

Chapter 7. Utilities

7.1. Introduction

This Utilities Element of the 2016 Comprehensive Plan provides direction and guidance, based on consultant research and analysis in collaboration with City staff, to improve and maintain the City's existing utility system and develop additional utility infrastructure and capacity to meet the City's growth needs. This Element is based on 2015 data, facilities, population and projected growth patterns, with the planning horizon projected to 2036.

Utilities Vision

Develop and maintain public and private utilities to meet the needs of a growing population and a 21st century economy. Services are efficiently provided and available to the entire community. Utilities are sited, designed and operated in a manner that is consistent with surrounding land uses and maintains community character.

The state Growth Management Act (GMA) requires that comprehensive plans include a utilities element that indicates the general location of existing facilities, the proposed location of future facilities, and capacity of all existing and proposed utilities. The GMA also requires that public utilities shall be adequate to serve development at the time the development is available for occupancy and use, without decreasing current service levels below locally-established minimum standards.

Over the next twenty years, the City expects that utilities will need to be provided to approximately 24,000 residents of the incorporated City and urban growth area (UGA). Public and private utility providers must plan for the necessary infrastructure to rehabilitate aging systems, respond to growth, and adapt the changing technology and consumer behavior. Although the City does not control non-City managed utilities, such as telecommunications, natural gas and electrical service, it does regulate how private utilities are developed and managed within Port Orchard.

The Utilities Element, in conjunction with the City's functional plans for water, sewer and storm water management, is the guiding or strategy document that the City will use to achieve its goals of providing utilities at the appropriate levels of service to the City's existing and future residents and businesses. The Utilities Element serves as a policy guide for general maintenance and improvement of the utility system, and the City's functional plans include more detailed inventory and analysis, and specific recommendations for utility maintenance, improvement and future development. The City's regulatory and non-regulatory decisions and programs, as well as budget decisions related to utilities, should be consistent with this Element and with the City's functional plans.

Additionally, this element works in tandem with the Land Use Element and the Capital Facilities Element to ensure that Port Orchard will have adequate utilities available for projected growth, concurrent with the impacts of growth and development. Policies in this

Element also address environmental impacts, facilities siting and construction, economics, and design aesthetics.

7.2. City-Managed Utilities

Sewer

The City of Port Orchard owns, operates and maintains wastewater collection and conveyance facilities that take wastewater to the South Kitsap Water Reclamation Facility (SKWRF). The City has an interlocal agreement for wastewater treatment with the West Sound Utility District (WSUD), which operates the SKWRF. WSUD also provides sewer collection and conveyance to the eastern portion of the City and the City's UGA.

There are approximately 70 miles of sewer lines ranging from 2 to 24 inches in diameter. These lines include approximately 49 miles of gravity sewers, 8 miles of force mains, and 14 miles of septic tank effluent pumping (STEP) mains. There are 16 pump stations within the system. The City also maintains a telemetry system to monitor the operating conditions of system components.

The City's current service area is approximately 2,100 acres, with a population of about 11,550. Over the next twenty years, the City's sewer service area is expected to grow to approximately 5,700 acres to serve the estimated population of about 24,000.



Water

The City provides drinking water within the city limits and selected adjacent areas, supplied primarily by six active wells. There are two interties with the City of Bremerton's water system and an emergency intertie with the WSUD. Eight reservoirs provide 4.8 million gallons of storage. There are three booster pump stations, and over 300,000 feet of pipe ranging from 4 to 18 inches in diameter.

Other water suppliers within the City include Berry Lake Manors, which serves a 30-unit mobile home park, and the WSUD, which serves selected areas on the eastern boundary of the City and are outside the City water service area.

Stormwater

The City manages stormwater conveyance facilities that collect runoff, and provides treatment and discharge in accordance with federal and state requirements for water quality protection.

Much of the City's stormwater system discharges to Sinclair Inlet through a system of more than 50 outfalls along the waterfront that vary from 12 to 24 inches in diameter. The piped and ditched portions of the system are primarily within the older, more commercial areas of the city, while the outlying, more residential areas are largely composed of the remaining elements of the region's original natural drainage system (i.e., lakes, streams and wetlands) and are supported by a widely distributed system of culverts, ditches, pipes and ponds.

7.3. Non-City Managed Utilities

The Washington Utilities and Transportation Commission (WUTC) regulates the services and defines the costs that a utility can recover, to ensure that the utility acts prudently and responsibly. Under the GMA, both the WUTC and the City of Port Orchard have jurisdiction over the activities of electric, gas and telephone utilities within the City. The City has the authority to regulate land use and, under the GMA, the requirement to consider the locations of existing and proposed utilities and potential utility corridors in land use planning and permit decisions.

The Telecommunications Act of 1996 established the role and responsibilities of the Federal Communications Commission in licensing wireless communication providers. The licenses allow the right to use a block or blocks of the radio frequency spectrum to provide wireless services. The Act recognizes the authority of state and local governments over decisions regarding siting of wireless communication facilities, subject to certain limitations.



Solid Waste and Recycling

Solid waste and recyclable materials collection is contracted to Waste Management Northwest.

Electrical Service

Puget Sound Energy (PSE) builds, operates and maintains the electrical system serving Port Orchard.

Natural Gas Service

Cascade Natural Gas builds, operates and maintains the natural gas distribution system that serves Port Orchard. Cascade has indicated that their service area covers all of the City and its UGA.

