9.1 Water Quality

Goal: Clean Water Act and Safe Drinking Water Act standards for nitrogen, fecal coliform and other constituents of concern in groundwater and surface water are met.
Protecting and improving local waters is a core responsibility of the Wastewater Utility. This responsibility necessitates the management of existing as well as future sewer systems. Problematic discharges of wastewater-related contaminants often occur over many years. These include discharges from illicit connections and onsite sewage systems (OSS). Meanwhile, future sewer extensions need to accommodate both new development and OSS conversions. The following objectives and strategies are aimed at reducing wastewater-related contaminants in receiving waters while encouraging urban development and re-development.

1A. Objective - Identify and eliminate at least two illicit discharges of wastewater into stormwater conveyance pipes and receiving waters each year.

1A1. Strategy – In partnership with the City's Storm and Surface Water Utility, detect and eliminate illicit discharges using water quality testing, GIS analysis, remote video inspection and funding assistance.

Nutrient and bacteria loading from cross connections of sewer pipes with stormwater pipes is a point source that can be identified and eliminated. The associated reductions in wastewater-related contaminants can be measured in terms of the volume of wastewater removed from Budd Inlet and its tributaries. For example, based on industry research, residences generate approximately 21 pounds of wastewater-related nitrogen per year.
In this strategy we will use water quality sampling of stormwater outfalls in concert with GIS land use and infrastructure analysis to efficiently and thoroughly locate cross connections between sewer and stormwater pipes. Further field investigations that incorporate dye testing, smoke testing, and televising of pipe systems will identify specific problems. Work to improve utility mapping is ongoing. Operations and Maintenance staff provide key services in accomplishing this work.

The City's Wastewater and Storm & Surface Water Utilities have been coordinating this work since 2011, in order to meet requirements established by their respective NPDES permits.

1B. Objective – Manage existing and potential new OSS so there is no net annual increase in the total number of OSS in Olympia's sewer service area.

1B1. Strategy – Refine regulations regarding new OSS and repairs of existing OSS in order to accommodate the limited use of new OSS systems in appropriate circumstances.

Under the 2007 Wastewater Management Plan, the City established restrictive regulations on where a new OSS could be permitted and where limited repairs to an existing OSS would be allowed. Based on recent OSS and water quality information, staff recommends revising these regulations to allow for new OSS if some specific conditions are met.

Proposed permitting criteria would consider (1) the extent of current OSS use in the vicinity of the proposed new OSS; (2) the degree to which the existing right-of-way between proposed new OSS and existing public sewer is developed; (3) whether or not the proposed OSS is to be located in an infill lot; and (4) the surface and ground water risk of existing OSS in the vicinity of the proposed OSS as evaluated by Thurston County Environmental Health Department (See Section 4.2).

These revised OSS regulations will be developed within 18 months of Plan adoption and potentially adopted as revisions to the Olympia Municipal Code.

1C. Objective – Encourage OSS conversions through the Septic to Sewer Program.

The Olympia City Council approved revisions to the municipal code establishing the Septic to Sewer program, effective August 17, 2009. This voluntary program provides technical assistance and financial incentives for residential connection of onsite systems to sanitary sewer as well as cost recovery mechanisms for the City.
Under the program, the City waives the sewer general facility charge (GFC) if a resident using OSS makes a connection to the sewer system within two years of being notified of the sewer's availability.

The Utility has funding available to construct a limited number of neighborhood sewer extension projects. Property owners who choose to connect under the Septic to Sewer Program are required to reimburse the City some portion of the cost of constructing the sewer infrastructure. In selected neighborhoods, the City provides (1) a fixed construction cost to help property owners prepare financing; (2) a payment plan ($200 per month) for properties that connect to the sewers; and (3) Utility subsidy for half of the construction costs over $20,000.

Neighborhood sewer extension projects are selected based on established criteria and City Council approval.

1C1. Strategy – Provide Utility funding for sewer extensions associated with individual OSS conversions.

This proposed strategy will facilitate minor sewer service extensions into areas where OSS are prevalent. Costs for extending sewer to individual parcels converting to public sewer can be high. Under this strategy, the Utility will provide limited funding to help cover the cost of the minor sewer extensions. This strategy and its implementation criteria will be developed over the next 18 months with implementation by the end of 2014.

1C2. Strategy - Allow payment of wastewater connection fees for OSS conversions over longer periods of time.

Wastewater general facility charges (GFCs) and LOTT's capacity development charges (CDC) are one-time permitting fees charged new construction at the time of connection to the public system. The financial burden of these fees for residences converting from OSS to public sewer can be substantial ($7,900 in 2013). With this strategy we will evaluate options for collecting GFC and potentially CDCs over a long period (e.g. 15 years). The GFC option would be implemented in the Olympia Municipal Code.

1C3. Strategy - Provide technical assistance and public education for individual and neighborhood OSS conversions to municipal sewer.

Converting OSS to municipal sewer is technically and financially challenging. The Utility has been providing one-on-one consultations with individual property owners and distributing information on OSS conversion through various media since 2008.

1D. Objective – Facilitate the orderly expansion of the public sewer system.

1D1. Strategy – Evaluate the use of alternative sewer technologies for appropriate sewer extensions.

Under most circumstances, a traditional gravity sewer collection system with a lift station and force main if topography warrants it, will continue to be the required method of sewer collection in areas to be developed, regardless of the source of funding or type of development.

However, we acknowledge that alternatives, such as pressurized grinder pump systems, are viable and appropriate for certain limited locations with unique constraints. There is, for example, an existing policy (see Appendix O) allowing for grinder pump systems in limited areas.

With this strategy, we will refine criteria for allowing grinder pump systems and potentially other technologies as they become technically available and suitable for use in Olympia. This strategy will be implemented through the municipal code estimated to occur two to four years after adopting this Plan.

1D2. Strategy – Allow the limited use of STEP systems for OSS conversions and infill development in neighborhoods currently served by STEP systems.

This strategy continues existing policies that prohibit the use of STEP systems for new subdivision and commercial development, while accepting that STEP may be the appropriate technology for OSS conversion and infill lot development within areas that are currently served by STEPS. Current restrictions on STEP systems will be evaluated. Potential criteria for allowing STEPS include only allowing them in small areas where the only possible access to public sewer within 1,000 feet is via an existing STEP main, documentation that the existing STEP main has adequate capacity, and ensuring that odor control needs are addressed.
Under State regulations, existing and potential future STEPs are the operational responsibility of the Wastewater Utility rather than the property owner. Implementation of this strategy must therefore continue to be highly restrictive of STEP use.

1D3. Strategy – Implement a green infrastructure project evaluation process for wastewater capital projects.

Tools are available to identify project-specific sustainability issues/challenges/opportunities (e.g. ISI's Envision program); encourage collaboration among staff across disciplines, Lines of Business and Departments; and help to refine and define elements.
This Strategy will ensure that the scope of projects identified in the Wastewater Utility's Capital Facilities Plan is sustainably defined on a consistent basis. The intent is to implement this process on several projects within two years of adoption of this plan, with full implementation within six years.