Village of Cumberland

DPA #1: Environmental Protection

DEVELOPMENT PERMIT AREA GUIDELINES

Development Permit Areas are established to guide property owners and to assist the Village in addressing particular development issues by providing development guidelines. As well, they are intended to provide the residents of the Village with a degree of certainty that concerns regarding development, expressed during the Plan development process, will be adequately addressed.

Development Permit Areas (DPA) are designated under s.919.1 (1) of the *Local Government Act (*LGA*).* There are specific designations in the LGA as follows:

1) Protection of the natural environment, its ecosystems, and biological diversity.
2) Protection of development from hazardous conditions.
3) Protection of farming.
4) Revitalization of an area in which a commercial use is permitted.
5) Establishment of objectives for the form and character of intensive residential development.
6) Establishment of objectives for the form and character of commercial, industrial or multi-family residential development.
7) In relation to an area in a resort region, establishment of objectives for the form and character of development in the resort region.
8) Establishment of objectives to promote energy conservation.
9) Establishment of objectives to promote water conservation.
10) Establishment of objectives to promote the reduction of greenhouse gas emissions.

A Development Permit Application will be required prior to undertaking works related to the construction, alteration or subdivision of lands within identified DPAs, as per LGA s.920(1), unless exempt as described in the individual DPA descriptions.

A development permit issued is to be in accordance with the stated guidelines. All of the respective guidelines may not be applicable in every permit; however, in situations where a guideline is not appropriate to the particular circumstances, Council may deem the guideline to be not applicable. Council may also issue a development permit that varies or supplements regulations, including of the Subdivision or Zoning Bylaw.

Use of the word “should” in a guideline does not indicate that compliance is at the option of the applicant. Rather, that compliance to the guideline will be required as a condition of issuance of a development permit, unless Council determines there are bona fide reasons why the guideline should not be applied to its fullest extent. Use of the term “encourage” indicates that compliance with a guideline may, at the discretion of the Council, be required as a condition of the issuance of the development permit.
DPA designations are mapped on Maps “C, E, F, G, and H” of Bylaw 990.

Please note that this DPA brochure has been created as a convenience only and if there are any discrepancies between this brochure and the DPA contained in Bylaw 990, the Bylaw will prevail.

10.1. DPA# 1 - Environmental Protection

10.1.1 Justification

This development permit area is designated pursuant to LGA s.919.1 (1) (a). The Village boundaries have significant natural areas that support important plants and animal habitat and that sustain human health and social well-being. Some of these areas have been identified by various agencies in the form of inventories. This Development Permit Area is intended for the protection, conservation, and restoration of sensitive ecosystems that are fragile remnants of specialized ecosystems with high biodiversity. They are generally classified as herbaceous terrestrial areas, older forest, sparsely vegetated areas, wetlands, riparian areas, and woodlands. These ecosystems are sensitive to development due to their potential vulnerability and rarity. Sensitive ecosystems were identified using the Sensitive Ecosystems Inventory (current version) produced by the Provincial and Federal governments, as referenced by the Comox Valley Conservation Strategy. The existing inventory may not identify all sensitive areas, and evaluation for development may require further inventory by a qualified biologist. Subsequently this Development Permit Area incorporates biodiversity, terrestrial, watercourse, and riparian ecological protection requirements.

These areas are necessary to conserve and enhance ecosystem services, to sustain quality of life in the community, and to maintain and restore habitat connectivity for species movement. Habitat connectivity can occur in the following forms[1] illustrated in **Figure 11** below:

a. **Core Areas**–Sensitive terrestrial and aquatic ecosystems, critical habitats and large forested areas that may be protected as parks or reserves.

b. **Linear corridors**–The land and water habitat corridors that link core areas. They can include intact and restored areas and some areas under human area, such as forestry and agriculture.

c. **Stepping stones**–Smaller patches of habitat that are linked to allow wildlife movement for shelter, feeding and resting within a landscape in which other activities (such as agriculture and forestry activities) are taking place.

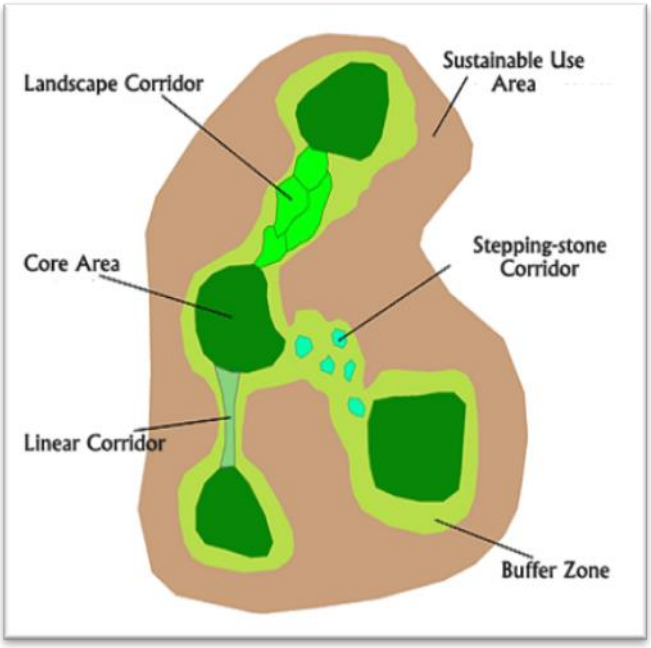

Figure 1: Components of A Natural Areas Network: a mosaic of land uses that can support biodiversity maintenance1

