



PLANNING COMMISSION WORK SESSION AGENDA

Tuesday, November 12, 2019 - 6:00 PM

City Hall, Conference Room A, 169 SW Coast Hwy, Newport, OR 97365

The meeting location is accessible to persons with disabilities. A request for an interpreter for the DEAF AND HARD OF HEARING, or for other accommodations for persons with disabilities, should be made at least 48 hours in advance of the meeting to Peggy Hawker, City Recorder at 541.574.0613.

The agenda may be amended during the meeting to add or delete items, change the order of agenda items, or discuss any other business deemed necessary at the time of the meeting.

1. CALL TO ORDER

2. UNFINISHED BUSINESS

3. NEW BUSINESS

3.A Update on Comprehensive Plan Amendments Related to the Sewer Master Plan.

Memorandum

Draft Amendments Wastewater Facilities CP Element

Exec Summary 2-9-18 Sewer Master Plan

Map 2006 South Beach Neighborhood Plan

Statewide Planning Goal 11

OAR 660-011-0045


4-9-18 Planning Commission Work Session Minutes

For Reference: SDC Sewer South Map

For Reference: SDC Sewer North Map

4. ADJOURNMENT

Memorandum

To: Planning Commission/Commission Advisory Committee
 From: Derrick I. Tokos, AICP, Community Development Director 
 Date: November 8, 2019
 Re: Draft Amendments to Wastewater Element of the Newport Comprehensive Plan

Statewide Planning Goal 11 addresses public facilities planning, and that goal is implemented in OAR Chapter 660, Division 11. The administrative rule calls for certain elements of public facilities plans to be adopted into a Comprehensive Plan, namely a list of the identified projects (OAR 660-011-0045). System Development Charge eligible capital projects should also be identified in the project list. The consulting firm, Brown and Caldwell completed a Sanitary Sewer Master Plan for the City of Newport, effective February 9, 2018, so it is timely for the City to update the wastewater element of the Comprehensive Plan to include the projects and recommendations contained in the Plan.

The Planning Commission last discussed the need for these amendments in April of 2018. Work on the amendments was tabled so that other planning priorities could be completed. A draft set of amendments has now been put together for your review. At the April work session, a question was asked as to whether or not the Wastewater Treatment Plant has adequate capacity for the 20-year planning period. Any capacity issues should have been addressed by Brown and Caldwell. Since they did not identify capacity limitations, it should be assumed that the plant has adequate capacity. That said, the City has been struggling to respond to the intensity of effluent received from certain users and is implementing pre-treatment measures to address these impacts.

Commission members also asked about the cost of installing sanitary sewer, relative to the requirement that property owners connect to sewer if their development is within 250-feet of a main. Those costs vary depending upon factors such as terrain and whether or not the improvement will occur in an undeveloped or developed area. Costs will range between \$160 and \$185 a lineal foot on the low end, to \$250 or \$300 a lineal foot on the high end.

A request was also made to add policy language that prioritizes projects that will prevent overflows. Draft verbiage has been added for your consideration.

Public facility plans that are not formally adopted can still be used, they are just more informal documents. Adopting key components of a facility plan into the Comprehensive Plan ensures buy-in from policy makers, allows for public engagement, and can be a pre-requisite for state/federal grant funds. The Department of Land Conservation and Development is charged with reviewing amendments for consistency with other aspects of the City's Comprehensive Plan (OAR 660-011-0050), and the amendment process provides a forum for that review to occur.

This work session is an opportunity for you to review and provide feedback on this initial draft set of amendments.

Attachments: Draft Comprehensive Plan Amendments; Executive Summary from the 2/9/18 Sewer Master Plan; Map from the 2006 South Beach Neighborhood Plan; Statewide Planning Goal 11; OAR 660-011-0045; Minutes from 4/9/18 Planning Commission Work Session.

WASTEWATER FACILITIES

The City of Newport (City) provides wastewater collection system services for more than 10,000 people and businesses spread across an area of approximately 11.2 square miles. The City owns over 62.5 miles of gravity pipelines ranging in size from approximately 3 to 36 inches in diameter, 1,400 manholes, 9 major pump stations, 16 minor pump stations, and 12 miles of sanitary force mains. A majority of the sewer system was built after 1950 and is concrete, while much of the newer pipe is polyvinyl chloride (PVC).

Detailed information on the historical, functional, and environmental factors relevant to the City's wastewater system can be found in the document entitled, "Final Sanitary Sewer Master Plan, by Brown and Caldwell, dated February 9, 2018" (hereinafter, the "Sanitary Sewer Master Plan").

Existing Wastewater System:

The topography of Newport has required that pump stations be used to serve a number of areas throughout the city. Major pump stations are those that are critical to the operation of the entire collection system. Minor pump stations and individual septic tank effluent pump (STEP) systems serve targeted populations. Should minor facilities fail, the immediate population they serve would be impacted; however, the balance of the collection system would be operational. Table 1 below summarizes the design data for the City's major pump stations.

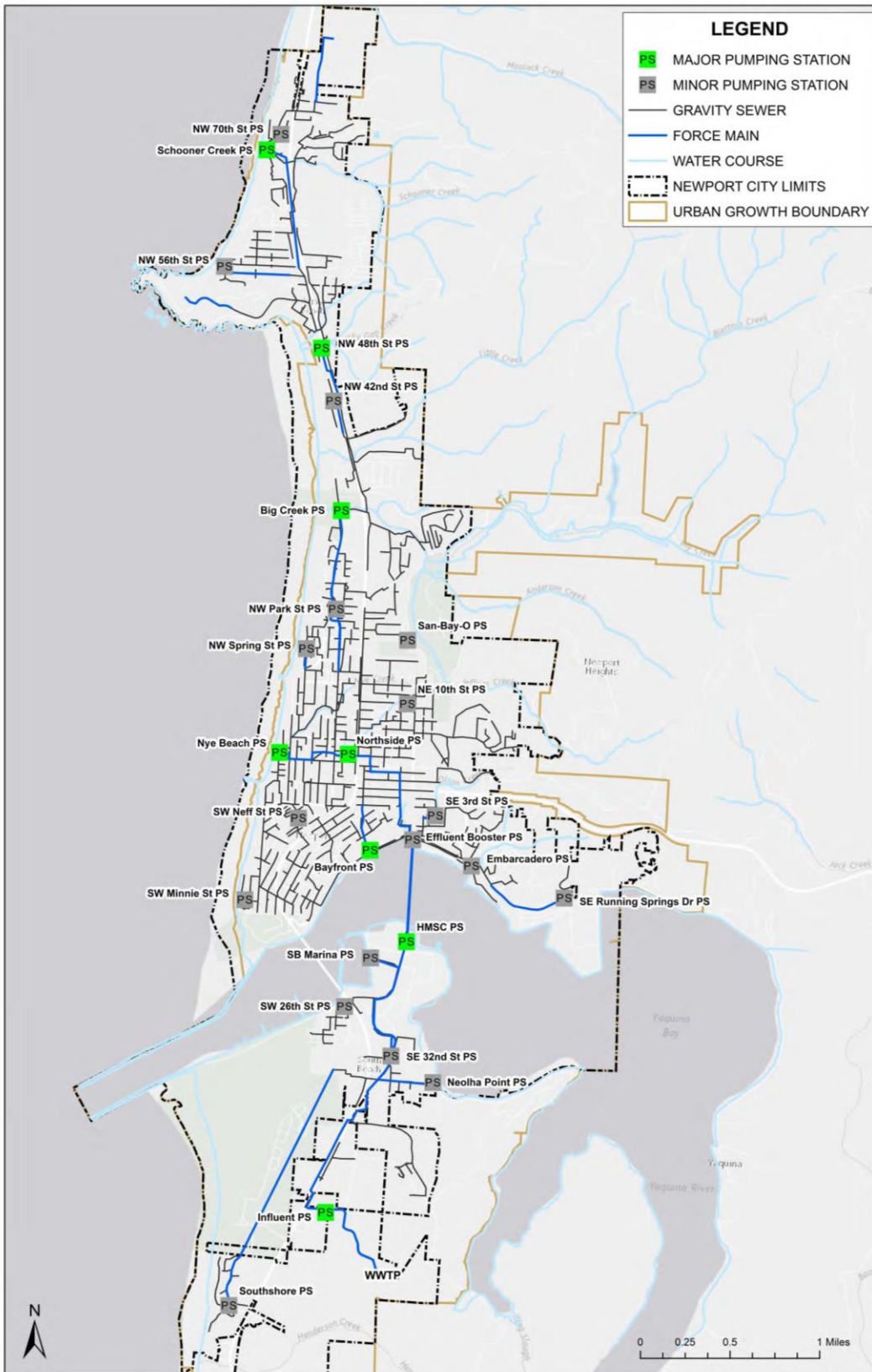
Table 1: Pump Station Summary

Pump Station	Capacity (gpm) ^a	Number of Pumps	Force Main Size (in)	Force Main Material	Force Main Length	Year Upgraded ^b
Bayfront	1,200	2	8	PVC	1,370	2001
Big Creek	2,430	3	14	HDPE	5,040	2016
HMSC	1,390	2	8		35	2001
Influent	850	2	24	HDPE	3,000	2001
	3,500	4				
Northside	3,000	3	20-24	Steel / DI / HDPE	142,000	2001
NW 48 th St ^c	1,215	2	10	PVC	1,564	2018
Nye Beach	1,400	2	12	PVC / AC	2,200	-
Schooner Creek ^c	660	2	8	PVC	3,779	2018
SE Running Springs Dr	153	2	4	PVC	2,505	-

Note: gpm = gallons per minute.

