



City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: February 6, 2014

From: John Irving, P.Eng. MPA
Director, Engineering

File: 10-6125-25-017/Vol 01

Re: Bath Slough Revitalization Initiative

Staff Recommendation

That Option 1– Proceed with the Bath Slough Revitalization Initiative on a Pilot Basis, as presented in the report titled “Bath Slough Revitalization Initiative”, dated February 6, 2014, from the Director, Engineering, be endorsed.

John Irving, P.Eng. MPA
Director, Engineering
(604-276-4140)

Att: 2

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Communications	<input checked="" type="checkbox"/>	
Community Social Development	<input checked="" type="checkbox"/>	
Community Recreation Services	<input checked="" type="checkbox"/>	
Parks Services	<input checked="" type="checkbox"/>	
Public Works	<input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

The purpose of this report is to present a strategy for environmental enhancement and community stewardship, focused on the Bath Slough catchment in the Bridgeport neighbourhood. Several factors converge in this area that makes the location ideal for a focused stewardship initiative. The proposed initiative directly supports the Ecological Network (EN) endorsed by Council as part of the 2041 OCP (Chapter 9) and the more detailed Ecological Network Management Strategy under consideration by Council for public consultation.

The Bath Slough Revitalization Initiative is broad based and supports a range of Council Term Goals across several sectors that include:

- **Community Social Services** Goal #2.9
Encourage the development of community volunteer programs and strategies;
- **Sustainability** Goal #8.1
Continued implementation and significant progress towards achieving the City's Sustainability Framework;
- **Community Wellness** Goals #10.3 and #10.4
Create urban environments that support wellness, Continued emphasis on the development of the City's parks and trails system), and;
- **Waterfront Enhancement** Goal #12.3
Consider day-lighting more sloughs in the City.

Background

Waterways form an integral part of Richmond's history, in a unique way among lower mainland municipalities. Before the European settlement, Lulu Island was crisscrossed with watercourses, wetlands and sloughs. Sloughs provided the earliest avenues of travel into the heart of the island and were also important habitats for a myriad of organisms, including the juveniles of all five species of Pacific Salmon. Bath Slough forms part of a historical watercourse complex that stretched across Lulu Island. Today, its catchment area spans over 750 hectares of industrial, agricultural and residential land in the Bridgeport area (Figure 1).