[1] Nature without Borders– 2nd Edition, April 2013 p. 18. Reference to International Union for Conservation of Nature (IUCN) (July 23 2007). "Connectivity Conservation: International Experience in Planning, Establishment and Management of Biodiversity Corridors" (Background Paper).

d. **Buffer areas**–Zones of transition that protect core areas from adjacent uses

e. **Landscape Corridor**–A corridor of contiguous natural cover that allows movement between core habitat and protected areas (IUCN, Connectivity Conservation: Experience in Planning, Establishment and Management of Biodiversity Corridors, 2004).

f. **Sustainable Use Areas–**Lands designated for human settlement and use. They can be established outside of corridors as well as within both buffer and corridor zones**.**

The primary function of the Environmental Protection Development Permit Area designation is to ensure that natural resources are protected, connectivity restored and maintained, and development impacts mitigated, including by allowing decision makers to have the ability to secure the necessary information and be able to place conditions on development.

This DPA supports the goals, objectives and policies of this OCP, including, but not limited to, the following relevant sections of the OCP:

a. Growth Management (Section 5.0)
b. Economic Development (Section 6.0)
c. Tourism (Section 6.0)
d. Environmental Preservation (Section 7.0)
e. Views and Landscape Character (Section 7.0)
f. Climate Change and Adaptability (Section 7.0)
g. Recreation, Leisure and Parks (Section 8.0)

This DPA provides the opportunity to create a network of habitat and natural areas through the identification of designated areas building on the concepts described above and illustrated in **Figure 11.**

10.1.2 CATEGORY

Section 919.1(1)(a) of the *Local Government Act* for the protection of the natural environment, its ecosystems and biological diversity.

10.1.3 DESIGNATED AREAS

DPA 1 is comprised of the environmentally sensitive areas (ESAs) shown on **Map E** including: areas identified by the 2004 provincial Sensitive Ecosystems Inventory; areas delineated by Comox Valley Project Watershed Society in 2013 based on the SHIM Land Cover Classification System; as well as individual properties that contain identified environmentally sensitive areas and features. The development permit establishes development zones ("development" is defined below) within or including these areas.

1) For this DPA, "development" includes any of the following:

a. Removal, alteration, disruption, or destruction of vegetation;
b. Disturbance of gravel, sand, soils, and/or peat;
c. Deposition of gravel, sand, soils, and/or peat and soil or other fill;
d. Construction, erection, or alteration of buildings and structures;
e. Creation of non-structural impervious or semi-pervious surfaces;
f. Flood protection works;
g. Preparation for or construction of roads, trails, docks, wharves, and bridges;

h. Provision and maintenance of sewer and water services;
i. Development of drainage systems;
j. Development of utility corridors
k. Blasting.

2) The Environmental Protection Development Permit Area (DPA 1) includes the following denoted areas on **Map E**, that are comprised of:

a. Terrestrial Ecosystems
b. Aquatic Ecosystems
c. Connectivity Areas

3) These areas are comprised of the following characteristics:

a. Rare and important ecosystems identified by the 2004 provincial Sensitive Ecosystems Inventory including: terrestrial herbaceous (rocky outcrops), older forest, older second growth forest, sparsely vegetated (cliffs and bluffs), wetland, riparian, and woodland.

b. Sensitive Habitat Inventory Mapping (SHIM) Land Cover Classes including wetland, coniferous, broadleaf and mixed forest, shrub, herb/grasses, and exposed soil.

c. Watercourses and lakes within 30.0metres of the natural boundary of above listed terrestrial areas; within 30.0metres from the natural boundary of watercourses, wetlands, and lakes; and within 30.0metres from the top of the bank of a watercourse where a bank is within 15.0metres of the natural boundary of the watercourse.

4) For this DPA, the following definitions are used:

a. "**Terrestrial Ecosystem Area**" means:

Those ecosystems—a community of plants, animals, and microorganisms that are linked by energy and nutrient flows and that interact with each other and with the physical environment—that are land-based.

b. "**Aquatic Ecosystem Area**" means:

Those natural systems that are either permanently or periodically under water. Water may be running, as in a river or stream (lotic environments) or still, as in lakes and wetlands (lentic environments).

c. **"Connectivity Area"** means:

The area between Terrestrial and Aquatic Ecosystems Areas, that can be developed for sustainable human use in a manner that demonstrates stewardship through the protection, remediation and enhancement of:

i. Connectivity for habit and wildlife life in the area, as well as surrounding sensitive environmental areas;

ii. Overlays and implements through best practice planning, design, and management the integration of passive or active outdoor recreation, forestry, and agriculture.

5) For the purpose of meeting the objectives and policies of Environmental Protection, Terrestrial and Aquatic Ecosystem Areas shall contain:

a. Restricted development zones: restricted development areas that are in place to protect core habitats including sensitive terrestrial and aquatic ecosystems;

b. Buffer zones: areas that buffer restricted development zones from land use impacts that may otherwise compromise their natural function. Buffer zones create a transition from core habitats to other land uses.