Telecommunications

Telecommunications is the transmission of information in the form of electronic signals or similar means. Telecommunications services generally include the following categories:

- Landline telephone. CenturyLink provides landline telephone service to Port Orchard.
- Wireless communications (cell towers or antennae). A variety of cellular communication and wireless data services are available in Port Orchard (Verizon, Sprint, etc). Currently, these services rely on ground-based antennae located on towers or buildings.
- Cable television and broadband internet. There are several providers that serve Port Orchard, such as Wave Broadband, CenturyLink and DIRECTV.



7.4. Existing Conditions

Sewer

The condition and capacity of the City's wastewater collection system, including gravity sewer lines and lift stations, was analyzed by the City's consultant in 2015. The conveyance system was analyzed using the InfoSWMM computer modeling platform. This hydraulic model simulated the performance of the major collection system components, including all pump stations and the major sewer mains within the City's collection system. The model indicated minor capacity issues under existing flow conditions at the Flower Meadows pump station, and in the gravity sewer in McCormick Woods Drive SW.

Discussions with maintenance staff indicate some necessary upgrades at Bay Street Pump Station, Marina Pump Station, McCormick Woods #1 Pump Station, McCormick Woods #2 Pump Station, Eagle Crest Pump Station, and Albertsons Pump Station. These are included in the 6-year Capital Improvements Plan (CIP) and are described in more detail in the 2015 General Sewer Plan Update.

Water

The City's water supply and distribution system is examined on a regular basis, as required by State and Federal requirements. The current Water System Plan, which is in progress, indicates that the water system capably meets the City's domestic drinking water requirements. Water supply is reliant on a combination of both City wells and the low-pressure intertie with the City of Bremerton water supply. Additional wells will be necessary

for the City to become self-reliant, which would allow the higher-cost Bremerton supply to be used on a standby basis.

The analysis also determined that continued treatment of current and future well supplies will be required, primarily for disinfection and removal of naturally occurring compounds. Larger size pipelines will be needed both to replace existing and aging water mains, primarily in older sections of the City, and to improve the flow of water during projected fire events.

Stormwater

The City is required to comply with the National Pollutant Discharge Elimination System (NPDES) Phase II permit, which is a federal Environmental Protection Agency permit program administered by the state Department of Ecology (Ecology). As part of compliance measures, the City is required to develop and administer a stormwater management program that reduces discharge of both point source and nonpoint source pollution carried by stormwater. One requirement of this program is that by January 1, 2017, the City must adopt the minimum stormwater design standards of Ecology's 2012 Stormwater Management Manual for Western Washington, and apply these standards to all new permit applications and to approved projects that have not started construction by January 1, 2017. The 2012 manual also requires use of Best Management Practices to reduce pollutant discharges and encourages low-impact development measures that minimize creation of impervious surfaces and disturbance of native vegetation and soils.

For many years, the Sinclair/Dyes Inlet water bodies have had reduced water quality, partially due to longstanding discharges of industrial, agricultural and septic system discharges within the contributing watersheds. The City is required to monitor water quality for fecal coliform bacteria and respond to any illicit discharges, including accidental spills, illegal connections, and illegal dumping into the storm sewer system, with the long-term goal of eliminating these discharges and improving the overall health of these inlets of Puget Sound.

7.5 Relationship to Centers

In accordance with VISION 2040 and the Countywide Planning Policies, several centers have been established within the City. Local centers serve important roles as sub-regional hubs and secondary concentrations of development, with a dense mix of housing and services such as stores, medical offices, and libraries.

One purpose of centers is to enable the City to deliver services more cost-efficiently and equitably, within a development pattern that is environmentally and economically sound. Through subarea planning, the City will designate desired development types, locations and

patterns within each Center. Provision of utilities and improvements to utility services within Centers should be a City priority.

7.6 Future Needs

Sewer

Future needs for the City's sewer collection system primarily arise from a need to address deficiencies that have been identified in the City's existing wastewater system, generally due to aging and insufficient capacity. If not corrected, these deficiencies will be exacerbated as the City continues to grow. In addition, future needs include the provision of the needed infrastructure to accommodate future growth.



In the near-term future (0-6 years), the focus of the CIP for the sewer collection system is the replacement and/or retrofitting of key components for several pump stations. Long-term improvements (7-20 years) will be required for conveyance pipelines throughout the City, including the McCormick Woods Drive SW, Bay Street and Port Orchard Boulevard gravity sewer lines. These issues are discussed in the City's sewer plan in greater detail. Table 7-1, which was prepared by the City's consultant, provides an overview of the near-term future improvements.

