

Schedule "J"
District of North Cowichan
DEVELOPMENT PERMIT GUIDELINES

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(i) Purpose of Development Permit Areas (Designations & Justifications)

The Official Community Plan (OCP) describes the special conditions or objectives that justify designation of a Development Permit Area (DPA) and specifies guidelines for how the special conditions or objectives should be addressed. Neighbourhood or Local Area Plans as adopted by Council as part of the OCP, refine OCP direction in specific locations within the municipality. Where there is a conflict between OCP or Neighbourhood / Local Area Plan direction and these Development Permit guidelines, the OCP or Neighbourhood/Local Area Plan will prevail.

Section 919.1 (1) of the *Local Government Act* allows a local government to designate Development Permit Areas in an Official Community Plan for one or more of the following purposes:

- (a) Protection of the natural environment, its ecosystems and biological diversity;
- (b) Protection of development from hazardous conditions;
- (c) Protection of farming;
- (d) Revitalization of an area in which a commercial use is permitted;
- (e) Establishment of objectives for the form and character of intensive residential development;
- (f) Establishment of objectives for the form and character of commercial, industrial or multi-family residential development;
- (g) In relation to an area in a resort region, establishment of objectives for the form and character of development in the resort region;
- (h) Establishment of objectives to promote energy conservation;
- (i) Establishment of objectives to promote water conservation;
- (j) Establishment of objectives to promote the reduction of greenhouse gas emissions.

For additional information regarding the Development Permit Area *Designations* and *Objectives* see Chapter 10 of the Official Community Plan Bylaw 3900, Schedule "A".

(ii) North Cowichan's Development Permit Areas

The Municipality of North Cowichan has designated the following DPA's in its OCP:

- (a) DPA 1 – Multi-Unit & Intensive Residential Development
- (b) DPA 2 – Commercial & Industrial Development
- (c) DPA 3 – Natural Environment
- (d) DPA 4 – Hazard Lands
- (e) DPA 5 – Farm Land Protection
- (f) DPA 6 – GHG Reduction, Energy & Water Conservation

Where land is subject to more than one DPA designation, an applicant needs to submit only one application for development. That application, however, must consider the requirements of each of the applicable DPA's and associated guidelines.

(iii) Application of the Guidelines

A Development Permit is required for the following activities unless specifically exempted in this document:

- (a) Alteration of land, disturbance of soils, including grubbing, scraping and removal of top soils;
- (b) Construction or erection of buildings and structures;
- (c) Creation of non-structural impervious or semi-pervious surfaces; and/or,
- (d) Subdivision of land.

Interpretation of specific guidelines is subject to detailed discussion with Municipal Planning staff. These guidelines are applied on a site specific or case-by-case basis. It is unlikely that every development can or will be able to meet the objectives and recommendations of each individual guideline. The significance or importance placed on individual or specific guidelines will be entirely dependent upon the unique characteristics of each site. The overarching objective of these Development Permit Guidelines is to ensure that all new developments make a positive contribution to the communities in which they are located and to meet the overall intent and objectives of the Development Permit Guidelines. It is critically important that these design guidelines also not be considered in isolation; rather they should be considered and integrated into the design process along with all other municipal bylaw requirements (zoning, subdivision, etc.), Local Area and Revitalization Plans, as well as engineering design standards and other municipal policies and practices.

Potential applicants are encouraged to discuss their proposed project with Municipal Planning staff to obtain an interpretation as to whether or not a Development Permit is required, to what extent the Development Permit Guidelines must be considered, or whether other authorization is required, prior to beginning their project. In cases where there is a difference of opinion between Municipal Planning staff and an applicant, the Director of Planning and Development will make a final determination.

Further, this document references numerous documents, guidelines, plans and strategies developed and administered by other government agencies and organizations. While these documents are relevant and useful as of the date of adoption of this document, it is always advisable to confirm with Municipal Planning staff that specific documents and information remains up-to-date and supported by the Municipality.

All assessments, reports and studies required in section (vi) must be completed to the satisfaction of the Municipality. As a condition of the issuance of a Development Permit, the Municipality may require the applicant to comply with any or all conditions recommended in an assessment report prepared by a qualified professional.

(iv) Variances

Under Part 14 of the *Local Government Act*, Council may issue Development Permits that vary the Municipality of North Cowichan's Zoning Bylaw or any other bylaw established under the *Act* (Zoning or Other Development Regulations; Subdivision and Development Requirements). Council will consider issuing Development Permits with variances that:

- (a) Facilitate conformance with the applicable guidelines; and
- (b) Achieve an objective or policy stated in the Municipality's Official Community Plan.

A *Development Variance Permit* is required where the proposed variance does not meet one or more of the above noted criteria. Where a Development Permit with Variances is controversial, Council may consider holding a public meeting prior to making a decision regarding the application or any subsequent extension.

(v) Extensions

Development Permits are issued and remain valid for two (2) years, following approval. Extensions for Development Permits that do not meet current policy or bylaw requirements will generally not be supported.

Development Permit extensions may be granted by the Director of Planning and Building or the Chief Administrative Officer. Development Permits with variances must be approved by Council.

(vi) Development Permit Application Information Requirements

All Development Permit applications require a completed application form accompanied by:

- (a) Required application fee;
- (b) Letter of authorization from owner, if application is being made by an agent; and
- (c) Brief project description, including information about site constraints that influenced site planning and planning rationale based on the Official Community Plan.

Presentation materials for Technical Planning Committee or Council consideration shall be provided by applicants in 8.5" x 11" format at least five calendar days before the meeting. Materials to include: detailed coloured site plan, floor plans, elevation plans, colour landscaping plan, material board of finishes, and perspective drawings or renderings.

Municipal Planning staff shall set requirements for the information to be submitted with Development Permit applications, which may include but is not limited to the following:

- (a) **Legal Information:** Including copies of the current certificate of title, copies of all statutory rights-of-way, covenants, and other charges on title;
- (b) **Site Survey Plan:** Prepared by a BC Land Surveyor, including (in metric): lot boundaries and dimensions, scale, date, and north arrow; legal description and municipal address (if available); rights of ways/easements; abutting streets, including existing sidewalk, curb, and road rights of way; topographic plan with existing contours; 1:50 and 1:200 year ground water elevation and the location of any floodway or flood fringe boundaries within the site; existing buildings/structures (with indication re retention or removal); watercourse and wetland edges, high water mark, and top of bank; all existing woods, vegetation and/or trees over 3 m in height; environmentally sensitive areas, and wildlife corridors (if any). All plans and drawings are to be prepared by a professional architect or designer;
- (c) **Site Development Plan:** Including development data such as site area, site coverage (new and existing, if applicable), floor space, garbage, storage and staging areas and fencing for these, loading and parking requirements (including bicycles), entrances and exits, number of units, gross floor area by permitted use, overall density; proposed building elevations; property line setbacks, front, rear, and side dimensioned from buildings and property lines, building separation distances; show all permitted encroachments, and all requested variances if any; show location of existing and proposed wells, septic tanks, disposal fields, culverts and crossings; show proposed location of lighting, landscaping, and signage.
- (d) **Grading Plan:** Including: North arrow, scale(s), legal description and, if available, municipal address; existing geodetic elevations at all corners of the lot and at approximately 10 m intervals along all lot lines, show site contours at 1 m intervals. Cross-sections to show the existing grade of the site in relation to proposed grades. Show and dimension water bodies, natural boundaries, top of bank, buffer per Zoning Bylaw and/or Provincial requirements, property lines; site topography, existing features, trees including type, identify danger trees, and special conditions (wetlands, shallow bedrock, sensitive ecosystems, etc.); Existing and proposed storm water drainage flows; proposed grades for the site grade of adjacent sites and streets and cross-sectional outline of the proposed buildings on the site and existing buildings on adjacent properties; prevailing winds, solar access.

- (e) **Building Plans:** Including: floor plans; Exterior building elevations, floor to floor geodetic elevations (metric), roof eave line height(s), overall building height, roof slopes. Provide full exterior finishing schedule. Roof plan including roof slopes; building sections.
- (f) **Servicing Information:** Prepared by a Civil Engineer, including existing and proposed water and sanitary services;
- (g) **Landscape Plan:** Prepared by a BC Landscape Architect or recognized Horticulturalist that includes total area of landscaping (existing to remain and proposed), existing and proposed buildings; grading, elevations and contours; parking, service and storage areas; hard landscape details – sidewalks, pathways, patios, decks, fencing, walls, garbage enclosures, furniture, and lighting; planting plan with full plant list including botanical names of plants, sizes and quantities; irrigation system details.
- (h) **Storm / Rain Water Management Plans:** Prepared jointly by a BC Landscape Architect and Civil Engineer that is designed to maximize rainwater retention and infiltration on-site, and minimize the need for hard forms of stormwater drainage;
- (i) **Signage and Lighting Plans**
- (j) **Site Context Information:** Including a vicinity map of properties within 90 m of the site property lines; Existing and proposed utility connections; Adjacent buildings on adjoining sites, indicating building height, yards and the use of the buildings and locations of windows (for residential/residential or residential/commercial or industrial); sketches or photographs of the proposed development in relation to the surrounding neighbourhood.