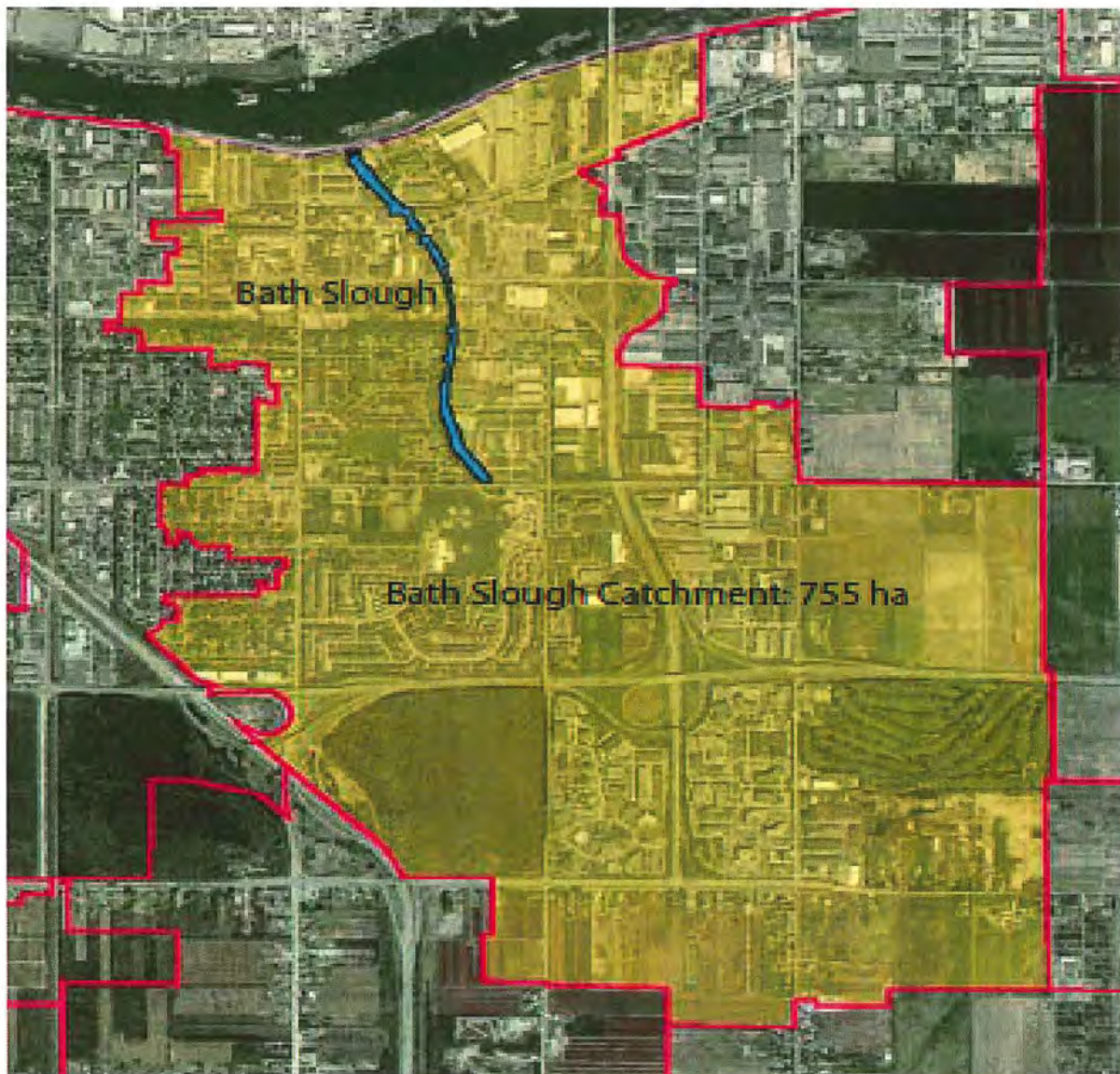


Figure 1: Bath Slough Catchment Area, 2014

With development accelerating in Richmond, a significant decision was made in 1973 to not enclose Bath Slough and to retain some of the natural form and character of the waterway. The form of the remaining watercourse today is similar to before industrial development, and it retains a character distinct from adjacent agricultural watercourses. Enhancement and restoration activities started as early as 1980 with the objective to preserve natural features while “preserving the slough’s function as a drainage canal and providing both a recreation corridor and an aesthetic buffer between land uses”. Volunteer planting efforts in the late 1980s were the earliest community driven enhancement projects and were successful, if modest in scope.

Since the completion of trail construction along the slough in the early 1990s marking the beginning of full community access, little stewardship of the area has taken place. Surrounding

properties have enhanced the trail network somewhat through redevelopment but this has been done in a discontinuous fashion. The combination of infrastructure issues and limited community engagement has led to degradation of the corridor through illegal dumping, poor water quality, vandalism and infestations of invasive plant species.

The drainage pump station for Bath Slough is due to be replaced in 2014 as part of ongoing capital projects. As with other upgraded pump stations, the new pump station will be both an attractive central feature and community amenity, focusing interest in the area. Combined with ongoing dike trail upgrades and new residential development in adjacent areas, the pump station redevelopment sets the stage for revitalization in the neighbourhood. Bath Slough is well-situated as a greenway for public recreation and transportation, connecting the Cambie Community Centre and surrounding neighbourhoods with the Bridgeport retail and industrial operations and the Fraser River Shoreline.

The City has recently experienced great success in promoting community stewardship and engagement of the public on environmental topics. The annual REaDY Summit has grown to be a significant event in the City, driven by an enthusiastic and informed core of High School youth volunteers. The City's Earth Day Events are diverse, well supported and are expanded by year-round events engaging community and corporate participants.

Earth Day 2012 was held adjacent to Bath Slough at King George Park, which provided an excellent opportunity to reintroduce enhancement and stewardship activities in the Bath Slough area. In the summer of 2012, Environmental Sustainability staff built on this momentum by implementing a program of industrial stewardship, targeted at the major industrial operators in the area. Outreach materials were created and staff conducted 96 individual business visits, with the specific goal of increasing awareness of the City's Pollution Prevention Bylaw (Attachment 1).