Table 7-1

** Dependent on the scope of the upgrade

City of Port Orchard				
Sewer System Capital Improvement Plan				
Project	Description	Cost Estimate	% CFC	Financing
1	Marina Pump Station	13,000,000	50	CFC / rates
2	Bay Street Pump Station	1,300,000	25	CFC/ rates
3	McCormick Pump Station 2	4,500,000	100	CFC
4	Eagle Crest Generator Set	300,000	0	rates
5	Albertson's Pump Station Upgrade	•	0	developer
SA	Bravo Terrace Lift Station and Force Main	5,000,000	75	CFC
SB	South Sidney Lift Station	2,500,000	100	CFC
SC	North Sidney Lift Station	2,500,000	100	CFC
SD	Sidney 2nd Force Main	1,600,000	100	CFC
6	McCormick Woods Pump Station 3	1,000,000	100	CFC
7	Bay Street W Main Replacement 20-1 and Frederick to Orchard	\$1,500,000	0	rates
Total CIP		33,200,000		

Water

The initial planning and analysis efforts have identified a series of projects that will be required to maintain and strengthen the performance of the City's water supply system. To improve the water supply system reliability, the City intends to develop additional well supply(ies) to provide sufficient capacity for the City to become self-sufficient, thus using the Bremerton intertie as a standby/emergency source of drinking water rather than a continuous source of water supply. New pipelines will also be installed to improve the system's capability to move water throughout the system. In addition, new storage reservoir(s) will be needed to optimize system performance and provide water to meet operational and fire fighting capacity requirements. There are multiple projects required in the near-term future, as shown in Table 7-2.

Table 7-2

CITY OF PORT ORCHARD				
Water System Capital Improvement Plan				
CIP No.	Project	Estimated Project Cost	Percent CFC	CFC Future Improvements
<u>1</u>	<u>580 Zone Storage</u>	<u>2,850,000</u>	<u>100%</u>	<u>\$2,850,000</u>
<u>2</u>	<u>CIP No. 2 Combined</u>	<u>11,200,000</u>	<u>75%</u>	<u>\$8,400,000</u>
<u>2A</u>	<u>Well 13 Development & Treatment</u>	<u>n/a</u>		
<u>2B</u>	<u>Maple Ave Improvements and Water Main Replacement</u>	<u>n/a</u>		
<u>2C</u>	<u>390 to 260 Rezone PRVs (4 each)</u>	<u>n/a</u>		
<u>3</u>	<u>Well 11 Development, Treatment, and Booster Pump</u>	<u>\$8,000,000</u>	<u>25%</u>	<u>\$2,000,000</u>
<u>4</u>	<u>580 Zone Transmission & Distribution Main</u>	<u>\$1,235,000</u>	<u>100%</u>	<u>\$1,235,000</u>
<u>5</u>	<u>390 Zone Storage</u>	<u>\$3,000,000</u>	<u>100%</u>	<u>\$3,000,000</u>
<u>6</u>	<u>Telemetry Upgrades</u>	<u>\$100,000</u>	<u>25%</u>	<u>\$25,000</u>
<u>7</u>	<u>390 to 580 Zone Booster Station (Old Clifton)</u>	<u>750,000</u>	<u>75%</u>	<u>\$562,500</u>
<u>8</u>	<u>580 to 390 Zone Transmission Main (580/390 PRV)</u>	<u>\$1,325,000</u>	<u>75%</u>	<u>\$993,750</u>
<u>9</u>	<u>Well 12 Development, Treatment, and Booster Pump</u>	<u>\$7,000,000</u>	<u>100%</u>	<u>\$7,000,000</u>
<u>10</u>	<u>Melcher Pump Station Upgrade</u>	<u>\$500,000</u>	<u>25%</u>	<u>\$125,000</u>
<u>11</u>	<u>PRV Improvements per Hydraulic Model</u>	<u>\$350,000</u>	<u>50%</u>	<u>\$175,000</u>
<u>12</u>	<u>390 to 580 Zone Booster Station (Glenwood – 1st Lift)</u>	<u>\$900,000</u>	<u>100%</u>	<u>\$900,000</u>
<u>13</u>	<u>390 to 580 Zone Booster Station (Glenwood – 2nd Lift)</u>	<u>\$725,000</u>	<u>0%</u>	<u>\$0</u>
<u>14</u>	<u>390 to 580 Zone Transmission Main (to Glenwood PS)</u>	<u>\$2,750,000</u>	<u>75%</u>	<u>\$2,062,500</u>
<u>15</u>	<u>580 to 660 Zone Booster Station</u>	<u>\$750,000</u>	<u>100%</u>	<u>\$750,000</u>
<u>16</u>	<u>660 Zone Storage</u>	<u>\$2,850,000</u>	<u>100%</u>	<u>\$2,850,000</u>
<u>17</u>	<u>Well 7 Treatment/Pump Station Upgrades</u>	<u>\$750,000</u>	<u>0%</u>	<u>\$0</u>
<u>18</u>	<u>Main Replacements per Hydraulic Model</u>	<u>\$2,000,000</u>	<u>25%</u>	<u>\$500,000</u>

<u>19</u>	<u>Annual Main Replacement Program (Upsize 1"-4")</u>	<u>\$250,000</u>	<u>0%</u>	<u>\$0</u>
<u>19A</u>	<u>Bay Street W Main Replacement</u>	<u>\$1,000,000</u>	<u>0%</u>	<u>\$0</u>
<u>20</u>	<u>Annual Valve Replacement Program</u>	<u>\$80,000</u>	<u>0%</u>	<u>\$0</u>
<u>21</u>	<u>Annual Hydrant Replacement Program</u>	<u>\$50,000</u>	<u>0%</u>	<u>\$0</u>
<u>22</u>	<u>Foster Pilot Mitigation Projects</u>	<u>\$1,000,000</u>	<u>100%</u>	<u>\$1,000,000</u>
<u>23</u>	<u>390 Zone Low Pressure Booster Pumps for Existing Water Services</u>	<u>\$600,000</u>	<u>100%</u>	<u>\$600,000</u>
<u>24</u>	<u>Blackjack Creek Crossing at Kendall St</u>	<u>\$750,000</u>	<u>\$0</u>	<u>\$0</u>
<u>25</u>	<u>Well 10 Rehab, Activation, and Water Main</u>	<u>\$3,092,000</u>	<u>100%</u>	<u>\$3,092,000</u>
	<u>Total Six-Year Water Improvements:</u>	<u>\$53,857,000</u>		<u>\$38,120,750</u>

Stormwater

The City's CIP identifies 14 capital projects for stormwater that are intended to address localized flooding, stabilize stream bank erosion, protect habitat and water quality, resolve conveyance capacity issues, and protect public and private roads and other infrastructure from flood damage. A new stormwater decant facility for processing and disposal of material removed from the City's catch basins during maintenance is also included.