Additional information may be required to determine the impact of the proposed activity or development:

- (a) Transportation study, including traffic patterns and flows;
- (b) Parking study, if variance requested;
- (c) Infrastructure analysis, including evaluation of local infrastructure capacity;
- (d) Public facilities evaluation, including inventory of facilities such as schools and parks, and future demand estimates;
- (e) Riparian area assessment or other environmental assessment report, including inventories of native vegetation, wildlife and habitat, and evaluation of potential impacts;
- (f) Archaeological assessment or impact study;
- (g) Acoustic impact assessment; and
- (h) Geotechnical stability assessment, if steeply sloping terrain, i.e. 20%+, exists on the site.

Environmental Development Permit Guidelines “B” Assessment Requirements:

For development proposed within the DPA-3 Natural Environment area, to which Environmental DP Guidelines “B” apply, a comprehensive assessment, prepared by a registered professional biologist or professional with similar qualifications acting in their area of expertise, that inventories the development site’s natural features, ecological processes and unique ecosystems may be required. The assessment may include:

- (a) A fish and wildlife habitat inventory;
- (b) A description of the:
 - (i) vegetation, trees, snags and root systems;
 - (ii) soil and soil conditions (moisture, nutrients and permeability);
 - (iii) bird and other wildlife and their habitats, such as nesting and breeding areas;
 - (iv) rare or endangered plant and animal species; and
 - (v) relative orientation of features on neighbouring properties.
- (c) A geotechnical stability assessment and recommendations if sloping terrain exists on the site;
- (d) An explanation of how linkages with adjacent sensitive ecosystems will be maintained to minimize fragmentation;
- (e) An environmental impact assessment of the proposed development, with appropriate recommendations for the construction, mitigation and protection of habitat to minimize the impact of development and preserve or restore the natural ecosystem components and processes that are critical to ecosystem function and health;
- (f) A hydrological assessment of drainage patterns and proposed stormwater management facilities;
- (g) Confirmation of a sufficient leave strip or buffer area to accommodate the dynamic nature of the hydrologic system, maintain water quality, base flows and natural drainage patterns.
- (h) Delineation of an environmentally sensitive Protection Area sufficiently sized to protect and maintain ecosystem function and health; and
- (i) An environmental impact statement regarding: possible impacts on any Protection Area by the proposed development; proposed mitigation, restoration and enhancement measures; and a vegetation management plan.

(vii) Development Permit Exemptions

Some development located within a designated Development Permit Area may be exempted from Development Permit Guideline requirements per Table 1 on the following page. Additional or specific detailed exemption criteria may also be listed in each set of Development Permit Guidelines.

Table 1: Development Permit Guidelines Exemption Criteria	Guidelines "A.1": General	Guidelines "A.2": Marine	Guidelines "B": Environment	Guidelines "C": Hazard Lands	Guidelines "D": Farm Land
1. Additions to or construction of a single-family or two-family dwelling or a related accessory building on a single lot.	Y	Y	See Environment DP Guidelines "B" for specific / additional Exemptions	See Hazardous Conditions DP Guidelines "C" for specific / additional Exemptions	See Farm Land DP Guidelines "D" for specific / additional Exemptions
2. Minor alterations not in contravention to the guidelines to an approved Development Permit upon written approval of the Director of Planning and Development.	Y	Y			
3. Construction within a building that does not require exterior alterations, or any additional parking, unless the development falls within a commercial core or upon written approval of the Director of Planning and Development	Y	Y			
4. Landscape maintenance that does not change the approved landscaping or existing natural landscaping.	Y	Y			
5. Replacement of exterior finishes that meet the guidelines of the applicable DPA.	Y	Y			
6. Building additions less than 50 m ² (538.2 sq. ft.) that do not vary any bylaw regulations and do not require additional parking. This exemption can only be used once for the same building or structure.	Y	Y			
7. Replacement of sign faces with no change in location, size, or type of signage, provided the sign meets the requirements of the guidelines and sign bylaw.	Y	Y			
8. Development or construction that does not require, land alteration, or a building permit or sign permit.	Y	Y			
9. To replace boat shelters or float homes with new structures that do not exceed the existing structures footprint or height and that are consistent with the DPA-4 guidelines.	-	Y			
10. Subdivision of land (Exemption relates only to section 1.6 under Guidelines "A": General, sections 1.11.3, 1.11.6, 1.11.7, 1.11.8, 1.11.9)	Y	Y			
11. Demolition of buildings (demolition permit required in all cases)	Y	Y			Y
12. Public works and services (such as construction, repair and maintenance) performed by the Municipality or its authorized agents and contractors, as long as these works and services meet or exceed the applicable guidelines	Y	Y	Y	Y	-
13. Removal of hazardous trees that present an immediate danger to the safety of persons or will potentially damage public or private property, as determined by an arborist or similar professional.	Y	Y	Y	Y	Y
14. Development activity that involves fence building, growing, rearing, producing, or harvesting of agricultural products or vegetation removal for agricultural purposes in accordance with recognized standards of the <i>Farm Practices Protection (Right to Farm) Act</i> or forest management activities on lands subject to the <i>Forest Act</i> or <i>Private Managed Forest Land Act</i> .	Y	Y	Y	Y	Y

1.0 Form, Character & Performance Development Permit Guidelines “A.1”: General

1.1 Development Permit Guidelines “A.1”: General - Objectives & Application

The objectives of this Development Permit Area are based the following 5 fundamental elements:

- (a) **Site Choice & Efficient Land Use:** The first objective is to appropriately plan and manage how land is developed. Appropriate site choices are those that ensure environmentally and archaeologically sensitive and hazard lands, as well as scenic and community character are protected. As per OCP policy, development preference is given to lands within the Growth Centres. Physically designing North Cowichan’s public and private spaces – first from the overall regional scale and down to the site-specific scale – must occur through a coordinated approach to ensure that every form of land use and development approved is located in the appropriate place, and that appropriate buffering (fencing and vegetation), noise, dust and light controls between different and incompatible uses are provided. Using land efficiently helps achieve a number of goals, including improving the life-cycle cost of municipal services and infrastructure; controlling greenhouse gas emissions, energy and water consumption; and supporting the retention of North Cowichan’s rural and scenic resources.
- (b) **Mobility:** Mobility is crucial in achieving interconnectivity across the municipality and within neighbourhoods, and in supporting and promoting successful site planning and integrated development. The aim is to ensure that residents, employees and visitors have comprehensive access to a multi-modal transportation system that provides them with a variety of options to get around comfortably and safely.
- (c) **Site Design & Landscaping:** North Cowichan has an outstanding scenic character and is located in the Coastal Douglas-fir ecosystem. Supporting and respecting North Cowichan’s existing landforms, biodiversity and vegetation in the development review, during the construction process and through landscaping will help retain the characteristics that define and enhance residential quality of life and the visitor experience.
- (d) **Infrastructure & Servicing Impacts:** Good design, construction and management practices can help ensure that community goals are achieved with respect to managing energy and water use, controlling greenhouse gas (GHG) emissions, improving the life-cycle of municipal infrastructure and reducing the production of solid waste.
- (e) **Building Form & Character:** New developments shall contribute to North Cowichan’s evolving design aesthetic by respecting its past and considering its natural landforms and visual characteristics in design, and ensure that best management practices are incorporated in ongoing site and building maintenance. The four previous objectives inform this one for building form and character.

The guidelines contained within Form, Character & Performance DP Guidelines “A” will be applied as specified in the OCP, which includes multi-family (3 units or greater), certain subdivision proposals, commercial and industrial developments, including non-agricultural uses within the Rural Market Zone (A6), within the Municipality of North Cowichan. The Development Permit Guidelines “A.1” and “A.2” are both associated with DPA-1 (Multi-Unit and Intensive Residential Development) and DPA-2 (Commercial and Industrial Development). Development Permits will only be issued in Development Permit Areas 1 & 2 subject to consideration of the following specific design practices. These guidelines should be carefully considered from conceptual design through to detailed design and refinement of a development proposal. [BL3846]

1.2 Development Permit Guidelines "A.1": General - Exemptions

See Table 1: Development Permit Guidelines Exemption Criteria (Page 150)

1.3 Development Permit Guidelines "A.1": General - Site Choice & Efficient Land Use

1.3.1 Creating Complete Communities

Proposed development should integrate with the various needs of the community. This can mean providing a range of uses and densities; providing ready access to recreation, public facilities, institutions and employment; and contributing to the establishment of a sustainable economy.

