City of Troutdale
Public Works Department
Capital Improvement Plan

Adopted March, 2016
Resolution No. 2331

RESOLUTION NO. 2331

A RESOLUTION ADOPTING THE PUBLIC WORKS DEPARTMENT CAPITAL IMPROVEMENT PLAN, RESCINDING RESOLUTIONS 1995 AND 2225, AND RESCINDING THE PARKS CAPITAL IMPROVEMENT PLAN ADOPTED BY RESOLUTION 1941

THE TROUTDALE CITY COUNCIL FINDS AS FOLLOWS:

1. ORS 223.309 requires local governments that have system development charges to prepare a capital improvement plan that includes a list of the capital improvements that the local government intends to fund, in whole or in part, with revenues from an improvement fee.

2. The capital improvement plan contained in this resolution is intended to comply with ORS 223.309.

3. Resolution numbers 1941, 2225, and 1995, currently in effect, established the current capital improvement plan project listing.

3. The capital improvement plan contained in this resolution provides a listing of, and information regarding, planned capital improvement projects.

4. This resolution and capital improvement plan does not address projects that are solely for maintenance, repair or replacement and therefore not classified as improvement projects.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF TROUTDALE

Section 1. The City of Troutdale Public Works Department Capital Improvement Plan, dated March 2016, attached hereto as Attachment A and made a part hereof, is adopted.

Section 2. Resolution numbers 1995 and 2225 are rescinded.

Section 3. The Parks Capital Improvement Plan adopted in Resolution 1941 is rescinded.

Section 4. This Resolution shall be effective immediately upon adoption.

YEAS: 5
NAYS: 2 Councilor White, Councilor Allen
ABSTAINED: 0

Doug Daoust

Doug Daoust, Mayor

3/31/16

Date

K Schlaht

Kenda Schlaht, Deputy City Recorder

Adopted: March 22, 2016

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Introduction

This document provides a plan for City-funded, capacity-enhancing capital improvements that the City anticipates will be needed over approximately the next 20 years. Among other purposes, this plan supports the expenditure of system development charge improvement fees as required by ORS 223.309.

The City's Comprehensive Plan provides the overall context for development and redevelopment patterns within the City. Comprehensive planning leads to projections of the magnitude of growth and the patterns and intensities of growth and development. These projections in turn inform the development of system Master Plans. System Master Plans are the primary source for projects in this CIP. Projects can also be identified based on the goals and vision of the community and the City Council.

The Plan is the result of a process involving four distinct steps:

1. Project identification by the appropriate Public Works Division. Projects are most commonly identified through the City's Master Plans and each Master Plan has included public involvement during its development. Projects can be identified through other processes as well, often after receiving input from concerned citizens, groups, or organizations.
2. Project reviews and consolidation by the Public Works Department.
3. Project review and comment by other City staff.
4. Plan revision, if necessary, and adoption by the City Council following a public hearing.

The Plan consists of these elements:

1. Project Name: A brief description of the project.
2. Project Number: A five-digit number consisting of a two-digit prefix identifying the type of project (WA = Water, SA = Sanitary Sewer, SD = Storm Drainage, ST = Streets/Transportation, and PA = Parks) and three digits to consecutively number the projects within their respective categories from 001 to 999. Storm drainage projects vary slightly, with the third digit being either an "N" (for North Troutdale Drainage Basin, flowing to the Columbia River) or an "S" (for South Troutdale Drainage Basin, flowing to the Sandy River), then the last two digits number the projects consecutively from 01 to 99 within the basin. The project numbers are for tracking and reporting purposes only and do not denote priority or proposed sequence of accomplishment.
3. Timeframe: The estimated general timeframe within which the project is expected to occur. Immediate: Project is in progress, or to commence within the next 1 or 2 fiscal years. Short: Within the next 5 fiscal years. Medium: Within the next 5-10 fiscal years. Long: 10 years or more.

4. Estimated Cost: The estimated cost of the project. Where applicable, the total cost of the project along with the anticipated City contribution. All costs shown in this plan are reflected in current dollars (as if the project were built today), excepting the Parks CIP which is in 2008 dollars, and actual dollar figures realized for future projects will likely be higher due to construction cost inflation over time.
5. Funding Source: The proposed source of funds for the project, including the percentage of the project cost that will be paid for with system development charge revenue. "Improvement Funds" contain SDC revenue. Identification of a proposed funding source does not prohibit the City Council and Budget Committee from substituting an alternative funding source due to funding availability or other reasons, subject to the limitations and requirements of budget and SDC laws and ordinances.
6. Problem: The problem to be solved by the project.
7. Proposed Solution/Description: A description of the essential elements of the project.
8. Identified By: The agency, document or other party that identified the problem and/or proposed the solution.
9. In Previous CIP: Yes = This project was listed in the previous iteration of the adopted CIP; No = This is a newly identified project in this current iteration of the CIP.
10. Related Projects: The identification of any other Capital Improvement Projects that might substantially affect this project.

This Plan does not appropriate funds nor authorize improvements to be accomplished. Funding for a proposed project must be appropriated through the normal budget process. The City Council and Budget Committee retain authority to approve or reject funding for any project herein during that budget process each fiscal year. Applicable Federal, State, and local laws, rules, and regulations apply. Inclusion of a project in this Plan is not an indication that project approval will be granted, funds will be appropriated, external funds will be forthcoming, or necessary permits will be issued. The City Council may amend this plan at any time, and it is recommended that this plan be reviewed and updated (as needed) by the City Council at least annually.

Comments concerning the format and/or content of this Plan are welcomed and should be addressed to the Public Works Department, City of Troutdale, 342 SW 4th Street, Troutdale, OR 97060.

ABBREVIATIONS

CBD	Central Business District
CIP	Capital Improvement Plan
ODOT	Oregon Department of Transportation
PRV	Pressure Regulating Valve
SDIC	Sandy Drainage Improvement Company
STIP	Surface Transportation Improvement Program (State of Oregon)
URA	Urban Renewal Area or Urban Renewal Agency

Transportation Improvements

1. **Project Name:** Improve NW Graham Road

   Project Number: ST-080

   Timeframe: Immediate (in-progress)

   Estimated Cost: $ 3,400,000 (Total Cost) $ 550,000 (City Share)

   Funding Source: Port of Portland, ODOT ($ 2,850,000)
   Street Improvement Fund ($ 550,000)

   Problem: Portions of NW Graham Road need to be reconstructed, widened and/or structurally upgraded to accommodate traffic growth, especially freight, with the development of the north industrial area including the Troutdale Reynolds Industrial Park.

   Proposed Solution: Widen and improve selected portions of NW Graham Road.

   Identified By: *City of Troutdale Transportation System Plan, 2014* (Project M8)

   In Previous CIP? Yes

   Related Project(s): SD-N20

2. **Project Name:** Downtown Parking Lot

Project Number: ST-089

Timeframe: Immediate

Estimated Cost: $ 50,000

Funding Source: Police Facility Capital Project Fund (100%)

Problem: Additional parking capacity is desired in the central business district and business owners have indicated a desire for more public parking availability in the CBD for all users. The construction of the new Police Facility has left the old Police Department site available for redevelopment and reuse.

Proposed Solution: Construct a public parking lot on the old Police Department site at 141 SE Dora Avenue.

Identified By: City Council

In Previous CIP? No

Related Project(s): ST-081

3. **Project Name:** Downtown Parking Study

Project Number: ST-090

Timeframe: Immediate

Estimated Cost: $ 51,000

Funding Source: Street Fund (25%), Street Improvement (25%)
General Fund-Planning (50%)

Problem: Additional ADA and bicycle parking is desired in the central business district and business owners have indicated a desire for more public parking availability in the CBD for all users.

Proposed Solution: Conduct a study to optimize existing parking in the CBD, and to identify and assess opportunities for developing additional public parking, including ADA and bicycle parking.

Identified By: *City of Troutdale Transportation System Plan, 2014* (Project M13)

In Previous CIP? No

Related Project(s): ST-081, ST-082, ST-089

4. **Project Name:** Columbia Gorge Bike Hub

Project Number: ST-082

Timeframe: Immediate

Estimated Cost: $85,000

Funding Source: ODOT (100%)

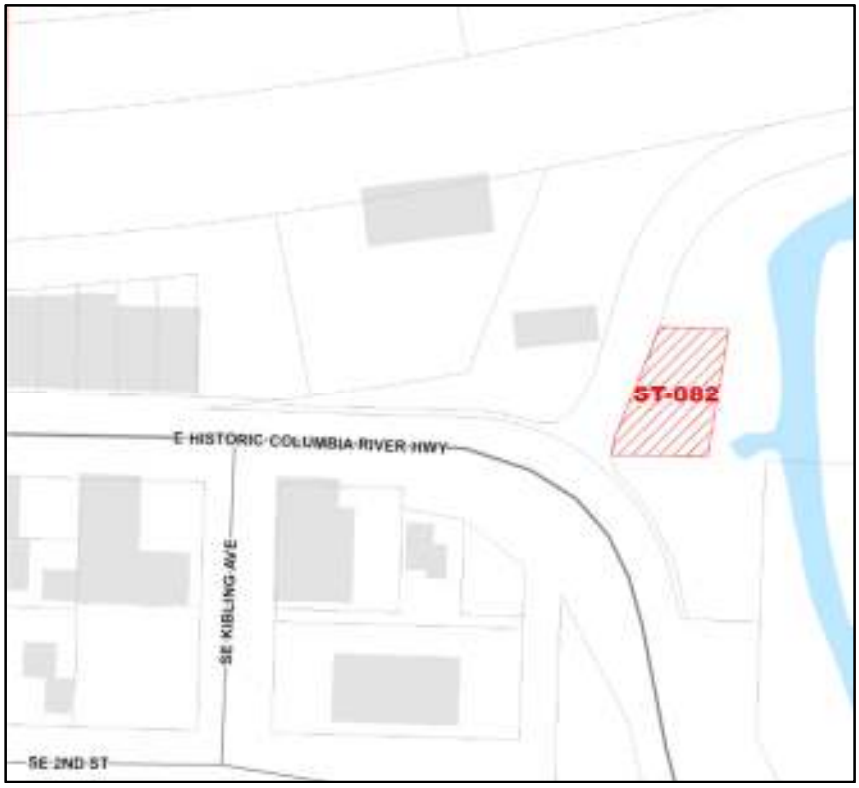
Problem: The CBD is a town center intended to be bicycle-friendly. Additionally, the CBD lies on a very popular bicycle touring route and experiences large, and increasing, bicycle traffic volumes. Bicycle parking and support facilities for cyclists are very limited in the CBD, discouraging CBD workers from bicycling and discouraging bicyclists from visiting and stopping in the CBD. Travel Oregon is partnering with Cities (including Troutdale) along the Columbia Gorge and other community groups to develop Bicycle Hubs in each City that will provide rest stops and support services for bicycle riders. Troutdale currently lacks such a bike hub.

Proposed Solution: Construct a Bike Hub along Historic Columbia River Highway

Identified By: Travel Oregon, Chamber of Commerce, City Council

In Previous CIP? No

Related Project(s): ST-090, ST-081



5.	**Project Name:**	ADA Transition Plan for PW Facilities
	Project Number:	ST-083
	Timeframe:	Immediate
	Estimated Cost:	$ 15,000
	Funding Source:	Public Works Management (100%)
	Problem:	All municipalities are required to prepare, adopt and pursue an ADA transition plan to remove existing ADA barriers. The City's ADA transition plan is out of date and needs updated.
	Proposed Solution:	Prepare a new ADA transition plan for Public Works Facilities.
	Identified By:	Staff
	In Previous CIP?	No
	Related Project(s):	ST-088

6. **Project Name:** Primary Access to Urban Renewal Area

Project Number: ST-084

Timeframe: Short Term

Estimated Cost: $3,197,000

Funding Source: Urban Renewal Agency (100%)

Problem: The Urban Renewal Area lacks a sufficient primary automobile, bicycle and pedestrian access road.

Proposed Solution: Acquire right-of-way and construct a new public street through the Columbia Factory Outlet Mall property from the intersection of SW 257th Avenue and SW 257th Way to the Urban Renewal Area.

Identified By: *Riverfront Renewal Plan, 2006 (AMDD 2014)*

In Previous CIP? No

Related Project(s): None

7. **Project Name:** Bicycle Parking in the CBD

Project Number: ST-081

Timeframe: Short Term

Estimated Cost: $ 31,000

Funding Source: Bike Paths and Trails Fund (50%), Street Fund (50%)

Problem: The CBD is a town center intended to be bicycle-friendly. Additionally, the CBD lies on a very popular bicycle touring route and experiences large, and increasing, bicycle traffic volumes. Bicycle parking is currently very limited in the CBD, discouraging CBD workers from bicycling and discouraging bicyclists from visiting and stopping in the CBD.

Proposed Solution: Install bicycle parking in the CBD at one or more locations, including covered/long-term bicycle parking

Identified By: *City of Troutdale Transportation System Plan, 2014* (Project B18)

In Previous CIP? No

Related Project(s): ST-082, ST-090, ST-091

8.	**Project Name:**	Shared Roadway Pavement Markings
	Project Number:	ST-091
	Timeframe:	Short Term
	Estimated Cost:	$ 62,000
	Funding Source:	Street Fund (100%)
	Problem:	Several bicycle routes in the City do not have sufficient roadway space for dedicated bicycle lanes and are low-speed roads where bicycles can safely share the travel lanes with vehicles.
	Proposed Solution:	Install shared roadway pavement markings.
	Identified By:	*City of Troutdale Transportation System Plan, 2014* (Projects B11-B15)
	In Previous CIP?	No
	Related Project(s):	None

9.	**Project Name:**	Pedestrian Crossings/Traffic Calming in the CBD
	Project Number:	ST-079
	Timeframe:	Short Term
	Estimated Cost:	$ 150,000 (Total Cost) $ 60,000 (City Share)
	Funding Source:	County (50%), Developer (10%), Street Fund (25%) Street Improvement Fund (15%)
	Problem:	The CBD is a Town Center intended to be pedestrian-oriented, with additional focus on pedestrian safety, accessibility and circulation. Current configuration of Historic Columbia River Highway is auto-oriented and needs to be friendlier and more inviting to pedestrians, encourage pedestrians to circulate between north and south sides of street, and ADA compliant. On-street parking limits site distance for vehicles entering from side-streets. Traffic calming is needed to reduce vehicle speeds and improve vehicular and pedestrian safety.
	Proposed Solution:	Install curb extensions, including new ADA ramps, along HCRH at Kendall, Buxton, Dora, Harlow and Kibling intersections on north and south sides of HCRH
	Identified By:	*City of Troutdale Transportation System Plan, 2014* (Project P37)
	In Previous CIP?	No
	Related Project(s):	None

10. Project Name: Improve Stark Street from 257th to Troutdale Road

Project Number: ST-007

Timeframe: Short Term

Estimated Cost: $ 3,690,000 (Total Cost) $ 369,000 (City Share)

Funding Source: County/Regional Funds (90%), Street Improvement Fund (10%)

Problem: This portion of Stark Street needs additional travel lanes, a center turn lane, and bike and pedestrian capacity.

Proposed Solution: Widen this portion of Stark Street to provide four travel lanes and a turn lane, reduce vertical and horizontal curves, and construct sidewalks and bike lanes.

Identified By: *City of Troutdale Transportation System Plan, 2014* (Project M4), STIP, RTP

In Previous CIP? Yes

Related Project(s): SD-S27

11. Project Name:	Construct Pedestrian Access ways
Project Number:	ST-064
Timeframe:	Short, Med and Long Term
Estimated Cost:	$ 120,000
Funding Source:	Bike Paths and Trails Fund (100%)
Problem:	Lack of pedestrian connectivity in several areas of the City.
Proposed Solution:	Construct pedestrian connection access ways in various locations in the City.
Identified By:	Staff
In Previous CIP?	Yes
Related Project(s):	None

12. Project Name: Improve SW Hensley Road – N/S leg

Project Number: ST-012

Timeframe: Medium Term

Estimated Cost: $ 300,000

Funding Source: Street Improvement Fund (50%), Street Fund (50%)

Problem: The north/south leg of SW Hensley does not meet current City street standards due to a lack of curbs, sidewalks and other standard streetscape elements.

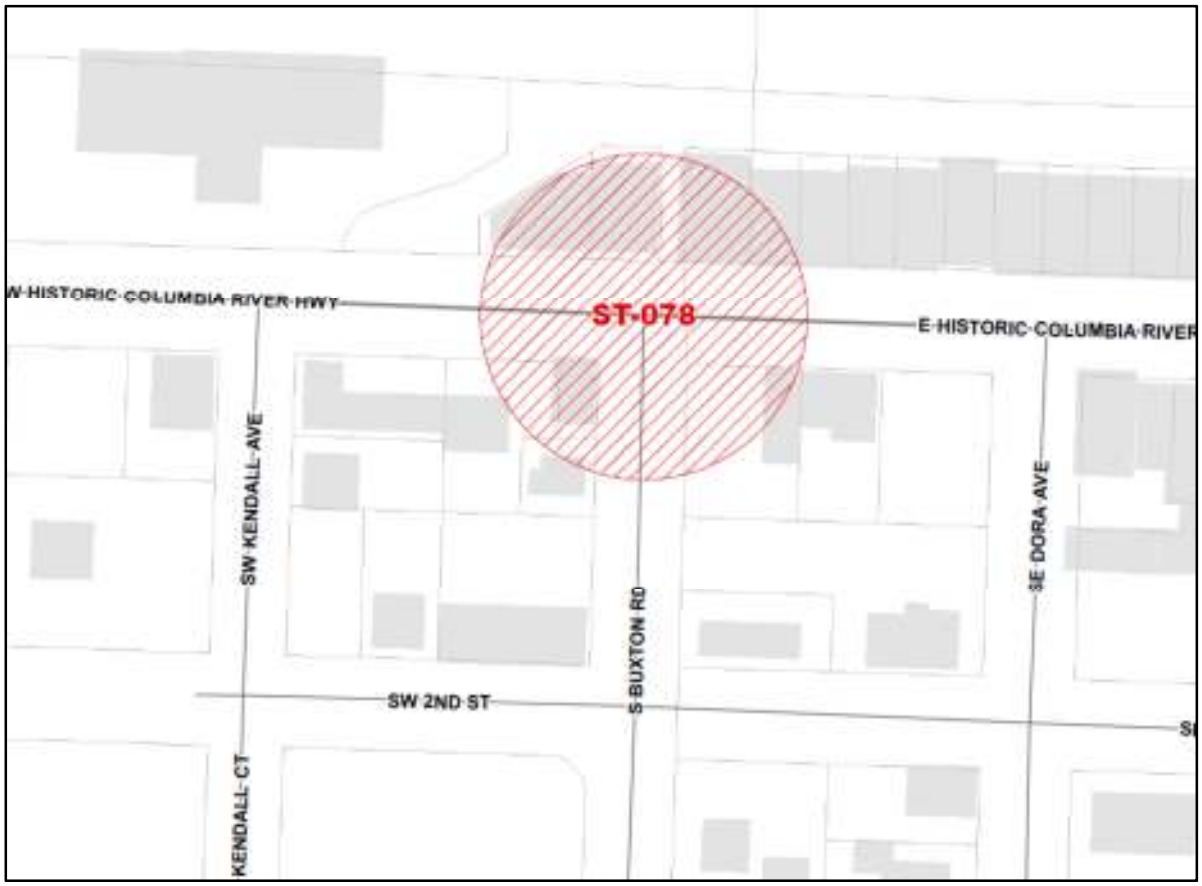
Proposed Solution: Improve SW Hensley Road by widening the roadway and constructing curbs, sidewalks, pedestrian crossings and other streetscape elements to meet current standards.