- a. Figures represent firm pumping capacity, and are based upon pump station operation without use of redundant pumps.
- b. Year upgraded is based upon record drawings where available.
- c. The NW 48th Street pump station, Schooner Creek Pump Station, and Schooner Creek force main are currently being upgraded as part of the Agate Beach Wastewater Improvement Project. Values listed represent planned improvements.

Figure 1: Existing Wastewater Distribution System



Development Assumptions:

Land use and zoning provide the basis for developing future unit wastewater flows and overall wastewater flow projections for buildout conditions. Understanding the nature and distribution of the various land use classifications is important for accurate identification of future wastewater flow rates and the phasing of required improvements. This section describes both the existing and proposed future land uses for the study area. Land use and zoning are largely governed by the local topography and by decisions made by the City, its citizens, and the Oregon Department of Land Conservation and Development (DLCD). Expansion of the Urban Growth Boundary (UGB) must be approved by the DLCD before such actions can be adopted.

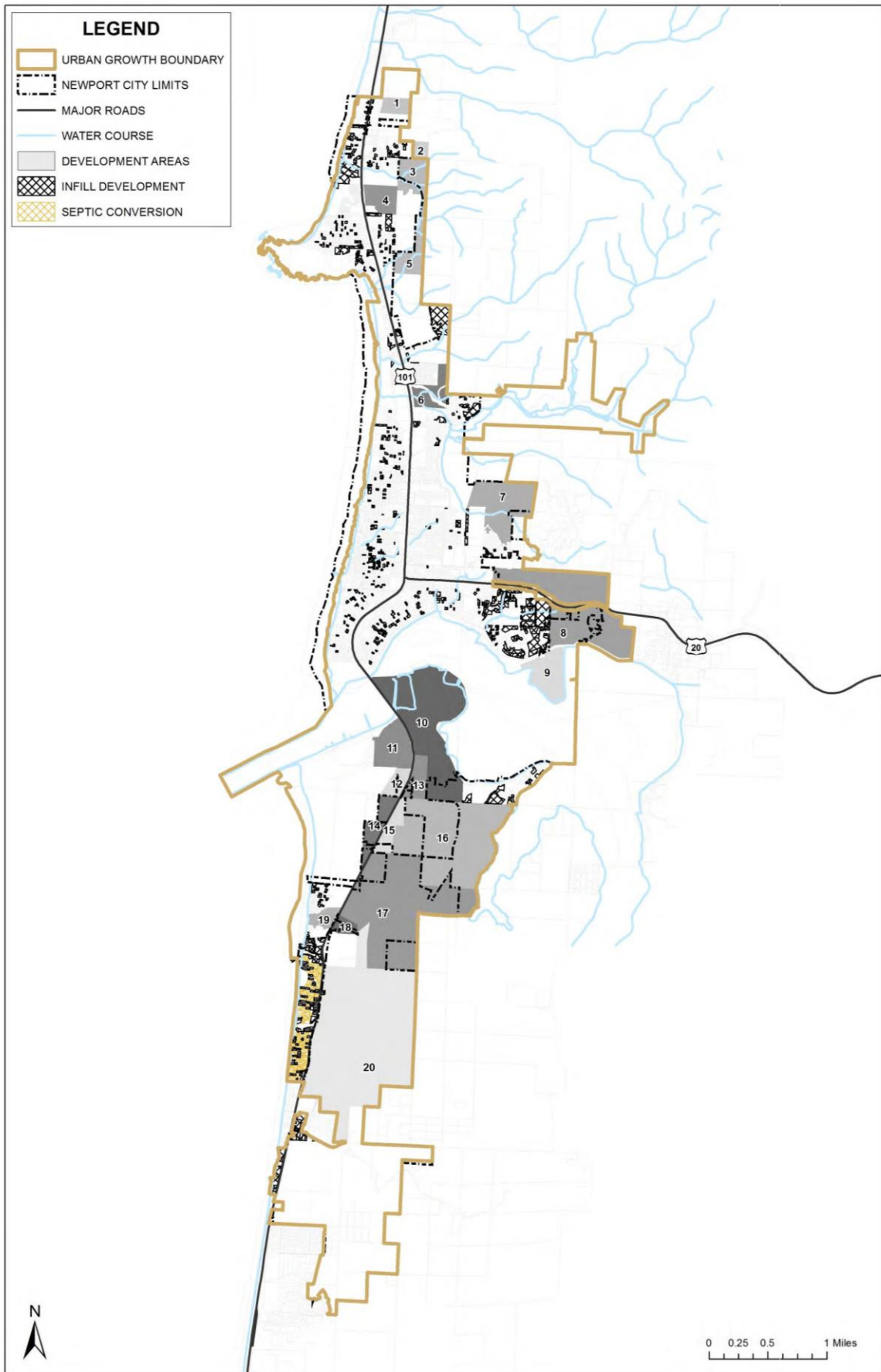
Information on current land use was obtained from GIS data provided by the City. In addition, the City maintains a buildable lands inventory (BLI). The BLI was developed in two parts. A Housing Needs and Buildable Lands Study provides land capacity estimates for low, medium and high density residential development (ECONorthwest, 2011 and 2014). An Economic Opportunities Analysis includes the same information for commercial and industrial properties, estimate land capacity in terms of dwelling unit equivalencies (ECONorthwest 2012). Buildable parcels are identified as “infill development” in Figure 2, below. The City’s Community Development Department provided 20-year and buildout development conditions considering these studies. That information is listed in Table 2 below. The development identifier (ID) corresponds to the development area on Figure 2. Detailed views of the development areas are provided in Appendix B of the Sanitary Sewer Master Plan.

Table 2: Development Assumptions

Development ID	20-year Development Conditions	Buildout Development Conditions °
1	30-acre light industrial development ^a	
2	6-acre annexation for 48-unit assisted living facility	
3	50 Low Density Residential (LDR) units	50 LDR units
4	170 Medium Density Residential Units 120-unit assisted living facility	
5	50 LRD units	50 LDR units
6	22.5 acres High Density Residential (HDR) development ^a	12.5 acres HDR development ^a
7	38.5 acres LDR development ^a	38.5 acres LDR development ^a
8	135 acres LDR development ^b	135-acres LDR development ^b
9	9-acre log yard, 1.1 acre light industrial, 1.2 acre water dependent industrial	12-acre water dependent industrial
10	1.4 acre industrial, 3.4 acre research/classroom, 0.2 acre commercial	
11	2.3 acre commercial, OMSI 250 occupants, 60 MDR units	
12	0.2 acres commercial, 0.2 acres light industrial	
13	4.1 acres commercial development	
14	1.1 acres light industrial, 1.1 acres commercial	
15	1.0 acre commercial	
16	9.3 acres commercial, 350 LDR units, OSU (500 students)	3 acres commercial, 650 LDR units
17	1.1 acres light industrial development	2.2 acres light industrial development
18	0.5 acres commercial, 3 LDR units	
19	18 LDR units	
20	0.5 acres light industrial, 5 acres airport commercial	
Infill Development	215 residential parcels	501 residential parcels
Septic Conversion	184 LDR units	

a. Assume 80% infill to account for roads and right-of-way.
 b. Assume 40% infill to account for steep sloped terrain, roads, and right-of-way
 c. 20-year development conditions not are not included in buildout conditions.

Figure 2: 20-year and Buildout Conditions



Recommended Sanitary Sewer Projects:

Chapters 4 and 5 of the Sanitary Sewer Master Plan include flow projections, system modeling and hydraulic analysis to forecast anticipated demand based upon the 20-year and buildout scenarios. The results of that future condition assessment informed the development of a list of recommended capital improvements listed in the tables and figures below. Where capital projects are recommended from other facility plans, the source documents are noted.

Gravity Main Replacement

Sections of the existing gravity sewer mains along NE Avery Street and NW Nye Street lack capacity for 20-year buildout, and must be upsized to prevent excessive surcharging that could lead to basement backups and/or flooding. Individual sewer replacements are broken out into distinct sub-projects so that they can be designed bid and constructed incrementally or collectively based upon available funding, as outlined in Table 3 and graphically depicted in Figure 3.

