

Element 5

UTILITIES



I. Introduction

A. Purpose

The purpose of the Utilities Element is to ensure that utility services provided by both public and private purveyors will be consistent with the City's Comprehensive Plan and be available to support the community's growth and development as anticipated in the Plan during its 20 year planning period. This Element has been developed to be consistent with the other elements of the Comprehensive Plan. The Land Use Element establishes the overall growth strategy for Fife and its Urban Growth Area. The system design and timing for extension of utility services should promote the land use pattern and policies proposed in the Land Use Element. The level of service standards established for public utilities determines capital facilities costs and revenue analysis in the Capital Facilities Element, and provides a critical perspective on the land use patterns of the Land Use Element.

B. The Growth Management Act

This Utilities Element has been prepared to comply with the State of Washington Growth Management Act (GMA). The Act requires that each city develop a utilities element as a part of its comprehensive plan. The utilities element must include an inventory of the general location of all existing and proposed utility facilities and a description of the current capacity and expected future capacity of each utility. The utilities addressed in this Element are:

- Electricity,
- Natural gas,
- Utility pipelines,
- Cable television,
- Telephone,
- Cellular service,
- Solid waste,
- Domestic water,
- Sanitary sewer, and
- Storm water.

Both municipal and private utilities serve the City of Fife planning area. Water and sewer facilities are usually provided by the City, with Pierce County serving some properties. Some storm drainage facilities, mainly ditches and pipes, are provided by the City and others by one of the two drainage districts that serve the Fife area. Electric service, natural gas, solid waste collection, and telecommunications services are provided by private utility companies.

There is an important distinction between municipal and private utility providers under the GMA. One of the fourteen goals of the GMA is to ensure that necessary public facilities and services will be available to support development at the time it occurs. Municipal utilities must address level of service standards and concurrency provisions as specified in the GMA.

Rates, structures, and policy decisions for city utilities are made by the city council. Private utility providers are not required to meet specific level of service standards or

demonstrate concurrency prior to development. Instead, they are regulated by the Washington Utilities Transportation Commission (WUTC). The WUTC regulations are intended to ensure safe and reliable service to consumers at reasonable rates.

C. County-Wide Planning Policies

The GMA also requires that the legislative body of each county that plans under the Act adopt countywide planning policies in cooperation with the municipalities in the county. This common framework provides for consistency among comprehensive plans. The policies address issues that affect the county as a whole, including siting of public facilities of a countywide or statewide nature, transportation, affordable housing, economic development and employment, and orderly contiguous development. The requirements of the County-Wide Planning Policies for Pierce County have been incorporated in this Utilities Element.

D. Sections of the Utilities Element

The remainder of this Element is divided into two sections: one containing a description, analysis and inventory of existing and proposed utility facilities, and one containing goals, policies, and implementation measures. Utilities addressed are:

- Electricity
- Natural gas
- Utility pipelines
- Cable TV
- Telephone
- Cellular
- Solid Waste
- Domestic water
- Sanitary sewer
- Storm drainage