Identified By: *City of Troutdale Transportation System Plan, 2014* (Project P8)

In Previous CIP? Yes

Related Project(s): SD-S34

13. Project Name:	Signal at Buxton/Historic Columbia River Highway
Project Number:	ST-078
Timeframe:	Medium Term
Estimated Cost:	$ 250,000 (Total Cost) $ 50,000 (City Share)
Funding Source:	County/Regional Funds (80%), Street Improvement Fund (20%)
Problem:	This intersection is currently stop controlled and experiences heavy volumes during peak hours. Proximity to 257/HCRH intersection creates traffic issues and backups. There is limited opportunity for traffic making a left turn from Buxton onto the Historic Columbia River Highway, resulting in delay and backups on Buxton.
Proposed Solution:	Install a traffic signal at the intersection of Buxton Avenue and the Historic Columbia River Highway. Coordinate signal phasing with 257th/Columbia River Highway signal.
Identified By:	*City of Troutdale Transportation System Plan, 2014* (Project M11)
In Previous CIP?	Yes
Related Project(s):	None



14. Project Name: Reconstruct and Improve NW Dunbar Avenue

Project Number: ST-045

Timeframe: Medium Term

Estimated Cost: $ 468,000

Funding Source: Street Improvement Fund (50%), Street Fund (50%)

Problem: NW Dunbar Avenue does not meet current City street standards due to insufficient pavement width, curbs, sidewalks and other standard streetscape elements..

Proposed Solution: Improve NW Dunbar Avenue by widening the roadway and constructing curbs, sidewalks, pedestrian crossings and other streetscape elements to meet the commercial/industrial standard.

Identified By: *City of Troutdale Transportation System Plan, 2014* (Project M14)

In Previous CIP? Yes

Related Project(s): SD-N16

15. Project Name: Pedestrian Bridge from CBD to URA

Project Number: ST-085

Timeframe: Long Term

Estimated Cost: $ 3,074,000

Funding Source: Urban Renewal Agency (100%)

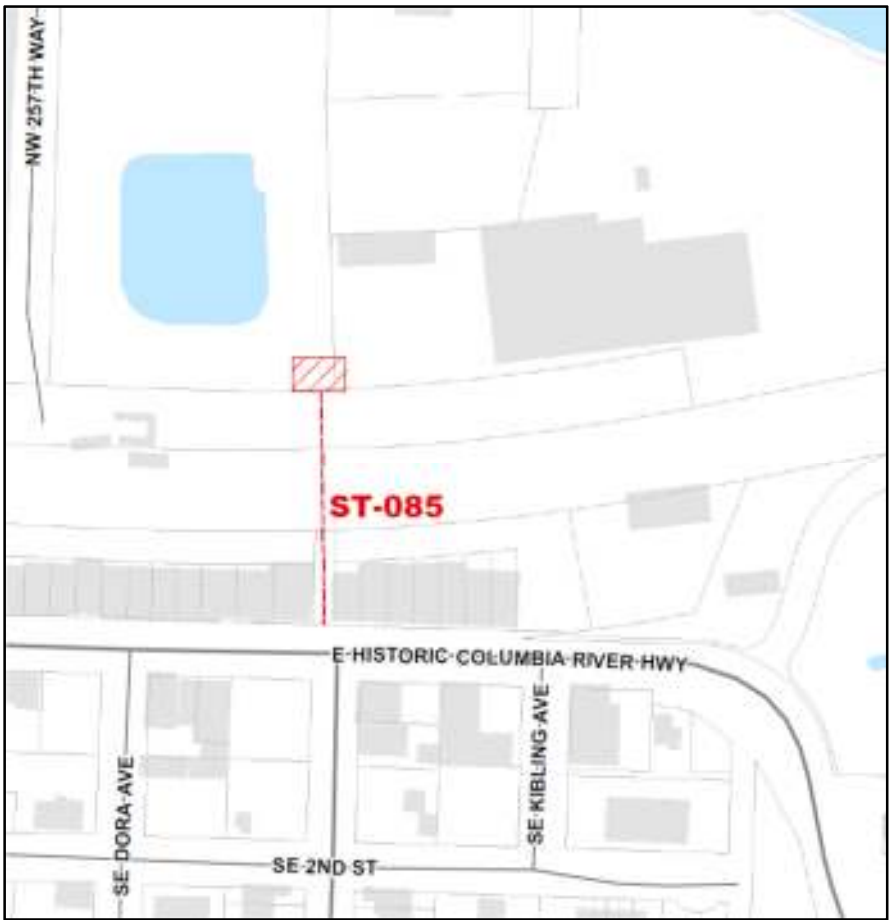
Problem: There is a lack of direct pedestrian connectivity between the URA and the CBD. The Union Pacific Railroad (UPRR) presents a barrier to developing traditional ground-level pedestrian connections between the CBD and the URA.

Proposed Solution: Construct a pedestrian bridge over the UPRR right of way between the CBD and the URA.

Identified By: *Riverfront Renewal Plan, 2006 (AMDD 2014)*

In Previous CIP? No

Related Project(s): None



16. Project Name: Backage Road (Marine Drive Extension)

Project Number: ST-077

Timeframe: Long Term

Estimated Cost: $ 9,737,000 (Total Cost) $ 1,168,000 (City Share)

Funding Source: ODOT STIP (88%), Street Improvement (12%)

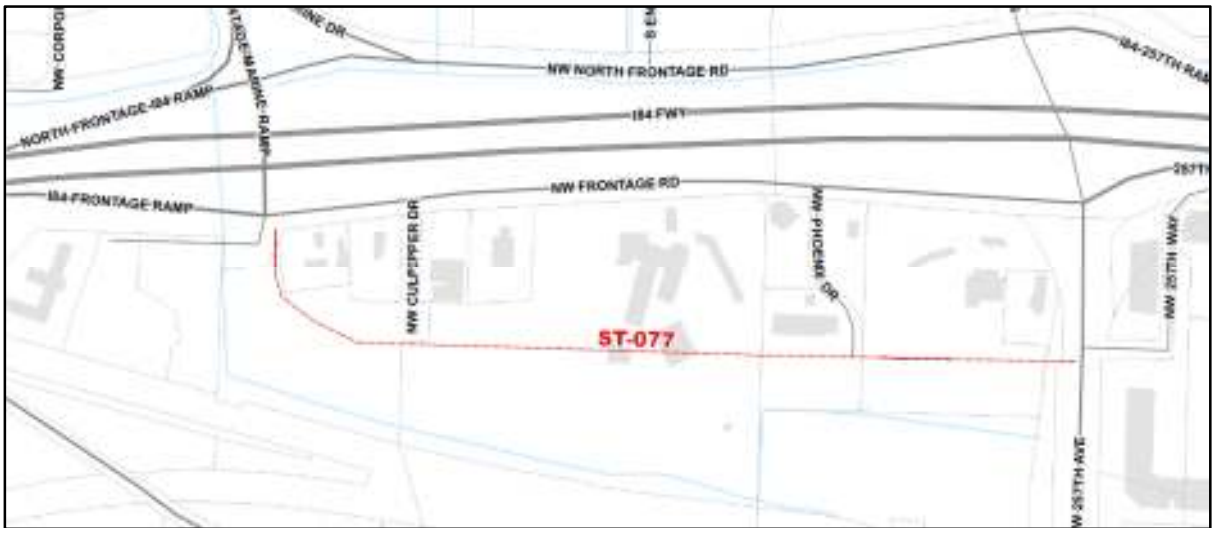
Problem: There are congestion and turning movement conflicts on the southern Frontage Road.

Proposed Solution: Construct a roadway from the intersection of Marine Drive/South Frontage Road southerly and easterly to the intersection of 257th Drive/257th Way behind the Frontage Road businesses.

Identified By: *City of Troutdale Transportation System Plan, 2014* (Project M9*), Troutdale Interchange Area Management Plan, 2011*

In Previous CIP? Yes

Related Project(s): None



17. Project Name: Update the Transportation System Plan

Project Number: ST-086

Timeframe: Long Term

Estimated Cost: $100,000

Funding Source: General Fund-Planning (50%), Street Improvement (50%)

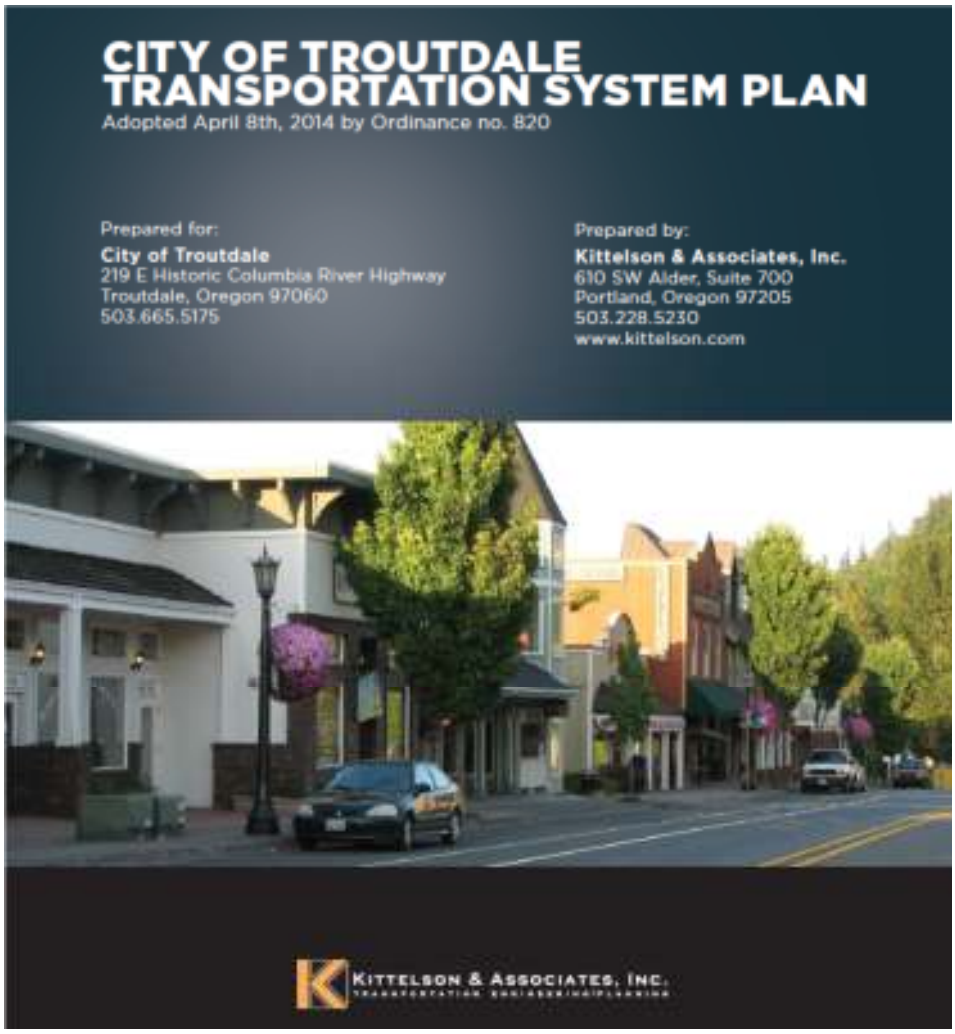
Problem: The current Transportation System Plan, prepared in 2014, will be in need of update. The need to update may also be driven by Periodic Review or other state Planning requirements.

Proposed Solution: Prepare an updated Transportation System Plan.

Identified By: Staff

In Previous CIP? No

Related Project(s): None



18. Project Name: Sidewalk Infill

Project Number: ST-087

Timeframe: Ongoing

Estimated Cost: $75,000

Funding Source: Bike Paths and Trails Fund (50%), Street Fund (50%)

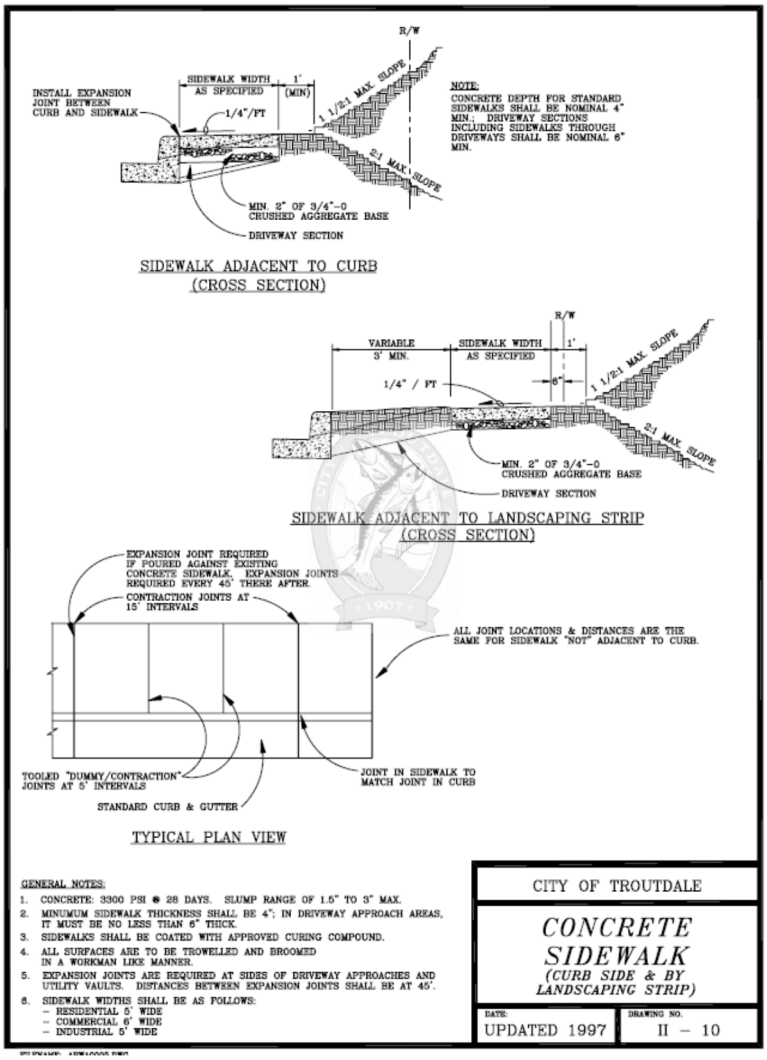
Problem: There are numerous gaps in the City's sidewalk system and some streets lack sidewalks entirely.

Proposed Solution: Construct sidewalks to infill gaps and to provide sidewalks on streets that have none.

Identified By: Staff

In Previous CIP? No

Related Project(s): None



19. Project Name:	ADA Infill/Upgrades on Public Streets
Project Number:	ST-088
Timeframe:	Ongoing
Estimated Cost:	$250,000
Funding Source:	Street Fund (50%), Bike Paths and Trails Fund (50%)
Problem:	The ADA Transition Plan will identify needed ADA infill and upgrade projects.
Proposed Solution:	Construct new and upgraded ADA facilities on public streets where directed by the ADA Transition Plan.
Identified By:	Staff
In Previous CIP?	No
Related Project(s):	ST-083

CIP Summary Table

TRANSPORTATION

Project Name	Project #	Timeframe*	Estimated Total Cost**	Estimated City Cost**	Funding Source(s)	In Previous CIP?	Related Projects
Improve NW Graham Road	ST-080	Immediate (in progress)	$ 3,400,000	$ 550,000	Port, ODOT STIP, JTA ($2,850,000) Street Imp ($550,000)	Y	SD-N20
Downtown Parking Lot	ST-089	Immediate (in progress)	$ 50,000	$ 50,000	Police Facility Capital Project Fund (100%)	N	ST-081
Downtown Parking Study	ST-090	Immediate	$ 51,000	$ 51,000	Street (25%), General [Planning] (50%), Street Imp (25%)	N	ST-081, ST-082, ST-089
Columbia Gorge Bike Hub	ST-082	Immediate	$ 85,000	$ -	ODOT (100%)	N	ST-090, ST-081
ADA Transition Plan for PW Facilities	ST-083	Immediate	$ 15,000	$ 15,000	Public Works Management (100%)	N	ST-088
Primary Access to Urban Renewal Area	ST-084	Short	$ 3,197,000	$ 3,197,000	URA (100%)	N	None
Bicycle Parking in the CBD	ST-081	Short	$ 31,000	$ 31,000	Bike Paths/Trails (50%), Street (50%)	N	ST-082, ST-090, ST-091
Shared Roadway Pavement Markings	ST-091	Short	$ 62,000	$ 62,000	Street (100%)	N	None
Pedestrian Crossings/Traffic Calming in the CBD	ST-079	Short	$ 150,000	$ 60,000	County (50%), Developer (10%), Street (25%), Street Imp (15%)	N	None
Improve Stark Street from 257th to Troutdale Road	ST-007	Short	$ 3,690,000	$ 369,000	County/Regional Funds (90%) Street Imp (10%)	Y	SD-S27
Construct Pedestrian Accessways	ST-064	Short, Med, and Long	$ 120,000	$ 120,000	Bike Paths/Trails (100%)	Y	None
Improve SW Hensley Road - N/S Leg	ST-012	Medium	$ 300,000	$ 300,000	Street Imp (50%) Street (50%)	Y	SD-S34, UG-XX
Signal at Buxton/Historic Columbia River Highway	ST-078	Medium	$ 250,000	$ 50,000	County (80%) Street Imp (20%)	Y	None
Reconstruct and Improve NW Dunbar Avenue	ST-045	Medium	$ 468,000	$ 468,000	Street Imp (50%), Street (50%)	Y	SD-N16
Pedestrian Bridge from CBD to URA	ST-085	Long	$ 3,074,000	$ 3,074,000	URA (100%)	N	None
Backage Road (Marine Drive Extension)	ST-077	Long	$ 9,737,000	$ 1,168,000	ODOT STIP (88%), Street Imp (12%)	Y	None
Update the Transportation System Plan	ST-086	Long	$ 100,000	$ 100,000	General Fund [Planning] (50%) Street Imp (50%)	N	None
Sidewalk Infill	ST-087	Ongoing	$ 75,000	$ 75,000	Bike Paths/Trails (50%), Street (50%)	N	None
ADA Infill/Upgrades on Public Streets	ST-088	Ongoing	$ 250,000	$ 250,000	Bike Paths/Trails (50%), Street (50%)	N	ST-083
		TOTALS	**$ 25,105,000**	**$ 9,990,000**			

*TIMEFRAMES: Immediate (< 2 yr), Short (< 5 yr), Medium (5-10 yr), Long (> 10 yr)

**Cost Basis: 2016 Dollars

Water Improvements

1. **Project Name:** Reservoir Seismic Study

   Project Number: WA-044

   Timeframe: Short Term

   Estimated Cost: $ 86,000

   Funding Source: Water Fund (100%)

   Problem: The City's drinking water reservoirs were built prior to the implementation of current seismic standards and appear to be deficient with respect to modern seismic protections. Reservoirs are critical infrastructure to protect life and health during a disaster event. Additionally, reservoir failure in an earthquake could result in significant property damage. Reservoirs should be constructed and equipped to survive the Maximum Credible Earthquake (MCE) event to the maximum extent practicable based on current knowledge and standards.

