

# Watershed Planning and Rainwater Management: Creating the Future in the City of Coquitlam

## Part B – Implementing a Watershed-Based to Community Planning in Coquitlam

### 7. Coquitlam on Track for Completion of Watershed Plans

Coquitlam is on schedule to complete watershed plans for all urban areas by the end of 2014 in order to meet the regulatory commitment required of municipalities in the Metro Vancouver region. At present, six plans are completed and being implemented and six others are in development.

#### New Projects Added to Financial Plan

Since starting the IWMPs back in 2002, the City has completed many of the large capital projects coming out of the recommendations for improving watershed health such as diversion pipes, erosion stabilization works, sediment traps, base flow retrofits, water quality ponds, source controls, and fish accessibility improvements.

New projects from the IWMP's are added to the City's Financial Plan every year.

"The cost of projects to remediate streams and watersheds after damage from land development is substantial," says Melony Burton. "Cost aside, there are often other significant obstacles to rehabilitative construction projects such as difficult access, property impacts or lack of space. The reduced cost and increased benefit of avoiding impacts upfront is a solid argument for being proactive rather than reactive in our approaches to responsible land development."



"The IWMP's have been useful resources in day to day operations, particularly with development applications," adds Hagen Hohndorf, with the City's Environmental Services Division.

"Watercourse inventory and classification assists in determining appropriate riparian setbacks and protection. The plans also identify opportunities for improvements which can be used by the City or developers looking for compensation or by streamkeepers with access to grant funding."

#### Coquitlam River Watershed – A Different Kind of Plan

According to the 2002 LWMP, non-urban watersheds, those with 80% or more green space, are not required to develop watershed plans. But a plan of some kind was definitely needed for the Coquitlam River Watershed with its many stakeholders, vast headwater wilderness including Coquitlam Lake reservoir and dam, and thirty watercourses draining into the Fraser River.

**Watershed Roundtable:** To meet that need, the Coquitlam River Watershed Roundtable was formed in 2011 as a unique organization focused on advancing the health and sustainability of the watershed.

The Roundtable emphasizes collaboration and cooperation between a diverse and broad group of stakeholders including: regional, provincial, federal and first nation governments, the aggregate industry, development community, utilities, education, arts, culture and groups representing outdoor recreation and stewardship.

"The mandate of the group is to provide support to those with legislative authority so that they can make informed decisions about activities in the watershed," explains Margaret Birch, Environmental Services Coordinator.



The initial goals of the Roundtable include creation of a website and resource database, water quality monitoring, and the development of a watershed plan tailored to meet the needs of this large and varied watershed.

*More information is available at:*  
[www.coquitlamriverwatershed.ca](http://www.coquitlamriverwatershed.ca)

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### Green Lane Standards

In June 2011, the City developed a standard design for green lanes which features infiltration for rainwater management. It is being applied on a trial basis in lanes in areas of redevelopment, where ditch removals are necessary to accommodate wider, primary access lanes and denser housing options such as carriage homes, triplexes, and quadruplexes.

In taking a watershed approach versus a lot-by-lot solution, ditch inventories are conducted on a watershed-wide scale and classifications of red, yellow and green watercourses are established which reflect fish presence and habitat value.

“In the case of a green-coded ditch, an infiltration trench is an agreeable replacement as it will retain the hydrological function necessary to support creek health,” says Hagen Hohndorf. “For the removal of yellow or red ditches, a large compensation project with significant benefits is used to offset the loss of ditch riparian and aquatic habitat.”

### Rainwater Management for Housing Choices

In June 2012, the *Nelson Creek Integrated Watershed Plan* introduced the requirement for single family lots redeveloping to the City’s *Neighbourhood Attached Residential* designation to also meet the Rainwater Management Requirements.

Now, lots which redevelop from a single home to a triplex, quadruplex or include a carriage home will be considered a multi-family development which means they must implement source controls to meet the full rainwater capture criteria. This is enabling the City to counteract the impacts from increases in impervious area that result from this type of infill development.

Refer to Exhibit 5 on page 15.

### New Stream and Drainage System Protection Bylaw

In September 2013 the City overhauled its *Stream and Drainage System Protection Bylaw*. In addition to general prohibitions regarding the City’s waterways and drainage system, the new Bylaw also regulates erosion and sediment control issues related to construction sites in Coquitlam.

“The changes provide for better accountability by developers and a broader range of enforcement tools for City staff,” explains Steffanie Warriner, Manager of Environmental Services.



“The new strategy promotes a practical and proactive approach to erosion and sediment control that includes updated discharge criteria, clear roles and responsibilities, and mandatory best management practices. These changes were necessary to counter the erosion and sediment issues we were experiencing, especially in sensitive areas with substantial construction,” she adds.

New Environmental Bylaw Officer positions have been added to work with developers and builders in achieving compliance.

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### Rainwater Management for Housing Choices

Planned residential Housing Choices using traditional construction methods and materials will result in a large increase in hard surfaces which do not allow rainwater to infiltrate into the ground. This increases runoff which goes to the storm system and ultimately to the creeks where it can damage sensitive aquatic habitat.

Below is an example of how Rainwater Management measures can be used to mitigate the impacts of development by allowing the rainfall to reach the ground and soak in.

Roadside Infiltration

Rain Garden

Pervious Patio

Rain Barrel

Infiltration Trench

Absorbent Landscaping

Pervious Paving

Pervious Walkways

Coquitlam

Exhibit 5: Rainwater Management for Housing Choices