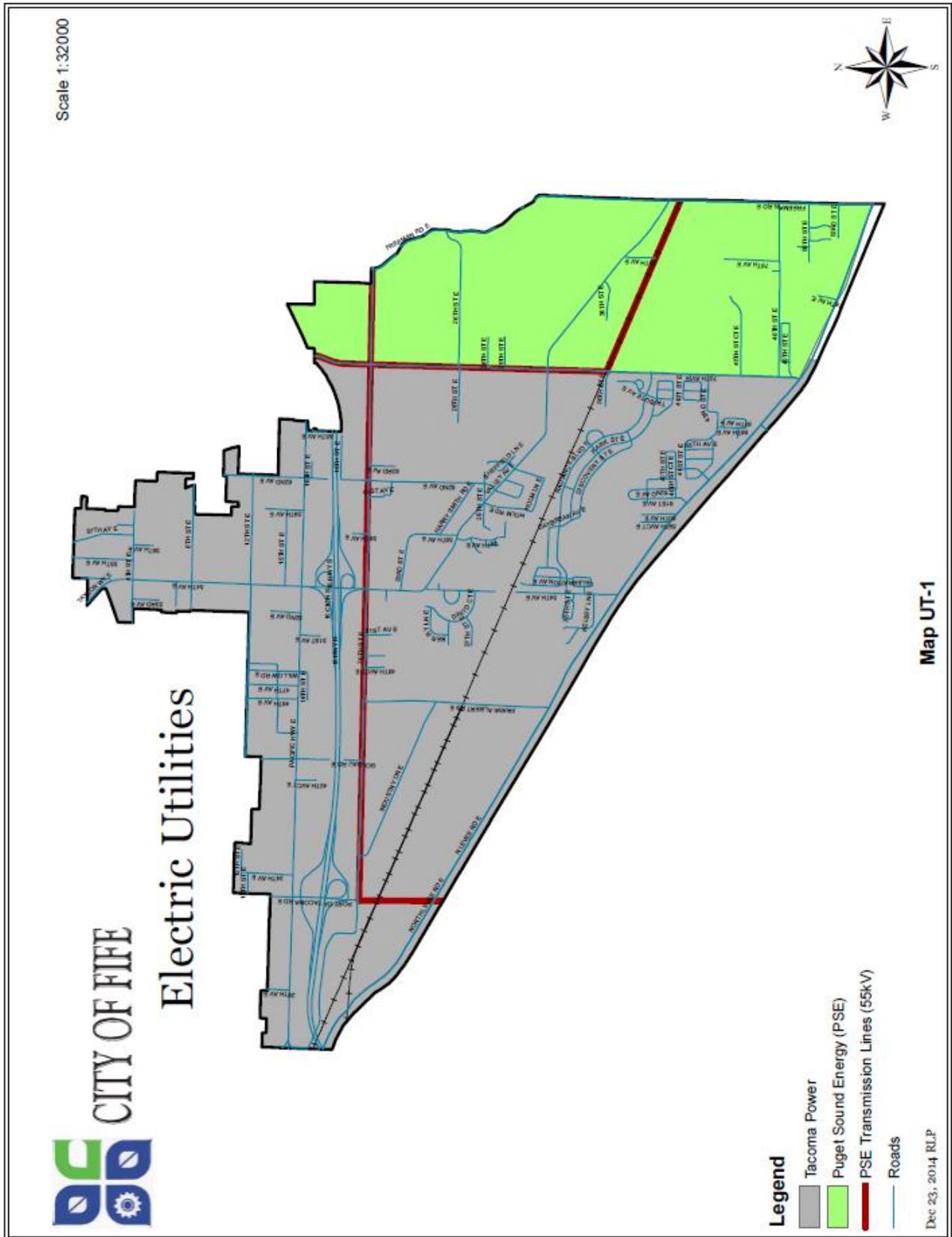
II. Description, Analysis and Inventory of Utilities

A. Electricity

Electric service in Fife is provided by Tacoma Power and Puget Sound Energy. Most of the area west of 70th Avenue East is served by Tacoma Power, while the area east of 70th Avenue East is served by Puget Sound Energy. Map UT-1 identifies the service area boundaries for these utilities. Both of these utilities are customers of the Bonneville Power Administration (BPA) and participate in regional planning through the Northwest Power Planning Council. Through the "one utility concept" fostered by the BPA, Tacoma City Light and Puget Sound Energy share access to, and mutual use of, transmission facilities.

Local distribution lines, those serving residences and businesses, run along several routes in the city. Distribution lines are usually exempt from local land use regulations and are categorically exempt from the State Environmental Policy Act (SEPA).

ELECTRIC UTILITIES – Map UT-1



Electric facilities with a voltage of 55kV or above are called transmission lines. Local transmission lines are usually located in the public right-of-way or in adjacent utility easements. These transmission line facilities may require dedicated right-of-way and do not enjoy the same level of exemption from local and state regulations. Tacoma Power has transmission line facilities within the City of Fife and also has switch facilities for local power distribution at 58th Avenue East north of 20th Street East.

At this time, the Pierce County region is in an approximate load/resource balance with the region having enough power to serve the needs of the existing population. As the population of Fife and Pierce County continues to increase, new sources of electric power will be needed. Electric power providers are mandated by state law (RCW 80.28.110) to provide same level of service on a uniform basis to all customers. Neither Tacoma Power nor Puget Sound Energy has immediate plans to construct any new major transmission facilities in Fife.

B. Natural Gas

Natural gas is supplied to customers in Fife by Puget Sound Energy. Puget Sound Energy provides natural gas service to more than 750,000 customers in six Western Washington counties: Snohomish, King, Kittitas, Pierce, Thurston, and Lewis.

It is estimated that PSE currently serves over 1,876 customers within the City of Fife.

EXISTING DISTRIBUTION SYSTEM:

Natural gas comes from gas wells in the Rocky Mountains and in Canada and is transported through interstate pipelines by Williams Northwest Pipeline to Puget Sound Energy's gate stations.

Supply mains then transport the gas from the gate stations to district regulators where the pressure is reduced to less than 60 psig. The supply mains are made of welded steel pipe that has been coated and is cathodically protected to prevent corrosion. They range in size from 4" to 20".

Distribution mains are fed from the district regulators. They range in size from 1-1/4" to 8" and the pipe material typically is polyethylene (PE) or wrapped steel (STW).

Individual residential service lines are fed by the distribution mains and are typically 5/8" or 1-1/8" in diameter. Individual commercial and industrial service lines are typically 1-1/4", 2" or 4" in diameter.

