1,000	1,000	1,000	Flat
Utility Billing Penalties	300	2,911	300	300	300	300	300	300	300	Flat
Investment Interest, LGIP	0	1,092	810	810	810	810	810	810	810	flat,council to set policy
Misc. (reimb.asset sale, misc.)	0	2,945	0	0	0	0	0	0	0	Flat
<b>Total Water Operating Revenue</b>	<b>460,300</b>	<b>453,472</b>	<b>431,291</b>	<b>431,786</b>	<b>432,281</b>	<b>432,775</b>	<b>433,270</b>	<b>433,765</b>	<b>433,765</b>	
<b>Annual Percent Change</b>		<b>-4.5%</b>	<b>-6.3%</b>	<b>-4.9%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	
<b>Water Operating Expense - 401</b>										
Salaries & Wages	106,600	95,703	105,500	110,775	116,314	124,456	133,168	142,489	142,489	by salary/benefit + growth
Overtime/Other Earnings	4,000	2,132	4,000	4,200	4,410	4,719	5,049	5,402	5,402	by salary/benefit + growth
FICA	8,200	7,999	8,100	8,505	8,930	9,555	10,224	10,940	10,940	by salary/benefit + growth
PERS Retirement	6,600	6,585	8,600	9,030	9,482	10,145	10,855	11,615	11,615	by salary/benefit + growth
Medical/Dental	30,000	27,998	30,100	31,605	33,185	35,508	37,994	40,653	40,653	by salary/benefit + growth
Labor & Industries	3,000	2,008	3,433	3,605	3,785	4,050	4,333	4,637	4,637	by salary/benefit + growth
Unemployment Compensation	1,000	300	350	368	386	413	442	473	473	by salary/benefit + growth
Office & Operating Supplies	2,500	3,241	2,500	2,625	2,756	2,894	3,039	3,191	3,191	by gen'l cost + growth
Fuel	10,000	11,905	12,000	13,200	14,520	15,972	17,569	19,326	19,326	by fuel/util + growth

Town of La Conner Utility Rate Study	BUDGET		KIEST. 2008	PreBdgt 2009	PROJ. 2010	PROJ. 2011	PROJ. 2012	PROJ. 2013	PROJ. 2014	FINAL VERSION Comments
	2008	2009								
Purchase of Wholesale Water	120,000	144,000	117,838	144,000	144,000	161,280	161,280	161,280	180,634	by water in 11/14+ growth all yrs
Small Tools & Equipment	2,000	2,000	379	2,000	2,100	2,205	2,315	2,431	2,553	by gen'l cost + growth
Professional Services	70,000	10,000	53,342	10,000	10,500	11,025	11,576	12,155	12,763	by gen'l cost + growth
Audit Fees	1,347	1,350	157	1,350	1,418	1,488	1,563	1,641	1,723	by gen'l cost + growth
Communications	4,500	4,500	4,340	4,500	4,725	4,961	5,209	5,470	5,743	by gen'l cost + growth
Postage	1,000	1,100	1,422	1,100	1,155	1,213	1,273	1,337	1,404	by gen'l cost + growth
Advertising	250	250	0	250	263	276	289	304	319	by gen'l cost + growth
Insurance	9,500	10,300	12,641	10,300	10,815	11,356	11,924	12,520	13,146	by gen'l cost + growth
Public Utility Services	3,700	3,700	3,352	3,700	4,070	4,477	4,925	5,417	5,959	by fuel/util + growth
Repair & Maintenance	17,750	12,000	25,069	12,000	12,600	13,230	13,892	14,586	15,315	by gen'l cost + growth
Vehicle Repair & Maintenance	3,500	3,500	1,092	3,500	4,000	4,500	5,000	5,500	6,000	step up-\$500 per year
System Repair & Maintenance	40,000	34,400	39,625	34,400	36,900	39,400	41,900	44,400	46,900	step up-\$2500 per year
Dues & Subscriptions	2,500	2,500	3,022	2,500	2,625	2,756	2,894	3,039	3,191	by gen'l cost + growth
Training & Meetings	1,000	1,000	0	1,000	1,050	1,103	1,158	1,216	1,276	by gen'l cost + growth
External Taxes	21,600	20,259	18,248	20,259	21,007	22,652	23,645	24,698	26,783	5% x oper expenses
<b>Water Operating Expenses</b>	<b>470,547</b>	<b>425,442</b>	<b>438,400</b>	<b>425,442</b>	<b>441,139</b>	<b>475,689</b>	<b>496,555</b>	<b>518,666</b>	<b>562,434</b>	
Percent Annual Change	37%	-3.0%	12%	-3.0%	3.7%	7.8%	4.4%	4.5%	8.4%	
<b>Net Operating Income</b>	<b>(10,247)</b>	<b>5,849</b>	<b>15,072</b>	<b>5,849</b>	<b>(9,555)</b>	<b>(43,408)</b>	<b>(63,780)</b>	<b>(85,396)</b>	<b>(128,670)</b>	
Percent of Water Sales	2%	n/a	n/a	n/a	2%	10%	15%	20%	30%	Cumulative %