Table 3: Recommended Gravity Main Replacements

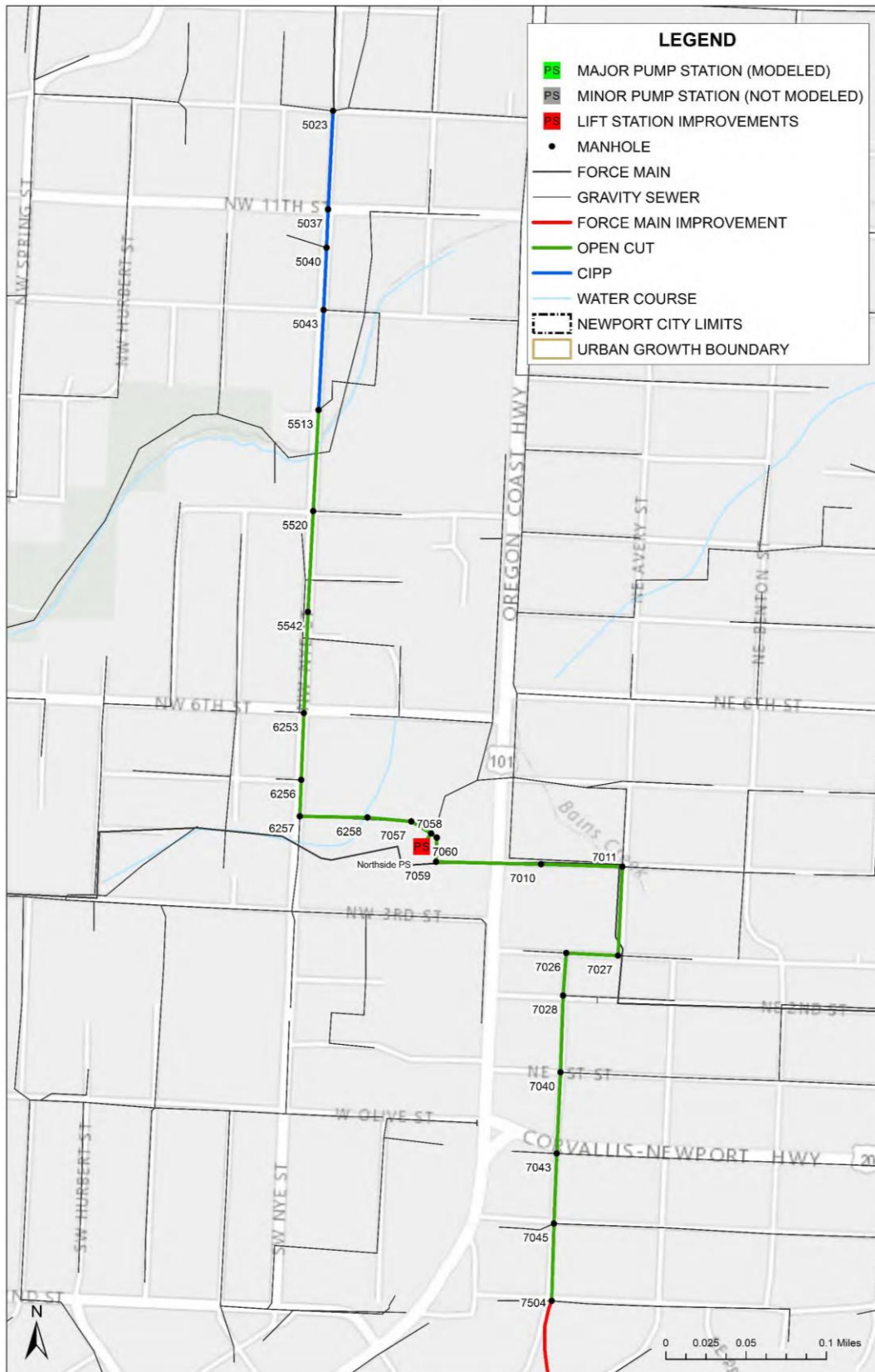
Gravity Sewer Mains (2016 dollars)						
Pipe ID	Length, (lf)	Existing Diameter (in)	Recommended Diameter (in) ^a	Solution	Estimated Cost ^b	Total Project Cost
NE Avery Street (Upsize gravity sewer from the Bayfront force main to the Northside pump station)						
7504 – 7045	258	14	18	Open cut	\$137,000	\$1,230,000
7045 – 7043	234	14	18	Open cut	\$124,000	
7043 – 7040	264	14	18	Open cut	\$140,000	
7040 – 7028	251	12	18	Open cut	\$133,000	
7028 – 7026	140	12	18	Open cut	\$74,000	
7026 – 7027	170	12	18	Open cut	\$90,000	
7027 – 7011	293	10	18	Open cut	\$155,000	
7011 – 7010	268	12	18	Open cut	\$142,000	
7010 – 7059	345	12	18	Open cut	\$183,000	
7059 – 7060	80	12	18	Open cut	\$42,000	
7060 - 7058	23	12	18	Open cut	\$12,000	
NW Nye Street (Upsize and rehabilitate gravity sewer from the Big Creek force main to the Northside pump station)						
5023 – 5037	330	15	13.5	CIPP	\$109,000	\$1,140,000
5037 – 5040	122	15	13.5	CIPP	\$40,000	
5040 – 5043	204	15	13.5	CIPP	\$67,000	
5043 – 5513	329	15	13.5	CIPP	\$109,000	
5513 – 5520	340	15	18	Pipe burst	\$163,000	
5520 – 5542	328	15	18	Pipe burst	\$157,000	
5542 – 6253	333	15	18	Pipe burst	\$159,000	
6253 – 6256	225	15	18	Pipe burst	\$108,000	
6256 – 6257	109	15	18	Pipe burst	\$52,000	
6257 – 6258	80	16	18	Pipe burst	\$38,000	
6258 – 7057	145	16	18	Pipe burst	\$69,000	
7057 – 7058	76	16	18	Pipe burst	\$36,000	
7058 – Northside	53	20	21	Open cut	\$31,000	

Note: CIPP = cured in place pipe.

a. Pipe diameter reduction of 10% assumed for CIPP rehabilitation

b. Estimated costs include a 30% allowance for construction contingencies and a 20% allowance for engineering design and administration. Appendix E to the Sanitary Sewer Master Plan includes unit costs tables. Assumes a depth of 10-feet per cost condition and 2-feet for gravity sewers.

Figure 3: NE Avery and NW Nye Street Gravity Sewer Replacement



Pump Station and Force Main Improvements

Four of the nine major pump stations were found to lack firm capacity for conveying the future buildout conditions peak flows: Nye Beach, Bayfront, Northside, and SE Running Springs. One pump station was identified to be at risk from unstable soil conditions.

The force main along the Bayfront will require upsizing, and replacing the force main and pump station at the same time would be beneficial from economy of scale pricing. Alternatively, the City may want to postpone installation of the new force main until later in the planning period once the buildout condition is met. Currently, the Bayfront force main is appropriately sized but nearing the upper limit of acceptable peak velocities. The HMSC force main appears to be undersized; however, flow is expected to be reduced in this area, which may mitigate concerns related to elevated force main velocities. A summary of the costs required to provide the necessary improvements is listed below.

Table 4: Recommended Pump Station and Force Main Improvements

Pump Station	Description of Improvements	Source	Estimated Cost (2016 dollars)
Nye Beach	Upgrade pump station firm capacity to 2.74 mgd	2018 Sanitary Sewer Master Plan	\$2,828,000
Bayfront	Upgrade pump station firm capacity to 3.24 mgd	2018 Sanitary Sewer Master Plan	\$3,224,000
Bayfront	Upgrade force main capacity to 14-inches	2018 Sanitary Sewer Master Plan	\$490,000
Northside	Upgrade pump station firm capacity to 9.2 mgd	2018 Sanitary Sewer Master Plan	\$2,780,000
SE Running Springs Dr	Upgrade pump station firm capacity to 9.2 mgd	2018 Sanitary Sewer Master Plan	\$1,178,000
SE Running Springs Dr	Realign 4-inch force main	2018 Sanitary Sewer Master Plan	\$330,000
NW 56 th Street	Study pump station and upgrade	2018 Sanitary Sewer Master Plan	\$1,347,000
SE 62 nd Street	Construct new pump station	2006 South Beach Nbhd Plan	\$1,000,000

Note: MGD = millions of gallons per day.

New Gravity Mains (i.e. Sewer Extensions)

Sewer extensions are required to provide service to those areas that do not have City sewer service. Areas without sewer service include homes on septic systems, areas within the current UGB to be developed, and miscellaneous properties inside the city boundary that are not located near existing sewers. Generally, sewer extensions are not funded by rates. Instead, most sewer extensions are funded by developers with potentially some of the costs being SDC-reimbursable. In partially developed areas of the city not currently connected to the sewer, Local Improvement Districts (LIDs) and special assessment districts may need to be formed to fund the projects. New gravity mains needed to serve new development areas include:

Table 5: Gravity Mains Needed to Serve New Development

New Gravity Sewer Mains (2016 dollars)				
Project	Length, (lf)	Recommended Diameter (in)	Source Document	Total Project Cost
NE Harney Street ^c	1,400	8	1990 Public Facilities Plan	\$740,000
NE 52 nd Street ^c	4,000	8	1990 Public Facilities Plan	\$259,000
NE 70 th Place ^c	1,400	8	1990 Public Facilities Plan	\$371,000
Yaquina Heights Dr ^c	5,800	8	1990 Public Facilities Plan	\$1,426,000
Benson Road ^c	4,400	8	1990 Public Facilities Plan	\$1,722,600
Harborton to SE 50 th ^d	3,400	12	2006 South Beach Neighborhood Plan	\$754,800
SE 50 th to SE 62 nd ^d	3,000 / 2,900	12 / 6	2006 South Beach Neighborhood Plan	\$1,979,500
Wilder Phase 5 ^d	2,800	8	2006 South Beach Neighborhood Plan	\$1,206,000

Septic Conversion and Airport Sewer

In the southern portion of the city, the Newport Municipal Airport and the Surfland neighborhood are currently served by septic sewer systems. The City plans on extending its sewer service out to the Surfland neighborhood and the Newport Municipal Airport. The scope and extent of the improvements are listed in the table below.

Table 6: Surfland Septic Conversion – Airport Sewer Extension

Description of Improvements	Source	Estimated Cost (2016 dollars) ^a
Gravity sewer distribution system	2018 Sanitary Sewer Master Plan	\$4,620,000
Sewer force main	2018 Sanitary Sewer Master Plan	\$612,000
Sewer pump station	2018 Sanitary Sewer Master Plan	\$1,000,000

a. Estimated costs include a 30% allowance for contingency and a 20% allowance for engineering design and administration.

