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7.1 INTRODUCTION

The utilities element has been developed in accordance with Section 36.70A.070 of the Growth Management Act (GMA) to addresses utility services in Pacific County for the next twenty years. The GMA defines electricity, gas, telecommunications, and cable TV as "utilities." It defines water and sewer systems separately as "public facilities." As used in this comprehensive plan, "utility" and "public facility" are not interchangeable terms. Plans for transportation and circulation-related facilities are addressed in Section 5, the transportation element, and water supply and sewage treatment are addressed in Section 6, the capital facilities element.

Pacific County understands that providers of electricity, telephone, and telecommunication services are regional or inter-regional entities, and that provision of utility services must be well coordinated. In devising a utility plan for Pacific County, the County has consulted providers, other jurisdictions, and regional coordinating groups to ensure that this plan is consistent with other plans.

Virtually all land uses require one or more of the utilities discussed in this element. Local land use decisions drive the need for new or expanded utility facilities. In other words, private utilities follow growth. Expansion of the utility systems is a function of the demand for reliable service that people, their land uses, and activities place on the systems.

7.2 RELATIONSHIP OF UTILITIES ELEMENT TO OTHER PLANS

7.2.1 GROWTH MANAGEMENT ACT

This utilities element must be consistent with the Growth Management Act (GMA). RCW 36.70A.070 states that this element must consist of a description 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.

In addition to the GMA, comprehensive plans should be consistent with adopted county-wide policies. This element has been developed to be consistent with the County-Wide Planning Policies.

7.3 ELECTRICAL POWER SUPPLY

7.3.1 EXISTING FACILITIES

The largest power supplier in the County is the Public Utility District No. 2 of Pacific County (PUD). Formed in 1937, the PUD serves all of Pacific County with the exception of small areas in the northwest and east portions of the County. Grays Harbor PUD serves the Grayland, North Cove and Tokeland areas while the Lewis County PUD serves a small east-county area. As of this plan date, the PUD is a SLICE¹ customer and purchases the majority of its power from the Bonneville Power Administration (BPA) and a small portion on the open market.

In accordance with state law, electric power providers have an obligation to provide electricity upon demand. In other words, the power companies must provide service to customers within their service territory as it is requested. This is known as a utility's duty to serve. Consistent with this duty, the electric power providers follow growth and will provide electrical service to development both within and outside of urban growth areas. Electrical facilities are therefore not a distinguishing factor in delineating "urban" from "rural" areas. An increased demand for electricity is expected as development occurs.

System Inventory

This inventory includes only the major features of the electrical transmission and distribution systems. A full discussion and inventory of the distribution feeder systems throughout the County is not included in this element because the level of detail required to do so is prohibitive. The design and location of future additions to the distribution system is not presented here because the exact design of the system is driven by new development as it occurs.

The Pacific County PUD No. 2 has eight delivery points from the Bonneville Power Administration within Pacific County. Those eight sites along with PUD substation and service areas are described below.

¹ SLICE refers to the purchasing units and terms under which PUDs buy power from producing utilities.

Oxbow Substation

A 115 kV BPA tap, located just east of Oxbow County Road along SR 6, is the delivery point serving PUD's Oxbow Substation (intersection of Oxbow County Road and SR 6). This substation, with a capacity of 5/6.25 Mva, has two feeder lines that provide electricity to customers in the east service area of Pacific County. The service area extends from Menlo east through Frances. Facilities are located both overhead and underground.

Henkle Substation

A three-mile 115 kV transmission line runs south from BPA's Raymond Substation, located on the east side of SR101 just north of Butte Creek Road, across the Willapa River to a location known as the Raymond Tideflats where a PUD transmission line makes connection. This line continues south along Eighth Street, terminating at the PUD's Henkle Street Substation. The Henkle Street Substation is located along the south side of SR 6 just east of the intersection of SR 101 and SR 6. This substation, with a 15/20/25 Mva capacity and a 12/16/20 Mva backup, has seven distribution lines that provide power to the City of Raymond and the surrounding area. Facilities are located both overhead and underground.

Willapa River/Skidmore Substations

The Willapa River Substation of PUD#2 is located along the old South Bend/Raymond Road just east of Harrison Avenue in South Bend and is the power supply for the PUD's Skidmore Substation. The transmission voltage is reduced in the Willapa River substation from 115 kV to 12.47 kV. The two substations, located near the easterly boundary of the South Bend City limits, are separated only by approximately 250 feet of 12.47 kV line. The Skidmore Substation, with a 15/20/25 Mva capacity from the Willapa River Substation, has six feeder lines that provide power to the City of South Bend and the surrounding area, traveling as far west and south as the Nemah Valley Area. Facilities are located both overhead and underground.