10.1.4 EXEMPTIONS

1) A Development Permit is not required for this DPA in the following circumstances:

a. Projects undertaken by Senior Levels of Government requiring permits and licenses pursuant to:

i. *Farm Practices Protection (Right to Farm) Act*, and subsequent legislation not subject under the *Local Government Act* (LGA);
ii. *BC Assessment Act;*
iii. *Forest Act*, and subsequent legislation not subject under the LGA;
iv. *Private Managed Forest Land Act*, and subsequent legislation not subject under the LGA;
v. *Mines Act*, and subsequent legislation not subject under the LGA;
vi. Hydroelectric Facilities undertaken by the Province;

b. Ecological restoration and enhancement projects or other projects undertaken or approved by the Ministry of Environment (waterflow), Ministry of Forest Lands and Resource Operations (fish and wildlife), or Fisheries and Oceans Canada.

c. Public Infrastructure and service undertaken or authorized by the Village or their agents, and where such necessary works have been approved by a Senior Level of Government.

d. Emergency responses or works required by the Village, Provincial Emergency Program or the Comox Valley Regional District to prevent or control forest fire, flooding, or erosion emergencies.

e. Slope stabilization work that is prescribed by a Professional Engineer or Geoscientist or other appropriate professional approved by the Village; and where no long-term damage to natural features is predicted as a result of the work; and that is approved by the Fisheries and Oceans Canada.

f. Removal of noxious weeds, as identified in the BC Weed Control Regulation and known invasive species, provided that measures are taken to prevent soil or debris being discharged into the watercourse; and subject to immediate replanting with native vegetation suitable to local conditions.

g. For the removal of a tree that is deemed an imminent hazard to the safety of life or buildings, as determined by an Arborist certified by the International Society of Arboriculture (ISA), via a tree assessment report provided to the Village at the property owner's expense. Such removal shall be in accordance with the Riparian Areas Regulation, *Water Act*, *Wildlife Act* and the *Canada Fisheries Act.*

h. Maintenance of existing gardens, landscaping, and agriculture; or new gardens that adhere to the principles of *Naturescape BC* and do not damage existing native vegetation.

i. The placement of impermanent structures such as benches, tables, and ornaments.

j. Construction of replacement buildings where there is less than 10.0metres^2 increase in the building footprint, and which do not damage existing native vegetation provided that the building is not located in a SPEA or other ESA target buffer distance, where these boundaries have been delineated and providing that no native trees are removed and providing that construction of the building follows Best Management Practices for Erosion and Sediment Control.

k. Reconstruction, addition, or repair of a structure on its existing building footprint.

l. For the maintenance of existing trails or pathways, as designated and approved by the Village, in accordance with recognized Canadian or US current best practices in trail and pathway maintenance practices for environmentally sensitive areas.

m. Paths (which are less than 1.0metre in width) and fencing which do not result in the removal of native vegetation or disruption of wildlife. Any fencing should be designed according to the guidelines described in A Landowners' Guide to Wildlife Friendly Fences: How to Build Fence with Wildlife in Mind, Montana Fish Wildlife and Parks.

n. Where a covenant exists to protect the natural environment, which meets or exceeds current Environmental Protection DPA requirements, is registered against the title, under Section 219 of the *Land Title Act* in priority to financial encumbrances and with indemnity of the Village.

o. Construction of a Village approved trail within a buffer zone provided trail design and construction meets Village standards.

p. Restoration or enhancement of a buffer zone as directed by a qualified environmental professional, particularly where a buffer zone may have already been impacted by previous development activities.

q. Where, upon inspection of the site and as verified in a report by a Registered Professional Biologist and where the sufficiency of the report is to the satisfaction of the Chief Administrative Officer, the actual location of the aquatic/terrestrial ecosystem (including within 30.0metres of the natural boundary of terrestrial areas and within 30.0metres from the natural boundary of a watercourse, wetland or lake, and within 30.0metres from the top of the bank of a watercourse where a bank is within 15.0metres of the natural boundary of the watercourse) is not located upon the subject property.

r. Public infrastructure works undertaken by the Village or their agents, and where such necessary works have been approved by senior government agencies.

s. The environmentally sensitive removal of trees and shrubs designated as hazardous, by a professional forester registered in British Columbia, in accordance with provincial "FireSmart" standards in a Wildfire Urban Interface report.

t. The environmentally sensitive removal of trees and shrubs designated as host trees by the Sterile Insect Release Program as indicated in a report by an arborist certified in British Columbia and experienced in standard agricultural practices.

u. The activity is conducted under direction of the Provincial Emergency Program.