   Proposed Solution: Conduct a study to determine the seismic performance of all four of the City's reservoirs under the MCE event scenario and to make specific retrofit recommendations for each reservoir to improve its ability to survive the MCE event without failure or loss of contents. This will inform and determine the specific scopes of work for WA-045 and WA-046.

   Identified By: *City of Troutdale Water Master Plan, 2012*

   In previous CIP? Yes

   Related Project(s): WA-045, WA-046

2. **Project Name:** Reservoir No. 2 Seismic Improvements

Project Number: WA-045

Timeframe: Short Term

Estimated Cost: $ 339,000

Funding Source: Water Fund (100%)

Problem: Reservoir 2 was built prior to the implementation of current seismic standards and appears to be deficient with respect to modern seismic protections. Reservoirs are critical infrastructure to protect life and health during a disaster event. Additionally, reservoir failure in an earthquake could result in significant property damage. Reservoir 2 is the City's most important reservoir, and also the reservoir with the highest potential property damage consequence in a structural failure. Reservoir 2 should be constructed and equipped to survive the Maximum Credible Earthquake (MCE) event to the maximum extent practicable based on current knowledge and standards.

Proposed Solution: Retrofit seismic upgrades to the reservoir in accordance with the recommendation of a reservoir seismic study.

Identified By: *City of Troutdale Water Master Plan, 2012*

In previous CIP? Yes

Related Project(s): WA-044

3. **Project Name:** Extend Water Line from Spectro (Commerce Court) to Galli Container Storage Property (formerly RMAC)

Project Number: WA-028

Timeframe: Short Term

Estimated Cost: $ 80,000

Funding Source: Water Improvement Fund (100%)

Problem: The water distribution system is not looped in this area.

Proposed Solution: Construct a water line to loop the system. Looping the distribution system in this area increases capacity and reliability by allowing flow from either direction, and improves water quality by eliminating dead ends in the system where water can become stale and accumulate sediments. This increased capacity and reliability is needed to serve growth in the north industrial area.

Identified By: *City of Troutdale Water Master Plan, 2012,* Staff*

In previous CIP? Yes*

Related Project(s): WA-040

*This is a staff-developed variation on the project identified in the Master Plan and prior CIP

4. **Project Name:** Rogers Circle to Spectro (Commerce Court) Water Main Loop

Project Number: WA-040

Timeframe: Short Term

Estimated Cost: $ 97,000

Funding Source: Water Improvement Fund (50%), Water Fund (50%)

Problem: The water distribution system is not looped in this area.

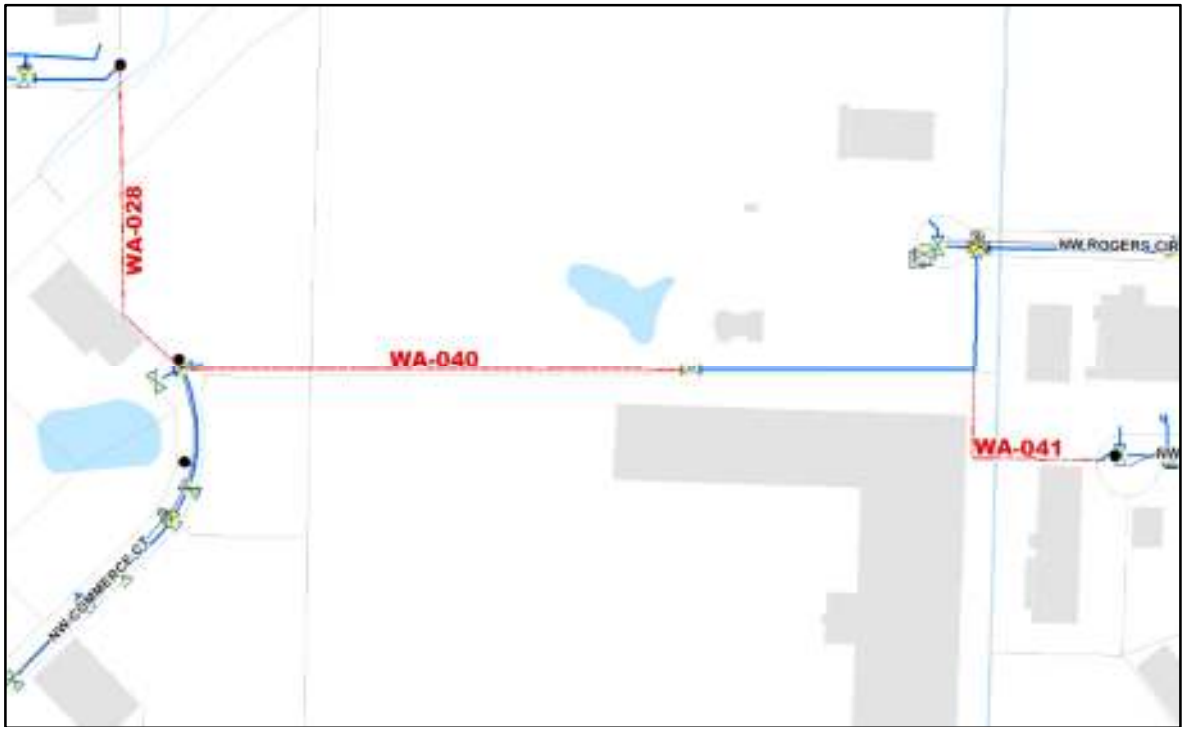
Proposed Solution: Construct a water line to loop the system. Looping the distribution system in this area increases capacity and reliability by allowing flow from either direction, and improves water quality by eliminating dead ends in the system where water can become stale and accumulate sediments. This increased capacity and reliability is needed to serve growth in the north industrial area.

Identified By: *City of Troutdale Water Master Plan, 2012*/Staff*

In previous CIP? Yes*

Related Project(s): WA-028

*This is a staff-developed variation on the project identified in the Master Plan and prior CIP



5. **Project Name:** Urban Renewal Area to Harlow Place Loop

Project Number: WA-042

Timeframe: Short Term

Estimated Cost: $ 155,000 (Total Cost) $ 15,500 (City Share)

Funding Source: Developer (90%), URA (10%)

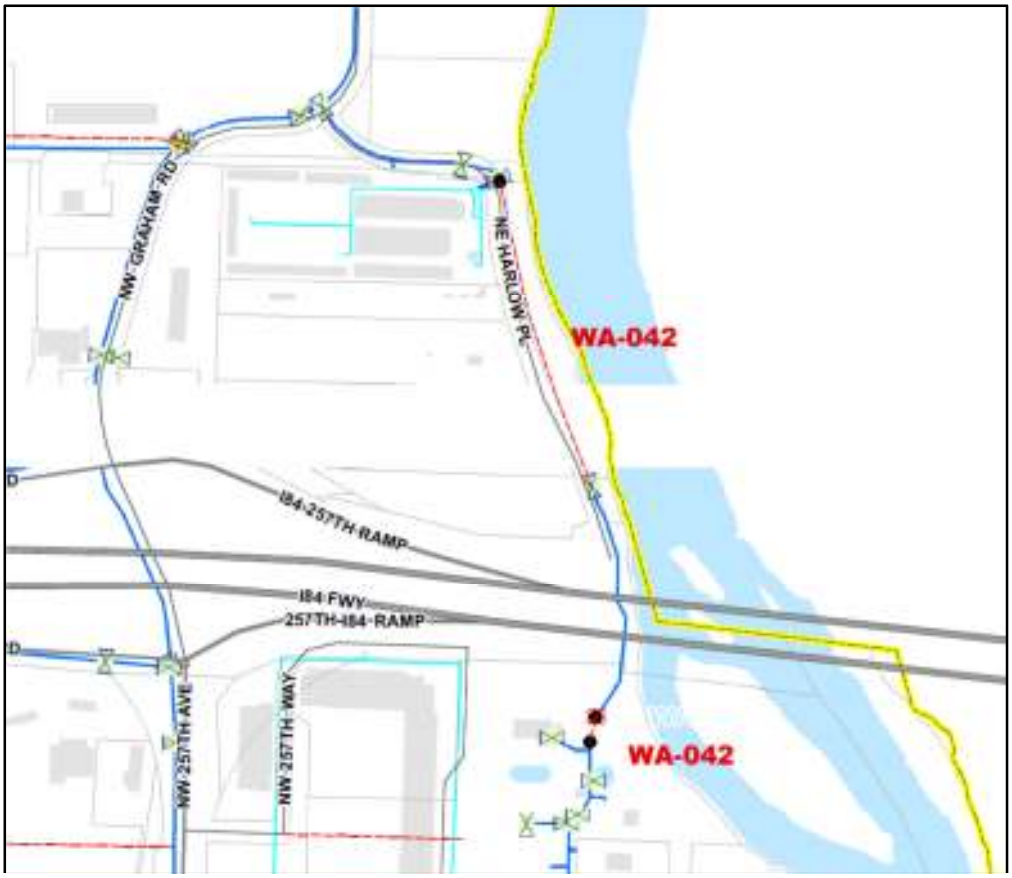
Problem: The water distribution system is not looped in this area.

Proposed Solution: Construct two water line segments to loop the system. Looping the distribution system in this area increases capacity and reliability by allowing flow from either direction, and improves water quality by eliminating dead ends in the system where water can become stale and accumulate sediments. This improvement is needed to serve growth in the URA and along Harlow Place. Additionally, this loop will increase capacity and reliability of fire flows to serve growth in the north industrial area. Include a PRV at the pressure zone boundary.

Identified By: *City of Troutdale Water Master Plan, 2012*

In previous CIP? Yes

Related Project(s): None



6. Project Name:	7th Street – Kings Byway Water Main Upsizing
Project Number:	WA-048
Timeframe:	Short Term
Estimated Cost:	$ 425,000
Funding Source:	Water Fund (100%)
Problem:	Modeled fire flows along Kings Byway are below current firefighting standards. Residents along these streets experience low pressures when the altitude valve at Reservoir #1 opens, due to the higher velocities developed in the existing small main.
Proposed Solution:	Upsize the water main in 7th Street and Kings Byway from 6" to 8" diameter.
Identified By:	*City of Troutdale Water Master Plan, 2012*
In previous CIP?	Yes
Related Project(s):	None

7. **Project Name:** Upgrade Booster Pump Station No. 2

Project Number: WA-047

Timeframe: Short Term

Estimated Cost: $ 50,000

Funding Source: Water Fund (100%)

Problem: Booster pump station No. 2 boosts pressure and flow to the southernmost service area of the City (Zone 6). The current booster station is under capacity and, as a result, the service area experiences periods of low pressure and fire flows could be impaired.

Proposed Solution: Upgrade the booster pumping station to increase capacity, providing more reliable service pressures and fire flows.

Identified By: *City of Troutdale Water Master Plan, 2012*

In previous CIP? Yes

Related Project(s): None

8. Project Name: SW Cherry Park Road to SW Spence Rd Loop

Project Number: WA-049

Timeframe: Medium Term

Estimated Cost: $ 65,000

Funding Source: Developers (100%)

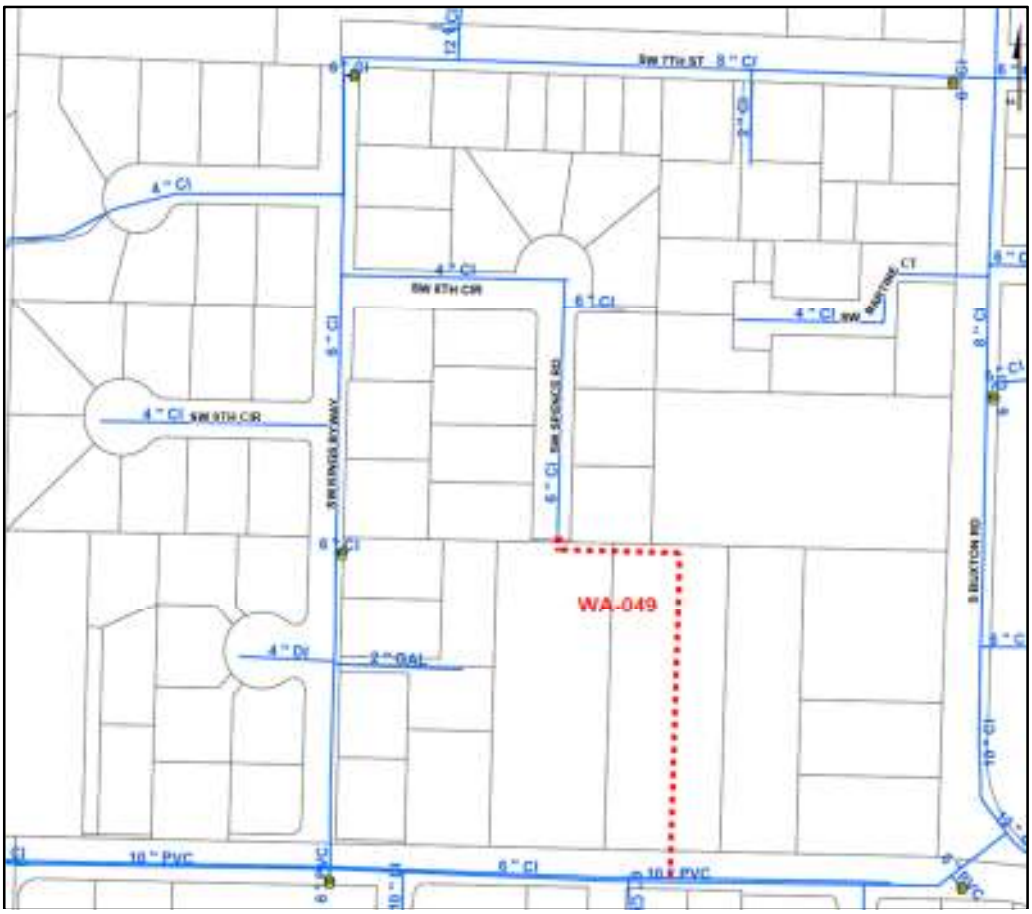
Problem: The water distribution system is not looped in this area. Modeled fire flows along Spence Rd are inadequate.

Proposed Solution: Construct a water line to loop the system. Looping the distribution system in this area increases capacity and reliability by allowing flow from either direction, and improves water quality by eliminating dead ends in the system where water can become stale and accumulate sediments. This loop will additionally benefit infill subdivision development of the adjacent properties on Cherry Park Road by providing a water main to serve those properties.

