Chapter 14 – Capital Improvement Program – Contents

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14. Capital Improvement Program

Previous chapters of this Plan analyze various functions of the water system. Chapter 14 summarizes actions planned that require capital funding. Planned improvement projects are incorporated into the Capital Improvement Program (CIP) described in this chapter. The CIP incorporates projects described in:

- Chapter 5 – Source of Supply
- Chapter 6 – Water Conservation
- Chapter 7 – Reclaimed Water Program
- Chapter 8 – Groundwater Protection Program
- Chapter 9 – Source Infrastructure
- Chapter 10 – Storage Infrastructure
- Chapter 11 – Transmission and Distribution Infrastructure
- Chapter 12 – Water Quality Program
- Chapter 13 – Operation and Maintenance Program

This chapter describes the methodology used in developing the CIP, and presents the costs and schedules for projects planned for implementation in 2009-2015. Additional projects scheduled for construction after the six-year planning period, or for which schedules are primarily dependent on the timing of future development, are also described.

14.1 DEVELOPMENT OF CIP

The CIP was prepared by first identifying projects that address water system needs or deficiencies. These projects were then prioritized via a formal evaluation process. Generally, projects of higher priority were scheduled for implementation within the six-year planning horizon. Cost estimates for these projects were developed and escalated to the anticipated year of implementation. Each of these steps is described below.

Project Prioritization

The Utility developed a protocol to systematically compare and prioritize the wide range of potential capital projects. The protocol provides a consistent basis for characterizing the benefits from capital projects, comparing projects and documenting the reasons why certain projects are selected for funding. The Utility then used this protocol in a workshop attended by staff responsible for various Utility functions in order to refine the list of projects to be included in the CIP.

The prioritization process considered eight criteria, intended to address the primary benefits provided by typical Utility capital projects. Each criterion has an associated scoring system
1. Capital Improvement Program

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used to calculate a project priority score. In addition to the raw scores, each of these criteria was weighted. This allowed some criteria to more strongly influence the selection and prioritization of projects.

The eight criteria and the weights selected during the prioritization workshop are shown in Table 14.1.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory Requirements and Binding Commitments</td>
<td>10</td>
</tr>
<tr>
<td>Reliability/Protection of Prior Investments</td>
<td>8</td>
</tr>
<tr>
<td>Cost Control or Cost-Sharing Opportunities</td>
<td>7.5</td>
</tr>
<tr>
<td>Safety and Security</td>
<td>7.5</td>
</tr>
<tr>
<td>Growth/Expansion</td>
<td>5</td>
</tr>
<tr>
<td>Environmental Stewardship</td>
<td>4</td>
</tr>
<tr>
<td>Water Quality (non-regulatory)</td>
<td>3</td>
</tr>
<tr>
<td>Information Benefits</td>
<td>3</td>
</tr>
</tbody>
</table>

The results of the prioritization process were then reviewed by Utility management, along with an assessment of other information including potential impacts on the Utility’s finances, to finalize the schedule of capital projects included in the 2009-2015 CIP.

Cost Estimating Methodology

Project-level cost estimates have been developed for each capital project included in the 2009-2015 CIP. Each project cost includes the following components:

- **Base construction cost.** Includes all labor and material costs needed to construct a project.

- **Sales tax.** Calculated as 8.4 percent (the 2007 local tax rate) of the base construction cost.

- **Construction contingency.** Takes into account the uncertainties associated with estimating project costs at this planning level. Calculated as 25 percent of the total of base construction plus sales tax.

- **Design engineering.** Includes City and consultant design costs, and other related cost items, such as permitting and construction administration. For most projects, this is calculated as 25 percent of the base construction cost. However, for projects with more complex design or permitting needs, a higher percentage of the base construction cost is used.

These elements are summed to determine the total project-level cost estimate for a project, as expressed in 2007 (end-of-year) dollars.

