
UTILITIES ELEMENT

PURPOSE: The purpose of the Utilities Element is provide goals and policies to guide Jefferson County in (1) reviewing private utility development proposals, including service provision and siting of facilities; and (2) reviewing and regulating utility services and facilities provided by other public agencies and the private sector.

Relationships With Other Comprehensive Plan Elements

The Utilities Element and other elements of the Comprehensive Plan collectively address utility planning issues:

1. The siting of domestic water systems and sanitary sewer systems, defined under WAC 365-195-200 as being public facilities, is addressed within the Utilities Element and the Essential Public Facilities Elements of the Comprehensive Plan. The process for siting utility facilities (those subject to a separate siting process, in case of siting difficulty) is contained in the Essential Public Facilities Element. The Capital Facilities Plan Element identifies levels of service and policies for utilities (including solid waste) owned by Jefferson County.
2. The Capital Facilities Plan Element discusses the financial feasibility of providing capital facilities to accommodate anticipated growth; but does not provide siting criteria. The Utilities Element presents policies concerning how utilities are to be sited and, in general terms, designed, but does not address financing issues.
3. The Environmental Element provides goals and policies for the protection of water resources for public water supplies.

EXISTING FACILITIES

Facilities Background and Description: This section provides an overview of the existing facilities locations, service area, capacity, general issues, regulatory concerns and an historic perspective on each utility as it relates to planning for existing service and future system expansion.

Electrical Utilities: Introduction

Most of the discussion in the electricity section will be focused on Puget Sound Energy (PSE), as it provides electricity to over 90% of the residents of unincorporated Jefferson County. PSE (formerly Puget Sound Power & Light Company and Washington Natural Gas Company) is an investor-owned, private utility headquartered in Bellevue, Washington. PSE provides electricity and natural gas services to approximately 1,300,000 metered customers (as of 1998) within the company's 6,000 square mile service territory. This territory includes Eastern Jefferson County, with the exception of the Brinnon area. PSE is regulated by the Washington Utilities and Transportation Commission (WUTC) and the Federal Energy Regulatory Commission (FERC). As a public service corporation, PSE has a duty under law to furnish electricity to all persons and corporations who may apply and be reasonably entitled to thereto (RCW 80.28.110).

The State's mandated "duty of service" requires electrical utilities to furnish and supply service and facilities that are safe, adequate, efficient, and in all respects, just and reasonable. The WUTC applies this standard by reviewing and approving the terms and conditions under which electrical service is provided. These terms and conditions relate to both the cost and levels of service.

A key principle underlying this regulatory structure is that utility facilities must be provided on a uniform basis to all customers and equitably recovered through uniform rates. Regulatory law therefore prohibits Puget Sound Energy from differentiating among jurisdictions as to the cost or levels of service.

Mason County P.U.D. is a public utility district that provides electricity to 1700 residents of the southeastern portion of Jefferson County in the Brinnon area.

The Grays Harbor County P.U.D. is a public utility district that provides electricity to 172 residents of the southwestern portion of Jefferson County in the Queets/Clearwater and Quinault areas.

The Clallam County P.U.D. is a public utility district that provides electricity to 200 residents of the northwestern portion of Jefferson County in the Hoh River area.

Electrical Utilities: Issues

Siting of New Facilities: As development occurs within Jefferson County, a proportionate increase in area electrical service demand and resulting service load is anticipated. Due to the service on demand requirements of this utility, it is important that the County and utility providers maintain open lines of communication regarding siting of new facilities. The timing of construction of new and/or expanded facilities will be driven by the rate of growth and the need to improve reliability in an area.

Capacity of Electrical Utility Facilities: As the local transmission system is designed as an integral component of a regional power system, development occurring outside the County may have local impacts on system capacity. At the same time, growth in the County will contribute to the electrical service load of the regional power system and the potential need for systems facilities outside the County. Building codes and utility facility siting policies affect the service loads and the capacity to upgrade existing facilities.

Description and Capacity of Existing Electrical Facilities

The Puget Sound Energy electrical system serving the projected Urban Growth Areas (UGAs) of Jefferson County is geographically bounded in general by the Admiralty Inlet to the north, Puget Sound to the east, Hood Canal to the south, and the Olympic National Forest to the west.

The Puget Sound Energy planning subarea for Jefferson County contains approximately 250 square miles, and includes the communities (from South to North) of Quilcene, Port Ludlow, Chimacum, Port Hadlock, Gardiner, Nordland, and Port Townsend. The County's electrical system includes a wide range of service demand intensities, from areas of wetlands with no demand to areas of high demand commercial customers.

Please refer to Page 11-16 of the Utilities Element which identifies the specific service areas of Mason County PUD, Clallam County PUD, Grays Harbor County PUD and Puget Sound Energy in January 1998.

Generation: There are no Puget Sound Energy generation facilities within Jefferson County's designated Urban Growth Areas (UGA) other than small capacity generation at the Port. In summary, only the utility transmission network and distribution substations support the County UGAs.

Transmission Network: Puget Sound Energy's transmission network transports electricity from generation resources to transmission substations, and from transmission substations and switching stations, to distribution substations.

Electrical utility service is supplied to Jefferson County by Puget Sound Energy through the larger regional transmission grid (interconnected system of electric lines and associated equipment) at 500 kV (500,000 volts) and 230 kV (230,000 volts) voltages from distant generating plants along the mid-Columbia River. The region's transmission grid lines carry this power from the generation facilities westerly to the Bonneville Power Administration (BPA) Olympia Transmission Substation.

From this point, a majority of the Olympic Peninsula, including Puget Sound Energy's Kitsap County and Jefferson County regional loads, are served to the north via the BPA Shelton Transmission Substation to the BPA Kitsap and BPA Fairmount transmission substations. At the Fairmount transmission substation, the power is transformed down from 230 kV to 115 kV and 66kV for delivery to neighborhood distribution substations within the County.

Power transformed from 230 kV to 115 kV and 66 kV is provided by two transformers at the BPA Fairmount Transmission Substation. These voltages are used to serve specific Jefferson County distribution substations.

Transmission Lines: In the most recent improvements, 115kV lines have been installed on the Irondale-Shine line and the Port Townsend #1 line. These new lines allow for contingencies when one major transmission line is out of service. The older 66 kV lines in Jefferson County were designed to only serve distribution substation loads only; therefore, these new lines allow for alternate service if for any reason one major transmission line is out of service. The majority of the existing electrical system within the County relies on the supply of bulk power flowing through BPA lines. As the electrical service demand in Jefferson County and adjacent counties continues to grow, additional 230 kV lines may be required to raise the transfer capability of the transmission network. A cost-benefit analysis was performed on upgrading the main service lines from Kitsap across Hood Canal, although due to the resulting non-economical cost/benefit analysis, this project has been deferred.

Distribution Substations: There are six (6) existing distribution substations within Jefferson County which serve distribution feeder lines (circuits from a distribution substation to the customer, usually energized at 4, 12 or 34 kV). These distribution substations are located at Discovery Bay, Hastings Rd., Irondale, Kearney Street, Port Ludlow, and Quilcene.

Telecommunications Systems: Introduction

Telecommunications include a wide range of rapidly expanding services, including conventional telephone service, personal wireless services, and video delivery systems. The most pressing reality confronting the telecommunications services industry is dramatic and constant change. Technology is moving forward at a pace, which makes planning or even speculation extremely difficult. Due to the rapid advances in telecommunications technologies, the subsequent changes in transmission equipment and capabilities, and federal legislation encouraging future development, it is important that the County and telecommunications services providers maintain open lines of communication.

The Washington Utilities and Transportation Commission (WUTC) regulates many utility and transportation providers to ensure safe and reliable service to consumers at reasonable rates. All of Washington's investor-owned electric, natural gas, water, and telecommunications utilities are regulated by the WUTC. As a result of the Federal Telecommunications Act of 1996, it is anticipated that telecommunications services regulations will continue to be developed and refined.

The Federal Communications Commission (FCC) regulates the telecommunications airwaves including radio frequency emissions standards, all antenna and dish structures used for telecommunications services, and is responsible for issuing licenses to operate wireless common carriers services (cellular telephone, personal communication services, mobile radio services, and other wireless common carriers).

Local government involvement in regulation of the development of telecommunications services, particularly wireless common carriers, includes identifying systems facilities siting criteria and a permit review process on applications for the placement, construction, or modification of a wireless common carrier facility site.

Local governments have been preempted by federal case law from regulating Federal Aviation Administration (FAA) covered facilities. The FAA reviews location and height of proposed towers to prevent interference with operations of airports and flight paths. The FAA regulates proposed towers that exceed 200 feet and smaller towers located within 20,000 feet of a major airport and 10,000 feet of general aviation airports. The FAA does not have the authority to deny a FCC construction permit, but it can cite a proposed tower as a hazard to navigation.

Conventional Telephone: QWest Communications International provides the majority of conventional telephone service in the County. QWest Communications offers telecommunications services to 25 million customers in 14 western states. Telecommunications regulations require US West Communications to provide adequate telecommunications services on demand.

Telephone exchange areas define the area within which QWest Communications International is permitted to transport their services. These areas are called Local Access and Transport Areas (LATAs). Calls outside of the Local Access and Transport Area require long distance carriers such as AT&T, US Sprint, or MCI. There are 94 US West exchanges located in the State of Washington.

The facilities in which calls are switched are called Central Offices. From each Central Office, there are four main cable routes generally headed North, South, East, and West. Connected to these main feeder routes are branch feeder routes from which service is routed to all subscribers through local loops. These types of facilities may be aerial or underground, and copper or fiber. Technology such as fiber optics allows for multiple paths over a single wire. The technology used by telecommunications facilities in Jefferson County means that capacity is not a problem for telephone companies providing service locally.

Wireless Common Carriers (Including Cellular Phone Service): Cellular telephone in the County is provided by AT&T Wireless Services, and by Verizon Wireless. The FCC limits to two the number of licensed providers in each Cellular Geographical Service Area (CGSA) in order to ensure there is market competition. Service must be available to all customers within a service area, but there are no level of service standards. Cell sites must be located so that radio signals from the systems stay within the boundaries of the CGSA.

Signals to and from mobile phones are handled by a system of low powered transmitting antennae, which are called cell sites. The signal coverage radii are called a cell. Cells meet in a hexagonal grid pattern, so calls are in effect handed from one cell to another over a given area. Calls are routed through a central computer called a Mobile Telephone Switching Office (MTSO), and are connected to their destinations.

Cells can provide continuous coverage over an urban area, or they can provide coverage along well-traveled transportation corridors. Because all cellular systems are compatible, callers can travel from one system to another, and still be able to use their cellular telephones.

Cable Television: Cable television services are provided to residents of the County via existing franchise agreements with Summit Cablevision, Hood Canal Telephone, Western Cable Service and Interstate Cable Inc.. The franchise agreement(s) states that cable services must be provided on demand in all areas as follows:

- Interstate Cable Inc.: All County areas south of the Port Townsend City limits east of Olympic National Forest lines consisting of density minimums of 19 homes per mile.
- Hood Canal Telephone: All County areas that include Range 2 West, Township 26 North, Sections 19, 20, 21, 22, 23, 29, 30, 28, 27, 26, 31, 32, 33, 34, and 35. Range 2 West, Township 25 North, Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 20, 29, 30, 31, and 32. Range 3 West, Township 35 North, Section 36.
- Western Cable Service: All County areas that include County roads lying in Sections 26, 27, 28, 33, 34, 35, and 36, Township 30 North, Range 2 West, W.M.; and in Sections 31, 32, 33, 34, and 35, Township 28 North, Range 1 West, W.M.; and in Sections 4, 5, 6, 7, 8, 9, 16, 17, and 18, Township 27 North, Range 1 East, W.M..
- Summit Cablevision: All that portion of Jefferson County lying East of the Olympic National Park

Located at the origin of a cable system are a receiver and a headend. The headend includes electronic equipment such as antennae, frequency converters, demodulators, and preamplifiers. The headend processes the signals in a manner that allows them to be distributed to the network. Trunk lines carry this signal, and amplifiers located along the system maintain its strength. Amplifiers allow for feeder line connections and the eventual hookup of individual customers. The cable franchise agreement(s) allows the provider to use County rights-of-way for their equipment.