Identified By: Staff

In previous CIP? No

Related Project(s): None



9.	**Project Name:**	Construct a 1.0 MG Standpipe (Reservoir No. 5) with line to Zone 1
	Project Number:	WA-008
	Timeframe:	Medium Term
	Estimated Cost:	$ 2,257,000
	Funding Source:	Water Improvement Fund (100%)
	Problem:	There is inadequate storage for Zones 1, 2, & 3. Zone 6 currently requires booster pumping to maintain adequate service pressures and flows.
	Proposed Solution:	Construct a 1.0 MG Standpipe to provide additional capacity for fire flow and periods that wells are inoperative or unable to meet demand, with a transmission line connecting to pressure Zone 1 at Stark Street. Interconnect current Zone 6 to incorporate Zone 6 into Zone 1.
	Identified By:	*City of Troutdale Water Master Plan, 2012*
	In previous CIP?	Yes
	Related Project(s):	None

10. Project Name: Rogers Circle to Graham Circle Water Main Loop

Project Number: WA-041

Timeframe: Medium Term

Estimated Cost: $ 65,000

Funding Source: Water Fund (100%)

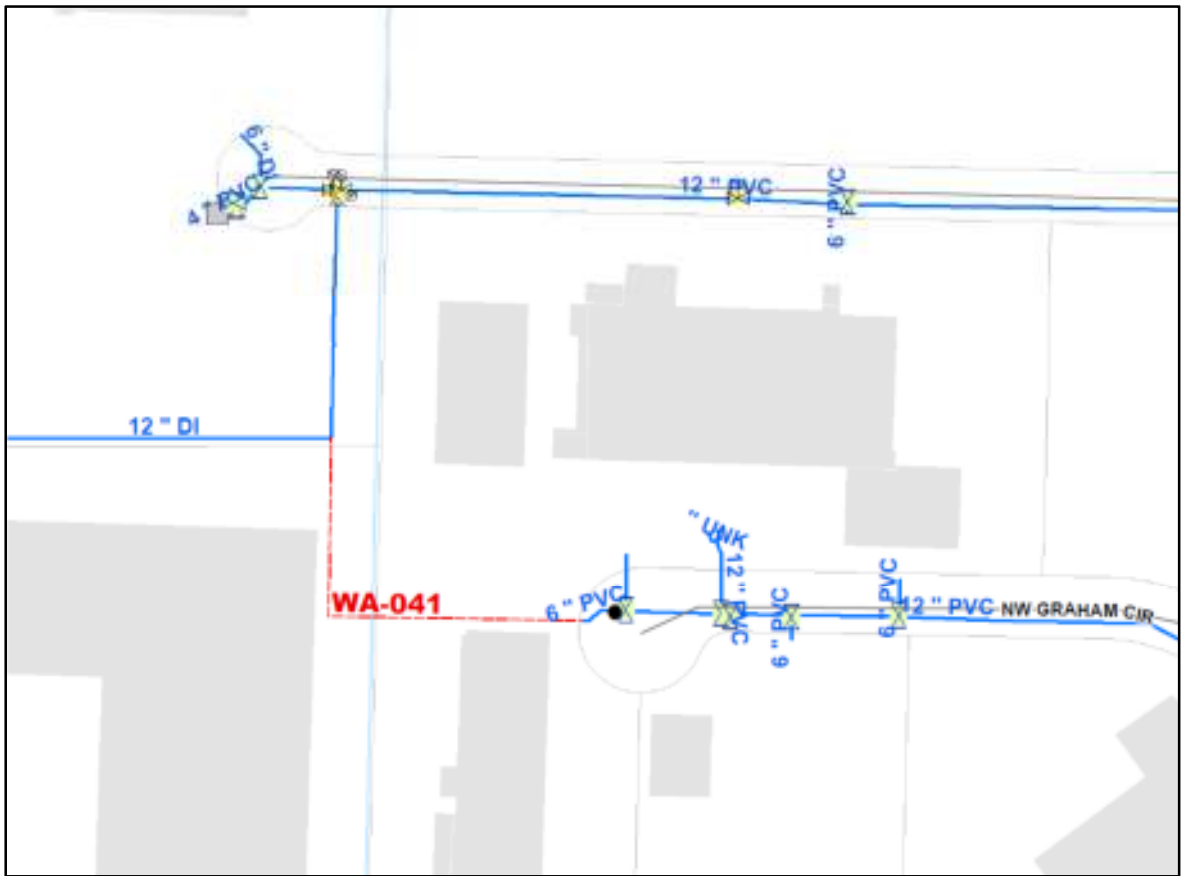
Problem: The water distribution system is not looped in this area.

Proposed Solution: Construct a water line to loop the system. Looping the distribution system in this area increases capacity and reliability by allowing flow from either direction, and improves water quality by eliminating dead ends in the system where water can become stale and accumulate sediments.

Identified By: Staff

In previous CIP? No

Related Project(s): None



11. Project Name: Well No. 9

Project Number: WA-043

Timeframe: Medium Term

Estimated Cost: $ 2,269,000

Funding Source: Water Improvement Fund (100%)

Problem: Firm production capacity of the City's well field will not meet future demands

Proposed Solution: Construct an additional well to provide additional firm production needed to meet future demand

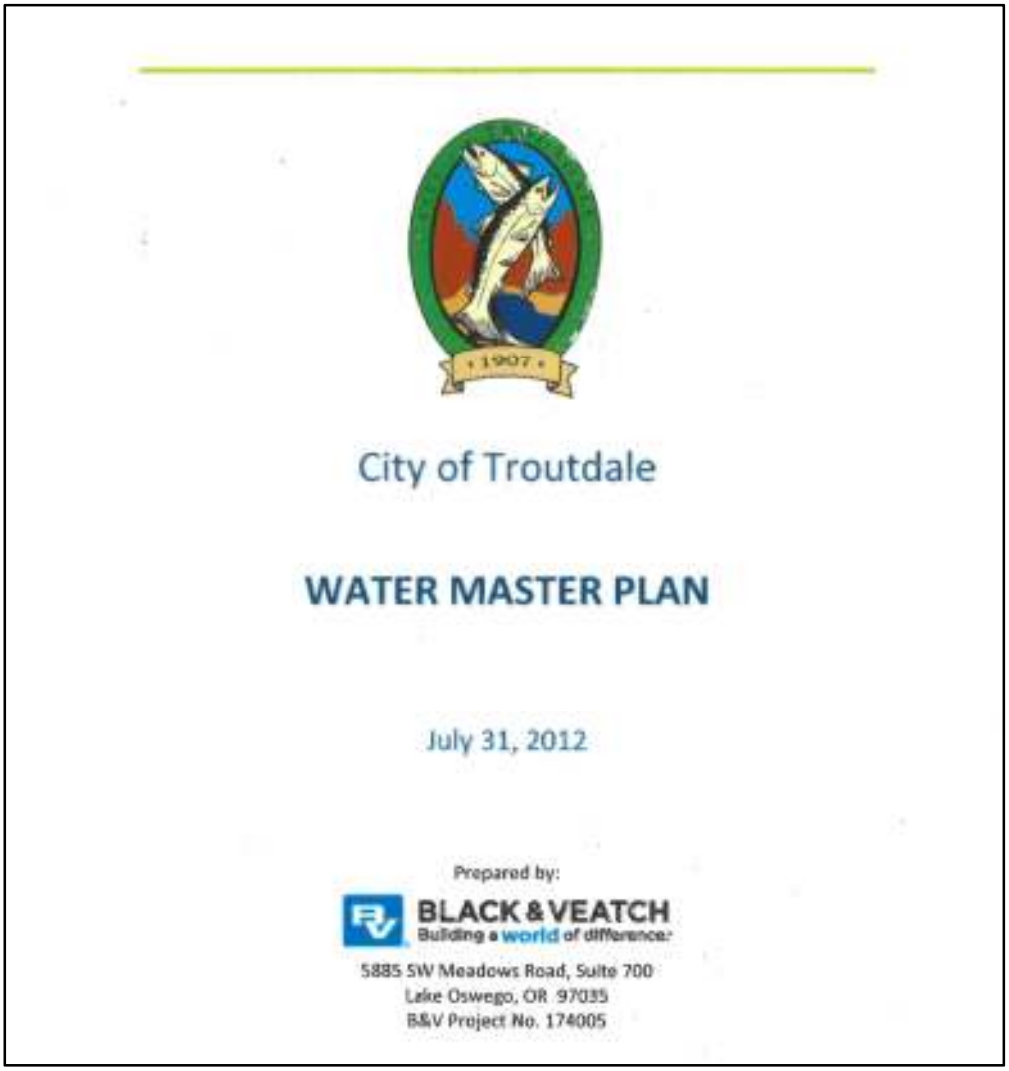
Identified By: *City of Troutdale Water Master Plan, 2012*

In previous CIP? Yes

Related Project(s): None

12.	**Project Name:**	Reservoir Nos. 1, 3 and 4 Seismic Improvements
	Project Number:	WA-046
	Timeframe:	Long Term
	Estimated Cost:	$ 402,000
	Funding Source:	Water Fund (100%)
	Problem:	Reservoirs 1, 3 and 4 were built prior to the implementation of current seismic standards and appear to be deficient with respect to modern seismic protections. Reservoirs are critical infrastructure to protect life and health during a disaster event. Additionally, reservoir failure in an earthquake could result in significant property damage. Reservoirs 1, 3 and 4 should be constructed and equipped to survive the Maximum Credible Earthquake (MCE) event to the maximum extent practicable based on current knowledge and standards.
	Proposed Solution:	Retrofit seismic upgrades to the reservoirs in accordance with the recommendation of a reservoir seismic study.
	Identified By:	*City of Troutdale Water Master Plan, 2012*
	In previous CIP?	Yes
	Related Project(s):	WA-044

13.	**Project Name:**	Update the Water Master Plan
	Project Number:	WA-038
	Timeframe:	Long Term
	Estimated Cost:	$ 100,000
	Funding Source:	Water Improvement Fund (50%), Water Fund (50%)
	Problem:	The current Water Master Plan was prepared in 2012 and will need updated.
	Proposed Solution:	Update the Waster Master Plan.
	Identified By:	Staff
	In previous CIP?	No
	Related Project(s):	None



City of Troutdale

WATER MASTER PLAN

July 31, 2012

Prepared by:

BLACK & VEATCH
Building a world of difference.

5885 SW Meadows Road, Suite 700
Lake Oswego, OR 97035
B&V Project No. 174005

CIP Summary Table

WATER

Project Name	Project #	Timeframe*	Estimated Total Cost**	Estimated City Cost**	Funding Source(s)	In Previous CIP?	Related Projects
Reservoir Seismic Study	WA-044	Short	$ 86,000	$ 86,000	Water (100%)	Y	WA-045, WA-046
Reservoir No. 2 Seismic Improvements	WA-045	Short	$ 339,000	$ 339,000	Water (100%)	Y	WA-044
Extend Waterline from Spectro to Galli	WA-028	Short	$ 80,000	$ 80,000	Water Imp (100%)	Y	WA-040
Rogers Circle to Spectro Water Main Loop	WA-040	Short	$ 97,000	$ 97,000	Water Imp (50%) Water (50%)	Y	WA-028
Urban Renewal Area to Harlow Place Loop	WA-042	Short	$ 155,000	$ 15,500	Developer (90%), URA (10%)	Y	None
7th Street - Kings Byway Water Main Upsizing	WA-048	Short	$ 425,000	$ 425,000	Water (100%)	Y	None
Upgrade Booster Pump Station No. 2	WA-047	Short	$ 50,000	$ 50,000	Water (100%)	Y	None
SW Cherry Park Road to SW Spence Rd Loop	WA-049	Short	$ 65,000	$ -	Developers (100%)	N	None
Reservoir 5 w/ line to Zone 1	WA-008	Medium	$ 2,257,000	$ 2,257,000	Water Imp (100%)	Y	None
Rogers Circle to Graham Circle Water Main Loop	WA-041	Medium	$ 65,000	$ 65,000	Water (100%)	N	None
Well No. 9	WA-043	Medium	$ 2,269,000	$ 2,269,000	Water Imp (100%)	Y	None
Reservoir Nos. 1, 3, and 4 Seismic Improvements	WA-046	Long	$ 402,000	$ 402,000	Water (100%)	Y	WA-044
Update the Water Master Plan	WA-038	Long	$ 100,000	$ 100,000	Water Imp (50%), Water (50%)	N	None
		TOTALS	**$ 6,390,000**	**$ 6,185,500**			

*TIMEFRAMES: Immediate (< 2 yr), Short (< 5 yr), Medium (5-10 yr), Long (> 10 yr)
**Cost Basis: 2016 Dollars

Sanitary Sewer Improvements

1. **Project Name:** GO Bond Debt Service

   Project Number: NA

   Timeframe: Through FY 2017-18

   Estimated Cost: $ 11,389,291 (Remaining Balance: $ 3,555,000)

   Funding Source: Sanitary Sewer Improvement Fund (39%), Sewer Fund (28%) and Property Tax (33%).

   Problem: Although the new treatment facility constructed with these GO bonds provided for a 47% increase in capacity (from 1.6 mgd to 3.0 mgd), the City Council determined that only 39% of the debt service payments should be paid by the Sanitary Sewer Improvement Fund.

   Proposed Solution: Pay 39% of the debt service payment from the Sanitary Sewer Improvement Fund, plus an additional $1,128,400 originally intended to be paid from SDCs but actually paid from property taxes due to lack of SDC revenue.

   Identified By: Staff

   In Previous CIP? Yes

   Related Project(s): None

2. **Project Name:** Wastewater Operations Annex ("GSA Property") Improvements

Project Number: SA-063

Timeframe: Immediate

Estimated Cost: $ 35,000

Funding Source: Sewer Fund (100%)

Problem: The City acquired this property adjacent to the WPCF through a grant from the Federal Government, for use in support of wastewater operations. The property lacks improvements to render it useable in its intended role. The Federal Government requires that the City improve and utilize the property or risk rescission of the grant.

Proposed Solution: Construct basic improvements on the property, including access and circulation roads and drainage facilities.

Identified By: Staff

In Previous CIP? No

Related Project(s): None

3. **Project Name:** Onsite Water Recycling System at the WPCF

Project Number: SA-064

Timeframe: Short Term

Estimated Cost: $150,000

Funding Source: Sewer Fund (100%)

Problem: The WPCF operations and irrigation is one of the largest consumers among the City's water customers, driving up the total water demand on the City's system and consuming water resources. This is also a significant expense for the City.

Proposed Solution: Install a water recycling system at the WPCF to recycle treated effluent for use onsite as process water and for irrigating the WPCF grounds.

Identified By: Staff

In Previous CIP? No

Related Project(s): None

4. **Project Name:** Upgrade Pump Station #2 (Husky Pump Station)

Project Number: SA-040

Timeframe: Short Term

Estimated Cost: $ 408,000

Funding Source: Sewer Fund (100%)

Problem: The pump station needs increased pump and motor capacity, increased wet well capacity, and enhanced motor controls.

Proposed Solution: Upgrade the capacity of the pump station by providing pump/motor, controls, and wet well improvements.

Identified By: *City of Troutdale Sanitary Sewer Master Plan, 2013*

In Previous CIP? Yes

Related Project(s): SA-062

5.	**Project Name:**	Pump Station Emergency Backup Power
	Project Number:	SA- 062
	Timeframe:	Short, Medium Term
	Estimated Cost:	**$** 200,000
	Funding Source:	Sewer Fund (100%)
	Problem:	Several of the City's sanitary sewer pump stations lack onsite emergency power supply and rely on a very limited number of portable generators that must be deployed from the WPCF. In the event of a power outage, especially an outage affecting multiple pump stations, sanitary sewer overflows could occur.
	Proposed Solution:	Install onsite emergency backup power generators with automatic transfer switches at pump station #'s 2, 3, 4, 6, 7 and 8.
	Identified By:	Staff
	In Previous CIP?	No
	Related Project(s):	SA-040, SA-059

6. **Project Name:** Airport to Graham Road Sewer Main Upsizing

Project Number: SA-057

Timeframe: Medium Term

Estimated Cost: $ 714,000

Funding Source: Developer

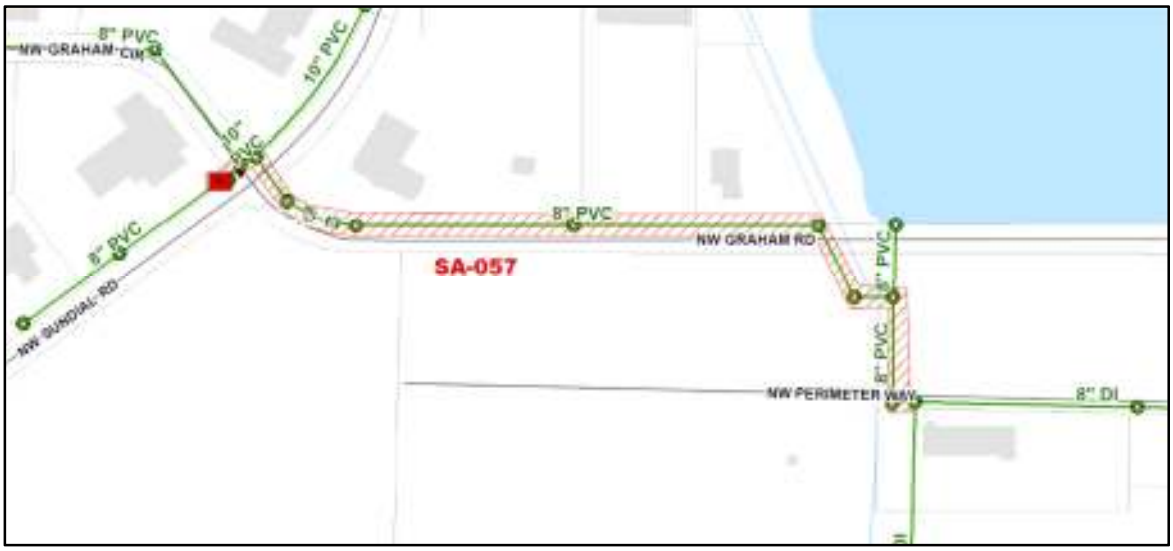
Problem: The existing segment of sewer main from the Sundial Road to the western end of Perimeter Way (via Graham Road) may be undersized with future flows, depending on intensity of industrial development

Proposed Solution: Upsize approximately 1,700 linear feet of the sewer main from 8" to 10"

Identified By: *City of Troutdale Sanitary Sewer Master Plan, 2013*

In Previous CIP? No

Related Project(s): None



7. **Project Name:** South Buxton Road Sewer Main Upsizing

Project Number: SA-055

Timeframe: Medium Term

Estimated Cost: $ 554,000

Funding Source: Sanitary Sewer Improvement Fund (38.4%), Sewer Fund (61.6%)

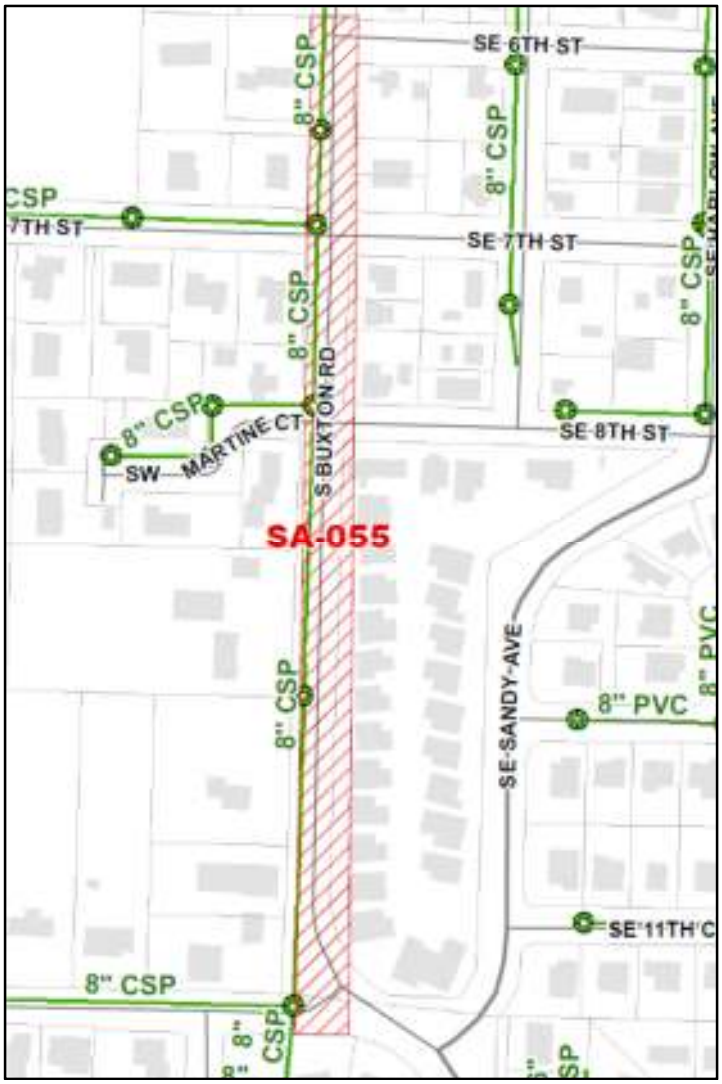
Problem: Existing sewer mains in the southern segment of S Buxton Road are projected to be under capacity with future growth