Finally, students from the Richmond Green Ambassadors program volunteered in the summer of 2012 and spring of 2013 to conduct a storm drain marking program on hundreds of catch basins throughout the neighbourhood. Under the guidance of the City's Environmental Sustainability team, they successfully marked the entire Bath Slough catchment area.

To provide context for the revitalization of the Bath Slough corridor, staff commissioned the preparation of the Bath Slough Restoration Plan in 2012. The Plan outlines several priority strategies for enhancement of the slough, including:

1. Increasing riparian tree cover,
2. Selectively controlling invasive plant species,
3. Strengthening the identity of Bath Slough,
4. Improving the use of Bath Slough as a greenway,
5. Addressing riparian encroachment issues, and;
6. Assessing bank stability.

Recent outreach activities that have been undertaken by staff to industrial tenants in the area, combined with discussions with businesses and new stewardship activities engaging the

Richmond Green Ambassadors has indicated a groundswell of community interest in Bath Slough. Ideal outcomes include community groups and volunteers taking ownership of the area and participating in hands-on work to improve it, and industrial and commercial tenants taking pride in their setting and encouraging their employees and clients to be engaged.

Following the adoption of the EN strategy as part of the 2041 OCP, Sustainability staff have been developing the Ecological Network Management Strategy to guide the preservation and enhancement of the City's natural assets. The EN was adopted as part of the 2041 OCP Update. A central component of the EN is the concept of improved or restored connectivity between ecologically significant areas. In the case of Bath Slough, the corridor has the potential to link the important habitats of the Fraser River foreshore to the interior of the island, including the King George park area and nearby Richmond Nature Park. The revitalization of Bath Slough presents a rare opportunity to further the goals of the EN in an area already largely under City jurisdiction. The initiative also directly supports Council goals for active transportation and GHG reduction.

Analysis

Initiatives promoting the restoration of natural systems in the urban context have proven to have wide-ranging community benefits beyond enhancing habitats. Concepts such as watercourse day-lighting and adopt-a-stream programs capture public imagination and draw residents into stewardship activities. In Richmond, natural enhancements at Terra Nova Park and the Nature Park provide popular engagement and education opportunities. Place-based environmental enhancement and stewardship initiatives have the potential to draw in sponsorship and corporate support and provide for leveraged funding. Richmond is endowed with many natural areas and has an opportunity in Bath Slough to create a unique urban enhancement and stewardship program that will revitalize a community amenity and further the goals of the Ecological Network. Increased ownership by the community and industrial tenants provides an opportunity to recreate a sense of place and long term stewardship.

A draft Vision / Concept Plan graphic for the Initiative is provided in Attachment 2. The Bath Slough Revitalization Initiative is envisioned to consist of several inter-related elements designed to target different user groups and constituents, such as;

- ***Community Mapping:*** A critical element to developing a robust long-term stewardship program is to understand clearly the community's views on the Bath Slough corridor, including how they use it and their priorities for enhancement in the area. Community mapping workshops are an important method to gauge the opinion of local residents and engage them in dialogue. These workshops would consist of drop-in sessions held in partnership with the Cambie Community Centre and Secondary School and facilitated by staff. Participants would identify areas that are significant to them with the assistance of maps and graphics. Staff propose that this be a first step to launching the Initiative as it provides important supporting information to define the program.
- ***Ongoing Capital and Operational Projects:*** This initiative would provide more specific context for the direction of engineering upgrades and maintenance in the corridor. Currently, the Bath Slough Pump Station Upgrade design includes opportunities to

stabilize the slough banks and improve water quality within the lower reaches of the slough. Preliminary investigations are also underway through the Parks Department for the lower reach of the slough to: seek formal permission to establish a public right of way; apply for a railway crossing permit for the slough trail; and determine options for a bridge repair or replacement.

- **Public Stewardship Events:** Staff will seek to implement an ongoing program of volunteer engagement in the slough catchment consisting of public stewardship and education events. These events would be targeted projects taking place under the “Partners in Parks” umbrella. The Bath Slough Restoration Plan outlines methods for restoration; these consist broadly of invasive plant removal and native species plantings.
- **Industrial Stewardship & Outreach:** The Bath Slough catchment is highly industrialized area, with over 70% of land zoned for industrial uses. The Industrial Stewardship program involves direct onsite outreach to clients by staff, supported by educational resources targeting the most common industrial operations found in the area. This program would ideally expand to include all industrial tenants in the catchment.
- **Special Events:** The Bath Slough initiative presents an ideal opportunity to host dedicated events such as future Earth Day related celebrations. As yet the City does not have a significant event celebrating World Rivers Day, held on the last Sunday in September. Situated as it is at the mouth of British Columbia’s largest river, Richmond is in an excellent position to host a Rivers Day event centred on a revitalized Bath Slough.

