

DISCLAIMER: Both the Fisheries Act and the Riparian Areas Regulation (now called Riparian Areas Protection Regulation) have been amended since the creation of this document. City staff will be updating this document in the near future to reflect the changes in legislation. If you have any questions regarding the impact of the legislative changes to your proposed development, please contact an Environmental Coordinator at 604-864-5510 or env-info@abbotsford.ca.

Information for Developing Near Streams and Ravines

Residential, Commercial & Industrial Uses

Guidelines for the City of Abbotsford's
Streamside Protection Bylaw

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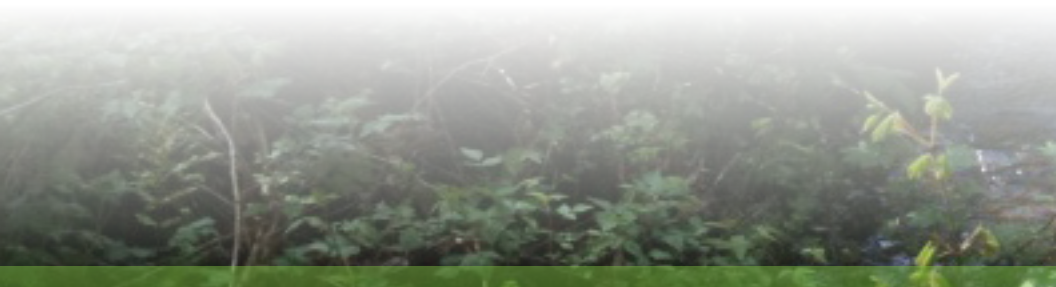
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INTRODUCTION

The City's Official Community Plan (OCP) intends to "protect and maintain ecosystems, habitat and habitat corridors, and environmental quality within the city". The OCP's Natural Environment Development Permit Guidelines provides policies to identify streamside habitat that requires protection and mitigation, and conditions for unavoidable loss of habitat.

This document provides information about developing adjacent to or within a Streamside Protection and Enhancement Area (SPEA), which is an area adjacent to a stream that includes both existing and potential streamside vegetation. Streamside vegetation is critical for healthy streams and provides the following benefits:

- provides food and nutrients for fish;
- provides fish with hiding places away from predators;
- moderates the water temperature during the hot summer months;
- stabilizes stream banks and prevents excessive erosion;
- protects water quality by filtering runoff;
- protects property from floods and slope failure as the soils soak up excess water and release it slowly; and
- provides habitat for wildlife.

This information package explains how development (e.g. vegetation removal, soil disturbance, construction of structures, roads, or infrastructure, etc.) can occur while protecting fish and wildlife habitat, and reducing risk of natural channel and ravine erosion. The City encourages all development to comply with the full SPEAs established by the Streamside Protection Bylaw (SPB) or to minimize negative impacts by utilizing the flexing provision contained within the SPB. However, there may be occasions when a permanent loss of SPEA area is required due to limited site developability (e.g. the lot will otherwise be sterilized, no ability to re-configure the development due to irregular lot dimensions, etc.) and where it can be demonstrated that the Mitigation Hierarchy has been utilized to avoid and mitigate impacts.



What is a Stream?

A stream includes a watercourse or source of water supply, whether usually containing water or not, a pond, lake, river, creek, brook, ditch, and a spring or a wetland that is integral to a stream and provides fish habitat. Streams may still be fish habitat despite being channelized and/or being dry during portions of the year. A Qualified Environmental Professional can determine if a stream is fish habitat or not.

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WHAT IS THE MITIGATION HIERARCHY?

The Mitigation Hierarchy seeks foremost to avoid negative impacts on the SPEA. For any impacts that cannot be avoided, mitigation measures shall be implemented, and, if necessary, habitat compensation pursued.

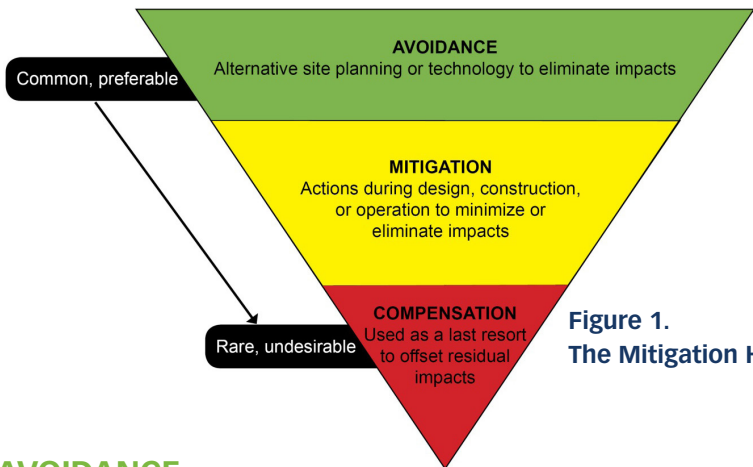


Figure 1.
The Mitigation Hierarchy

AVOIDANCE

The best option is to avoid impacts to the SPEA by making adjustments to the location and/or construction techniques of development, or by not proceeding with a particular part of the development. Examples include:

- Moving the development outside of the SPEA.
- Changing the footprint/layout (e.g. moving a driveway, changing the size or configuration of the building, etc.).

- Requesting Zoning Bylaw variances in order to move the building or reduce the size of the impacts (e.g. varying front yard setbacks, reducing parking requirements, etc.).
- Using different technology (e.g. directional drilling, green walls, etc.).

MITIGATION

After all measures to fully avoid impacts have been considered, mitigation measures should be employed to reduce the spatial scale, duration, or intensity of any residual impacts. Mitigation can occur through:

- Modifying construction techniques (e.g. not allowing trenching, discharging storm water over the ground at the edge of the setback rather than at a point at the stream edge, etc.).
- Applying best management practices (e.g. fencing, creating windfirm edges, protecting trees, establishing restrictive covenants, preparing spill protection plans, etc.).
- Flexing of the SPEA provided there is no loss in the total size of the SPEA and the shift is not more than 5m towards the watercourse or 10m away from the watercourse.

COMPENSATION

This is used as a last resort if avoidance or mitigation have not eliminated all of the impacts. Ideally compensation occurs on-site, but when on-site compensation has been maximized, then off-site compensation may also be considered. While the typical compensation ratio outlined within the Official Community Plan (Policy NE3 of the Natural Environment Development Permit Guidelines) is 2:1 (area of restoration to area of impact), Council and/or staff may consider a variation to the compensation ratio (i.e. from 1:1 to 3:1) depending on the quality of habitat being impacted and the level of mitigation being employed.

