

STORMWATER TREATMENT PROGRAM

PROGRAM DESCRIPTION

This program will introduce water quality treatment features into existing storm drainage conveyance systems that were designed to prevent property damage from storm runoff. Federal and State regulations require the City to implement programs to improve the quality of water discharged from these systems. The City has a large inventory of pipe outfalls that deliver untreated storm runoff to our area's rivers. The City has selected a group of outfalls in north Richland for project development, including identification and evaluation of alternative water quality treatment features. The City has also assembled a mixture of state grant funds and local Stormwater Utility funds to implement some or all of the selected projects.

PUBLIC OUTREACH

The City is conducting a public outreach program to solicit public review and comment on the proposed projects, and to specifically help select among several alternative treatment systems available at the project locations. The information below is intended to supply background information for interested residents. The public outreach program includes three public meetings and an on-line survey. It is expected that the survey will be opened for input late in April, after several of the public meetings have taken place.

PROPOSED STORMWATER TREATMENT LOCATIONS

There are six locations recommended to have a stormwater treatment process implemented. Each of the designated locations have had an extensive report generated that identifies the need and the various treatment options available for each site. The locations are all located in north Richland and they are:

- [Richardson Stormwater Treatment Report](#)
- [Sprout Stormwater Treatment Report](#)
- [Ferry Stormwater Treatment Report](#)
- [Saint Stormwater Treatment Report](#)
- [Park Stormwater Treatment Report](#)
- [Swift/Columbia Park Trail Stormwater Treatment Report](#)

CONTACTS

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Hours:

M-F: 8:00 a.m. – 5:00 p.m.

STORMWATER MANAGEMENT MANUAL

The City's technical project team uses design guidance from the Washington State Department of Ecology to prepare project plans. The Washington State Department of Ecology published the [Stormwater Management for Eastern Washington report](#) in 2004. The purpose and scope of the report are as follows:

The objective of this Manual is to provide guidance in stormwater design and management for eastern Washington. The Manual aims to provide a commonly accepted set of technical standards in addition to presenting new design information and new approaches to stormwater management. These stormwater management practices, if properly applied at a project site, should protect water quality in the receiving waters (both surface and ground waters). Improperly managed stormwater runoff is one of the principal sources of water quality and habitat degradation in urban areas. A number of existing laws and regulations require that project proponents properly manage stormwater runoff to avoid adverse impacts to water quality and aquatic resources. This Manual is intended to provide technically sound and realistic guidance on how to properly manage stormwater runoff from individual project sites.

This Manual identifies eight Core Elements for managing stormwater runoff from new development and redevelopment projects of all sizes. The Manual also provides guidance for preparation and implementation of stormwater site plans. The requirements of the Core Elements are generally satisfied by the application of Best Management Practices (BMPs) selected from Chapters 5 through 8 of this Manual. Projects that follow this approach will apply reasonable, technology-based BMPs and water quality-based BMPs to reduce the adverse impacts of stormwater.

This Manual is applicable to all types of land development. BMPs for residential, commercial and industrial development and road projects are included. A Manual with a more specific focus, such as a Highway Runoff Manual or a stormwater manual adopted by a local jurisdiction, may provide more appropriate guidance to the project proponent.

The Manual is limited in scope for addressing environmental problems caused by urbanization. The Manual does not include site development standards or limit where development should be allowed. Project by project management of stormwater runoff from new development and redevelopment alone will not correct existing water quality and instream habitat problems. The engineered runoff treatment and flow control facilities recommended in this Manual can reduce the adverse impacts of development, but such facilities cannot remove sufficient pollutants to replicate the pre-development water quality, nor can they replicate the natural functions of the watershed that existed before development.

STORMWATER TREATMENT ANALYSIS

The City has developed the [Stormwater Retrofit Outfall Projects Alternatives & Cost Benefit Analysis](#), an alternatives comparison matrix to assist residents, City staff, and the City Council in evaluating project alternatives. The matrix allows each one of the proposed treatment locations and available options to be evaluated on: construction cost of each treatment option, relative cost and effort for ongoing maintenance, treatment effectiveness, implementation delays, change to existing features, and construction impacts. City staff have populated recommended ratings for the various criteria based on the engineering work performed to date, but have left the weighting of criteria and the total rating of alternatives blank so that residents and City

Councilmembers can provide input on the relative importance of criteria and their preferred alternatives.

CORPS OF ENGINEERS FACILITIES EASEMENT APPLICATION

In February 2015, the City received a [receipt letter](#) from the Corps of Engineers, located in Walla Walla, that the Corps will be reviewing the City's request to use easements in the Leslie Groves Park to potentially install a stormwater treatment. The review process is expected to take 6-8 weeks.

STORMWATER FAQ

What is the purpose of the program?

To improve the water quality of storm runoff that is conveyed to the Columbia River through the City's stormwater conveyance pipelines.

Why is it important to treat stormwater before it goes into the Columbia River?

Responsible environmental stewardship motivates the City to use reasonable available measures to reduce pollution generated from urban living from going into our area's rivers. Without treatment, anything that gets collected in the stormwater gets deposited directly into the rivers. In addition, since the 2007, the City has been subject to a state permit that requires implementation of programs to reduce pollution discharged by the stormwater system.