The above projects represent focus areas for the Bath Slough Revitalization Initiative but should not be considered a comprehensive list; projects will be scoped and prioritized by a coordinated team of staff members.

Consideration of Other Sloughs

Staff also considered other major sloughs in the City and evaluated their relative suitability for stewardship initiatives as compared to Bath Slough.

- **Agricultural context:** Other significant sloughs in the City such as Woodward, Horseshoe and Hartnell are more closely associated with agricultural areas and function as both drainage and irrigation features. The immediate adjacency of agricultural properties means that enhancement options for these sloughs are more limited.
- **Adjacent communities:** Adjacency to residential areas and ideally a community centre is considered significant to the development of stewardship as these provide an existing constituency from which community volunteers can be drawn. Other sloughs in the City are in agricultural areas with significantly less population density, making it more challenging to recruit volunteers.
- **Access considerations:** Pedestrian and public access are important to developing a community stewardship initiative as these provide for easy and safe implementation for enhancement projects and public events. Other sloughs have less public access overall

compared to Bath Slough. Some areas of Bath Slough are currently closed to the public due to infrastructure considerations; this will be considered in planning the Initiative and proposed activities will be limited to areas open to the public. Increased engagement in the slough can provide assistance and support in resolving these issues.

- **Supporting Context:** Synergies with the launch of this initiative at the same time as the capital project for the Bath Slough pump station replacement provides significant opportunities for potential water quality improvements and bank stabilization. As described above a restoration plan that is already in place for Bath Slough includes these types of actions as priority strategies.

All of the above factors support the launch of a revitalization program at Bath Slough as a starting point for future stewardship. The success of the pilot initiative will produce important knowledge applicable to other sloughs in the City.

Staff Steering Group

Multiple City divisions will be involved in a successful Bath Slough Revitalization Initiative. An internal steering group is proposed including but not limited to:

- Parks
- Engineering Operations
- Sustainability
- Community Recreation
- Corporate Communications
- Sewerage & Drainage

Options for consideration

Option 1 (Recommended) – Proceed with the Bath Slough Revitalization Initiative on a Pilot Basis:

Under this option, staff would convene the proposed staff steering group, who would further develop the work plan and timeline and outline priority projects for the launch of the initiative. The launch period would extend through October 2014. Staff would report back to Council on the Initiative's progress once initial meetings have been held in spring 2014, both internally and with the community.

This approach is considered to provide a strong foundation to community environmental enhancement and stewardship that builds upon current opportunities with existing Capital and Operations projects and their integration with community based initiatives.

Option 2 (Not Recommended) – Alternative slough initiative:

The general concepts presented in this report are applicable to other sloughs in the City. Should Council decide on this option staff would consider the specific environment of the selected area and report back with options for implementation.

Option 2 is not recommended. The synergistic opportunities for the remaining sloughs do not provide the breadth of opportunities already existing in the Bath Slough community.

Option 3 (Not Recommended) – Do not proceed with the initiative at this time.

This option does not capitalize upon existing opportunities for slough revitalization, community engagement and community stewardship and is therefore not recommended.

Financial Impact

None at this time. All activities highlighted above would occur within existing Capital and Operating budgets. Over time, it is envisioned that increased focus on the slough's health will highlight opportunities for new capital projects, which will be identified in future budgets for Council consideration. In addition, there are many opportunities to leverage external funds from private businesses and other levels of government. To date, staff have successfully secured \$6,400 from the TD Friends of the Environment Foundation to support environmental enhancement and stewardship activities in 2014.

Conclusion

Staff are seeking Council's endorsement for the proposed Bath Slough Revitalization Initiative and the raising of awareness of the City's Ecological Network Management Strategy through the Initiative. Constituent components of the Initiative will include coordination of community stewardship events/collaborations, Capital and Operations Projects, environmental enhancement opportunities and the establishment of an internal Bath Slough Steering Group. The intent of this Initiative is to build upon existing environmental enhancement and stewardship projects and opportunities in the Bath Slough that collectively instill a sense of place within the community.