LEGISLATION RELATED TO STREAMS

Any residential, commercial or industrial development within 30m of a stream top of bank must comply with federal, provincial and municipal legislation. While the City has the primary authority outside of the Riparian Areas Regulation (RAR) setback, the City shares authority with Fisheries and Oceans Canada (DFO) and the Ministry of Forests, Lands, and Natural Resource Operations and Rural Development (MFLNRORD) over the activities that occur from the RAR setback to the stream high water mark. As such, all works within this RAR setback must also be approved by both DFO and MFLNRORD. The area within the stream (below the high water mark) is the jurisdiction of DFO and MFLNRORD; consequently, any works below the high water mark must be approved by both DFO and MFLNRORD. Jurisdiction of riparian and instream areas is depicted in Figure 2.

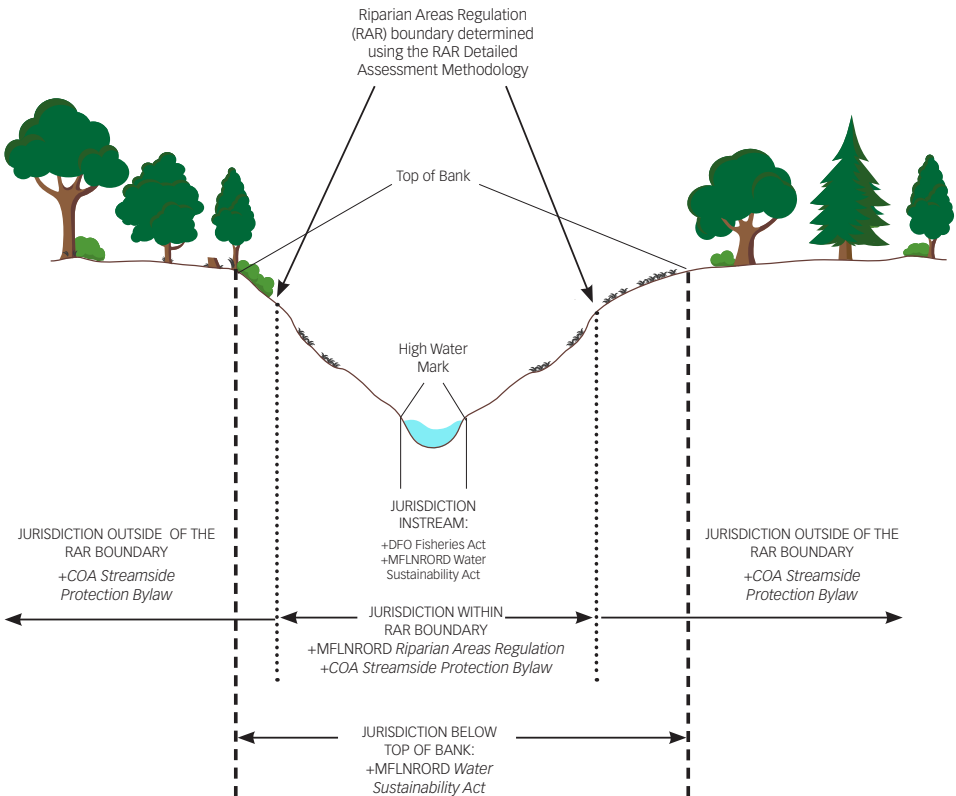


Figure 2. Jurisdiction over Streamside Protection and Enhancement Areas

2.1 Federal Legislation

The Fisheries Act provides the legislative authority for the management and regulation of fisheries and is administered by DFO. Project Reviews must be submitted to DFO if work is proposed that might cause serious harm to fish, such as instream works. If serious harm is unavoidable, an approval from DFO is required. All development below the provincial RAR detailed assessment method setback ('RAR setback') must be reviewed by DFO and approved if serious harm is likely to occur.

2.2 Provincial Legislation

2.2.1 *Water Sustainability Act*

The Water Sustainability Act (WSA) provides for the allocation and management of streams and groundwater. The WSA defines a "stream" as a natural watercourse, whether or not the stream channel has been modified, or a natural source of water supply. Bodies of water described by the term "stream" can include a lake, pond, river, creek, spring, ravine, gulch, or wetland, whether or not usually containing water. A WSA "stream" does not need to be connected by surface flow to fish habitat, as such it applies to isolated wetlands and disconnected natural channels.

The WSA applies to all "changes in and about a stream", which include:

- Any modification to the nature of a stream, including the land, vegetation, natural environment or flow of water in a stream; or
- Any activity or construction within a stream channel that has or may have an impact on a stream or a stream channel.

As such, all development below the top of bank and all instream works must be approved by MFLNRORD through a Licence, Use Approval, Change Approval or Order; or you have submitted a Notification. Of these approval types, the most common are Change Approvals and Notifications. A Change Approval is a written authorization for changes in and about a stream that are of a complex nature. Notifications are typically used for works that do not involve any diversion of water, may be completed within a short period of time and will have minimal impact on the environment or third parties. Applications for Change Approvals and Notification are online through Front Counter BC.

2.2.2 Riparian Areas Regulation (RAR)

The RAR requires local governments to enact bylaws that protect riparian areas during residential, commercial and industrial development. The RAR provides for the protection of the many and varied features, functions and conditions that are vital for maintaining stream health and productivity. At this time, the City does not have a formalized process for approving setbacks below the RAR.

2.3 City of Abbotsford Bylaws

2.3.1 Streamside Protection Bylaw

The RAR requires local governments to establish bylaws to require setbacks that “meet or beat” the requirements of the RAR. Consequently, in 2005 the City developed the Streamside Protection Bylaw (No. 1465-2005) (SPB), which applies to all residential, commercial and industrial development, but does not apply to agricultural or institutional uses. The SPB also does not apply to watercourses that are not connected by surface flow to fish habitat. The SPB includes a few specific exemptions (outlined below).

2.3.1.1 Exemptions

Some types of development are exempted from the SPB because of their scale or because other processes are in place to address environmental impacts. The SPB does not apply in the following circumstances:

- Interior renovations and non-structural exterior renovations (i.e. those renovations that do not expand the footprint of an existing building);
- Ecological restoration of a SPEA according to a restoration plan that has been prepared to a professional standard and approved by the City (e.g. planting native species, removing invasive species, placement of habitat complexing, etc.). This is not applicable to rehabilitation works required as a result of an infraction of the SPB or other municipal, provincial or federal legislation;
- Emergency actions required to prevent, control or reduce an immediate unacceptable threat to human life, the natural environment, or public or private property;

- Public works and services undertaken by, or on behalf of, the City or Regional District, provided the activity complies with senior government standards and requirements;
- Use of private roads, parking areas, landscaping, or outdoor commercial or industrial storage that existed prior to the adoption of the SPB on June 20, 2005; and
- Renovation of permanent structures that existed prior to the adoption of the SPB. Permanent structures include any building or structure that was lawfully constructed, placed or erected on a secure and long lasting foundation on land in accordance with any City bylaw in effect at the time of construction. These structures are grandfathered until the site is redeveloped. For a list of Permanent Structures, please refer to Table 2.3 of the RAR Assessment Methodology.

