

CHAPTER 10: UTILITIES

10.1 Introduction

The residents of the City of Sultan rely on facilities and services that help ensure a healthy, safe, and economically viable community. Some of these facilities are publically owned and operated and are described in the capital facilities chapter; other facilities are privately owned and operated. While sewer, potable water, and stormwater are considered “utilities”, they are owned and operated by the City of Sultan and for the purposes of this plan are addressed in the capital facilities element of this comprehensive plan.

The citizens of Sultan recognize that planning for private utilities is the responsibility of the service provider; however, Sultan’s zoning regulations may place restriction on the location and site development of the utilities and may require a public review process before utility facilities may be located. Furthermore, while some facilities are privately owned and regulated at the state or federal level, coordination at the local level is essential to ensure that both current and future residents have access to these services.

The utilities element provides a brief description of the different utility purveyors that operate in Sultan. It also encourages purveyors to consider the goals and policies of this comprehensive plan and this plan element when contemplating capital improvements to their private systems. In an age of constrained fiscal resources, it is ever more important to provide services with greater efficiency. Because the City acts in coordination with the County regarding population growth and related development, this plan also encourages purveyors providing utilities in Sultan to maintain close communication with Snohomish County and the City in regard to the capacity of their systems and to coordinate and review the development of each others plans.

As part of the public process for this Plan update, the City conducted a statistically valid telephone survey. The survey sought the opinions of 300 randomly selected residents to get their views on city services and economic development among other topics. Services and utilities, both public and private, are often tied to economic development; and the accessibility to services and facilities – telecommunications in particular – can help or hinder a community’s ability to grow their local economy. While many of us often take this connection for granted, answers to the telephone survey conducted by EMC Research, Inc. clearly indicate that residents place high priority on growing the local economy, supporting commercial and retail development in Sultan, growing business, and the local creation of jobs.

The results of the survey provided guidance to the Planning Board and City Council in developing the new goals and polices for the 2011 Comprehensive Plan update, many of which are reflected in this utilities element. Community desires were also sorted through the City’s “small group” work sessions, and through planning board and City Council deliberations, resulting in a plan and policy framework that is uniquely Sultan.

10.2 Growth Management Act Requirements

Both private and public entities provide utilities making the planning for these facilities a challenge. Still, the GMA requires the inclusion of a utilities element in local comprehensive plans. A utilities element helps integrate the general location and capacity of existing and proposed utility facilities and services with the goals and policies of the land use element of the plan.

The utilities element of this comprehensive plan used Section 36.70A.070 of the Growth Management Act and Washington Administrative Code 365-195-420 as a guide for its development. Specifically, this element includes information on the general and proposed location and capacity of existing and proposed utilities, including electrical lines, telecommunication lines, and natural gas lines.

Washington Administrative Code 365-196-415 and 365-196-420 outline the requirements for capital facility and utility elements, respectively. WAC 365-196-210 (36) defines “utilities” as:

“Utilities” or “public utilities” mean enterprises or facilities serving the public by means of an integrated system of collection, transmission, distribution, and processing facilities through more or less permanent physical connections between the plant of the serving entity and the premises of the customer. Included are systems for the delivery of natural gas, electricity, telecommunications services, and water, and for the disposal of sewage.

Since the WAC defines utilities to include sewer and water facilities, communities will sometimes combine both the capital facilities and utilities into a single chapter. The City of Sultan has chosen to keep these elements distinct. Rather than duplicate the inventory of sewer, stormwater, and water, and thus invite possible inconsistency the City, for the purposes of this comprehensive plan, provides the general location, proposed location, and capacity of existing and proposed public utilities for sewer, water, and stormwater in the capital facilities chapter, This chapter, the utilities chapter, addresses the following utilities:

- Solid Waste Disposal and Recycling Programs
- Telecommunications
- Cable Television
- Telephone and Cellular Phone
- Internet
- Energy Supply
- Natural Gas

10.3 Federal and State Laws and Regulations

In many instances this regulating agency is the Washington Utility and Transportation Commission (WUTC) – both privately and publically owned electrical, natural gas, and line telephone utilities are regulated by the WUTC. The Federal Communications Commission (FCC) licenses wireless communication companies. Cable television companies are also regulated by the FCC and the Communication Acts of 1934 and 1996. Additionally, utilities must have a franchise agreement with the City to place utilities in the public right-of-way. Franchise agreements give utilities the non-exclusive right to provide its category of service within the City.

10.4 Multi-county Policies for Services and Utilities

Vision 2040 encourages improving infrastructure to support development and maintain healthy and livable communities; having reliable power and telecommunications along with other services and infrastructure contributes to quality of life and the region's economic well-being. *Vision 2040* promotes strategic investment in services and facilities to support the *Regional Growth Strategy* and emphasizes the use of existing and planned facility capacity and investing in facilities and services that reinforce cities as primary locations for growth – a strategy that takes advantage of existing infrastructure and services and is both efficient and cost-effective.

Vision 2040 establishes the long-range regional direction for meeting the challenges of providing public facilities and services including utilities. Below is the *Vision 2040's* overarching multi-county goal for public facilities and services:

The region will support development with adequate public facilities and services in a coordinated, efficient, and cost-effective manner that supports local and regional growth planning objectives.

The goals and policies presented in this element provide cross-references to individual multi-county policies from *Vision 2040*. Those policies, as adopted by PSRC, are included as Appendix G of this plan. This plan's goals and policies must conform to the multi-county planning policies to ensure Sultan remains qualified to receive funding administered by the PSRC.

10.5 Countywide Planning Policies for Services and Utilities

The Snohomish County Council is responsible for adopting countywide planning policies (CPPs) per RCW 36.70A.210. The CPPs provide a framework for developing regionally consistent city and county growth management plans. Snohomish County Tomorrow (SCT) is a collaborative forum by which the county and its cities discuss intergovernmental coordination, provide public involvement, and make recommendations regarding updates to CPPs.

The Countywide Planning Policies intended to guide utilities planning are the same policies that are used to guide capital facilities planning. The CPPs ensure that countywide utilities and services are designed to support the planned level of land development while recognizing and responding to the context in which those systems are located. The CPPs also encourage flexibility in local interpretations to support diverse interests throughout Snohomish County.

The CPPs provide direction to Snohomish County jurisdictions necessary for the coordinated implementation of GMA goals and the *Vision 2040* Multi-county Planning Policies (MPPs). Below is the overarching countywide planning policy goal for public services:

Snohomish County and its cities will coordinate and strive to develop and provide adequate and efficient public facilities and services to ensure the health, safety, and economic vitality of our communities.

The goals and policies presented in this element provide cross-references to individual countywide planning policies. Those policies are included as Appendix F to this plan.

10.6 Public Services - Solid Waste Disposal and Recycling

10.6.1 Existing Facilities and Service

Government and private companies both play important roles in garbage, recycling, and hazardous waste programs in Sultan. Under the Solid Waste Management and Recovery Act (RCW 70.95), local governments are given primary responsibility for solid waste handling. Cities and towns have the option of writing their own solid waste plans or cooperating with counties in the development of a county or regional plan.