Environmental Protection DPA #1 Checklist

DP Language			Application content
10.1.5	**DPA#1 EP Guidelines–General Requirements**		
The primary function of the Environmental Protection Development Permit Area designation is to ensure that natural resources are protected, connectivity restored and maintained, and development impacts mitigated, including by allowing decision makers to have the ability to secure the necessary information and be able to place conditions on development.			
1.	Before any land clearing takes place, and before development design begins, an application for a development permit requires a biological site inventory (bio-inventory) according to the procedures described in Develop with Care 2012–Environmental Guidelines for Urban and Rural Land Development in British Columbia, Appendix B and amendments thereto, prepared by the Ministry of Forest Lands and Natural Resource Operations.		
2.	The bio-inventory should be prepared by a qualified professional biologist together with other professionals of different and relevant expertise, as the project warrants.		
	If wetlands and riparian areas exist within the development area, hydrologists and hydro-geologists should be consulted to ensure the proper hydrological function is maintained within these ecosystems.		
	A professional geoscientist should be consulted if there is erosion potential or slope instability.		
	The consultant or team of consultants should have an understanding of wildlife biology—especially for species at risk, geomorphology, environmental assessment, and development planning in British Columbia, specific expertise in the wildlife species, wildlife habitat, and ecosystems of the West Coast region is highly preferred.		
3.	The bio-inventory shall:		
	a)	Be in accordance with Develop with Care 2012: Environmental Guidelines for Urban and Rural Land Development in British Columbia (DWC) or most current edition, and with reference to Appendix B: Bio-inventory Terms of Reference.	

DP Language			Application content
10.1.5	**DPA#1 EP Guidelines–General Requirements**		
	b)	Locate the parcel relative to watershed area(s) and describe the hydrological features of the parcel—including water shedding, collecting and conveyance areas.	
	c)	Examine the natural environmental features within the parcel—including rare and threatened plant communities, endangered species listed under the Provincial Wildlife Act and the Federal Species At Risk Act (SARA) and any identified critical habitats for those species, and other important habitat features.	
	d)	Provide a description and map(s) showing the boundaries of Environmentally Sensitive Areas—including 30.0metres from the natural boundary of terrestrial areas, and 30.0metres from the natural boundary of watercourses, wetlands and lakes, and 30.0metres from the top of the bank of a watercourse, where a bank is within 15.0metres of the natural boundary of the watercourse). Determine the restricted development and buffer zones on the parcel through an explanatory, reference or legal survey plan prepared by a BC Land Surveyor that shows these boundaries (refer to Section 4, Table 4.1 Develop With Care for recommended target buffer distances for biodiversity conservation).	
	e)	Examine the impact of the proposed development on the soils, vegetation, watercourses, wildlife, and hydrology in all restricted development and buffer zones; and provide development pattern and servicing recommendations to minimize these impacts.	
	f)	Examine pre-development water quality and quantity on the site and provide mitigation and enhancement strategies to maintain pre development water quality and quantity for the restricted development zones and buffer areas.	
	g)	Examine the impact of the proposed development on the larger watershed area(s) including watercourses, habitat connectivity, water quality and quantity upstream and downstream, and possible cumulative hydrological impacts that may result; and provide development pattern and servicing recommendations to minimize them.	
	h)	Recommend appropriate timing of works associated with development in order to minimize impacts to wildlife during migration, breeding, birthing, and rearing seasons.	

DP Language			Application content
10.1.5	**DPA#1 EP Guidelines–General Requirements**		
4.	The detailed bio-inventory is used to create the site plan. The site plan and development design must include:		
	a)	Detailed drawings or plans clearly describing the proposed structures and the materials and type of construction to be employed, including a cross section of the proposed structure and its layout on the ground;	
	b)	A detailed description of existing structures near the proposed structure or area of work;	
	c)	A detailed drawing or plan clearly describing any area of the removal of rock, gravel, or soil;	
	d)	The reason and purpose of the work;	
	e)	The name of the contractor, if any, who will do the work;	
	f)	Time required for completion in calendar days;	
	g)	Any further information required by the Village to ensure compliance with this bylaw, including construction design or structural details of any part of the proposed works;	
	h)	A description of how environmental protection DPA requirements will be met, and how any issues identified in the bio-inventory will be mitigated, and how recommended mitigation measures will be achieved;	
	i)	Any replanting prescription for vegetation in disturbed areas that is prescribed by the bio-inventory report;	
	j)	A copy of any applicable federal and provincial approvals.	
5.	As a condition of the development permit and in accordance with the bio-inventory for the project, the Village may require monitoring of the development by a qualified professional such as a professional engineer or biologist.		
6.	Should damage occur to an environmentally sensitive area during development, the Village shall require, at the developer's cost:		
	a)	A Professional assessment and report on the damage incurred along with recommended mitigations;	
	b)	Full mitigation and rehabilitation of the impacted ESA.	
7.	Development design must reflect the objectives and guidelines of the Standards and Best Practices for Instream Works, Land Development Guidelines for the Protection of Aquatic Habitat, Stormwater Management: A Guidebook for British Columbia, Develop with Care Environmental Guidelines for Urban and Rural Land Development in British Columbia (Section 3 - Guidelines for Ecosystems and Species Protection and Section 4), Access Near		