Naselle Substation

The Naselle area is served by BPA's Naselle Substation. This facility is located along SR 4, just west of the SR 4/SR 401 intersection, and provides a transmission voltage of 115kV through a short line to the PUD's Naselle substation for conversion to a distribution voltage of 12.47 kV. A 10/12.5 Mva transformer with three feeders supplies electricity to the Naselle area. The Naselle Substation has a 12.47 kV distribution tie to Wahkiakum PUD on State Route 4 at the Wahkiakum County line. Facilities are located both overhead and underground.

Hagen Substation

A 115 kV BPA tap is located at the top of Bear River Hill along the south side of SR 101. This delivery point serves the PUD's Hagen Substation located east of the SR 101/Alternate 101 intersection. This substation, with a capacity of 15/20/25 Mva, has three feeder lines that provide electricity to customers in Chinook, the City of Ilwaco, Seaview and other surrounding areas. Facilities are located both overhead and underground.

Tarlett/Long Beach Substation

The PUD's Tarlett Substation is located east of Sandridge Road on the north side of 95th Street and is the power source for their Long Beach Substation. At Tarlett Substation, the transmission

voltage of 115 kV is reduced to 12.47 kV and sent over two spans to the Long Beach substation. The PUD's Long Beach substation, with a capacity of 15/20/25 Mva from the Tarlett Substation, has five feeder lines that provide power to the City of Long Beach, portions of Sandridge Road, Klipsan, Loomis, and other surrounding areas. Facilities are located both overhead and underground.

Ocean Park Substation

A 115 kV BPA tap is located at the PUD's Long Beach Substation. From this point, a PUD 115 kV transmission line continues north along the east side of Sandridge Road for nine miles to the PUD's Ocean Park Substation. The transmission voltage is stepped down to 12.47 kV through a power transformer with a capacity of 15/20/25 Mva. Electricity is distributed via five feeders to customers north of 227th Street, including the communities of Ocean Park and Nahcotta, as well as other surrounding areas. Facilities are located both overhead and underground.

Oysterville Substation

A PUD 115 kV transmission line runs north from the Ocean Park Substation for two and one-half miles to the PUD's Oysterville Substation. The transmission voltage is stepped down at that location through a 12/16/20 Mva power transformer to a 12.47 kV distribution level. Two main feeder lines provide electricity to customers in Oysterville and Surfside Estates. Facilities are located both overhead and underground.

7.3.2 CONDITION AND CAPACITY ANALYSIS

According to PUD No. 2 of Pacific County, the 2018 total winter peak load within their Pacific County service area was 80,700 Kilowatts (kW). For each of the PUD's eight delivery points, winter peak loads for 2018, and projected loads for the year 2025 are shown in Table 7-1. The 2018 figures are actual demand amounts whereas the projected 2025 values are weather adjusted and do not approximate actual amounts.

**TABLE 7-1
PACIFIC COUNTY PEAK LOADS REPORTED BY PUD NO. 2**

Delivery Point	Winter Peak 2018	Weather Adjusted 2025
Oxbow	3,800	3,900
Henkle Street 115 kV	18,000	18,700
Willapa River 115 kV	10,700	11,000
Naselle 115 kV	4,700	4,700
Hagen 115 kV	12,500	12,800
Tarlett 115 kV	14,300	14,500
Ocean Park 115 kV	12,600	12,900
Oysterville	4,100	4,300
Total	80,700	82,800

Source: Jason Dunsmoor, General Manager, PUD No. 2 of Pacific County

7.3.3 NEEDS ASSESSMENT

While PUD No. 2 of Pacific County does not anticipate any problems meeting future demands throughout their service areas in the County, it is continually working to provide the most reliable, cost effective system possible. Proposed electrical distribution and transmission facility improvements intended to serve local and regional needs as well as descriptions, maps, and inventories of existing and in-progress projects, are presented in the Pacific County PUD No. 2, Capital Improvement Plan.

7.3.4 ENERGY DEMAND MANAGEMENT

The per capita consumption of electricity in Pacific County is low relative to averages from other utility service areas. This is due in part to the large number of summer only customers (vacation homes) as well as the significant number of homes that rely on wood burners as the primary heating source. Even so, the County promotes a number of community programs aimed at conserving electricity by decreasing demand.