1.3.1.1 Safety and Accessibility Standards:

- (a) New developments should incorporate principles related to "*Crime Prevention Through Environmental Design*" (CPTED) and the "safety lens."
- (b) Well-defined public and private spaces, adequately lit exterior spaces and clear sightlines should be considered to create healthy, safe environments.
 - (i) Parking lots should be designed so that pedestrian access is clearly separated from driveways and parked vehicles. At the main entrance, the public street and parking areas should be linked by a walkway.
- (c) Building designs should enhance public safety and comfort by providing protection from the elements through the use of awnings, canopies and overhangs.
- (d) Building entrances should be well defined through architectural means such as overhangs, porticos and awnings. Primary entrances should be clearly expressed and easily accessed from the public street and/or water edge. Secondary accesses may be from pedestrian paths, interior courtyards or decks.
- (e) Maximizing physical accessibility for all members of the community should be incorporated in the planning and design process.
- (f) Accessibility standards should be met for accesses, public circulation areas, corridors, doors, flooring, windowsills, outlets and switches, and plumbing in common rooms.
- (g) Ensure that all signage, exit doors, baseboards and door trims, handles and edge strips in all common rooms are colour-contrasting for those who are visually impaired.
- (h) Provide an appropriate number of dwelling units designed to be internally fully accessible.
- (i) Glare and light spill onto surrounding properties is not supported; address through site and building design to control all visible lighting. Benefits include reduced energy use, lighting product or areas without glare ensure better visibility of the product on display or the general area being lighted for safety purposes. Focus lighting straight down, control lighting power density, and do not permit light to trespass. Light sources should ensure appropriate colour rendering of the product or area being lighted.

1.3.1.2 Amenity Space:

- (j) Maximize the amount of shared multi-purpose amenity space that includes covered outdoor multi-purpose areas for recreation, the hanging of laundry, storage for bicycles and garden equipment, and scooter and stroller parking.
- (k) Provide open space for residential and mixed-use commercial buildings at grade that allows for active play areas, community gardens and/or passive activities such as enjoying sunlight, views and landscaping.
- (l) Ensure that site orientation (e.g. for access to sunlight) and the provision and location of play and recreation areas reflect the needs of the anticipated residential population, and optimize residential orientation to ensure dwelling units have access to sunlight.
- (m) For amenity space, consider the addition of supports such as storage and ready access to water (non-potable for landscaping), seating, shade and sunlight.
- (n) Include adequate safe places for outdoor play, visible from dwelling units and away from vehicle areas.
- (o) Consider landscaped roof top gathering places in addition to at grade amenity space.
- (p) Design internal fencing and vegetation to distinguish between private and semi-private spaces but not at the expense of obscuring view lines from dwelling units or commercial spaces. Fencing is not supported along the public corridors.

1.3.1.3 Private Amenity Space:

- (q) Provide individual private outdoor amenity space for each dwelling unit in multi-family residential and mixed-use commercial sites: at grade for townhouse units and ground-level apartment units; and as balconies for second-storey and higher dwelling units.
- (r) Provide privacy landscape screening along property lines abutting neighbouring properties using a mix of decorative fencing and natural vegetation.
- (s) Give preference to local wood and stone when choosing fencing material. Chain link fencing and solid fencing and retaining walls along public roads over 1.2 m high are not supported. Chain link fencing abutting private properties should also be well landscaped.
- (t) Prevent headlight disturbances to neighbouring residence and businesses by using a combination of hard and soft landscaping materials to screen drive aisles and parking stalls.

1.3.2 Improve the Public Realm

Developing land in ways that respect and enhance the public realm encourages community interaction, which in turn creates lively “people places” that attract residents and visitors and supports local commerce.

- (a) Protect public views of ridges, sky lines, and water views and to reduce the massing along the street creating a pedestrian scale by considering appropriate horizontal and vertical articulation;

- (b) Develop terraced buildings to respect natural contours (also see Objective 3 Site Design and Landscaping); and in commercial cores create interest by incorporating horizontal building articulation at ground level to establish view protection as well as pedestrian scale
- (c) Enhance community uniqueness by ensuring design that reflects native landscape and local heritage values.
 - (i) Integrate landscape features and elements with the adjacent streetscape, use established vegetation where feasible, and ensure a mature and varied appearance after project completion.
 - (ii) Along highway, highway service and arterial roads outside the Urban Containment Boundary, extend landscaping from the property line that abuts such roads to a depth of at least 8 m where possible.
 - (iii) While recognizing the need for commercial and industrial visibility along highway, highway service and arterial roads outside the Urban Containment Boundary, use significant quantities of native trees and shrubs in landscaping along public rights of ways.
- (d) Treat as frontages all façades of multi-family, commercial and industrial buildings that front onto transportation corridors or can be publicly viewed from the ocean. Do this with entrances, significant glazing and windows to create active connection to the public realm. In the case of industrial buildings ensure design elements are interesting forms and articulation that fits the local environment. Orient buildings to ensure that the building frontage and pedestrian access face the public street.
 - (i) Vary a building's horizontal articulation at the pedestrian level. Avoid creating blank or undifferentiated façades at the ground level.
 - (ii) Vary a building's vertical articulation along public streetscapes to provide light to public streets and to diminish wind tunnel effects. For example, buildings could be stepped back above the second storey and provide areas of protection along the street.
- (e) When the project is adjacent to public open space and recreation areas, consider design elements that will enhance public use.
 - (i) Link ground-level open spaces to adjacent streets, sidewalks and pathways, and create linkages to off-site open space, parks and trails, and other residential and commercial land uses in the local community.
 - (ii) Avoid landscaping elements that inhibit pedestrian or barrier-free access along sidewalks or approaching buildings, and ensure that landscaping is designed to maintain sight lines for personal safety.
 - (iii) To enhance the pedestrian experience, integrate public art and unique design features (including appropriate paving patterns) into public spaces, compatible with adjacent development and street patterns. Ensure access to sun and provide protection from inclement weather.
 - (iv) Include public pedestrian amenities, such as courtyards and seating areas, within and adjacent to Multi-Family developments and commercial buildings.

- (f) Consider how topography creates unique wind conditions, and locate buildings and vegetation appropriately in response.
- (g) In pedestrian-scale streetscapes provide sufficient space for pedestrian activity; and avoid allowing garages, cars, and storage and service areas to dominate.
 - (i) Use basements to create underground parking and, where that is not possible, locate parking away from public areas and streetscapes.
 - (ii) Incorporate seating areas and shelters (from wind, sunlight, shade, noise) into landscape and building features.
 - (iii) Use benches, planters, garbage bins, bicycle racks and bicycle shelters that are compatible with the community and neighbourhood character.
 - (iv) To enhance street vitality, consider human proximity to active areas, views and visibility with the aim of enabling people in buildings to maintain interaction with the public street.
 - (v) Maintain adequate setbacks in public areas to accommodate pedestrians, street activities and street furniture, services and utilities.
 - (vi) Avoid building retaining walls. Where necessary to have terraces, ensure that they do not exceed a maximum overall height of 1.2 m and that landscaping and seating are provided.
- (h) Do not place building mechanical systems where they can be viewed from public places or streets. Instead, locate mechanical systems on the roof or at the rear of buildings and screen them from view from adjacent properties or public spaces using vegetation and fencing.
- (i) Service doors (e.g. an overhead door to a loading dock) should not be located on a building façade that faces a street. Service doors should be designed to fit in with the overall design of the building.
- (j) To minimize visual and noise impacts on adjacent properties and the public streetscape, site garage entrances and garbage containers (including those for general refuse, recycling, organics and grease) should be located away from building fronts or any side visible from the public street, and should be fully screened using vegetation and fencing. Consider allowing the use of berms on industrial sites for this purpose.
- (k) Review proposed uses with respect to potential negative impacts on each other and those of adjacent properties and provide detail as to how they will be mitigated
- (l) Utility wires in new developments must be located underground.
- (m) Utility wires in site specific redevelopment projects are strongly encouraged to be located underground.
- (n) Utility wires in large-scale redevelopment areas or sites are strongly encouraged and may be required to be located underground.

1.4 Development Permit Guidelines “A.1”: General - Mobility

1.4.1 Active Transportation

Non-motorized mobility options should be given primary attention to reduce greenhouse gas emissions, as well as to promote safe and healthy communities. Development should increase the opportunities for residents and visitors to use non-vehicular modes of transportation. Generally this means putting emphasis on pedestrian and cyclist safety and comfort so that the experience of using active transportation options is safe and enjoyable and therefore used frequently.

- (a) Enhance connections to a defined and continuous system of pathways, trails and sidewalks with clear sightlines. Support easy barrier-free walking and cycling access.
 - (i) Ensure that pedestrian routes are visible from the dwelling units and commercial spaces.
 - (ii) Consider provision of the installation of maps, landmarks, and appropriate pedestrian-scale lighting.
 - (iii) Incorporate the following along the public street: courtyards, sitting areas, eating areas, view outlooks, public art and local points of interest on the property or on the adjacent public street.
 - (iv) Provide facilities for pedestrian, commuter, recreational and child cyclists, and scooter user on site.
 - (v) Design of signage, buildings and other elements on and adjacent to travel corridors will be reviewed on the basis of the primary purpose of the street (e.g. pedestrian areas should have human scale components).
 - (vi) Provide appropriate gradients on all active transportation routes, meaning 2–5%, which is the most comfortable for walking, cycling, wheelchair and scooter uses.
- (b) Ensure that site circulation and grade changes facilitate movement by people with disabilities, and that colour contrast in materials in outdoor areas adequately marks transitions (e.g. to stairs between two levels) for those who are visually impaired.
- (c) Connect on-site and off-site pedestrian areas, adding links if they are missing.
 - (i) Minimize the width of curb cuts and ensure that sidewalks at curb cuts have a cross-slope no greater than 2%.
- (d) Incorporate sufficient drainage, boulevards, medians, street trees and similar street-side amenities into pedestrian and cyclist right-of-ways.
 - (i) Provide street-side amenities such as weather-protected bicycle racks and seating areas with wind, sun and rain protection, and position them in highly visible and accessible locations.
 - (ii) Provide employee and resident support facilities for cyclists and pedestrians, such as showers, changing facilities and safe, conveniently accessible weather-protected storage

areas.