FUTURE FACILITY CONSTRUCTION:

PSE does not have any major projects planned in 2015 at this time, but new projects can be developed in the future at any time due to:

1. New or replacement of existing facilities to increased capacity requirements due to new building construction and conversion from alternate fuels.
2. Main replacement to facilitate improved maintenance of facilities.

3. Replacement or relocation of facilities due to municipal and state projects.

Maps of the natural gas system are unavailable from the utility due to security concerns.

Puget Sound Energy is not mandated to provide gas service on demand. Under WUTC rules, extension of service is based on the results of a market analysis to determine if revenues generated from an extension of gas lines would offset the costs of construction.

C. Major Pipeline Corridors

The Fife Urban Growth Area has three major pipeline corridors. One is the 16 inch diameter high pressure gas line. Another is a fuel pipeline from the Port of Tacoma south across the western edge of Fife to McChord Air Force Base. The third is a U.S. Oil (Olympic) pipeline, also built through the western portion of the City. Due to security concerns, mapping of these pipeline facilities is not included in the Utilities Element.

D. Cable Television

Cable television is available to residents of Fife through Comcast Corporation. Service is through a franchise agreement. Cable transmission is provided by lines installed in public rights of way. The lines are usually required to be underground. Comcast plans to accommodate future population as market conditions demand. It is not bound by the level of service and concurrency requirements under the GMA.

E. Telephone Service

Century Link provides telephone service to the Fife area. Century Link does not maintain statistical customer information specific to the planning area as exchange territories are not coextensive with political boundaries.

Using electronics, digital transmission, fiber optics, and other emerging technologies, Century Link facilities can provide multiple voice/data paths over existing wires. There is adequate existing capacity available and additional capacity can easily be provided. Century Link regularly analyzes the capacity of its regional system and begins to provide additional service or facilities when the system reaches 85% of its available capacity.

State law requires telephone companies to provide telephone service on demand. Century Link is not bound by the level of service and concurrency requirement under the GMA. No new facilities are anticipated in the Fife area.

F. Cellular Service

Cellular telephone service, using a network of radio-type transmitter/receivers (cell) and land lines, provides mobile and hand held telephone service throughout the region. Cellular providers are strictly regulated by the Federal Communications Commission (FCC). FCC licenses grant providers the right to use specific radio frequencies.

Cellular service is provided locally by several companies. Each of the companies has been awarded a license to serve the Tacoma Metropolitan Statistical Area. Under this license, each company must provide 100% coverage in the area within five years. Beyond the minimum requirement, service is extended based on market demand and the company's

business judgement. Cellular service providers erect transmitter/receivers in strategic locations to provide service to portions of the area as demand dictates. Providers prefer to locate their facilities on existing broadcast/communication towers, water towers, high buildings, or build constructed towers. Efforts are made to avoid siting cellular facilities in residential areas.

There are several cellular monopole facilities in Fife (see Map UT-2 for their locations.) The primary interest for Fife regarding cellular service is compatibility between land use patterns and the location of the transmitter/receiver towers. Specific requirements for locating cellular facilities and development regulations associated with those facilities are addressed in the City's development regulations. The City encourages sharing of monopole facilities.

G. Solid Waste

The management of solid waste in Pierce County is governed by the *Tacoma-Pierce County Solid Waste Management Plan*. Pierce County and the cities and towns in the county, including Fife, have adopted the Plan and signed interlocal agreements committing to the management systems outlined in the Plan. The Plan uses an integrated regional approach to the solid waste issues of covering waste collection, processing and disposal, waste reduction, and recycling. The Plan encourages waste reduction and disposal where major facilities are shared by numerous municipalities.

In Fife, solid waste is collected by a private franchisee, Murrey's Disposal Company, Inc., and deposited at the County's contracted disposal facility. Murrey's also provides recycling opportunities within the City and its Urban Growth Area. Curbside recycling is available for single-family dwellings and multi-family units. Drop boxes for glass and newspaper are provided at several locations in the area by the waste hauler. Waste management is not bound by level of service and concurrency requirements.