Town of La Conner Utility Rate Study	BUDGET 2008	KIEST. 2008	PreBdgt 2009	PROJ. 2010	PROJ. 2011	PROJ. 2012	PROJ. 2013	PROJ. 2014	FINAL VERSION Comments
<b>SEWER</b>									<b>FINAL VERSION</b>
<b>Sewer Operating Revenue - 409</b>									
Side Sewer Permit	350	400	300	300	300	300	300	300	Flat
Sewer Service Charges	373,000	347,723	348,337	348,951	349,565	350,179	350,793	351,407	avg. sing fam = \$34.11
Compost Sewer Service Charges			170,000	170,000	170,000	170,000	170,000	170,000	sewer svcs to comp facil
Sewer Svc-Tribe Fair Share Adj	0	20,781	0	0	0	0	0	0	Flat
Plan Checking/Engineering fee	700	12,126	0	0	0	0	0	0	Flat
Investment Interest	4,500	1,379	5,870	5,870	5,870	5,870	5,870	5,870	Flat
Miscellaneous Revenue	0	2,923	0	0	0	0	0	0	Flat
<b>Total Sewer Operating Revenue</b>	<b>378,550</b>	<b>385,332</b>	<b>524,507</b>	<b>525,121</b>	<b>525,735</b>	<b>526,349</b>	<b>526,963</b>	<b>527,577</b>	
<i>Annual Percent Change</i>	-0.3%	0.7%	36.1%	0.1%	0.1%	0.1%	0.1%	0.1%	
<b>Sewer Operating Expense - 409</b>									
Salaries & Wages	29,000	24,343	24,600	25,830	27,122	29,020	31,051	33,225	by salary/benefit + growth
FICA	2,250	1,985	1,900	1,995	2,095	2,241	2,398	2,566	by salary/benefit + growth
PERS Retirement	1,800	1,637	2,050	2,153	2,260	2,418	2,588	2,769	by salary/benefit + growth
Medical/Dental	8,700	7,667	8,100	8,505	8,930	9,555	10,224	10,940	by salary/benefit + growth
Labor & Industries	220	103	205	215	226	242	259	277	by salary/benefit + growth
Unemployment Compensation	270	75	75	79	83	88	95	101	by salary/benefit + growth
Office & Operating Supplies	4,120	4,878	5,600	5,880	6,174	6,483	6,807	7,147	by gen'l cost + growth
Lab Supplies	6,000	11,651	10,900	11,445	12,017	12,618	13,249	13,911	by gen'l cost + growth
U.V.	4,000	5,763	6,100	6,405	6,725	7,062	7,415	7,785	by gen'l cost + growth
Fuel	3,000	5,906	5,700	6,270	6,897	7,587	8,345	9,180	by fuel/util + growth
Professional Services	88,000	1,049	10,000	10,500	11,025	11,576	12,155	12,763	by gen'l cost + growth
Legal Services	0	0	0	0	0	0	0	0	by gen'l cost + growth
Extra Labor	5,000	0	5,000	5,250	5,513	5,788	6,078	6,381	by gen'l cost + growth
Plant Operator	134,660	122,728	139,000	145,950	153,248	160,910	168,955	177,403	by gen'l cost + growth
Engineering	5,000	21,069	7,000	7,350	7,718	8,103	8,509	8,934	by gen'l cost + growth
Compost Operator	16,121	14,786	16,700	17,535	18,412	19,332	20,299	21,314	by gen'l cost + growth
Audit Fees	1,687	157	1,700	1,785	1,874	1,968	2,066	2,170	by gen'l cost + growth
Pile Grinding	0	0	6,000	6,300	6,615	6,946	7,293	7,658	by gen'l cost + growth
Communications	2,400	2,935	2,400	2,520	2,646	2,778	2,917	3,063	by gen'l cost + growth
Postage	1,000	1,422	1,500	1,575	1,654	1,736	1,823	1,914	by gen'l cost + growth
Advertising	250	0	1,000	1,050	1,103	1,158	1,216	1,276	by gen'l cost + growth
Insurance	6,400	8,439	6,750	7,088	7,442	7,814	8,205	8,615	by gen'l cost + growth
Public Utility Services	64,000	52,039	65,000	71,500	78,650	86,515	95,167	104,683	by fuel/util + growth
Plant Repair & Maintenance	30,000	52,310	55,000	57,750	60,638	63,669	66,853	70,195	by gen'l cost + gro, 10k l&l