Should Council approve the report and Option 1 for implementation, staff will report back on the results of the pilot initiative.



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Andrew Appleton
Environmental Coordinator
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LD:aa

- Att. 1: Industrial Stewardship Outreach Materials
- Att. 2: Draft Bath Slough Restoration Initiative Vision Graphic



Prevent storm drain pollution

Storm drains in this area connect directly to **Bath Slough** and the **Fraser River**.

Only clean rain water may enter the storm drain system. It's a good idea, and it's the law.

For more information visit:

www.richmond.ca/envirostewardship



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Legislation

Any person or business responsible for contamination of the City stormwater drainage system will be charged for the cost of cleanup, and could be held liable under the following environmental legislation:

- Federal Fisheries Act
- Meat Inspection Act
- Fish Inspection Act
- BC Hazardous Waste Regulation
- BC Environmental Management Act
- Richmond By-laws No. 8441 and No. 8475

More Information

Environment Canada
www.ec.gc.ca/pollution/

Canadian Food Inspection Agency:
www.inspection.gc.ca

BC Ministry of Environment
604-582-5200

City of Richmond Environmental Sustainability Services
Tel: 604-276-4694

www.richmond.ca/services/Sustainable/environment/about.htm

Metro Vancouver Wastewater Regulations
www.metrovancouver.org/services/wastewater/sources/Pages/default.aspx

RCBC Recycle Hotline
Tel: 604-276-4345

In the event of an accidental spill to the environment immediately contact the Provincial Emergency Program (PEP) at 1-800-663-3456, in the event that the chemical is flammable, toxic, corrosive or has other hazardous properties, also call the Richmond Fire Department immediately at 911.

If you witness a spill, or anything being washed down the stormdrain, please contact the City of Richmond By-laws Inquiries and Complaints:
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Meat and Seafood Processing

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Richmond's spectacular estuarine location—at the point where the Fraser River meets the Pacific Ocean—means that the island city is located within one of the most productive ecosystems in the world. Our community relies on a healthy and diverse landscape to maintain biological diversity and a resilient natural environment. Richmond's inland and foreshore provide a host of ecosystem services – fundamental life supports for humans and a wide variety of plants and animals.

Bath Slough is a semi-natural waterway that flows directly to the Fraser River. The slough is an ecologically important natural area and a community asset in the Cambie neighbourhood. The slough and its riparian areas provide important biodiversity values and ecosystem services. These values are recognized through City-designated Riparian Management Areas (RMA) and Environmentally Sensitive Areas (ESA), protecting the slough's unique ecological values for future generations.

Protecting the ecological and recreational value of the slough depends on actions on both private and public land. Storm drains in your area connect directly to Bath Slough and the Fraser River, and have historically been a significant source of water pollutants.

The City of Richmond is raising local awareness of impacts on Bath Slough in order to increase protection of the slough: for the fish, birds, and invertebrates that inhabit it, and for the people of Richmond to enjoy. Our goal is to assure Bath Slough is a prominent, healthy watercourse for future generations.

Remember

Storm drains on the street and in your parking lot flow directly to streams bearing fish. Nothing but clean rain water should go down those drains.

Best Management Practices

If not managed properly, waste and wastewater from industrial fish and meat processing operations pose a serious risk to Richmond's aquatic environment. The detergent and organic components of the waste have a high "biological oxygen demand" that suffocate aquatic life in the area.

In order to protect Richmond's storm drainage system, aquatic environment and the Fraser River Estuary, industries should observe best management practices, including the following:

- Know where your storm drains are and whether they connect to the sanitary sewer or storm system.
- Ensure all wastewater is screened and disposed of in the sanitary sewer, as permitted.
- Undertake any rinsing/washing in a wash bay connected to a sanitary sewer with approval from Metro Vancouver, if required.
- Do not let wastewater or any other substance other than clean rain water enter the storm drains.
- Sweep outdoor areas instead of hosing down. Hosing off pavement carries harmful pollutants directly to the stormdrain system and fish bearing streams.
- Keep all outdoor waste and equipment storage areas clean, secure and out of the rain. Secondary containment may be required for storage of some pollutants.