These planned improvements and priority rankings are accurate at the time of issuance of this plan, but may be revised as facility conditions and other situations change.

**Table 7-3
Planned Stormwater Facility Improvements**

CIP No.	Project	Opinion of Probable Project Cost (\$Million)
1	Ruby Creek Crossing/Shoulder Stabilization	\$0.1 M
2	West Street/Port Orchard Boulevard	\$1.0 M
3	City Decant Facility Retrofit	\$0.5 M
4	Annapolis Creek Box Culvert	\$0.3 M
5	Perry Avenue Storm Drainage	\$0.3 M
6	Prospect Alley Drainage and Outfall	\$0.5 M
7	Sidney Parkway/Waterfront Parking Outfall	\$1.0 M
8	Downtown Port Street Drainage Improvement Pre-Design	\$0.5 M
9	High Point Shopping Center Drainage Improvement	\$0.8 M
10	Sidney Avenue Improvements	\$0.3 M
11	South Sidney Neighborhood Regional Drainage Improvement	\$5.0 M
12	Rockwell Avenue Improvements	\$0.1 M
13	Cline Avenue Improvements	\$0.4 M
14	Hull Avenue Improvements	\$0.3 M
15	Bethel Sedgwick Corridor Stormwater Improvements	\$5.1 M
16	Old Clifton Corridor Stormwater Improvements	\$1.0 M

Non-city utility providers will experience increased demand for services as the City grows, and will need to plan for new or improved facilities. As new technologies for Internet, wireless telephone, and other telecommunications systems are implemented, these improvements will further the City's goal of economic growth and competitiveness. Through its land use regulation and permitting authority, the City should ensure that these utilities are broadly available to residents and businesses throughout the City, and that there are not excessive visual impacts within existing neighborhoods and local centers.

7.5. Goals and Policies

Goal I. Ensure utilities are provided in a timely manner to meet the needs of Port Orchard's future population.

Policy UT-1 Facilitate planning for utility improvements by providing utility purveyors with population and employment projections on a regular basis.

Policy UT-2 Improvements and additions to utility facilities shall be planned and constructed so that utility services are sufficient to serve anticipated growth.

- Policy UT-3 Encourage the designation and development of utility corridors and facilities in a manner consistent with the needs and resources of the City.
- Policy UT-4 Coordinate provision of utilities with future development by designating appropriate sites for utility facilities and ensuring their availability and consider future annexations in developing coordinated strategies for supplying future utilities to the city
- Policy UT-5 Coordinate provision of utility services with planned development by improving mechanisms to process development permits and approvals in a fair and timely manner.
- Policy UT-6 Consider impacts and timing of future phases of development when permitting large utility projects.
- Policy UT-7 Ensure that development regulations allow timely development of utility facility additions and improvements.
- Policy UT-8 The City shall establish capacity and levels of service for City managed utilities.
- Policy UT-9 The City shall not allow for the extension of municipal utilities outside City limits except within, or transmission to serve Urban Growth Boundaries, except extensions in those circumstances necessary to protect public health and safety and the environment and when they are financially supportable at rural densities and do not permit urban development.
- Policy UT-10 The City shall prioritize the provision of utilities and improvements to existing utilities within designated centers of local importance. Ensure utility services are provided in an efficient and coordinated manner.
- Policy UT-11 City decisions regarding utility corridors and facilities should consider regional utility needs as well as City interests.
- Policy UT-12 Enhance efficiency of planning for utilities by facilitating coordination between the City of Port Orchard, WUTC and utilities regulated by the WUTC during development of comprehensive utility plans.
- Policy UT-13 Coordinate collection, integration and maintenance of Geographic Information System (GIS) utility data among utility providers to ensure consistent and up-to-date information on facility locations and capacities.
- Policy UT-14 Enhance efficiency by coordinating the implementation of utility facility additions and improvements affecting multiple jurisdictions.
- Policy UT-15 Coordinate land use, transportation and utility planning and development.

- Policy UT-16 Ensure that utility policies and regulations are consistent with, and complementary to, utility public service obligations.
- Policy UT-17 Ensure that utilities are provided consistent with applicable rules, regulations, and prudent utility practice.
- Policy UT-18 Ensure all chapters of the Port Orchard Comprehensive Plan (and implementing development regulations) are consistent with, and do not otherwise impair the fulfillment of, public service obligations imposed upon the utility provider by federal and state law.

Goal 2. Maintain and enhance utility service quality.

- Policy UT-19 Encourage utility providers to protect and enhance the performance, reliability and stability of their utility systems.
- Policy UT-20 Encourage utilities to incorporate new and improved technologies to enhance the quality and cost effectiveness of their services consistent with the provider’s public service obligations.