2.3.2 Zoning Bylaw

The City also governs building setbacks from watercourses through its Zoning Bylaw. The Floodproofing Provisions of the Zoning Bylaw (s.140.7) state that no building shall be constructed within the minimum setback area from the natural boundary of a watercourse. The objective of this setback is to ensure protection of the floodway. Further, where landfill is used to achieve any required elevation pursuant to the Zoning Bylaw, no portion of the landfill slope shall encroach upon the setback areas.

STREAMSIDE PROTECTION BYLAW SETBACKS

The SPB applies to any landowner seeking to undertake residential, commercial or industrial development within the SPEA of a watercourse, including ditches, wetlands, channelized streams, and natural streams. The SPB applies to non-agricultural uses even if the development is in the Agricultural Land Reserve. If a Qualified Environmental Professional (QEP) confirms that a watercourse is not connected by surface flow to fish habitat it may still be protected by the Water Sustainability Act. See section 6.13 for more information.

3.1 Setbacks for Streams

3.1.1 Wetlands

Wetlands are protected by the SPB if they are connected by surface flow to fish habitat. As noted in Section 2.3 of the RAR Assessment Methods, wetlands are always considered to have permanent flow. The setback required will depend on the vegetation category. The setbacks are measured from the top of bank or top of ravine bank, as applicable.

3.1.2 Ravines greater than 60 meters in width

Where a watercourse is located within a ravine that is greater than or equal to 60m wide (excluding the stream channel), the setback is 10m from top of ravine bank (see Figure 3). If the ravine is less than 60m wide, then the SPEA must be determined using the matrix in Table 1.

3.1.3 All other watercourses

For all other watercourses, the SPEAs (i.e. riparian setbacks/buffers) vary from 15-30m for fish-bearing watercourses, to 5-30m for non-fish-bearing watercourses, as per the matrix in Table 1 and are measured from the top of bank or top of ravine bank, as applicable.



What is a Wetland?

A wetland is an area inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support vegetation typically adapted for life in saturated soil conditions. It includes swamps, marshes, bogs, fens, and estuaries.

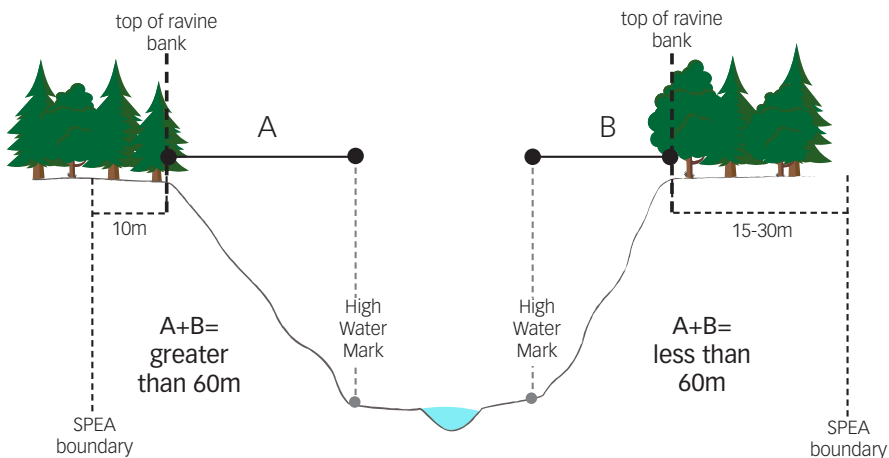


Figure 3. How to determine if a ravine is greater than 60m in width

What is a Ditch?

A ditch is different from a channelized stream in that it has the following characteristics:

- *Man-made and straight with no significant headwaters or springs*
- *Constructed to drain property and roadways or impound water for irrigation*
- *Often form property boundaries*
- *Not part of the historic drainage pattern*



3.2 Setbacks for Ditches

If the watercourse in question is consistent with the characteristics of a ditch as per Section 3.6.5 of the RAR Assessment Methods, then the setbacks will be measured in accordance with the RAR Assessment Methods. These setbacks vary from 5-10m for fish-bearing ditches and are 2m for non-fish-bearing ditches, as per the matrix in Table 1 and measured from the top of ditch bank. The City may require a report by a QEP to support the classification of a watercourse as a ditch.

Table 1. Summary Matrix of Streamside Protection and Enhancement Area Widths

Watercourse Type	Existing or potential ² streamside vegetation conditions	Streamside Protection and Enhancement Area width ¹		
		Fish Bearing	Non Fish Bearing	
			Permanent	Non-Permanent
Wetlands and all other watercourses	Category 1. Continuous areas \geq 30 m or discontinuous but occasionally > 30 m to 50 m	At least 30m		At least 15m
	Category 2. Narrow but continuous areas = 15 m, or discontinuous but occasionally > 15 m to 30 m	Greater of: -existing width, or -potential width, or -15m	15m	
	Category 3. Very narrow but continuous areas up to 5 m, or discontinuous but occasionally > 5 m to 15 m		At least 5m & up to 15m	
Ravines >60m in width ³	N/A	10m		
Ditches	N/A	2 times channel width ⁴ (max. 10m, min 5 m)	2m	

¹Measured from the Top of Ditch Bank for Ditches and from the Top of Bank for Streams and Wetlands.

²Potential vegetation is considered to exist if there is a reasonable ability for regeneration either naturally or with assistance through enhancement, and is considered to not exist on part of an area covered by a permanent structure.

³Measured from Left Top of Bank to Right Top of Bank, excluding the stream channel.

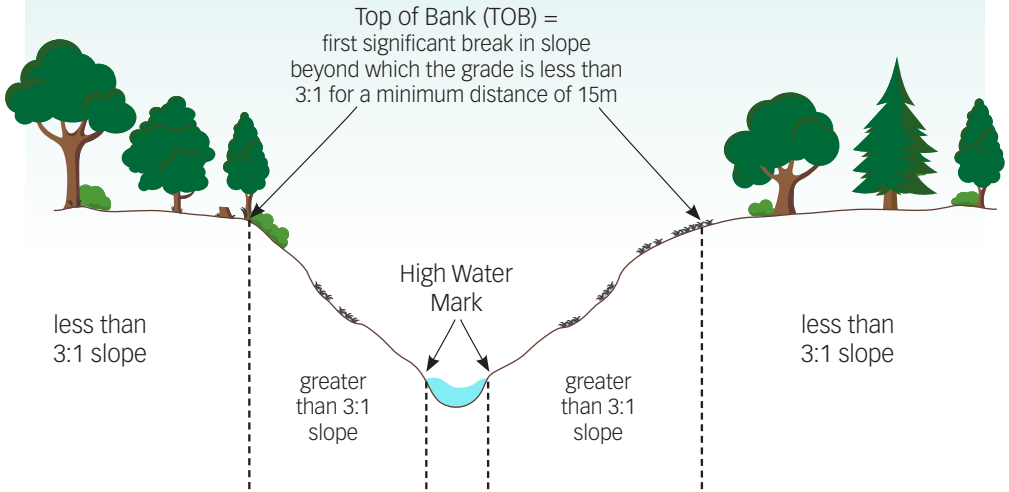
⁴Channel Width is determined by the width of the ditch at the midpoint between the ditch invert and the top of the ditch bank.