Spill Prevention

- All Spills must be cleaned up or contained to prevent them from entering the stormwater drainage system

To help prevent spills:

- Waste containers should be kept secure, tidy and out of the rain. Secondary containment may be required for storage of polluting substances
- Use "dry" cleanup methods, such as a rag, damp mop or broom.
- Never hose a spill into the street, gutter or storm drain.
- Develop a spill response plan: Have a spill response kit equipped with absorbent materials that are appropriate for offal and other waste produced by your facility.
- Ensure all employees and maintenance workers are aware of their important role in preventing stormwater contamination.



Spill Prevention

Discharge of wastewater containing concrete, stone and tile fines, or chemicals used to wash or finish these materials, must be contained to prevent them from draining to streets, lanes or other areas where it may reach the stormwater drainage system.

Any person or business responsible for contamination of the City stormwater drainage system will be charged for the cost of cleanup, and could be held liable under the following environmental legislation:

- Federal Fisheries Act
- BC Hazardous Waste Regulation
- BC Environmental Management Act
- Richmond By-laws No. 8441 and No. 8475

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More Information

Environment Canada
www.ec.gc.ca/pollution/

BC Ready-Mix Concrete Association
Tel: 604-881-2522

BC Ministry of Environment
Tel: 604-582-5200

City of Richmond Environmental Sustainability Services
Tel: 604-276-4694

www.richmond.ca/services/Sustainable/environment/about.htm

Metro Vancouver Wastewater Regulations
www.metrovancouver.org/services/wastewater/sources/Pages/default.aspx

RCBC Recycle Hotline
Tel: 604-276-4345

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Remember

Storm drains on the street and in-your parking lot flow directly to streams bearing fish. Nothing but clean rain water should go down those drains.

Best Management Practices

Wastes produced from concrete, stone and tile operations pose a serious risk to Richmond's aquatic environment. Concrete slurry and saw cut fines have been contaminating stormdrains and suffocating sea life in the area.

In order to protect Richmond's storm drainage system, valued aquatic environment and the Fraser River Estuary, industries must observe best management practices, including the following:

At the Construction Site

**Be aware of drainage catch basin locations prior to commencing work.*

- Provide catch basin covers, inlet protection or similarly effective containment devices over all nearby catch basins such that runoff from the construction activity does not enter the stormwater drainage system.
- Use drip pans, ground cloths, heavy cardboard or plywood wherever concrete, asphalt, or asphalt emulsion chunks and drips are likely to fall unintentionally, such as beneath extraction points from mixing equipment.
- Concrete delivery and pumping vehicles must not discharge any concrete, slurry, or rinse water into street gutters, stormwater drainages, drainage ditches or onto the paved surface of a roadway or driveway that may lead to the stormwater drainage system.
- Direct aggregate wash water to areas on the construction site where the sediments can filter through the soil, not the stormwater drainage system.
- If wastewater cannot be directed to suitable areas on the construction site, it should be contained, collected and disposed of in an approved manner. Absorbents may be required to contain and collect wastewater.
- During rain events, portable asphalt mixing equipment should be covered by an awning or other similar structures to avoid contact with rainfall.

Clean-Up

- Designate a wash out area away from stormdrains onsite where application and mixing equipment cleaning should be conducted. This washout area can also be used to contain excess material and slurry.
 - Trucks and equipment should be returned to your facility for washing in a wash bay connected to the sanitary sewer
 - Sweep the pouring area to collect loose aggregate chunks and dust. Do not hose down the area to stormwater drains.
- ### Saw Cutting
- Slurry and sediment from saw cutting operations should be confined to the immediate work area by using berms or diversion structures. Cover or barricade all nearby stormwater drains to prevent any materials from entering the stormwater drainage system.
 - Collect saw-cut slurry in a well contained area and allow it to dry. Dispose of dry slurry in the garbage. Residue from cutting or grinding operations may also be picked up by means of a wet vac or vacuum attachment to the cutting machine.
 - Residue must not be allowed to flow across the pavement, or be left on the surface of the pavement where it may wash to stormdrains. It may be necessary to use a street sweeper or wash down the area and collect the water.
 - Avoid saw cutting operations during rainfall events unless you can contain, capture and dispose of cuttings, sediment and wash water.
 - Consult Metro Vancouver regarding waste water treatment and discharge options to the sanitary sewer system