To account for inflation and the increase of construction costs over time, the base project-level costs have been escalated to their anticipated year of construction. It is impossible to predict accurately the rate at which construction costs will increase over the 2009-2015 period; however, a conventional method is to examine cost index trends of past years.
The most comprehensive set of historical construction cost data in the United States is reflected in the RS Means Historical Cost Indexes. The Olympia, Washington indexes indicate that construction costs have increased at an average rate of 6.6 percent per year over the past four years (2004-2007). This historic value is used to escalate construction project costs from base year (2007) dollars to end-of-year dollars in the anticipated year of construction. This approach has been applied only to construction-related projects, and was not applied to recurring, annual program costs or planning-related projects that are not directly subject to construction cost increases.

Where applicable, design costs are scheduled one year in advance of construction costs, to reflect the phasing typically used for larger projects.

### 14.2 PLANNED PROJECTS

The City has identified capital projects planned for implementation between during 2009 and 2015. Projects scheduled for implementation after 2015 and projects with schedules driven primarily by development-related activities.

Table 14.2 presents the planned capital spending between 2009 and 2015. Some projects listed reflect prior appropriations from City Council through adopted Capital Facilities Plans, while other projects reflect future needed appropriations. The upcoming City 2010-2016 Capital Facilities Plan will reflect the new appropriations needed to implement the capital program shown in Table 14.2.

### Projects Scheduled for Implementation in 2009-2015

Table 14.2 presents the schedule of CIP projects planned for implementation between 2009 and 2015. Descriptions of each project follow.
## Table 14.2. 2009-2015 Capital Improvement Program

<table>
<thead>
<tr>
<th>Project Code</th>
<th>Project Name</th>
<th>Chapter</th>
<th>Project Costs (in thousands of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water Source (WS)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WS-1</td>
<td>Briggs Well Development</td>
<td>9</td>
<td>60</td>
</tr>
<tr>
<td>WS-2</td>
<td>McAllister Wellfield Development</td>
<td>9</td>
<td>100</td>
</tr>
<tr>
<td>WS-3</td>
<td>McAllister Corrosion Control</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>WS-4</td>
<td>McAllister Mitigation</td>
<td>5</td>
<td>200</td>
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<tr>
<td>WS-5</td>
<td>Percival Pump Station</td>
<td>9</td>
<td>2,400</td>
</tr>
<tr>
<td>WS-6</td>
<td>Groundwater Protection Land Acquisition</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>WS-7</td>
<td>Allison Springs Capture Zone Refinement</td>
<td>8</td>
<td>50</td>
</tr>
<tr>
<td>WS-8</td>
<td>Ground Water Monitoring Wells</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>WS-9</td>
<td>Brewery Water Source Development</td>
<td>9</td>
<td>70</td>
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<tr>
<td><strong>Water Storage (ST)</strong></td>
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<td></td>
</tr>
<tr>
<td>ST-1</td>
<td>Zone 417 Storage Tank</td>
<td>10</td>
<td>800</td>
</tr>
<tr>
<td>ST-2</td>
<td>Fir Street Storage Tank Seismic Analysis</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>ST-3</td>
<td>Hoffman Storage Tank Interior Coating</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>ST-4</td>
<td>Elliott Storage Tank Exterior Coating</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td><strong>Transmission and Distribution (TD)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TD-1</td>
<td>Distribution Main Oversizing</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>TD-2</td>
<td>Maintenance Center Transmission Main – creek crossing</td>
<td>11</td>
<td>75</td>
</tr>
<tr>
<td>TD-3</td>
<td>McAllister Wellfield Transmission Main</td>
<td>11</td>
<td>100</td>
</tr>
<tr>
<td>TD-4</td>
<td>Yelm Highway Water Main Replacement</td>
<td>11</td>
<td>160</td>
</tr>
<tr>
<td>TD-5</td>
<td>Martin Way AC Pipe Replacement</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>TD-6</td>
<td>18th Avenue Water Main Replacement</td>
<td>11</td>
<td>50</td>
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<tr>
<td>TD-7</td>
<td>Hoffman Extension</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>TD-8</td>
<td>PRV – Raft Avenue</td>
<td>11</td>
<td>67</td>
</tr>
<tr>
<td>TD-9</td>
<td>PRVs – East Bay Drive</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>TD-10</td>
<td>Kaiser Road Piping (North to LOTT Lift Station)</td>
<td>11</td>
<td>420</td>
</tr>
<tr>
<td>TD-11</td>
<td>Boulevard Road Roundabout (Log Cabin) AC Replacement</td>
<td>11</td>
<td>387</td>
</tr>
<tr>
<td>TD-12</td>
<td>Boulevard Road Roundabout (Morse-Merryman) AC Replacement</td>
<td>11</td>
<td>447</td>
</tr>
</tbody>
</table>
14. Capital Improvement Program