Proposed Solution: Upsize approximately 1200 linear feet of the sewer mains in S Buxton Road from 8" to 10"

Identified By: *City of Troutdale Sanitary Sewer Master Plan, 2013*

In Previous CIP? Yes

Related Project(s):



8. Project Name: Upgrade/Replace Pump Station #1, new force main

Project Number: SA-060

Timeframe: Medium Term

Estimated Cost: $ 2,973,000

Funding Source: Sewer Improvement Fund (100%)

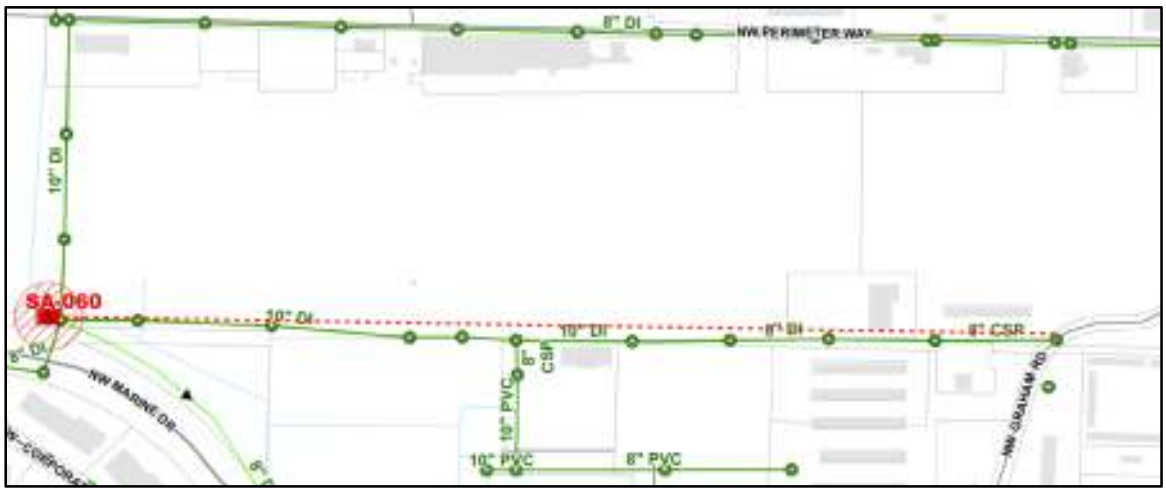
Problem: Future flows to this pump station/force-main will exceed its current capacity. The pump station configuration and equipment is aged and in need of upgrades, resulting in operational issues and poor efficiency relative to what can be provided with current technology. The alignment of the existing force main was based on the location of the old Wastewater Treatment Plant, resulting in flows from this pump station taking an unnecessarily circuitous route to the current WPCF location, which in turn puts unnecessary pressure on other force mains and pump stations along Frontage Road.

Proposed Solution: Upgrade or replace the existing pump station and construct a new 3,560 linear foot, 8" diameter force main directly east through the airport in an existing sanitary sewer easement to Graham Road.

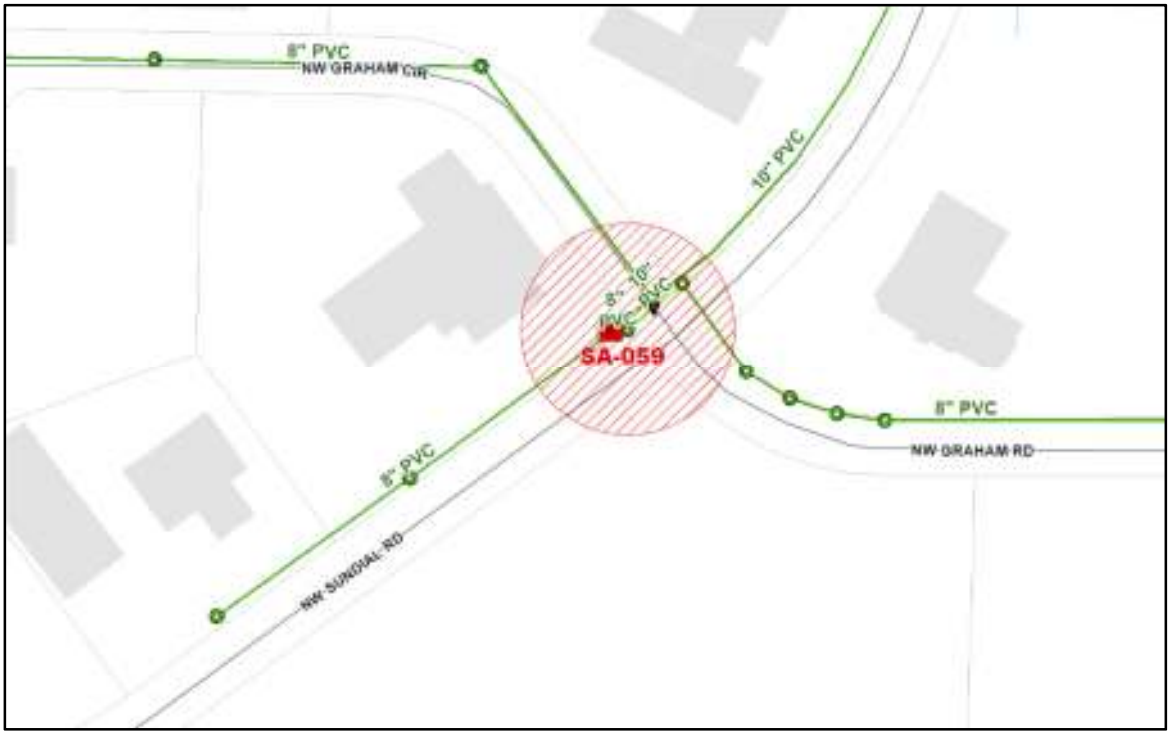
Identified By: *City of Troutdale Sanitary Sewer Master Plan, 2013*

In Previous CIP? No

Related Project(s): None



9.	**Project Name:**	Upsize Pump Station #7 (Sundial Pump Station)
	Project Number:	SA-059
	Timeframe:	Medium Term
	Estimated Cost:	$ 160,000
	Funding Source:	Developer (100%)
	Problem:	Future flows to PS #7 may exceed existing pumping capacity, depending on intensity of industrial development.
	Proposed Solution:	Install larger pumps.
	Identified By:	*City of Troutdale Sanitary Sewer Master Plan, 2013*
	In Previous CIP?	No
	Related Project(s):	SA-062



10. **Project Name:** Lower Beaver Creek and Troutdale Rd Sewer Main Upsizing

Project Number: SA-056

Timeframe: Long Term

Estimated Cost: $ 3,776,000

Funding Source: Sewer Improvement Fund (38.4%), Sewer Fund (61.6%)

Problem: Existing sewer main in the southern segment of SE Beaver Creek Lane are projected to be under capacity with future growth.

Proposed Solution: Upsize the sewer main.

Identified By: *City of Troutdale Sanitary Sewer Master Plan, 2013*

In Previous CIP? No

Related Project(s): SA-055

11. Project Name: WPCF Upgrades

Project Number: SA- 061

Timeframe: Long Term

Estimated Cost: $ 750,000

Funding Source: Sewer Fund (100%)

Problem: Changes in Federal and State NPDES regulations may result in more stringent limitations on Water Pollution Control Facility discharges that the City's WPCF cannot meet with its current treatment systems.

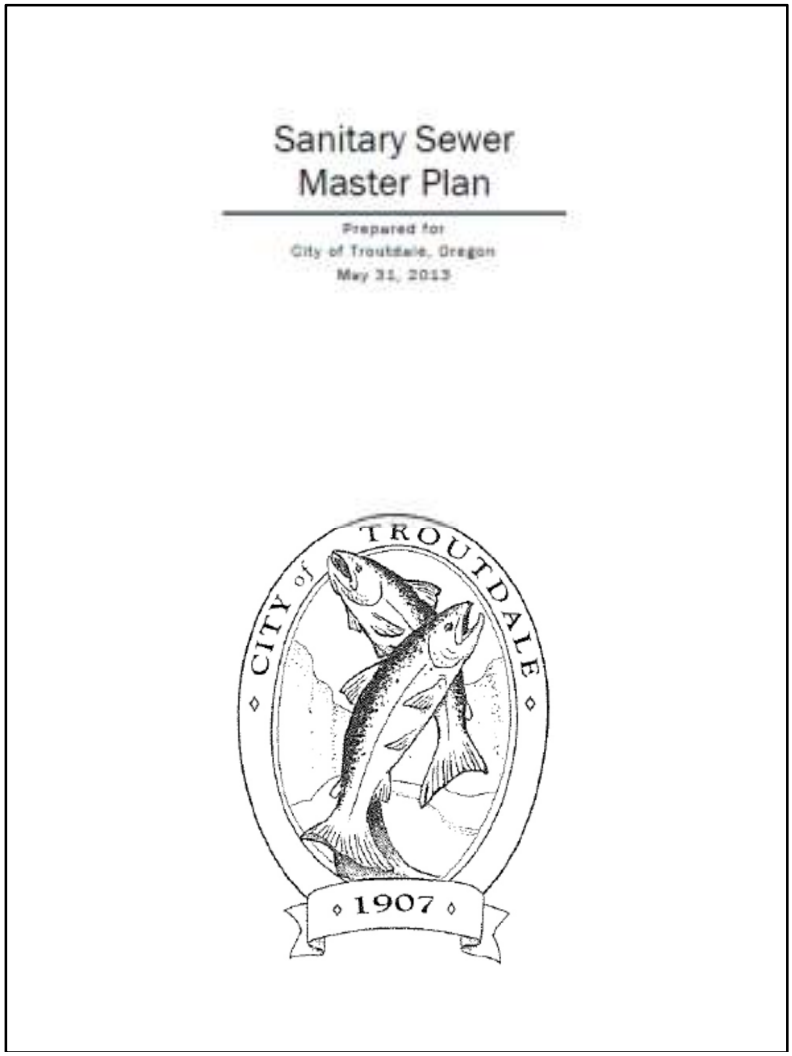
Proposed Solution: Construct additional and/or upgraded treatment systems at the WPCF.

Identified By: Staff

In Previous CIP? No

Related Project(s): None

12.	**Project Name:**	Update Sanitary Sewer Collection System Master Plan
	Project Number:	SA-053
	Timeframe:	Long Term
	Estimated Cost:	$ 100,000
	Funding Source:	Sanitary Sewer Improvement Fund (50%), Sewer Fund (50%)
	Problem:	The current Sanitary Sewer Master Plan was prepared in 2013 and will need updated.
	Proposed Solution:	Update the Sanitary Sewer Master Plan.
	Identified By:	Staff
	In Previous CIP?	Yes
	Related Project(s):	None


Sanitary Sewer
Master Plan

Prepared for
City of Troutdale, Oregon
May 31, 2013

CIP Summary Table

SANITARY SEWER

Project Name	Project #	Timeframe*	Estimated Total Cost**	Estimated City Cost**	Funding Source(s)	In Previous CIP?	Related Projects
GO Bond Debt Service	NA	Thru FY2017-18	$ 3,555,000	$ 3,555,000	Sewer Imp (39%), Sewer (28%), ~~General~~ Property Tax (33%)	Y	None
Wastewater Operations ("GSA")Annex Improvements	SA-063	Immediate	$ 35,000	$ 35,000	Sewer (100%)	N	None
Onsite Water Recycling System at WPCF	SA-064	Short	$ 150,000	$ 150,000	Sewer (100%)	N	None
Upgrade Pump Station #2 (Husky PS)	SA-040	Short	$ 408,000	$ 408,000	Sewer (100%)	Y	SA-062
Pump Station Emergency Backup Power	SA-062	Short, Medium	$ 200,000	$ 200,000	Sewer (100%)	N	SA-040, SA-059
Airport to Graham Road Sewer Main Upsizing	SA-057	Medium	$ 714,000	$ -	Developer (100%)	N	None
South Buxton Road Sewer Main Upsizing	SA-055	Medium	$ 554,000	$ 554,000	Sewer Imp (38.4%), Sewer (61.6%)	N	None
Upgrade/Replace PS-1 and new force main	SA-060	Medium	$ 2,973,000	$ 2,973,000	Sewer Imp (100%)	N	None
Upsize Pump Station #7 (Sundial PS)	SA-059	Medium	$ 160,000	$ -	Developer (100%)	N	SA-062
Lower Beaver Creek and Troutdale Rd Sewer Main Upsizing	SA-056	Long	$ 3,776,000	$ 3,776,000	Sewer Imp (38.4%), Sewer (61.6%)	N	None
WPCF Upgrades	SA-061	Long	$ 750,000	$ 750,000	Sewer (100%)	N	None
Update the Sanitary Sewer Master Plan	SA-053	Long	$ 100,000	$ 100,000	Sewer Imp (50%), Sewer (50%)	Y	None
		TOTALS	**$ 13,375,000**	**$ 12,501,000**			

*TIMEFRAMES: Immediate (< 2 yr), Short (< 5 yr), Medium (5-10 yr), Long (> 10 yr)
**Cost Basis: 2016 Dollars

Storm Sewer Improvements

1. **Project Name:** Graham Road Storm Drainage

   Project Number: SD-N20

   Timeframe: Immediate (in progress)

   Estimated Cost: $ 1,800,000 (Total Cost) $ 550,000 (City Share)

   Funding Source: Port of Portland ($ 1,250,000)
   Storm Sewer Improvement Fund ($ 550,000)

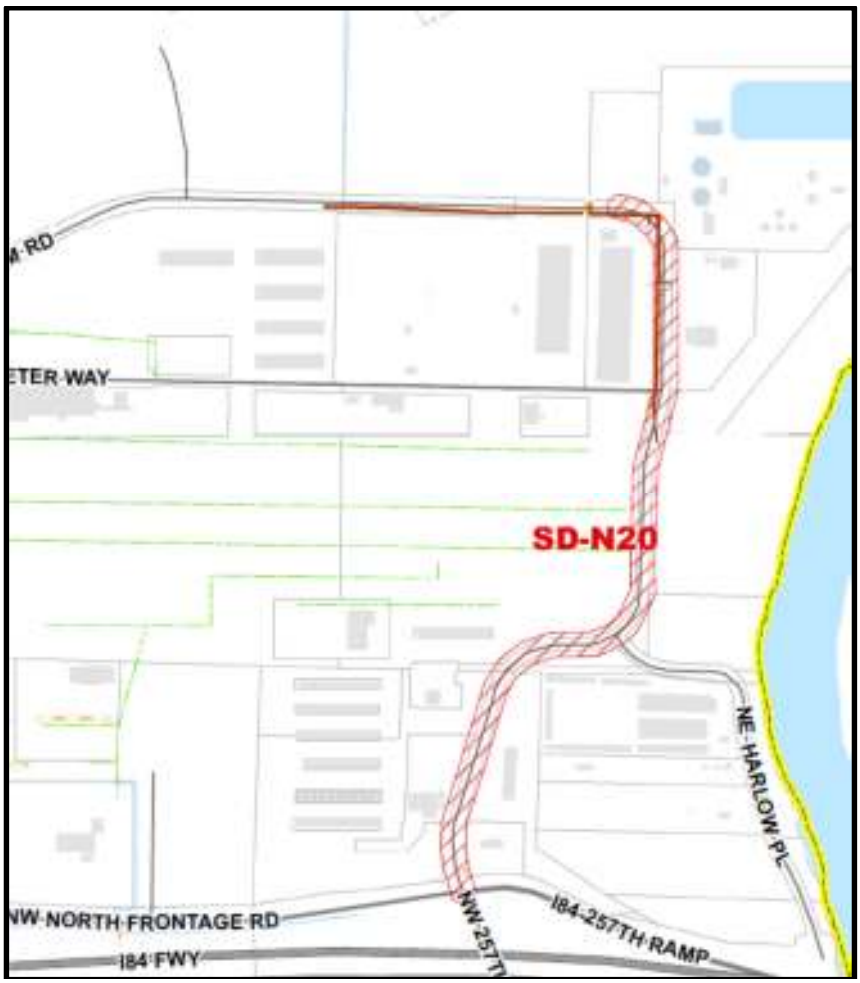
   Problem: There is no developed storm drainage system along NW Graham Road.

   Proposed Solution: Construct a storm drainage system on NW Graham Road.

   Identified By: Staff

   In previous CIP? Yes

   Related Project(s): ST-080



2. **Project Name:** Salmon Creek Weir Improvements

Project Number: SD-N21

Timeframe: Immediate (in progress)

Estimated Cost: $ 150,000 (City Share)

Funding Source: SDIC, Port of Portland
Storm Sewer Improvement Fund ($ 150,000)

Problem: There are potential stormwater capacity problems along Salmon Creek.