Rehabilitation and Replacement Program:

As a collection system ages, the structural and operational condition of the sewer system will decline as the number and type of defects in the piped system increase. If unattended, the severity and number of defects will increase along with an increased potential of sewer failure. Sewer failure is defined as an inability of the sewer to convey the design flow. It is manifested by hydraulic and/or structural failure modes. Hydraulic failures can result from inadequate hydraulic capacity in the sewer. Loss of hydraulic capacity can result from a reduction of pipe area because of accumulations of sediment, gravel, debris, roots, fats, oil, and grease, and structural failure. Also, a major loss of hydraulic capacity can be the result of excessive infiltration/inflow (I/I) or inappropriate planning for future growth that results in flows in excess of pipe capacity. Structural defects left unattended can lead to catastrophic failures that can have a significant negative impact on the community and the environment.

The City should implement a repair and rehabilitation (R&R) program to address its aging collection system. While the focus of many R&R programs is to restore the structural integrity of existing sewers, such activities will also help reduce the amount of infiltration that finds its way into the collection system. Elements of the collection system should be repaired or replaced based upon their structural condition with Grade 1 lines being in the best condition and Grade 5 being in the poorest condition. Factors used to determine the condition grade of the collection system are shown in the table below.

Table 7: Structural and Operational Condition Grades of Sewers

Condition Grade	Grade Description	Defect Description	Structural Condition Grade Implication	Operational Condition Grade Implication
5	Immediate Attention	Defects have led to failure	Collapsed or collapse imminent	Unacceptable infiltration or blockages; surcharging of pipe during high flow with possible overflows
4	Poor	Severe defects that will continue to degrade with likely failure in 5-10 years	Collapse likely in 5-10 years	Pipe at or near surcharge condition during high flow; overflows still possible at high flows
3	Fair	Moderate defects that will continue to deteriorate	Collapse unlikely in near future; further deterioration likely	Surcharge or overflows unlikely but increased maintenance required
2	Good	Minor and few moderate defects	Minimal near-term risk of collapse, potential for further deterioration	Routine maintenance only
1	Excellent	No defects, condition is like new	Good structural condition	Good operational condition

The City should budget approximately \$1M per year in 2016 dollars to the R&R program, assuming that 2 percent of its system per year will be rehabilitated. The table below presents a more detailed break-down of the recommended R&R implementation strategy. The assumption that 2 percent will be re-habilitated is an approximate estimate based on information gathered from existing condition assessment information.

Table 8: Recommended R&R Schedule

Work Item	R&R Pipe (LF)	2016 – 2031 R&R Activities (2016 dollars)			
		2016 - 2019	2020 - 2023	2024 - 2027	2028 - 2031
Grade 5 (known)	4,990	\$1,248,000	-	-	-
Grade 4 (known)	2,395	\$359,000	-	-	-
Grade 5 (assumed)	22,954	\$1,081,000	\$2,329,000	\$2,329,000	-
Grade 4 (assumed)	11,017	\$311,000	\$671,000	\$671,000	-
Grade 1, 2 or 3 ^a	288,644	-	-	-	\$3,464,000
Force Mains ^b	46,500	\$930,000	\$930,000	\$930,000	\$930,000
Total Cost		\$3,929,000	\$3,930,000	\$3,930,000	\$4,394,000
Annual Cost		\$982,000	\$983,000	\$983,000	\$1,099,000

- a. Over time, pipes that are currently grade 1, 2, or 3 will escalate to being a Grade 4 pipe. It is estimated that the City will need to rehabilitate 2% of current Grade 1-3 pipes to maintain a sustainable inspection program. This is an estimated value; it is recommended that the City continues to evaluate the results of their inspection program to determine a refined R&R rate.
- b. The force main R&R scope does not include the cost of replacing the Big Creek FM, NW 48th St FM, or Schooner Creek FM. These force mains were recently evaluated as part of the Agate Beach Improvement Project. In addition, the Northside, SE Running Springs Dr, and Bayfront force mains were excluded, as they are included as individual CIPs.

Years 1 through 16 should focus on the most severely deteriorated sewers, the Grade 5 sewers identified by the closed-circuit television (CCTV) inspections. The less deteriorated Grade 4 sewers should be addressed during years 5 through 16. As future inspections are conducted, additional Grade 4 and Grade 5 sewers will be identified. The LF listed in Table 6-8 for the unknown (i.e., yet to be inspected) Grade 4 and 5 sewers are estimated based on the distribution of grades for sewers inspected to date. These sewers are identified for R&R during years 1 through 16. The future inspections may find that the actual LF for each grade may vary from these projections. Also, the City should anticipate that additional R&R will be required in the future as the collection system ages. A recommended annual inspection and minor pump station repair program is outlined in the table below.

Table 9: Recommended Annual Inspection Pump Station Repair Program

Work Item	Quantity	Assumptions	Annual Estimated Cost (2016 dollars)
CCTV Inspections	47,000 LF per year	7-year inspection cycle. Assumes an average of \$2.50/LF	\$117,000
Pump Station Inspections	25 total	Inspect pump stations (excluding SE 3 rd Street PS), with smaller stations costing \$10,000 and large stations costing \$20,000. Assume an average of \$15,000 per station.	\$15,000
Force Main Inspections	9,300 LF per year	7-year inspection cycle. Assume an average of \$20/LF	\$186,000
Minor Pump Station Repair and Rehabilitation Program	20 years	A schedule should be established to conduct these improvements on an annual basis. Priority pump stations include, but are not limited to Embarcadero, SW Minnie, Bayfront, and NE 10 th Street.	\$200,000
Total			\$518,000

GOALS AND POLICIES PUBLIC FACILITIES ELEMENT

GENERAL

Goal: To assure adequate planning for public facilities to meet the changing needs of the City of Newport urbanizable area.

Policy 4: Essential public services should be available to a site or can be provided to a site with sufficient capacity to serve the property before it can receive development approval from the city. For purposes of this policy, essential services shall mean water, sanitary sewer (i.e. wastewater), storm drainage and streets.

~~> Sanitary Sewers~~

~~> Water~~

~~> Storm Drainage~~

~~> Streets~~

Development may be permitted for parcels without the essential services if:

>a. The proposed development is consistent with the Comprehensive Plan; and

>b. The property owner enters into an agreement, that runs with the land and is therefore binding upon future owners, that the property will connect to the essential service when it is reasonably available; and

>c. The property owner signs an irrevocable consent to annex if outside the city limits and/or agrees to participate in a local improvement district for the essential service, except that annexation shall be required before property that is contiguous to the city limits can receive sanitary sewer service.

WASTEWATER

Goal 1: To provide a wastewater collection and treatment system with sufficient capacity to meet the present and future needs of the Newport urbanizable area in compliance with State and Federal regulations.

Policy 1: Improve and maintain the wastewater collection system as identified in the 1990 Public Facilities Plan for the City of Newport, by CH2MHILL, as amended by the following updates:

A. 2006 South Beach Neighborhood Plan (Ord. No. 1899)

B. Sanitary Sewer Master Plan, by Brown and Caldwell, dated February 9, 2018

Policy 12: On-site sewer systems or holding tanks shall not be allowed unless the city's sanitary sewer system is greater than 250 feet away. In any case, a subsurface permit from the Lincoln County Sanitarian must be obtained prior to any development that will rely on an on-site sewer system or holding tank.

Policy 23: City wastewater services may be extended to any property within the urban growth boundary. Except for the very limited circumstances allowed by state law and regulations, the city will not generally provide wastewater services outside the urban growth boundary. The city may require a consent to annexation as a condition of providing wastewater service outside the city limits and shall require a property to annex before providing wastewater service if it is contiguous to the city limits. Nothing in this policy obligates the City to provide wastewater services outside of the city limits. For property outside the city limits but within the urban growth boundary, wastewater services may be provided at the City's discretion only for:

a)A. residentially zoned lands as allowed by county zoning without full-urban services, and

b)B. commercial and industrial zoned lands ~~to existing lawful uses as of the date (9/4/07) of this amendment as allowed by county zoning at the scale of development in existence on September 4, 2007.~~

Policy 34: The city will design and develop the wastewater collection and treatment system in a way that addresses the demands of the various users under normal and predictable daily and seasonal patterns of use.

Policy 5: When undertaking capital improvement planning, priority shall be given to projects that will repair, replace or upsize wastewater infrastructure with known condition or capacity limitations in order to minimize discharges that could damage real property or the environment.

FINAL

Sanitary Sewer Master Plan

Prepared for
City of Newport, Oregon

February 9, 2018

Sanitary Sewer Master Plan

Prepared for
City of Newport, Oregon
February 9, 2018



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Phone: 503.244.7005
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Executive Summary

This Executive Summary provides a brief description of each section of the Sanitary Sewer Master Plan (SSMP). Recommendations and costs for a Capital Improvement Plan (CIP) are provided at the end of the section.

Introduction

The City of Newport (City) commissioned this SSMP and retained Brown and Caldwell (BC) to evaluate and make recommendations on capital improvement projects related to the City's sanitary sewer collection system. The plan was needed to help the City in continuing to provide reliable and effective sanitary services to the community. A number of key objectives have been identified in the report with the main objective for the City being to identify improvements in its system, as required to convey current and future flows. These improvements and their respective costs are presented herein.