Goal 3. Minimize environmental and aesthetic impacts of utility facilities.



Policy UT-21 Place utility facilities along public rights-of-way and encourage underground distribution lines in accordance with state rules and regulations.

Policy UT-22 Encourage siting of large, above ground utilities (e.g. antennas, towers) in industrial or commercial areas or along appropriate transportation and utility corridors.

Policy UT-23 Minimize the visual impact of utility facilities on view corridors, vistas and adjacent properties by developing design guidelines for cellular towers, antennas and other types of utility facilities.

Policy UT-24 For new development, retrofitting and major remodels, including upgrades to site utilities, the City shall require the undergrounding of future or existing utility lines including gas, cable television, electric distribution lines, and telephone as appropriate during the design review process and in accordance with local, regional and state rules, regulations and tariffs.

Goal 4. Support and promote energy conservation.

Policy UT-25 Encourage and support development of renewable energy projects and technologies.

Policy UT-26 Support renewable energy incentives to businesses and groups for comprehensive renewable energy effort.

Policy UT-27 Establish incentives to lessen use of resources.

Policy UT-28 Encourage programs to educate utility users on the benefits and means of conservation.

Goal 5. Support the extension of fiber optic cable in the City of Port Orchard.

Policy UT-29 Recognize broadband’s influence and importance to economic diversification in Port Orchard.

Policy UT-30 Encourage installation of broadband infrastructure in all new residential subdivisions, economic development projects, and arterial improvements.



