

Terms of Reference: Site Adaptive Design Plan

The City of Colwood may require a Site Adaptive Design Plan for development proposals subject to the Hillside Development Permit Area (DPA) or on greenfield sites (which may also be located within an environmental DPA). The Colwood Official Community Plan (OCP) contains policies supporting Site Adaptive Design in sections 11.2.2.3 and 18.4. This Terms of Reference will assist applicants to meet the intent of the policies. Should the City also require an *Ecological Restoration and Habitat Enhancement Plan*, applicants may blend the two sets of Terms of Reference and produce one report.

Colwood has four environmental DPAs (Riparian, Marine Shoreline, Sensitive Ecosystems, and Hillsides) each with its own set of DPA guidelines. The subject development permit area guidelines should be reviewed to inform the recommendations of the Site Adaptive Design Plan. The report will document how the guidelines of the environmental DPA are being met.

Purpose and Scope of the Report

The purpose of the report is to plan the proposed development with the existing vegetation, contours, drainage patterns, and other natural features of the site. This approach aims to reduce the blasting, filling, clearing, and habitat destruction and fully explore opportunities to incorporate natural assets into the design.

The scale and scope of the report will be different according to the development proposal. Small developments in a disturbed landscape may require less detail than a development with a large footprint in a relatively intact landscape. The consultant is advised to ensure a complete plan but to not venture outside the scope of the study.

Who can prepare the report?

In the Riparian DPA, a Qualified Environmental Professional (as defined in the Glossary of the Official Community Plan) may be required to provide input to the plan. For other environmental DPAs, a professional, or professionals, acting within their area of expertise, and in good standing with a regulatory body may prepare, sign, and seal the report, such as members of the following:

- British Columbia Society of Landscape Architects
- College of Applied Biologists
- British Columbia Institute of Agrologists
- Professional Engineers and Geoscientists British Columbia
- Forest Professionals BC

Other members of the consulting team may include:

- An arborist certified by the International Society of Arborists
- A Certified Wildlife/Danger Tree Assessor
- A member of the Association of British Columbia Land Surveyors

Required Content

1. Results of a site inspection(s) describing (and notated on an aerial photo) natural assets and features on site, including:
 - Native plant associations
 - Pockets of native vegetation
 - Trees and critical root zones
 - Rock outcrops
 - Drainage patterns and depressions
 - Ecological corridors
 - Wildlife trees and other active habitat features
 - Any other natural features of significance
2. An 11 x 17 (maximum) site plan showing the above natural assets and features, plus the following:
 - a. Topography (maximum 2-metre contour interval)
 - b. Boundaries of areas protected by the environmental development permit area, such as:
 - Streamside Protection and Enhancement Area (SPEA) of all streams, watercourses, and waterbodies

- Marine Shoreline DPA
 - Sensitive Ecosystem and 10m 'buffer'
 - Hillside DPA and steep slopes (areas over 30% grade)
 - Species and ecosystems at risk
- c. The development proposal, including:
- Buildings, structures, utilities, driveways, access roads, paved surfaces
 - Trails and fences
 - Areas of cut, fill, retaining walls, soil removal, and soil deposit
 - Areas to be cleared, blasted, or regraded
 - Stormwater management works
3. A detailed description of how the proposal works with the natural assets and features of the property, such as:
- a. Layout, including how the proposal:
- Positions buildings, structures, utilities, driveways, access roads to reduce impacts to natural assets and features
 - Minimizes the alteration of land (e.g., blasting, filling, clearing, etc.)
 - Employs stormwater management techniques to ensure that post-development runoff does not exceed pre-development runoff
 - Retains existing trees
 - Provides a buffer to existing natural assets and features
- b. How the proposal follows the mitigation hierarchy ([Province of BC's Environmental Mitigation Procedures, 2014](#)), with level 1 being the best approach:
- I. **avoid** impacts on environmental values and associated components by considering siting, timing, tools/techniques, or not proceeding to negate an impact
 - II. **minimize** impacts on environmental values and associated components by considering siting, timing, tools/techniques, or not proceeding to partially avoid impacts

- III. **restore** on-site the environmental values and associated components that have been impacted
 - IV. **offset** impacts (on-site) on environmental values and associated component (this may require consideration of variances before the City will entertain this approach)
 - c. How the proposal has been prepared in accordance with the relevant environmental DPA guidelines and the Official Community Plan policies supporting Site Adaptive Design (sections 11.2.2.3 and 18.4).
- 4. An 11 x 17 (maximum) site plan and detailed description of mitigation measures and enhancements that are being proposed, such as:
 - Buffers to individual trees, natural areas, and features
 - Nature-based solutions such as vegetated swales, soft shoreline treatments, and new large canopy trees
 - Invasive species control
 - Habitat enhancements such as use of native plant material, water features, nest boxes, pollinator gardens, etc.
 - Planting of native trees and other native vegetation
 - Browse protection for new plant material
 - Irrigation for new plant material for a minimum of two years
 - Covenants to protect natural areas
 - Connections of ecological corridors
- 5. Assess the need and provide recommendations for further information, reports, or plans, such as:
 - Ecological Restoration and Habitat Enhancement Plan
 - Arborist Report
 - Construction Environmental Mitigation Plan
- 6. The City may require a site-specific Ecological Stewardship Manual (refer to the City Terms of Reference) for the landowner to inform them of the significance of the natural features on their property, the ecological restoration and habitat enhancement that has occurred,

and the role they can play in protecting, maintaining, and further enhancing the natural features. The plan will also identify how the landowner can contribute to biodiversity on the remainder of the property. Include pertinent information in the Site Adaptive Design Plan directed to future landowners that can be incorporated into a Stewardship Manual.

7. Provide a detailed schedule and itemized cost estimate **prepared in accordance with the policies in Section 19.5 of the OCP**, including the resources (costs, time, materials) required to fulfil the mitigation measures and enhancements, including:
 - a. The amount of the security deposit required to complete mitigation measures and enhancements proposed by the applicant such as:
 - Plant material (quantities, sizes, spacing, alternatives in the case of unavailability)
 - Planting medium, mulch, browse guards, and supplies
 - Materials for habitat enhancements
 - Fence material
 - All labour
 - Professional oversight and on-going monitoring
 - Preparation of a completion report
 - b. A schedule for monitoring installation of on-site works and materials
 - c. Quantifiable measure of success, such as
 - a minimum of 90% plant survival for a period of at least one year
 - maximum percentage of invasive species regrowth
 - installation of habitat enhancements
 - functioning of nature-based solutions and buffers
 - d. Parameters for documenting and reporting success

Useful Resources

- *Site Adaptive Planning and Design*, W. M. Marsh (Primer available on the Partnership for Water Sustainability in BC website)
- *Procedures for Mitigating Impacts on Environmental Values* (Environmental Mitigation Procedures) Version 1.0 (Prov of BC, May 27, 2014)
- *Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia*
- *Coastal Zone Stewardship: A Guide for Planners, Builders and Developers* (Stewardship Centre for BC)
- *Protecting Garry Oak Areas During Land Development* (Garry Oak Ecosystem Recovery Team)
- *A Developer's Guide: Watershed-Wise Development* (Capital Regional District)