



Riparian Management Areas – Requirements for Single-Family Residential Development

No.: INFO-44
Date: 2018-11-20

Purpose:

The purpose of this bulletin is to outline the City of Richmond's application requirements for single-family residential developments with designated Riparian Management Areas (RMAs) pursuant to British Columbia's *Riparian Areas Protection Act* and the associated *Riparian Areas Regulation*.

Definitions:

Designated Stream: A minor or major watercourse that may or may not contain fish.

Riparian Management Area: Setbacks assigned to minor (5 m) and major (15 m) designated streams measured perpendicular from top-of-bank that are to remain free from *development* unless authorized by the City on subject watercourses as defined in the Riparian Management Area Map (Official Community Plan Bylaw 9000, Section 9.0).

Top of bank: The point closest to the boundary of the active flood plain of a watercourse where a break in the slope of the land occurs, and the grade beyond the break is flatter than a 3:1 for a minimum distance of 15 m measured perpendicularly from the break.

Qualified Environmental Professional: An applied scientist or technologist, acting alone or together with another qualified environmental professional acting within their area of expertise, and in good standing in British Columbia with an appropriate professional organization constituted under the *Riparian Areas Protection Act*, acting under that associations code of ethics and subject to disciplinary action by that association.

Development: Any of the following activities associated with or resulting from the regulation or approval of residential, commercial and industrial activities as subject to local government powers under Part 14 of the *Local Government Act*.

- Removal, alteration, disruption or destruction of vegetation;
- Disturbance of soils;
- Construction or erection of buildings and structures;
- Creation of non-structural impervious or semi-impervious surfaces;
- Flood protection works;
- Construction of roads, trails, docks, wharves and bridges;
- Provision and maintenance of sewer and water services;
- Development of drainage systems;
- Development of utility corridors; and
- Subdivision.

See over →

How do I find out if a property has a designated RMA?

A map of the City's RMA network is appended to this bulletin. The City also maintains Richmond Interactive Map (RIM), which can be viewed at www.richmond.ca/discover/maps.htm.

To search for properties in RIM, enter an address with the search function or zoom into a desired location, click on layers, expand development tab, select the 5 m and 15 m RMA layers. City staff are also available Monday to Friday between 8:15 a.m. to 5:00 p.m. to assist with RMA-related inquiries.

What is a Riparian Management Area?

Riparian areas are productive ecosystems that serve as a transition zone between terrestrial and aquatic environments. Riparian vegetation can include grasses, shrubs, and trees suited for semi-wet soil conditions. This vegetation stabilizes channel banks, filters surface water contaminants, regulates water temperature, increases local habitat value and is a source of nutrients for downstream watercourses when well established. The City's RMAs form a critical component of Richmond's Ecological Network Management Strategy (2015).

Richmond's slow moving floodplain watercourses are naturally low in oxygen and high in dissolved metals. Although they do not generally contain commercial, recreational or aboriginal species as defined in the federal *Fisheries Act*, they provide nutrients to these species in the Fraser River and habitat for a number of forage fish and wildlife.

City Council adopted the Riparian Response Strategy in 2006 to comply with Provincial requirements for the protection of riparian areas pursuant to the *Riparian Areas Protection Act*. RMA setbacks for major (15 m) and minor (5 m) designated streams were established in consultation with the Department of Fisheries and Oceans Canada. Watercourses within the City's designated RMA network are wetted the majority of the year, are considered to be streams as defined by the *Riparian Area Regulation*. Single-family development applications for properties that contain a designated RMA require additional information to support the building approval process (see below).

What type of single-family development permits are affected by RMAs?

Demolition, Accessory/Addition Demolition, Building, Accessory/Addition Building, Site Services, and Retaining Wall permits.

Development application process for properties with a designated RMA

City Staff will review the single-family development application and will coordinate information meetings and inspections through the pre-application, application and post-application stages of single-family development. A Qualified Environmental Professional (QEP) is not required for single-family development applications. However, a QEP may still be retained by the property owner to support the development application process.

Please notify Staff during the Pre-application Stage (see below) if a QEP will be retained to support a single-family development permit application. Application fees associated with single-family development applications are listed with the City of Richmond's *Consolidated Fees Bylaw No. 8636*.