DP Language			Application content
10.1.5	**DPA#1 EP Guidelines–General Requirements**		
	Aquatic Areas: A Guide to Sensitive Planning, Design and Management and other best management practices guides produced by the provincial government.		
8.	Plan, design, and implement land development and subdivision in a manner that:		
	a)	Supports the maintenance and restoration of natural system functions including watercourse, and groundwater recharge; hydrology	
	b)	Preserves natural features including soil, watercourses , groundwater, and native shrubs, groundcover and tree cover;	
	c)	Maintains connectivity and linkages with adjacent sensitive ecosystems and other habitat areas and minimizes fragmentation;	
	d)	Protects endangered, threatened, or vulnerable species or plant communities by avoiding disturbance to sites where rare plants are growing and where rare natural plant communities occur;	
	e)	Maintains critical habitat structures such as old trees, snags, trees with cavities, and ephemeral wetlands.	
9.	Retain mature vegetation wherever possible and incorporate it into the design of the project.		
10.	Demonstrate that a diligent effort has been made in site design to:		
	a)	Preserve both the natural vegetation and tree ; or	
	b)	Restore historical forest densities and hydrological function.	
11.	Prevent disturbance of nesting sites and breeding areas. Animals must have access to the habitat that supports their reproduction in order to ensure future generations.		
12.	Schedule work during times when impacts to wildlife will be minimal, including:		
	a)	Outside of known wildlife migration seasons;	
	b)	Outside of breeding, birthing, and rearing seasons (refer to Section 4 of 2012 Develop with Care Manual for breeding season least risk windows).	
13.	Preserve existing and potential connections to adjacent Terrestrial, Aquatic and Connectivity Areas by maintaining native shrub, groundcover and tree cover between habitats.		
14.	Prevent foreign material from entering into any restricted development areas, including—without limitation—greases, oils, gasoline, sediments, and other contaminants during and after the construction phase of the proposed development.		

DP Language			Application content
10.1.5	**DPA#1 EP Guidelines–General Requirements**		
15.	Design lighting on developments to provide the minimum necessary for safety purposes and to avoid light intrusion throughout the parcel.		
16.	Any fencing should be designed according to the guidelines described in A Landowners Guide to Wildlife Friendly Fences: How to Build Fence with Wildlife in Mind, Montana Fish Wildlife and Parks.		
17.	Manage rainwater in accordance with the Water Balance Model or the most recent integrated watershed management or rainwater policy and design manual. This include2(f)s managing rainwater on site and maintaining pre-development drainage flows.		
18.	Encroachment into the DPA by all development activities will not exceed that indicated in the site plan approved in the development permit. All development activities will avoid or minimize disturbance in the DPA beyond the building footprint. This may mean adjusting conventional practices with respect to locating machinery and stockpiles relative to excavations, use of hand labour as opposed to machinery, etc.		
19.	Prior to any development activity, the boundaries of restricted development and buffer zones identified in the bio-inventory will be clearly marked with a bright orange or other highly visible temporary fence with a minimum height of 1.2metres and supported by poles a maximum distance of 2.5metres from one another. This fence will remain in place throughout clearing, site preparation, construction, or any other form of disturbance.		
20.	Ensure that the roots of trees are protected during construction. The roots of mature trees typically extend from 1–3 times the height of the tree from the tree's trunk and are found within 30.5a–38.1centimetres of the soil surface. Damage to these roots (especially in mature trees) can impede the tree's ability to obtain water and nutrition and can cause it to fall or blow over. Communicate tree protection plans to everyone involved in the project.		
21.	Any trail or pathway development must:		
	a)	Minimize the impacts of recreational use on restricted development zones and adjacent natural areas and systems;	
	b)	Adhere to the Village's trail and pathway design and construction practices for ESADP Areas;	
	c)	Be designed to prevent motorized vehicle use to the maximum extent possible.	

DP Language		Application content
10.1.5	**DPA#1 EP Guidelines–General Requirements**	
22.	When establishing watercourse and riparian buffer zones, consider the needs of all species and not just fish. For example, SPEAs established using the Riparian Areas Regulation methodology focus on the needs of salmon and trout and may not adequately protect other species such as amphibians, birds, and small mammals.	

DP Language			Application content
10.1.6.1	**DPA#1 EP Supplemental Guidelines– Aquatic Ecosystem Areas**		
1.	The following requirements apply to all development permit applications in all **aquatic ecosystem areas** (watercourses, wetlands, and riparian areas).		
	a)	When a site contains or is adjacent to a watercourse where fish are present or fish habitat is provided, the applicant shall, at their expense, retain the services of a registered professional Biologist (RPBio), or other Qualified Environmental Professional (QEP) to prepare an assessment report pursuant to *Riparian Areas Regulation (RAR)*. RAR is only necessary if the proponent plans to develop within 30metres of the high water mark or top of ravine bank of a stream or other waterbody that connects to fish habitat.	
		i) The Village should receive notification from the provincial ministry responsible for the environment that the Department of Fisheries and Oceans and the provincial ministry have been notified of the development proposal and provided with an acceptable copy of an assessment report prepared by a RPBio, or other QEP.	
		ii) Where the assessment report proposes a Harmful Alteration, Disruption or Destruction (HADD) to fish habitat pursuant to Section 35(2) of the *Fisheries Act* (Canada), the development permit shall not be issued unless Fisheries and Oceans Canada subsequently approve the HADD.	
		iii) Where the assessment report describes an area designated as Streamside Protection and Enhancement Area (SPEA), the Development Permit shall not allow any development activities within the SPEA except in accordance with the assessment report.	
		iv) The conditions in the RAR shall form part of the Development Permit.	
	b)	When a site contains, or is adjacent to, a known watercourse where the presence or absence of fish is unknown:	
		i) All development within the DPA adjacent to those watercourses, not subject to the RAR, shall require an evaluation by a registered professional biologist or other QEP who shall prepare a report assessing the environmental components of the proposal. The measures and recommendations of the registered professional biologist report may form the terms of the development permit.	