Telecommunications Systems: Issues

Rapidly Changing Technology, Services, and Providers: Telecommunication services, which were once discrete systems, are becoming linked with competition encouraged through Federal legislation. The Telecommunications Act of 1996 promotes enhanced service and system development through open market competition. Ownership alliances are rapidly shifting, making it very difficult to predict future products, regulatory systems, and service providers.

Ability of Utilities to Provide Telecommunications Services: Antennae and towers are used by utilities to provide communications and electronic controls. Utilities must have the ability to provide telecommunications services.

Expansion of Local Calling Areas: The Washington Utilities and Transportation Commission (WUTC) provides the sole control for local calling area regulations.

Co-location of Telecommunications Facilities: The co-location of telecommunications facilities using existing structures is desirable because it is an efficient use of land, and potentially has less of an impact aesthetically. As more cellular cell sites are located within an area, the transmitting antenna structures,

which are required, become smaller. Although it is desirable to co-locate facilities, the County is aware that there may be circumstances where co-location is impossible.

Adverse Effects from Radio Frequency (RF) Energy: Electromagnetic fields (EMF) produced by cellular telephones are known as non-ionizing, as opposed to ionizing sources, such as x-rays. Cellular telephones use frequencies (UHF) which previously have been used by UHF television stations, so their presence is not new. The American National Standards Institute has established a standard for exposure to EMFs. The standard recommends that the specific absorption rate (SAR) is less than 1.6 watts/kilogram for an exposure of thirty or more minutes. The maximum output from a portable cellular phone is 0.45 watts/kilogram, well below this established threshold. The RF energy from a cellular phone is less than from a hand-held CB radio, or from standing one foot away from a typical microwave oven. The Federal Telecommunications Act of 1996 requires that all telecommunications antenna structures meet the radiation standards set by the Federal Communications Commission (FCC).

Competition among Cable Companies: State and federal laws do not allow an exclusive use by an individual provider on public rights-of-way. Any franchised cable company can serve unincorporated Jefferson County. However, exclusive cable providers are allowed to serve private properties, such as apartment complexes and condominiums.

Description and Capacity of Existing Telecommunication Facilities

Conventional Telephone: US West Communications, Inc., United Telephone, and PTI Communications provide service to the residents of Jefferson County. Statistical customer information is not available on the basis of local political jurisdictions because exchange territories are not compatible with local political boundaries. Disclosure of certain information would be disadvantageous to these communications companies, limiting the amount of information that can be outlined here. Calls outside the local service areas require a long distance carrier.

There are 8 exchanges, which cover the Jefferson County area. These exchanges are 379, 385, 437, 765, 732, 796, 797, and 374. The Central Office, which serves most of the County, is located in the general vicinity of Port Townsend. There are also Central Offices located in Quilcene, Port Ludlow and Forks. The capacity of each Central Office is dependent on the type of switch it uses. A single area code and prefix can carry 10,000 phone numbers. Digital transmission allows US West to increase the capabilities of switches. Due to the competitive nature of the telecommunications business, US West is unable to provide statistics on the number of customers they currently serve. However, with an increase of approximately 6500 new households projected in the County including the City of Port Townsend by 2016, there will be a significant impact on existing facilities, and the need to plan for new facilities.

Wireless Common Carriers (Including Cellular Phone Service) Service: AT&T Wireless Services currently has 6 cell sites located in Jefferson County. These cell sites contain low powered transmitting antennae. AirTouch Cellular currently has 6 cell sites located in Jefferson County. These cell sites contain low powered transmitting antennae.

Where feasible, cellular facilities utilize existing tower structures, poles, and buildings where antennae can be mounted on rooftops and electronic equipment located within the building itself. Topography and other engineering constraints can influence specific site selection because of the need to "hand off" the signal so that it can be picked up by another facility. Efforts are made to construct cell sites that are compatible with surrounding land uses.

Cable Television: Cable television service is provided by 4 companies: Summit Cablevision, Hood Canal Telephone, Western Cable Service and Interstate Cable Inc.. Summit Cablevision is the only active

service provider in January 1998 and Summit estimates they provide service to approximately 1,400 – 1,500 subscribers within Jefferson County including Port Townsend, Shine and Kala Point areas. Summit Cablevision currently provides a base package providing customers access to 40 channels, in addition the cable company offers 4 pay-for-view channels, resulting in a current system capability of 44 channels. Summit Cablevision’s communications signal is transmitted via both coaxial cable and fiber optic cables.

Sanitary Sewer: Introduction

The major federal law sanitary wastewater treatment is the Federal Clean Water Act. The Act requires the Environmental Protection Agency (EPA) to establish national effluent standards, authorizes grants for wastewater treatment facilities, requires the use of the National Pollutant Discharge Elimination System (NPDES) permits, and allows EPA to impose penalties for violations. The Act allows delegation of responsibility to the Washington State Department of Ecology (DOE) for administration of federal water quality regulations, and grants DOE the authority to develop and adopt additional standards.

The State's laws regulating sewage service and treatment are contained in the State Water Pollution Control Act (Chapter 90.48 RCW), the Management of Sewage Sludge/Biosolids Act (Chapter 70.95J RCW), and the Sewerage, Water and Drainage Systems Act (the County Services Act) (Chapter 36.94 RCW), which authorizes Jefferson County to establish and operate a sewerage system. Under these laws, the State establishes and requires use of specific planning and design standards for wastewater facilities, and water pollution controls and abatement plans for sewage drainage basins.

The main sanitary sewer service areas serving Jefferson County's population include the Port Ludlow service area, various smaller service areas in East County managed by PUD No.1 and the City of Port Townsend.

Port Ludlow Service Area: Olympic Water and Sewer owns and operates the wastewater facilities, treatment plant, and outfall to Ludlow Bay (Admiralty Inlet). An alternative service agreement with Jefferson County PUD No.1, calls for the PUD to operate the wastewater collection facilities if Olympic Water and Sewer is unable or unwilling to properly operate and maintain the facilities.

Public Utility District (PUD) No.1 Service Area: It is the intent of PUD No.1 to continue to assume the management of community septic systems within eastern Jefferson County. The PUD also provides municipal oversight services (MOS) for individual septic systems throughout eastern Jefferson County. As of 1998, the PUD provided inspections for more than 400 active septic systems. An additional 300 inactive systems are listed on PUD No. 1 records.

Other Service Areas: The City of Port Townsend provides wastewater treatment and collection for City residents. Sanitary sewer service in eastern Jefferson County is currently provided via septic systems for existing and new development.

Sanitary Sewer Description And Capacity Of Existing Facilities

The main sanitary sewer service areas serving Jefferson County's population include the Port Ludlow service area, various smaller service areas in East County managed by PUD No. 1 and the City of Port Townsend.

Port Ludlow Service Area: The sanitary sewer service areas for Port Ludlow, a master-planned community established in 1967, include the North Bay and South Bay Service Areas. The North Bay Service Area includes the original plats of Port Ludlow Divisions 1 through 6, and the Resort/Marina areas. However within this service area, not all platted lots are served by the sanitary sewer service.

The existing South Bay Service Area includes the original plats of South Bay 1 through 3, plus Ludlow Point tracts, Inner Harbor Bay View Village, and other approved development sites. Ludlow Point tracts are at the northern end of South Bay Lane. Sanitary sewer service was provided to these lots as part of the Inner Harbor project approved by DOE on September 6, 1989.

Public Utility District (PUD) No.1 Service Area: Presently, sanitary sewer service within the PUD's service areas is provided via septic systems. Most of the septic systems throughout the eastern County area are constructed by developers to support new development. Table 11-1A identifies the septic systems owned and managed by PUD No. 1 as of 1998:

**Table 11-1A
Current P.U.D. No. 1 Septic Systems**

Septic System	Location	Current Connections	Maximum Connections
Levine Drainfield	Gardiner	3	8
Discovery Ridge	Quimper Peninsula	5	40
Ocean Grove	Quimper Peninsula	5	49
Schoenfeld Phase I	Coyle Peninsula	3	12

**Table 11-1B
Future Septic Systems**

Septic System	Location	Current Connections	Maximum Connections
Discovery Yacht and Racquet Club	Discovery Bay	0	53
Old Alcohol Plant	Port Hadlock	0	0
Schoenfeld Phase II	Coyle Peninsula	0	12
Wally Pederson's Trail's End	N/A	0	12
Suquamish View	N/A	N/A	N/A
Steve Wakefield	N/A	N/A	N/A

Tri-Area Service Area: As of January 1998 existing Tri-Area residential and non-residential areas utilize septic systems for sanitary waste and effluent control. A sanitary sewer system is in the process of being planned for the final designation of Irondale/Hadlock as an Urban Growth Area.

Solid Waste Management: Introduction

In the State of Washington, local governments have lead responsibility for solid waste management and moderate-risk waste management. However, local governments must manage and handle waste according to State laws, which are comprehensive in scope, and include specific mandates for solid waste management, handling, and disposal systems. Local governments do not manage hazardous wastes, but are required to adopt a local hazardous waste plan for moderate-risk waste (household hazardous waste).

The State Solid Waste Management--Reduction and Recycling Act designates the Department of Ecology (DOE) as the State department responsible for overseeing solid waste regulations. The administrative codes, which implement the law's requirements, are Chapters 173-304 and 173-351 WAC, established Minimal Functional Standards (MFS), and established Criteria for Municipal Solid Waste Landfills. The

Criteria for Municipal Solid Waste provides standards and criteria for the location, design, operation, and maintenance of solid waste facilities.

The Washington Administrative Code (WAC) requires that each type of solid waste facility possess an approved solid waste permit. Solid waste permits are reviewed and issued by the Jefferson County Environmental Health Department annually. The Department of Ecology (DOE) has review and ultimate approval authority over solid waste permits.

State law authorizes counties to own and operate disposal facilities, but prohibits counties from operating a solid waste collection system, otherwise known as a "solid waste utility." Cities are delegated authority to establish collection utilities. Counties are allowed to establish a collection district for mandatory solid waste collection, and a disposal district that allows a county to levy a tax to fund solid waste operations. As of January 1998 Jefferson County has not established a solid waste district.

Although counties cannot contract for solid waste collection, they can contract for residential recycling collection. However, the County can contract for handling services such as transport of solid waste to disposal sites. As of January 1998 Jefferson County contracts with a private commercial carrier to transport the majority of the County's solid waste to a landfill site in Goldendale, Washington. Jefferson County and private recycling activities manage the remaining solid waste material.

Solid Waste: Issues

Achievement of Recycling Goal in a Cost-Effective Manner: The County has the opportunity to develop and implement a variety of recycling collection programs and facilities, but these programs can be costly. The County needs to continue to build incentives into its recycling programs; encourage private recycling and composting businesses; and devise new and increasingly economical ways to remove products from the disposed waste stream currently handled at the Recycling Center.

Special Waste Handling: The County has established a funding source through Washington State Department of Ecology for the implementation of a Hazardous Waste Management Plan, for collection programs and facilities for household hazardous waste and small quantity waste. Working in close collaboration with the Port of Port Townsend, Jefferson County presently operates a facility that collects, recycles, and disposes of household and small quantities of hazardous waste (Moderate Risk Waste). Funding is also specifically used for educational programs for businesses regarding proper management of moderate risk waste.