HOW IS THE TOP OF BANK DETERMINED FOR A STREAM?

It is determined by a QEP in one of two ways:

1. The point closest to the boundary of the active floodplain of a stream where a break in the slope of the land occurs such that the grade beyond the break is flatter than 3:1 at any point for a minimum distance of 15 metres measured perpendicularly from the break; or
2. For a floodplain area not contained in a ravine, the edge of the active floodplain of a stream where the slope of the land beyond the edge is flatter than 3:1 at any point for a minimum distance of 15 m measured perpendicularly from the edge.



3.3 Do I need to hire a QEP to determine my setback?

In order to determine your setback, you must determine:

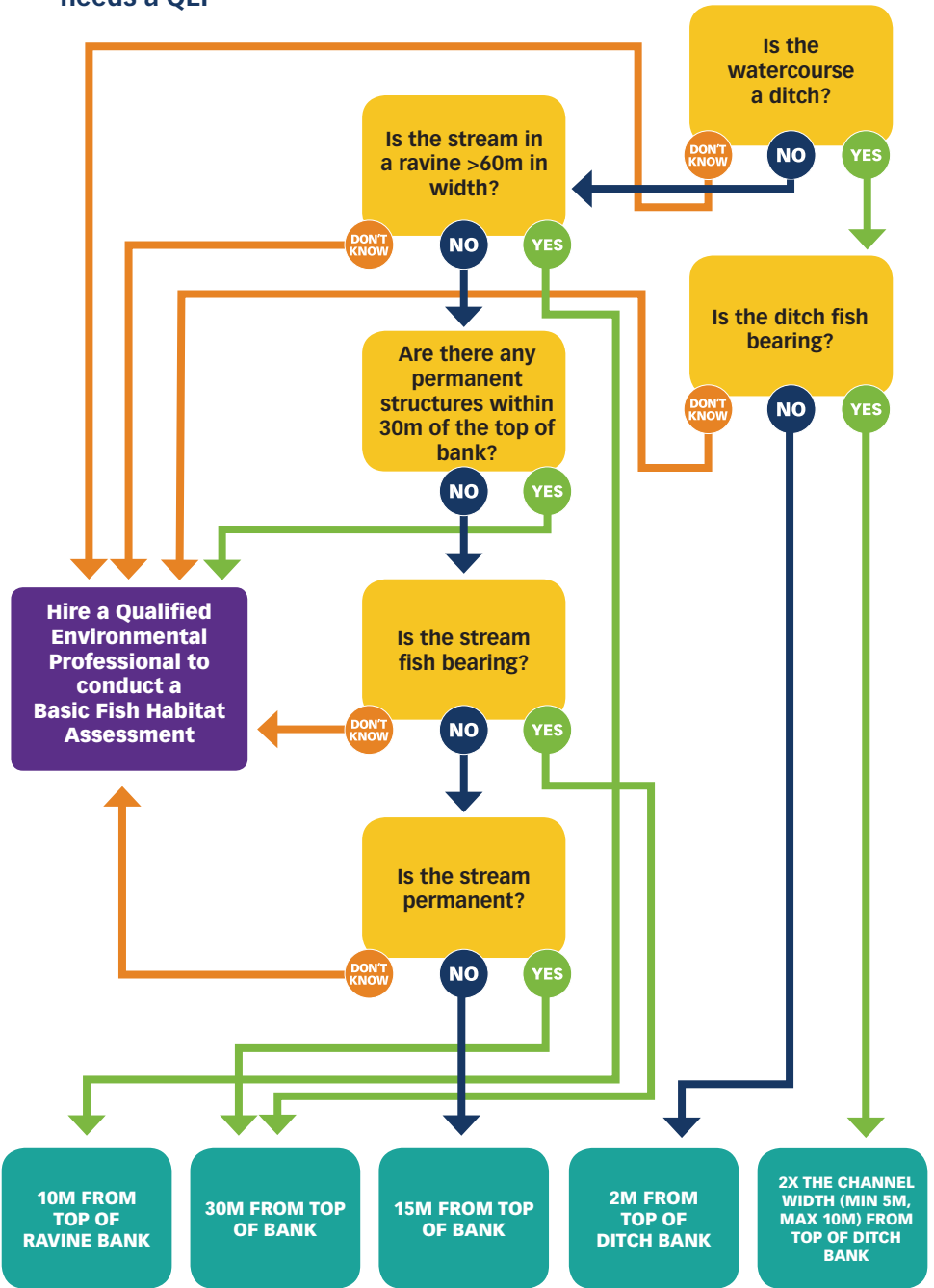
1. Whether it contains fish (at any time of year);
2. Whether it flows for more than 6 months a year; and
3. What the vegetation category is.

Typically sites have Category 1 vegetation conditions, unless the site is located in a highly developed area with numerous buildings with foundations located within 30 meters of the watercourse.

If your property has Category 1 vegetation conditions and you know that your watercourse contains fish and/or that it is permanent (i.e. flows for more than 6 months a year), then the setback is 30 meters from top of bank. A BC land surveyor can survey the setback, demarcate it on site, and ensure that it's included on all plans submitted to the city as part of a permit application.

If you're unsure whether your watercourse contains fish or if it is permanent or not, then you can either default to the full 30m setback, or hire a QEP to conduct a Basic Fish Habitat Assessment Report.

How to determine if your project needs a QEP





What is a Qualified Environmental Professional (QEP)?

A QEP is an applied scientist or technologist who practices in a relevant applied sciences field including without limitation, the field of agronomy, forestry, biology, engineering, geomorphology, geology, hydrology, hydrogeology, or landscape architecture, whether acting alone or together with another qualified environmental professional, if:

a) the individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, acting under that association's code of ethics and subject to disciplinary action by that association,

b) the individual's area of expertise is recognized in the assessment methods as one that is acceptable for the purpose of providing all or part of an assessment report in respect of that development proposal, and

c) the individual is acting within that individual's area of expertise.

**A list of local QEPs is available upon request from the City*

How to determine if you need a QEP

The flow chart on page 15 will assist property owners in determining the required SPEA where existing or potential vegetation conditions are greater than 30m in width. Please contact a City Environmental Coordinator to see if information is available to answer any of the questions in the flow chart. If no information exists, you can either default to the more conservative SPEA or hire a QEP to provide a Basic Fish Habitat Assessment.

4

APPROVALS FOR INSTREAM WORKS AND STREAMSIDE DEVELOPMENT

Depending on the nature of the proposed development, the approval process for work within or adjacent to a SPEA will fit into one of three categories: Development Permit (DP), DP Exemption, or Development Variance Permit (DVP). See the flow chart on page 18 to get assistance in determining which approval type will be required for your proposed development. The approval types are explained in detail in section 4.1 to 4.3.