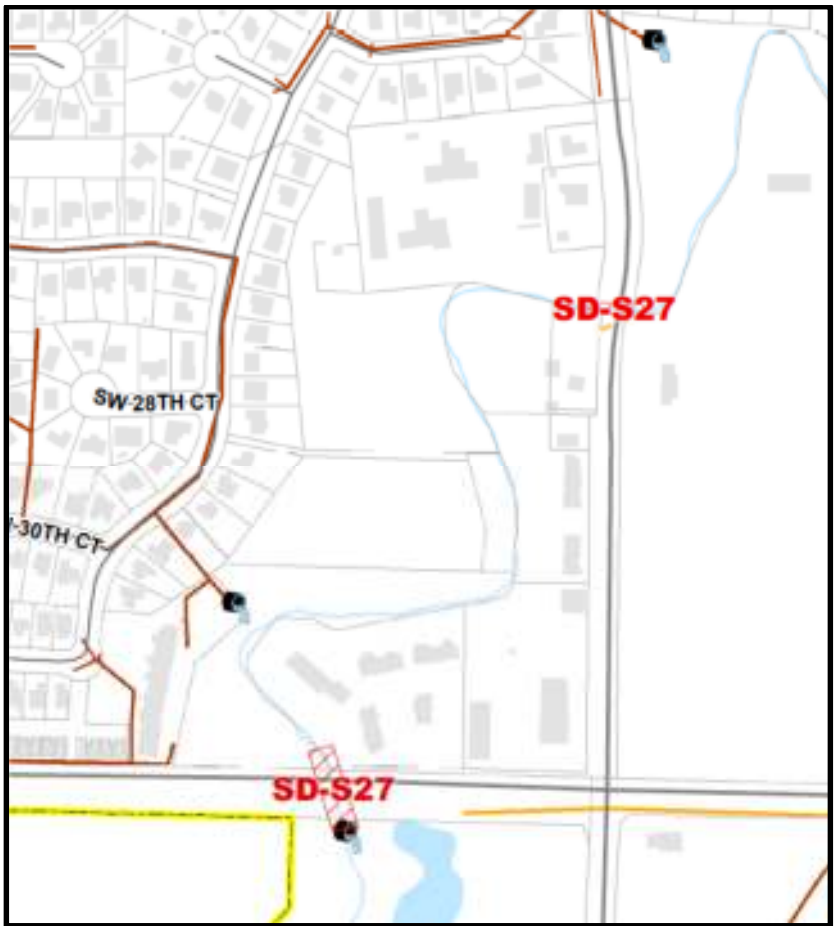
Proposed Solution: Relocate and increase the crest length of the existing relief weir located along Salmon Creek and the width of the channel which receives water from the weir. The suggested weir length and the channel width are 50 feet.

Identified By: *North Troutdale Storm Drainage Master Plan, 2007*

In previous CIP? Yes

Related Project(s): None

3.	**Project Name:**	Beaver Creek Culverts
	Project Number:	SD-S27
	Timeframe:	Immediate (in-progress)
	Estimated Cost:	$ 1,608,000 (Total Cost) $ 100,000 (City share)
	Funding Source:	County/STIP ($ 1,508,000) Storm Sewer Improvement Fund ($ 100,000)
	Problem:	The Stark Street culvert must be upsized for capacity, upgraded for fish passage and lengthened to accommodate improvements to SE Stark Street. The Troutdale Road culvert requires upgraded fish passage.
	Proposed Solution:	Replace the existing Stark Street culvert with a larger, longer culvert or bridge, with fish passage. Retrofit the Troutdale Road culvert with an upgraded fish passage structure.
	Identified By:	STIP, Multnomah County
	In previous CIP?	Yes
	Related Project(s):	ST-007



4. **Project Name:** Rehabilitate and Upgrade North Evans Outfall

Project Number: SD-S28

Timeframe: Immediate

Estimated Cost: $ 145,000

Funding Source: Storm Sewer Utility Fund (100%)

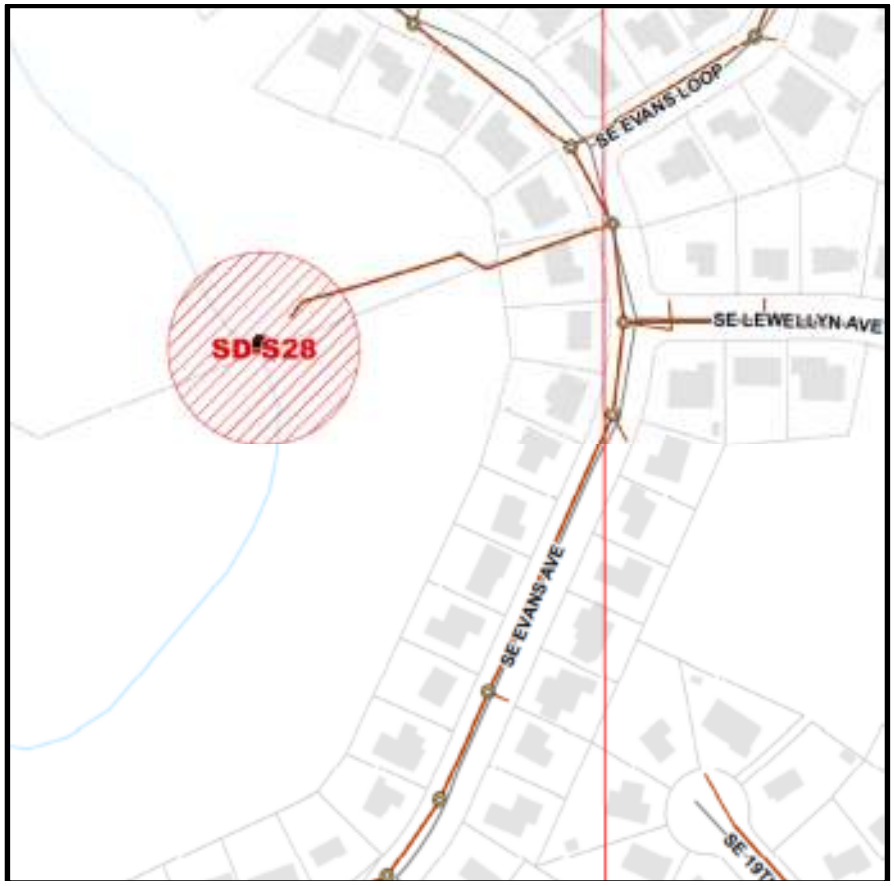
Problem: The North Evans outfall bubbler structure is severely undermined and unstable, and its rip-rap toe protection has unraveled and is sloughing away. The outfall structure's foundation is in imminent danger of failure, resulting in loss of the outfall structure and damage to Beaver Creek.

Proposed Solution: Rehabilitate and upgrade the outfall by constructing an upgraded foundation for the bubbler, resetting the bubbler, replacing the rip-rap toe protection and adding tie-backs to the slope with soil nails and cabling.

Identified By: Staff

In previous CIP? Yes

Related Project(s): None



5. **Project Name:** Update the North Troutdale Storm Drainage Master Plan

Project Number: SD-N29

Timeframe: Immediate

Estimated Cost: $ 100,000 (Total Cost) City Share ($50,000)

Funding Source: Storm Sewer Improvement Fund (25%)
Storm Sewer Utility Fund (25%)
SDIC (50%)

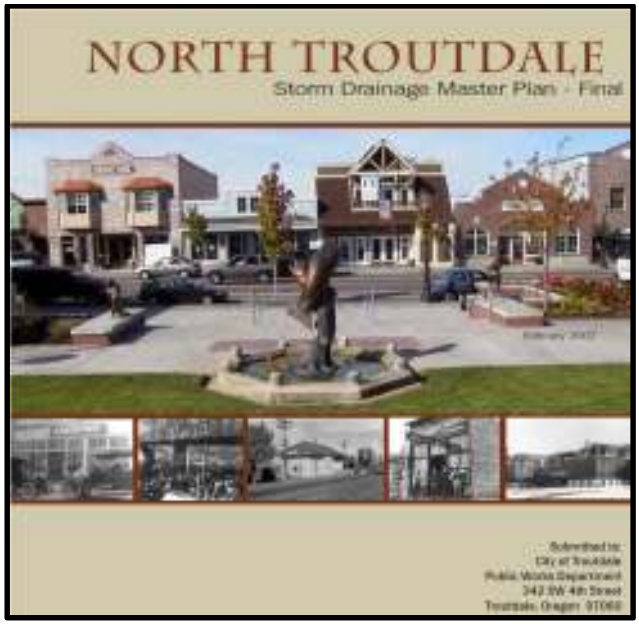
Problem: The current North Troutdale Storm Drainage Master Plan was prepared in 2006 and 2007. Shortly after that, the Port began designing and developing the Troutdale Reynolds Industrial Park, encompassing a large portion of the study area. Concurrently, Multnomah County Drainage District conducted a complete revised modeling of their service area. More recently, the owner of the Edgefield North property has conducted detailed site specific stormwater modeling and design work for that property, which may affect the need for downstream improvements. Considering all of this, it is prudent to update the North Troutdale Master Plan to incorporate the known changes within the study area and the additional information now available. This update may reveal that some currently planned projects are no longer needed, or that other, previously unidentified, projects should be added.

Proposed Solution: Update North Troutdale Storm Drainage Master Plan

Identified By: Staff

In previous CIP? No

Related Project(s): All SD-N



6. **Project Name:** SW 14th Street Drainage Improvement

Project Number: SD-S35

Timeframe: Immediate

Estimated Cost: $ 15,000

Funding Source: Storm Sewer Utility Fund (100%)

Problem: Recurring flooding on SW 14th Street due to insufficient disposal capacity.

Proposed Solution: Add capacity to existing drywell system or install an overflow connection to storm main in Hensley.

Identified By: Staff

In previous CIP? No

Related Project(s): None

7. **Project Name:** Columbia River Highway Bypass

Project Number: SD-N25

Timeframe: Short Term

Estimated Cost: $ 466,000

Funding Source: Storm Sewer Improvement Fund (100%)

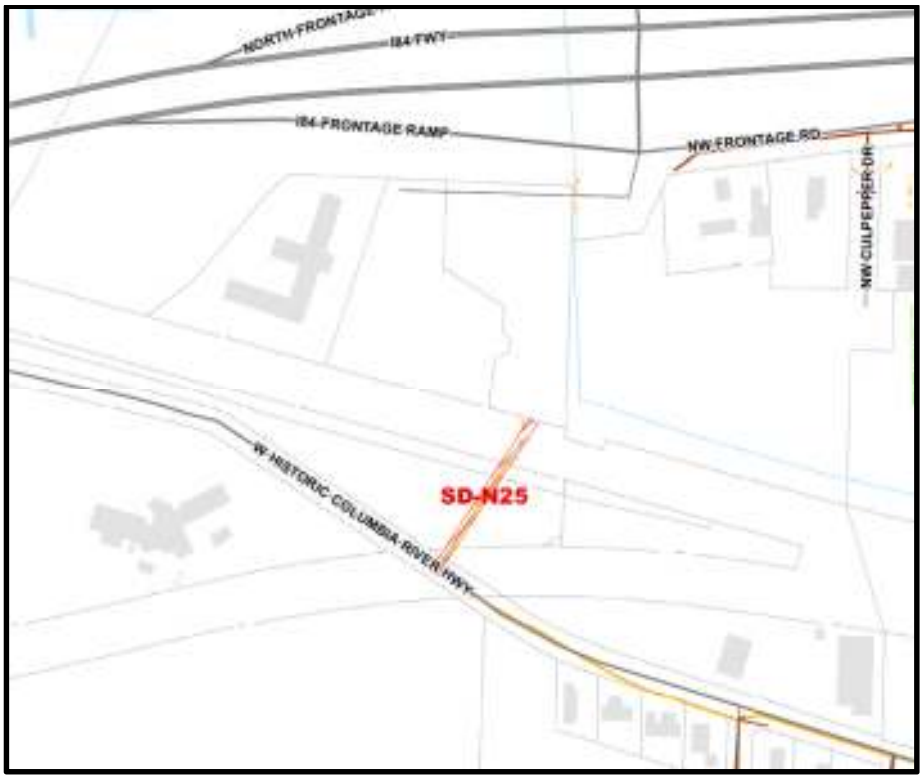
Problem: The existing 24-inch drain line located in the Columbia River Highway's railroad underpass does not provide sufficient conveyance capacity for future flows.

Proposed Solution: Install a bypass where future flows leave the drainage area north of Halsey and cross Columbia River Highway. The bypass will consist of 5 elements: 50 feet of 24-inch trenched culvert under Columbia River Highway, 160 feet of 24-inch drain line, 40 feet of 24-inch culvert under a railroad embankment, another 40 feet of 36-inch drain line, and 80 feet of 36-inch culvert under a second railroad embankment.

Identified By: *North Troutdale Storm Drainage Master Plan, 2007*

In previous CIP? Yes

Related Project(s): SD-N29



8.	**Project Name:**	North Arata Creek Drain Line Improvement
	Project Number:	SD-N23
	Timeframe:	Short Term
	Estimated Cost:	$ 760,000
	Funding Source:	Storm Sewer Improvement Fund (100%)
	Problem:	There are potential stormwater capacity problems along Arata Creek south of Marine Drive with increasing flows from urbanization.
	Proposed Solution:	Install 160 feet of 48-inch culvert under the railroad immediately upstream of the outlet to Salmon Creek and 520 feet of 48-inch drain line directly west of the airport runway and parallel to the existing drain lines.
	Identified By:	*North Troutdale Storm Drainage Master Plan, 2007*
	In previous CIP?	Yes
	Related Project(s):	SD-N29

9. **Project Name:** South Arata Creek Culvert Improvement

Project Number: SD-N24

Timeframe: Short Term

Estimated Cost: $ 678,000

Funding Source: Storm Sewer Improvement Fund (100%)

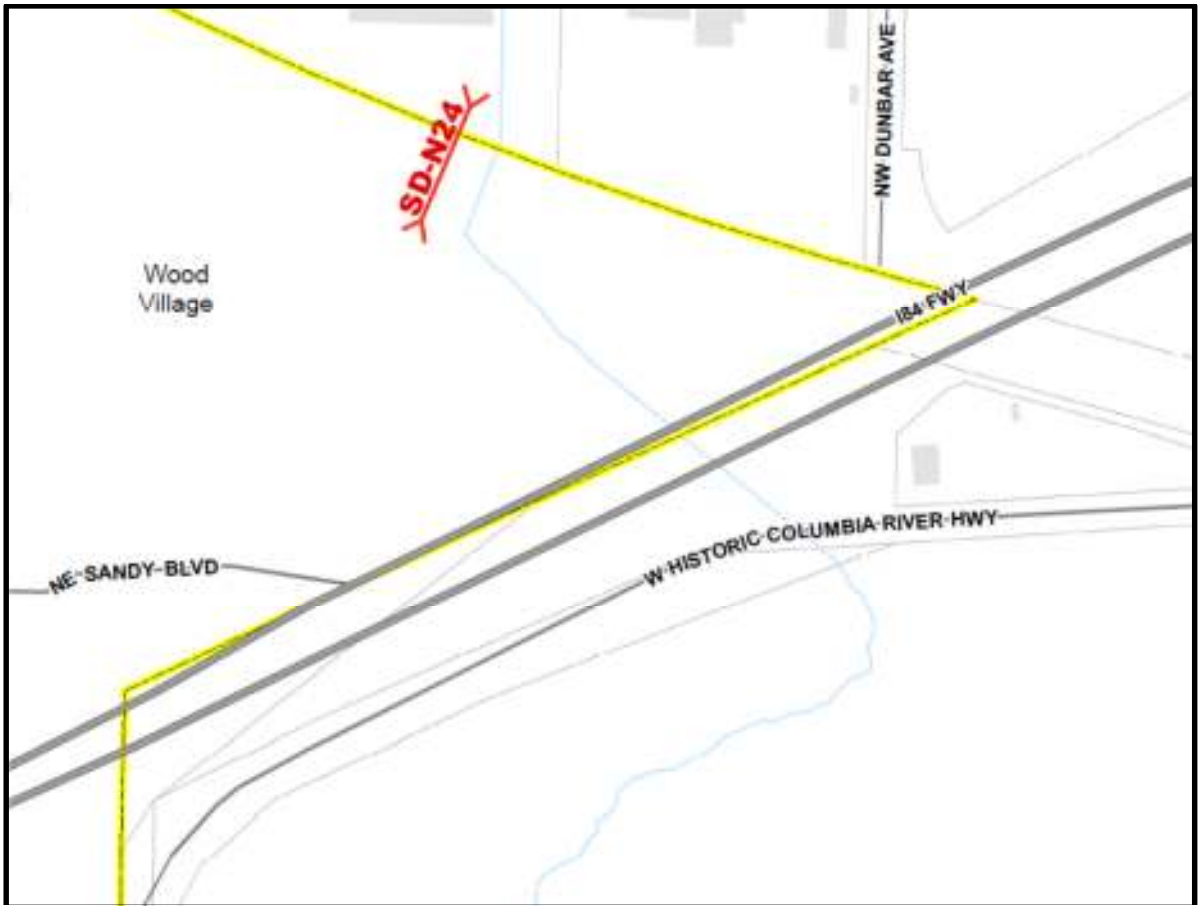
Problem: The existing railroad culvert needs to be augmented with an additional culvert to prevent localized flooding in the area immediately upstream of the railroad embankment.

Proposed Solution: Install an additional 470 feet of 36-inch culvert where Arata Creek crosses the railroad embankment north of Interstate 84 and additional piping under the paved area directly north of the embankment.