TD-13  Boulevard Road Roundabout (22nd Ave) AC Replacement  11 132

TD-14  Fones Road Water main Construction  2,300

TD-15  Fones Road Booster Stations Rehabilitation Construction  1,090

TD-16  Kaiser Road Water Main Extension to Evergreen Park Drive  760

Operations and Maintenance (OM)

| OM-1 | Small Diameter Water Mains | 13 | 550 | 250 | 400 | 425 | 450 | 475 |
| OM-2 | Asphalt Overlay Adjustments | 13 | 20 | 20 | 20 | 10 | 10 | 10 |
| OM-3 | Water System Vulnerability Projects | 13 | 70 | 75 |
| OM-4 | Automated Meter Reading Technology | 13 | 1,250 | 1,250 | 1,250 | 1,250 |
| OM-5 | Portable Emergency Generator | 13 | 60 |

Reclaimed Water (RW)

| RW-1 | Reclaimed Water Infrastructure | 7 | 500 | 500 |

Planning (PL)

| PL-1 | Water System Plan Update | N/A | 20 | 300 |
| PL-2 | Infrastructure Pre-Design and Planning | N/A | 35 | 20 | 20 | 20 | 20 | 20 | 20 |
| PL-3 | Asset Management Software | 13 | 75 |

Total  $6,397 $2,749 $10,181 $9,553 $9,506 $6,763 $4,780

1 AC = Asbestos-Cement; PRV = Pressure Reducing Valve
2 Note: Dollars are escalated to stated year of construction. See Section 14.1 for more details.

Water Source

Following are source-related capital projects that address deficiencies or needs described in previous chapters as referenced below.

- **WS-1: Briggs Well Development**

  **Description:** Drilling of an additional groundwater supply well in the area of the Briggs Urban Village. Water rights were previously purchased and transferred to the well. Drilling had been originally scheduled in 2008, however, the project has been delayed due primarily to the costly need for iron and manganese treatment. The City obtained approval to extend the water rights development schedule until 2014. The well, which will pump into Zone 338, is anticipated to provide 1,100 gpm of source capacity.

  **Justification/Need:** This additional source bolsters the supply capacity for Zones 417 and 338 (see Chapter 9).
• **WS-2: McAllister Wellfield Development**

*Description:* Drilling of additional groundwater supply wells in the vicinity of McAllister Springs in order to replace McAllister Springs as a more protected source of supply and avoid the need for costly additional treatment. Two wells have already been drilled in this area; this project includes the completion of additional wells and associated equipment to complete phase I of the project (17 MGD) which will allow full transition off the supply at McAllister Springs.

*Justification/Need:* This additional source bolsters the supply capacity for the entire system, and is less prone to contamination than the existing spring supply (see Chapter 9).

• **WS-3: McAllister Corrosion Control**

*Description:* Corrosion control facilities to raise the pH of water withdrawn from the planned McAllister Wellfield, to maintain compliance with the lead and copper rule.

*Justification/Need:* Testing indicates that water from the McAllister Wellfield has a low pH, requiring corrosion control treatment to maintain compliance with water quality regulations (see Chapter 12).

• **WS-4: McAllister Mitigation**

*Description:* Together with the Nisqually Indian Tribe, the City is seeking approval of a water rights mitigation plan that will enable the transfer of water rights from McAllister Springs and Abbott Springs to the new McAllister Wellfield. The City and Tribe submitted the mitigation plan to the Washington State Department of Ecology in September, 2008. Implementation of the mitigation plan will require capital expenditures for water rights acquisition, reclaimed water infiltration and purchase of riparian land.

*Justification/Need:* These expenditures will support implementation of the McAllister Wellfield development program, and will exhibit a level of environmental stewardship desired by the City (see Chapter 5).