Pre-Application Stage

Staff will facilitate a pre-application meeting with the applicant at the Front of House to outline RMA application requirements. Application requirements for single-family residential developments include:

1. Plans and surveys that clearly delineate the RMAs from the top of bank;
2. Plans and surveys that clearly demonstrate how fill will be contained outside of the RMA setback;

See over →

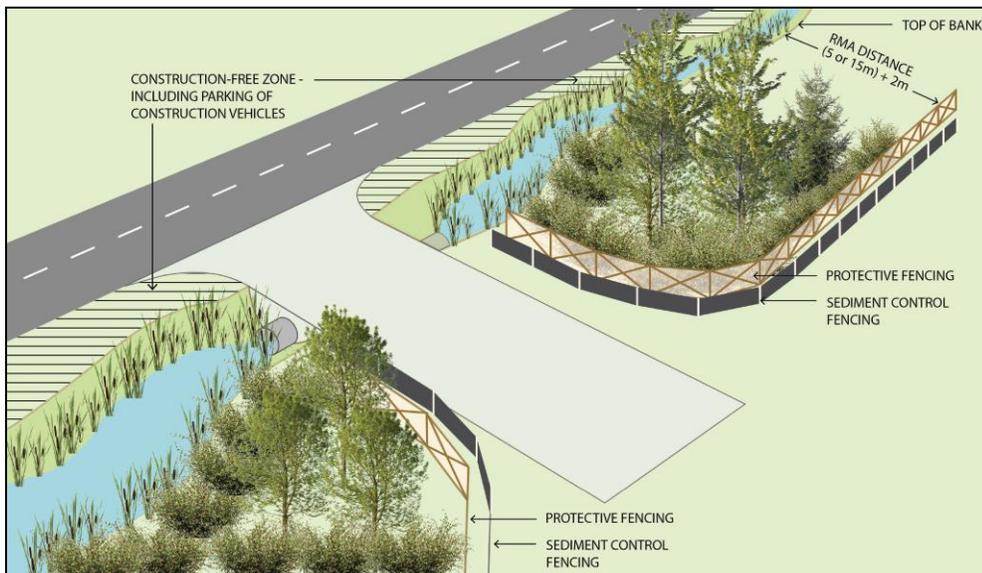
3. The Site Note provided below must be clearly marked on all applicable plans and surveys supporting the application.

City of Richmond Riparian Management Area (RMA)

- The RMA must not be altered except in accordance with a City approved permit. No tree, shrub or ground cover removal; no storage of materials; no building, structure or surface construction including retaining walls can occur in an RMA.
- A brightly coloured, temporary fence of a minimum height of 1.2 m must be erected at least 2 m outside of the RMA. An erosion and sediment control fence must be installed on the property side of the brightly coloured fence. All additional RMA protection measures, as defined by a Qualified Environmental Professional must also be installed/completed.
- All protective fencing and erosion and sediment control measures must be in place before development begins, and remain in place until development is complete and final approval received.
- The landowner is responsible to restore to the satisfaction of the City any unauthorized development within the RMA.

Application Stage

Staff will work with the applicant to ensure that the RMA is protected during development. Environmental Protection Plans for each application will be developed by Staff that demonstrate the City’s expectations for protective fencing and erosion and sedimentation controls as illustrated in the figure below.



Staff will inspect the protective fencing and erosion and sedimentation controls prior to permit approval. If enhancement is a component of development supported by the proponent, Staff will discuss planting options that can increase the aesthetic and functional value of the RMA. The City has prescriptive planting plans available that can be used to guide the enhancement design (see below). These unique enhancement plans were developed in consultation with various local stakeholders and can improve local habitat around the community by focusing on native species.

Post Application Stage

It is the property owner’s responsibility to ensure that all contractors comply with the environmental protection commitments made during the permitting process. Staff will conduct a minimum of three site inspections during this stage to ensure compliance prior to the final building inspection. Inspection fees may apply if non-compliances are not addressed when directed by Staff. Inspection fees associated with non-compliant properties are listed with the City of Richmond’s *Consolidated Fees Bylaw No. 8636*.