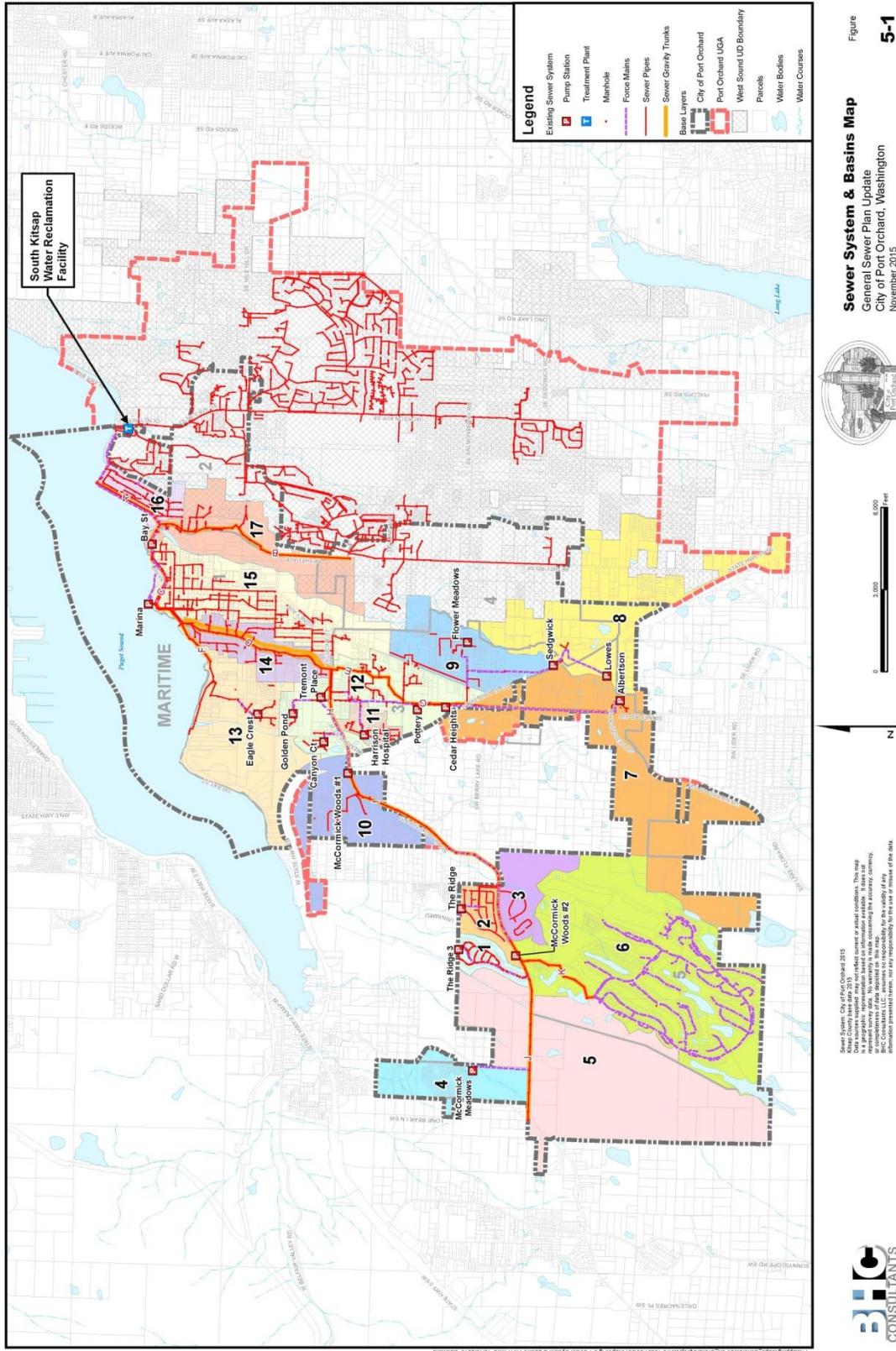
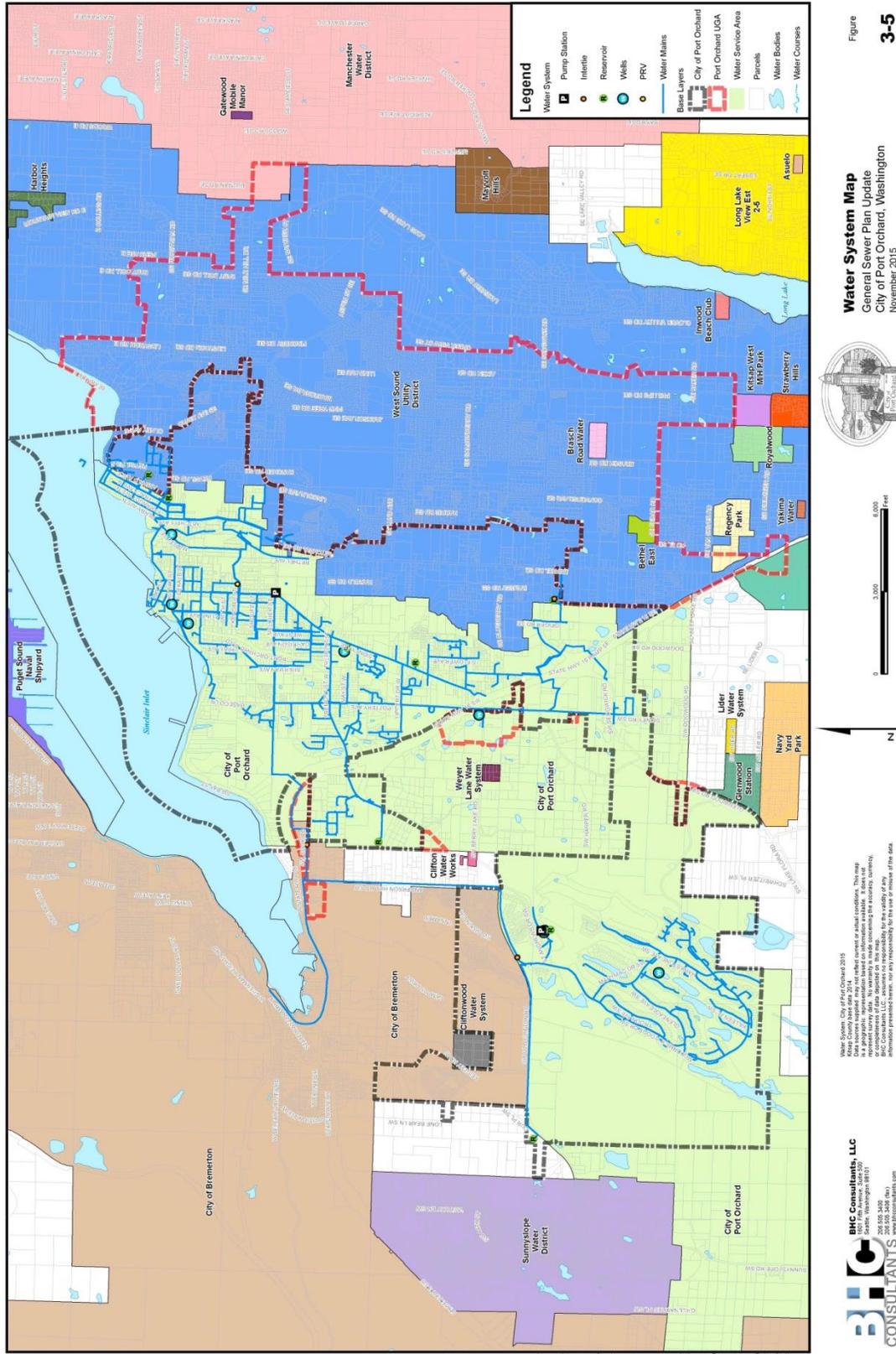