Description and Capacity of Existing Solid Waste Facilities

The County Landfill has been closed for use as a disposal site. The County will continue to contract with private commercial carriers to transport solid waste to other landfill sites outside the County during the foreseeable future. On Page 11-21 of the Utilities Element a map identifies the location of existing Jefferson County solid waste collection and management facilities.

Water: Introduction

Water for residents in Jefferson County comes from two types of "systems." The primary systems of supply are public water systems. However, a significant number of residents obtain their supply from wells, springs, or other "individual" water systems.

According to Washington Department of Health (DOH) records, the County had 166 “public water systems” as of March 1995. According to DOH regulations, any domestic water supply system serving more than a single family residence is classified as a public water system. Water systems are further divided into “Groups”. Systems with fifteen (15) or more permanent connections are defined as Group A systems. Systems with two to fourteen (2 to 14) permanent connections are defined as Group B systems. (DOH regulations currently allow a waiver of requirements to residential systems with two services - a two party system.) Also included in the Group categorization are subgroups of community and non-community (business) systems, transient (State Parks), and non-transient systems. In Jefferson County, approximately half of the “public water systems” are Group A systems.

Location of Jefferson County Water Service Areas in eastern Jefferson County is depicted on Page 11-22 of the Utilities Element. The large Group A Systems include: Cape George Colony Club, Inc.; Kala Point Water System; Ludlow Water Company; the Jefferson County PUD; and the City of Port Townsend.

It is recognized that many residents of the County receive their water supply from private sources (individual water systems) such as wells or springs. This practice is expected to continue in the future, at least in the rural areas. In developing a water demand forecast related to public water supply needs, it is prudent that an allowance be included for that segment of the population expected to remain on private-source individual water systems.

An estimate of the number of people utilizing private domestic wells or springs can be derived using Department of Health (DOH) records, existing population estimates, and deducting those populations from the County total. In 1992 DOH developed an estimate in preparation of the Draft Coordinated Water System Plan (CWSP Draft 1992). According to that analysis, approximately 8,000 people in Jefferson County, approximately 30 percent of the County population were utilizing private-source-individual-water systems, typically wells.

Water: Issues

Issues Relating to Public Water System Planning: The Public Water System Coordination Act, enacted in 1977 and codified as Chapter 70.116 RCW, establishes a procedure for the State's water utilities to coordinate their planning and construction programs with adjacent water utilities and other local governmental activities.

This Act specifies that either the Department of Health (then entitled Department of Social and Health Services) or Jefferson County (County) Legislative Authority may declare an area within a County as a Critical Water Supply Service Area (CWSSA). This declaration must be based upon the findings of a Preliminary Assessment identifying issues related to:

- Inadequate water quality
- Unreliable service
- Ineffective and uncoordinated planning

Based upon the findings of the Preliminary Assessment, the County Board of Commissioners, with the support of the water purveyors, declared the County to be a CWSSA, by resolution on October 24, 1983. The first Coordinates Water System Plan (CWSP) was completed in 1986 consistent with the Coordination Act.

In 1995 the original Assessment and CWSSA boundaries of water systems were reviewed. The Assessment and boundaries were confirmed by the County Commissioners in September 1995, indicating a continuing need to address these issues.

The Jefferson County Water Utility Coordinating Committee prepared an update of the Jefferson County Coordinated Water System Plan which was approved by the State DOH in May, 1997. The plan is currently under revision following adoption of the 1998 Comprehensive Plan.

Issues Related to Water Resources Development for Public Supply

Indian Treaty Rights: The 1974 “Boldt” decision held that the Indian Tribes signatory to 1855 treaties (in what is now Washington) were entitled to the opportunity of harvesting half of the harvestable salmon and steelhead returning to off-reservation fishing grounds. A subsequent decision held that the right to harvest fish implies a right to protection of the fisheries habitat. The method by which the Tribes were to execute this right to protect the habitat has not been defined.

In the 1980s, the State and the Tribes entered cooperative arrangements to manage the fisheries, and to explore the implications of the Boldt decisions on water resources and habitat management. Discussions of these topics eventually lead to a 1990 retreat at Lake Chelan to formulate and implement a cooperative watershed planning initiative for the State.

Watershed Planning: Development of watershed plans generally involve local committees and considerable local, state, and federal agency involvement. In Jefferson County, the Quilcene/Dabob Bay Watershed Action Plan (June 1991), the Ludlow Watershed Action Plan (November 1993), and the Discovery Bay Watershed Management Plan (March 1995) have been developed.

The most comprehensive watershed planning effort to date is the Dungeness-Quilcene (DQ) Planning Process, funded in 1990 by the State as a pilot planning effort under the Chelan Agreement. Representatives of state, local and tribal governments, and agricultural, business, environmental, fisheries, and recreational interests participated through caucuses to gather and evaluate information which led to the final DQ Plan, dated June 30, 1994.

The DQ Plan provided regional strategies and recommendations to address water use, management, conservation, and related habitat issues for both the Dungeness and the Quilcene watersheds. A special recommendation for the region was to conduct a comprehensive hydrogeologic investigation of the quantity and quality of surface and ground water. A work plan for a five-year study was developed by the United States Geological Survey for the DQ project. An accompanying recommendation included continuing water quality and quantity data monitoring and management which is recognized as essential for ongoing water resource and land use planning efforts.

Recommendations of the DQ Plan specific to Eastern Jefferson County included limiting new surface water rights or permits until such time as instream flows for each stream are adopted by rule by the Department of Ecology. Ground water, habitat, fish management, education, and conservation strategies were also developed. It was recommended that a Watershed Council representative of all interests be formed to focus and coordinate habitat restoration effort, to investigate the resources, to design and implement projects, and to work with Ecology on instream flow and water rights issues.

The Jefferson County Water Resources Council was formed in January 1995 in order to implement the DQ and other watershed plans. In October 1997, the County joined the Water Resources Council. The Council has been designated as the watershed planning and management unit for the Quilcene-Snow

Water Resource Inventory Area (WRIA 17) under state funding for watershed planning. The DQ Plan will serve as the basis for the next level of watershed planning, technical studies, and policy development.

In 1998, the Watershed Planning Act was passed by the State Legislature (Chapter 90.82 RCW). This law changed the approach to watershed planning, yet building on the “pilot” efforts such as the DQ. Since passage of the Act, watershed planning has been initiated in several Jefferson County WRIAs (WRIA 16, WRIA 17, and WRIA 18).

The watershed planning process will require new coordination and organizational efforts across both watershed and jurisdictional boundaries.

The proposed listing of salmon and bull trout native to Jefferson County streams under the Endangered Species Act highlights the need to integrate watershed and fish habitat recovery plans. The County will work with local, state, and federal agencies to implement potential recovery projects and develop land use regulations based on these plans to protect the water resources of the County for use by future residents and to recover the salmon and other fish species that are threatened with extinction.

Existing Water Facilities

Water Rights: In preparation of Jefferson County’s Coordinated Water System Plan (CWSP - 1996 Draft), systems serving over 50 connections were examined to determine the adequacy of existing supply and capacity for future growth. These systems, in addition to others in the County, are identified in Table 11-3. A summary list of water rights and water systems is identified in Table 11-7 (listed by historic County planning sub-area boundaries).

Adequate water rights are a requisite for regional water supply development and planning. Being able to acquire new water rights is a necessary component of new source selection and development.

The City of Port Townsend: The City is in a unique situation because the municipality possesses substantial water rights, has current capacity to contract water supply to several other entities, and thus act as a water "wholesaler."

The City's water rights include:

- 19.39 MGD from the Big Quilcene River (perfected, primary water right).
- 6.18 MGD from the Little Quilcene River (perfected, low flow restricted, water right).
- 32.32 MGD from the Dosewallips River (application only, not a perfected water right).
- 3.53 MGD from the Chimacum Valley in the form of ground water (perfected water rights).

The combined surface water rights equal 25.57 MGD and ground water rights equal 3.53 MGD for a total of 29.1 MGD. The Little Quilcene water right is low flow restricted, making the combined use of the Little and Big Quilcene sources difficult during summer months. However, both of these sources can be used to fill storage reservoirs (e.g., Lord's Lake and City Lake).

Supply to the City of Port Townsend (and Port Townsend Paper Company) is restricted by the existing pipeline capacity (19.4 MGD). The City’s available average supply is a combination of the pipeline capacity (19.4 MGD) and Chimacum Valley ground water pumping and treatment capacity (0.900 MGD) for a total of 20.3 MGD.

City service to the Tri Area in the past has been provided by surface water and groundwater supplies referenced above. However, because of surface water disinfection requirements, the City discontinued the use of surface water and has been serving the area entirely from groundwater supplies in recent years.

**Table 11-2
City of Port Townsend Water Supply Commitments (1998)**

The City is under contract to supply 14.9 MGD of its water, as shown below:

User	Quantity (MGD)
Port Townsend Paper Company	14.400
Navy/Indian Island	0.114
Fort Flagler	0.015 (5.5 MG/Year)
Fisheries	0.042 (15.5 MG/Year)
PUD (S. Hastings)	0.280
PUD (Glen Cove)	<u>0.050</u>
Total Supply	14.901

PUD and PUD Satellites: PUD Systems (1998) are listed below:

- Bywater Bay
- Glen Cove Water System (Commercial and Residential)
- Glen Cove South
- Lazy "C" Water System (LUD No. 8)
- LUD No. 3 (Hastings Loop South)
- LUD No. 1 (Gardner)
- Triton Cove Estates-Marshal Addition - (LUD No. 6)

The PUD’s LUD No. 3 and the Glen Cove System have been dependent on water supply from the City of Port Townsend (with some supplemental groundwater rights owned by the PUD).

The remainder of the current PUD systems is dependent upon ground water for their source. In general, the current availability of water appears adequate, although as indicated in the table of water rights information (Table 11-7), some systems may need to confirm water rights or secure additional supply.

In addition to the systems noted above, the PUD has several additional small systems. It is anticipated that the PUD will increase its acquisition of systems in the future as small systems abandon their struggle to meet regulatory requirements.

PUD / City of Port Townsend Service Area Changes in 2001

As indicated above, the PUD’s LUD No. 3 and the Glen Cove Systems have been dependent on water supply from the City of Port Townsend. Although the PUD has some water rights to supplement City supply, the dependency has remained.

Discussions of the possibility of a “service area swap” between the PUD and the City have been occurring for several years. The concept was for the PUD to take over the Tri Area and the City’s extended service areas and have the City take control of the Glen Cove South and Glen Cove Water Systems. This idea had merit for several reasons. First was the thought that it might be more appropriate for the City to serve lands adjacent to the City (and under consideration as a UGA), and these areas were dependent on City

water anyway. Second, the PUD seemed a more appropriate entity to serve the unincorporated Tri Area where citizens would have representation on the PUD Board.

This arrangement was executed in an agreement at the end of 2001. Implementation of the exchange is well underway now (2002), but official service area maps, etc. remain to be developed and approved by DOH. Tables and maps in this document will be updated when final documents are developed. Tables and maps included in this Utilities Element should be interpreted assuming the transfer of service areas and water rights as indicated above (specifically, water rights for Glen Cove and the Glen Cove Service Areas are the City's, and water rights for the Tri Area, and service areas are transferred to the PUD).