4.1 Approvals for Development outside of the SPEA

In accordance with policy contained in the Official Community Plan, development that can occur completely outside of the full SPEA established by the SPB can qualify for a DP Exemption as long as the following conditions are met:

- The development does not result in an impact to wildlife habitat located outside of the SPEA;
- The City receives a Letter of Undertaking from the applicant's solicitor for the registration of a Fisheries Protection Restrictive Covenant; and
- A permanent fence with signage is constructed along the boundary of the SPEA.

The DP exemption must be issued prior to issuance of any City Permits for development occurring outside of the SPEA (e.g. Building Permit, Soil Removal Permit, etc.).

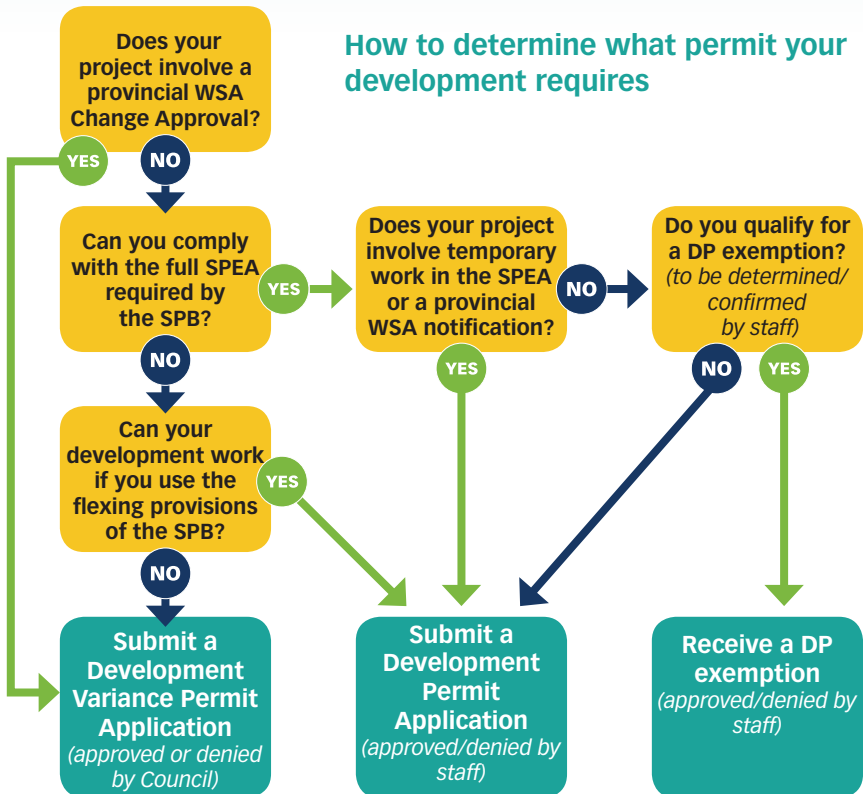




What is development?

- Subdivision
- Construction of commercial, residential, and industrial buildings and structures
- Development associated with non-farm uses within the ALR
- Removal, alteration, disruption or destruction of vegetation (e.g. tree/plant removal)
- Removal, deposition or disturbance of soils
- Creation of non-structural impervious or semi-impervious surfaces (e.g. driveways, patios, etc.)
- Installation of flood protection works
- Construction of roads, trails, docks, wharves and bridges
- Installation and maintenance of sewer and water services
- Development of drainage systems and utility corridors

How to determine what permit your development requires



4.2 Approvals for Development within the SPEA

In accordance with Council Bylaws, development within the SPEA is approved through a staff-approved Development Permit (DP) or through a Council-approved Development Variance Permit (DVP), depending on the nature of the work. A DP or DVP requires the submission of a Detailed Fish Habitat Assessment Report, prepared by the applicant's QEP (see Appendix A for report requirements). If the property is in a Natural Environment Development Permit (NEDP) area or a Steep Slope Development Permit (SSDP) area, then a NEDP and SSDP application will also be required. Once all of the application requirements are prepared, the application form can be submitted and the application fee paid. Application forms and fee schedule are available at the Planning Services Division (2nd Floor, City Hall) or online at **www.abbotsford.ca/devapplications**.

The application will be reviewed by the City's Development Application Review Team. If other development applications are required for the property (e.g. rezoning, subdivision, NEDP, SSDP, Form and Character DP, Agriculture DP, etc.), the DP/DVP process will run concurrent to those.

In the case of a DP, once the application review is complete, the DP will be sent to the Director, Development Planning for approval in principle. A DP will be issued once all conditions of the DP are satisfied and the DP will be filed at the Land Title Office.

In the case of a DVP, once the application review is complete, the DVP will be sent to Council at Executive Committee. Council will either decide to proceed to a Council Hearing, require additional information, or deny the application. If the application proceeds to a Council Hearing, adjacent owners and residents are formally notified of the application and invited to the Council Hearing to provide input. After this, Council will make a decision on the application. If the decision is favourable, a DVP will be issued once all conditions of the DVP are satisfied and the DVP will be filed at the Land Title Office.

Typical DP/DVP conditions will include (but not necessarily be limited to) the following:

- Security for mitigation and compensation works (including the cost of planting, monitoring, fencing, etc.);
- Registration of a Fishery Protection Restrictive Covenant over the SPEA and applicable buffers or dedication of the SPEA to the City;
- Senior government approvals (if applicable); and
- All recommendations of the QEP.

The DP/DVP and its conditions have the force and effect of running with the land and are binding upon the applicant and subsequent owners. The DP/DVP is only applicable to the development application that initiated the DP/DVP and is valid for two years after its issuance, unless otherwise stated in the permit. Any future development or development not substantially completed or underway after two years will require independent assessment for compliance with bylaws and legislation of the day.

4.2.1 Development Permits

Development is approved via a DP where development is limited to works associated with a MFLNRORD notification, temporary impacts in the SPEA, or flexing of the SPEA boundary. A Detailed Fish Habitat Assessment Report must be prepared by a QEP and submitted as part of the application. This report must provide an impact assessment and restoration plan.

4.2.1.1 Water Sustainability Regulation Notifications

Where development is proposed that is entirely associated with a notification in accordance with the Water Sustainability Regulation, the development can be approved via a DP. This will require the submission a copy of the Notification submission and subsequent related correspondence with the MFLNRORD and the QEP.

4.2.1.2 Temporary Impacts

Where temporary impacts are proposed, the proposed development can be approved via a DP.

4.2.1.3 Minor Flexing

Where the SPEA is proposed to be modified such that there is no loss in the total area of the SPEA, and the minimum distance from top of bank is reduced by no more than 5 meters and increased by no more than 10 meters (see Figure 4), the proposed development can be approved via a DP. Additionally, the final setback boundary must meet or exceed the RAR detailed assessment methods setback.

4.2.2 Development Variance Permits

Development must be approved via a DVP where development results in the permanent loss of a portion of the SPEA, where the flexing can't achieve the 5m/10m conditions, or where a MFLNRORD Change Approval is required.