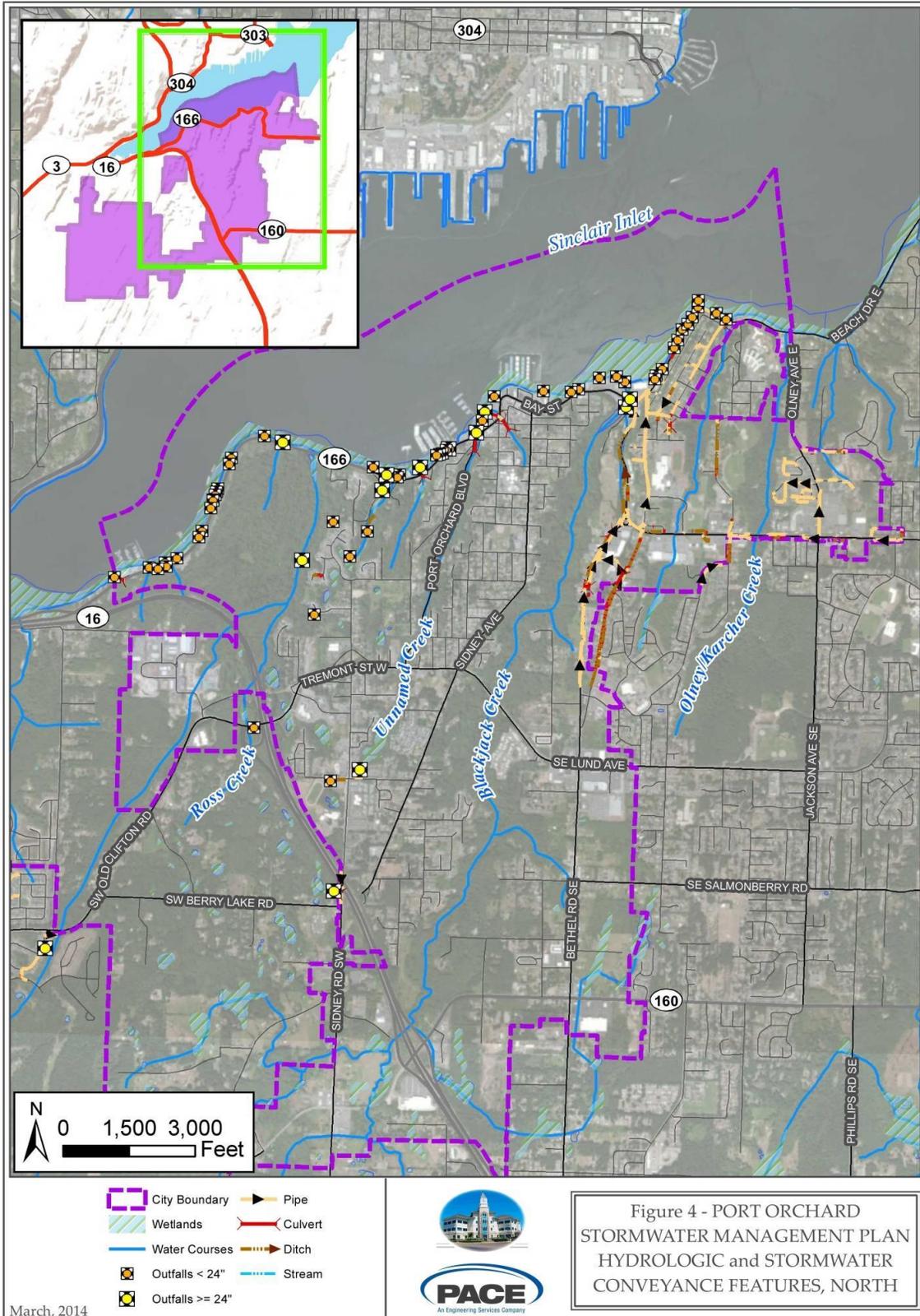