Other Systems: Other Group A systems in Jefferson County include the following:

- Jefferson County Water District No. 1
- Jefferson County Water District No. 3
- Cape George Colony Club
- Ludlow Water Company
- Kala Point Water System
- Bridgehaven Water System
- Olympic Mobile Village
- Olympus Beach Tracts, Inc.
- Pleasant Tides Water Co-op
- Seamount Estates Community Club

There are no reported critical problems with any of these systems, and water availability appears adequate for current needs.

**Table 11-3
Jefferson County Water Systems**

Identification Number	Facility Name
PUD Systems**(Expanding)	
17741X	Glen Cove (Commercial and Residential)
025164	Glen Cove South
00058D	LUD No. 3 (Hastings Loop South)
07877W	LUD No. 1 (Gardner)
02676T	Lazy "C" Water System (LUD No.8)
02043P	Bywater Bay (Pope Resources)
894470	Triton Cove Estates - Marshal Addition (LUD No. 6)
Other Systems	
69000R	Port Townsend, City of
08330N	Bridgehaven Water System
11050C	Cape George Colony Club, Inc.
36705Y	Jefferson County Water Dist. No.1
375006	Kala Point Water System
68700L	Ludlow Water Co.
367115	Jefferson County WD No. 3
205141	Olympic Mobile Village

637009
03313C
76986X

Olympus Beach Tracts, Inc.
Pleasant Tides Water Co-op
Seamount Estates Community Club

SURFACE/STORM WATER UTILITIES

Surface/Storm Water Quality: Introduction

In November 1996 the Jefferson County Board of Commissioners determined that a County storm water management ordinance was necessary in order to comply with the 1991 (revised May 1994) Puget Sound Water Quality Management Plan, and to meet the applicable goals of the Growth Management Act (GMA), RCW 36.70A.

The 1991 (revised May 1994) Puget Sound Water Quality Management Plan requires that all cities and counties in the Puget Sound Basin adopt ordinances requiring storm water controls for new development and redevelopment including:

1. Control of off-site source water quality and quantity (as related to quality) impacts.
2. Use of best management practices (BMPs) for source control and treatment.
3. Use of the Stormwater Management Manual for the Puget Sound Basin (The Technical Manual) and BMPs for the effective treatment of the storm size and frequency (design storm) for proposed development.
4. Use of infiltration (downward movement of water from the surface to the subsoils), with appropriate precautions, as the first consideration in storm water management.
5. Protection of stream channels and wetlands.
6. Erosion and sediment control for new development and redevelopment projects.

Jefferson County's Storm Water Management Ordinance (No. 10-1104-96) adopts the Stormwater Management Manual for the Puget Sound Basin (current edition) as the storm water manual, adopts thresholds for determining development requirements, and provides a means of regulating land disturbing activities on private and public land and subsequent storm water runoff. The Ordinance defines "storm water" as follows: "That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels or pipes into a defined surface water channel, or a constructed infiltration facility."

Surface/Storm Water Quality: Issues

Jefferson County's strategy for future management of surface/storm water systems will be based on a coordinated approach, including collaborative watershed management, with an emphasis on water quality and quantity management. The key future activities include:

1. Development of a comprehensive County-wide Surface/Storm Water Management Plan that includes infrastructure inventory, public outreach, technical basin planning requirements, financial planning, and operational components.

2. Development of Flood Control Management plans, in collaboration with local and regional groups such as flood control advisory boards, watershed planning groups, and other agencies, that includes financing and implementation components.
3. Development of a Jefferson County Ordinance for storm water facility maintenance.
4. Participate as a member of the Water Resources Council for Water Resources Inventory Area 17 and other areas of eastern Jefferson County, and as a member of watershed management unit(s) formed by multi-jurisdictional and community interests for watersheds in western Jefferson County.
5. Review and update the County Storm Water Management Ordinance as surface/storm water management plans become available for implementation.

LOCATION OF CURRENT ELECTRICAL UTILITY FACILITIES

LOCATION OF CURRENT CONVENTIONAL TELEPHONE FACILITIES

LOCATION OF CURRENT CELLULAR PHONE FACILITIES

LOCATION OF CURRENT CABLE TELEVISION FACILITIES

LOCATION OF CURRENT SANITARY SEWER FACILITIES

LOCATION OF CURRENT SOLID WASTE MANAGEMENT FACILITIES

PROPOSED JEFFERSON COUNTY WATER SERVICE AREAS

PROPOSED FACILITIES

Facilities Background And Description: This section gives an overview of the proposed facilities locations, service area, capacity, general issues, regulatory concerns on each utility as it relates to planning for future system expansion.

Electricity: Future Capacity Needs and Requirements

Future Capacity Needs: The future electric load for Jefferson County is the current MVA customer demand and anticipated 1998-2018 MVA load growth (Megavolt-Ampere electric power requirement in 1,000,000 volt-ampere units). Jefferson County population and employment forecasts (OFM) for the 20 year planning period are converted to demand in MVA, which in turn can be used to determine the amount of new capital facilities needed to meet future needs of customers within the County.

13 MVA is the load predicted to be added to Puget Sound Energy's service areas of Jefferson County during the 20 year period, including: Chimacum, Gardiner, Port Hadlock, Nordland, Port Ludlow, Port Townsend, and Quilcene. This projected increase in MVA is expected to be reduced by 6.3% and 9% due to the impacts of future conservation and demand-side management, respectively. Overall, the projected net increase in MVA load during the 20 year period is shown below.

**Table 11-4
2018 Projected Load Level**

Existing Load (1997)	72.0 MVA
Less: Projected Conservation	(4.5)
Less: Projected Demand-Side Mgt.	(6.5)
Projected Load Increase (Growth)	24.0
TOTAL	85.0 MVA

The 2018 planning horizon for Jefferson County is based on a peak winter load of 85 MVA. An analysis of capacity needed to meet growth is contained in Puget Sound Energy's Draft Electrical Facilities Plan for the Jefferson County SubArea.

Future Facilities Requirements: Capital facilities are required during 1998-2018 to (1) serve the County's projected load growth, and (2) remedy specific transmission/distribution problems within the existing electrical system. The following projects reflect a combination of overall system improvements, transmission substation/line improvements, and distribution substations construction: 115 KV Conversion; Port Townsend 66kV Loop Transmission Line; Irondale Transmission Substation Additions, BPA Fairmont-Shine 230 kV Conversion/Hood Canal Crossing, New Chimacum Distribution Substation, and New Teal Distribution Substation.

Telephone: Future Capacity Needs and Requirements

Conventional Telephone: State law requires Quest to provide adequate telecommunications services on demand. Accordingly, Quest or other telecommunications providers will provide facilities to accommodate growth within Jefferson County, regardless of growth pattern. Various regulations speak to growth within service territories. WAC 480-120-086 requires maintenance of adequate personnel and equipment to handle any reasonable demand and traffic. Furthermore, WAC 480-120-071 requires establishment of a line extension policy, which is contained in Quest's tariff WNU-24 Schedule 9, filed

with the WUTC. The same tariff contains the company's policy for underground utilities, as required by WAC 480-120-076.

Quest's construction planning is driven by the needs of its Jefferson County customers. As the County grows and telecommunications services evolve, facilities are upgraded to ensure adequate service levels. Quest's goal is to maintain routes at 85% capacity. When usage exceeds 85%, additional facilities will be planned, budgeted, and installed.

Quest submits local planning and construction documents with Jefferson County and/or the City of Port Townsend to obtain necessary development permits and authorizations. Quest's ability to meet its capacity commitments is affected by the efficiency of the local land use permit process. County and Municipal Departments of Public Works and Planning can also affect Quest's ability to maintain adequate public facilities. Quest works with private developers, Jefferson County, City of Port Townsend, and other community planners to develop plans that meet customer service demands. At the present time, Quest does not plan to expand current service areas.

Wireless Common Carriers (Including Cellular Phone Service): Unlike other utilities, the cellular phone industry does not necessarily conduct long-range strategic facilities planning. Market demand is analyzed to determine expansions into new service areas. Cellular phone service can be expanded in a given area to provide better service to cellular customers in two ways:

- Extending the coverage to new areas, or
- Increasing the capacity of the system within the current service area.

A decision to expand the system depends on a number of factors. First, the number of current customers within the area and the capacity of the current system are analyzed to identify the need to expand. Second, the quality of service within the area is continually evaluated, both electronically, at the switching equipment, and through feedback from customers. If there are a significant number of service failures reported, including dropped calls, continuous busy signals, or an "all circuits are busy" message, the capacity of the system must be evaluated and usually improved to maintain consumer market share. Third, the FCC license granted to the cellular carrier requires that service be provided to 75% of its Cellular Geographical Service Area (CSGA) within five years from the date the license is granted. Maintaining a high quality, interference-free service is essential in order to comply with these FCC requirements.

In general it is anticipated that additional sites within the Jefferson County service area will be located responsive to customer service needs, generally following increases in population densities and high volume traffic corridors.

Sanitary Sewer: Future Capacity Needs and Requirements

Port Ludlow Service Area: Growth in the Port Ludlow area has been steady since 1967, despite fluctuations in regional housing demands. Sewer connections were provided to 845 ERU (Equivalent Residential Unit = 785 residential + 60 commercial ERU) by the end of 1995, another 80 ERU were to be connected through 1996, and an additional 521 ERU (Equivalent Residential Unit = 230 gallons per day [GPD] @ 100 GPD per Table 14A person X 2.3 persons per household) were forecasted during 1997-2002 (growth estimated @ 80 residential per year + 47,500 sq. ft of commercial @ 200 GPD/1,000 sq. ft).

The current and recommended LOS for wastewater treatment and transmission is 230 gallons per day/ERU (Equivalent Residential Unit @ 2.3 persons per household). This is based on 100 GPD per

person, which is the Department of Ecology (DOE) design criteria required for developing sanitary sewage treatment facilities.

There are approximately 1,446 total sanitary sewer connections anticipated through 2000, which include 845 ERU for Actual 1995 (785 residential + 60 commercial ERU); 80 estimated additions during 1996; and an additional 521 ERU during the 1997-2002 growth period (growth estimated at 80 residential per year plus 47,500 sq. ft of commercial @ 200 GPD/1,000 sq. ft).

The total average daily gallons per day (GPD) wastewater treatment requirement resulting from growth demands (ERU) though 2002 will be 0.34 million gallons per day (MGD) at the current and recommended LOS of 230 gallons per day/ERU.

The wastewater treatment plant (WTP) will be upgraded to treat 0.64 million gallons per day (MGD) maximum monthly average flow (with the addition of the third aeration basin). This capacity upgrade is anticipated to accommodate the projected 1997-2002 growth in ERU.

The capacity of the WTP, by conditions of various permits, cannot be expanded beyond the maximum-monthly-average flow capacity of 0.64 million gallons per day (MGD). Therefore, the WTP capacity controls the number of sewered residential and commercial ERU in the Port Ludlow community.

Public Utility District (PUD) No.1 Service Area: The systems are being constructed to a specific, limited size, and will not be increased beyond the original design capacity.

Tri-Area Service Area: At the present time, septic systems provide the only mechanism for wastewater disposal and treatment.

This element is part of the 2002 Amendments to the 1998 Comprehensive Plan. One purpose of the Amendment is to address the addition of the Tri Area as a Urban Growth Area (UGA). The addition of a UGA was contemplated in the 1998 Plan following completion of a "Special Study." This Special Study was initiated in 1998 but not completed until 2001. As part of the process, capital needs were addressed and the impacts fully explored in a Supplemental Environmental Impact Statement (SEIS 1999).

The current and recommended LOS for wastewater treatment and transmission is 230 gallons per day/ERU (Equivalent Residential Unit @ 2.3 persons per household). This is based on 100 GPD per person, which is the Department of Ecology (DOE) design criteria required for developing sanitary sewage treatment facilities.