7.3.5 EMERGING TRENDS IN ENERGY PRODUCTION

Recent trends in energy production in Pacific County include both wind energy and wave energy. Currently, a wind energy project is located in North Cove along the Pacific County/Grays Harbor County Line. The total project includes four wind turbines, two in Pacific County and two in Grays Harbor County, and is capable of producing 6 MW of energy. A second project is proposed near the Lewis County, Grays Harbor County and Pacific County lines containing a total of 44 wind turbines, three of which are in Pacific County, and are capable of producing up to 120 MW of energy. The feasibility of developing wave or tidal energy production has been explored in Willapa Bay, the Columbia River and in the Pacific Ocean. The use of biomass to create energy is also currently being explored in the Northwest; however, nothing specific is being proposed in Pacific County at this time. These alternative types of energy production facilities will continue to gain importance over the next 20 years.

7.4 TELEPHONE AND WIRELESS COMMUNICATIONS

7.4.1 EXISTING FACILITIES

The majority of telephone service in Pacific County is provided by Lumen Technologies (formerly CenturyLink). Their local coverage includes all of Pacific County with the exception of Naselle (which is served by Wahkiakum West Telephone) and Tokeland and North Cove (served by Ziply Fiber).

Providers of basic telephone service have an obligation to provide service as it is requested within their registered service areas.

Wireless telecommunications are generally available throughout the County. Wireless service is provided through Verizon, U.S. Cellular, T-Mobile, Xfinity, and AT&T networks. Cell towers continue to be constructed across the county to expand and improve service coverage. The county requires that new cell towers provide additional spaces for co-location of new service providers.

7.4.2 CONDITION AND CAPACITY ANALYSIS

For most of the county, Lumen provides local switching and connects the equipment of subscribers to the transmission facilities of long-distance carriers including AT&T, T-Mobile, and Verizon. Wahkiakum West Communications provides local service to the southeastern portion of the county (Naselle and Grays River areas).

Over the next 20-year planning horizon, continued access to basic land-line telephone service for all Pacific County residents is expected. However, the overall market trend in telephone service is towards cellular service and away from land lines, especially as cell coverage and voice-over-internet service improves in Pacific County.

Lumen Technologies (as CenturyLink) acquired the telephone system throughout most of Pacific County in September 1995. Only modest investment and maintenance is expected to their system infrastructure over this next planning horizon.

7.5 INTERNET TELECOMMUNICATIONS

Pacific County PUD#2 has installed and continues to build out a fiber optic backbone system in its service area. In July of 2003, PUD#2 connected its fiber optic system to Northwest Open Access Network's (NoaNet's) fiber optic communications system and began providing capacity at wholesale rates to retail service providers. These retail Internet Service Providers (ISPs) in turn offer end users access to the PUD fiber for broadband internet connections. Current ISPs providing retail Fiber-to-the-Premise (FTTP) internet service through PUD#2 include CresComm Wireless, SilverStar Telecommunications, and Rainer Connect.

Wahkiakum West offers retail FTTP broadband internet through its fiber infrastructure within its registered service area in southeastern Pacific County (Naselle and Grays River areas). Ziply Fiber plans to offer FTTP retail service to the Tokeland/North Cove areas in northwestern Pacific County.

Spectrum/Charter and Comcast offer retail broadband service through their proprietary cable networks. Lumen Technologies offers limited DSL broadband service through its telephone line infrastructure. Satellite internet is available to most areas of the County, depending upon line-of-sighting constraints. Providers include DirectTV (AT&T), Dish Network, and Wahkiakum West.

7.5.2 CONDITION AND CAPACITY ANALYSIS

Availability of robust and reliable broadband internet at urban-competitive speeds and costs is

recognized as a necessary component of community well-being in the 21st century. A CERB-funded study² completed in 2020 summarized priority deficiencies with broadband internet service across the County:

- Customer choice is very limited (enabling monopolistic market forces by providers);
- End-user broadband access is relatively expensive, especially in rural areas of the county;
- Private sector investment to expand broadband infrastructure or improve resilience is lacking;
- Overall network system architecture is brittle and vulnerable to interruption by severe weather events, tree falls, landslides, flooding, or traffic or construction accidents.