The City of Sultan has enacted an interlocal agreement with Snohomish County for the county to provide solid waste planning. The County Solid Waste Management Plan (CSWMP) was adopted by participating jurisdictions – including the City of Sultan and the County Council – in February 1990. The most recent version of the CSWMP was adopted in January 2004 and will maintain the unity and coherency of the County solid waste management system through 2023.

Solid waste collection companies are certified and regulated by the Washington Utilities and Transportation Commission (RCW 81.77). Cities are permitted by State Law to choose their form of waste collection regulation. Some cities, like Sultan, collect garbage themselves. Other cities contract for services or rely on the Washington Utilities and Transportation Commission (WUTC) to regulate the private garbage hauler as if they were an unincorporated area. The provisions of RCW 81.77 do not apply to the operation of companies under contract with a city or town, nor do they apply to cities, like Sultan, which undertake their own garbage collection. This regulatory system was set up by the State Legislature in the 1960's to ensure that every citizen, no matter how remote, is offered efficient and cost-effective service.

Solid waste utility services are provided to the City of Sultan at four levels.

1. Enforcement. The Snohomish Health District is the regulating and enforcement agency for all solid and moderate risk waste facilities, whether operating or closed.
2. Disposal. Snohomish County Solid Waste Division provides solid waste disposal services through the operation of landfills and transportation of waste from transfer stations to landfills.
3. Collection. The City of Sultan collects garbage and refuse in the city and transports it to the Snohomish County drop box located at 33014 Cascade View Drive for transportation to a Snohomish County transfer station. From there, the waste is compacted into

shipping containers and delivered to the rail yard. A private company, under contract to the County, then transports the containers by train to a privately owned landfill in Klickitat County.

4. Recycling. Allied Waste (Rabanco) collects recyclable materials and yard debris under a 5-year contract with the City of Sultan. The contract expires in September 2014 and may be extended for one additional 5-year period.

Enforcement

The Snohomish Health District is the regulating and enforcement agency for all solid and moderate risk waste facilities, whether operating or closed. The Health District also investigates and resolves a large number of garbage accumulation, illegal dumping, and moderate risk waste related complaints. Solid waste transfer stations, rural drop box sites, open or altered landfills, petroleum contaminated soil treatment facilities, certain recycling facilities, and moderate risk waste collection facilities are required to have a permit issued by the Health District. The Health District periodically inspects each facility to verify that the Solid Waste Management Division and other solid waste facility owners are operating their facilities in accordance with applicable regulations.

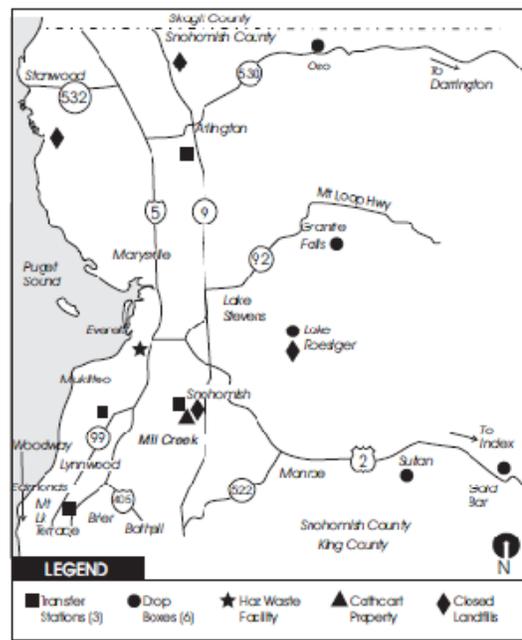
Moderate risk wastes are, legally, one form of solid waste; therefore, some regulations which cover solid waste facilities also govern the operation of moderate risk waste facilities; however, facilities for handling moderate risk wastes are also covered by additional regulations. As is the case with solid waste regulations, federal, state and local jurisdictions all play roles in developing and implementing controlling regulations. Also, as in the case of solid waste, the Snohomish Health District is the organization with the bulk of regulatory and enforcement duties while the Snohomish County Solid Waste Management Division is the primary planning jurisdiction. The two agencies cooperatively implement the Solid Waste Comprehensive Plan.

Disposal

The Snohomish County Solid Waste Division operates facilities and activities to manage solid waste in the county. The facilities include three transfer stations and five drop box sites located to handle disposal for the four service areas. These include the North County Recycling and Transfer Station in Arlington, Airport Road Recycling and Transfer Station in Everett, Southwest Recycling and Transfer Station in Mountlake Terrace and five drop box facilities to serve East and part of North county, located in Gold Bar, Granite Falls, Lake Roesiger, Oso and Sultan. Drop boxes are operated primarily for use by residential and small commercial self-haulers of un-compacted waste.

Landfills

Snohomish County closed its last landfill in 1996. Since that time waste has been compacted into shipping containers and delivered to the rail yard



where a private company, under contract to the County, transports the containers by train to a privately owned landfill in Klickitat County. Following is a brief synopsis of each of Snohomish County's closed landfills:

- Cathcart Landfill - This 52 acre landfill opened in 1980 and was considered state-of-the-art because of its advanced liner system. This landfill was closed in 1992 after receiving 3.2 million tons of refuse.
- Bryant Landfill - This unlined landfill opened in the 1950's as an unregulated disposal site. The 30 acre landfill underwent final closure with a clay cap in 1987 after receiving approximately 847,000 tons of refuse.
- Lake Goodwin Landfill - This unlined landfill opened in the 1950's as an unregulated disposal site. The 11.5 acre landfill underwent final closure in 1983 after receiving approximately 185,000 tons of refuse.
- Lake Stevens Landfill - This unlined landfill opened in 1947 as an unregulated disposal site. The 27 acre landfill underwent final closure in 1984 with a bentonite dike around its perimeter and a bentonite cap.
- McCollum Park Landfill (Emander Landfill) - This 27 acre facility opened in 1947 as an unlined, unregulated disposal site. The facility underwent final closure in 1996 after receiving 238,000 tons of municipal solid waste (MSW) and sludge.

Household Hazardous Waste

Prior to 1999, household hazardous waste was collected during several widely advertised free roundups each year. Each event was held in a different service area of the county to offer the greatest possible disposal convenience to county residents. In 1999, a permanent fixed disposal facility opened in Everett. This facility offers year-round disposal of household hazardous waste. The facility is also open for a fee to Small Quantity Generator businesses generally on an appointment-only basis.

Recycling containers for glass, metals, paper, cardboard and newspapers are located at every transfer station and drop box site. Recycling stations for automotive wastes are located indoors at automotive supply stores countywide.

The City of Sultan has offered annual clean up day events each year since 1999 to collect household hazardous waste, electronic equipment, metals, appliances, and construction and demolition materials. Funding for special clean up day events is provided through biennial Coordinated Prevention Grants which are administered by Snohomish County. Allied Waste provides additional funding through its contract with the City to dispose of materials collected during the event than cannot be recycle

Collection

The City of Sultan owned and operated an unregulated disposal site at 33014 Cascade View Drive (now the location of the Cemetery Ball Fields and Snohomish County managed drop box). The site is no longer in operation and Snohomish County tests the site annually for the leaching of hazardous materials.