When Tri Area sewage systems are developed they will need to meet this LOS. For the purposes of this Plan Amendment, it is important to understand that no increases in density will be allowed during the remainder of the initial plan duration (until 2003), and that the creation of the UGA will require utility planning to be undertaken to meet the needs for the future.

Solid Waste: Future Capacity Needs and Requirements

As of January 1998, Jefferson County has a services contract with a private commercial carrier to transport the majority of its solid waste to a landfill site in Goldendale, Washington. The County and private recycling efforts manage the remaining solid waste material.

The County will continue to contract with private commercial carriers to dispose of solid waste at landfill sites outside of Jefferson County for the foreseeable future. The County will also continue the use of private contractors to manage the solid waste recycling effort. The County will continue to manage the

collection of Moderate Risk Waste at the County facility constructed in 1995. The Moderate Risk Waste is packaged and shipped off site for disposal outside of Jefferson County.

Table 11-5 shows the 20-year forecast demand and recommended Levels of Service (LOS) for solid waste management. The elements of analysis are as follows:

1. **Time Period:** Beginning with 1994 and continuing annually through 2017.
2. **County-Wide Population Projection by Year:** This population base is used since the County's responsibility for solid waste operations is regional.
3. **Annual Demand Tons:** Refers to the annual total amount of tons of solid waste and recyclables generated during the growth periods 1994, 1995, 1996, 1997-2002, and 2003-2017.
4. **Level of Service (LOS):** Refers to the forecasted waste demand in pounds on a per capita basis. This demand level is predicted to increase based on an average rate of 3.99 pounds of solid waste generated per person per day in conjunction with projected increases in Jefferson County population.
5. **Recycled Tons:** Refers to the amount of tons of solid waste that is recycled on an annual basis. This data has three components: (1) curbside recycling collected by private solid waste commercial carriers; (2) market-driven programs such as corrugated cardboard; and (3) the County recycling programs at the recycling stations located permanently at the Solid Waste Management Facility, Port Hadlock and Quilcene Transfer Stations, and other areas in the County as determined by the County, providers, and the recycled materials market.

Table 11-5 reflects a recycling LOS which follows a County-wide (Jefferson County Department of Public Works) 1997-2002 goal of 15% average recycling effort through the County's private recycling contractor. It is anticipated the recycling goal would gradually increase to a 20% average from years 2003 through 2016, and Table 11-5 reflects this assumption.

6. **Recycled Material Percentage:** Gives the percentage of waste recycled each year as either the result of forecast tonnage or as a LOS, as described above.
7. **Waste Tons Migrating:** Refers to the tonnage (15%) migrating out of the County's solid waste system, predominantly construction and demolition material, because facilities are not available to accept this waste, or because of lower cost alternatives for disposal or recycling compared to the County's tipping fee.
8. **Residual Tonnage Requiring Disposal:** Refers to the remaining solid waste that is neither recycled nor "lost" due to migration under the County's current policy of not using the landfill. The privately hauled tonnage for the preferred LOS is based on the County-wide recycling percentage goal (20%) for 2003-2016.

**TABLE 11-5
Solid Waste Forecast and Recycling LOS For Jefferson County**

Recommended LOS=3.99 lbs. per person per day with a 15% recycling effort by 2002

1	2	3	4	5	6	7	8
Time Period	County Population	Annual Demand Tons	Level of Service	Recycled Tons	Recycled Material %	Waste Tons Migrating	Residual Tonnage Requiring Disposal
1994	24,300	16,960	3.86	1,930	11.30%	2,544	12,486
1995	25,196	18,341	3.99	2,383	13.00%	2,751	13,207
1996	25,754	18,805	3.99	2,445	13.00%	2,821	13,539
1997	26,312	19,160	3.99	2,491	13.00%	2,874	13,795
1998	26,886	19,578	3.99	2,741	14.00%	2,937	13,900
1999	27,477	20,008	3.99	2,801	14.00%	3,001	14,206
2000	28,084	20,506	3.99	2,871	14.00%	3,076	14,559
2001	28,708	20,904	3.99	3,136	15.00%	3,136	14,632
2002	29,351	21,373	3.99	3,206	15.00%	3,206	14,961
2003	30,012	21,854	3.99	3,278	15.00%	3,278	15,298
2004	30,693	22,411	3.99	3,586	16.00%	3,362	15,463
2005	31,394	22,860	3.99	3,658	16.00%	3,429	15,773
2006	32,115	23,385	3.99	3,742	16.00%	3,508	16,135
2007	32,783	23,872	3.99	4,058	17.00%	3,581	16,233
2008	33,469	24,438	3.99	4,154	17.00%	3,666	16,618
2009	34,175	24,885	3.99	4,230	17.00%	3,733	16,922
2010	34,900	25,413	3.99	4,574	18.00%	3,812	17,027
2011	35,645	25,956	3.99	4,672	18.00%	3,893	17,391
2012	36,412	26,587	3.99	4,786	18.00%	3,988	17,813
2013	37,200	27,088	3.99	5,147	19.00%	4,063	17,878
2014	38,012	27,679	3.99	5,259	19.00%	4,152	18,268
2015	38,698	28,179	3.99	5,354	19.00%	4,227	18,598
2016	39,397	28,766	3.99	5,753	20.00%	4,315	18,698
2017	40,087	29,190	3.99	5,838	20.00%	4,378	18,974

Water: Future Capacity Needs And Requirements

Water Demand: Estimates of water demand can be performed with multiple levels of sophistication and for a range of planning timeframes. For individual water system planning, estimates are generally focused on a 20-year horizon. However, special emphasis should be made to the short-term (six years) for capital planning and short term projects, and to the long-term (50 years) for major infrastructure planning. The challenges associated with a 50-year forecast include the level of uncertainty, and the lack of equivalency of the uncertainties between water systems. These uncertainties can be worse when planning on a regional basis, where land use and economics can encourage growth in a variety of directions over time. For the purposes of this Plan, a 20-year population projection and demand forecast have been used.

Based upon the population growth projected in planning areas represented in Table 11-6, an average day demand and peak day demand for the area was determined. To arrive at these numbers, data from various utilities and data derived during the development of the Jefferson County’s Coordinated Water System Plan (CWSP - 1996 Draft) was used. An average day per capita use of 120 gallons per day (GPD) was appropriate for use in all areas except for the City. For the City, data indicated that the per capita use was closer to 200 gpd, in all likelihood due to commercial and industrial use in the area.

**Table 11-6
Jefferson County Population Growth Projections**

Number	Area	1996	2016	Change	Growth Rate/YR
1	Port Townsend	8,366	13,876	5,501	2.56%
2	Quimper Peninsula	2,927	4,076	1,149	1.67%
3	Marrowstone Island	839	1,015	176	0.96%
4	Tri-Area	4,324	5,489	1,165	1.20%
5	Discovery Bay	1,085	1,470	385	1.53%
6	Center/Inland Valleys	1,351	1,759	408	1.33%
7	Port Ludlow/Oak Bay	1,985	4,900	2,916	4.62%
8	Shine/Paradise Bay	897	1,471	574	2.50%
9	Coyle/Toandos Peninsula	411	596	185	1.88%
10	Quilcene	1,308	1,797	489	1.60%
11	Brinnon	1,299	1,943	644	2.03%
12	West End	962	1,005	43	0.22%
Total		25,754	39,389	13,635	2.15%

The use of these figures is consistent with those provided as Level of Service Standards (LOS) in the Capital Facilities Element since a per capita figure should generally be multiplied by 2.2 (for Jefferson County) to get a per connection figure. The resulting number should then be multiplied by 2 or 2.5 to get a anticipated peak day demand. Translating the above figures into a span for peak day demand (per connection) of between 660 GPD and 880 GPD. For long range and County-wide planning, these numbers compare well with the LOS and DOH standards of 400 GPD (average) and 800 GPD LOS (peak). This is particularly true given the uncertainties of the effects of conservation programs and the variety of demand throughout the County.

Table 11-7 shows the results of this analysis. By 2016, the County can expect to be using over 6,500 acre feet of water a year. On a peak day (using 2.5 as a peaking factor), the anticipated population of 39,000 people will demand about 14.6 MGD. These figures do not take into account conservation measures yet in effect as of January 1998.

With the general demand calculations as a function of population, the high demand areas are those where mentioned high rates of growth are anticipated. Accordingly, Port Townsend, Port Ludlow, Brinnon, and Shine/Paradise Bay are anticipated to provide the largest increase in demand.

Assessment of Needed Capacity: The assessment provided below is broken down into 12 planning areas (historic Jefferson County Planning Sun-areas). Although the discussion focuses on several of the larger water systems in each area, smaller water systems and individual supplies will continue to be significant in meeting future demand.

The following analysis is intended to put the water supply needs in perspective to available supply. The major assumption used for this analysis is that people will want to go, or will go, where there is supply. The record is clear that construction and demand are geographically a function of perceived and desired lifestyle, economics, and regulation (resource management). If the economics are such that a lifestyle can be obtained with private water supply, and there is no regulatory (or resource) reason to prohibit well construction or diversions, then private supplies will be developed regardless of public supply availability.

Again, any comparison of water rights to demand and system capacity with regional demand, must be done with these limitations in mind. It is interesting and valuable, however, to know whether public supply in an area (planning area in this case) is in a position to meet some, most, or all of the area's anticipated growth. This information can serve to highlight critical supply issues, or draw attention to areas where on a relative basis, supply may not be as much of a problem.

The following analysis, is provided for this purpose and is not intended to portray a precise prediction of supply needs.

Port Townsend: The City has a surface water withdrawal right of up to 25.57 MGD. However, pipeline capacity is limited to 19.4 MGD. The paper mill (Port Townsend Paper) has contract rights to 14.4 MGD of this diversion and other contracts to total 14.8 MGD. The remainder (5 MGD) is available to meet the City's growth.

Population and related peak day demand at 2016 could be in the range of 6.9 MGD. The current 5 MGD surface water supply will be insufficient to meet the City's needs on a peak day basis. The City has projected a buildout scenario (City limits) of 25,000 people (included in "Population Change in Jefferson County: The Next 20 Years", April 1992, Jefferson County). With this scenario, at 200 GPD average day, demand might reach 5 MGD (with peak day at nearly 13 MGD). This might be a conservative estimate. With the growth rate continuing at the Watterson Report rate (2.62 percent per year) to the year 2046 (50 years), Port Townsend's population would be expected to reach about 30,000. Under either scenario, existing supply of 5 MGD will not meet these needs in the absence of conservation measures now in effect.

Quimper: The Quimper area's water systems have the capacity and water rights to serve only about 75 percent of the anticipated population increase. Total increase in this area is expected to be about 1,150 people by 2016. The largest available capacity exists on the PUD's South Hastings Loop (LUD No. 3)

where capacity and water rights for about 250 connections currently exists. Cape George and the Glen Cove Systems both expect to serve significant increases over the next 20 years (collectively increasing from the current 614 connections to 1,065), but both currently lack water rights and capacity to do so.

Consequently, without new water rights and capacity, about one quarter of the projected new growth will occur on small public systems or private individual wells. Water systems and capacity for this area are shown in Table 11-8.

Marrowstone: Very little public water service exists on Marrowstone Island. While a significant new public water system might be possible, the addition of only about 80 new dwellings to serve about 175 people over the next 20 years may not justify such a system. Consequently, the area will rely on ground water sources which, based on DOE Water Resource Bulletin No. 59 and the PUD Report “Ground Water Characterization in East Jefferson County”, appear to be subject to possible overdrafting and seawater intrusion.