DP Language					Application content
10.1.6.1	**DPA#1 EP Supplemental Guidelines– Aquatic Ecosystem Areas**				
		ii))	The report should generally include the following information:		
			1)	A detailed site plan identifying the environmentally sensitive area within the site, location of existing and proposed buildings and structures, new lot lines, and an assessment of existing natural vegetation;	
			2)	The criteria used to define the boundaries of the environmentally sensitive area;	
			3)	An inventory of wildlife species and related habitat;	
			4)	An impact statement describing effects of proposed development or subdivision on natural conditions or any neighbouring sensitive ecosystem as identified by the best available and most up to date information including the province's Sensitive Ecosystem Inventory and the Comox Valley Regional Districts' Sensitive Habitat Atlas;	
			5)	Guidelines for mitigating habitat degradation including limits of proposed restricted development zone.	
	c)	For all sites **adjacent** to any Aquatic Ecosystem Area:			
		i)	Existing native vegetation and soil should be retained and restored within the riparian assessment area;		
		ii)	Minimum parcel sizes for subdivision parcels, including bare land strata lots, should be met exclusive of the SPEA.		
2.	**Site Analysis**				
	a)	All projects proposed should, as a prelude to site planning and design, demonstrate an understanding of the following site conditions:			
		i)	Location in one of the eight principal watersheds (First Supply Creek, Morrison Creek, Piercy Creek, Millard Creek, Roy Creek, Maple Lake Creek, Perseverance Creek and Comox Lake) including identification of upstream (or upslope) and downstream (or downslope) land uses and the evaluation of the potential conflicts therein.		

DP Language			Application content
10.1.6.1	**DPA#1 EP Supplemental Guidelines– Aquatic Ecosystem Areas**		
3.	**Site Planning**		
	a)	All development proposals should demonstrate that site selection and planning have given consideration to:	
		i) Develop with Care 2012–Environmental Guidelines for Urban and Rural Land Developments in British Columbia and amendments thereto, prepared by the Ministry of Forest Lands and Natural Resource Operations;	
		ii) Opportunities and constraints for on-site stormwater management including factors such as natural storage and soil infiltration.	
	b)	All development proposals shall provide a stormwater management plan that:	
		i) Follows source control (on-site) principles and practices, and minimizes the use of conventional pipe and pond techniques, and avoids direct discharges to streams and other water-bodies;	
		ii) Takes advantage of on-site opportunities to recycle water to soil, wetlands, and forests;	
		iii) Uses site adaptive principles in facility placement and design, site grading, tree removal, impervious cover, and the scale and types of measures used to capture, direct, and dispose of stormwater.	
4.	The Village encourages proposals that offer to register a covenant on the title of the lands. The covenant will be registered before any development, including subdivision, and is intended to protect the aquatic ecosystem and the nearby vegetation and to ensure that it remains in a natural and vegetated state and/or free of development. The covenant will be registered in favour of the Village, other public agencies including the Province, or non-governmental organizations, such as a private land trust committed to the management of watercourses or streamside areas.		
5.	The applicant must provide an erosion and sediment control plan that reflects measures prescribed in the Land Development Guidelines for the Protection of Aquatic Habitat (1992: note Section 3), Stream Stewardship: a Guide for Planners and Developers (1994: note pages 30–34), or other standards or guidelines adopted or approved by the Village. This plan will form part of the development permit.		
6.	As a general rule, clearing of land, grubbing, grading, and other activities that expose expanses of soil will be completed during the dry months of the year, usually June through September.		

DP Language			Application content
10.1.6.1	**DPA#1 EP Supplemental Guidelines– Aquatic Ecosystem Areas**		
7.	Sediment containment and erosion control measures will be installed prior to any development activity.		
8.	Development will be avoided on slopes greater than 30 percent (approximately 7º) due to the high risk of erosion and bank slippage.		
9.	Existing trees and vegetation within the Aquatic Ecosystem Areas will not be disturbed except where allowed under the Development Permit.		
10.	To ensure their long-term health, all existing trees that are to be retained will be clearly marked prior to development, and temporary fencing will be installed at the drip line to protect them during clearing, grading, and other development activities.		
11.	The following are allowed within Aquatic Ecosystem Areas buffer zones:		
	a)	Pruning or removal of trees deemed hazardous by a registered professional arborist, while retaining wildlife trees and snags (dead, upright trees, or stumps) if safe	
	b)	Pruning of undergrowth within 1.0metre of existing or proposed public trails to avoid injury to users, but no disturbance of vegetation within 3.0metres of the natural boundary of the watercourse;	
	c)	Supplementing existing vegetation with planted stock as needed to landscape bare or thin areas.	
12.	Replanting of disturbed areas or the supplementing of existing vegetation with planted stock in thin or bare areas of a buffer zone will be required in accordance with the following:		
	a)	Replanting will use trees, shrubs, and ground cover native to the area and selected to suit soil, light, and groundwater conditions of the site and to promote habitat or erosion control functions as necessary;	
	b)	Individual trees will be replaced based on the recommendations of environmental reports;	
	c)	Species native to the area should be used in the restoration area. If needed, trees should be placed to enhance bank stability and provide cover to a watercourse;	
	d)	A shrub layer will be provided for a minimum of 33 percent of the restoration area; shrubs will be planted at an average density of 1.0metre apart and a minimum #2 pot size at time of planting;	