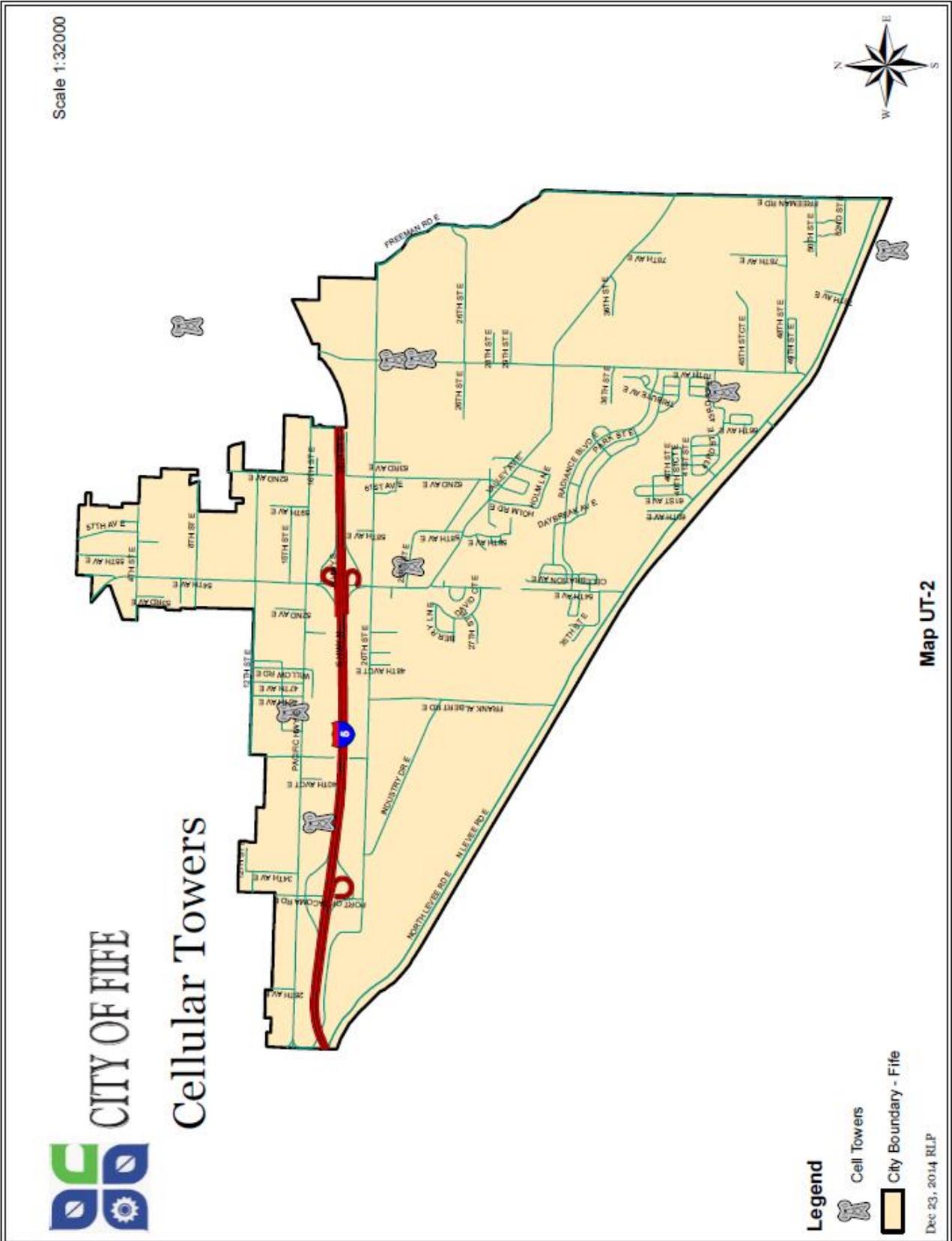
The City is committed to reducing the waste stream through source separation and recycling. New and extended recycling programs will continue to be the preferred approach to an effort to minimize the need for future disposal facilities.

H. Domestic Water

Water supply to the City of Fife's water system is provided by one groundwater well and two wholesale interties with Tacoma Water. The City has five other wells that have been disconnected either due to contaminants or production decline. In addition, a 100,000 gallon city reservoir is currently offline.

The City's primary source of water is from Tacoma Water through the Milwaukee Way and Taylor Way Interties. A wholesale water agreement was entered into between the city of Fife and Tacoma Public Utilities (TPU) in September of 1982 to supplement the City's existing water supply. The agreement allows the City of Fife to purchase wholesale water from Tacoma Water for resale to the City of Fife's water utility customers. Over the years as the City has relied on Tacoma Water for more of its total water supply, and the City has paid additional system Development Charges (SDC's) to Tacoma Water for the use of their water.

CELLULAR TOWERS – Map UT-2



All water that is produced by the City's well sources is chlorinated to disinfect and kill harmful bacteria that may be present in the water.

The City's water service area serves the following geographic area (see Map UT-3 for additional inventory information about the City's water system):

- 3,533 acres, or 96 percent of the City's city limits;
- 11 acres that is outside the City's limits;
- 15 acres of Tacoma City limits.

The distribution and transmission system consists of over 60 miles of water main ranging in size from 4 inches to 16 inches.

The City adopted an updated Comprehensive Water System Plan in 2009. The Plan, which was approved by the Washington State Department of Health, brings the City into compliance with state regulations and is consistent with the policies of the Fife Comprehensive Plan.

