

Utilities

Introduction & Background

The Growth Management Act (GMA) requires the utilities element of a comprehensive plan to consist of “the general location, proposed location and capacity of all existing and proposed utilities, including, but not limited to, electrical lines, telecommunication lines, and natural gas lines.” Three services often thought of as utilities but not included in this element are potable water supply, sanitary sewers and stormwater management. The GMA requires that these three services be addressed in the capital facilities element of a comprehensive plan.

In addition to meeting the GMA requirements with respect to utilities, this element also includes goals, policies and actions regarding conservation of resources utilized to provide these services.

Providers within the Anacortes Planning Area of the utilities discussed in this element are as follows, as of 2013:

1. Electricity
 - Puget Sound Energy
2. Natural Gas
 - Cascade Natural Gas
3. Telecommunications
 - Telephone: Frontier
 - Personal Wireless Services: Various providers
 - Cable Television: Comcast
 - Fiber Optic Cable: Various providers
4. Liquid Petroleum Pipelines
 - Olympic Pipeline Company
 - Kinder Morgan

Electricity

Puget Sound Energy (PSE) is Washington State’s largest and oldest energy utility, serving nearly 1 million electric customers primarily in the Puget Sound region, including the City of Anacortes.

To provide reliable service, PSE builds, operates, and maintains an extensive electrical system consisting of generating plants, transmission lines, substations, and distribution systems. PSE is regulated by the Washington Utilities and Transportation Commission (WUTC) and is obligated to service its customers subject to WUTC rates and tariffs.

Within the Anacortes UGA, PSE operates 115kV transmission lines, 115kV-12.47kV distribution substations, and 12.47kV distribution lines. Two parallel transmission lines, approximately 8 miles in length serve the Anacortes residential and business loads via Anacortes Substation (20MVA) and Burrows Bay Substation (25MVA). These lines also serve BPA's customer, Orcas Power and Light Co-Op through BPA's Fidalgo Substation via a 2.2 mile radial 115kV line (owned by PSE) out of the Burrows Bay Substation. Four 12.47kV distribution circuits out of Anacortes Substation and three 12.47kV distribution circuits out of Burrows Bay Substation carry power to the businesses and homes in and around the Anacortes business and residential districts.

In the heavy manufacturing zone and vicinity, PSE also operates several 115kV lines and 3 major transmission substations (March Point, Texaco West and Texaco East). The Texaco West and Texaco East substations serve the Shell Oil Refinery, integrate the (Shell) 140 MW March Point Cogeneration plant, and are also used to help move PSE network power throughout Anacortes, Whidbey Island and the San Juan Islands.

PSE's 230kV/115kV March Point Substation sits just outside of the Anacortes UGA and is a source for all of the 115 kV lines within the Anacortes UGA. March Point Substation also provides service to Whidbey Island via two 115 kV lines. In addition, two 115 kV lines from March Point Substation feed the North Point Substation which is owned and operated by the Tesoro Oil Refinery (located between Fidalgo Bay and Padilla Bay).

PSE's 115kV-12.47kV Summit Park Substation (25MVA) is also in this location and serves the loads along SR-20 within (and outside of) the Anacortes UGA. Summit Park Substation has a total of three 12.47kV distribution circuits. PSE's Padilla Bay 115-12.47 kV (9.5 MVA) Substation which is located east of the Shell Oil Refinery has two 12.47 kV distribution circuits which serve loads such as General Chemical and the Olympic Pipeline as well as other area loads.

One of PSE's 115 kV transmission lines which connects to the Texaco East Substation (on the Shell Oil Refinery property) also feeds the Air Liquide Company's 115-4 kV distribution substation.

Upgrade of the two 115kV lines serving Anacortes and Burrows Bay Substations is planned within 10 years. The upgrade involves replacement with larger conductor on the existing structures. These lines are impacted by growth in the Anacortes UGA as well as growth in the San Juan Islands.

PSE also has plans to construct a new 115 kV line bay and power circuit breaker in March Point Substation and relocate one of the existing transmission lines to this new line bay. Moving this line from its existing line bay position on the March Point Substation 115 kV bus will improve transmission system reliability to the entire area. The plan is to try to complete this work in 2015.

PSE will construct new 115 kV lines and substations as necessary to meet future system needs. This includes meeting major industrial customer requests, interconnecting new generating plants and serving new commercial and residential growth.

Plans for the 115kV upgrade (reconductor) are based on forecasts for load growth and the timing of upgrade will depend on actual loading.

Natural Gas

Cascade Natural Gas (CNG) Corporation provides natural gas service to the City of Anacortes. CNG is an investor owned utility serving customers throughout the states of Washington and Oregon.

To serve Anacortes, CNG ties into Northwest pipeline on Fruitdale rd. in Sedro Woolley. Anacortes is served with multiple sizes of pipe that vary in pressure. Their system fully meets existing demand. They currently provide service to approximately 75% of the proposed urban growth area.