• **WS-5: Percival Creek Pump Station**

*Description:* Design and construct a pump station which will deliver water to Zone 298, enhance fire flows in the area and loop the water distribution system. This connection will allow McAllister Springs’ water to be fed into Zone 298, decreasing the demand on the West Bay Booster Station and the pressure-reducing valves that connect Zone 380 to Zone 298. Water can then be pumped to Zone 380 through the Elliott Booster Station, if needed. Construction began in late June 2009.

*Justification:* Construction of this pump station will provide an additional source capacity of 2,400 gpm (3.46 Mgd) for the western portion of the system by 2009.
- **WS-6: Ground Water Protection Land Acquisition**
  
  **Description:** Implementation of the City’s land acquisition and management strategy for Drinking Water Protection Areas. Funds are set aside to acquire parcels that are particularly vulnerable to contamination, with priority given to parcels in the one-year capture zones of the proposed McAllister Wellfield and Allison Springs supply wells.
  
  **Justification/Need:** This is an important element in protecting source water quality from degradation. By owning land or easements, the City can control land uses and associated activities near its water sources and help prevent contamination of critical groundwater resources. (See Chapter 8.)

- **WS-7: Allison Springs Capture Zone Refinement**
  
  **Description:** Refinement of the time-of-travel zones delineated for the Allison Springs source of supply.
  
  **Justification/Need:** Will support source of supply protection efforts for Allison Springs (see Chapter 8).

- **WS-8: Ground Water Monitoring Wells**
  
  **Description:** Comprehensive ground water monitoring program, including inventory and inspection of existing monitoring wells, as well as installation of new wells.
  
  **Justification/Need:** Supports the City’s monitoring of groundwater quality and ability to protect its groundwater sources of supply (see Chapter 8).

- **WS-9: Brewery Water Source Development**
  
  **Description:** Consultant services associated with the Olympia Brewery water right transfer applications (2009) and an engineering evaluation of the existing Brewery water infrastructure (2011).
  
  **Justification/Need:** Supports need for long-term supply development and diversification (see Chapter 9).

---

**Water Storage**

Following are storage-related capital projects that address deficiencies or needs described in Chapter 10, Storage Infrastructure.

- **ST-1: Zone 417 Storage Tank**
  
  **Description:** Acquisition of land, as well as design and construction of an additional storage tank in Zone 417. The reservoir will be built to the same overflow elevation of the existing Hoffman Storage Tank to address storage deficiencies in Zone 417.
  
  **Justification/Need:** Provides additional capacity that addresses current deficiencies in available fire flow and standby storage volumes.
14. Capital Improvement Program

- **ST-2: Fir Street Storage Tank Seismic Analysis**
  
  _Description:_ A study to determine if structural upgrades are needed for the Fir Street Storage Tanks.
  
  _Justification/Need:_ Will determine what, if any, improvements are required to maintain compliance with seismic codes and to ensure reliability of this facility.

- **ST-3: Hoffman Storage Tank Interior Coating**
  
  _Description:_ Recoating the interior of the Hoffman Storage Tank.
  
  _Justification/Need:_ Maintenance to ensure longevity of tank.

- **ST-4: Elliott Storage Tank Exterior Coating**
  
  _Description:_ Recoating the exterior of the Elliott Storage Tank.
  
  _Justification/Need:_ Maintenance to ensure longevity of tank.

**Transmission and Distribution**

Following are transmission and distribution-related capital projects that address deficiencies or needs described in Chapter 11, Transmission and Distribution Infrastructure.

- **TD-1: Distribution Main Oversizing**
  
  _Description:_ Oversizing of distribution pipeline projects associated with development-related improvements. This project provides additional capacity to anticipate future needs that may be greater than at the time of development. Funds are applied to developer projects to cover the additional costs of oversizing.
  
  _Justification/Need:_ Supports prudent sizing of distribution facilities to accommodate anticipated future needs and avoids the need to replace undersized facilities in the future.

- **TD-2: Maintenance Center Transmission Main**
  
  _Description:_ Re-route a small exposed section of 10-inch transmission main more securely over Moxlie Creek. The section of pipe is on the City’s Maintenance Center property, to eliminate a hazard and allow for improved maintenance access.
  
  _Justification/Need:_ The project will eliminate a potential hazard and improve maintenance access to the pipe.