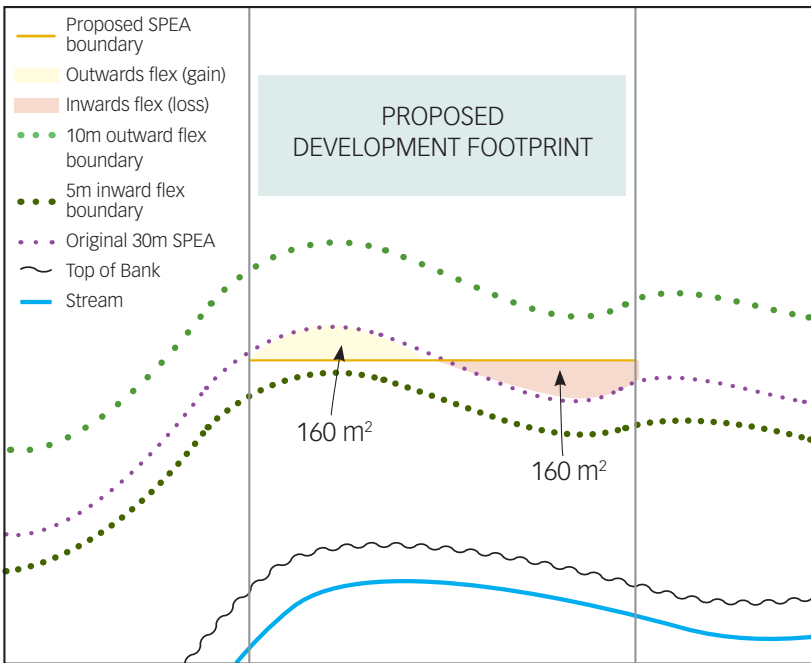


Figure 4. Minor flexing of the setback boundary

4.2.2.1 Permanent Losses and Major Flexing

The City encourages all development to comply with the SPB or to minimize their impacts by utilizing the minor flexing provision of the SPB. However, there may be occasions when the proposed SPEA is flexed inwards by more than 5 meters, or where a permanent loss of SPEA area is required due to limited site developability (e.g. the lot will otherwise be sterilized, no ability to re-configure the development due to irregular lot configuration, etc.) and where it can be demonstrated that the Mitigation Hierarchy has been utilized to avoid and mitigate impacts. This will require the submission of a report from a QEP providing detailed justification for the flexing/variance request, an impact assessment, a mitigation plan, and a compensation plan.

The following factors may be considered when reviewing applications:

- Exhaustion of all options to minimize encroachment into the SPEA (e.g. site reconfiguration, zoning bylaw variances, SPB flexing option, relaxations to road standards, density bonusing, etc.)
- Lot developability
- Setbacks outlined in existing area/neighbourhood plans and integrated stormwater management plans
- Flooding and floodplain risk management
- Geotechnical and hydrological considerations
- Hazard tree assessment and windthrow assessments
- The site's physical conditions, including the quality of the existing habitat
- Whether the anticipated impacts to fish habitat would be compensated in such a manner that there will be "no net loss" of fish habitat
- Best management practices for wildlife buffers and wildlife corridors
- Location of existing buildings and other permanent structures
- Total area and configuration of the proposed SPEA (e.g. no habitat panhandles, no habitat isolation, etc.)
- Infrastructure requirements such as sewers, trails, utilities, roads, etc.

4.2.2.2 Water Sustainability Act Change Approval

Where development is proposed that is associated with a Change Approval in accordance with the Water Sustainability Act or an Authorization in accordance with the Fisheries Act, the development must be approved via a DVP. This will require the submission of a report from a QEP providing an impact assessment, a mitigation plan and a compensation plan. The DVP will be conditional on the receipt of a copy of the MFLNRORD Change Approval or the DFO Authorization.

4.3 Approvals for Instream Impacts

If your project creates instream impacts, then DFO and MFLNRORD approvals are required, under the Fisheries Act and the Water Sustainability Act, respectively. The City advises property owners to hire a QEP to prepare the applications in order to obtain the necessary approvals or submit the appropriate notifications. Once the approvals are received, copies must be submitted to the City in order to receive any required City permits.

As noted above, works that can be completed under a Notification to the province can be approved via a DP, while works that require a Change Approval from the province or Authorization from DFO must be approved via a DVP.



What are instream impacts?

Instream impacts are any works in or about a stream, including its floodplain. Examples include:

- ***Watercourse crossings***
- ***Bank stabilization***
- ***Watercourse re-alignment***
- ***Stormwater outfalls***
- ***Installation of drain tile outlets***
- ***Pipeline crossings***

PROTECTING THE SPEA DURING AND AFTER CONSTRUCTION

Special care must be taken to protect SPEAs both during and after site development. The following measures should be taken:

Buffers from the SPEA for permanent structures: Given that existing and future trees within the SPEA have roots and branches that extend into the developable portion of the property, the City recommends that all permanent structures (e.g. buildings, roads, parking lots, etc.) be situated 5 m away from the SPEA boundary to ensure that there is adequate space for:

- building construction (e.g. excavation of the foundation, installation of perimeter drains and rock pits, etc.)
- construction workers and their equipment (e.g. bobcats, excavators, scaffolding, ladders, etc.)
- access for building maintenance and repairs (e.g. painting, gutter cleaning, foundation repairs, etc.)
- tree retention/establishment
- a formal yard area where they can establish a garden/landscaping area, fire pit, swing set/trampoline, etc.

The City will consider requests for reductions in this buffer if the QEP can demonstrate that a buffer less than 5m can effectively protect the long-term health of the SPEA. A restrictive covenant may be required to ensure this buffer is maintained.

Long term protection: Once the boundary of the SPEA is approved, it must be flagged by the QEP, surveyed by a BC Land Surveyor (BCLS) and protected through measures such as dedication to the City, establishing a Fishery Protection Restrictive Covenant, and/or rezoning (as per the policy contained in the Official Community Plan). This surveyed SPEA boundary must be shown on all drawings associated with the project.

Temporary Protection Fencing: The SPEA boundary is to be physically located on the ground by a BCLS prior to site disturbance. Before construction starts, temporary protection fencing must be placed along the SPEA boundary to ensure that vegetation is not damaged during construction. The City will request confirmation from your QEP that the temporary fencing has been installed prior to giving the development notice to proceed. The fence must be located beyond the drip lines of any trees located within the SPEA. Where trees within the SPEA require protection, fencing must be in conformance to the specifications included in the Tree Protection Bylaw. Fencing must be maintained in good condition throughout the construction period.