The City of Sultan sold the county a portion of the property located at 33014 Cascade View Drive for the drop box location to serve the Sultan community. Under the sale agreement between the county and the city, the city has the ability to dispose of solid waste collected from residential and commercial garbage customers at the facility. This arrangement makes it cost effective for the city to continue to operate its own garbage utility. Without the convenience of the Sultan drop box, the city would have to dispose of its municipal solid waste at the Airport Road Recycling and Transfer Station in Everett.

The City's garbage utility was formed in 1964; mandatory garbage collection was implemented in the early 1980s. By state law, the city's garbage utility (overhead, collection and disposal) must pay for itself. This means the City's other revenue funds such as the general fund (property taxes) cannot be used to underwrite the garbage fund and the garbage fund revenues cannot be used to supplement the general fund to cover general government expenses

- The city provides residential and commercial solid waste collection to approximately 1,401 residential and 82 commercial accounts.
- The city disposes or "tips" solid waste tonnage at the local county drop box – the 2010 budgeted cost was \$186,000. (~1,800 tons tipped in 2009 = 1.2 tons/account)

Table 10-1 Disposal Cost 2008-2009

	Tons	Tipping Fee	\$/Ton	Total Loads	Tons/Load
December 2008 Total	148.4	13,212	89.03	22	6.75
January 2009 Total	178.7	15,904	89.00	26	6.87
April 2009 Total	136.5	14,338	105.04	24	5.69
August 2009 Total	146.0	15,334	105.03	23	6.35
September 2009 Total	125.5	13,182	105.04	22	5.70
<hr/>					
2009 Monthly Average	146.68	14,689.50			
2009 Annualized	1,760.10	182,464			

In 2009, the city hired the financial consulting firm, FSC Group to evaluate the city's garbage utility to ensure adequate revenues to meet expenses. In order to effectively manage the utility and ensure adequate revenues to meet future needs, the council took the following actions in 2010 by Ordinance No. 1074-10:

1. Increased garbage rates by 9% in 2010, 4% in 2011, and 3% in 2012-2015;
2. Adopted a cost-of-service rate structure based on actual costs for administration, collection and disposal;
3. Removed the disincentive for recycling by eliminating the extra charge for high-use customers. This raised the rates for low-use customers and lowered garbage rates for some high-use customers;
4. Established a 60-day operating reserve to ensure the utility's operating expenses and emergency needs can be met;

- Set aside \$550,000 from rate revenues to replace the city’s garbage in 2015 rather than borrow money to replace the garbage truck with a side load truck and garbage “toter” bins for all residential customers in 2015.

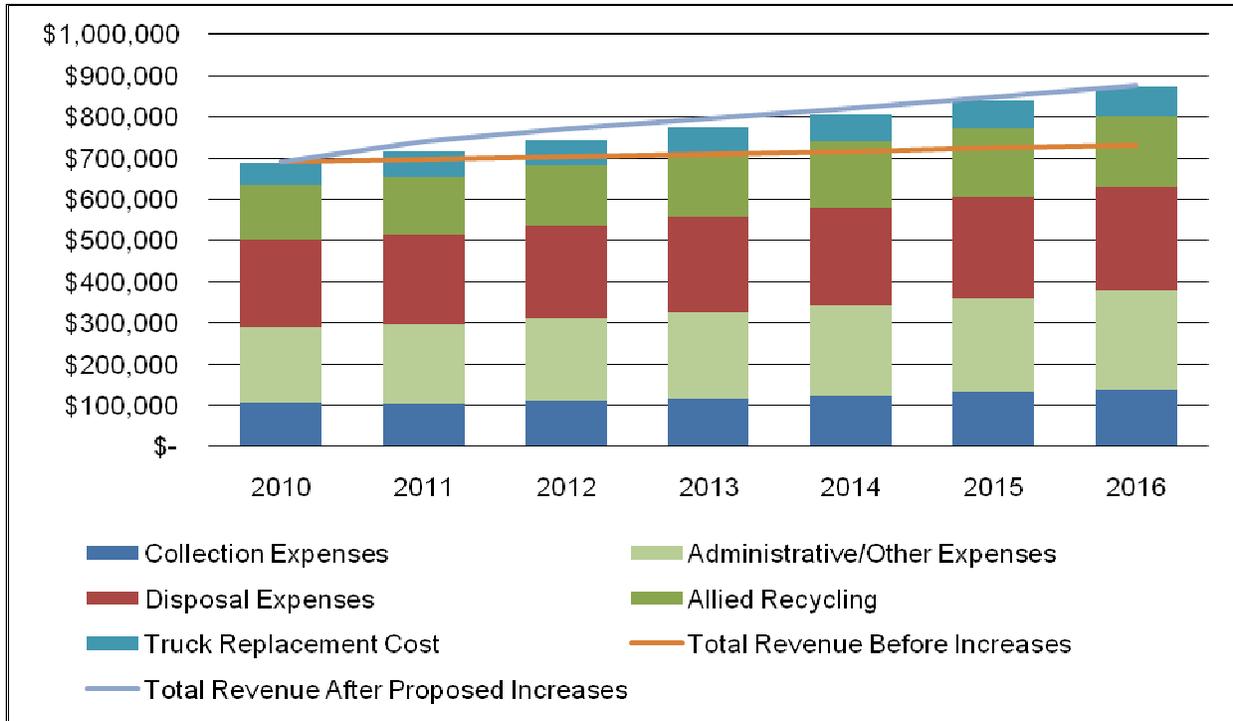


Figure 10-A Garbage Utility Expenditures 2010-2016

Table 10-2 Rate Comparison with Other Cities

Container Size	Sultan (July 2010)	Marysville (2010)	Stanwood	Granite Falls
Monthly 32 gallon	\$ 8.73	\$ 10.46	\$ 11.50	\$ 11.59
Weekly 32 gallon	\$ 20.08	\$ 21.51	\$ 21.10	\$ 18.07
Weekly two 32 gallon	\$ 33.39	\$ 35.88	\$ 28.70	\$ 23.88

Recycling

The City provides mandatory weekly curbside recycling services to approximately 1233 residential and 194 multi-family customers via a 5-year contract with Allied Waste (Rabanco). Recycling for commercial and industrial customers is optional.

The City incorporates a residential curbside recycling system that uses a single 95 gallon “toter” bin for glass, plastic, mixed paper, newspaper, etc. These bins are furnished to single-family (single-family, duplex, triplex and fourplex) and multi-family residences (five-plex +, mobile home parks, apartments and condominiums) by the service provider.

Yard-debris collection is provided by the contracted vendor as an optional service to the residential customer. The customer is billed by the contracted vendor for regular collection service or purchases a pre-paid voucher from the City for on-call service.

Yard debris and food waste collection services include, at a minimum, anything that grows in the yard or garden, including grass clippings, leaves, weeds, and small branches less than four (4) inches in diameter or three (3) feet in length; and all compostable pre- and post-consumer food scraps, such as whole or partial pieces of produce, meats, bones, cheese, bread, cereals, coffee grounds, egg shells, and food-soiled paper accepted by the contractor's selected composting site.