- **TD-3: McAllister Wellfield Transmission Main**
  
  _Description:_ New 36-inch diameter main, approximately 5,400 feet in length, to connect the planned McAllister Wellfield with the existing 36-inch main that currently conveys water McAllister Springs to the Meridian Storage Tanks.
  
  _Justification/Need:_ Required to convey water from a new source of supply to the distribution system.
• **TD-4: Yelm Highway Water Main Replacement**

  *Description:* Replacement of an existing 12-inch asbestos concrete (AC) pipeline located in Yelm Highway, between Rich Road and Henderson Boulevard. This project will be implemented in conjunction with Thurston County’s planned reconstruction and rerouting of this roadway.

  *Justification/Need:* Project removes AC piping, which is brittle and prone to breaking, from the system. Coordination with roadway project takes advantage of cost efficiencies and minimizes traffic disruptions.

• **TD-5: Martin Way AC Pipe Replacement**

  *Description:* Replacement of 2,000 feet of AC water main along Martin Way, from approximately Ensign Road to Pattison Street. This section of piping failed four times in a two-year period (2006-2007), and is not providing reliable service.

  *Justification/Need:* Project removes a particularly unreliable segment of AC piping, which is brittle and prone to breaking, from the system.

• **TD-6: 18th Avenue Water Main Replacement**

  *Description:* Replacement of existing AC water main in 18th Avenue, from Hoffman Road to Fones Road. This project will be coordinated with the City’s planned reconstruction of this roadway.

  *Justification/Need:* Project removes AC piping, which is brittle and prone to breaking, from the system. Coordination with roadway project takes advantage of cost efficiencies and minimizes traffic disruptions.

• **TD-7: Hoffman Extension**

  *Description:* Installation of a new 12-inch water main to connect the planned new Zone 417 Storage Tank with existing distribution piping in Morse-Merryman Road.

  *Justification/Need:* Required to convey water from a new storage facility to the distribution system.

• **TD-8: PRV – Raft Avenue**

  *Description:* Installation of a pressure-reducing valve (PRV) station to allow water flow from Zone 298 to Zone 226 (downtown).

  *Justification/Need:* Ensures sufficient fire flow in the future for development along West Bay Drive. The project will create a redundant feed to downtown that will allow maintenance of facilities at the Utility’s Fir Street Complex without the loss of supply to downtown.

• **TD-9: PRVs – East Bay Drive**

  *Description:* Installation of PRV stations to allow water flow from Zone 347 to Zone 226.

  *Justification/Need:* Alleviates high-pressure situations along East Bay Drive.
- **TD-10: Kaiser Road Piping (North to LOTT Lift Station)**

  *Description:* Installation of a 12-inch water main from 14th Avenue to a new LOTT lift station to the north on Kaiser Road. This new main will be the first phase towards completing a piping loop to the north end of Zone 298. Currently, this area only has one feed through a PRV at Cooper Point Road.

  *Justification/Need:* Increases distribution system reliability in this localized area.

- **TD-11: Boulevard Road Roundabout (Log Cabin) AC Replacement**

  *Description:* Replacement of existing AC water main at the time of construction of a roundabout in Boulevard Road, at the intersection of Log Cabin Road.

  *Justification/Need:* Project removes AC piping, which is brittle and prone to breaking, from the system. Coordination with roadway project takes advantage of cost efficiencies and minimizes traffic disruptions.

- **TD-12: Boulevard Road Roundabout (Morse-Merryman) AC Replacement**

  *Description:* Replacement of existing AC water main at the time of construction of a roundabout in Boulevard Road, at the intersection with Morse-Merryman Road.

  *Justification/Need:* Project removes AC piping, which is brittle and prone to breaking, from the system. Coordination with roadway project takes advantage of cost efficiencies and minimizes traffic disruptions.

- **TD-13: Boulevard Road Roundabout (22nd Avenue) AC Replacement**

  *Description:* Replacement of existing AC water main at the time of construction of a roundabout in Boulevard Road, at the intersection of 22nd Avenue.

  *Justification/Need:* Project removes AC piping, which is brittle and prone to breaking, from the system. Coordination with roadway project takes advantage of cost efficiencies and minimizes traffic disruptions.