Legislation

Any person or business responsible for contamination of the City stormwater drainage system will be charged for the cost of cleanup, and could be held liable under the following environmental legislation:

- Federal Fisheries Act
- Meat Inspection Act
- Fish Inspection Act
- BC Hazardous Waste Regulation
- BC Environmental Management Act
- Richmond By-laws No. 8441 and No. 8475

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More Information

Environment Canada
www.ec.gc.ca/pollution/

Canadian Food Inspection Agency:
www.inspection.gc.ca

BC Ministry of Environment
604-582-5200

City of Richmond Environmental Sustainability Services
Tel: 604-276-4694
www.richmond.ca/services/Sustainable/environment/about.htm

Metro Vancouver Wastewater Regulations
www.metrovancouver.org/services/wastewater/sources/Pages/default.aspx

RCBC Recycle Hotline
Tel: 604-276-4345

In the event of an accidental spill to the environment immediately contact the Provincial Emergency Program (PEP) at 1-800-663-3456, in the event that the chemical is flammable, toxic, corrosive or has other hazardous properties, also call the Richmond Fire Department immediately at 911.

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Remember

Storm drains on the street and in your parking lot flow directly to streams bearing fish. Nothing but clean rain water should go down those drains.

Best Management Practices

It is important to prevent fats, oils, grease and other food service waste from entering stormwater drains as they discharge directly into Bath Slough and then to the Fraser River. Any contaminants, including food waste and "environmentally friendly" cleaning products, may be toxic to aquatic life in this environment.

In order to protect Richmond's storm drainage system, aquatic environment and the Fraser River Estuary, industries must observe best management practices, including the following:

- Know where your storm drains are and whether they connect to the sanitary sewer or storm system.
- Wash water from cooking vent filters, cleaning solutions, waste greases and all other sources must be disposed of through an approved connection to the sanitary sewer system or trucked to an approved disposal facility.
- Do not let any substance other than clean rain water enter stormdrains.
- Undertake rinsing in a wash bay connected to a sanitary sewer.
- Sweep outdoor areas instead of hosing them down. Hosing off of pavement introduces harmful pollutants into the stormdrains.
- Keep all outdoor waste and storage areas clean, secure and out of the rain.
- Waste grease storage may require secondary containment to prevent spills and rain from carrying pollutants down the stormdrain.
- Even "environmentally friendly" cleaning products and organic food wastes cause harm to natural watercourses – rinse them in the sanitary sewer, not the stormdrain.

Spill Prevention

- All Spills must be cleaned up or contained to prevent them from entering the stormwater drainage system

To help prevent spills:

- Waste containers should be kept secure, tidy and out of the rain. Secondary containment may be required for storage of polluting substances
- Use "dry" cleanup methods, such as a rag, damp mop or broom.
- Never hose a spill into the street, gutter or storm drain.
- Develop a spill response plan: Have a spill response kit equipped with absorbent materials that are appropriate for offal and other waste produced by your facility.
- Ensure all employees and maintenance workers are aware of their important role in preventing stormwater contamination.



Spill Prevention

Keep your business clean and organized to prevent spills:

- Develop a spill response plan that includes a spill response kit equipped with absorbent materials appropriate for wastes produced by your facility. Train employees how to use the spill response kit, and proper vehicle washing, chemical usage and waste handling techniques.
- Train employees about best management practices, storm water discharge prohibitions, and wastewater discharge requirements. Ensure all employees are aware of their important role in preventing stormwater contamination.
- Spills of automotive fluids or other hazardous materials must be cleaned up or contained immediately to prevent them from entering the stormwater drainage system
- Any person or business responsible for contamination of the City's stormwater drainage system will be charged for the cost of cleanup, and could be held liable under the following environmental legislation:
 - Federal Fisheries Act
 - BC Hazardous Waste Regulation
 - BC Environmental Management Act
 - Richmond By-laws No. 8441 and No. 8475

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More Information

Environment Canada
www.ec.gc.ca/pollution/

BC Ministry of Environment
604-582-5200

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Protect our Aquatic Environment by
Preventing Stormwater Contamination



Environmental Services
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Protect our Environment

Richmond's spectacular estuarine location—at the point where the Fraser River meets the Pacific Ocean—means that the island city is located within one of the most productive ecosystems in the world. Our community relies on a healthy and diverse landscape to maintain biological diversity and a resilient natural environment. Richmond's inland and foreshore provide a host of ecosystem services – fundamental life supports for humans and a wide variety of plants and animals.