I. Sanitary Sewer

The existing sanitary sewer system in Fife is owned and operated by the City. Sanitary sewer service is provided to most properties in the City (see Map UT-4).

The City's sanitary sewer service area generally coincides with the City limits. However, in 2014, the City of Fife entered into an inter-local agreement with the City of Edgewood to serve approximately 180 acres in the City of Edgewood. No service has been provided yet to Edgewood at the time of this 2015 Comprehensive Plan Update.

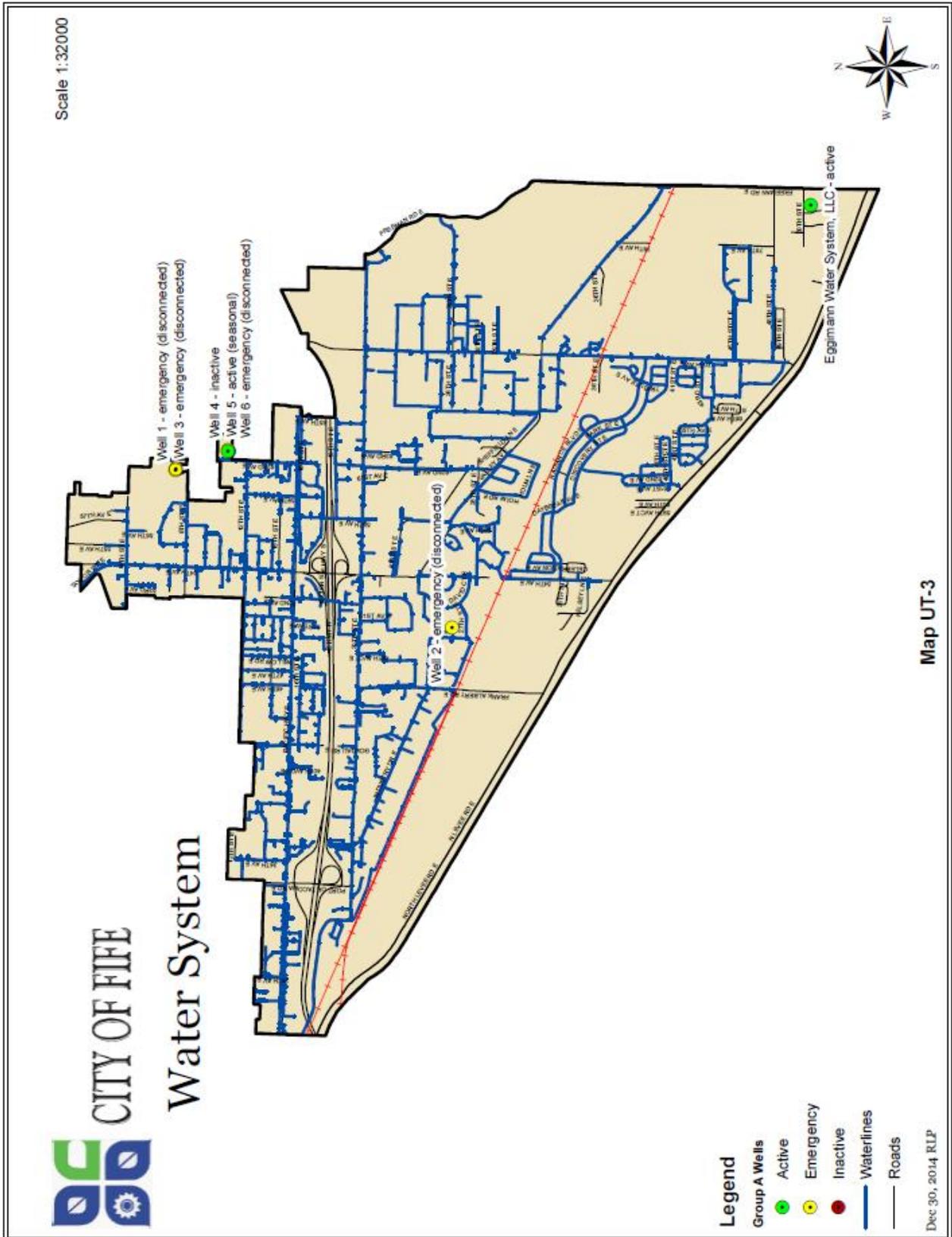
As of 2014, the City's sanitary sewer system consists of:

- Over 155,000 feet of gravity mains;
- 39,600 feet of force mains; and,
- 13 pump stations.

The range of pipe size is from 6 to 36 inches diameter, almost half of which are 8 inch diameter mains. The pump stations have rated pumping capacities from 100 gallons per minute (gpm) to 1,630 gpm. The system generally flows from east to west along two main corridors north and south on Interstate-5. Raw sewage is pumped across the Puyallup River to the City of Tacoma's treatment plant near the mouth of the Puyallup River. Tacoma then discharges the treated effluent into Commencement Bay.