Town of La Conner Utility Rate Study	BUDGET 2008	KL EST. 2008	PreBdgt 2009	PROJ. 2010	PROJ. 2011	PROJ. 2012	PROJ. 2013	PROJ. 2014	FINAL VERSION Comments
Pipe Repair & Maintenance	40,000	6,365	50,000	52,500	55,125	57,881	60,775	63,814	by gen'l cost + gro, 10k I&I
Biosolids Compost Material/Test	40,000	80,180	62,000	65,100	68,355	71,773	75,361	79,129	by gen'l cost + growth
Dues & Subscriptions	2,500	1,614	2,500	2,625	2,756	2,894	3,039	3,191	by gen'l cost + growth
External Taxes	14,750	11,909	12,000	21,006	22,212	23,526	24,926	26,416	4% x oper expenses
<b>Sewer Operating Expenses</b>	<b>511,128</b>	<b>441,011</b>	<b>508,780</b>	<b>546,160</b>	<b>577,512</b>	<b>611,683</b>	<b>648,067</b>	<b>686,822</b>	
Percent Annual Change	16%	5%	15%	7%	6%	6%	6%	6%	
<b>Net S Operating Income</b>	<b>(132,576)</b>	<b>(55,679)</b>	<b>15,727</b>	<b>(21,039)</b>	<b>(51,777)</b>	<b>(85,334)</b>	<b>(121,104)</b>	<b>(159,246)</b>	
Percent of Sewer Sales	36%	16%	n/a	6%	15%	24%	35%	45%	Cumulative

Town of La Conner Utility Rate Study	BUDGET 2008	KL EST. 2008	PreBdgt 2009	PROJ. 2010	PROJ. 2011	PROJ. 2012	PROJ. 2013	PROJ. 2014	FINAL VERSION Comments
<b>SEWER COMPOST</b>									
<b>S Compost Oper Revenue – 412</b>									
Septage Receivables	379,000	450,936	443,800	443,800	443,800	443,800	443,800	443,800	Flat
Compost Punchcards/Sales	41,500	7,834	8,100	8,100	8,100	8,100	8,100	8,100	Flat
Investment Interest	0	0	0	0	0	0	0	0	Flat
Miscellaneous Revenue	0	7	0	0	0	0	0	0	Flat
<b>Total SWR Compost Oper Rev</b>	<b>420,500</b>	<b>458,776</b>	<b>451,900</b>	<b>451,900</b>	<b>451,900</b>	<b>451,900</b>	<b>451,900</b>	<b>451,900</b>	
<i>Annual Percent Change</i>	<i>-1.9%</i>	<i>7.0%</i>	<i>-1.5%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	
<b>S Compost Oper Expense - 412</b>									
Salaries & Wages	13,700	12,243	14,100	14,805	15,545	16,633	17,798	19,044	by salary/benefit + growth
FICA	1,050	943	1,075	1,129	1,185	1,268	1,357	1,452	by salary/benefit + growth
PERS Retirement	850	834	1,180	1,239	1,301	1,392	1,489	1,594	by salary/benefit + growth
Medical/Dental	3,000	3,020	3,750	3,938	4,134	4,424	4,733	5,065	by salary/benefit + growth
Labor & Industries	100	42	100	105	110	118	126	135	by salary/benefit + growth
Unemployment Compensation	150	38	50	53	55	59	63	68	by salary/benefit + growth
Audit Fees	1,050	0	1,100	1,155	1,213	1,273	1,337	1,404	by gen'l cost + growth
Compost Operator	11,448	10,351	12,000	12,600	13,230	13,892	14,586	15,315	by gen'l cost + growth
Septage Operator	44,250	44,083	45,600	47,880	50,274	52,788	55,427	58,198	by gen'l cost + growth
Pile Grinding	12,000	6,667	6,000	6,300	6,615	6,946	7,293	7,658	by gen'l cost + growth
Advertising	0	0	1,000	1,050	1,103	1,158	1,216	1,276	by gen'l cost + growth
Sewer Service			170,000	170,000	170,000	170,000	170,000	170,000	by gen'l cost + growth
Building R & M	18,750	3,571	2,500	2,625	2,756	2,894	3,039	3,191	by gen'l cost + growth
Compost Materials/Testing	20,000	4,535	35,000	36,750	38,588	40,517	42,543	44,670	by gen'l cost + growth
External Taxes	1,000	1,148	1,275	11,985	12,244	12,534	12,840	13,163	4% x oper expenses
<b>Total SWR Compost Oper Exp</b>	<b>127,348</b>	<b>87,476</b>	<b>294,730</b>	<b>311,613</b>	<b>318,354</b>	<b>325,896</b>	<b>333,847</b>	<b>342,232</b>	
<i>Percent Annual Change</i>	<i>57%</i>	<i>1%</i>	<i>237%</i>	<i>6%</i>	<i>2%</i>	<i>2%</i>	<i>2%</i>	<i>3%</i>	
<b>Net Compost Operating Income</b>	<b>293,152</b>	<b>371,301</b>	<b>157,170</b>	<b>140,287</b>	<b>133,546</b>	<b>126,004</b>	<b>118,053</b>	<b>109,668</b>	
<i>Percent of Septage Sales</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	

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# **APPENDIX F**

## **REVIEW COMMENTS**