In order to ensure mandatory participation, the City of Sultan invoices residential and multi-family recycling customers only with the City's monthly utility bill for water, sewer and garbage. The City collects a twenty-five percent (25%) administration/overhead fee from the customer.

Residential yard debris, commercial, institutional and industrial customers are not mandatory and are therefore invoiced directly by the vendor.

The City is billed monthly by the vendor for all residential and multi-family recycling customers. The City remits a monthly lump sum to the vendor for recycling services provided to residential and multi-family customers less the twenty-five percent (25%) administrative/overhead fee.

Table 10-3 Three Year Collection History (Tons per year)

Sector	Commodity	2008	2009	2010
Commercial	Recycle	37.59	35.61	35.62
Multifamily	Recycle	34.59	32.77	32.77
Residential	Recycle	415.05	393.18	393.19
Commercial	Yard waste	0.90	0.84	1.21
Multifamily	Yard waste	36.75	34.39	49.80
Residential	Yard waste	199.90	187.07	270.84

10.2 Solid Waste System Needs

According to the 2004 Solid Waste Management Plan, completion of the Airport Road Recycling and Transfer Station (ARTS) and the rebuilt Southwest Recycling and Transfer Station (SWRTS) in conjunction with the existing North County Recycling and Transfer Station (NCRTS) can accommodate the county's waste handling needs until 2023.

Identifying the Need For and Siting of Disposal/Recycling Facilities

Solid waste and recycling facilities are necessary, but often unwelcomed by potential neighbors. As with the case of many essential public facilities, some means of ensuring that necessary facilities can be built is essential. With the economic downturn in 2008 and the closure of several drop box locations around the county, including Gold Bar, the question of siting new facilities has been postponed in the short-run. The issue is likely to resurface when the economy is fully recovered.

10.7 Private Utilities – Electricity

10.7.1 Existing Facilities and Service

Sultan receives its electrical power from Snohomish County Public Utility District (PUD). Snohomish County PUD is a municipal corporation of the state of Washington, formed by a majority vote of the people for the purpose of providing electric and/or water utility service. Snohomish County PUD is the second largest publicly owned utility in the Pacific Northwest and the 12th largest in the nation in terms of customers served. The PUD is located in Everett at 2320 California Street.

The Snohomish County Public Utilities District No. 1 provides electricity to all of the Sultan planning area, which includes approximately 10,500 customers as of December 2004. PUD utilizes a looped transmission system to distribute electrical power throughout the County. Approximately 80 percent of the electricity supply in Snohomish County originates from the Bonneville Power Authority (BPA).

In the Sultan area, the closest BPA substation is located in Snohomish where power is taken off the transmission system for local distribution. The PUD also operates a 112 megawatt (MW) generating hydropower plant, the Henry M Jackson Project, at Spada Lake to augment the BPA supply. Electricity is supplied to the Sultan area by 115,000 volt transmission lines located along the SR-2 right-of-way. The transmission lines serve a system of two distribution substations that reduce the voltage to 12,470 volts. From these substations extend 12,470-volt distribution feeder lines that run along local streets. Transformers then further reduce the voltage to 120/240 volts for distribution to residents or to 480 volts for commercial and industrial users.

The Snohomish County PUD has three hydroelectric plants located in the Sultan area – the Jackson Hydroelectric Project, Woods Creek Hydroelectric Project, and most recently, the Youngs Creek Hydroelectric Project.

Jackson Hydroelectric Project

The Henry M. Jackson Hydroelectric Project, which began operating in 1984, is located in the Sultan River Basin. The 112-megawatt hydroelectric generating facility produces about 6 to 8 percent of the PUD's power needs. In addition to generating enough power for 35,800 homes using a clean renewable resource, the project also provides recreation, enhances fish and wildlife habitats, and provides an element of flood control for Sultan and unincorporated Snohomish County residents along the Sultan River. The dam also provides the majority of drinking water for South Snohomish County and North King County.

The Henry M Jackson Hydroelectric Project was built in two phases. Phase I was completed in 1965 and involved the building of Culmback Dam and the creation of the Spada Lake reservoir to increase the water supply. Phase II, completed in 1984, included the raising Culmback Dam by 62 feet which resulted in a four-fold increase in the size of Spada Lake. The Spada Lake reservoir covers 1,870 acres (1,970 acres at maximum flood) with 173 miles of shoreline. Its maximum normal elevation is 1,450 feet

Culmback Dam is located approximately 16 river miles north of Sultan on the Sultan River. It is an earthen dam that creates Spada Lake. If the Culmback Dam were to fail, it is estimated that the initial wave of water will travel down the Sultan River gathering speed and debris and will

hit the City of Sultan in 38 minutes. If Culmback Dam cracks and a fissure starts, a slow drain is estimated to take approximately 2 hours on the Sultan River before the City of Sultan is under 30 feet of water. The city works closely with the PUD, public safety agencies and the Sultan School District to educate the public and practice evacuation procedures.

The PUD provides access to day use recreation sites around the perimeter of Spada Lake. The facilities provide access for fishing and boat launching at three locations, picnic areas, trails, viewpoints, interpretive signs, and public restrooms. Because Spada Lake provides drinking water, swimming and overnight camping are not allowed in the area. Only row boats and electric-powered boats are permitted on the lake.

Woods Creek

The Woods Creek Hydroelectric Project is located north of the city of Monroe, Washington, and has a nameplate capacity of 0.65 MW. The project is adjacent to Woods Creek, a tributary of the Skykomish River, with a powerhouse located at a natural impassible barrier to fish. Prior to acquisition of this small hydroelectric resource in 2008, the PUD had purchased 100% of the output since the project's construction in 1982.

Youngs Creek

In 2008, the PUD purchased the partially constructed Youngs Creek Hydroelectric Project. Construction of this project began in the mid-1990's but was never completed. It is located just south of the city of Sultan, Washington. The powerhouse will be located above a natural impassible barrier to fish on Youngs Creek, which is a tributary of Elwell Creek. When the PUD completes construction in fall 2011, the project will have an estimated capacity of 7.5 megawatts.

10.7.2 System Needs

Electric load forecasting and facility planning is conducted by the PUD as part of its regular planning and management operations. The peak load typically experienced on cold winter days is primarily a design consideration in planning new generation, transmission, and the larger distribution facilities. Population and employment forecasts from the Puget Sound Regional Council (PSRC) and the state Office of Financial Management (OFM), which provided the foundation for the GMA comprehensive planning, are also utilized by PUD and other providers for electric load forecasting.

Snohomish County Public Utility District (PUD) studies the energy usage of customers and the ensuing load placed on the system by each new resident and employee to supplement government forecasts of future land growth. PUD uses several forecast scenarios from low to high, consistent with regional electric planning. PUD has predicted long-term growth will parallel to economic recovery. Facilities projected to meet this demand company-wide include upgrades to existing distribution and transmission stations, and new upgrades to transmission lines. These facilities include the introduction of Smart Grid Technology.