The City's current contract with the City of Tacoma for the treatment of sewage was approved in 1996. It allows for treatment of up 1.75 million gallons of sewage per day (mgd) for average dry weather flow (ADWF) and a peak hydraulic flow (PHF) of 5.25 MGD at the Tacoma plant.

WATER SYSTEM – Map UT-3



Presently, sanitary sewer is provided upon request in the city limits if physically possible. The cost of sewer facility extension rests with the property owner or developer, unless otherwise approved by the city. Hookup to the sanitary sewer system is required when the sewer line is located within 300 feet of a development. These hookup standards are the same as required by Pierce County and maintains consistency between the two jurisdiction's requirements.

As shown on Map UT-4, certain areas of the city remain unsewered. As noted above, sewer is provided to these areas upon request at the expense of the property owner developer. Local improvement districts are another mechanism used by the City to provide sewer service to areas currently lacking sewer service.

J. Storm Drainage

An informational update to the City of Fife 2002 Comprehensive Stormwater Plan was prepared in 2014 which includes updated inventory information. A summary of the plan inventory is as follows.

The City of Fife is located in the lower reaches of the Hylebos and Wapato creek drainage basins, adjacent to the City of Tacoma, Port of Tacoma and Commencement Bay, The City lies within an abandoned floodplain from the Puyallup River, which is located on top of an old mudflow from Mount Rainier. The topography is flat, with only a few feet elevation difference from one end of the city to the other. Surface water runoff in the City is collected and conveyed through natural and man-made drainage systems.

Map UT-5 identifies the five major drainage basins in the City. Erdahl Ditch, Wapato Creek, Fife Ditch and Hylebos Creek drain directly into Commencement Bay. The Ox-Bow drains to the Puyallup River, which flows into the bay.

Many of the man-made drainage features were built by two local drainage districts: Drainage Districts 21 and 23. Drainage District 21 was dissolved within the city limits in 2009. The City of Fife now maintains the major ditches that drain into Wapato Creek from Frank Albert Road upstream to the City limits at Freeman Road. Drainage District 23 maintains the major ditches, outfall and pump station (Fife Ditch Pump Station) that form the Fife Drainage District basin.

Drainage Facilities

The City of Fife manages the City's drainage facilities in cooperation with Drainage District 23. Generally the drainage district is responsible for operating and maintaining the Fife Ditch and Fife Ditch Pump station. The City is responsible for review of stormwater drainage and treatment plans for new development and redevelopment on private land, operating and maintaining the Erdahl Pump station and for maintaining Wapato creek, Erdhal Ditch and the tributary drainages.

The City is responsible for maintaining the tributary drainages, most of which are within existing street and road rights of way. The City's stormwater facilities are complemented by the numerous on-site detention and water quality enhancement facilities constructed by private landowners and businesses. Ditches can be a part of open or culverted systems. Private property owners are responsible for installing and maintaining storm drainage facilities on their property.