The "[Reconnaissance of Contaminants in Selected Wastewater-Treatment-Plant Effluent and Stormwater Runoff Entering the Columbia River, Columbia River Basin, Washington and Oregon, 2008-10](#)" report has extensive information on why it is important to treat stormwater.

Is stormwater runoff toxic or dangerous to human contact?

Generally not, but it is not suitable for human consumption and, in extreme cases, public beaches in urban areas have been closed because of polluted storm runoff. This has not occurred in the Tri-Cities to our knowledge. Storm runoff typically contains a diluted mixture of water and pollutants such as bacteria, oils and greases, metals, fertilizers and pesticides, and sediment.

What is the regulatory background behind the City's program?

The 1972 federal Clean Water Act is the primary federal law regulating water pollution. The 1987 Water Quality Act expanded the Clean Water Act to apply to stormwater discharges to natural water bodies, such as the Columbia River. Washington State also has laws and regulations that set water quality standards for various beneficial uses of water bodies. In the late 1990's federal regulations, called the National Pollution Discharge Elimination System (NPDES), Phase II regulations, applied these laws directly to the City's stormwater system. Since 2007 the City of Richland, along with 17 cities and 6 counties in eastern Washington State, have been regulated through a Washington State issued NPDES permit requiring programs to protect and improve the water quality of discharged stormwater.

What are the NPDES permit requirements?

The permit requires the City to adopt several regulatory programs to restrict dumping of pollutants into the storm drain system and to restrict erosion and pollutants from construction sites from entering the storm drain system. The permit also requires the City to review and improve its own maintenance and operational procedures to reduce pollutants, to conduct public outreach and education programs, and to clean and maintain its stormwater conveyance system.



Is the City required to implement this program of retrofitting water quality treatment features on its conveyance pipelines?

Not at this time, but the NPDES permit requirements will change over time to improve the water quality outcomes. The City is required to reduce the discharge of stormwater pollutants to the maximum extent possible by using all known, available and reasonable means of prevention, control and treatment. The City, along with other NPDES permittees, has been actively encouraged by the Department of Ecology to leverage state-provided grant funding to retrofit stormwater discharges such as those inventoried in the City's system. The City has elected to pursue grant funds to implement these type of projects because the City anticipates that this type of project will likely be required in the coming years, perhaps without the availability of grant funding.

What options are there for stormwater quality treatment?

The Washington State Department of Ecology has provided a Stormwater Management Manual for Eastern Washington that includes seven different best management practices for water quality treatment. Many of these rely on the natural pollution-mitigating capacity of soils and vegetation. Others rely on manufactured mechanical systems. Generally speaking, the practices that rely on soils and vegetation provide the best treatment results.

The City's technical team used Ecology's manual as a starting point and selected treatment systems best suited for Richland's outfall locations. More than one treatment system alternative is available for many of the outfalls the City needs to modify.

How did the City choose the locations to add the water quality treatment features?

The City and its consultant compared the discharge points on several criteria, including the size of the contributing drainage area, the type of development, and the availability of publicly owned property on which to site a water quality treatment feature. This process prioritized several discharge points in the northern portion of the City.

Has the City already decided which projects to complete and which treatment systems to use?

No. The work completed thus far established a set of projects for completion by performing a preliminary analysis of the most likely treatment features and their possible locations. For several discharge points a clear preferred location and treatment feature has been identified, but for several others a set of alternatives have been prepared for public review. A public outreach program is being implemented to collect public input for selection of treatment features and locations.

Staff anticipates that the public outreach program will run through the middle of May, after which a recommendation will be provided to the City Council with a prioritized list of projects with favored options.

Can stormwater treatment facilities be located in Parks or other human contact recreational spaces?

Yes. It is very common to co-locate these facilities in community parks. Department of Ecology guidance, and consultation with the Walla Walla District of the U.S. Army Corps of Engineers, suggests that the proposed facilities could be located on Corps property, either within the improved or natural open space park spaces. The City's review process will provide the public

and the City's Parks and Recreation Commission with the opportunity to consider several proposed alternatives that would utilize City park space.

How does the water quality treatment work?

For treatment systems relying on soils pollutant removal is achieved through filtration as well as biological and chemical activity within the soil. For those systems utilizing vegetation pollutants are also removed, and in some cases transformed to benign materials, through plant metabolism.

Treatment systems relying on manufactured products use a mixture of mechanical separation and absorption on organic matrixes to remove pollutants.

What environmental review processes apply to this program?

The SEPA (Washington State Environmental Policy Act) process applies to this program in general. If an alternative is selected that is located on U.S. Army Corps of Engineers property the City and Corps will complete environmental reviews to satisfy the Corps requirements. The City intends to initiate the required reviews during this public outreach program.

Will the proposed projects change the current uses of the treatment facility sites?

It depends. If surface infiltration is selected as the treatment process then ponds or swales will be constructed that change the shape and surface of the chosen site. Other treatment processes involve underground features that, after constructed, will be invisible on the ground surface and enable the existing surfaces to be restored.

What is the City's anticipated schedule for the project?

After City Council selection of priority projects City staff anticipates further project development and design work will take from four to six months, after which construction contracts will be awarded. Project construction would likely take place between late 2015 and the first half of 2016.