- (e) Ensure easy access to secure bicycle parking locations (Class I and II bicycle parking).
- (f) Provide Class I and II bicycle parking.

1.4.2 Alternative Travel Options

Alternatives to private automobiles should be incorporated into development and redevelopment plans. Ensuring ready access to transit or rail facilities and ensuring connectivity to destinations help reduce greenhouse gas (GHG) emissions and the life-cycle cost of developing and maintaining roads, as does introducing supports for carpooling and car share programs and facilities.

- (a) Include alternative transportation and public transit options in the site design.
- (b) Ensure that transit stops, when provided, are convenient, comfortable and sheltered, and that access to and from transit stops is along safe, attractive and convenient sidewalks, paths or walkways.
- (c) Ensure that access to and from train stations is along safe, attractive, and convenient, sidewalks, paths or walkways.
- (d) Include preferential parking for high occupancy vehicles (HOV; vans, carpooling, car share).
- (e) Include on-site charging stations for electrical cars.
- (f) Include short and long-term bicycle parking and related facilities in commercial, industrial and multi-unit residential developments.

1.4.3 Managing Vehicular Impacts

The Municipality recognizes that vehicle transportation is critical for carrying goods and services to and from North Cowichan. It also recognizes that development and redevelopment plans must incorporate measures to protect the environment from vehicular transportation impacts such as: increased impermeability and water run-off contaminated with pollution particulates; greater carbon emissions; and greater noise and visual impacts to pedestrian and neighbourhood experiences.

- (a) Reduce negative visual and land use impacts of parking and parking garages by locating them underground or at the rear of a site. Reduce the amount and size of at-grade parking areas and locate them away from public areas, views and streetscapes by giving preference to locating parking underground where feasible and at the rear of the property where underground parking is not feasible.
 - (i) Design garage door entrances to be away from the public street and underground. The visibility of garage door entrances from the public street is discouraged, and should be designed to not negatively impact abutting properties.
 - (ii) Provide trees, shrubs and vegetated swales and/or rain gardens within the site's parking areas and along abutting public streets and places. Cluster parking in groups of eight and intersperse significant (i.e. the inclusion of trees and shrubs) landscaping between clusters.

- (iii) Provide pollutant, hydrocarbon filtration and separation in parking areas.
 - (iv) Provide methods for infiltration of rainwater in driveways, parking lots and roads (e.g. using infiltration trenches, interlocking pavers, rain gardens) and, when possible, limit paving to tracks or well-travelled areas.
 - (v) Minimize the use of impervious paving and dark-coloured absorptive materials for sidewalks, driveways, roads and parking lots.
 - (vi) Maximize the use of concrete unit pavers or other permeable surfaces for parking lots, walkways and driveways.
- (b) Improve standards for the delivery and pick-up of goods and services in new developments (e.g. loading, access maneuvers, garbage/recycling/organics pick-up and storage). Provide appropriate locations for loading bays and service areas, consider safe pedestrian access, and avoid negative visual impacts to public and private places, streets and views.
 - (c) Provide noise buffers between major transportation corridors and residential and mixed uses.
 - (i) Provide a minimum buffer of 15 m between the structure and the property line along a major corridor (for example, TCH, Highway 18, Rail Right of Way) for residential development, and provide noise controls for each dwelling unit.
 - (ii) Treat all building façades that face a public street or major transportation corridor as frontage in the design.
 - (iii) Consider inclusion of strategies on site that reduce the negative impact of traffic noise (e.g. introduce white noise through water fountains, buffers).
 - (d) Ensure that colour contrast in materials in outdoor parking and pedestrian areas adequately marks transitions for those who are visually impaired

1.5 Development Permit Guidelines “A.1”: General - Site Design & Landscaping

1.5.1 Biodiversity

A major threat to biodiversity is environmental destruction through inappropriate development or development at the wrong time of year (e.g. during bird nesting). Mature tree retention can add to property values, support drainage systems, and clean the air. Site disturbances should be minimized. Additional DP guidelines may be applicable. The following design practices should be carefully considered from conceptual design through to detailed design and refinement of a development proposal:

- (a) Identify, retain, enhance and preserve biodiversity corridors. Reduce development impacts on wildlife corridors (e.g. through the strategic control of roads, use of fences and installation of other built disruptions).
- (b) Use sensitive site-clearing techniques to preserve existing landscape values, maintain natural grades and reduce cut and fill. Use chipping or removal to clear vegetation. See Fire Protection Bylaw.
- (c) Maintain topsoil on site for reuse to retain ecological functioning.
- (d) Protect mature trees (unless otherwise identified as a hazard by a qualified arborist) and other

vegetation, and retain original vegetation as much as possible, particularly where larger blocks or groves of trees and vegetation can be maintained, rather than long narrow strips that may be prone to wind-throw and root damage as a result of new exposure. Where this is not possible, natural vegetation and drainage restoration efforts should be undertaken.

- (e) Prevent soil and water contamination. Incorporate erosion control measures and silt protection of water bodies including storm water systems.
- (f) Address site access sensitively. Used paved areas for unloading and stacking construction material and for staging, and minimize the number of staging areas used.
- (g) Provide, protect and manage useable green space as parks, biodiversity corridors or water areas.

1.5.2 On-site Landscaping

Using appropriate native or other landscaping that considers the site context offers benefits such as reduced need for pesticides and water, and promotes rainwater infiltration.

- (a) Fully landscape all areas not covered by buildings, structures, driveways and parking.
- (b) Provide appropriate buffering between all residential, commercial, industrial uses and agricultural lands.
- (c) Consider the incorporation of roof gardens and rooftop common areas for mixed-use, industrial and apartment buildings, while protecting the privacy of adjacent neighbours.
- (d) Use landscaping to soften service and storage areas and to improve pedestrian comfort (wind protection, balance with pedestrian safety and visibility).
- (e) Retain existing native mature trees and shrubs in setback areas where feasible. Protect or provide large native tree species along major transportation corridors for Multi-Family, commercial and industrial uses.
- (f) Incorporate vegetated buffer areas throughout and around paved areas to filter rainwater, moderate urban heat island effects and air emissions. Use plant materials that reduce run-off, filter run-off and support rainwater infiltration.
- (g) Plant deciduous trees on the south and west sides of a building to increase summer shading and plant coniferous trees on the north sides of a building to block winter wind.
- (h) Use local indigenous, hardy plant species in landscaping and remove invasive plants.
- (i) Retain or bring in a healthy, absorbent layer of topsoil deep enough to allow for well-rooted planting and reduce irrigation requirements.
- (j) Consider the installation of free-standing green (living) wall systems as an alternative to concrete fencing systems and retaining walls.
- (k) Use native or naturalized species of trees, shrubs and ground cover wherever possible, including those that are naturally disease and pest resistant.
- (l) Group plantings according to water and sun requirements and the site location and provide

groupings of shade trees and shrubs on large expanses of lawn and other major open spaces.

- (m) Strongly encourage natural alternatives to pesticide and herbicide uses.
- (n) Consider alternative designs for golf courses and use of alternative natural/native species or treatments for other large expansive "lawn" areas.
- (o) Minimize the use of water-intensive lawn types and/or use lawn alternatives such as natural ground covers and native grasses.

1.5.3 Landscaping in the Public Realm

Enhancing the quality of streetscapes and therefore of neighbourhoods can be done through the overall design of the development.

- (a) Link ground-level open spaces through landscaping to adjacent streets, sidewalks and pathways;
 - (i) Outdoor gathering spaces, places between buildings, and pedestrian connections should all be designed in conjunction with the building plans to maximize usability and community aesthetics.
 - (ii) Patios, decks and other outdoor spaces should be well connected physically and visually with other waterfront activities and oriented to maximize view opportunities.
 - (iii) Open space should be considered within building envelopes or as terraces or rooftop patios.
 - (iv) Physical comfort should be considered at the detailed design stages through site planning, use of windscreens and arbours, or planting for sun protection.
 - (v) Landscaping should define edges of development areas while providing continuity between buildings within a development area.
 - (vi) Planting areas should have adequate space to ensure viability.
 - (vii) Trees should be used in development plans at the street edge and in any pedestrian circulation or gathering spaces.
- (b) Shared driveways are encouraged for adjoining developments to minimize pavement and street intersections.
- (c) Maximize the use of permeable pavers for private residential streets (strata roads), plazas/squares, courtyards, school yards, parking lots, driveways, walking and bicycle paths, and also on public roads where appropriate.
- (d) Use gravel, bark mulch and wood chips for occasionally used walking paths.
- (e) Work with natural grades wherever possible and do not negatively impact the grades or drainage of adjacent lands. Avoid the use of retaining walls adjacent to public spaces, streets and areas.
- (f) Situate buildings to maximize public views and view corridors.