Smart Grid Technology

The PUD recently completed the first major project as part of a multi-year effort to upgrade its electric grid with smart grid technology. The utility has installed 163 miles of fiber optic cable connecting its final set of 62 substations, a radio site and utility buildings. The project is

supported by \$15.8 million in matching federal stimulus dollars under the American Recovery & Reinvestment Act.

- **2010** – The PUD completed installation of 163 miles of fiber optic line.
- **2011** – Installation of a wireless field area network and automation hardware on poles and substations in a 90-square mile demonstration area in the communities of Tulalip, Warm Beach and Lake Goodwin. It will allow the PUD to test automated line switches, capacitor banks and protection devices and other equipment, which is designed to automatically re-route power and isolate problem areas during power outages creating a “self-healing grid.”
- **2012**– A Distribution Management System (DMS) will be operational for the entire distribution system enabling power flow analysis and creation of switch orders. The DMS will also enable automation of field devices within the demonstration area to better manage power outages and improve efficiencies
- **2013**– Installation of automation hardware at 63 substations.
- **2014**– All of the PUD’s 84 substations will have automation hardware.

Additional system-wide upgrades will be based on the results of the pilot, technical assessments and availability of funding in future years. Beyond the initial efficiency and reliability benefits for the utility, the upgrades allow the PUD to pursue other features in the future, such as advanced metering. Smart grid technology will allow the PUD and its customers to be ready to take advantage of new technologies such as smart appliances and smart water heaters.

Additional Projects

The fiber installation is the first of several projects that will eventually include automation of substations, a Distribution Management System and distribution automation.

In the future, these upgrades will help customers get their service restored sooner and allow the utility to provide more detailed outage information. Additional system upgrades will allow the PUD to plan for other features as well, such as advanced metering to take advantage of new technologies including smart appliances, smart water heaters, dynamic pricing and other opportunities.

In the future, customers also will be able to better plan their consumption and incorporate small-scale generating sources, such as solar, into their energy supply. With more customers generating their own power, from sources such solar, an upgraded grid will provide a better means for power to be used closer to the place where it’s actually being created, reducing line losses. In addition, it will enable better integration of electric vehicles as they gain popularity in communities throughout the PUD service area.

10.8 Private Utilities – Natural Gas

10.8.1 Existing Facilities and Service

Puget Sound Energy (PSE) is Washington State’s oldest local energy utility, providing electric and natural gas service to customers primarily in the Puget Sound area. PSE supplies natural gas

to six Western Washington counties; Snohomish, King, Kittitas, Pierce, Thurston, and Lewis. PSE provides natural gas service to more than 124,000 natural gas customers in Snohomish County.

Natural gas is not an essential service and therefore, is not mandated to provide service. Extension of service is based on request and the results of a market analysis to determine if revenues from an extension will offset the cost of construction.

PSE profile in Snohomish County (2010)

Customers: 124,168 (natural gas)

Employees: 35

Natural gas-delivery facilities: 1,938 miles of natural gas pipeline, Nine gate stations

Power-delivery facilities: 130 miles of high-voltage transmission lines, One transmission substation

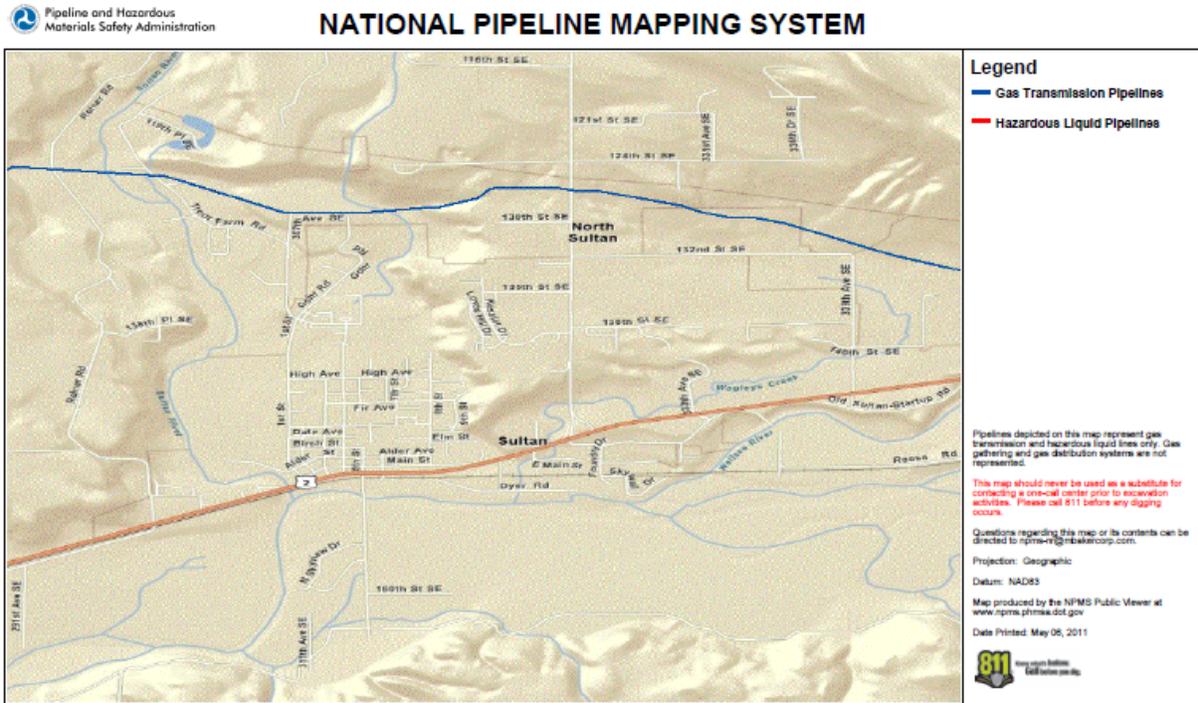
Customer-service facilities: Everett Operating Base

Existing Distribution System

The Pacific Northwest (Washington, Oregon, and Idaho) receives its natural gas from a wide range of sources in North America. Sixty percent (60%) of the region's natural gas supply comes from British Columbia and Alberta in the north and forty percent (40%) comes from domestic sources including the San Juan Basin in New Mexico and Texas in the south. The Pacific Northwest consumes 380 billion cubic feet of natural gas per year.

Natural gas is supplied to the City of Sultan from Williams (formerly Northwest) Pipeline Corporation. Natural gas from the pipeline is reduced to 250 pounds per square inch gauge (psig) as it feeds into high pressure supply lines.

High pressure (HP) supply lines (measuring 16", 12", 8", 6", and 4" in diameter) transport gas from gate stations to district regulators. The pipe material is typically steel wrap (STW). There is approximately 3 miles of 8" high pressure line in the Sultan Urban Growth Area. The line runs eastward from the Sultan River north of Trout Farm Road between 132nd Avenue and 124th Avenue to the city limits east of Rice Road



10.8.2 System Needs

Minimum pressure delivery through intermediate pressure mains from a design standard is approximately 15 psig. If main pressure drops below 15 psig, there are several methods of increasing the pressure in the line, which include:

1. Looping the distribution and/or supply lines to provide an alternative route for the gas to travel to an area needing additional supply (This method often involves construction of high pressure lines, district regulators, and intermediate pressure lines),
2. Installing lines parallel to existing lines to supplement supply of natural gas to a particular service area, and
3. Replacing existing pipelines to increase volume. (This includes efforts to replace low pressure cast iron systems with intermediate pressure plastic systems).