Tri-Area: The Tri-Area is a much more complicated situation. Three large public water systems currently serve the area (Kala Point, the PUD, and the City). While Kala Point and the PUD both plan on serving a considerable number of new customers over the next 20 years with their existing capacity (combined, this would mean about 300 new connections), the City and the management of its supply and service area are an important component of future water supply in this area.

This area as a whole is expected to grow by about 1,150 people over the next 20 years. This will roughly equal about 525 new connections. Subtracting the PUD and Kala Point capabilities, this leaves the need for about 200 new connections.

The City has been serving its service area (significant areas of Irondale, Hadlock, and Chimacum), with supply from two wells in the area supplemented (or vice versa) with water from its Quilcene supply. Looking to the future, the City may not be able, given DOH treatment/chlorinating rules, to provide surface water to this area. The City has ground water rights of 3.53 MGD in the Tri-Area, with only about 800,000 gallons to 1 MGD of that developed. In addition to the Tri-Area, the City has commitments to provide water throughout the area to Indian Island and Fort Flagler. These commitments are about 700,000 GPD at the maximum. The City (Fact Sheet dated July 17, 1995) has listed a maximum day residential and commercial demand for the area at 919,048 (399,586 average day) GPD. The City also listed its current surface water commitment to the area at 1 MGD.

Future demand for the entirety of the needed 525 connections could be an additional 0.5 MGD at 800 GPD per connection. (Again, this assumes build-out of Kala Point and the PUD Glen Cove South, and no private well development.) As noted above, the City has water rights for potentially 3.53 MGD from the two wells in the Tri-Area. If the City were able to provide an additional 0.5 MGD (Total well production of about 1.4 MGD) from these wells, then total peak demand could be met by this additional supply.

To meet the total supply needs from its ground water sources, the City would need to provide 2.1 MGD (919,048 current demand, 700,000 contracted, and 500,000 new demand from 500 new customers). This is theoretically possible from the water rights available to the City. From a water rights standpoint, this area could have a surplus by 2016 even without new conservation measures. Water systems and capacity for this area are shown in Table 11-8.

Discovery Bay: Discovery Bay planning area has only one large non-transient public water system. The PUD’s Gardner Water System (LUD No. 1) is about half developed with about 100 connections remaining. These will only meet about 60 percent of the area’s anticipated growth of about 385 people

over the next 20 years. Smaller water systems and private wells will be required to meet the remaining need. The Gardner Water System capacity for this area is shown in Table 11-8.

Center/Inland Valley: No large public water systems exist in this area. Consequently, it is anticipated that all of the nearly 400 new residents in the area will be on small systems or private domestic wells.

Port Ludlow/Oak Bay: The Port Ludlow/Oak Bay area is forecast to experience the largest population increase (nearly 2,900 people or about 1300 dwellings) over the next 20 years. This area is served by two water systems (the Ludlow Water Company and Olympus Beach Tracts, Inc.). According to size, Ludlow is the main water supplier for the area. The system has a capacity of about 2,450 with about 800 residential connections currently. This leaves sufficient capacity to meet the forecast demand for the area. Water systems and capacity for this area are shown in Table 11-8.

Shine/Paradise Bay: This planning area is served by three of the larger water systems (PUD's Bywater Bay, Jefferson County Water District No. 1, and the Bridgehaven Water System). Altogether these systems have water rights and capacity to meet the anticipated demand from roughly 575 new residents to the area by 2016. Water systems and capacity for this area are shown in Table 11-8.

Coyle/Toandos Peninsula: The Coyle/Toandos Peninsula is served by only one of the County's larger water systems - Jefferson County Water District No. 3. This utility has the capacity to serve an additional 350 people, if necessary. Growth for this rural area is anticipated to be only about 185 over the next 20 years. Because of its rural nature, the Water District may not find it necessary to tax its resources significantly to meet demand. Jefferson County Water District No. 3 capacity for this area is shown in Table 11-8.

Quilcene: With support from a Washington CERT Grant, the Quilcene area is actively involved in a planning process for a public water system to serve the community. Pending final development of this plan the projected 489 additional people expected to reside in the area by 2018 will need to rely on small systems and private domestic wells.

Brinnon: This area is served by several water systems. These include the PUD's Lazy "C" System, its Triton Cove System, the Pleasant Tides Water Co-Op, and the Seamount Estates Community Club system. The combined capacity and water rights of these systems will nearly meet the anticipated demand of over 600 additional people in the area by 2018. Of the systems, the Lazy "C" system is expected to expand to accommodate 48 additional connections over the next several years. Water systems and capacity for this area are shown in Table 11-8.

West End: The limited growth in this area will need to be met by private domestic supplies or small water systems, since there are no significant public systems in the area now, and the low growth rate is unlikely to justify larger new systems.

Table 11-7 Water Demand and Capacity Projections Summary

Area Demand	1996 Average Daily (AcFt/Year)	2016 Average Daily (AcFt/Year)	2046 Average Daily (AcFt/Year)	1996 Peak Day (MGD)	2016 Peak Day (MGD)	2046 Peak Day (MGD)	Water Right (MGD)	Water Right (AcFt/Yr)
Port Townsend	1,874	3,107	6629.50	4.18	6.93	14.79618	29.1	0
Quimper Peninsula	393	548	900.33	0.88	1.22	2.009429	1.04	692
Marrowstone Island	113	136	181.54	0.25	0.30	0.405176	0	0
Tri-Area	581	738	1055.25	1.30	1.65	2.355189	4.27	2,010
Discovery Bay	146	198	311.60	0.33	0.44	0.695457	0.44	155
Center/Inland Valleys	182	236	351.26	0.41	0.53	0.783976	0	0
Port Ludlow/Oak Bay	267	659	2555.78	0.60	1.47	5.704167	1.44	492
Shine/Paradise Bay	121	198	415.24	0.27	0.44	0.926754	0.56	317
Coyle/Toandos Peninsula	55	80	139.90	0.12	0.18	0.31223	0.2	126
Quilcene	176	242	388.97	0.39	0.54	0.86812	0	0
Brinnon	175	261	477.77	0.39	0.58	1.066325	0.679	334
West End	129	135	144.25	0.29	0.30	0.321939	0	0
Area Capacity Surplus or Deficit	Water Right 2016	In Service Supply (AcFt/Year)	In Service Ac Ft Capacity 2016	In Service Supply (MGD)	In Service Ac. Ft Capacity 2016	Notes	Notes	
Port Townsend	0	0	0	5.00	-1.93	1	1	
Quimper Peninsula	144	818	270	0.73	-0.49			
Marrowstone Island	-136	0	-136	0.00	-0.30			
Tri-Area	1,272	1,686	948	1.51	-0.14	2	2	
Discovery Bay	-43	493	295	0.44	0.00			
Center/Inland Valleys	-236	0	-236	0.00	-0.53			
Port Ludlow/Oak Bay	-167	1,266	607	1.13	-0.34			
Shine/Paradise Bay	119	515	318	0.46	0.02			
Coyle/Toandos Peninsula	46	213	133	0.19	0.01			
Quilcene	-242	0	-242	0.00	-0.54			
Brinnon	73	874	613	0.78	0.20			
West End	-135	0	-135	0.00	-0.30			

1. From Surface Supply minus Port Townsend Paper Supply-Pipeline Capacity at 19.4 MGD with Contract for 14.8 MGD.
2. 785 from Port Townsend Paper Supply Pipeline

**Table 11-8
Jefferson County Large Water Systems
Grouped by Planning Area**

System	Water Rights % of Subarea	Capacity % of Subarea	Current ERU	Information Source	Capacity ERU	ERU Basis
Area 2 - Quimper						
LUD No. 3 (Hastings Loop South) (1)	0%	0%	180	SSA	445	DOH Approved
Cape George Colony Club, Inc.	74%	81%	391	SSA	460	DOH Approved
Glen Cove Water System (1)	0%	0%	117	SSA	154	DOH Approved
Olympic Mobile Village	26%	19%	76	SSA	99	DOH Approved
Area 4 - Tri Area						
Glen Cove South	3%	9%	43	SSA	117	DOH Approved
Kala Point Water System	14%	39%	405	SSA	617	DOH Approved
Port Townsend, City of (Ground Water)	83%	52%	3015	Calculated (1)	4413	Calculated (1)
Area 5 - Discovery Bay						
LUD No. 1 (Gardiner Water System)	100%	100%	100	SSA	200	DOH Approved
Area 7 - Port Ludlow						
Olympus Beach Tracts, Inc.	4%	6%	52	1992 CWSP Draft	75	Calculated
Ludlow Water Co.	96%	94%	817	SSA	2452	WSP @ 160 per ERU

Table 11-8
Continued

System	Water Rights % of Subarea	Capacity % of Subarea	Current ERU	Information Source	Capacity ERU	ERU Basis
Area 8 - Shine						
Bywater Bay (PUD)	7%	9%	25	SSA	36	DOH Approved
Jefferson County Water District No. 1	43%	30%	190	SSA	432	DOH Approved
Bridgehaven Water System	50%	61%	87	1992 CWSP Draft	350	Calculated
Area 9 - Coyle						
Jefferson County Water District No. 3	100%	100%	95	1992 CWSP Draft	250	Calculated
Area 11- Brinnon						
Lazy "C" Water System	15%	13%	120	SSA	168	DOH Approved
Triton Cove Estates Marshal Addition (LUD No. 6)	3%	12%	33	SSA	99	DOH Approved
Pleasant Tides Water Co-op	18%	15%	63	1992 CWSP Draft	150	Calculated
Seamount Estates Community Club	65%	60%	56	SSA	151	DOH Approved

Table 11-8
Continued

System	ERU Available	Population @ 2.2 per ERU	Total Available	Preliminary Demand Projection	To be Served	% Capacity with Public Service
Area 2 - Quimper						
LUD No. 3 (Hastings Loop South) (1)	265	583	583			
Cape George Colony Club, Inc.	69	152	152			
Glen Cove Water System (1)	37	81	81			
Olympic Mobile Village	23	51	51			
TOTAL for AREA			867	1,149	282	75%
Area 4 - Tri Area						
Glen Cove South	74	163	163			
Kala Point Water System	212	466	466			
Port Townsend, City of (Ground Water)	1,398	3,075	3,075			
TOTAL for AREA			3,704	1,165	(2,539)	318%
Area 5 - Discovery Bay						
LUD No. 1 (Gardiner Water System)	100	220	220			
TOTAL for AREA			220	385	165	57%
Area 7 - Port Ludlow						
Olympus Beach Tracts, Inc.	23	51	51			
Ludlow Water Co.	1,635	3,597	3,597			
TOTAL for AREA			3,648	2,916	(732)	125%

Table 11-8

Continued

	ERU Available	Population @ 2.2 per ERU	Total Available	Preliminary Demand Projection	To be Served	% Capacity with Public Service
Area 8 - Shine						
Bywater Bay (PUD)	11	24	24			
Jefferson County Water District No. 1	242	532	532			
Bridgehaven Water System	263	579	579			
TOTAL for AREA			1,135	574	(561)	198%
Area 9 - Coyle						
Jefferson County Water District No. 3	155	341	341			
TOTAL for AREA			341	185	(156)	184%
Area 11- Brinnon						
Lazy "C" Water System	48	106	106			
Triton Cove Estates Marshal Addition (LUD No. 6)	66	145	145			
Pleasant Tides Water Co-op	87	191	191			
Seamount Estates Community Club	95	209	209			
TOTAL for AREA			651	644	(7)	101%

GOALS AND POLICIES

NARRATIVE: The Utilities Element is closely linked with all the other elements of this Comprehensive Plan. As in all elements of this Plan, the Goals are general statements while Policies are more specific. Goals state the general growth management intentions of the County while the Policies provide direction and mechanisms for reaching the stated Goals. Strategies identify specific activities that will be used to implement Policies.