- (g) Minimize obstruction of views from public pedestrian areas, public water areas, common living areas of other developments, and existing residential units by working with natural grades and architectural massing, including building terracing.
- (h) Add to the urban forest (treed ecosystems within urban areas) through creation or expansion of existing forested and wooded areas, parks and street trees.
- (i) Enhance the natural green network by increasing the quantity, density and diversity of trees.
- (j) Encourage street trees, using staggered double rows where possible.
- (k) Plant trees and other vegetation along streets, in parking areas and in other paved open spaces, particularly large parking lots, roads, sidewalks and driveways.
- (l) Encourage installation of community garden infrastructure (e.g. planting beds, water, seating areas) in Multi-Family residential developments.

1.5.4 Natural Landforms and Views

Natural landforms, views and waterscapes contribute to defining North Cowichan's character. New developments should, where possible, respect and attempt to work within existing contours and natural grades.

- (a) Terrace slopes to avoid erosion and slope failures on steep or disturbed lands.
- (b) Developments on steeply sloping sites should be terraced to "sit lightly on the land," minimizing environmental impact. Building forms that step up and away from the water's edge are preferred to reduce the impact and add interest. Perched structures with exposed supports and foundations are discouraged.
- (c) Minimize the use of cut and fill. Respect the grades of adjacent properties and do not negatively impact them.
- (d) Retaining walls higher than 1.2 meter along a public right of way are strongly discouraged.

1.5.5 Site-appropriate Signage

Signage that has a positive influence on public space while respecting the needs of business to identify their presence is desired. Overused, cluttered, glaring, and oversized signage is discouraged. Signage should not be visible from residentially zoned properties.

- (a) Use unique, scale-appropriate signage and street furniture (e.g. benches, bollards, lighting, information kiosks, way finding aids, on-site mapping).
 - (i) To ensure it is coherent and respectful of abutting properties and economic goals, coordinate site signage through a signage management plan that addresses the quantity, location and size of signs on lots.
 - (ii) Locate signage only at main entrances of a business or Multi-Family building. One free-standing sign is permitted on a lot. Off-site third-party signage is not permitted. Low wayfinding signage, less than 1.0 meter above grade, may be supported internally on complex sites as navigational aids.

- (iii) Ensure that sign display meets basic needs without creating clutter and negative visual impacts. Building forms or architectural design that produce a billboard signage effect are not supported.
 - (iv) Integrate signage into landscaping or with building design in a coherent manner. (See also Sign Bylaw.)
- (b) Internally illuminated box glow signs are not supported; box signs where the letters only are internally lit (i.e. white letters dark background) are acceptable;
- (c) Large neon signs and/or flashing signs, (greater than 1 m²) are not supported.
- (d) In the commercial core areas specifically, signage should be pedestrian-oriented in scale, not driver-oriented. Low (less than 1.5 m) free standing signs that identify a building (not individual businesses) are encouraged; the free standing sign should be designed to be linked to the architecture and incorporated into the landscaping of the building.
 - (i) Signs mounted flush with building façades on the first storey should be located close to or just above the business entrance;
 - (ii) Hanging signs to a maximum size of 0.5 m², that do not extend above the first storey or roof parapet or eave line of a one storey building, that are at right angle to the building façade and are to be hung no lower than 2.4 m (7.87') above the sidewalk are encouraged;
 - (iii) Window signs, especially retail display windows and upper floor office windows (neon, paint, wood or metal signs permitted) up to a maximum of 1.0 m² and located towards the bottom or top of the window (to ensure visibility into and out of the business space) are permitted;
 - (iv) Non-illuminated or powered sandwich-board signs to a maximum size of 0.5 m² in retail areas on private property where they do not pose an obstacle to pedestrians; sandwich-board signs are not permitted on public rights of way; and the signs must be designed specifically for the business using them.
 - (v) In Crofton, signs are expected to use lettering and motifs that capture Crofton's village-by-the-sea character with preference given to professionally wood-carved and/or hand-painted hanging signs.
 - (vi) In Chemainus, signs are expected to use lettering and motifs that capture Chemainus' artistic character with preference given to professionally wood-carved and/or hand-painted hanging signs.
 - (vii) Colours are expected to be dark with letters and logos provided using other contrasting colours.
 - (viii) Lighting is expected to be spot, non-glare that highlights the sign from above.
 - (ix) Corporate logos must fit within the permitted sign face area.

1.6 Development Permit Guidelines “A.1”: General - Building Form & Character

1.6.1 Culture, Context and Heritage

In design, it is important to respect North Cowichan’s past and present while working for a sustainable future. Representing the municipality’s history in new developments helps to retain the community’s uniqueness and sense of place.

- (a) Protect, restore and rehabilitate historic buildings and other site components to deepen residents’ connection to their community.
 - (i) Maintain or preserve existing uses and buildings as much as possible (enough to preserve a memory of previous uses and forms on site).
 - (ii) Retain heritage trees and vegetation and recognize them as a central feature or landmark of a community’s history.
 - (iii) Consider use of local craft traditions in building and landscape design.
 - (iv) Indigenous or authentic east coast of Vancouver Island materials such as wood, stone or metal should be used appropriately.
 - (v) Cues should be taken from effective local industrial, commercial and residential structures along the existing waterfronts. Local craftspeople or products should be considered in the design process, if appropriate.
 - (vi) Where possible, reuse existing infrastructure (e.g. roads, bridges, streetlights).
 - (vii) Consider adaptive reuse of historic buildings and landmarks that play a significant role in a neighbourhood’s history.
 - (viii) Restore or “daylight” streams to recreate original landscapes.
- (b) Build awareness of, and appreciation among residents and visitors for the Municipality of North Cowichan’s unique heritage.
 - (i) Use historic design elements in new buildings (but avoid repetition) that support continuity of local history but also serve current and future needs.
 - (ii) Use history and designated heritage to inform new architecture design.
 - (iii) Incorporate local historic names into buildings and places, increasing memory and connection to past events and people.
 - (iv) Incorporate art early in the design process to allow it to take on a more meaningful and functional role in the design.
 - (v) Use local labour and local training programs that reflect local traditions.
- (c) Ensure that architecture style takes its cue from positive and high quality examples of local

neighbourhood, community, landforms or working rural or historical character. Encourage recognition of local, identifiable neighbourhood character by supporting appropriate building scale and massing, landscaping, public art and architecture.

- (i) Infill buildings should be sensitively integrated with the existing neighbourhood. Scale and mass should be consistent with either the existing area, or in keeping with the broader long-term intent of any Local Area or Revitalization plans.

1.6.2 Building Design Considerations

- (a) To promote active uses at the public street level locate residential entrances, porches, windows, habitable space along public street; locate utility equipment and building mechanical equipment in inactive service areas away from public realm.
- (b) Consider impact of buildings on surrounding spaces, abutting properties, public spaces, access and protection from sunlight, wind, rain and snow.
- (c) Building design should, as a first priority, respond to site context, neighbourhood scale, community integration, and urban design improvements and landforms. (See objective 1 for public realm design practices.)
 - (i) On flat sites, a series of smaller, clustered structures is preferred to monolithic solutions. Sites that permit higher densities than adjacent properties should focus their density away from the lower density neighbour.
 - (ii) On sloped sites terrace buildings to suit the land form rather than altering the land. The buildings should step up or down a slope or water's edge. Reduce massing by terracing. Perched structures with exposed supports and foundations are not supported.
 - (iii) Buildings should be situated and oriented to maximize public views beyond and between buildings, especially to give views out to the water.
 - (iv) Provide a base, middle and top to the building by grounding the base to earth-type materials such as stone. Keep exposed concrete to a minimum. The middle should be finished with materials such as wood and detailed coherently with windows and textures for interest. The top of the building should consist of roof massing and forms that reflect the local environment.
 - (v) Vary building mass to minimize its scale. Avoid box-like design and monolithic forms.
 - (vi) Ensure that there are at least two storeys of habitable (usable) space for Multi-Family, commercial and industrial building uses.
 - (vii) Address the compatibility of scale between new buildings and existing adjacent buildings, especially in infill situations. For example, terrace building massing down to avoid significant height changes, and incorporate similar floor elevations with existing buildings or create the illusion of having done so.
 - (viii) Orient buildings so that blank walls are not visible from the street and do not negatively impact adjacent properties. Commercial building façades that face vacant or underused properties should have interesting texture, materials, colour and/or form.