Basis of Planning

The City provides sanitary sewer collection system services to approximately 10,000 people spread across an area of approximately 11.2 square miles. The City oversees over 62 miles of gravity pipelines ranging in size from approximately 3 to 36 inches in diameter, 1,400 manholes, 9 major pump stations, 16 minor pump stations, and 12 miles of sanitary force mains.

Pipe within the collection system is comprised of a variety of materials that range in age from almost 100 years to 10 years or less. The City provides wastewater collection services to residents, commercial establishments, institutional customers, and a number of industries in the service area. Sewer service is provided only to customers within the city limits.

Wastewater System Policies

Policies and standards have been created to guide the City and its users in the operation and development of the City's wastewater collection system. The policies and standards are derived from the City's Comprehensive Plan, City Resolutions, and Newport Municipal Code (NMC). Suggested modifications to the NMC have been provided to facilitate the continued protection of the City's valuable assets. They include the following:

- Vegetation requirements
- Root control
- Side sewer condition education requirement
- Fees for commercial/industrial wastewater groups
- Voluntary pretreatment program
- I/I reduction

Flow Projections and Modeling

In order to understand the current conditions and predict future deficiencies, a hydrologic/hydraulic (H/H) model was constructed. The model used base wastewater flows and rainfall-derived

Capital Improvement Plan

The CIP is based on reviewing existing conditions and applying the results of the modeling effort. The plan is intended to help the City make decisions on existing and potential expected deficiencies given growth and flow increases in the system. It also provides guidance for expanding the system to meet the City's future growth needs.

Capital improvements have been developed based on the buildout condition planning scenario. These include sewer replacements that will be required to convey future flows and sewer extensions and pump stations that will be required to provide new sewer service to areas of the city without sewer service and to areas that may be annexed by the City in the foreseeable future.

The plan was established in a manner that is consistent with other communities, and is based on "existing conditions" planning. This type of planning focuses efforts on existing deficiencies first before preparing for future conditions. Also, the plan is structured to help allocate rates and system development charges based on improvements that are focused on existing and new users, respectively.

The average yearly cost of the plan has been separated into two categories: planned activities and rehabilitation/replacement (R&R). The planned activities address known deficiencies (i.e., capacity) based on the performed H/H analysis. The R&R activities assume a schedule that targets a discrete portion of the system.

It is recommended that the City allocate a yearly budget of approximately \$1.17M for planned projects (e.g. pump station gravity sewer upgrades) and \$1.53 for annual reoccurring activities (e.g. inspections and rehabilitation of known and assumed deficient sewers). A total annual budget of \$2.70M is expected with this plan.

Because of the timing of some projects, year-to-year expenditures may fluctuate. Estimated project costs are presented in Table ES-1 below, with discrete projects and annual activities broken out by description, location, and type. A timeline for each project has been identified.

Table ES-1. Cost of Recommended CIP s and Implementation Schedule

Project no.	Project name	Project description	Year completed	Estimated cost of improvements, 2016 dollars ^a
Gravity Sewer Improvements				
1	NE Avery Street	Upsize gravity sewer from the Bayfront FM to the Northside PS	5-10	1,230,000
2	NW Nye Street	Upsize and rehabilitate gravity sewer from the Big Creek FM to the Northside PS	1-5	1,140,000
Total all gravity sewer improvements				2,370,000
Major Pump Station and FM Improvements				
3	Nye Beach PS	Upgrade pump station firm capacity to 2.74 mgd	1-5	2,828,000
4	Bayfront PS	Upgrade pump station firm capacity to 2.59 mgd	1-5	3,224,000
4	Bayfront FM	Upgrade force main to 14-inch diameter	1-5	490,000
5	Northside PS	Upgrade pump station firm capacity to 9.2 mgd	5-10	2,780,000
5	Northside FM	A conservative cost estimate was assumed from previously chosen alternatives.	5-10	1,500,000
6	SE Running Springs Drive PS	Upgrade pump station firm capacity to 0.27 mgd	5-10	1,178,000
6	SE Running Springs Drive FM	Upgrade force main to 14-inch diameter	5-10	330,000

As part of the R&R program, the City should assess goals for I/I reduction. Currently, some areas of the system contribute higher I/I flows than others, when normalized by pipe length. As an example, Basins 4B and 7 together contribute 19 percent of the peak wet weather I/I but comprise only 7 percent of the sewered area. Further analysis is warranted to determine if an I/I reduction program is cost-effective and could defer, or even eliminate, the need for some predicted future capacity increase projects.

Costs associated with project no. 11 (Sewer R/R) are based on existing inspection data which was used to generate an assumed percent of the total system that will require R/R in the future. This approach assumes that existing Grades 2-4 will become Grade 5 or that new Grade 5 will be identified in later inspections, thus needing repair within 5-years of identifying. This approach carries some risk for pipes yet to be inspected, where Grade 5 pipe may currently exist in areas that will not be targeted for inspection for many years; thus, failure could prematurely occur and require emergency repairs. An alternate approach for consideration would be to complete a comprehensive inspection of the entire system and establish a more accurate understanding of Grade 5 deficiencies so that the plan can be revised to reflect actual versus assumed conditions. This approach may require more upfront costs, but has the potential of reducing future expenditures as the planning period advances.

For long-term planning purposes, the City should consider conducting a rate study in order to prepare financially for implementing future CIP projects.

Benefits of implementing this CIP program include:

- Optimization of the life-cycle of the existing system by selecting and sizing the projects according to population projections.
- Prioritization of the projects will enable the City to plan and prepare financially for implementing improvements.
- Optimization of public support for potential future rate increases.

Because the CIP program has been developed according to the scope of the SSMP, only key portions of the system have been evaluated for capacity limitations. It is possible that smaller, upstream systems may also need to be increased for capacity in the future.

Figure ES-2 below shows the locations of the recommended improvements.