Figure 5-1
Sewer System & Basins Map
 General Sewer Plan Update
 City of Port Orchard, Washington
 November 2015







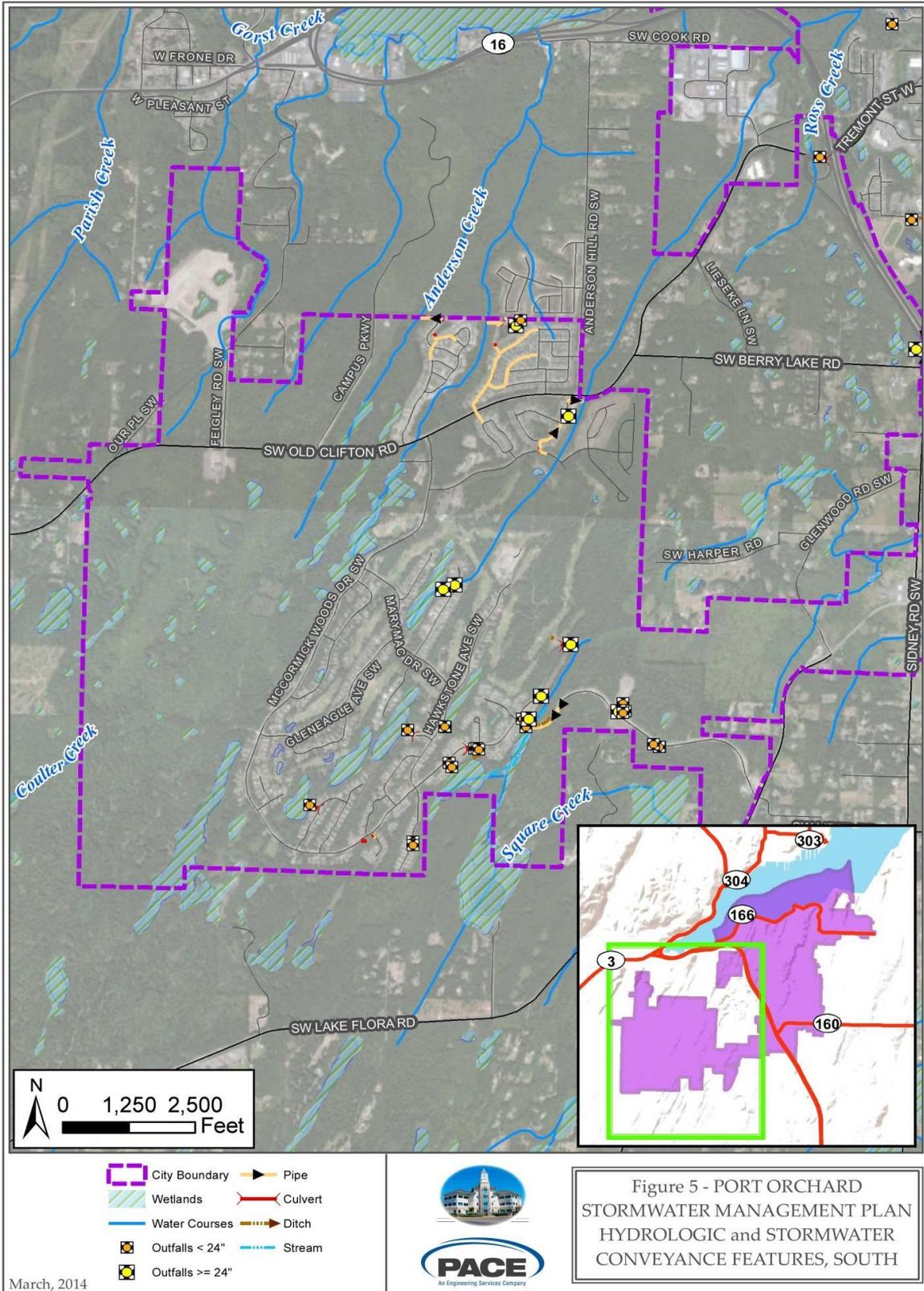


Figure 5 - PORT ORCHARD
STORMWATER MANAGEMENT PLAN
HYDROLOGIC and STORMWATER
CONVEYANCE FEATURES, SOUTH

March, 2014

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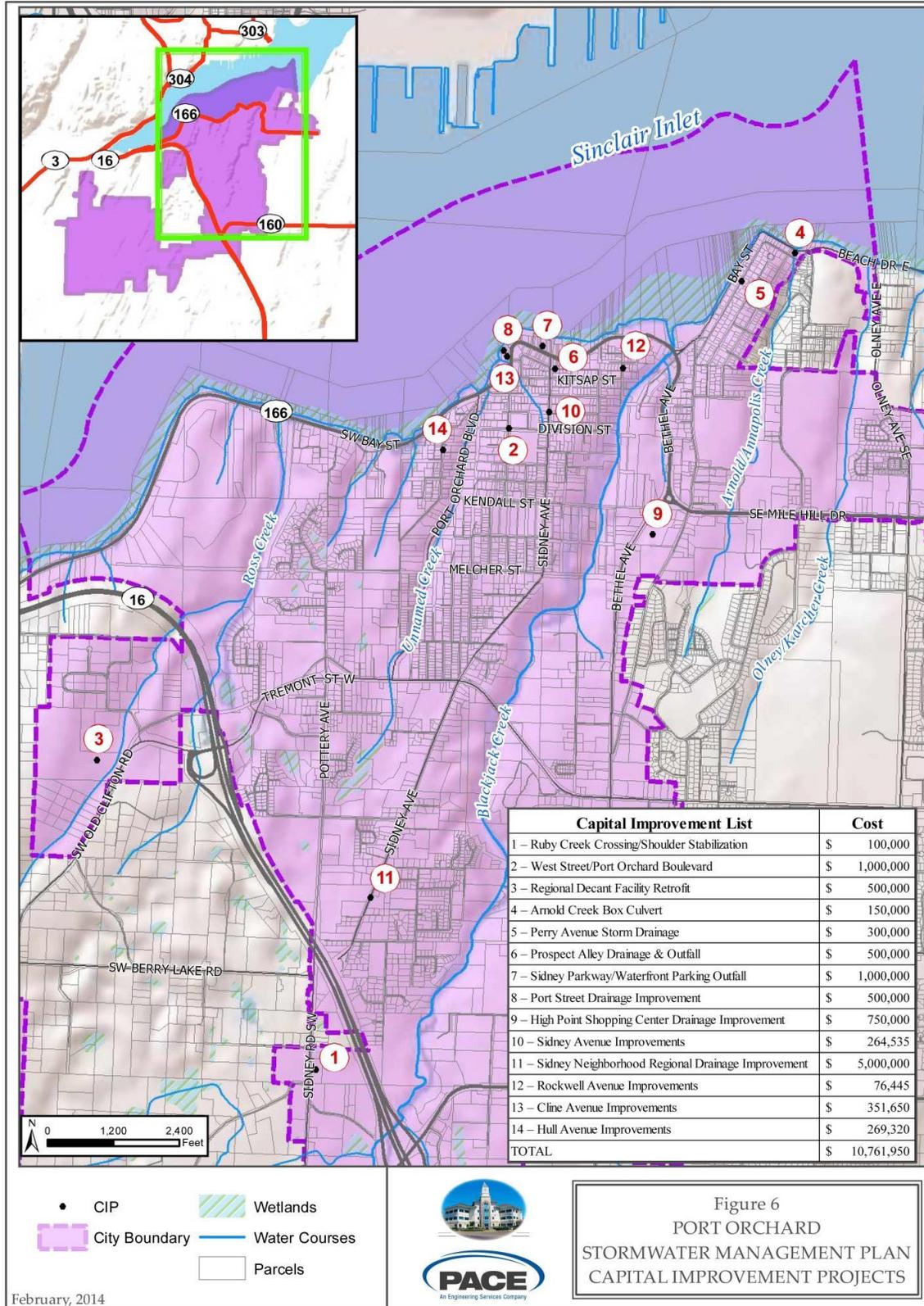


Figure 6
 PORT ORCHARD
 STORMWATER MANAGEMENT PLAN
 CAPITAL IMPROVEMENT PROJECTS