The City's Stormwater System

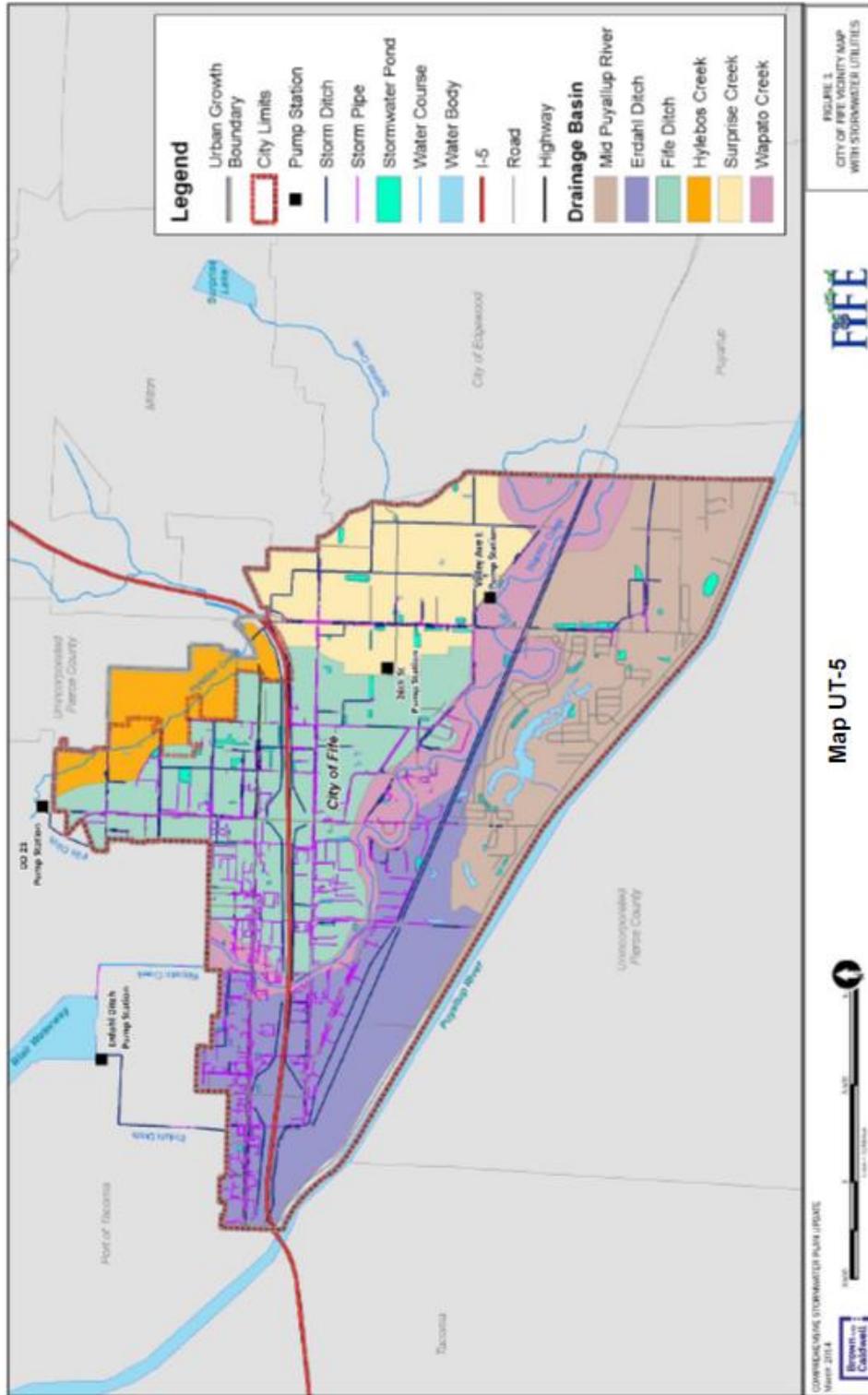
In summary, the city's stormwater system consists of:

- 3 pump stations (Erdahl Ditch, 26th Street and Valley Avenue East)
- 8 water quality and detention storm ponds
- 1 underground detention vault/pipe gallery
- Over 20 water quality vaults
- 53 miles of storm drainage pipes and culverts (closed conveyance)
- 29 miles of ditches (open conveyance)
- Over 2,000 catch basins
- 5 miles of open streams
- Numerous wetlands and riparian areas

The City-owned stormwater facilities are complemented by the numerous onsite detention and water quality enhancement facilities constructed by private landowners and businesses.

STORM DRAINAGE SYSTEM – Map UT-5

Storm Drainage System



III. Utilities Goals, Policies, and Implementation Strategies

Goal 1 Maintain consistency between utility providers and the City’s plans for growth.

Policy 1.1 Provide for coordination between the City and utility providers for consistency between the comprehensive system plans of each utility and the growth plans of the City.

Implementation 1.1.1 Retain copies of comprehensive system plans of each utility serving the City.

Implementation 1.1.2 Furnish utility providers with annual updates of population, employment, and development projections.

Policy 1.2 Provide utility facilities that are sufficient to support economic development.

Implementation 1.2.1 Give priority to utility projects that provide service to commercial and industrial areas identified in the Land Use Element and Capital Facilities Element of the Comprehensive Plan.

Policy 1.3 Require utility lines to be located underground wherever practicable.

Implementation 1.3.1 Amend City development regulations to require utility lines to be located underground.

Goal 2 Provide cost-effective utility services.

Policy 2.1 Allow new residential, commercial and industrial development only when required public facilities and services are available prior to or concurrent with development as indicated in the Capital Facilities Element.

Implementation 2.1.1 Amend development codes to allow for new commercial and industrial development only when required public facilities and services are available prior to or concurrent with development.

Policy 2.2 Encourage the joint use of utility corridors where lawful and in keeping with prudent utility practice.

Implementation 2.2.1 Promote the coordination of joint planning of new road construction and maintenance of existing roads with utility trenching activities.

Implementation 2.2.2 Provide timely notice of new construction, maintenance, and repair of existing roads to utility providers.

Implementation 2.2.3 Coordinate construction timing to minimize construction-related disruptions to the public and to reduce the cost to the public of utility delivery.

Goal 3 Protect the environment while providing for utility facilities.

Policy 3.1 Locate new utility facilities away from, or in a manner compatible with, critical areas.

Implementation 3.1.1 Amend Critical Areas Ordinances to consider placement of utilities in environmentally sensitive areas.