There are three types of construction:

1. New or replacement of existing facilities due to increased capacity requirements due to new building construction and conversion from alternate fuel,
2. Main replacement to facilitate improved maintenance of facility, and
3. Replacement or relocation of facilities due to municipal and state projects.

PSE makes an effort to coordinate construction work with municipal projects in order to minimize cost and impacts to surrounding communities. Due to franchise agreements, PSE is required to relocate existing facilities which, unfortunately, is costly and usually unplanned. Improved coordination decreases this occurrence.

Due to anticipated growth, PSE upgraded its natural gas system in Snohomish County to meet customers' current and future needs. PSE replaced more than two miles of 4-inch natural gas pipeline with 8-inch pipeline between a point near the east end of the Pilchuck River Bridge and the Snohomish gate station, which is on the north side of U.S. 2, east of Snohomish. PSE's natural gas system works as a large network; main line upgrades help stabilize the system in adjacent communities, as well as support reliability throughout our entire customer service area.

PSE will review projects proposed by the City of Sultan and may choose to take advantage of an opportunity to add more pipe in an effort to reinforce our system.

Due to the growing popularity of natural gas in Sultan and surrounding areas, PSE will continually evaluate the necessity of the above mentioned project and alternatives. Changes in project route, construction schedule and detail could occur, as they are dependent on budgets and WUTC cooperation.

Natural gas-system investments:

Major maintenance and reliability projects include a \$5.7 million multiyear project to install more than two miles of natural gas pipeline to upgrade the natural gas system and support reliability throughout PSE's service area (2010 completion).

10.9 Private Utilities – Telecommunications

10.9.1 Existing Facilities and Service

Telecommunications services include both switched – a temporary connection made between two points by passing through a switching device such as a phone company central office – and dedicated – a permanent connection made between two points – voice, data, video, and other communication services delivered over the telephone and cable network on various mediums such as wire, fiber optic or radio wave. Frontier provides telephone service to the City of Sultan. Various companies in Snohomish County provide cellular phone service. Cable services include communications, information, and entertainment services delivered over the cable system. Various franchised companies provide cable service throughout the entire Sultan Planning Area. Comcast is the primary cable provider.

Telephone Service

Telephone service in Sultan is provided by Frontier, which provides local and long-distance services. Frontier purchased Verizon's land line service in July 2010.

Frontier is the Incumbent Local Exchange Carrier of telecommunications services in Snohomish County. Frontier serves all communities in Snohomish County through a 100% digital switching network supported with a mix of fiber optic and copper cable.

Fiber optic cable connects all Frontier switching offices in the county and is used for transport of data and voice traffic around the county and out to the rest of the world. A majority of the fiber system is redundantly routed which makes the network self-healing in the event of a cable cut, ensuring continuity of service.

Customers with large bandwidth requirements can arrange for direct fiber connection to their business by calling Frontier's business office. Prices vary depending upon the size of fiber

connection needed, distance from the existing lines to the customer location and other factors. Cable is deployed in either aerial or buried paths, depending on factors such as terrain, environmental considerations and local ordinances.

Customers benefit from Frontier's expertise and capacity to provide high-end voice and data services such as DSL, ATM, ISDN and Frame Relay. DSL is available in all cities and towns throughout the county. Due to distance limitations inherent in the technology, it is generally available within a 16,000 ft radius (in wire-feet) of the switching office.

Frontier works with local planning departments to plan ahead for growth and development. As a part of standard operating procedure, Verizon reviews site-specific proposals and coordinates activities with other utilities.

For telephone calls outside of this area, residents may choose from a variety of long-distance service providers including, but not limited to, AT&T and Sprint. Nationwide there is a growing trend to drop land-lines in favor of cellular service only. In June of 2010, the National Center for Health statistics stated that one out of every four Americans has given up their landline phone and are now using their cellular phone exclusively¹.

Wireless Communication Facilities

A wireless communication system is a series of facilities or (cell sites), which use FM radio signals to transmit conversations and data to mobile/portable phone users. Cell sites consist of transmitting and receiving equipment, microwave relays, usually mounted on a monopole, lattice tower, or whip or panel antennas constructed on buildings and utility poles, and associated ground mounted switching equipment.

Cell sites typically range in size from 1000 to 2000 square feet and are enclosed by chain link fencing. Cell sites emit less than 100 watts of electricity. Cell sites may be connected by digital microwave or landline (conversation conventional phone system) services, and are all linked to a mobile telephone switching office (MTSO). The MTSO is the heart of the system, as it controls all switching, including the handing off or transferring of conversation or data transmittal from one cell site to another as the mobile phone users move through the system.

Cells typically cover roughly hexagonal-shaped areas, so as to maximize coverage while minimizing signal overlap, and thus interfering with other cells. The effect of the limitation on the number of channels per cell is that as the number of mobile phone users in an area grows, each large cell must be subdivided into smaller cells to accommodate the increased demand. Consequently, an increased number of wireless communication facilities are required; however, since the elevation of the wireless communication facility determines the area it covers as cells are subdivided into smaller cells, the elevation of wireless communication facilities must be reduced to minimize signal overlap.

The City of Sultan is served by a variety of wireless communication service providers including, but not limited to Nextel, Sprint, T-Mobile, and Verizon. Wireless communications providers are private companies that operate under the provisions and regulations contained within the Telecommunications Act of 1996, as amended, adopted by the United States Congress. They are further regulated by the terms and conditions of their respective licenses with the U.S. Federal Communications Commission (FCC). Unlike the typical "hard wire" telephone service utility in

¹ Article Source: <http://EzineArticles.com/4762867>

Sultan, wireless communication providers are not regulated by the Washington Utilities and Transportation Commission and do not have the same rights and privileges of a public utility.

Cable Television

The Cable Communications Policy Act (CCPA) of 1984 establishes "an orderly process for franchise renewal" designed to protect operators from "unfair denials or renewal" (Section 601[5]; 47.U.S.C. 521). The Cable Act does not guarantee the operator renewal. The City of Sultan follows the Cable Act procedures.

The City is limited under the Cable Communications Policy Act on the types of issues it can negotiate with cable television providers:

- Basic service tier rates according to Federal Communications Commission (FCC) benchmarks, including senior-citizen discounts. (Note: Basic service tier rates are currently below FCC benchmarks, and senior citizen discounts are currently offered.)
- Signal quality conformance to FCC standards.
- Customer service standards.
- Agreed-upon or voluntarily contracted for broad categories of video programming.
- Availability of services to specific areas
- Present and future community needs such as High Definition television, Institutional Networks, etc.
- Provision of equipment, facilities, and channels for PEG programming.

A city that follows Cable Act procedures and develops and appropriate record may deny renewal if the operator's past performance has been unsatisfactory, or if the operator is unwilling (or unable) to promise to provide the services, facilities and equipment necessary to meet the future cable-related "needs and interests" of the community. (47 U.S.C. s 546.)