GENERAL

GOAL:

UTG 1.0 Provide adequate utility capacity for future growth consistent with the requirements of the Growth Management Act.

POLICIES:

UTP 1.1 Identify where infrastructure is not adequate to support future growth, initiate planning for the development of infrastructure required for future growth, and ensure that utility infrastructure is adequate to support projected population growth and economic development.

UTP1.2 Extension and sizing of facilities will be based on the Land Use Element. In those cases where engineering standards are in excess of the requirements for the immediate development but are required to meet established levels of service for proposed uses and future needs, the excess capacity will not be a reason to allow growth out of sequence with the Land Use Element.

UTP 1.3 Require that adequate public facilities and services are available prior to, or concurrent with, development.

UTP 1.4 Support efficient permit and application processing for utility systems projects to facilitate timely completion of utility development to meet growth demands.

UTP 1.5 Ensure that all citizens served by an expanding public water supply or other utility are represented by the Washington Utilities and Transportation Commission (WUTC) or otherwise maintain representative and elected leadership to help ensure that long term decisions are made in the best interests of rate payers.

GOAL:

UTG 2.0 Coordinate planning and provision of utility services among Jefferson County, the State of Washington, local governments, and utility service providers.

POLICIES:

- UTP 2.1** Provide coordination between Jefferson County, agencies and utility providers to ensure consistency between utility systems development and the growth plans of the County.
- UTP 2.2** Require utility providers to consistently utilize the Jefferson County Comprehensive Plan Land Use Element in utility systems planning.
- UTP 2.3** Require the joint use of utility corridors whenever possible, provided that such joint use is consistent with limitations prescribed by applicable law and prudent utility system practice.
- UTP 2.4** Coordinate and cooperate with other jurisdictions when transmission facility additions or improvements cross jurisdictional boundaries. Coordination to include maximizing efforts to achieve consistency between jurisdictions in efficient development permit issuance.
- UTP 2.5** Coordinate and consolidate public service or public facility districts, where feasible, to distribute public services and facilities more efficiently.
- UTP 2.6** Encourage WUTC acceptance of and reliance on local plans.
- UTP 2.7** Develop a process for assessing and collecting impact fees from development for publicly funded utilities infrastructure.
- UTP 2.8** Require that utility infrastructure associated with new development, which the County will assume maintenance/ownership, will be constructed to comply with Jefferson County growth projections and standards.

GOAL:

- UTG 3.0** **Minimize adverse environmental impacts of utility systems development through proper utility design, siting, regulation, ongoing monitoring, and education.**

POLICIES:

- UTP 3.1** Design, site, and construct utility systems facilities to reasonably minimize significant, individual, and cumulative adverse impacts to the environment, including protection of environmentally sensitive areas.
- UTP 3.2** Discourage the use of herbicides to control vegetative growth around utility facilities and encourage alternative methods, such as mowing or selective treatment.
- UTP 3.3** Participate in regional comprehensive watershed planning process, and incorporate appropriate elements of watershed agreements between the County and stakeholders, state, federal, tribal, and other local governments into ordinances and utilities planning processes.

GOAL:

UTG 4.0 Identify, conserve and preserve resources, and to provide cost effective services.

POLICIES:

UTP 4.1 Research and, as appropriate, implement resource conservation technologies in all areas of new construction and large scale renovation of public facilities.

UTP 4.2 Maintain operating efficiency of existing resource consuming facilities in Jefferson County.

UTP 4.3 Investigate, maintain current information, and, as appropriate, support implementation of changes in technology and other changes that improve the provision of utility services and provide for enhanced conservation.

WATER UTILITIES

GOAL:

UTG. 5.0 Promote coordination of water utility planning among purveyors, government agencies, and citizens to ensure an adequate potable water system, to protect the quality of the water supply, and to conform with the Comprehensive Plan.

POLICIES:

UTP 5.1 The creation and the extension of public water supply systems outside Urban Growth Areas shall be consistent with the rural densities specified in the Land Use Element, and shall be financed entirely by the benefited properties and not the general rate payer.

UTP 5.2 Support the County Water Utility Coordinating Committee’s (WUCC) routine review of the Department of Health (DOH) records of the County water systems operational and financial status, and work with the WUCC, DOH, and purveyors to determine required corrective actions.

UTP 5.3 Participate in and assist the facilitation of regional discussions and analyses on water quality and quantity issues through the WUCC, the Water Resources Council and other regional forums.

UTP 5.3.1 Work in cooperation with, and as a member of, the Jefferson County Water Resources Council in a cooperative process to assess the availability of water for future growth in the context of a watershed planning process integrated with salmon recovery planning

UTP 5.4 Update the adopted Jefferson County Coordinated Water System Plan (1997) incorporating the adopted land use, population allocations, and pertinent policy identified in the Comprehensive Plan.

UTP 5.5 Take an active role in approving Satellite Management Agencies that are allowed to own and operate multiple water systems that are not physically connected (satellite systems).

- UTP 5.6** Routinely review the Critical Areas Ordinance and current data to identify and improve processes that will reduce the risk of salt water intrusion.
- UTP 5.7** Work to implement a long-term ground water quantity and quality monitoring program for basins that provide domestic water supplies.
- UTP 5.8** Work with purveyors to promote the use of unaffected upland water sources and other alternative supplies, where appropriate, to supply new and existing development in affected areas.
- UTP 5.9** Establish the best possible information system to assess the status of water resource(s) adequacy.
- UTP 5.10** Identify and support implementation of conservation strategies that reduce average annual and peak day water use for public and individual water systems.
- UTP 5.11** The County recognizes the authority of Public Utility District #1 pursuant to RCW 54 and other applicable statutes. The County will cooperate with Public Utility District #1 to develop final development regulations consistent with that authority.

SANITARY SEWER UTILITIES

GOAL:

- UTG 6.0** **Promote sanitary sewer systems that accommodate growth, are cost-effective to construct and operate, and are consistent with the Comprehensive Plan.**

POLICIES:

- UTP 6.1** Encourage development of community septic systems in Rural Centers to protect public health, the environment, and foster a reliable, integrated collection system.
- UTP 6.2** Existing sanitary sewer treatment facility capacity will not be used as a justification for expansion of a sewer system or development inconsistent with County-wide Planning Policies and the Comprehensive Plan.
- UTP 6.3** Encourage the use of water-conserving fixtures with new systems or services.

SOLID WASTE UTILITIES

GOAL:

- UTG 7.0** **Provide solid waste facilities and programs that are efficient, and which utilize recycling to the maximum extent practicable.**

POLICIES:

- UTP 7.1** Implement, to the fullest extent possible, and in descending order of priority, solid waste management processes that reduce the waste stream, reuse waste materials, promote recycling, provide for the separation of waste prior to incineration or landfill disposal, and provide guidelines and strategies for disposal of all special waste types.
- UTP 7.2** Initiate and support public educational outreach on solid waste management, including recycling opportunities, methods to reduce solid and chemical waste, and related environmental issues.
- UTP 7.3** Identify and implement appropriate measures to ensure mitigation of adverse environmental impacts associated with solid waste collection activities.
- UTP 7.4** Maintain the Solid Waste Advisory Committee involving citizens, waste management providers, regulatory agency representatives, the County, and other affected interests to identify methods for efficient and practical solid waste management, including small and moderate-risk waste handling strategies.
- UTP 7.5** Provide appropriate levels of collection and recycling opportunities which will maximize public participation, and which offer the fullest practical and economical potential for waste materials.
- UTP 7.6** If incentive programs fail to reach the waste reduction goals identified in the Capital Facilities Element, consider mandatory programs to the extent allowable by State law.
- UTP 7.7** Identify and preserve for future use solid waste facility sites, including potential landfill sites, consistent with the Comprehensive Plan and the Solid Waste Management Plan.
- UTP 7.8** Ensure reclamation of areas currently serving as solid waste disposal facilities to promote the recovery of such areas for future functional land uses.

TELECOMMUNICATIONS UTILITIES

GOAL:

- UTG 8.0** **Accommodate telecommunication technologies and service providers by allowing systems development consistent with the Comprehensive Plan.**

POLICIES:

- UTP 8.1** Promote the widespread availability of telecommunications technologies in cooperation with other public and private entities, to facilitate communication among members of the public, public institutions and businesses.
- UTP 8.2** Require consolidation of antenna siting, transmission media, utility pole, and trenching placement to minimize adverse aesthetic and environmental impacts.
- UTP 8.3** Develop, with public involvement, telecommunications systems service-antenna structure-placement criteria, including identification of appropriate public sites,

consistent with the Comprehensive Plan Land Use Element, for use by telecommunications technologies and service providers.

ELECTRICAL UTILITIES

GOAL:

UTG 9.0 **Encourage conservation of electricity and accommodate efficient siting of electrical utilities infrastructure consistent with the Comprehensive Plan.**

POLICIES:

UTP 9.1 Accommodate additions and improvements to electric utility facilities which improve capacity and reliability of regional electrical utility services, particularly when multiple jurisdictional benefits within the region can be achieved.

UTP 9.2 Accommodate electrical distribution facilities as a permitted use in appropriate locations to ensure that land is available for the siting of electrical facilities.

SURFACE/STORM WATER UTILITIES

GOAL:

UTG 10.0 **Manage surface/storm water quantity and quality consistent with comprehensive surface/storm water and watershed management plans and to minimize adverse surface/storm water impacts from development.**

POLICIES:

UTP 10.1 Develop a County-wide comprehensive Surface/Storm Water Management Plan.

UTP 10.2 Participate with other agencies and watershed councils to undertake joint planning, financing and implementation of regional surface/storm water facilities.

UTP 10.3 Utilize criteria developed for the management of surface/storm water such as the Storm Water Management Manual for the Puget Sound Basin.

UTP 10.4 Coordinate with state, regional and local agencies, including watershed councils, to develop and implement policies for surface/storm water management.

UTP 10.5 Consider the use of surface/storm water facilities, when appropriate, as meeting the requirements for open space or habitat conservation corridors.

UTP 10.6 Initiate and support public education programs to improve public access to technical information, public awareness of existing challenges with private and public surface/storm water runoff, and continued public involvement in surface/storm water management.

STRATEGIES

A. GENERAL UTILITIES STRATEGY

Jefferson County's strategy for utility services is based on allowing for adequate future capacity, coordination through appropriate planning, conservation of resources, and is environmentally sensitive and fiscally responsible.