Identified By: *North Troutdale Storm Drainage Master Plan, 2007*

In previous CIP? Yes

Related Project(s): SD-N29



10. Project Name: Sandee Palisades Detention Pond Retrofit

Project Number: SD-S31

Timeframe: Short Term

Estimated Cost: $ 170,000

Funding Source: Storm Sewer Utility Fund (100%)

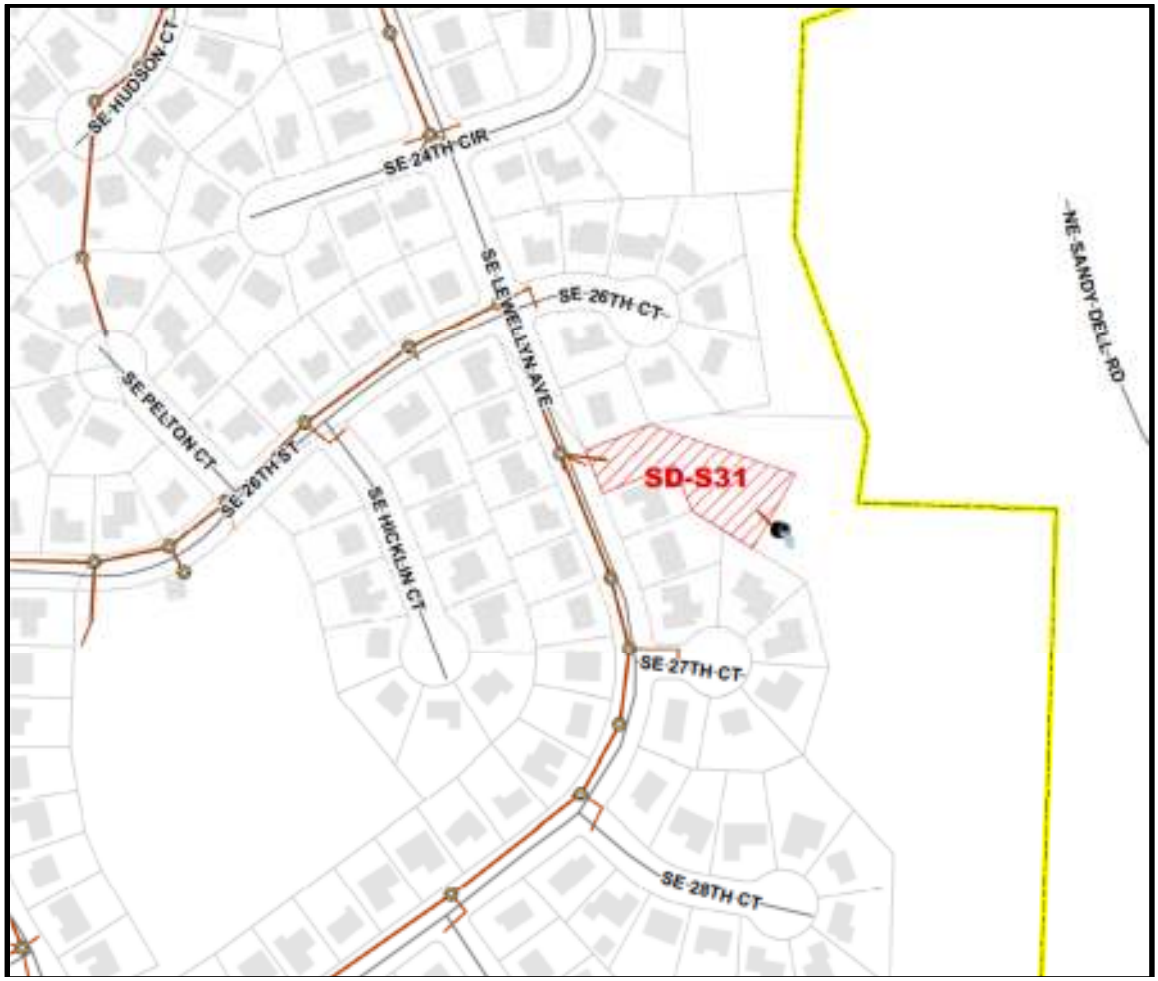
Problem: There is no stormwater quality treatment for existing development in this area of the City. The City's NPDES MS4 permit requires that the City take incremental steps to provide treatment to existing developed areas in the City.

Proposed Solution: Retrofit the existing detention pond to add stormwater quality treatment capability

Identified By: *South Troutdale Storm Drainage Master Plan, 2012*

In previous CIP? Yes

Related Project(s): None



11. Project Name: Marine Drive Culvert Bypass

Project Number: SD-N26

Timeframe: Medium Term

Estimated Cost: $ 635,000

Funding Source: Storm Sewer Improvement Fund (100%)

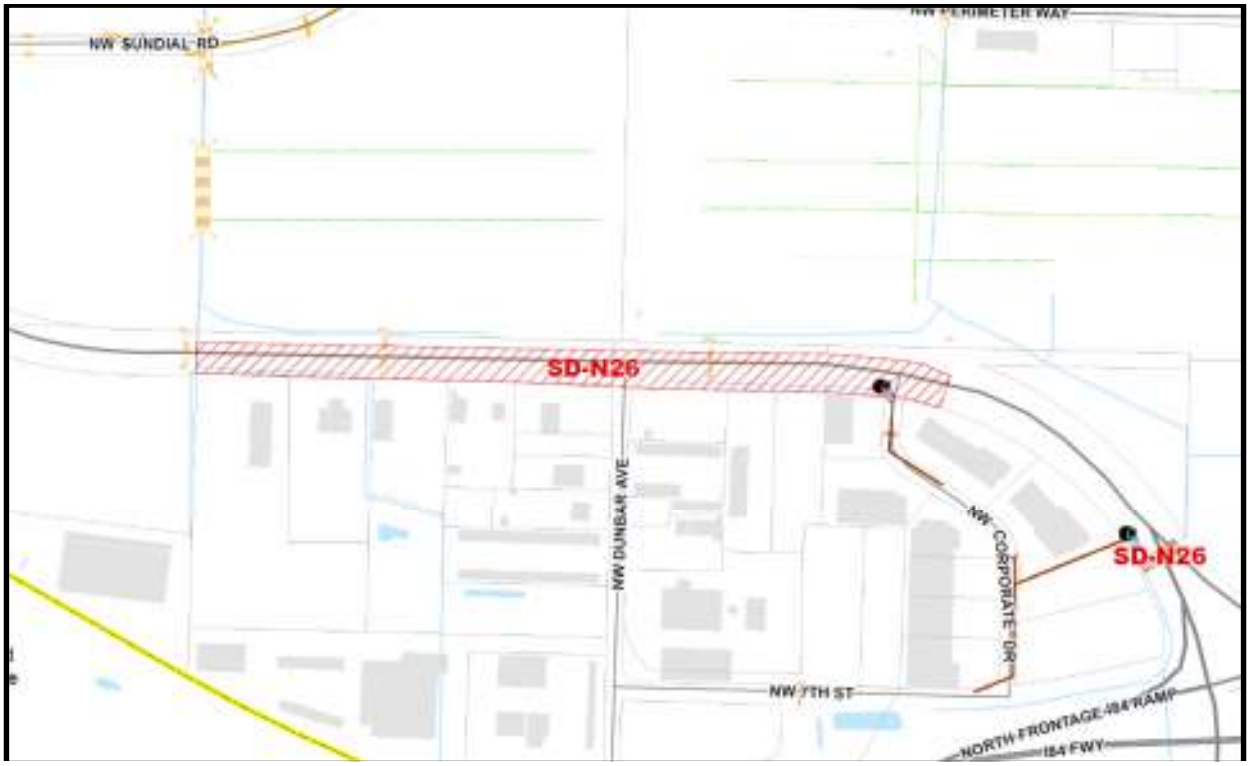
Problem: There is a potential for flooding northeast of the Marine Drive curve.

Proposed Solution: Provide a cross connection between the two south-to-north drainage systems to help balance flows by providing 2100 feet of 36-inch drain line north of and parallel to Marine Drive and an additional 150 feet of 36-inch culvert crossing Marine Drive east of the I-84 Corporate Center.

Identified By: *North Troutdale Storm Drainage Master Plan, 2007*

In previous CIP? Yes

Related Project(s): SD-N29



12. Project Name: NW Dunbar Avenue Storm Line

Project Number: SD-N16

Timeframe: Medium Term

Estimated Cost: $ 361,000

Funding Source: Storm Sewer Improvement Fund (100%)

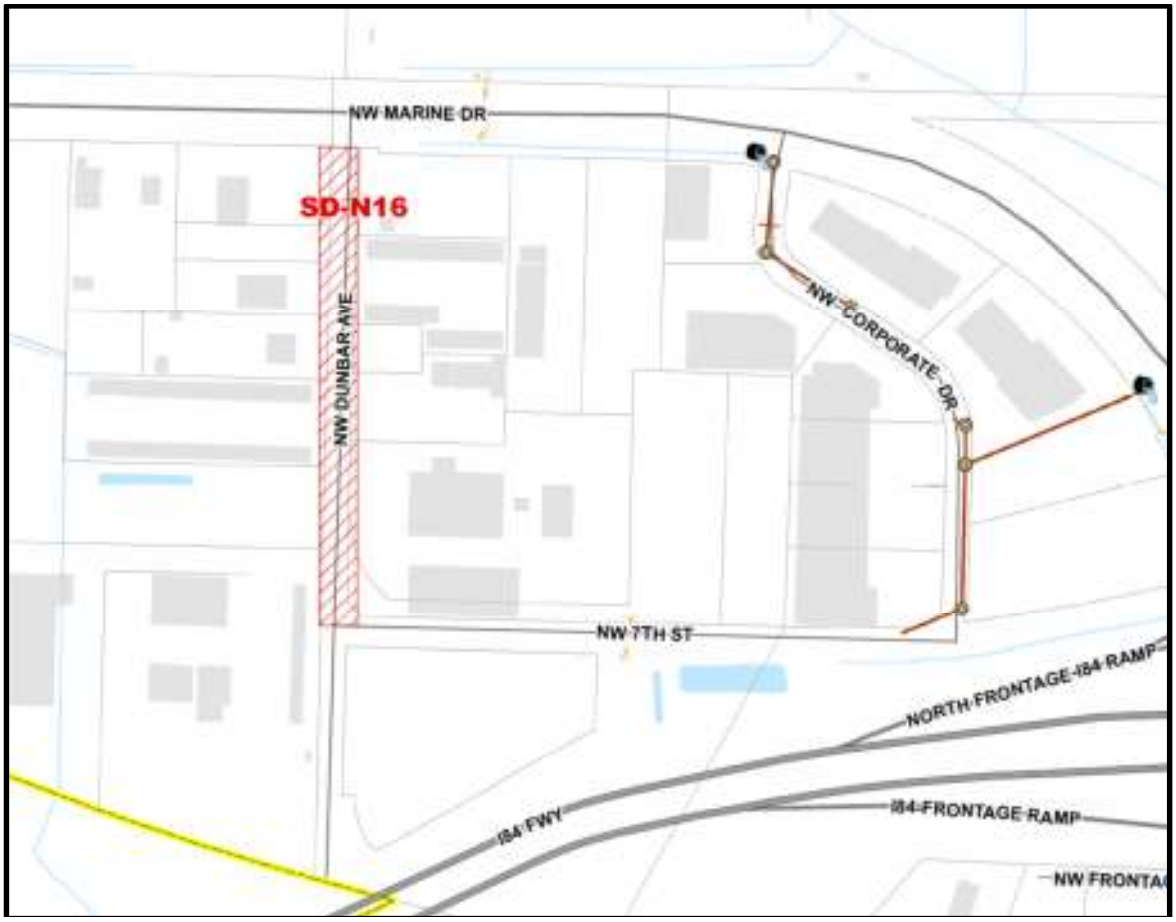
Problem: When NW Dunbar Avenue is improved, a new stormwater collection and conveyance system will be required. Properties along Dunbar currently have limited options for storm drainage and some of these commercial/industrial properties experience localized onsite flooding during heavy rain events.

Proposed Solution: Construct a new stormwater collection and conveyance system for NW Dunbar Avenue.

Identified By: Staff

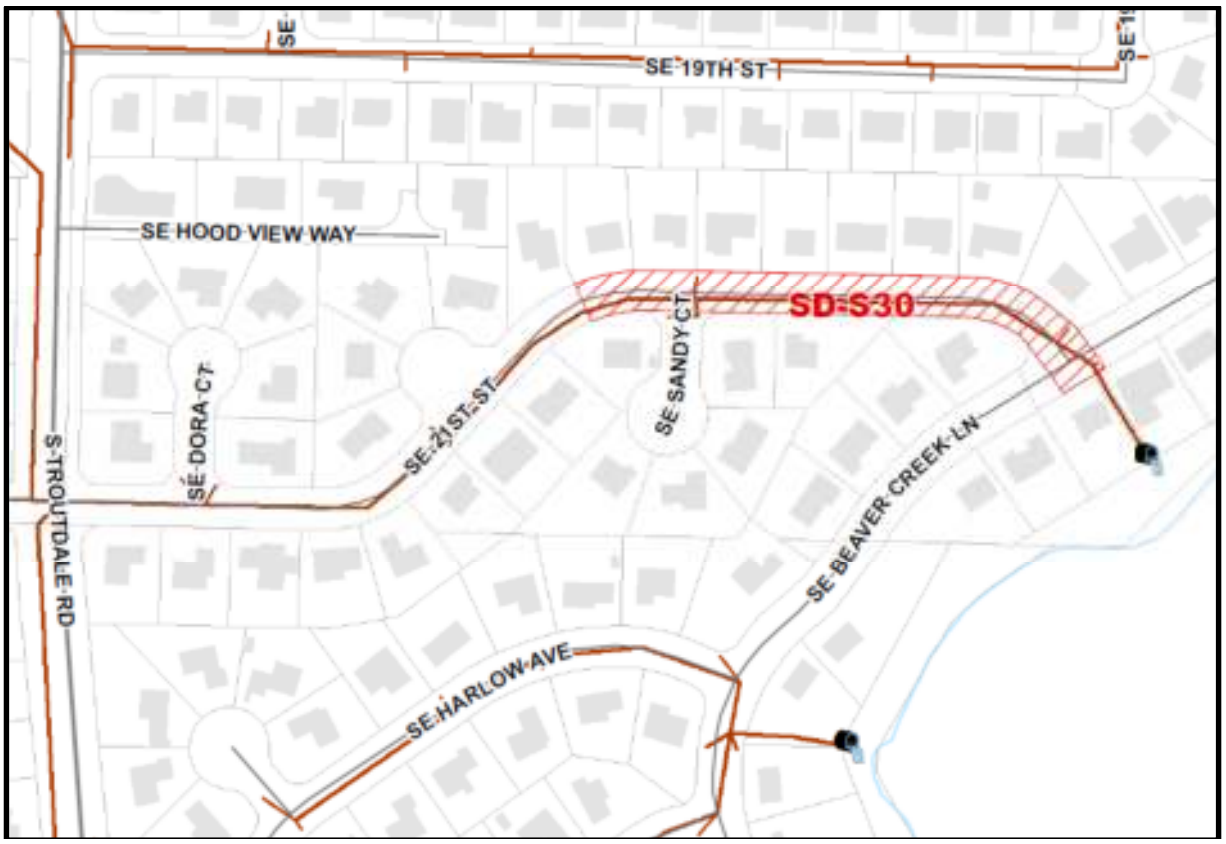
In previous CIP? Yes

Related Project(s): ST-045



13. Project Name:	SE 3rd Street and SE Dora Main Upsizing
Project Number:	SD-S29
Timeframe:	Medium Term
Estimated Cost:	$ 149,000
Funding Source:	Storm Sewer Utility Fund (100%)
Problem:	Potential flooding along 3rd and Dora Streets during high flow events due to insufficient capacity in the mains.
Proposed Solution:	Upsize approximately 453 linear feet of the storm sewer mains in Dora Avenue from 12" to 15".
Identified By:	*South Troutdale Storm Drainage Master Plan, 2012*
In previous CIP?	Yes
Related Project(s):	None

14. Project Name:	SE 21st Street Main Upsizing
Project Number:	SD-S30
Timeframe:	Medium Term
Estimated Cost:	$ 122,000
Funding Source:	Storm Sewer Utility Fund (100%)
Problem:	Potential flooding along SE 21st Street during high flow events due to insufficient capacity in the main.
Proposed Solution:	Upsize approximately 364 linear feet of the storm sewer mains in SW 21st Street from 12" to 15".
Identified By:	*South Troutdale Storm Drainage Master Plan, 2012*
In previous CIP?	Yes
Related Project(s):	None



15. Project Name: Strawberry Meadows Detention Pond Retrofit

Project Number: SD-S32

Timeframe: Medium Term

Estimated Cost: $ 98,000

Funding Source: Storm Sewer Utility Fund (100%)

Problem: There is no stormwater quality treatment for existing development in this area of the City. The City's NPDES MS4 permit requires that the City take incremental steps to provide treatment to existing developed areas in the City.

Proposed Solution: Retrofit the existing detention pond to add stormwater quality treatment capability.

Identified By: *South Troutdale Storm Drainage Master Plan, 2012*

In previous CIP? Yes

Related Project(s): None

16. Project Name: Hensley Road Storm Drainage – N/S Leg

Project Number: SD-S34

Timeframe: Medium Term

Estimated Cost: $ 50,000

Funding Source: Storm Sewer Improvement Fund (50%), Storm Sewer Utility Fund (50%)

Problem: Street widening and improvements to the N/S leg of SW Hensley Road will necessitate the provision of storm drainage systems to serve the improved roadway.

Proposed Solution: Install storm drainage facilities associated with roadway improvements on the N/S leg of SW Hensley Road.

Identified By: Staff

In previous CIP? No*

Related Project(s): ST-012

* The Hensley Road street improvements have long been in the Transportation CIP, but there has not been a corresponding storm drainage project in the CIP previously

17. Project Name: Stuart Ridge Detention Pond Retrofit

Project Number: SD-S33

Timeframe: Long Term

Estimated Cost: $ 73,000

Funding Source: Storm Sewer Utility Fund (100%)

Problem: There is no stormwater quality treatment for existing development in this area of the City. The City's NPDES MS4 permit requires that the City take incremental steps to provide treatment to existing developed areas in the City.