Permanent Protection Fencing: Once construction is complete a permanent fence must be erected along the SPEA boundary (as per NEDP Guideline NE19). The fence requirements are as follows:

- **For urban development where the SPEA is owned by the City,** the fence must be at least 1.8m (6') high and can be either chain link or jumbo cedar post and rail with wire mesh affixed to the back of the fence.
- **For urban residential development where the SPEA is privately owned and protected by a RC,** the fence must be at least 1.8m high (6'). The fence can be chain link, post and rail with wire mesh affixed to the back of the fence, or cedar panels.
- **For industrial or commercial development** the fence must be at least 1.8m high (6') and chain link.
- **For rural developments,** the City prefers that the fence be at least 1.8m (6') high; however, given the rural nature of the development, the City is willing to accept a minimum 1.2m (4') fence. The fence can be any type appropriate to the site's use, such as chain link, post and rail, split cedar, barbed wire, etc. In order to reduce wildlife conflicts, opt for a taller fence with wire mesh affixed to the back of the fence.
- **For public spaces (e.g. roads, playgrounds) abutting a SPEA owned by the City,** the fence must be at least 1.2m high (4') and can be either chain link or post and rail with wire mesh affixed to the back of the fence.

Signage: During construction, signage must be placed along the temporary protection fence to inform construction personnel of the sensitive habitat beyond the fence. Upon completion of construction, permanent signs should be placed every 15 m along the permanent fence (see Appendix C for additional information regarding signage requirements).

Erosion and Sediment Control: During construction do not allow any soil, cement, grout, oil, grease or other contaminants to enter the stream or storm drains in the street. ESC facilities are not permitted within SPEAs. For more information, refer to the handouts available at www.abbotsford.ca/esc.

Stormwater Management: Stormwater management facilities are not typically permitted within SPEAs. All efforts should be made to ensure post-development stormwater mimics its pre-disturbance flow. See the following websites for more information on stormwater management:

- Water Balance Model: www.waterbalance.ca;
- Stormwater Planning: A Guidebook for British Columbia http://www2.gov.bc.ca/assets/gov/environment/waste-management/sewage/stormwater_planning_guidebook_for_bc.pdf; and
- DFO's Urban Storm Water Guidelines: <http://www.dfo-mpo.gc.ca/Library/277967.pdf>.

Timing of Site Clearing: Site clearing is not permitted until SPEAs have been finalized, covenanted, fenced off, and senior government approvals in place. To protect migratory bird nests and avoid contravention of the provincial Wildlife Act, clearing should not occur during the breeding bird window (typically between March 1st and August 31st) unless a nesting survey has been completed by a QEP. Other nests (e.g., raptors, herons) may be protected by the provincial Wildlife Act regardless of nest activity.

Monitoring: The proponent must engage a QEP during construction to ensure that all environmental standards are complied with. Long-term monitoring (i.e., 5 years upon completion of required works) will be required where planting is required under a DP or DVP in order to assess plant survival, SPEA integrity, and other factors.

Construction Environmental Management Plans: For larger projects or those adjacent to sensitive habitat, Construction Environmental Management Plans (CEMPs) may be requested to summarize the above mitigation measures. If a CEMP is required, the City requests that an implementation table be submitted with the CEMP that summarizes all of the mitigative actions discussed within the report, along with the timing of each of the measures.

6

FREQUENTLY ASKED QUESTIONS

6.1 What can I do in a SPEA?

- Remove invasive plants for the purposes of habitat restoration. See this website for info on which ones are invasive:
<http://bcinvasives.ca>
- Plant more native plants. For more information on what species and how to plant see the RAR Revegetation Guidelines for Brownfield Sites, available here:
http://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/fish-fish-habitat/riparian-areas-regulations/rar_reveg_guidebk_sept6_2012_final.pdf
- Install nest/bat boxes or other habitat structures (e.g. woody debris)
- Explore nature
- Remove trees that are deemed to be hazardous by a Certified Arborist (see s.6.3 for more information)
- Remove garbage
- With prior permission from the City through either a DP or DP Exemption, construct a small path in accordance with this document:
<http://www.stewardshipcentrebc.ca/portfolio/access-near-aquatic-areas/>

6.2 What can't I do in a SPEA?

- Construct buildings or structures (e.g. gazebo, deck, shed, septic field, pool, retaining walls, etc.)
- Install non-structural impervious or semi-impervious surfaces (e.g. driveways, patios, sidewalks, etc.)
- Construct roads, trails, docks, wharves and bridges
- Install flood protection works
- Install sewer or water services
- Install drainage systems or utility corridors
- Remove, deposit or disturb soils
- Remove, alter, disrupt or destroy native vegetation (including trees, shrubs and understory plants)
- Plant ornamental (i.e. non-native) plants or allow non-native plants from your garden to spread into the SPEA
- Allow your pets to utilize the area with such frequency that they impact vegetation through trampling
- Use pesticides, unless they are for removing invasive plants and prior permission is given by the City
- Hunt
- Store any equipment, materials, etc.
- Place recreational or play structures (e.g. trampolines, swing-sets, fire rings/pits, etc.)
- Dispose of garbage or yard waste (use a green waste pickup service instead)
- Remove the fencing protecting the SPEA
- Remove the educational signage on the fence
- Use motorized vehicles (e.g. dirt bikes, ATVs, etc.)

6.3 Can I remove trees from the SPEA?

Healthy trees cannot be removed from the SPEA without prior permission from the City Planning department. However, it is recognized that hazard trees within a SPEA may pose an unacceptable risk to human life and/or property and require treatment or removal. Therefore, hazard trees (include standing dead trees that are vertical or lean towards the development area), as well as some live trees with large dead branches or tops may be removed subject to City approval. If you are concerned that a tree poses a hazard to people or property, please hire a Certified Arborist to undertake a Hazard Tree Risk Assessment and submit this to an Environmental Coordinator for review to determine if a DP or DP exemption is applicable. See Appendix A, Section 5.4 for more information.

6.4 Do I have to assess all of the trees on my property for the Arborist Report?

The trees assessed in the Arborist Report can be limited to the trees within the development footprint as well as all trees within striking distance of the proposed development.

6.5 Can I construct infrastructure in the SPEA?

Any construction of infrastructure (e.g. roads, sewers, sediment control facilities) within a SPEA must be reviewed by the City, and may require mitigation along with a DP or DVP. Construction of stormwater features (e.g. rain gardens, infiltration areas, wet ponds, etc.) will not be supported within the SPEA, with the exception of conveyance and outfall systems.

6.6 What is required for new watercourse crossings?

Crossings in watercourses with fish habitat value require DFO and MFLNRORD approval/notification in accordance with the Fisheries Act and the Water Sustainability Act, respectively. If the City data indicates that the watercourse has not been assessed and it is unknown if it is considered fish habitat, a Basic Fish Habitat Assessment will be required. This is to be undertaken by a QEP at the developer/property owner's expense. If a watercourse does not have fish habitat value yet still meets the definition of a stream under the Water Sustainability Act, the crossing may still require a notification to MFLNRORD.

Where a new crossing is proposed to serve a residential, commercial or industrial purpose, the crossing will require a DP. If the crossing is on City property (i.e. road Right-of-Way), a Highway Excavation Permit is also required from the City's Engineering and Regional Utilities department and may require notification to MFLNRORD if it meets the definition of a stream under the Water Sustainability Act.