Bath Slough is a semi-natural waterway that flows directly to the Fraser River. The slough is an ecologically important natural area and a community asset in the Cambie neighbourhood. The slough and its riparian areas provide important biodiversity values and ecosystem services. These values are recognized through City-designated Riparian Management Areas (RMA) and Environmentally Sensitive Areas (ESA), protecting the slough's unique ecological values for future generations.

Protecting the ecological and recreational value of the slough depends on actions on both private and public land. Storm drains in your area connect directly to Bath Slough and the Fraser River, and have historically been a significant source of water pollutants.

The City of Richmond is raising local awareness of impacts on Bath Slough in order to increase protection of the slough: for the fish, birds, and invertebrates that inhabit it, and for the people of Richmond to enjoy. Our goal is to assure Bath Slough is a prominent, healthy watercourse for future generations.

Remember

Storm drains on the street and in your parking lot flow directly to streams bearing fish. Nothing but clean rain water should go down those drains.

Best Management Practices

Automotive service and repair facilities are often where significant amounts of hydrocarbons, metals, coolants, and other pollutants can mix with stormwater runoff. Wastewater from auto washing, cleaning and detailing operations also contain sediments, chemicals, detergents, oils, and other contaminants, all of which can be harmful to the environment.

In order to protect Richmond's storm drainage system, aquatic environment and the Fraser River Estuary, industries should observe best management practices, including the following:

- Establish a designated, bermed wash area where wash water is directed to an isolated sump connected to the sanitary sewer system or a holding tank for collection by a disposal company.
- Have your oil-water separator and sediment trap inspected and maintained regularly. Remember: separators provide a buffer in the event of spills, but do not "clean" water or make it suitable for discharge to storm drainage systems.
- Wastewater from radiator flushing, steam cleaning, engine shampooing, parts washing, and caustic cleaning operations must be directed to an approved sanitary sewer connection, or where there is proper containment and no risk of spills to the stormwater drainage system.



- Biodegradable, phosphate-free detergents and cleaners are a good option but they still must not be allowed to enter the stormwater drainage system.
- All waste automotive fluids, paints and solvents must be properly recycled and/or disposed of by an approved disposal or recycling company. All containers of new or waste automotive fluids, solvents, paints, cleaners, deodorizers, acids and caustics should be stored in a secure area. Secondary containment may be required.
- Oil filters should be drained and stored separately for recycling.
- Interior and floor drains must have an approved connection to the sanitary sewer system.
- Drip pans should be placed under any leaking vehicle stored or parked on your site to capture fluids. Captured fluids should be disposed of in appropriate waste containers for proper disposal or recycling. Contact the RCBC Recycling Hotline.
- Vehicles, tools and equipment must not be washed in areas where the wastewater flows to stormdrains.
- Sweep parking lots and work areas rather than using water to flush dirt and debris into stormdrains.

Bath Slough Revitalization Initiative Vision / Concept Plan

Vision: Revitalized and activated slough corridors, where communities experience the qualities that make Richmond unique.

Goal: Engage the Community and Foster Stewardship

- Reduce dumping and vandalism
- Engage residents in special events
- Foster ownership of Sloughs
- Create a culture of Stewardship
- Interpret history

*Walk, cycle and explore
Amenity features
Cool and shady*

**“From the Heart of the City
to the Fraser”**

*Birds and animals
Flowers and colour
Hands in the dirt
Berries and fruits*

Goal: Strengthen City Infrastructure

- Decrease maintenance costs
- Reduce spills / pollution events
- Decrease sedimentation
- Improve channel stability

*Experiencing water
Engaging
infrastructure*

Goal: Create Diverse and Healthy Habitats

- Reduce invasive species
- Plant trees and create special habitats
- Enhance biodiversity

Why restore Sloughs?

Sloughs, along with Bogs are the backbone of the natural history of Richmond. Before European settlement sloughs defined the landscape and brought people to the heart of the island. Few sloughs remain following their original course; Bath Slough is a rare opportunity to take the journey in reverse – from the heart of the island to the River. In the incipient years of the City Richmond was to become, Bath Slough was retained in its historical location to preserve its natural values. Now is the time to revitalize and activate this community amenity.