Policy 3.2 Coordinate and integrate utility facilities with surrounding land uses to provide service to the neighborhood in which they are located and to reasonably avoid or mitigate the impacts of utility facility development.

Implementation 3.2.1 Amend development regulations where necessary to include standards for placement, design, construction and maintenance of facilities, with the intent to minimize utility facility impacts on surrounding neighborhoods.

Implementation 3.2.2 Require that the siting of proposed public facilities conform to all land use policies and regulations.

Implementation 3.2.3 Amend the Fife Municipal Code to require that pruning of trees and vegetation related to utility maintenance can be done in an environmentally sensitive, aesthetically acceptable manner, and according to professional arboricultural standards.

Policy 3.3 Require development to connect to sewer or provide interim sewer infrastructure to accommodate and facilitate sewer service in the future.

Implementation 3.3.1 Enforce requirements for property to hook up to City sewer when sewer facilities are within a certain distance of developed properties not served by City sewer.

Implementation 3.3.2 Incorporate requirements for new development not served by sewer to provide sewer infrastructure to facilitate sewer service in the future.

Goal 4 Recycle and reduce solid waste.

Policy 4.1 Educate the public on how to reduce their solid waste output and how to participate in waste reduction and recycling programs.

Implementation 4.1.1 Provide appropriate levels of collection and recycling opportunities so that the greatest number of citizens can participate and the fullest practical potential of recycling can be realized.

Goal 5 Provide reliable, cost effective water service throughout the City.

Policy 5.1 Update the Water System Comprehensive Plan as necessary to ensure a reliable system of water service for domestic use, fire flow protection, and emergencies.

Implementation 5.1.1 Update the Fife Water System Comprehensive Plan as necessary for water supply emergencies.

Implementation 5.1.2 Update other provisions of the Water System Comprehensive Plan as necessary.

Goal 6 Reduce unnecessary or wasteful consumption of water and energy.

Policy 6.1 Establish a water conservation plan setting demand reduction targets and techniques.

Implementation 6.1.1 Amend the zone code to encourage or require the use of water conserving design and techniques in required landscaping.

Implementation 6.1.2 Develop policies to provide incentives to conserve water. Strategies shall include seasonal pricing to increase rates during high demand periods (such as summer months), and inverted pricing which charges a specific price for an initial quantity of water and a higher price for an additional quantity of water.

Implementation 6.1.3 Conduct a rate study of water usage, city costs and charges.

Policy 6.2 Coordinate education efforts regarding water quality with other agencies and inform the public on issues surrounding groundwater quality and aquifer protection.

Implementation 6.2.1 Gather and make available to the public information on landscaping, site development, and maintenance practices that promote both water quality and aquifer protection.

Policy 6.3 Update the City's building codes and plumbing codes to require water conserving devices.

Implementation 6.3.1 Amend the Fife Municipal Code as needed to require water conservation devices.

Policy 6.4 Coordinate with utility companies to facilitate the conservation of energy resources.

Implementation 6.4.1 Make energy conservation materials from utilities available at City Hall and to developers to encourage energy conservation measures.

Goal 7 Protect the quality of groundwater, make efficient use of land and minimize damage from flooding by implementing an effective surface water management program.

Policy 7.1 Continue watershed planning work in coordination with other entities in the region to coordinate approaches to resolving nonpoint source pollution problems.

Implementation 7.1.1 Review and amend the Aquifer Recharge Area Ordinance to include specific remedial actions to protect groundwater from contamination.

Implementation 7.1.2 Evaluate and strengthen regulations for development near creeks to maximize use of clustering techniques and other available mechanisms to create open space adjacent to creeks in order to protect water quality.

Implementation 7.1.3 Include incentives in appropriate code provisions that encourage development to maximize open space near creeks.

Policy 7.2 Encourage all entities that operate and maintain storm and surface water utilities in the Fife area to cooperatively manage such systems in an effort to maintain hydrological balance, prevent property damage, protect water quality, provide safety and enjoyment for citizens, and preserve and enhance natural habitats and sensitive environmental areas.

Implementation 7.2.1 Enforce surface water controls in order to protect ground water quality.

Implementation 7.2.2 Enforce the stormwater standards manual utilizing best management practices.

Implementation 7.2.3 Conduct a stormwater engineering study to analyze the capacity of, and recommended improvements to, the Fife drainage system.

Implementation 7.2.4 Update the Stormwater Comprehensive Plan for the City as needed.

Policy 7.3 Require maintenance of stormwater facilities on an annual basis.

Implementation 7.3.1 Prepare educational material for businesses on how to maintain stormwater facilities and inspect facilities on a yearly basis.

Policy 7.4 Pursue opportunities for regional stormwater facilities as a means of allowing for more efficient use of land in high density areas such as the City Center.