DP Language			Application content
10.1.6.1	**DPA#1 EP Supplemental Guidelines– Aquatic Ecosystem Areas**		
	e)	Groundcover may be substituted for shrubs; if used, groundcover will consist of brush layers or planted groundcover species at a maximum average spacing of 0.5metres with plants of minimum 10.0centimetre pot size at time of planting;	
	f)	For wooded areas, clearing should not exceed 10 percent of the Aquatic Ecosystem Area, should be confined to the outer portions of the Aquatic Ecosystem Area, and must not be on slopes greater than 50 percent (27º). The same replacement ratio, average tree density, and site features as in the previous Guideline apply;	
	g)	Areas not covered by trees, shrubs, or groundcover will be seeded with native herbaceous plants, grasses, or legumes;	
	h)	All vegetation will be protected from intrusion by motor vehicles with a curb or other suitable protective barrier if roads, driveways, or parking areas abut the buffer zone;	
	i)	All planted stock will be maintained for a minimum of two years; within that time, any unsuccessful stock will be replaced at the owner's expense.	
13.	To replace portions of an Aquatic Ecosystem Area buffer zone that are permanently removed, remaining portions may be enhanced by re-vegetating bare or thin areas, or by widening the buffer zone in other portions of the site not affected by the development.		
14.	Fencing to restrict access of livestock to Aquatic Ecosystem Areas will be installed where needed. Any fencing should be designed according to the guidelines described in A Landowners Guide to Wildlife Friendly Fences: How to Build Fence with Wildlife in Mind, Montana Fish Wildlife and Parks.		
15.	Land development activities must be planned, designed, and implemented in a manner that does not disturb or fragment wetland ecosystems including:		
	a)	Wetland vegetation and structure;	
	b)	Rare or uncommon animals, wetland plants, or plant communities;	
	c)	Wildlife habitats such as breeding and nesting sites;	
	d)	Soils and soil conditions.	

DP Language			Application content	DP Condition
10.1.6.2	**DPA#1 EP Supplemental Guidelines– Terrestrial Ecosystem Areas**			
1.	The following requirements apply to all development permit applications in all **terrestrial ecosystem areas**.			
2.	Settlement, construction, land disturbance, and other development within or directly adjacent to Terrestrial Ecosystem Areas will be discouraged.			
3.	When development is considered in terrestrial ecosystem areas, the Village may use the following methods to prevent or minimize encroachment:			
	a)	Bare land strata to allow flexibility in conserving the feature or area;		
	b)	Bonus density transfer, or density averaging, to the developable portion of the site;		
	c)	Variances to conditions other than use or density (such as front and/or rear-yard setbacks, increasing the maximum site coverage of buildings provided that density is not increased, increasing the maximum building height, reducing parking space requirements); and/or		
	d)	Voluntary stewardship such as covenants, contracts, leases, or trusts to protect the feature or area.		
4.	Except where ecosystems are characterized by isolated trees (e.g., terrestrial herbaceous ecosystems), conserve groups of trees along with their associated understories rather than isolating individual specimens. Groups of trees form a larger intact ecosystem and are more likely to maintain the important characteristics of the ecosystem over time than a few scattered trees.			
5.	Development must not either increase or decrease the amount of surface and/or groundwater or affect the quality of water available:			
	a)	Within the restricted development zone; or		
	b)	Within the buffer zone, other than development expressly permitted by the development permit within the buffer zone.		
6.	Conserve snags and standing dead trees where safe to do so. Soft decaying wood is a valuable home and food source for many birds and animals. For some species, it is essential. Standing dead trees are typically topped to within 6.0metres of the ground in an area that is safe, should it eventually fall. Locate buildings, roads, construction, and other development away from existing large, old trees and snags. Artificial snags can be located in safe areas to help improve habitat.			
7.	Prevent disturbance of nesting sites and breeding areas. It is important that animals have the habitat that supports their reproduction and so ensures future generations.			

DP Language			Application content	DP Condition
10.1.6.2	**DPA#1 EP Supplemental Guidelines– Terrestrial Ecosystem Areas**			
8.	Restore native vegetation where it has been disturbed. The Village encourages applications that restore and enhance disturbed sensitive ecosystems to natural conditions.			
9.	Within a restricted development zone:			
	a)	Trees and vegetation must not be cut, pruned, altered, removed, or damaged in any way other than minor damage incidental to the construction of the barrier described in the Guidelines of this section;		
	b)	Plant only native vegetation species compatible with the terrestrial ecosystem area.		
10.	Within a buffer area:			
	a)	The disturbance and removal of native vegetation must be avoided;		
	b)	The alteration of land or the construction of structures approved through a development permit will be limited to those that are compatible with the characteristics of the terrestrial ecosystem area;		
	c)	Upon development approval, driveways and parking areas must be constructed using pervious surfacing materials;		
	d)	Soil deposits must be limited in order to be compatible with the characteristics of the non-disturbance area;		
	e)	Grazing by livestock must be prevented using wildlife friendly fencing;		
	f)	Invasive vegetation and as presented on the Coastal Invasive Plant Committee Priority Listing, must not be planted.		