CNG has indicated that they have adequate resources to meet the service needs according to their standards. The City should cooperate with them in:

- Identifying joint use corridors;
- Providing early notification of projects and,
- Optimizing extension of service to new development.

To service future growth, the maximum capacity of the existing distribution system can be increased as required by one or more of the following:

- Increasing distribution and supply pressures in existing lines.
- Addition new distribution and supply mains for reinforcement.
- Increasing existing distribution system capacity by replacement with larger sized mains.
- Adding district regulators from supply mains to provide additional intermediate pressure gas sources to meet the needs of new development.

The location, capacity and timing of these improvements depend greatly on opportunities for expansion and on how quickly the city grows. There are usually several possible routes to connect different parts of the system. The final route taken will depend on right-of-way permitting, environmental impacts, and opportunities to install gas mains with new developments, highway improvements or other utilities.

CNG has an active policy of expanding its supply system to serve additional natural gas customers. CNG's engineering department continually performs load studies to determine CNG's capacity to serve its customers.

Customer hook-up to the distribution system is governed by CNG's tariffs as filed with and approved by the WUTC. Connection to CNG's distribution system is driven by demand, which means that connections cannot be planned in advance; rather connections are initiated by customer requests. CNG also installs service for new construction and conversion from electricity or oil to natural gas.

Telecommunication Services

TELEPHONE

Like investor-owned gas and electric companies, telecommunications companies are regulated by the WUTC, which establishes service levels and rates. Standard telephone facilities include a central plant, which houses switching gear, utility poles, and overhead or underground lines. Underground installation of telephone lines and use of efficient fiber optic systems is becoming more common as technology advances and regulators respond to aesthetic concerns. Frontier Communications is the provider of land-based ("land-line") telephone service in Anacortes. (Oak Harbor)

No additional switching stations or other major construction projects are anticipated for the Planning area over the next 20 years.

CELLULAR TELEPHONE SERVICE

A cellular system consists of cells (geographic areas served by a transmitting and receiving tower), cell sites (the tower site, base station radio and interconnecting equipment), a switching station (which receives and distributes signals from the cell sites via conventional lines and microwave signals), and the cellular phones themselves. Cellular phones can operate only within the range of a given cell site. Therefore, in order to cover broad service areas, cell sites must be located close enough to one another to provide uninterrupted services as the user moves from one location to another. With advances in digital technology, the capacity of cell sites will increase. Therefore, capacity is not anticipated to be a problem in the future. There are several providers of cellular telephone service within the UGA. These providers operate a network of cell sites within the City, Skagit County and surrounding counties in order to provide adequate coverage. Additional cell sites will be constructed in response to consumer demand as regulated by the Federal Communications Commission. (Oak Harbor)

A number of personal wireless service providers operate within the City. The cellular system will change in response to several factors: technology, customer growth, shifts in distribution patterns, and/or service quality or reliability. Cell sites are established throughout the region to transmit phone calls. There are a number of cell sites within the City. Cell sites include sites for mobile cellular phone services and for the Emergency Response System. (MAP?)

CABLE

Cable TV service is available to the City. Individual homes receive service from cables, which connect to distribution cables in the street. The distribution cables connect to the satellite station via trunk lines. Cables are installed either aerially or underground. Any future expansion that may occur will be completed as technology, market demand, and return on investment allows.

FIBER OPTIC CABLE

Various private operators have installed underground fiber optic cable in the Planning Area. Fiber optic cable allows high-speed data communications and transport across the United States. The City Council is currently exploring options for a potential municipal fiber network.

Major Pipeline Corridors

The Anacortes Urban Growth Area has three major pipeline corridors. One is the ___ inch high pressure line described in the Natural Gas section of this Element. The others are fuel pipelines owned by Kinder Morgan and BP Olympic. The fuel pipelines cross through the eastern portion of Anacortes city limits near Padilla Heights Road and just east of the intersection of SR 20 and Reservation Road prior to terminating at the two oil refineries on March's Point.

The Kinder Morgan pipeline is approximately 69 miles long and ships Canadian crude oil and condensates from Abbotsford, British Columbia for delivery to Washington State refineries at Anacortes, Cherry Point and Ferndale. The pipe ranges in diameter from 16 to 20 inches.

The Olympic Pipeline is a 400-mile interstate pipeline system that includes 12 to 16 inch pipelines running along a 299-mile corridor from Blaine, WA to Portland, OR. The system transports gasoline, diesel, and jet fuel. The fuel originates at four Puget Sound refineries, including the two in Anacortes, and is delivered to Seattle's Harbor Island, Seattle-Tacoma International Airport, Renton, Tacoma, Vancouver, WA and Portland, OR.



Figure U-1. UGA pipeline corridors.