7. Utilities Element

This chapter is a required element of a comprehensive plan developed to meet the provisions of the GMA. In overview, this chapter presents the general location and capacity of all existing and proposed privately owned utilities for the city of Nooksack and the surrounding UGA.

The GMA defines electricity, natural gas, and telecommunications as "utilities." Cable television is discussed in this chapter as an added utility. Water, sanitary sewer, and storm sewer systems are considered public facilities and are addressed in the Capital Facilities Element (Chapter 4).

Goals and Policies

Goal. Provide access to private utilities to the residents of Nooksack.

Policy. The city should provide the private utility companies with timely notice of the city's street, water, and sewer projects so that the utilities are able to coordinate construction and reduce overall infrastructure costs.

Policy. The City should encourage private utilities to expand service within the City of Nooksack to keep pace with development.

Goal. Encourage the undergrounding of private utilities to to the maximum extent feasibloe.

Policy. The city should require private utility facilities within new subdivisions to be installed underground unless such installation is not practicable.

Policy. The city should coordinate with private utilities during major system upgrades to encorage the undergrounding of private facilities whenever possible.

Telecommunications

Current Inventory and Analysis

Telecommunication service is provided by ~~Verizon~~Frontier Communications (Frontier). Calls from the Nooksack area are first transmitted to a remote switching device south of Nooksack near Siper Road. Long-distance calls are then transferred from Siper Road to a main switching station located in Everson at 107 South Washington Street. The Siper remote switching device has a capacity of 400 lines of transmission, meaning it has the capacity to handle 400 calls at one time. Of that amount, 308 lines are now in use. The device can be easily upgraded to a maximum capacity of 640 lines. The Everson main switching office has a capacity of 5300 lines, of which 1,988 are in use. It can likewise be easily upgraded to a capacity of 8,000 lines.

The telecommunication feeder system runs through the city of Nooksack on South Pass Road, extends north on Nooksack Avenue, and then east on Breckenridge Road. From South Pass Road, the feeder system runs south on Oat Coles Road to the Siper remote switching device. The

current feeder network includes both overhead and underground cables. The telecommunication cables are running at approximately 50-60% of total capacity. All communication services are available in the area including any special services, ISDN, ADSL, HDSL, and OC-3 fiber connection for high bandwidth and broadband services. ~~These services are available by order from the existing Verizon facilities for most customers in the area.~~ Map 11 shows the location of local feeders.

Table 7-1. Capacity of Telecommunications Facilities (2002)

Facility	Existing capacity	Lines in use	Upgrade capacity
Siper remote switch	400	308	640
Everson main station	5300	1,988	8000

Future Needs

Future expansion for telecommunications feeder systems is based on development expansion and community needs. Generally speaking, when a cable system approaches 85% of total capacity, new lines will be added to accommodate growth. All existing facilities are expanded and upgraded on a continual basis responding to the growth of the community and businesses.

~~Verizon~~ Frontier currently uses fiber optic lines to connect main switching offices and to provide broadband services to high bandwidth customers. When needed, a fiber optics link between the Everson main office and the Siper remote switching device will be added. As telecommunications services have expanded to include video services, line capacity ~~will be~~has been increased to accommodate the proportionately larger line capacity required for video ~~services,~~ and internet services.

Electricity

Electricity is provided to the city of Nooksack by Puget Sound Energy (PSE). ~~Puget Sound Energy~~PSE is a privately owned utility regulated by state and federal law and obliged to provide public services to its customers. Puget Sound Energy's service obligation includes addition or extension of facilities when conditions require and upon request.

~~This section presents an abstract of pertinent information presented in the Whatcom County Draft GMA Electrical Facilities Plan developed by Puget Power.~~

Current Inventory and Analysis

~~Puget Sound Energy~~PSE supplies electricity to this area of Whatcom county from a variety of sources, including Puget-owned generation facilities, the Bonneville Power Administration's (BPA) regional grid, and gas-fired cogeneration facilities, some of which are also operated by ~~other parties~~PSE. The closest such PSE-owned cogeneration facility is located in the city of Sumas~~, and all locally-used electricity is generated at that facility when it is on-line~~. The BPA

regional grid delivers hydro-based energy generated in British Columbia, in Whatcom and Skagit counties, and on the Columbia River in eastern Washington.

Electricity generated at distant locations is transmitted to the Nooksack Valley from ~~Puget Sound Energy~~PSE's ~~s~~ Portal Way and Bellingham transmission substations and from BPA's Bellingham substation. Two 115 kV transmission lines connect those substations to the Schuett and Nugent's Corner distribution substations, which transform electricity from 115 kV to a standard distribution voltage of 12 kV. The Schuett substation is located at the intersection of East Badger and Garrison Roads, northeast of Nooksack. The Nugent's Corner substation is located at the intersection of SR 9 and East Hoff Road south of town. From these substations the 12 kV distribution system branches to serve Nooksack and the surrounding area. Power is then reduced and transformed to lower voltages for customer use.