Internet service speed and reliability issues must be improved to support public benefit services (health and medical facilities, law enforcement, emergency response capability, library access), community education, and business and institutional needs, and individual residential use. A 2020 survey conducted by the Pacific County Economic Development Corporation (PCEDC) engaged public institutions throughout the county (healthcare facilities, county and city governments, Shoalwater Bay Tribe, banks and credit union facilities, school districts, public safety operations) to assess broadband issues of concern and priority, including internet access, costs, speed, and reliability. Results indicated significant gaps in coverage, widespread dissatisfaction with service, and urgent needs for performance improvement. Costs for access varied widely, with many institutions paying significantly more for coverage that would be available for far less in urban areas. Widespread concerns were expressed for the critical and urgent needs for robust broadband, especially for the health, safety, and well-being of county residents.³

7.6 MAJOR ISSUES

Successful delivery and operation of broadband across Pacific County will require significantly more planning and support than in conventional urban or typical rural areas. The County's location along the Pacific Ocean exposes its communities to regular weather events with hurricane force winds; seasonal winter storms with multiple hours of 40-80 mph winds are common, often toppling trees onto power lines and structures throughout the heavily-forested county. Temporary disruption of electricity and cellular communications is a frequent occurrence, as is occasional loss of broadband backbone connections.

The county also recognizes its risk of massive geologic upheaval should an earthquake and/or tsunami occur. Being positioned far from the I5 corridor, an extreme geologic or tsunami event along the Washington coast is likely to isolate the county for weeks. With increasing dependence on "cloud-based" applications for businesses and institutions (especially healthcare and public emergence services), the broadband infrastructure must be resilient to a

² CERB (Community Economic Revitalization Board of the Washington Department of Commerce) grant A2019-109 funded Petrichor Broadband, LLC to develop this mapping and assessment analysis.

³ Pacific County Economic Development Council, Institutional Broadband Assessment, January through April 2020.

degree not anticipated in less vulnerable locations.

Pacific County needs to coordinate with its public and private utility providers, ports, municipal governments, Shoalwater Bay Tribe, and current service providers to invest in infrastructure expansion supporting high-quality, reliable, and resilient services.

The siting of utility facilities supporting infrastructure development will require coordination and possible exemptions from Pacific County's land use plan to site new construction for most effective performance.

7.7 GOALS AND POLICIES

The goals and policies of the Pacific County Comprehensive Plan are intended to provide guidance for decision-making processes subject to this plan. Goals and policies do not apply to the incorporated cities, but rather, only to unincorporated areas of the County.

Goal U-1: Necessary energy and communication facilities/services should be available to support current and future development.

Policy U-1.1: Pacific County will not provide commercial energy or communication services. Energy and communication services are currently provided by private companies and public utility districts. To facilitate the coordination of these services, the County should discuss and exchange population forecasts, development plans, and technical data with the agencies and utilities identified in this plan.

Policy U-1.2: The County should provide timely and effective notification to interested utilities of road construction and of maintenance and upgrades of existing roads to facilitate coordination of public and private utility trenching activities.

Policy U-1.3: The County should encourage the location of necessary utility facilities within existing and planned transportation and utility corridors.

Policy U-1.4: The County's land use planning should be coordinated with the planning activities of electrical, telephone, and cable providers, to ensure that providers of public services and private utilities use the land use element of this plan when planning for future facilities.

Policy U-1.5: The County should encourage energy conservation by informing citizens of available BPA and utility district conservation programs.

Policy U-1.6: The County should encourage private utility companies and public utility districts to explore alternative energy sources to potentially replace or

supplement existing hydroelectric power sources.

Policy U-1.7: The County should encourage adoption of alternative home-energy generation technologies, such as solar and wind generation.

Goal U-2: **Negative impacts associated with the siting, development, and operation of utility services and facilities on adjacent properties and the natural environment should be minimized.**

Policy U-2.1: Electric power substations should be sited, designed, and buffered to mitigate for potential deleterious impacts to the surrounding neighborhood.

Policy U-2.2: The County should encourage siting of new utility facilities outside of active flood control zone districts and critical areas.

Policy U-2.3: Within active flood control zone districts or critical areas, the County should encourage or require implementation of resource conservation practices and best management practices according to Pacific County's Surface Water and Erosion Control Manual during the construction, operation, and maintenance of utility systems.

Policy U-2.4: The County should work cooperatively with municipalities in the planning and development of multi-jurisdictional utility facility additions and improvements.

Policy U-2.5: Where practical, utilities should be encouraged to place facilities underground and encourage the reasonable screening of utility meter cabinets, terminal boxes, pedestals, and transformers in a manner reasonably compatible with the surrounding environment.

Policy U-2.6: The joint use of transportation rights-of-way and utility corridors should be encouraged, provided that such joint use is consistent with limitations as may be prescribed by applicable law and prudent utility practice.

Policy U-2.7: Mechanisms should be developed to notify interested utilities of road maintenance, upgrades, and new construction to facilitate coordination of public and private utility trenching activities.