As required by federal law, the City of Sultan and its East County Cable Consortium partners (Snohomish, Monroe, and Lake Stevens) negotiated a five-year cable television franchise agreement with Comcast effective July 2008. As part of the renewal process, the City of Sultan and consortium members evaluated the following areas:

- Fulfillment of the terms of the existing cable franchise agreement
- Quality of cable service provided as it pertains to current community needs
- Whether the franchisee has the financial, legal and technical ability to fulfill the proposed terms of the new agreement, and
- Whether the proposed agreement is reasonable to meet future cable-related community needs and interests, and the cost of meeting such needs and interests.

The term of the franchise was purposefully short in order to allow the City and Comcast an opportunity to renegotiate the agreement if the market place changes significantly. If the market place changes or the Council determines that the agreement is lacking in some area, there is an opportunity to revisit the franchise agreement under the “informal” negotiation process. The current proposal is to extend the existing franchise agreement for another five-year term until 2018.

In return for allowing the cable operator to utilize public right-of-way and provide cable service to citizens, the community receives a variety of benefits including access to Channel 21. Channel 21 is the local cable channel dedicated for public, educational and governmental (PEG) organizations and individuals to access to broadcast facilities and equipment and broadcast information and messages to subscribers.

The current PEG programming available for viewing by cable customers in the Sultan area includes static information about public meetings, service clubs, volunteer opportunities, hours of service, and job opportunities. The East County Cable Consortium is upgrading equipment to add video of regional topics. In addition, the city collects franchise fees from Comcast currently totaling more than \$34,500 per year and \$42,000 in cable utility tax. Franchise fees and utility taxes supplement the General Fund and may be used for any general government purpose.

An important aspect of future cable negotiations will be to identify future uses of a cable communications system including the entire spectrum of feasible communications services such as video, data and voice. The technology convergence in the early 1990s that hit telephone, cable television, video, music programmers and the computer industry is being built on digital transmission on strands of fiber optic glass, gradually replacing an infrastructure that was built on copper wires.

The Internet and World Wide Web (WWW)

The United States Department of Defense’s Advanced Research Projects Agency (DARPA) created the Internet in 1969. This project linked computers at Stanford, UCLA, UC Santa Barbara, and the University of Utah so that artificial intelligence researchers at the above schools could collaborate on the projects funded by the military. Throughout the 1980s as technological advances made high speed computers more accessible to the general public, the Internet was still only used by a few. This changed in the 1990s with the creation of the World Wide Web (WWW) and high-speed personal computers.

There are three primary ways to access the Internet in the City of Sultan: dial-up, Broadband, and Digital Subscriber Lines (DSL). Dial-up services are available to anyone who has access to telecommunication services. In Sultan broadband or high-speed Internet connections are available through cable, which is provided by Comcast. Finally, DSL is currently provided by Frontier in Sultan.

In addition to the three primary Internet access modes, there are three additional methods that are becoming popular with advances in technology: Wireless Fidelity (Wi-Fi), Evolution Data Only (EVDO), and satellite. The Wi-Fi technology is similar to cellular phone technology and allows a customer to send and receive information anywhere within the range of a base station. According

to the Wi-Fi Alliance, the typical range from a computer to a base station is generally 75 to 150 feet in a typical home or office and up to 1,000 feet in an open environment. The Wi-Fi network technology is called IEEE (Institute of Electrical and Electronic Engineers) 802.11 and operates in the unlicensed 2.4 and 5 GHz radio bands as opposed to cable or telephone lines. Wi-Fi Internet connections have become very popular for small businesses and can be found in many public places including coffee shops and internet bars around the world.

The EVDO or wireless broadband Internet access uses the same technology as wireless communication facilities. This form of Internet access requires wireless companies to buy additional spectrum and update cell tower in their networks to operate the Internet software. Unlike the Wi-Fi technology, the EVDO access does require an Internet user to remain within a specified distance from a base station. This technology allows users to access their email; download large files, and real time videos at DSL speeds. In 2005 there are only two companies that provide or are in the process of providing this service: Frontier and Sprint. This technology is also becoming available for cell phones.

Finally, satellite technology does not require a phone line or dial up data modem, but rather relies on a satellite dish. This technology is provides a similar product to the various high-speed Internet connections listed above, but at a more expensive cost.

Satellite Antenna/Dish Systems

Satellite signal receiving systems are available from numerous retail and wholesale sources. These systems consist of metal or fiberglass dish antennas, a processing unit to (unscramble) decode signals received, and a cable to distribute the decoded signal. Satellite systems are purchased by businesses for data transmittal and by hotels, apartment complexes and individual homeowners for multi-channel television reception.

10.9.2 System Needs

Telecommunications service is driven by customer demand. The telecommunications network is gradually being updated to fiber optic, but the exact schedule and locations are not available. Because telecommunications is driven by customer demand, system capacity must be evaluated on a regular basis to insure that new facilities are installed on a timely basis to meet demand.

10.10 Planning Implications

Many private utilities are under directive by their licensing agency and franchise agreements to provide a specific level of service to their service area. Services are provided on an “on demand” basis; however, most service providers monitor development plans and try to build excess capacity in their facilities at the time of construction to allow for future demand.

Future development in Sultan will be dependent on the availability of adequate utilities and services. Since the utilities and services described in this Element (i.e. recycling, electricity, natural gas, and telecommunications) are provided by special independent districts, Snohomish County, or private companies, the City must ensure that its growth plans are consistent with these outside providers’ abilities and plans. The City must avoid proceeding in a manner that the providers of utility services cannot support.

In the future, the City may decide to provide some utilities or services now provided by others or switch to other service providers where feasible. The City will consider criteria to assess when a change of providers is warranted or when the City is able to better provide the utilities or services needed.

Finally, the City should structure its plans for growth to minimize the cost of providing additional services and maximize the existing utility capacity. Issues to consider include: planning for greater density in areas with surplus sewer capacity; exploring programs that will conserve utility services, such as recycling solid waste; and seeking alternative and creative methods of providing services in cases where the outside providers are unable to meet the City's needs.

10.11 Preservation of Utility Corridors.

Many utility services, including water supply, sewer treatment, stormwater systems, and energy supply, operate as part of networks that require vast systems of infrastructure connections and lines to function. It is important that both existing and future utility corridors to be preserved to ensure reliable and efficient service delivery as the region grows. The Telecommunications Act of 1996 is specifically tied to preservation of utility corridors as it preserves a city's ability to manage rights-of-way and to receive fair and reasonable compensation for the use of these rights-of-way.