- (ix) Design buildings and landscape elements to minimize shading and intrusion on privacy of adjacent buildings.
 - (x) Design detailing to be in keeping with the character of the building and landscape. Provide significant detailing and articulation, especially at eye level, with cladding material, architectural features and structures, frequent windows and doors, landscaping, seating areas and patios, or public space features.
 - (xi) Encourage the use of high quality finishing materials and details to achieve a harmonious integration with the neighbourhood. Avoid use of exposed concrete; carry finishes around façades along public streets and public spaces.
 - (xii) Use muted natural colour finishes, including on trims and mullions.
- (d) Use building mass and detailing to emphasize the entrance to buildings.
- (i) Ensure that pedestrian building entries are fully visible from the public streetscape, clearly articulated and accessible.
 - (ii) Incorporate weather protection at key locations on the site (entries, seating areas) using canopies, structural awnings, stand-alone shelters with benches.
 - (iii) Ensure that residential, street-side townhouse dwelling units provide individual building front entrances and doors facing the public streetscape.
 - (iv) Ensure that apartment buildings have at least one common building entrance or foyer facing the street, at street level (but not a vehicle or garage door); and that street-side apartment units provide individual amenity space facing public streetscapes (e.g. patios, balconies). Consider incorporating at grade entrances for individual dwelling units to add rhythm, interest and activity along public streets.
 - (v) Commercial buildings should contain significant windows and entrances along all public streets and public spaces to add to street vitality and the comfort and safety of pedestrians and cyclists.
- (e) Chemainus Mural Walls: The following guidelines apply specifically to Chemainus in relation to the Mural Walls:
- (i) Walls on the front or flanking façade of a building should not be selected for murals.
 - (ii) Walls appropriate for murals are those that are situated such that a mural will not be obstructed by parking or, if it might be, can be positioned at least 1.5 m above ground level; situated to permit unobstructed viewing by pedestrians; and constructed of a suitable medium for painting.
 - (iii) Completed mural walls should be:
 - illuminated with appropriate down or spot lighting designed into the building and that does not reflect or shine into nearby property; and
 - framed or accented with shrubbery and/or landscaped borders.

No product advertising in murals is permitted unless the advertisement is considered to be historic. Historic advertisements are to be maintained and preserved.

1.6.3 Best Management Practices – Building Design

The use of 'Best Management Practices' in the design of new buildings, or the redevelopment of older buildings, will assist with informing North Cowichan's unique design aesthetic and addressing conservation goals.

- (a) Respect the character of the existing neighbourhood in building design and placement.
- (b) Consider converting existing buildings to higher density uses.
- (c) Design layouts (e.g. lot lines and road layouts) to optimize solar gain for each building.
- (d) Build curved rather than long straight streets to reduce wind impacts.
- (e) Orient buildings towards the south to maximize winter solar gain and summer cooling. Incorporate natural day-lighting techniques to reduce need for electrical energy; and consider the addition of such features as controllable awnings, overhangs, clerestory windows, skylights and atriums.
- (f) Minimize obstructions that could block a building's access to sunlight.
- (g) Orient main building façades towards prevailing breezes to maximize opportunities for passive ventilation and passive cooling, taking into account possible conflict with orientation for solar gain.
- (h) Locate windows on the south-facing façade to maximize winter solar gain and natural light. Use deep window overhangs and/or fixed adjustable external shades on south-facing façades that can block out high-angle summer sun and allow entry of low-angle winter sun.
- (i) Minimize windows on north façade to limit heat loss and maximize solar gain, reducing the need for heating and air conditioning.
- (j) Limit and carefully locate windows on east and west façades where the morning and evening sun's rays are low in the sky and difficult to control.
- (k) Locate operable windows to maximize natural ventilation, ideally on opposing or adjacent walls.
- (l) Coordinate roof overhangs, window placement and landscaping to provide cooling and shade during the summer and solar access in winter.
- (m) Design roof surfaces to accommodate solar energy collection devices. The installation of skylights is encouraged.
- (n) Choose roof shape and roof orientation to maximize passive solar gain and opportunities for solar energy collection. Vary building height, roof lines and massing to reduce the shading of neighbouring buildings and to optimize sun exposure for heat gain and daylight.
- (o) Use compact building shapes that reduce the building envelope surface area and improve the building's energy performance.

- (p) Use building shapes that minimize adverse wind effects and optimize conditions for passive ventilation and cooling.
- (q) Consider using thermal mass in building construction, where possible.

1.6.4 Best Management Practices – Operations and Management

As part of the design process consider on-going operation and maintenance 'Best Management Practices' to maximize efficiencies related to energy and water conservation.

- (a) Consider adopting a formal building systems commissioning plan that includes:
 - (i) Building system plan;
 - (ii) Audit program; and
 - (iii) Operations and Maintenance Plan

1.7 Development Permit Guidelines "A.2": Marine Waterfront - Objectives & Application

The objectives of this Development Permit Area are to encourage thoughtful building and site design in an effort to:

- (a) Maximize opportunities for public access to the waterfront;
- (b) Build on existing assets and context;
- (c) Protect waterfront views;
- (d) Establish a network of well-connected multi-use public and private spaces;
- (e) Integrate development with the site's natural attributes to reduce negative impacts to coastal ecosystems;
- (f) Reduce conflict and achieve a balance between the different users and uses of commercial waterfronts in each community; and
- (g) Maintain and enhance the existing character of each of the community's commercial waterfronts while facilitating quality development.

North Cowichan's commercial waterfront is perhaps best characterized by its public accessibility and coastal village qualities. These features are hallmarks of the commercial waterfront and are the central theme of the design guidelines. New commercial development will maintain and enhance the positive features of the waterfront. The following considerations should be incorporated into projects at an early stage in the design process to ensure that the important qualities of the commercial waterfront are maintained and enhanced.

Further, these Development Permit Guidelines protect site archaeology, recognize water side gateway features, encourage a high standard and quality of Multi-Family, commercial and mixed-use commercial residential development and redevelopment that enhances pedestrian mobility, respects viewscales, ensures quality architecture in keeping with individual waterfront communities, ensures negative impacts

of parking and site servicing is mitigated, provides landscaping that enhances the overall development, and provides for pedestrian oriented signage. The objectives will be achieved by:

- (a) encouraging development that is identifiable and compatible with existing waterfront uses in siting, character, massing, form and detail;
- (b) building on the rich industrial and social histories of the communities in which development is proposed;
- (c) ensuring a high quality living, working and recreating environment for all waterfront users;
- (d) creating connections between different waterfront uses within and between communities;
- (e) following principles of sustainability throughout the development process from building siting to detailed design; and
- (f) incorporating best practices to protect and enhance the sensitive ecosystems located in this area and to respect the natural physical processes that occur in this dynamic environment.

The design guidelines encourage orderly, sensitive and attractive development that is compatible with established community character and values. The guidelines outlined below must be considered together with DPA 1 General Guidelines to advise developers and waterfront users of the form and character of future development.

The Development Permit Guidelines "A.2" "Marine Waterfront" associated with DPA-1 and DPA-2 will be applied to all Multi-Family, Commercial and Industrial developments within the Municipality of North Cowichan that are proposed to be located 100 m above (inland) and 300 m below (seaward) the natural boundary of the foreshore.

1.9 Development Permit Guidelines "A.2": Marine Waterfront - Exemptions

See Table 1: Development Permit Guidelines Exemption Criteria. (Page 150)

1.10 Development Permit Guidelines "A.2": Marine Waterfront - Senior Government Authority

Jurisdiction over coastal areas is split among federal, provincial and local governments, depending on the location along the coast and the relationship to the shore and the type of activity. As a result, senior government agencies may have some approval authority over different activities. Receiving senior government approval is a necessary first step for such developments prior to North Cowichan considering any proposals.

1.11 Development Permit Guidelines "A.2": Marine Waterfront - General Guidelines

Development Permits will only be issued in these Development Permit Areas (DPA-1 and DPA-2) subject to consideration of the following specific design practices. These guidelines should be carefully considered from conceptual design through to detailed design and refinement of a development proposal.

1.11.1 Plan with the Environment

Foreshore and waterfront environments are unique in their physical challenges and opportunities and are areas with high ecological values. The adjacent communities are highly influenced by this constantly changing environment. The demands on the waterfront environment are considerable. Much of the commercial waterfront area has been modified over time to differing degrees; remnants of the natural

condition still exist in many places. Any development activity in these areas must be carefully planned to ensure environmental stability and long-term project success.

- (a) Existing landform and natural feature assets should remain, and should not be modified in a way that could adversely affect the foreshore environment or adjacent land uses. Existing natural conditions must be investigated and incorporated into development plans from the onset.
- (b) Geotechnical issues such as foreshore bank stability and seasonal variation should be considered early on in the planning and design process. Existing vegetation and drainage patterns should be researched and accommodated within the overall plan.
- (c) Modification to the foreshore should receive the same level of attention to design and detail as buildings/structures and open space. Monotonous water edge treatments should be avoided. [See also public access considerations.]

1.11.2 Archaeological History

The marine shoreline was well used by First Nations people and as a result it is not uncommon for these areas to contain significant cultural sites and remnants. Any development activity along the marine shoreline must understand that there is a strong potential that these cultural remnants could exist on or below the surface. The *BC Heritage Conservation Act* governs the processes by which any development activity can occur in and around archeological sites and any indication of archeological artifacts requires adherence to this legislation.