DP Language			Application content
10.1.6.3	**DPA#1 EP Supplemental Guidelines– Connectivity Areas**		
1.	The following requirements apply to all development permit applications in all **terrestrial ecosystem areas**.		
2.	Settlement, construction, land disturbance, and other development within or directly adjacent to Terrestrial Ecosystem Areas will be discouraged.		
3.	When development is considered in terrestrial ecosystem areas, the Village may use the following methods to prevent or minimize encroachment:		
4.	a)	Bare land strata to allow flexibility in conserving the feature or area;	
	b)	Bonus density transfer, or density averaging, to the developable portion of the site;	
	c)	Variances to conditions other than use or density (such as front and/or rear-yard setbacks, increasing the maximum site coverage of buildings provided that density is not increased, increasing the maximum building height, reducing parking space requirements); and/or	
	d)	Voluntary stewardship such as covenants, contracts, leases, or trusts to protect the feature or area.	
5.	Except where ecosystems are characterized by isolated trees (e.g., terrestrial herbaceous ecosystems), conserve groups of trees along with their associated understories rather than isolating individual specimens. Groups of trees form a larger intact ecosystem and are more likely to maintain the important characteristics of the ecosystem over time than a few scattered trees.		
6.	Development must not either increase or decrease the amount of surface and/or groundwater or affect the quality of water available:		
	a)	Within the restricted development zone; or	
	b)	Within the buffer zone, other than development expressly permitted by the development permit within the buffer zone.	
7.	Conserve snags and standing dead trees where safe to do so. Soft decaying wood is a valuable home and food source for many birds and animals. For some species, it is essential. Standing dead trees are typically topped to within 6.0metres of the ground in an area that is safe, should it eventually fall. Locate buildings, roads, construction, and other development away from existing large, old trees and snags. Artificial snags can be located in safe areas to help improve habitat.		
8.	Prevent disturbance of nesting sites and breeding areas. It is important that animals have the habitat that supports their reproduction and so ensures future generations.		

		DP Language	Application content
10.1.6.3		**DPA#1 EP Supplemental Guidelines– Connectivity Areas**	
9.		Restore native vegetation where it has been disturbed. The Village encourages applications that restore and enhance disturbed sensitive ecosystems to natural conditions	
10.		Within a restricted development zone:	
	a)	Trees and vegetation must not be cut, pruned, altered, removed, or damaged in any way other than minor damage incidental to the construction of the barrier described in the Guidelines of this section;	
	b)	Plant only native vegetation species compatible with the terrestrial ecosystem area.	
11.		Within a buffer area:	
	a)	The disturbance and removal of native vegetation must be avoided;	
	b)	The alteration of land or the construction of structures approved through a development permit will be limited to those that are compatible with the characteristics of the terrestrial ecosystem area;	
	c)	Upon development approval, driveways and parking areas must be constructed using pervious surfacing materials;	
	d)	Soil deposits must be limited in order to be compatible with the characteristics of the non-disturbance area;	
	e)	Grazing by livestock must be prevented using wildlife friendly fencing;	
	f)	Invasive vegetation and as presented on the Coastal Invasive Plant Committee Priority Listing, must not be planted.	
12.		The following requirements apply to all development permit applications in all Connectivity Areas.	
13.		Locate development within the parcel where it will cause the least impact to natural habitat and the movement of native fauna between adjacent areas.	
14.		New road development within Connectivity Areas should be avoided to the maximum extent possible.	
15.		If new road development cannot be avoided, the length and width of road development must be minimized and:	
	a)	Appropriate wildlife crossing infrastructure as determined by the mitigation measures described in the bio-inventory must be designed and installed, using best practices for mitigating the effects of roads on local species;	

DP Language			Application content
10.1.6.3	**DPA#1 EP Supplemental Guidelines– Connectivity Areas**		
	b)	Establish Wildlife Traffic Zones with appropriate traffic warning signage and reduced speeds to mitigate dangers to the public and wildlife mortality threats.	
	c)	The location of recreational trails and pathways shall be in accordance with current Best Management Practices in British Columbia, including but not limited to Develop with Care 2012–Environmental Guidelines for Urban and Rural Land Developments in British Columbia and Environmental Best Management Practices for Urban and Rural land Development (Section 3 Site Development and Management and Fact Sheet #5-Parks).	
	d)	To the maximum extent possible, the distribution and intensity of native vegetation and cover should be maintained throughout the property.	
	e)	Conserve trees in communities (groups of trees along with their associated understory) rather than isolating individual specimens. Groups of trees form a larger intact ecosystem and are more likely to maintain the important characteristics of the ecosystem over time than a few scattered trees. However, some ecosystems are characterized by or may contain some isolated trees and their conservation as well is important.	
	f)	Restore native vegetation where it has been disturbed. The Village encourages applications that restore and enhance disturbed sensitive ecosystems to a natural condition.	