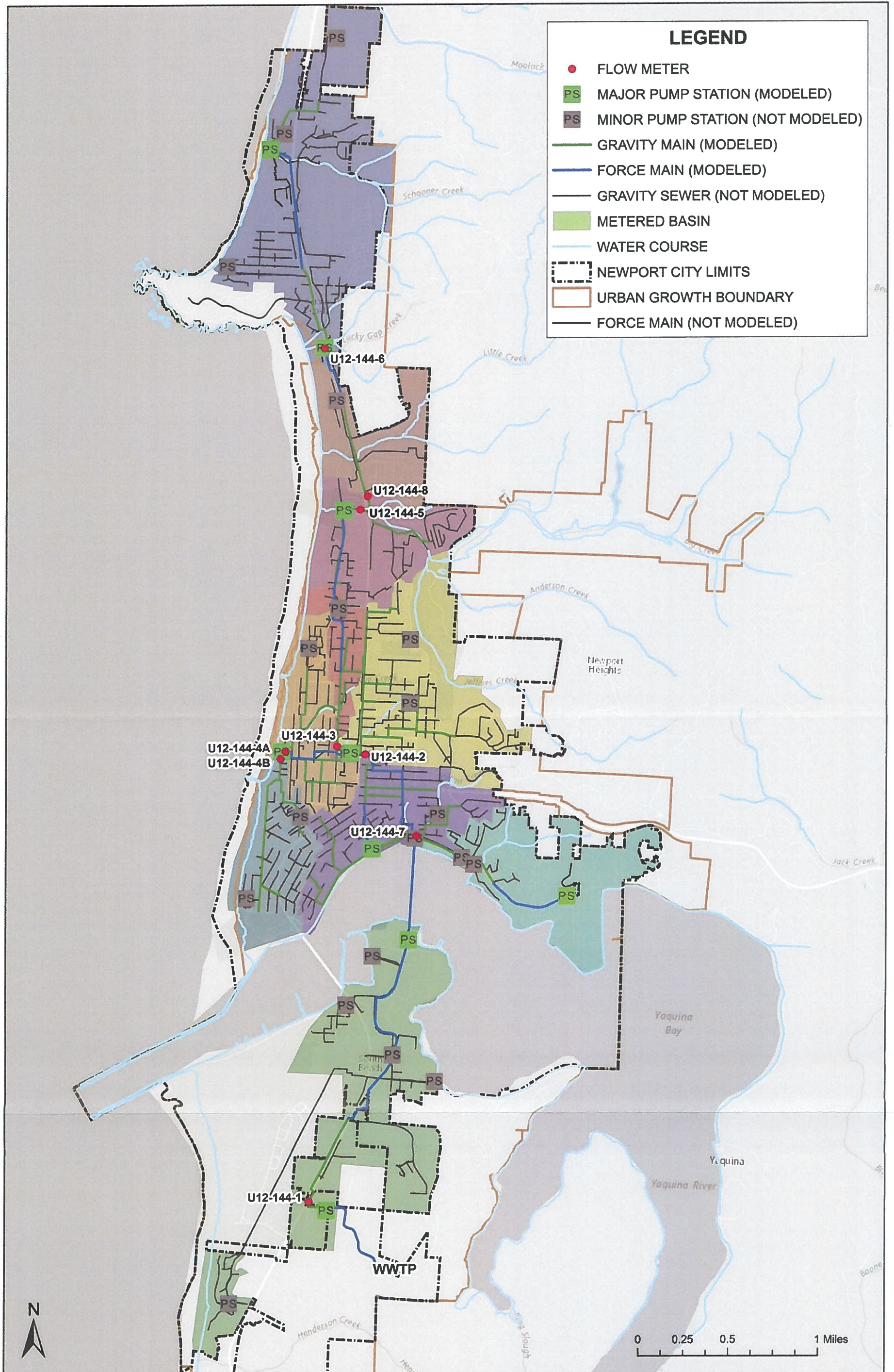


Figure ES-1. SSMP model extents and flow meter locations

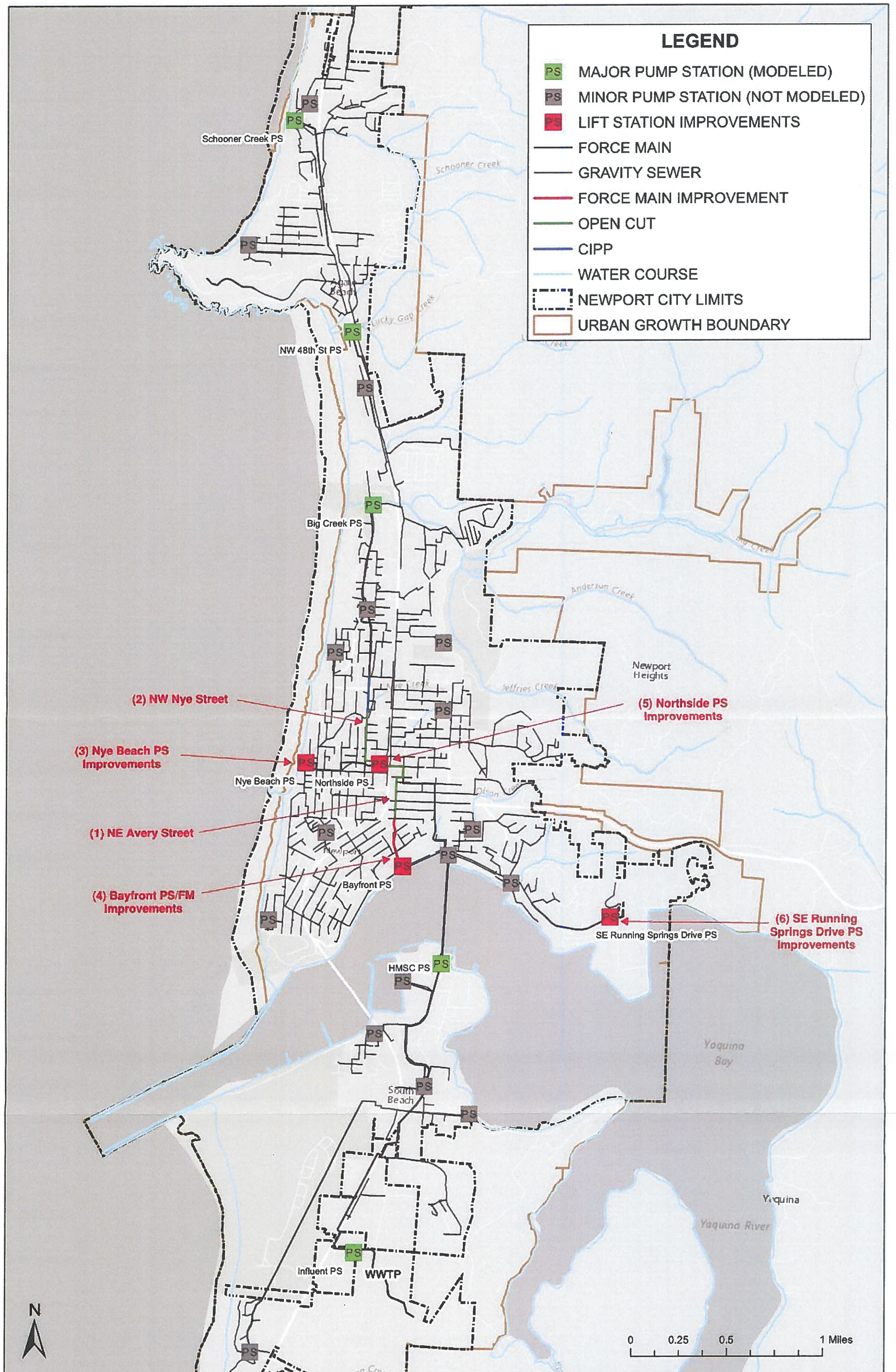
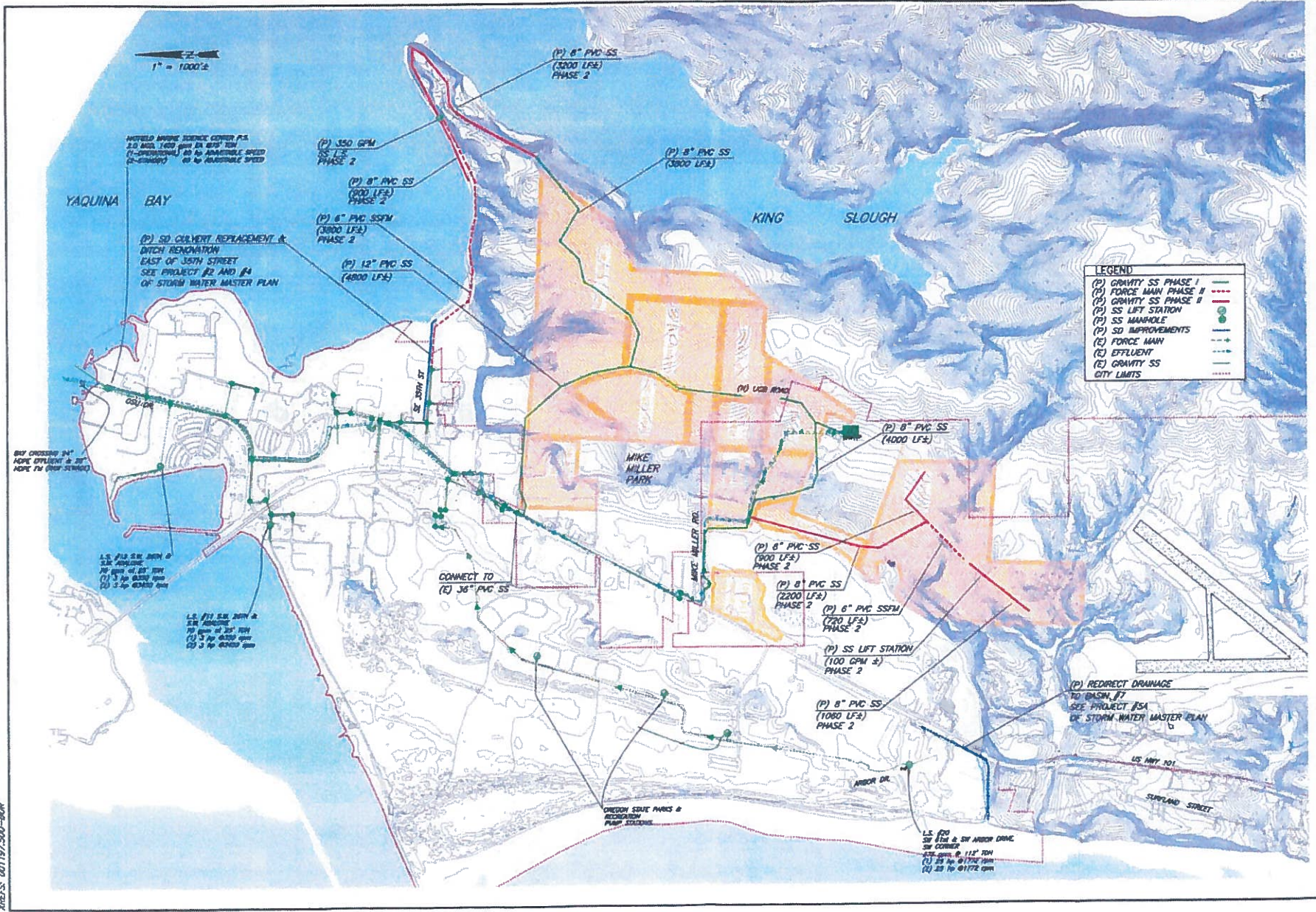


Figure ES-2. Recommended capacity-based future capital improvements



LEGEND

- (P) GRAVITY SS PHASE I
- (P) FORCE MAIN PHASE II
- (P) GRAVITY SS PHASE II
- (P) SS LIFT STATION
- (P) SS MANHOLE
- (P) SD IMPROVEMENTS
- (E) FORCE MAIN
- (E) EFFLUENT
- (E) GRAVITY SS
- CITY LIMITS

CAD FILE: NEWPORT_S&L UTILITY_REVENUE_7_31_04.dwg
 XREFS: 001197.500-000

CITY OF NEWPORT PROJECT
 CONCEPTUAL AND USE PLAN
 LINCOLN COUNTY, OREGON
 PROPOSED SANITARY SEWER &
 STORM SEWER IMPROVEMENTS

SHEET
EXH. 12
 DATE: 8/2005
 PROJ. NO.
 004815.000

CONSULTING ENGINEERS
 & GEOLOGISTS, INC.
S&L
 300 S. W. 45th
 Corvallis, OR 97331
 TEL: (541) 325-0900
 FAX: (541) 325-0905

NO.	DATE	REVISION	BY

VERTICAL SCALE:
 1" = 1000'
 HORIZONTAL SCALE:
 1" = 1000'
 0 10 20 30 40 50 60 70 80 90 100
 FEET

Oregon's Statewide Planning Goals & Guidelines

GOAL 11: PUBLIC FACILITIES AND SERVICES

OAR 660-015-0000(11)

To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Urban and rural development shall be guided and supported by types and levels of urban and rural public facilities and services appropriate for, but limited to, the needs and requirements of the urban, urbanizable, and rural areas to be served. A provision for key facilities shall be included in each plan. Cities or counties shall develop and adopt a public facility plan for areas within an urban growth boundary containing a population greater than 2,500 persons. To meet current and long-range needs, a provision for solid waste disposal sites, including sites for inert waste, shall be included in each plan.