Properties with continuous reports of non-compliance or that pose an immediate risk to City infrastructure may be required by the City to retain a QEP to support remedial efforts at a cost to the property owner.

For additional information regarding Riparian Management Areas please contact the Sustainability Department at 604-276-4166 or 604-247-4661.

See over →

Riparian Management Area Enhancement

Why should I enhance my RMA?

Enhancement refers to removing non-native and/or invasive species of vegetation from your riparian management area and replacing it with suitable riparian vegetation species that are native to BC. Well-established native plantings in a riparian management area restore its natural habitat functions that support local fish and wildlife that has been altered or lost due to human activity.

In addition to being an important component of the City's Ecological Network, RMA's in Richmond commonly overlap private property to make up a portion of front and/or back yard of people's homes. Enhancing this area with native species can be mutually beneficial by improving the appearance of the property and providing key habitat functions that strengthen the City's Ecological Network. A well-established riparian management area can also soften unwanted noise from traffic, provide additional privacy to a residence and improve the overall aesthetics of a neighborhood.

What resources does the City offer to me if I choose to enhance my RMA?

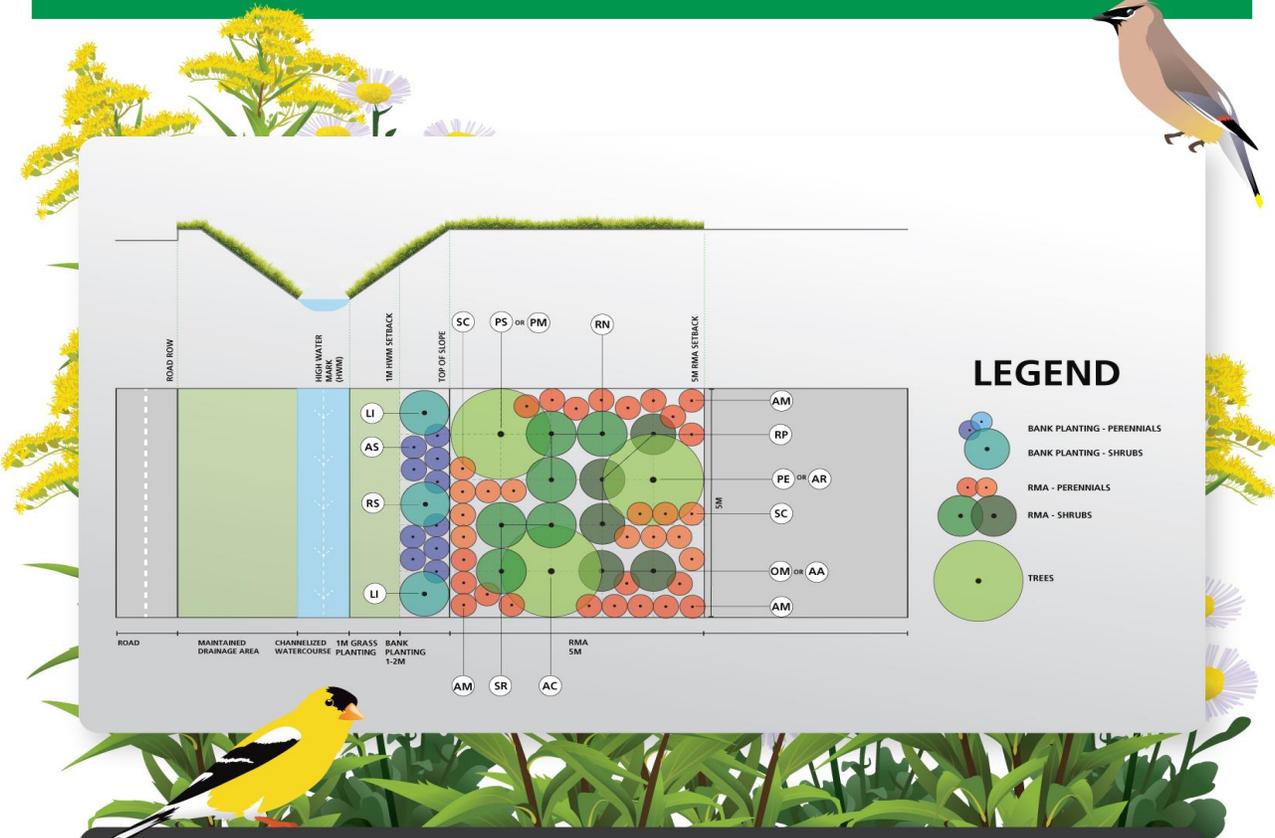
The City has made improvements to the single-family development application process that will make it easier for residents to gather information on enhancement opportunities for riparian management areas. The City has adopted a stewardship model for reviewing single-family development applications and Staff will be supporting applicants and owners throughout each phase of development. Regular meetings at City Hall and routine field inspections have been added to the single-family development application process to ensure the consistent transfer of information and protect the City's riparian management areas.