Action Items

1. Consistent with the requirements of the Capital Facilities Element, planning for public utilities owned by the County would identify new facilities, expansions and improvements that will be needed to support growth at least 20 years into the future. This 20-year projection should be updated during the annual budget process and/or a Capital Facilities Element review. (Corresponding Goal: UTG 1.0)
2. Retain and review the comprehensive system plans of each utility serving the County. Jefferson County will also coordinate with utility providers in the development and subsequent amendment of comprehensive system plans. The County will provide coordinated and timely review of utility plans and amendments proposed by the utility providers in order to maintain consistency with the County's Comprehensive Plan. (Corresponding Goal: UTG 2.0)
3. Where feasible, identify future utility facility and corridor locations on the UGA and unincorporated County maps. (Corresponding Goal: UTG 2.0)
4. Provide the utility providers with annual updates of population, employment and development projections. Work with utility providers to jointly evaluate actual patterns and rates of growth, and compare such patterns and rates to demand forecasts. Utility service areas will be consistent with the capacity of the utility provider as well as projected growth. (Corresponding Goal: UTG 2.0)
5. Locate major utility infrastructure and distribution facilities such as electrical transmission lines, domestic water, storm and sanitary sewer, and telecommunication services within shared utility corridors, to ensure more efficient utilization of County land area for these services and mitigate the physical division of communities by utility corridors. (Corresponding Goal: UTG 2.0)
6. Where found to be safe and appropriate, develop joint use of utility corridors for recreational uses. (Corresponding Goal: UTG 2.0)
7. Coordinate road construction and maintenance activities with utility providers' construction and maintenance activities to minimize disruptions to the public and provide more cost-efficient services. (Corresponding Goal: UTG 2.0)
8. Negotiate interlocal agreements and contracts that resolve:
 - Boundary disputes.
 - Inclusion of service areas in Urban Growth Areas.
 - How utility service areas will be adjusted and service provided after annexations and incorporations.
 - Level of service differences. (Corresponding Goal: UTG 2.0)

9. Request that the WUTC give significant weight to local comprehensive plans and to approve utility requests supported by the County's Comprehensive Plan. (Corresponding Goal: UTG 2.0)
10. Coordinate joint planning of new road construction and maintenance of existing roads with utility trenching activities. Provide timely notice to utilities when the construction, maintenance or repair of existing and new roadways is anticipated. (Corresponding Goal: UTG 3.0)
11. Design, locate and construct utility infrastructure to reasonably minimize significant, individual and cumulative adverse impacts to the environment and to protect critical areas. This should include actions such as:
 - Identify and locate existing underground utilities, and use construction methods and materials to eliminate or minimize the risk of accidental spillage.
 - Locate utility facilities and utility corridors outside wetland areas.
 - Minimize crossings of fish-bearing water courses.
 - Use bio-stabilization, rip-rap or other approved engineering strategies to mitigate erosion where utility services may be required to be installed.
 - Minimize utility system corridor widths.
 - Design and site solid waste disposal facilities to mitigate adverse public health, transportation, and environmental impacts.
 - Encourage use of drought-tolerant and native plant materials to enhance water conservation and promote successful landscape restoration.
 - In landscape restoration utilize landscape materials which are compatible with long-term maintenance and aesthetic considerations.
 (Corresponding Goals: UTG 2.0, 3.0,4.0)
12. Implementation strategies to reduce energy consumption, encourage conservation of energy resources and control solar gain where feasible; be focused on such measures as:
 - Support of trip-reducing or transit-oriented land use.
 - Use of alternative-fuel in County vehicles as outlined in the Clean Air Act.
 - Allowing clustering with common wall construction.
 - Effective enforcement of the energy code.
 - Expansion of the availability of energy efficiency measures to low-income residents.
 - Establishment of standards and regulations that provide appropriate locations, which permit the development of alternative energy infrastructure.
 (Corresponding Goal: UTG 4.0)

B. WATER UTILITIES STRATEGY

Jefferson County's strategy for water utilities is based on coordination, cooperation, water resource development and water resource protection that includes participation and leadership in watershed management.

Action Items

1. Develop standards for development of new water sources/systems consistent with the County-wide Planning Policy, the Coordinated Water System Plan, the Comprehensive Plan Water, Land, Rural and Environmental Elements. (Corresponding Goal: UTG 5.0)

2. Adopt methods to manage small water systems:
 - New water systems should be permitted consistent with the Coordinated Water System Plan and the Comprehensive Plan.
 - Encourage the extension of distribution systems into areas to serve customers with individual water supplies where such service meets County policy.
(Corresponding Goal: UTG 5.0)
3. Amend and develop ordinances where needed to protect and regulate water sources.
(Corresponding Goals: UTG 1.0, 5.0)
4. Develop an ordinance implementing water utility standards, including procedures for determining appropriate minimum fire hydrant flow pressure standards.
(Corresponding Goals: UTG 1.0, 2.0, 5.0).
5. Work with the Water Utility Coordinating Committee (WUCC) and watershed planning groups to:
 - Establish long term public supply needs.
 - Create specific programs to improve the status of water systems that experience fiscal or operational problems.
 - Ensure adequate representation by affected parties.
 - Ensure wellhead (source) protection programs are developed and assist these purveyors to protect the resource.
(Corresponding Goals: UTG 2.0, 5.0)
6. Cooperatively fund (with other public bodies) and participate in regional water resources assessment(s) and allocation studies. (Corresponding Goal: UTG 5.0)
7. Cooperatively fund and participate in regional water quality and quantity monitoring efforts such that long term data is developed to support future allocation decisions. (Corresponding Goal: UTG 5.0)
8. Support with funding water resources education efforts targeted to school age children.
(Corresponding Goal: UTG 5.0)
9. Work with the Department of Ecology to expedite water rights processing for satellite water systems. (Corresponding Goal: UTG 5.0)
10. Encourage developments that offer clustering and can utilize community systems.
(Corresponding Goal: UTG 5.0)
11. Conservation techniques aimed at reducing average annual and peak day water use shall, if possible, include such implementation strategies as:
 - Use of billing rate structures that encourage conservation.
 - Imposition of water restrictions at appropriate times.
 - Reclamation of wastewater for industrial and irrigation use.
 - Provision of technical assistance for leak detection, design of low-water use irrigation, and other water saving measures.
 - Promotion of a long-term ongoing water conservation education program.
 - Use of drought tolerant plantings and native vegetation in landscaping.

- Updating building and plumbing codes to require water conservation devices. (Corresponding Goals: UTG 4.0, 5.0)
12. Work with the Water Utility Coordinating Committee (WUCC) to:
 - Determine a strategy for increasing the general level of metering among utilities.
 - To establish regional conservation programs and funding mechanisms.
 - Ensure that water purveyors meet Department of Health and Ecology regulations and guidelines.
 - Work as a member of the WUCC, and other organizations and agencies, to address efficient and timely purveyorship of water in areas projected for future growth. (Corresponding Goals: UTG 2.0, 5.0)
 13. Establish a “Water Audit” program for the County to assist commercial and industrial customers with water conservation programs and technical information. (Corresponding Goal: UTG 5.0)
 14. To conserve future resource, use Best Management Practices and restrict the location of high capacity wells where there is a demonstrated risk of saltwater intrusion into the water aquifer. (Corresponding Goals: UTG 4.0, 5.0)
 15. Review demonstrations and feasibility studies on water-conserving systems including “trickle” water systems, use of cistern-type storage system, reverse osmosis, roof collection, and gray water re-use. (Corresponding Goals: UTG 4.0, 5.0)

C. SANITARY SEWER UTILITIES STRATEGY

Jefferson County’s strategy for sanitary sewer utilities is based on utilizing current criteria available for the review of systems to protect the health and environment and promoting cost- effective systems.

Action Items

1. Review and update existing on-site and community sewer system regulations including minimum lot size criteria on a bi-annual basis utilizing the most current information and County policy. (Corresponding Goal: UTG 6.0)
2. Where feasible, require the following for wastewater facilities:
 - Provide mains in all public and private streets within and adjacent to the development.
 - Provide off-site mains as needed to connect to the existing system in order to meet level of service standards for wastewater discharge.
 - Provide wastewater pump stations needed to serve the development because of topographical considerations.
 - Replacement and/or improvement to existing facilities in order to meet established level of service for wastewater discharge from a development.
 - Provide off-site facility improvements required to prevent the level of service for existing customers to drop below adopted standards.
 (Corresponding Goal: UTG 6.0)
3. Working with the State of Washington, develop requirements for and review impacts associated with a regular and mandatory inspection program of Jefferson County on-site sanitary sewer systems. (Corresponding Goal: UTG 6.0)

D. SOLID WASTE UTILITIES STRATEGY

Jefferson County's strategy for solid waste utilities is based on reducing the solid waste stream by identifying opportunities for source waste reduction, and encouraging recycling after source materials are used through public education regarding opportunities to recycle, and by utilizing efficient management of the system.

Action Items

1. Educate the public on solid waste management, including recycling opportunities, ways to reduce solid and chemical waste, and related environmental issues. (Corresponding Goal UTG 7.0)
2. Utilize applicable grant funding for financial assistance for solid waste programs, such as public education on solid waste issues. (Corresponding Goal: UTG 7.0)
3. Develop strategies for achieving a reduction in Jefferson County's solid waste stream, and where feasible, ensure the strategies include:
 - Improve the processing of recyclable materials, as acceptable under appropriate regulations, in order to help alleviate the need to stockpile materials.
 - Providing opportunities for recycling to the public and commercial carriers at transfer locations.
 - Reducing the solid waste stream by encouraging manufacturers and retailers to reduce packaging waste at the retail level.
 - Encouraging procurement of recycled-content products.(Corresponding Goal: UTG 7.0)
4. Consider all practicable alternatives for the efficient management of the solid waste system. (Corresponding Goal: UTG 7.0)

E. TELECOMMUNICATIONS UTILITIES STRATEGY

Jefferson County's strategy for telecommunications utilities establishes a telecommunication task force to assist in developing action plans for addressing issues of land use, right of way, public service (Level of Service Standard), and a compensation system associated with telecommunications systems providers' use of public property.

Action Items

1. Establish a Telecommunications Advisory Task Force including telecommunication providers, the County, citizens, and other affected interests to assist in developing an action plan that addresses land use, right of way, public service, and a compensation system associated with telecommunications systems providers' use of public property. (Corresponding Goal: UTG 8.0)
2. Develop a rights-of-way and compensation ordinance for telecommunications systems providers' use of public property based on the criteria provided by the Telecommunications Task Force. (Corresponding Goal: UTG 8.0)

F. ELECTRICAL UTILITIES STRATEGY

Jefferson County's strategy for electrical utilities is based on resource conservation through reductions in energy consumption, and coordination of the siting of electric utilities infrastructure with land use.

Action Items

1. Implement strategies to reduce electric energy consumption and encourage conservation of energy resources, including:
 - Allowing clustering with common wall construction.
 - Effective enforcement of the energy code.
 - Expansion of the availability of energy efficiency measures to low-income residents.
 - Establishment of standards and regulations that provide appropriate locations that permit the development of alternative energy infrastructure.
(Corresponding Goal: UTG 9.0)
2. Coordinate with the current electrical provider when considering land use designations or new development in the vicinity of specific proposed utility facilities that are adopted in utility plans. Review whether such land uses designation and development might affect the suitability of the designated areas for location of utility facilities. (Corresponding Goal: UTG 9.0)

G. SURFACE/STORM WATER MANAGEMENT STRATEGY

Jefferson County's strategy for management of surface/storm water will be conducted with a coordinated approach that includes collaborative watershed management, with an emphasis on water quality and quantity management.

Action Items

1. Establish a surface water management plan that includes components of basin planning, financing, and implementation including conflict resolution. (Corresponding Goal: UTG 10.0)
2. In response to the surface water management plan developed, consider establishing storm water utility(s) if required to implement the plan's recommendations. (Corresponding Goal: UTG 10.0)
3. Establish flood control management plans that are developed through local and regional groups such as flood control advisory boards, watershed planning groups, and other agencies, and that contain financing components to insure that implementation is feasible. (Corresponding Goal: UTG 10.0)
4. Review, develop, and utilize standards for surface/storm water facilities that are consistent with developed plans. (Corresponding Goal: UTG 10.0)
5. Develop a storm water facility maintenance ordinance. (Corresponding Goal: UTG 10.0)
6. Participate as a member of the Water Resources Council for Water Resources Inventory Area 17 and watershed councils for other areas of Eastern Jefferson County, and as a member of watershed management unit(s) formed by multiple jurisdictional and community interests for watersheds in Western Jefferson County. (Corresponding Goal: UTG 10.0)

7. Review and update the County's Storm Water Management Ordinance, including an expanded public information program, as surface water management plans become available for implementation. (Corresponding Goal: UTG 10.0)