Counties shall develop and adopt community public facility plans regulating facilities and services for certain unincorporated communities outside urban growth boundaries as specified by Commission rules.

Local Governments shall not allow the establishment or extension of sewer systems outside urban growth boundaries or unincorporated community boundaries, or allow extensions of sewer lines from within urban growth boundaries or unincorporated community boundaries to serve land outside those boundaries, except where the new or extended

system is the only practicable alternative to mitigate a public health hazard and will not adversely affect farm or forest land.

Local governments may allow residential uses located on certain rural residential lots or parcels inside existing sewer district or sanitary authority boundaries to connect to an existing sewer line under the terms and conditions specified by Commission rules.

Local governments shall not rely upon the presence, establishment, or extension of a water or sewer system to allow residential development of land outside urban growth boundaries or unincorporated community boundaries at a density higher than authorized without service from such a system.

In accordance with ORS 197.180 and Goal 2, state agencies that provide funding for transportation, water supply, sewage and solid waste facilities shall identify in their coordination programs how they will coordinate that funding with other state agencies and with the public facility plans of cities and counties.

A Timely, Orderly, and Efficient Arrangement – refers to a system or plan that coordinates the type, locations and delivery of public facilities and services in a manner that best supports the existing and proposed land uses.

Rural Facilities and Services – refers to facilities and services suitable and appropriate solely for the needs of rural lands.

Urban Facilities and Services – Refers to key facilities and to appropriate types and levels of at least the following: police protection; sanitary facilities; storm drainage facilities; planning, zoning and subdivision control; health services; recreation facilities and services; energy and communication services; and community governmental services.

Public Facilities Plan – A public facility plan is a support document or documents to a comprehensive plan. The facility plan describes the water, sewer and transportation facilities which are to support the land uses designated in the appropriate acknowledged comprehensive plan or plans within an urban growth boundary containing a population greater than 2,500.

Community Public Facilities Plan – A support document or documents to a comprehensive plan applicable to specific unincorporated communities outside UGBs. The community public facility plan describes the water and sewer services and facilities which are to support the land uses designated in the plan for the unincorporated community.

Water system – means a system for the provision of piped water for human consumption subject to regulation under ORS 448.119 to 448.285.

Extension of a sewer or water system – means the extension of a pipe, conduit, pipeline, main, or other physical

component from or to an existing sewer or water system, as defined by Commission rules.

GUIDELINES

A. PLANNING

1. Plans providing for public facilities and services should be coordinated with plans for designation of urban boundaries, urbanizable land, rural uses and for the transition of rural land to urban uses.

2. Public facilities and services for rural areas should be provided at levels appropriate for rural use only and should not support urban uses.

3. Public facilities and services in urban areas should be provided at levels necessary and suitable for urban uses.

4. Public facilities and services in urbanizable areas should be provided at levels necessary and suitable for existing uses. The provision for future public facilities and services in these areas should be based upon: (1) the time required to provide the service; (2) reliability of service; (3) financial cost; and (4) levels of service needed and desired.

5. A public facility or service should not be provided in an urbanizable area unless there is provision for the coordinated development of all the other urban facilities and services appropriate to that area.

6. All utility lines and facilities should be located on or adjacent to existing public or private rights-of-way to avoid dividing existing farm units.

7. Plans providing for public facilities and services should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land

conservation and development action provided for by such plans should not exceed the carrying capacity of such resources.

B. IMPLEMENTATION

1. Capital improvement programming and budgeting should be utilized to achieve desired types and levels of public facilities and services in urban, urbanizable and rural areas.

2. Public facilities and services should be appropriate to support sufficient amounts of land to maintain an adequate housing market in areas undergoing development or redevelopment.

3. The level of key facilities that can be provided should be considered as a principal factor in planning for various densities and types of urban and rural land uses.

4. Plans should designate sites of power generation facilities and the location of electric transmission lines in areas intended to support desired levels of urban and rural development.

5. Additional methods and devices for achieving desired types and levels of public facilities and services should include but not be limited to the following: (1) tax incentives and disincentives; (2) land use controls and ordinances; (3) multiple use and joint development practices; (4) fee and less-than-fee acquisition techniques; and (5) enforcement of local health and safety codes.

6. Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests in carrying out the goal

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Land Conservation and Development

Department

Chapter 660

Division 11

PUBLIC FACILITIES PLANNING

660-011-0045

Adoption and Amendment Procedures for Public Facility Plans

(1) The governing body of the city or county responsible for development of the public facility plan shall adopt the plan as a supporting document to the jurisdiction's comprehensive plan and shall also adopt as part of the comprehensive plan:

(a) The list of public facility project titles, excluding (if the jurisdiction so chooses) the descriptions or specifications of those projects;

(b) A map or written description of the public facility projects' locations or service areas as specified in sections (2) and (3) of this rule; and

(c) The policy(ies) or urban growth management agreement designating the provider of each public facility system. If there is more than one provider with the authority to provide the system within the area covered by the public facility plan, then the provider of each project shall be designated.

(2) Certain public facility project descriptions, location or service area designations will necessarily change as a result of subsequent design studies, capital improvement programs, environmental impact studies, and changes in potential sources of funding. It is not the intent of this division to:

(a) Either prohibit projects not included in the public facility plans for which unanticipated funding has been obtained;

(b) Preclude project specification and location decisions made according to the National Environmental Policy Act; or

(c) Subject administrative and technical changes to the facility plan to ORS 197.610(1) and (2) or 197.835(4).

(3) The public facility plan may allow for the following modifications to projects without amendment to the public facility plan:

(a) Administrative changes are those modifications to a public facility project which are minor in nature and do not significantly impact the project's general description, location, sizing, capacity, or other general characteristic of the project;

(b) Technical and environmental changes are those modifications to a public facility project which are made pursuant to "final engineering" on a project or those that result from the findings of an Environmental Assessment or Environmental Impact Statement conducted under regulations implementing the procedural provisions of the National Environmental Policy Act of 1969 (40 CFR Parts 1500-1508) or any federal or State of Oregon agency project development regulations consistent with that Act and its regulations.

(c) Public facility project changes made pursuant to subsection (3)(b) of this rule are subject to the administrative procedures and review and appeal provisions of the regulations controlling the study (40 CFR Parts 1500-1508 or similar regulations) and are not subject to the administrative procedures or review or appeal provisions of ORS Chapter 197, or OAR chapter 660 division 18.

(4) Land use amendments are those modifications or amendments to the list, location or provider of, public facility projects, which significantly impact a public facility project identified in the comprehensive plan and which do not qualify under subsection (3)(a) or (b) of this rule. Amendments made pursuant to this subsection are subject to the

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administrative procedures and review and appeal provisions accorded "land use decisions" in ORS Chapter 197 and those set forth in OAR chapter 660 division 18.

Statutory/Other Authority: ORS 183 & 197

Statutes/Other Implemented: ORS 197.712

History:

LCDC 4-1984, f. & ef. 10-18-84

Please use this link to bookmark or link to this rule.

v1.8.5

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MINUTES
City of Newport Planning Commission
Work Session
Newport City Hall Conference Room A
April 9, 2018
6:00 p.m.

Planning Commissioners Present: Jim Patrick, Lee Hardy, Bob Berman, Rod Croteau, Bill Branigan, and Jim Hanselman.

Planning Commissioners Absent: Mike Franklin (*excused*).

PC Citizens Advisory Committee Members Absent: Karmen Vanderbeck & Dustin Capri (*excused*).

City Staff Present: Community Development Director (CDD) Derrick Tokos; and Executive Assistant, Sherri Marineau.

1. **Call to Order.** Chair Patrick called the Planning Commission work session to order at 6:02 p.m.
2. **Unfinished Business.** No unfinished business.
3. **New Business.**
 - A. **Discuss Updated Wastewater Plan and Potential Policies.** Tokos reviewed his PowerPoint presentation on the updates to the City of Newport Wastewater Master Plan. He covered the existing wastewater policies. Tokos handed out copies of OAR 660-015-0000(11) that covered Oregon's statewide planning goals for public facilities and service. Patrick asked what unincorporated communities were. Tokos said Seal Rock was an example of an unincorporated community. These were communities that weren't full cities but were at quasi urban density before they started planning. He said these were not an issue that Newport worried about but Lincoln County had these communities. He continued reviewing the handout. Patrick asked if section A5 was water, sewer, streets and storm water. Tokos said yes and the Port was also included. Tokos said as far as the sewer, there needed to be policies in place that would prevent the County from issuing septic systems in quasi rural properties in the urban growth boundary. This was because it was like pulling teeth to get someone to go from a fully functioning septic system to the public system. He said the current policy on when they needed to connect to sewer was that people had to connect to public systems if they were located under 250 feet to the system.