1.11.3 Appropriate Design Elements

While North Cowichan's waterfront communities are not intended to be nautical or maritime theme parks, the incorporation of marine or industrial imagery and elements is a desirable means of enhancing the region's character. Successful design comes from understanding the character and values of the existing waterfront communities and interpreting them in a fresh and innovative way.

1.11.4 Sightlines, Views and Vistas

Waterfront environments are unique and identifiable areas within communities. They are viewed from numerous directions both off and onshore. Protecting public views to, from and within waterfront communities is very important to maintaining the character and visual quality.

- (a) New developments should consider view impacts and opportunities from all directions during the planning stages.
- (b) Existing street-end views or long range vistas should be maintained and incorporated into development plans.
- (c) Significant or interesting sightlines of natural features or industrial activities should be identified and framed or enhanced through building form, massing or landscaping.
- (d) Minimize impact that structures and landscaping will have on existing public views.
- (e) Buildings, open space and circulation should be designed to maximize ocean views while not impacting the privacy of adjacent land uses.
- (f) Where safety or security of industrial uses is required, screening or fencing should be transparent

to maintain visibility.

1.11.5 Interaction, Integration and Public Access

Public access to the waterfront is very important to communities in North Cowichan. One of the greatest attractions of waterfront communities is the high level of activity – commercial, recreational and residential. Many of the most successful and vibrant waterfronts “blur the edges” between activities and places, allowing for more interaction between people.

- (a) Where safe to do so, public access walkways to and/or along the waterfront should be incorporated into any development. Walkways should be made prominent and marked for easy identification.
- (b) A mix of land-based and water-based activities and industries should be encouraged on and along the waterfront to encourage integration of the waterfront community.
- (c) Strong visual and physical connections are encouraged through the addition of piled boardwalks and floating docks or structures.
- (d) New commercial waterfront development should provide a balance between public and private spaces.
- (e) Public views of all areas of the waterfront should be maximized, especially for zones where public access is not safely possible (industrial uses).

1.11.6 Circulation, Arrival Points and Entrances

The enjoyment of a place is often determined by initial impressions, ease of access and getting around. As waterfront communities are often destinations unto themselves, it is important that they have defined entry points. Waterfronts have two “front doors”: water edge and street front. Both should exhibit a clear and welcoming presence for people whether they arrive by boat, seaplane, car, ferry or bicycle.

- (a) Waterfront areas should support distinct gateway features at key arrival points. In form, character and detailing, developments should articulate the type of activity and local context.
- (b) Developments should incorporate clearly defined parking areas and well- connected pedestrian routes, linked to internal and community amenities.
- (c) Buildings that are visible from the street and waterfront should treat both as front elevations to ensure that the structures do not appear to be turning their backs on either street or waterfront.

1.11.7 Building Materials and Detailing

Buildings should be of quality design and detailing and built for durability.

- (a) Consideration should be given to how colours and natural materials weather in a marine environment over time.
- (b) Building colour can be used to provide interest, highlight architectural features or acknowledge a buildings use. Colour choices and architectural detailing should reflect the waterfront context and community patterns.
- (c) Exterior lighting should be oriented away from adjacent residential areas or residential components of mixed-use developments, and should be shielded so as not to affect marine

navigation.

- (d) Lighting should avoid glare and the spillover of light from its intended focus. Illumination should not exceed 2 foot candles at the water's edge.

1.11.8 Outdoor Space, Landscaping and Features

Successful developments take a comprehensive approach to planning and design by including site, buildings, open space and detailing in the design process. Each component is equally important to the creation of a quality development. Well-designed outdoor space adds to the quality of life in communities. Usable outdoor space should be incorporated into developments at the site planning stage of the process.

- (a) Planting schemes based on native or natural-looking landscapes with reduced water and maintenance requirements are recommended, as are plants suited to the salt water environment.
- (b) Existing native vegetation, particularly trees, should be preserved wherever possible.
- (c) Walkways, gangways and piers should have pedestrian-scale lighting, but the lighting should be shielded so as to not affect marine navigation. Illumination should not exceed 2 foot candles at the water's edge.
- (d) Variation in treatment along the foreshore (e.g. boardwalks, floating docks and decks) is encouraged where it can be environmentally supported.
- (e) Retaining walls will, in general, be discouraged.

1.11.9 Structures on the Water

Buildings and structures on the water as part of marina developments are common in maritime communities. The design and treatment of these structures requires the same amount of consideration as any upland development.

- (a) No new float homes are permitted unless they can be connected to an approved sewage treatment facility.
- (b) Boat shelters are permitted only in marinas located in Bird's Eve Cove and Genoa Bay.
- (c) Colours for float homes and boat shelters should be non-reflective and should be consistent with the character of the area.
- (d) Colour variations and vertical or horizontal bands are encouraged to reduce the visual impact of height and mass by giving the appearance of variation and form.
- (e) A variety of pitched and angular, along with domed or rounded roof lines on all structures on the water, are encouraged.
- (f) All structures on the water (including boat shelters, float homes service and other building) should be sited carefully so as to avoid obstructing the waterfront view from public roads, walkways and trails that intersect with the shoreline.
- (g) Boat shelters and float homes should be clustered together in locations that create the least impact from public access, viewpoints and existing residential sight lines.

- (h) Boat shelters of different heights should be distributed with some randomness to avoid a monotonous roof line and to create view corridors.
- (i) Lighting within boat shelters should be low level and full cut off in order to minimize creation of a night-time glow effect and mitigate against any off-site / spill-over impacts.
- (j) A maximum of 25% of the frontage of a marina development (from land and water) should consist of float homes and boat shelters. For the purposes of this section, frontage shall mean the water lot boundaries that are generally parallel with the shoreline and provide primary access and views of the marina from land and water.
- (k) Boat shelters under 200 m² are encouraged, but boat shelters over 200 m² may be supported where it can be demonstrated that a variety of boat shelters are being provided and the overall average boat shelter size on a water lot does not exceed 200 m².
- (l) Boat shelters must not contain habitable space or toilet facilities.
- (m) Any potable water supply plumbed to a boat shelter must have a backflow prevention device installed.
- (n) Any new float home and boat shelter design must be certified by a professional engineer or equivalent, confirming that it is safe for the intended use and conditions (e.g. snow loads and wind patterns).
- (o) Noise impacts from both marine and upland developments should be considered in an effort to minimize impact on residential uses in proximity to the marine environment.
- (p) All new docks must be certified by a professional engineer or equivalent, confirming that they are safe for the intended use and conditions.
- (q) Marine pump out facilities are required for marina (re)development where there is adequate upland waste water treatment facilities.

1.12 Form, Character & Performance: Community Specific Guidelines

Each of the five waterfront areas (Chemainus, Crofton, Maple Bay, Bird's Eye Cove and Genoa Bay) expresses a unique character in terms of their natural environments, community culture and context. A pre-existing cultural emphasis may exist in some, biased towards industrial, environmental or artistic activities. Developers should consider these localized opportunities and constraints when interpreting the development guidelines for North Cowichan's waterfronts.

Development Permits will only be issued in Development Permit Areas 1 & 2 subject to consideration of the following specific design practices. These guidelines should be carefully considered from conceptual design through to detailed design and refinement of a development proposal.

1.12.1 Chemainus

The commercial waterfront of Chemainus is characterized by a steep natural foreshore edge condition with little passable space at sea level. Existing structures are perched or cantilevered over the slope, resulting in an unstable or temporary character to the built environment. The working nature of the foreshore and close proximity of existing docks and ramps to each other and to marine and industrial related activities creates a vibrant and interesting environment. The predominant imagery of this

waterfront area stems from the strong industrial presence.

- (a) Planning for new development on Chemainus' waterfront should address the physical and aesthetic challenges associated with the steep foreshore banks.
- (b) Buildings should terrace down slopes, minimizing exposed foundations and supports. Decks, retaining walls and landscape features should be used to reduce the visual massing of structures.
- (c) Careful thought should be given to roof forms to reduce their impact as seen from both the water and the upland.
- (d) Developments are encouraged to consider the industrial marine context in form, materials, detailing and colours.
- (e) A continuous public pedestrian corridor (with viewing platforms, decks and wharves) should be established along the waterfront edge connecting developments with each other and public amenities.

1.12.2 Crofton

Crofton's waterfront, on Osborne Bay, is central to its identity and to its success today and in the future. It is located in a picturesque setting and affords an ideal environment to enable people to interact with the ocean. Crofton slopes gently downhill to the water and most areas have a view of the waterfront and Saltspring Island. A variety of different uses (including but not limited to: public boat launch; BC Ferries dock, terminal and trestle; Department of Fisheries and Oceans small craft harbour dock and parking lot; museum/seniors' centre and park; elevated seawalk, gazebo and access stairs; sandy/gravelly spit; RV park; streams and natural vegetation; and Berridge Street park and sandy beach along the waterfront) are enjoyed by local area residents and visitors alike. The community exhibits a vibrant spirit that focuses on the waterfront. Historic smelting operations have left a legacy of contamination on the waterfront, which requires remediation to achieve ecological integrity.