Staff have prepared three planting plans in collaboration with local industry experts and the agricultural community to streamline the design process for applicants. The *Nesting Birds*, *Pollinators* and *Fish and Frogs Planting Plans* (included below) can be used 'as is' or be modified with additional native BC species to meet individual property needs and/or aesthetic preferences. Each planting plan promotes native BC vegetation appropriate to support the preferred habitat function within a riparian management area and will be aesthetically pleasing throughout the growing season.

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See attached →

NESTING BIRDS PLANTING PLAN



LEGEND

- BANK PLANTING - PERENNIALS
- BANK PLANTING - SHRUBS
- RMA - PERENNIALS
- RMA - SHRUBS
- TREES

RIPARIAN PLANT COMMUNITIES TO BENEFIT NESTING BIRDS

	SYM	COMMON NAME	LATIN NAME
TREES	PM	DOUGLAS FIR	PSEUDOTSUGA MENZIESII
	AC	BIG LEAF MAPLE	ACER MACROPHYLLUM
	AR	RED ALBUS	ALNUS RUBRA
	PS	SITKA SPRUCE	PICEA SITCHENSIS
	PE	OREGON CHERRY	PRUNUS EMARGINATA
SHRUBS	RS	SALMONBERRY	RUBUS SPECTABILIS
	RP	THIMBLEBERRY	RUBUS PARVIFLORUS
	RN	NOOKTA ROSE	ROSA NUTKANA
	LI	BEARBERRY HONEYSUCKLE	LONICERA INVOLUCRATA
	OM	INDIAN PLUM	OEMELERIA CERASIFORMIS
	SR	ELDERBERRY	SAMBUCUS RACEMOSA
	AA	SASKATOON	AMELANCHIER ALNIFOLIA
PERENNIALS	AS	DOUGLAS' ASTER	ASTER SUBSPICATUS
	AM	YARROW	ACHILLEA MILLEFOLIUM
	SC	CANADIAN GOLDEN ROD	SOLIDAGO CANADENSIS