Hardy asked why the distance was an exception. Tokos said it was about what was reasonable and when they looked at exactions, they needed to say there was a rational nexus and it was roughly proportional. Hardy thought this was a contradiction because an LID wasn't cost prohibitive. Tokos said running a sewer line 250 feet for a residence to just connect to City services was cost prohibitive. He said in industrial areas they used holding tanks. Hardy noted a project on NW Brook Street that had a failed septic and was keeping the solids in a tank and pumping the effluent out to the 6th Street. She asked if it would be something the City would extend services to down that street for. Tokos said the City extended service only within the urban renewal areas. Outside of this, what was collected from utilities fess would maintain the existing services and we would look for development to bear the cost of the extension. Tokos noted the Wyndhaven Ridge development was doing a 700 foot sewer line extension. Hanselman asked about the Golf Course Drive property. Tokos said they had to annex into the City when their septic failed and they were within 250 feet. Berman asked if you could force anyone located within 250 feet to connect to the public system. Tokos said an onsite sewer system connection would not be allowed unless the septic system failed and the property was within 250 feet of the sewer line. He said what triggered a connection to the system was when owners came in to do new development or a septic system failed. Tokos reminded that the City coordinated with the County on this. There were instances where properties were required to connect to sewer when they were expanding. Croteau asked if there was a distance feature for water lines. Tokos said the City didn't have it in the Comprehensive Plan.)

Tokos covered the development assumptions and capital improvement plan next. He reviewed Part 1 of the capital improvement plan list and noted that the Surfand sewer extension was what would allow sewer to be brought to the Airport. Tokos said that Running Springs was done to accommodate the homes above the McLean Point area. Croteau asked if the City bore responsibility for commercial lines that weren't in the right-of-way. Tokos said stormwater and sewer lines were typically outside of the ROW and were usually within easements. He said it was rare that they were under buildings. Hardy asked if the City knew where all the sewer lines were. Tokos said not all of them. Hardy asked how far back competent records went. Tokos said it depended on the area. Hanselman noted the stormwater was what was lacking in most of the area.

Tokos covered Part 2 of the capital improvement plan list. He reviewed the policy recommendations and the general provision policies. He handed out the current goals and policies. Patrick asked if anything would be changed. Tokos said he didn't see much in the way of changes. He said it was largely an update on capital for sewer. Tokos said this could be an area to add policies for sewer overflows and he would have to coordinate it with Tim Gross. Patrick asked if Gross could provide a cost to run a sewer line 250 feet. Tokos said it would vary with the size of the line. He would ask for a typical cost and give some alternatives on how other jurisdictions were handling this as well.

Tokos asked for any other comments. Branigan asked what the policy was for implementation of funding on all of this. Tokos said they didn't have specific recommendations to raise anything with respect to the polices. He said the funding for most of it would be coming from utility fees and revenue bonds to do projects. The new sewer would be from urban renewal. Patrick asked about funding for Surfland. Tokos said it would be urban renewal. Berman asked how it would be funded for a new district. Tokos said this was already urban renewal. He said the South Beach extension was planned to start in 2025 and urban renewal would be the funding source for it.

Tokos said he would look at the policy to see if he could tighten it up more. Patrick asked if sewer would be extended outside of the City limits. Tokos said they had the ability to do health safety under statute but generally they required annexing. It was a provision in the goal and statues that if you had a legitimate sanitary emergency you could do it, but generally it wouldn't be done if they could annex. He said he would put some health emergency language in. Berman thought it was important to prioritize the overflows. Patrick asked if they had done Nye Beach. Tokos said they were working on it. Croteau asked if the sewage treatment plant was in good shape. Tokos said eventually it would need to be expanded and was something to do down the road, which included modernization. Patrick requested Tokos find out what the size limit was for when the City would be expected to expand the plant.

4. **Director's Comments.** No Director comments.
5. **Adjournment.** Having no further discussion, the meeting adjourned at 6:35 p.m.

Respectfully submitted,



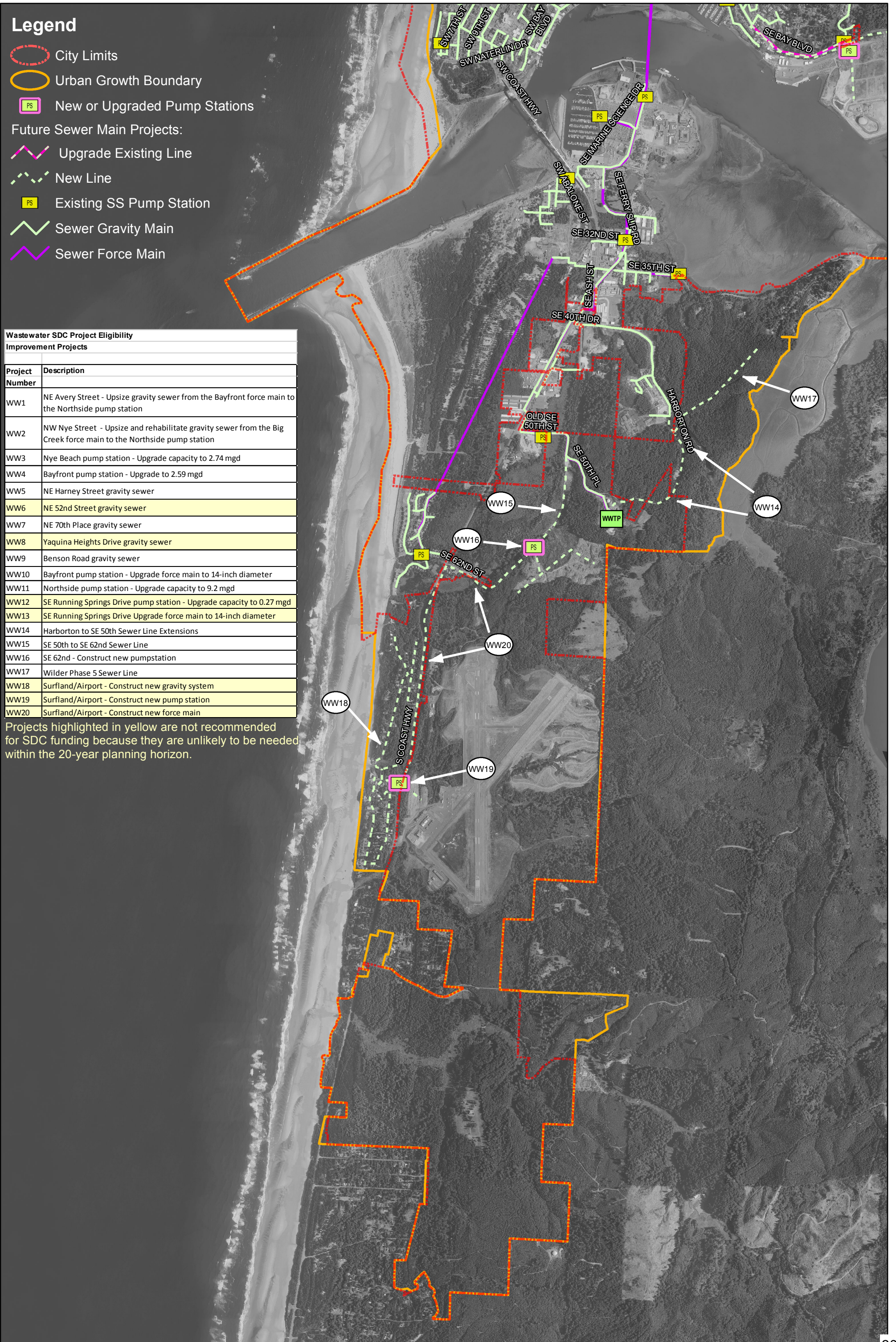
Sherri Marineau,
Executive Assistant

Legend

- City Limits
- Urban Growth Boundary
- New or Upgraded Pump Stations
- Future Sewer Main Projects:
 - Upgrade Existing Line
 - New Line
- Existing SS Pump Station
- Sewer Gravity Main
- Sewer Force Main

Wastewater SDC Project Eligibility Improvement Projects	
Project Number	Description
WW1	NE Avery Street - Upsize gravity sewer from the Bayfront force main to the Northside pump station
WW2	NW Nye Street - Upsize and rehabilitate gravity sewer from the Big Creek force main to the Northside pump station
WW3	Nye Beach pump station - Upgrade capacity to 2.74 mgd
WW4	Bayfront pump station - Upgrade to 2.59 mgd
WW5	NE Harney Street gravity sewer
WW6	NE 52nd Street gravity sewer
WW7	NE 70th Place gravity sewer
WW8	Yaquina Heights Drive gravity sewer
WW9	Benson Road gravity sewer
WW10	Bayfront pump station - Upgrade force main to 14-inch diameter
WW11	Northside pump station - Upgrade capacity to 9.2 mgd
WW12	SE Running Springs Drive pump station - Upgrade capacity to 0.27 mgd
WW13	SE Running Springs Drive Upgrade force main to 14-inch diameter
WW14	Harborton to SE 50th Sewer Line Extensions
WW15	SE 50th to SE 62nd Sewer Line
WW16	SE 62nd - Construct new pumpstation
WW17	Wilder Phase 5 Sewer Line
WW18	Surfland/Airport - Construct new gravity system
WW19	Surfland/Airport - Construct new pump station
WW20	Surfland/Airport - Construct new force main

Projects highlighted in yellow are not recommended for SDC funding because they are unlikely to be needed within the 20-year planning horizon.



Legend

- City Limits
- Urban Growth Boundary
- New or Upgraded Pump Stations
- Future Sewer Main Projects:
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