- **TD-14: Fones Road Water Main Construction**

  *Description:* Replacement of and Asbestos Cement water main in Fones Road from Pacific Avenue to 18th Avenue at the time of planned roadway construction.

  *Justification/Need:* Project removes AC piping, which is brittle and prone to breaking, from the system. Coordination with roadway project takes advantage of cost efficiencies and minimizes traffic disruptions.

- **TD-15: Fones Road Booster Station Rehabilitation Construction**

  *Description:* Upgrade of booster pump station.

  *Justification/Need:* Project addresses current deficiencies in the electrical system, confined space entry, ventilation, and aging pumping equipment. Coordination with roadway project takes advantage of cost efficiencies and minimizes traffic disruptions.
• TD-16: Kaiser Road Water main Extensions to Evergreen Park Drive

Description: This project will install a new 12-inch watermain from the LOTT sewer lift station to Evergreen Park Drive, to complete a piping loop to the north end of Zone 298.

Justification/Need: Currently, this area only has one feed through a PRV at Cooper Point Road. The project will increase distribution system reliability in this localized area.

Operations and Maintenance

Following are operations and maintenance-related capital projects that address deficiencies or needs described in Chapter 13, Operations and Maintenance Program.

• OM-1: Small Diameter Water Mains

Description: Replacement of existing small diameter substandard water mains with larger diameter piping. Funds provide for hydraulic modeling and installation of valves and vaults, as well as replacement piping.

Justification/Need: Increases reliability of distribution system, with regard to provision of domestic and fire flows at required minimum pressures.

• OM-2: Asphalt Overlay Adjustments

Description: Involves necessary adjustments to raise water system components to street level in conjunction with the annual asphalt overlay/street reconstruction process.

Justification/Need: Adjustment of water system structures and appurtenances is required during some asphalt overlay and street reconstruction projects.

• OM-3: Water System Vulnerability Projects

Description: This includes a variety of projects identified by the City’s federally mandated vulnerability assessment and that a part of the City’s ongoing effort to protect the water system from potential hazards.

Justification/Need: The water supply system is vulnerable to major fires and natural disasters, particularly earthquakes and floods. These projects are proactive in nature, and address specific ways in which the City can minimize damage and ensure an adequate supply of water during times of crises. In addition, security upgrade projects identified in the vulnerability assessment will serve to protect the water system from potential acts of vandalism or terrorism.

• OM-4: Automated Meter Reading Technology

Description: Replacement of aging water service meters and complete City-wide installation of a “mobile” automated meter reading system.

Justification/Need: Increases metering accuracy, reduces operational costs associated with meter-reading, improves customer service through reduced reading errors, and
supports water conservation efforts by enhanced ability to track and characterize water consumption.

- **OM-5: Portable Emergency Generator**
  
  **Description:** Purchase of a portable generator that can power booster pump stations during power outages.
  
  **Justification/Need:** Increases reliability of booster pumping stations.

### Reclaimed Water

The following are reclaimed water-related capital projects that address deficiencies or needs described in Chapter 7, Reclaimed Water Program.

- **RW-1: Reclaimed Water Infrastructure**
  
  **Description:** Continue development of an infrastructure network to convey reclaimed water to customers. During 2009-2014, the anticipated focus of this program is to work collaboratively with LOTT Alliance to provide reclaimed water to the west side of Olympia, and with the Washington State Department of General Administration to deliver reclaimed water for landscape irrigation at the Capitol Campus. The Capitol Campus is the single largest potential use of reclaimed water that has been identified in the City’s service area.
  
  **Justification/Need:** Supports efficient use of the City’s limited potable water resources.

### Planning

Following are planning projects that support implementation of the other CIP items listed above.

- **PL-1: Water System Plan Update**
  
  **Description:** Update to the Water System Plan, which required every six years by the Washington State Department of Health.
  
  **Justification/Need:** This is a regulatory requirement, and also ensures the Utility is planning sufficiently to meet future needs and is investing wisely in its infrastructure.