6.7 What is required for using existing watercourse crossings?

If there's an existing watercourse crossing on the property that was constructed prior to June 20, 2005 or constructed with a City Permit, then the crossing is grandfathered. If any modifications are required to the existing crossing (i.e. culvert extensions, widening of access road, utility/service installations within the access road, etc.) then further information will be required. This may trigger the need for senior government approvals as well as a DP or DP Exemption.

6.8 What approvals are required for piping or relocating a watercourse?

Piping or relocating watercourses with fish habitat value require DFO and MFLNRORD approvals in accordance with the Fisheries Act and the Water Sustainability Act, respectively. If the City data indicates that the watercourse has not been assessed and it is unknown if it is considered fish habitat, a Basic Fish Habitat Assessment will be required. This is to be undertaken by a QEP at the developer/property owner's expense. If a watercourse does not have fish habitat value yet still meets the definition of a stream under the Water Sustainability Act, the piping or may still require an approval from MFLNRORD.

Where piping or relocation is related to residential, commercial or industrial development, the piping or relocation will require a DVP. A DVP application requires submission of a Detailed Fish Habitat Assessment Report and may also require additional reports from other qualified professionals (see Attachment A for more information). Please be aware that you will need to demonstrate application of the Mitigation Hierarchy in order to receive staff support for your DVP.

6.9 Can I place fill in the SPEA?

Within the ALR, the deposition of fill for residential development is considered a non-farm use, and as such the SPB applies. In non-ALR areas, you cannot place fill within the SPEA either.

6.10 What is the process for constructing an addition to an existing building or demolishing an existing building and constructing a new building?

On older, previously developed properties, it may very difficult to locate building envelopes while still respecting the SPEA. The first step is to hire a QEP to undertake a Basic Fish Habitat Assessment. If this assessment doesn't achieve a usable building envelope, the applicant should work on a site layout that maximizes the SPEA. Variances of applicable zoning regulations (e.g. lot line setbacks, parking requirements, etc.) should be considered to prevent the loss of habitat within the SPEA. A DP or DVP will be required where the SPEA cannot be adhered to.

6.11 Can I replace a building that was damaged?

If a legally-constructed building or structure was damaged or destroyed to the extent of 75% or more of its assessed value above the foundation, the re-constructed building or structure will need to comply with the SPB. If the proposed replacement building or structure is located within a SPEA, the applicant will be required to obtain a DVP. Notwithstanding this, preference would be for the replacement building or structure to be set back from the stream as much as feasible on the property. Undamaged buildings or illegally constructed buildings may not be allowed to be reconstructed in the same location.

6.12 Can I plant my Replacement Trees as required by the Tree Protection Bylaw in the SPEA?

If you propose to plant your Replacement Trees (as required by the Tree Protection Bylaw) within the SPEA, the City will accept smaller stock in larger numbers. The intent is to avoid the use of machinery within the natural area that would normally be required in order to install Replacement Trees as per the Tree Protection Bylaw (i.e. minimum 3.0m tall conifers, and 6cm caliper

deciduous). The objective is to achieve an equivalent amount of trunk caliper/biomass to the Tree Protection Bylaw requirements. For example, you could replace one 3.0m tall conifer with either two 1.5m tall conifers or three 1.0m conifers, or you could replace one 6cm caliper deciduous with either two 3cm caliper deciduous or three 2cm caliper deciduous. You must work with your QEP in order to determine if the required replacement trees can be planted on the property within the SPEA, and if it is possible, to identify proposed locations and species.

6.13 What if the watercourse is not connected to fish habitat?

When there are mapped wetlands and or watercourses that are not connected by surface flow to downstream fish habitat (i.e. the water infiltrates into the ground), the City's Streamside Protection Bylaw does not apply; however, the WSA may apply and a WSA Change Approval may be required to facilitate the proposed development. When the proposed development is in the Natural Environment DP area, prior to the issuance of a NEDP, the following will need to be confirmed:

1. The wetland and/or watercourse in question are still/were present. This must be determined by a QEP with wetland expertise and have a corresponding report with justification (e.g. soil pits, vegetation, and other field data) submitted for review to both City Environmental Staff and MFLNRORD.
2. If the QEP determines that the wetland and/or watercourses still exist, then appropriate setbacks must be determined by the QEP (such as by utilizing the RAR detailed assessment methodology or some other defensible, scientifically determined setback). Once an appropriate setback has been agreed upon, Staff will be able to proceed with the NEDP as long as the proposed development is consistent with the agreed upon setbacks.



3. Alternatively if the proposed development is not consistent with the agreed upon setbacks, the QEP must apply to MFLNRORD for a WSA Change Approval to conduct instream work (i.e., any infill or alteration of the wetland). Until a Change Approval has been received, the Applicant can choose to submit a development application that assumes the watercourse will be retained and a DP can be issued based on this development layout. If the MFLNRORD issues a Change Approval, Staff will be able to issue an amendment to the NEDP. Alternatively the Applicant can choose to delay the development application until such time as the Change Approval is issued.

In addition to the watercourse assessment the QEP may need to prepare a Wildlife Habitat Assessment Report to address the NEDP guidelines identified within the OCP. NEDP guidelines NE2 (No Net Loss), NE3 (Riparian Habitat Replacement and Restoration), NE4 (Species at Risk) and NE5 (Terrestrial Habitat Replacement and Restoration) provide clear policy that development does not result in net loss of riparian or terrestrial habitat and where loss of habitat is unavoidable, replace the value of lost habitat at a ratio of 2:1. If the proposal involves the removal of habitat, specifically habitat within the agreed upon watercourse setback the QEP will need to prepare a habitat compensation plan in accordance with the City's NEDP guidelines.



Several appendices with detailed information on the report requirements, watercourse classification, and development mitigation, compensation and monitoring are available on the City's website at **www.abbotsford.ca/watercourses**

APPENDIX A: Technical Information

- Fish Habitat Assessment Report Requirements
- Is it a Stream Under the SPB?
- Determining the Stream Setback
- Delineating the Boundary of a Wetland
- Development within the SPEA
- Mitigation, Compensation, Monitoring and Maintenance
- Environmental Security

APPENDIX B: Example of a Setback Comparison Table

APPENDIX C: Signage for Environmentally Sensitive Areas

APPENDIX D: Example of a Costing Sheet for Environmental Securities





FOR MORE INFORMATION

The staff in the Planning and Development Services department are happy to assist and help you comply with the Streamside Protection Bylaw. If you have a question about streams, stream setbacks, or the variance process, please contact an Environmental Coordinator at:

**City of Abbotsford
Planning and Development Services
32315 South Fraser Way, Second Floor
Abbotsford, BC V2T 1W7**

Tel: 604-864-5510

E: env-info@abbotsford.ca

www.abbotsford.ca

A copy of this document, Appendices A through D, and other related material can be viewed online at www.abbotsford.ca/watercourses





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