In general, the distribution system for Nooksack and the surrounding area is adequate for current needs. However, both the transmission lines and distribution circuits serving the Nooksack area are long, and service is, therefore, vulnerable to interruption due to falling trees.

Future Needs and Alternatives

In order to serve proposed load growth in the Nooksack Valley and to increase reliability to this area, a new substation, known as the Denson Substation, has been proposed for the immediate vicinity of Nooksack. The timing for construction of the new substation is ~~proposed for some time after the year 2007~~not known.

The Denson Substation will be connected to Puget Sound Energy's transmission system by a new 115 kV transmission line running from the Sumas Substation (site of the cogeneration facility) to the Nugent's Corner Substation. For conceptual purposes, the proposed transmission line is shown along SR9 on Map 11. The new transmission line will increase service availability from the Sumas cogeneration facility by providing a third 115 kV transmission pathway from the Sumas Substation. This tie will reduce the number of times the cogeneration facility must be taken out of service to prevent transmission system overloading due to transmission line faults. The new substation will also provide backup in the distribution system through feeder ties to the Schuett and Nugent's Corner Substations.

~~Puget Power, now known as Puget Sound Energy, has projected that by the year 2010, 2,900 KVA (Kilo-Volt Amperes) will be added to the existing electrical load in Nooksack.~~

Natural Gas

Current Inventory and Analysis

Natural gas is provided by the Cascade Natural Gas Corporation (Cascade). Cascade serves its Whatcom county customers from the Northwest Pipeline Corporation transmission line that originates in Canada, crosses into the US just east of Sumas, and runs south to the Columbia River. A regulator station is located east of the city of Nooksack, near the north end of Lebrandt

Road, where a branch line proceeds south to intersect South Pass Road. The line continues west along South Pass Road into Everson and~~, eventually~~then~~,~~ to Lynden along Hampton Road. The trunk lines serving the city of Nooksack branch north into the city from South Pass Road. Map 11 shows the location of local transmission lines.

In the month of ~~June~~March, ~~2004~~2016, Cascade served ~~342~~ 525 customers in the city of Nooksack. Of these, ~~312~~ 488 were residential, ~~and 30~~ 36 were commercial and one was industrial. The actual number of customers receiving natural gas fluctuates slightly every month due to economics, development, and weather. ~~With current facilities, approximately 500 residential customers could be accommodated within the city of Nooksack and the surrounding UGA.~~

Future Needs

Future expansion is based on economic feasibility. Cascade's growth includes new residences, commercial uses, and industrial uses, as well as existing buildings converting to natural gas from other forms of power. Factors influencing growth include the relative costs of gas and electricity, regional power planning priorities, and trends in growth and economic development. Because of Nooksack's proximity to the Northwest Pipeline Corporation transmission line, there are no physical limits to future natural gas capacity. When Cascade is contacted by a prospective customer, a feasibility analysis is conducted and Cascade determines the improvements that would be needed to serve that customer or development and how such costs would be allocated. For major developments, the prospective customer may be required to pay the cost of system improvements necessary to serve the development.

Cable Television and Related Services

Current Inventory and Analysis

Cable television service is provided by ~~AT&T Broadband~~Comcast/Xfinity~~.~~. The main cable television/broadband line serving the city of Nooksack and the surrounding area extends from Lynden east along Stickney Island Road, south into Everson along Park Drive, and finally east along Main Street through Everson. The cable continues through Nooksack and extends east into the county along South Pass Road. Major distribution lines run north on Nooksack Avenue and northeast on Breckenridge Road. All lines are overhead lines strung along ~~Puget Power's~~PSE's electric utility poles in public utility easements. The lines have a capacity of ~~240~~ up to 300 cable channels and provide for a wide variety of data capabilities. These capabilities include high-speed internet ~~with downloads of 1.5 Megabytes/second and uploads of up to 128 Kb/second~~. Also included are video, voice and data capacities along with local phone service via cable. As of March ~~2002~~2016,~~.~~ ~~AT&T Broadband~~Comcast served ~~192~~ 222 single line customers in the city of Nooksack.

Future Needs

~~AT&T Broadband~~Comcast upgraded the cable backbone around 1999. This upgrade included new fiber-optic lines that greatly increased both speed and capacity. This fiber is part of a "Fiber to the Node" network or ring extending throughout the Seattle area and north including the City of Nooksack. ~~AT&T Broadband~~Comcast operates under a franchise agreement with the City of Nooksack. This agreement was entered into on June 28, 1994 and was updated and extended in 2005. The franchise agreement continues through ~~December 31, 2004~~January 3, 2020. As housing density increases, it will become economically feasible to add more distribution lines and accommodate new customers within the UGA.