- **PL-2: Infrastructure Pre-Design and Planning**
  
  **Description:** Perform pre-design evaluation and analysis of water system project alternatives.
  
  **Justification/Need:** This program evaluates project needs and costs of CIP projects prior to their appropriation in the annual Capital Facilities Plan, in order to refine information provided in the CIP.
• **PL-3: Asset Management Software**

  *Description:* Web-based record management system with GIS integration that enables improved decision making on operation, repair/rehab, and replacement of utility infrastructure.

  *Justification/Need:* Limited resources and aging infrastructure require that infrastructure investments be optimized to ensure an adequate level of service will continue to be provided to the community. Asset management software will improve utility work orders management, condition rating, risk assessment, capital project decision making, and financial tracking.

### Other Projects

In addition to projects listed in the 2009-2014 CIP, the City has identified projects scheduled for implementation beyond 2014, or for which schedules will be driven primarily by development-related activities. These projects are described briefly below.

#### Projects Scheduled After 2015

Following are capital projects identified for implementation after 2014:

- **FUTURE-1: Brewery Connection.** Installation of 2,100 lineal feet of 12-inch water main, extending from the proposed future Brewery supply, northwest on Capitol Way to the existing 10-inch main by Carlyon Avenue. This project may not be needed depending on the outcome of a wheeling-water agreement between the Cities of Lacey and Tumwater.

- **FUTURE -2 – Brewery Water Source Development.** Development of water supply, storage and treatment infrastructure at the former Olympia Brewery. This project would be completed with the Cities of Lacey and Tumwater, and is subject to the outcome of the water rights transfer process and future engineering studies.

As stated above, these projects are dependent upon the outcome of the water rights transfer process, future agreements, and engineering studies. The City will submit a water system plan amendment, as necessary, if these projects are proposed to move forward within this planning horizon (that is, prior to 2016).

- **FUTURE -3 – Maintenance Center Transmission Main.** New 16-inch main will replace an existing 10-inch pipe that presents a current bottleneck in the distribution system in Zone 264. The replacement line will connect to an existing 16-inch main at Eastside Street (where it originates as a tap off of the 36-inch transmission main near the Fir Street Storage Tanks). The new line will then extend approximately 3,500 feet through the City’s Maintenance Center property and across Henderson Boulevard, terminating at an existing 12-inch main that feeds the portion of Zone 264 west of Henderson. The project will increase fire flow and pressures in the westerly portion of Zone 264 during high demand periods.
Development-Related Projects

Following are projects that will be implemented as part of development projects. Scheduling of these improvements will depend on the timing of development activity.

- **DEV-1: Kaiser Road Pump Station and Storage Tank.** This future pump station and storage tank will be constructed as part of a development project planned for the area south of Highway 101 on Kaiser Road. While these facilities will primarily serve future development, they will also address current deficiencies in the distribution system’s ability to provide adequate pressures during peak hour demand conditions to a small area of Zone 298, as described in Chapter 11.

- **DEV-2: Kaiser Road South (12-inch).** Installation of 4,900 lineal feet of 12-inch water main, extending from the existing 12-inch main on Kaiser Road near 7th Avenue, south to a point west of Park Drive.

- **DEV-3: Kaiser Road South (8-inch).** Installation of 1,000 lineal feet of 8-inch water main, extending from the future Kaiser Road Storage Tank to Park Avenue.

- **DEV-4: Cooper Point Road North.** Installation of 3,000 lineal feet of 12-inch water main, extending north in Cooper Point Road.


- **DEV-6: Log Cabin Road Extension.** Installation of 4,350 lineal feet of 16-inch water main, extending from the existing 12-inch main at the south end of Van Epps Drive, east to the existing 12-inch main on Wiggins Road by 7th Avenue.

- **DEV-7: South Bay Water Main Extension.** Installation of 10,650 lineal feet of 12-inch water main.

- **DEV-8: 26th Avenue Water Main Extension.** Installation of 2,900 lineal feet of 12-inch water main, extending from the existing 12-inch main on 26th Avenue by Huber Lane, west on 26th to a proposed 12-inch main in South Bay (item DEV-7).

- **DEV-9: Indian Summer to Rich Road Connection.** Installation of 2,900 lineal feet of 12-inch water main, extending from the existing 12-inch main on Prestwick Lane by Indian Summer Well 20, southwest to the Bonneville Power Administration lines, then west along the power line access road to the existing 12-inch main on Rich Road.