10.12 Goals and Policies

UT 7 GOAL: SOLID WASTE

Create an effective solid waste and recycling system to reduce solid waste, increase recycling, and manage waste disposal costs. (MPP-PS-7)

MPP	CPP	Policies	Programs
-	JP-1 <i>JP-1; PS-7</i>	<i>UT 7.1 Coordinate public service efforts</i> Coordinate with Snohomish County, and franchised solid waste operators in order to realize a more effective, equitable and fiscally solvent solid waste disposal system.	
-	<i>EPF-5</i>	<i>UT 7.2 Joint use facilities</i> Consider joint ventures for solid waste disposal and recycling equipment, facilities, and services to provide a greater response capability than would be accomplished by Sultan alone.	
PS-7	- <i>PS-7</i>	<i>UT 7.3 Conservation</i> Promote conservation measures to reduce solid waste and increase recycling.	
PS-2; G-4; G-5	-	<i>UT 7.4 Solid Waste Financial Policy</i> Follow a financial strategy for accomplishing timely and effective solid waste improvements.	UT 7.4.1 Equitably distribute costs associated with the collection of solid waste to those private properties that contribute to the waste stream.
			UT 7.4.2 Monthly solid waste service charges or rates should be sufficient to support maintenance, operations, administrative, capital and debt service expenses associated with waste collection and disposal.

MPP	CPP	Policies	Programs
			<p>UT 7.4.3 Solid waste rates and reserves should be the primary sources of revenue for capital investments in plant and equipment</p>
			<p>UT 7.4.4 The city should contribute to a reserve fund and pursue outside funding sources to finance needed investments in plant and equipment.</p>
			<p>UT 7.4.5 Costly capital investments in plant and equipment that provide long-term service are appropriate for long-term debt in order to minimize the impact on rates, preserve existing reserves for future capital investments and continued long-term investment in solid waste collection and disposal.</p>

UT 8 GOAL: UTILITY SERVICE COORDINATION

Coordinate with private and public utility companies to maintain and enhance the development and operation of quality private power, natural gas, and telecommunication utility systems to meet the needs of Sultan's present and future urban service area.

MPP	CPP	Policies	Programs
-	- <i>PS-11</i>	<p><i>UT 8.1 Coordinated planning</i> Coordinate with private utility providers in providing timely and accurate utilities.</p>	<p>UT 8.1.1 As appropriate, provide the public and private utility companies information on current population, employment, and other development trends and projects.</p>
			<p>UT 8.1.2 As appropriate, obtain current facilities information, maps, and other particulars from public and private utility companies to maintain and coordinate accurate utilities element plans</p>

MPP	CPP	Policies	Programs
-	HO-16 ED-14	<p><i>UT 8.2 Development processing</i> Process permits and approvals for all utility facilities in a fair and timely manner, and in accordance with development regulations that are designed to provide predictability, and enhance the utility's ability to provide service when required.</p>	
-	-	<p><i>UT 8.3 Coordinated construction programs</i> On an annual basis, provide public and private utility companies copies of the Sultan Capital Facilities Program (CFP), particularly the schedule of proposed road and public utility construction projects so that the companies may coordinate construction, maintenance, and other needs in efficient manners.</p>	
-	-	<p><i>UT 8.4 Local utility corridors</i> Where practical and possible, construct public and private utility service supply lines and facilities within a common or adjacent utility corridor using street or road rights-of-way.</p>	
-	-	<p><i>UT 8.5 Multiple use opportunities</i> Where safe, practical, and consistent with utility uses, use regional and local utility corridors for the development of recreational trails, open spaces, and other land uses that may provide multiple benefits to the public, as negotiated with the owners of properties upon which these corridors are located.</p>	
PS-12	- PS-9; Env-8; DP-16	<p><i>UT 8.6 Energy conservation</i> Promote energy conservation measures through implementation of building codes.</p>	<p>UT 8.6.1 Develop incentives for buildings that meet Leadership in Energy and Environmental Design.</p>

MPP	CPP	Policies	Programs
PS-14	-	<p><i>UT 8.7 Telecommunications</i> Coordinate with telecommunication companies to maintain and enhance the development and operation of quality telecommunications systems to meet the city’s growth and employment allocations consistent with Vision 2040 and the Growth Management Act.</p>	<p>UT 8.7.1 Work with public and private telecommunication providers and other agencies as provided by state and federal law to identify requirements, facility locations, and other particulars necessary for the planning and development of telecommunication facilities to meet regional and local needs within the Sultan urban growth area.</p>
			<p>UT 8.7.2 Consult with Washington Utilities and Telecommunication Carriers (WUTC), other regional, and municipal jurisdictions concerning facility safety and need.</p>
			<p>UT 8.7.3 Show the existing and proposed location and capacity of telephone switching equipment, telecommunication towers, antennae, dishes, and other facilities necessary (other than local overhead cable lines) to serve the Puget Sound region and the Sultan urban growth area on a map in the Comprehensive Plan.</p>

UT 9 GOAL: ELECTRICAL SERVICE

Coordinate with Public Utility District No. 1 of Snohomish County (Snohomish PUD) to maintain and enhance the development and operation of a quality electrical power distribution system that will meet the city’s growth and employment allocations consistent with Vision 2040.

MPP	CPP	Policies	Programs
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MPP	CPP	Policies	Programs
-	-	<p><i>UT-9.1 Electrical power planning responsibilities</i> Work with the PUD, its Commission, and other agencies as provided by state law to ensure local plans provide information needed to identify and plan for future electrical load development including capacity of and general locations for future electrical transmission and distribution system improvements.</p>	
-	<p>- <i>PS-11</i></p>	<p><i>UT 9.2 Coordinated service plans</i> Consult and coordinate with neighboring jurisdictions and the Snohomish County Public Utility District No. 1 (PUD) to update and implement local plan and development regulations.</p>	
-	-	<p><i>UT 9.3 Regional transmission facilities</i> Show the existing and proposed location and capacities of electrical transmission lines (facilities of more than 55,000 volts or 27 MVA capacity) and substations within the Sultan urban growth area on a map in the Comprehensive Plan.</p>	
-	-	<p><i>UT 9.4 Underground utilities</i> Revise and implement development standards to locate existing or proposed power distribution lines underground to reduce possible storm damage and aesthetic clutter subject to and in accordance with applicable rates and tariffs on file with the Snohomish County PUD Commission.</p>	

UT 10 GOAL: NATURAL GAS SERVICE

Coordinate with Puget Sound Energy (PSE) to maintain and enhance the development and operation of a quality natural gas distribution system that will meet the needs of Sultan’s present and future urban growth area.

MPP	CPP	Policies	Programs
-	-	<p><i>UT 10.1 Natural gas planning responsibilities</i> To the extent feasible, work with the Washington Utility and Transportation Commission (WUTC), and other agencies as provided by state law to identify requirements, facility locations, and other particulars necessary for the safe planning and development of natural gas transmission and distribution facilities to meet regional and local needs within the Sultan urban growth area.</p>	
PS-23; G-1	- <i>EFP-2;</i> <i>EFP-3</i>	<p><i>UT 10.2 Regional transmission facilities</i> Following appropriate consultations with WUTC, and other regional and municipal jurisdictions show the existing and proposed location and capacity of regional natural gas high pressure lines, main valves, and other facilities in Sultan’s urban growth area and city limits on a map in the Comprehensive Plan.</p>	
-	-	<p><i>UT 10.3 Local distribution facilities</i> Show, for safety purposes, the existing and proposed location and capacity of distribution lines and valves (other than local supply lines) necessary for PSE to provide the distribution system that will serve the Sultan urban growth area.</p>	