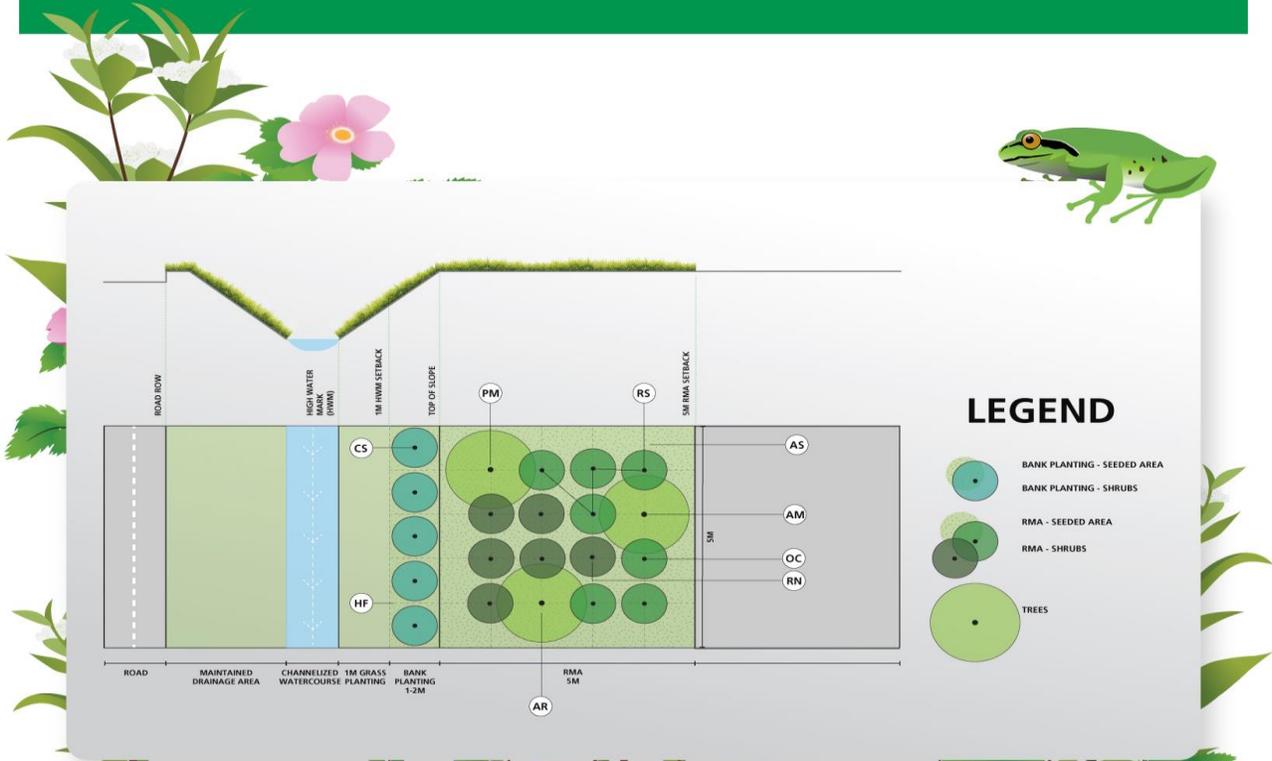
POLLINATORS PLANTING PLAN



RIPARIAN PLANT COMMUNITIES TO BENEFIT POLLINATORS

	SYM	COMMON NAME	LATIN NAME
TREES	AC	BIG LEAF MAPLE	ACER MACROPHYLLUM
	PE	OREGON CHERRY	PRUNUS EMARGINATA
SHRUBS	RS	FLOWERING CURRANT	RIBES SANGUINEUM
	RN	NOOKTA ROSE	ROSA NUTKANA
	OM	INDIAN PLUM	OEMELERIA CERASIFORMIS
	SA	SNOWBERRY	SYMPHORICARPUS ALBA
	RP	THIMBLEBERRY	RUBUS PARVIFLORUS
	AA	SASKATOON	AMELANCHIER ALNIFOLIA
SEEDED GRASS & WILDFLOWER	(FESCUE MIX)	SHEEP FESCUE	HARD FESCUE
	(FESCUE MIX)	CREEPING RED FESCUE	RED FESCUE
	WS	N/A	WEST COAST SEEDS - PACIFIC NORTHWEST BLEND
PERENNIALS	AS	DOUGLAS' ASTER	ASTER SUBSPICATUS
	AM	YARROW	ACHILLEA MILLEFOLIUM
	SC	CANADIAN GOLDEN ROD	SOLIDAGO CANADENSIS
	LP	BIG LEAF LUPINE	LUPINUS POLYPHYLLUS

FISH & FROGS PLANTING PLAN



RIPARIAN PLANT COMMUNITIES TO BENEFIT FISH & FROGS

	SYM	COMMON NAME	LATIN NAME
TREES	PM	DOUGLAS FIR	PSEUDOTSUGA MENZIESII
	AC	BIG LEAF MAPLE	ACER MACROPHYLLUM
	AR	RED ALBUS	ALNUS RUBRA
SHRUBS	RS	SALMONBERRY	RUBUS SPECTABILIS
	RN	NOOKTA ROSE	ROSA NUTKANA
	OC	INDIAN PLUM	OEMELERIA CERASIFORMIS
	CS	RED OSIER DOGWOOD	CORNUS SERICEA
SEEDED AREAS	HF	HARD FESCUE WITH MIX	NA
	AS	DOUGLAS' ASTER	ASTER SUBSPICATUS