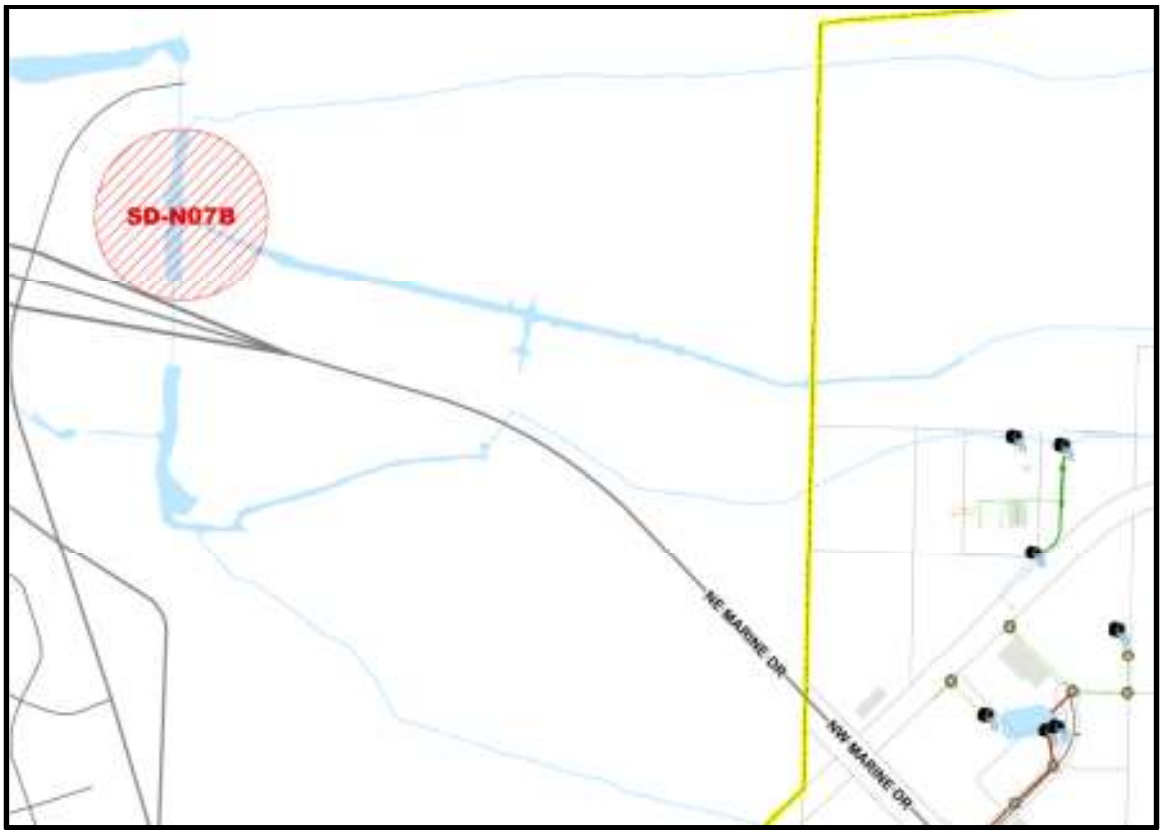
Proposed Solution: Retrofit the existing detention pond to add stormwater quality treatment capability.

Identified By: *South Troutdale Storm Drainage Master Plan, 2012*

In previous CIP? Yes

Related Project(s): None

18. Project Name:	SDIC Pump Station Upgrade, Phase II
Project Number:	SD-N07B
Timeframe:	Long Term
Estimated Cost:	$ 602,000 (City Share)
Funding Source:	Storm Sewer Improvement Fund (50%), Storm Sewer Utility Fund (50%)
Problem:	There will be inadequate pumping capacity at the Sandy Drainage Improvement Company's pump station with future flows from urbanization.
Proposed Solution:	Construct additional pumping and/or storage capacity.
Identified By:	*North Troutdale Storm Drainage Master Plan, March 1990*
In previous CIP?	Yes
Related Project(s):	SD-N29



19. Project Name:	Unified Storm Drainage Master Plan
Project Number:	SD-SN1
Timeframe:	Long Term
Estimated Cost:	$ 150,000 (Total Cost) $ 112,500 (City Share)
Funding Source:	Storm Sewer Improvement Fund (37.5%) Storm Sewer Utility Fund (37.5%) SDIC (25%)
Problem:	The North Troutdale Storm Drainage Master Plan, prepared in 2007, and South Troutdale Storm Drainage Master Plan, prepared in 2012, will be outdated and in need of update. These master plans should be unified in the future.
Proposed Solution:	Update both the North and South Troutdale Storm Drainage Master Plans in a new unified City of Troutdale Storm Drainage Master Plan.
Identified By:	Staff
In previous CIP?	No
Related Project(s):	None

CIP Summary Table

STORM SEWER

Project Name	Project #	Timeframe*	Estimated Total Cost**	Estimated City Cost**	Funding Source(s)	In Previous CIP?	Related Projects
Graham Road Storm Drainage	SD-N20	Immediate (in-progress)	$ 1,800,000	$ 550,000	Port (1,800,000), Storm Imp ($550,000)	Y	ST-080
Salmon Creek Weir Improvements	SD-N21	Immediate (in-progress)		$ 150,000	SDIC, Port, Storm Imp ($150,000)	Y	None
Beaver Creek Culverts	SD-S27	Immediate (in-progress)	$ 1,608,000	$ 100,000	County ($1,608,000) Storm Imp ($100,000)	Y	ST-007
Rehabilitate and Upgrade North Evans Outfall	SD-S28	Immediate	$ 145,000	$ 145,000	Storm (100%)	Y	None
Update North Troutdale Storm Drainage Master Plan	SD-N29	Immediate	$ 100,000	$ 50,000	Storm Imp (25%) Storm (25%) SDIC (50%)	N	All SD-N
SW 14th Street Drainage Improvement	SD-S35	Immediate	$ 15,000	$ 15,000	Storm (100%)	N	None
Columbia River Highway Bypass	SD-N25	Short	$ 466,000	$ 466,000	Storm Imp (100%)	Y	SD-N29
North Arata Creek Drain Line Improvement	SD-N23	Short	$ 760,000	$ 760,000	Storm Imp (100%)	Y	SD-N29
South Arata Creek Culvert Improvement	SD-N24	Short	$ 678,000	$ 678,000	Storm Imp (100%)	Y	SD-N29
Sandee Palisades Detention Pond Retrofit	SD-S31	Short	$ 170,000	$ 170,000	Storm (100%)	Y	None
Marine Drive Culvert Bypass	SD-N26	Medium	$ 635,000	$ 635,000	Storm Imp (100%)	Y	SD-N29
NW Dunbar Avenue Storm Line	SD-N16	Medium	$ 361,000	$ 361,000	Storm Imp (100%)	Y	ST-045
SE 3rd Street and SE Dora Avenue Main Upsizing	SD-S29	Medium	$ 149,000	$ 149,000	Storm (100%)	Y	None
SE 21 Street Main Upsizing	SD-S30	Medium	$ 122,000	$ 122,000	Storm (100%)	Y	None
Strawberry Meadows Detention Pond Retrofit	SD-S32	Medium	$ 98,000	$ 98,000	Storm (100%)	Y	None
Hensley Road Storm Drainage - N/S Leg	SD-S34	Medium	$ 50,000	$ 50,000	Storm Imp (50%), Storm (50%)	N	ST-012, UG-XX
Stuart Ridge Detention Pond Retrofit	SD-S33	Long	$ 73,000	$ 73,000	Storm (100%)	Y	None
SDIC Pump Station Upgrade, Phase II	SD-N07B	Long		$ 602,000	Storm Imp ($301,000), Storm ($301,000), SDIC	Y	SD-N29
Unified Storm Drainage Master Plan	SD-SN1	Long	$ 150,000	$ 112,500	Storm Imp (37.5%) Storm (37.5%) SDIC (25%)	N	None
		TOTALS	**$ 7,380,000**	**$ 5,286,500**			

*TIMEFRAMES: Immediate (< 2 yr), Short (< 5 yr), Medium (5-10 yr), Long (> 10 yr)
**Cost Basis: 2016 Dollars

Parks Improvements

1. **Project Name:** Update Parks Master Plan

   Project Number: PA-001

   Timeframe: Immediate

   Estimated Cost: $ 50,000

   Funding Source: Parks Improvement Fund (50%), General Fund-Parks (50%)

   Problem: The Parks Master Plan, prepared in 2006, and the Glenn Otto Park Master Plan, prepared in 2002, are near the end of their planning horizon. Changes in population forecasts, demographics, community needs and land availability render the existing Park Master Plan and Glenn Otto Park Master Plan antiquated and in need of update.

   Proposed Solution: Prepare a new Parks Master Plan, including a new Glenn Otto Park master Plan.

   Identified By: Staff

   In previous CIP? No

   Related Project(s): All PA CIP

2. **Project Name:** Visionary Park

   Project Number: PA-018

   Timeframe: Immediate

   Estimated Cost: $ 60,000

   Funding Source: Parks Improvement Fund (100%)

   Problem: Citizens and elected officials have identified the need to recognize the centennial anniversary of the Historic Columbia River Highway. Commemorative artwork has been offered as a donation to the City, and an appropriate site identified, but site work and related amenities are needed.

   Proposed Solution: Construct the Visionary Park site work and related amenities as provided in Resolution #2306

   Identified By: City Council (Resolution #2306), Visionary Friends of Troutdale

   In previous CIP? No

   Related Project(s): None

3. **Project Name:** Improve Existing Parks PH I

Project Number: PA-002

Timeframe: Short Term

Estimated Cost: $ 2,149,000

Funding Source: Parks Improvement Fund (65.9%), General Fund-Parks (34.1%)

Problem: Increases in population and intensification of use at various parks, together with existing deficiencies at various parks, necessitates improvements, upgrades and additional amenities.

Proposed Solution: Make improvements at various parks to meet growth needs and provide desired upgrades as described in tables 6.11-6.13 of the *Parks Master Plan, 2006*.

Identified By: *Parks Master Plan, 2006*

In previous CIP? Yes

Related Project(s): PA-001, PA-007, PA-011

4. **Project Name:** Special Use Park Development

Project Number: PA-003

Timeframe: Short Term

Estimated Cost: $ 4,000,000

Funding Source: Urban Renewal Agency (95%), Parks Improvement Fund (5%)

Problem: The Urban Renewal Area will require public parks space including special use space that will complement the URA and the riverfront.

Proposed Solution: Develop approximately 2.0 acres of the former STP site as a special use park.

Identified By: *Parks Master Plan, 2006; Riverfront Renewal Plan, 2006 (AMDD 2014)*

In previous CIP? Yes

Related Project(s): PA-001

5. **Project Name:** Neighborhood Park Site Acquisition PH I

Project Number: PA-004

Timeframe: Short Term

Estimated Cost: $ 1,075,000

Funding Source: Parks Improvement Fund (100%)

Problem: Increases in population necessitate the acquisition of additional neighborhood park land to meet the City's established Level of Service standard.

Proposed Solution: Acquire approximately 4.0 acres of neighborhood park land in growing areas of the City.

Identified By: *Parks Master Plan, 2006*

In previous CIP? Yes

Related Project(s): PA-001, PA-006, PA-008

6. **Project Name:** Skateboard Park

Project Number: PA-018

Timeframe: Short/Medium Term

Estimated Cost: $ 455,000

Funding Source: Parks Improvement Fund (6%) General Fund-Parks (94%)

Problem: The Parks Advisory Committee has identified a community demand and desire to provide a public skateboard park facility in the City

Proposed Solution: Construct a skateboard park on existing or acquired City park land

Identified By: Parks Advisory Committee

In previous CIP? No

Related Project(s): None

7. **Project Name:** Community Park Site Acquisition

Project Number: PA-005

Timeframe: Short/Medium Term

Estimated Cost: $ 1,881,000

Funding Source: Parks Improvement Fund (100%)

Problem: Increases in population necessitate the acquisition of additional community park land to meet the City's established Level of Service standard.

Proposed Solution: Acquire approximately 7.0 acres of community park land to meet growth needs.

Identified By: *Parks Master Plan, 2006*

In previous CIP? Yes

Related Project(s): PA-001, PA-009

8. **Project Name:** Neighborhood Park Development

Project Number: PA-006

Timeframe: Short/Medium Term

Estimated Cost: $ 400,000

Funding Source: Parks Improvement Fund (100%)

Problem: Neighborhood park land acquired in Project PA-004 will need to be developed with park improvements and amenities.

Proposed Solution: Develop approximately 4.0 acres of neighborhood park land to meet growth needs.

Identified By: *Parks Master Plan, 2006*

In previous CIP? Yes

Related Project(s): PA-001, PA-004

9.	**Project Name:**	Improve Existing Parks PH II
	Project Number:	PA-007
	Timeframe:	Short/Medium Term
	Estimated Cost:	$ 1,074,000
	Funding Source:	Parks Improvement Fund (65.9%), General Fund-Parks (34.1%)
	Problem:	Increases in population and intensification of use at various parks, together with existing deficiencies at various parks, necessitates improvements, upgrades and additional amenities.
	Proposed Solution:	Make improvements to existing parks to meet growth needs and provide desired upgrades as described in tables 6.11-6.13 of the *Parks Master Plan, 2006*.
	Identified By:	*Parks Master Plan, 2006*
	In previous CIP?	Yes
	Related Project(s):	PA-001, PA-002, PA-011

10.	**Project Name:**	Community Park Site Development
	Project Number:	PA-009
	Timeframe:	Short/Medium Term
	Estimated Cost:	$ 400,000
	Funding Source:	Parks Improvement Fund (100%)
	Problem:	Community park land acquired in project PA-005 will need to be developed with park improvements and amenities.
	Proposed Solution:	Develop approximately 7 acres of community parks in growing areas of the City.
	Identified By:	*Parks Master Plan, 2006*
	In previous CIP?	Yes
	Related Project(s):	PA-001, PA-005

11. Project Name:	Pathway Trails Development PH I
Project Number:	PA-010
Timeframe:	Short/Medium Term
Estimated Cost:	$ 388,000
Funding Source:	Parks Improvement Fund (100%)
Problem:	Additional pathway and trail development is need to complete the "40-mile loop".
Proposed Solution:	Develop approximately 1 linear mile of pathway/trails to complete the "40-mile loop" trail on the levee and along Harlow Place.
Identified By:	*Parks Master Plan, 2006*
In previous CIP?	Yes
Related Project(s):	PA-001, PA-015

12. Project Name:	Improve Existing Parks PH III
Project Number:	PA-011
Timeframe:	Short/Medium Term
Estimated Cost:	$ 1,074,000
Funding Source:	Parks Improvement Fund (65.9%), General-Parks (34.1%)
Problem:	Increases in population and intensification of use at various parks, together with existing deficiencies at various parks, necessitates improvements, upgrades and additional amenities.
Proposed Solution:	Make improvements to existing parks to meet growth needs and provide desired upgrades as described in tables 6.11-6.13 of the *Parks Master Plan, 2006*.
Identified By:	*Parks Master Plan, 2006*
In previous CIP?	Yes
Related Project(s):	PA-001, PA-002, PA-007

13. Project Name:	Pathways/Trails Development PH II
Project Number:	PA-015
Timeframe:	Long Term
Estimated Cost:	$1,090,000
Funding Source:	General Fund-Parks (100%)
Problem:	Additional pathway and trail development is needed to meet the City's desired level of service.
Proposed Solution:	Develop approximately 5.9 linear miles of pathway/trails.
Identified By:	*Parks Master Plan, 2006*
In previous CIP?	Yes
Related Project(s):	PA-001, PA-010

14. Project Name:	Neighborhood Park Acquisition and Development PH III
Project Number:	PA-016
Timeframe:	Long Term
Estimated Cost:	$ 1,851,000
Funding Source:	General Fund-Parks (100%)
Problem:	Existing deficiencies in neighborhood park land necessitate the acquisition and development of additional neighborhood parks to meet the City's Level of Service standard.
Proposed Solution:	Acquire and develop approximately 5.02 acres of land as neighborhood parks.
Identified By:	*Parks Master Plan, 2006*
In previous CIP?	Yes
Related Project(s):	PA-001,

15. Project Name:	Community Park Acquisition and Development PH III
Project Number:	PA-017
Timeframe:	Long Term
Estimated Cost:	$ 2,603,000
Funding Source:	General Fund-Parks (100%)
Problem:	Existing deficiencies in community park land necessitate the acquisition and development of additional community park land to meet the City's Level of Service standard.
Proposed Solution:	Acquire and develop approximately 7.06 acres of land as a community park.
Identified By:	*Parks Master Plan, 2006*
In previous CIP?	Yes
Related Project(s):	PA-001

CIP Summary Table

Parks

Project Name	Project #	Timeframe*	Estimated Total Cost**	Estimated City Cost**	Funding Source(s)	In Previous CIP?	Related Projects
Update Parks Master Plan	PA-001	Immediate	$ 50,000	$ 50,000	Parks Imp (50%), General-Parks (50%)	N	All PA CIP
Visionary Park	PA-018	Immediate	$ 60,000	$ 60,000	Parks Imp (100%)	N	None
Improve Existing Parks PH I	PA-002	Short	$ 2,149,000	$ 2,149,000	Parks Imp (65.9%), General-Parks (34.1%)	Y	PA-001, PA-007, PA-011
Special Use Park Development	PA-003	Short	$ 4,000,000	$ 4,000,000	Parks Imp (5%) URA (95%)	Y	PA-001
Neighborhood Park Site Acquisition	PA-004	Short	$ 1,075,000	$ 1,075,000	Parks Imp (100%)	Y	PA-001, PA-006, PA-008
Skateboard Park	PA-018	Short/Medium	$ 455,000	$ 455,000	Parks Imp (6%) General-Parks (94%)	N	None
Community Park Site Acquisition	PA-005	Short/Medium	$ 1,881,000	$ 1,881,000	Parks Imp (100%)	Y	PA-001, PA-009
Neighborhood Park Development	PA-006	Short/Medium	$ 400,000	$ 400,000	Parks Imp (100%)	Y	PA-001, PA-004
Improve Existing Parks PH II	PA-007	Short/Medium	$ 1,074,000	$ 1,074,000	Parks Imp (65.9%), General-Parks (34.1%)	Y	PA-001, PA-002, PA-011
Community Park Site Development	PA-009	Short/Medium	$ 400,000	$ 400,000	Parks Imp (100%)	Y	PA-001, PA-005
Pathway Trails Development PH I	PA-010	Short/Medium	$ 388,000	$ 388,000	Parks Imp (100%)	Y	PA-001, PA-015
Improve Existing Parks PH III	PA-011	Short/Medium	$ 1,074,000	$ 1,074,000	Parks Imp (65.9%), General-Parks (34.1%)	Y	PA-001, PA-002, PA-007
Pathways/Trails Development PH II	PA-015	Long	$ 1,090,000	$ 1,090,000	General-Parks (100%)	Y	PA-001, PA-010
Neighborhood Park Acquisition and Development PH III	PA-016	Long	$ 1,851,000	$ 1,851,000	General-Parks (100%)	Y	PA-001
Community Park Acquisitions and Development PH III	PA-017	Long	$ 2,603,000	$ 2,603,000	General-Parks (100%)	Y	PA-001
		TOTALS	**$ 18,550,000**	**$ 18,550,000**			

*TIMEFRAMES: Immediate (< 2 yr), Short (< 5 yr), Medium (5-10 yr), Long (> 10 yr)

**Cost Basis: 2008 Dollars