- (a) A strong focal point should be created through enhancing positive sightlines and public view corridors that work within the community grid pattern.
- (b) Buildings should be sited and designed in a manner that helps to establish a strong sense of place.
- (c) Where possible, remediation of the historic contamination along the waterfront should form part of any redevelopment plan.
- (d) New waterfront development should reflect Crofton's historic context by incorporating elements of the marine industrial heritage both symbolically and with the addition of asymmetrical and irregular building massings.
- (e) New construction should be made predominantly from natural materials with a rustic finish; and, in the arrangement of how buildings meet the street and shore, should include inviting areas to congregate.
- (f) To lessen the impact of development on the natural shoreline, buildings should be stepped back from the waterfront to make way for important public view corridors.
- (g) The volume of buildings should not dominate the waterfront and should blend in with the natural

form and landscape.

- (h) Preservation of any native vegetation should be emphasized and future plant selection based on a range of existing native species and/or plants that mix well with the natural landscape.
- (i) The arrangement of buildings and structures along the waterfront should strive to: maintain public views; create engaging space for people to congregate; and create connected pathways that encourage travel down to and along the waterfront.
- (j) Storefronts should meet the street and have a varied structure that offers visual intrigue, shelter to walkers and the possibility of places to sit and chat.

1.12.3 Maple Bay

A strong residential community dominates the shoreline of this spectacular natural bay. The marine commercial area in Maple Bay is limited to a relatively small portion of the foreshore. The marine-related activities are currently limited to the public wharf that provides temporary, unserviced moorage for small watercraft. The foreshore edge is defined by retaining walls separating the pebble beach from upland uses.

- (a) Building forms should recall historic precedents and be stepped away from the water edge.
- (b) Buildings should be designed to be compatible with the residential context, in materials, character and detailing. Architecture that reflects local character is recommended using traditional elements including roof forms and glazing.
- (c) The foreshore edge should be maintained in as natural a state as possible.

1.12.4 Bird's Eye Cove

Bird's Eye Cove is located in a picturesque inlet just south of Maple Bay proper. The majority of the commercial waterfront is focused on the busy recreational marina and associated businesses. The upland uses are currently located on a flat bench protected by a riprap edge, with a steep hillside rising behind. A portion of the foreshore is accessible to the public. The existing character of the area is defined by a blend of elements found in a working marina along with elements from a transient recreational environment.

- (a) A strong sense of arrival should be established near Genoa Bay Road to set the tone of the area.
- (b) The scale of new developments should be compatible with the cove context. Buildings should be clustered, leaving irregularly shaped open spaces in between.
- (c) Developments located on steep slopes should be terraced with careful attention paid to the retention of the natural environment. Broad scale slope manipulation is discouraged. Future development should incorporate a variety of open space opportunities along the water edge. Wharves that extend out over the water, a widow's walk or tidal steps could be considered to provide variety and interest in the public realm.
- (d) Building design should be based on regional imagery. Building details, colours and amenities may feature more unique solutions. Highlight colours may be brighter or marine artifacts used in unusual ways to enhance the flavour of the community.

1.12.5 Genoa Bay

Genoa Bay is a small, geographically isolated but scenic community focused on its waterfront. It is a popular marine destination and supports residential and seasonal public moorage facilities. The marine commercial areas are located in an intimate bay closely surrounded by adjacent hills and smaller shallow coves. The distinct character of Genoa Bay is based on the human scale of its context in landform, marine environment and built form. There is a seamless transition between land- and water-based activities because of numerous floating commercial and residential structures and compatible design styles. The existing development leans towards a functional though eclectic aesthetic.

- (a) New developments in Genoa Bay should be sympathetic to the unique scale of the natural environment and existing built form. Buildings and open spaces should be intimate in scale and detail.
- (b) Building form and character should appear to be equally at home on water as land.
- (c) Buildings should be uncomplicated structures with small detailing elements. Simple local materials and colours that weather well should be considered.
- (d) Historic or contemporary local elements used in unique ways as public art features are encouraged.

2.0 Natural Environment Development Permit Guidelines “B”

2.1 Development Permit Guidelines “B”: Objectives & Application

The objectives of this Development Permit Area are to protect, manage and/or mitigate the following key environmental considerations:

- (a) **Sensitive Aquatic Ecosystems:** Environmental significance as habitat for fish and wildlife, their vital functions in natural storage and flood protection, their increasingly important role in reducing the effects of climate change, and their sensitivity to disturbance by development.
- (b) **Sensitive Terrestrial Ecosystems:** Environmental significance as habitat and corridors for wildlife, their contribution to local and regional biodiversity, and their sensitivity to disturbance by development.
- (c) **Groundwater, Aquifers and Watersheds:** Quality and quantity of water supply and flow.
- (d) **Marine Shoreline and Adjacent Coastal Waters:** Environmental significance for forage fish and other species; and their sensitivity to disturbance by development.

The Development Permit Guidelines “B” are associated with DPA-3 Natural Environment will be applied to:

- (a) **Watercourses:** Streams, wetlands, lakes and ponds – shown on Map 4 of the OCP or as determined by the Municipality of North Cowichan through on-site investigation.
 - (i) For all watercourses, DPA-3 applies to a 30.0 m strip of land on both sides of the watercourse, measured from the natural boundary; and
 - (ii) Within a ravine, requirements detailed in the provincial *Riparian Area Regulation* apply.
- (b) **Coastal Areas:** The development permit requirements apply to the 30.0 m horizontal distance upland from the present natural boundary and within the 30 m horizontal distance seaward of the present natural boundary.
- (c) **Terrestrial Habitat and Endangered Species Protection Areas:** Those areas shown on Map 4 of the OCP or as determined by the Municipality of North Cowichan or a qualified professional

- through on-site investigation; and which include those species listed under the federal *Species at Risk Act (SARA)* and provincially ranked species identified as red-listed or blue-listed by the Provincial Conservation Data Centre or by a qualified professional through on-site investigation
- (d) **Wildlife Trees:** As detailed in the provincial *Wildlife Act* (e.g. those with nests of eagles, herons, osprey, falcons or burrowing owl)
 - (e) **Aquifer Protection Areas:** Those areas having a high vulnerability rating as shown on Map 5 of the OCP.

2.2 Development Permit Guidelines “B”: Exemptions

See Table 1: Development Permit Guidelines Exemption Criteria. (Page 150)

Also, an exemption from Development Permit requirements under this DPA may be granted if one or more of the following criteria apply:

- (a) Development activity which occurs outside of the environmentally sensitive area, and which appropriately protects and buffers any environmentally sensitive area on the property.
- (b) The development activity involves any of the following: fence-building, growing, rearing, producing or harvesting of agricultural products in accordance with recognized standards of the *Farm Practices Protection (Right to Farm) Act* or forest management activities on lands subject to the *Forest Act* or *Private Managed Forest Land Act*;
- (c) Emergency works or procedures required to prevent, control or reduce flooding, erosion or other immediate threats to life or property, including:
 - (i) emergency flood or erosion control works;
 - (ii) clearing of an obstruction from a bridge, culvert or drainage flow;
 - (iii) repairs to bridges or safety fences; and
 - (iv) cutting down of hazardous trees within the DPA that present an immediate danger to the safety of persons or will potentially damage public or private property, as determined by an arborist or similar professional.

NOTE: Emergency actions by anyone other than municipal or provincial government staff must be reported immediately to the Municipality.

- (d) Planting and maintenance of native (indigenous) trees, shrubs or groundcover for the purpose of restoring or enhancing habitat values and/or soil stability within the DPA, provided such planting is carried out in accordance with the guidelines or directions provided by the Municipality.
- (e) Works approved by the Municipality, Department of Fisheries and Oceans, or provincial Ministry of Environment, including the installation of public utilities, sewer and water lines, trail construction, stream enhancement, and fish and wildlife habitat restoration;
- (f) Construction of a trail within the DPA, as long as the following conditions are met:
 - (i) only one trail is built;
 - (ii) the trail is for personal, non-vehicular use only;
 - (iii) the trail is less than 1 m wide;
 - (iv) is constructed of a pervious surface (e.g. soil, gravel, mulch);
 - (v) no erosion is caused by the trail's construction or use;
 - (vi) no native trees will be removed;
 - (vii) the overall slope of the trail is less than 10% grade or, where portions are greater than

- 10% grade, the trail is designed to prevent erosion; and
- (viii) movement of soil, fill or aggregates occurs within a corridor less than 2 m wide.
- (g) Subdivision of lands containing a portion of the DPA where all of the following apply:
 - (i) minimum lot areas required under the Zoning Bylaw have been achieved exclusive of the Development Permit area where lands are located within the UCB;
 - (ii) no development or development activities (e.g. construction, grading, clearing, trenching, installation of services) relating to the creation of lots or the provision of services for those lots will occur in the DPA; and
 - (iii) the DPA has been protected through dedication, conservation covenant or other provisions acceptable to the Approving Officer.
- (h) Residential development on a lot for which a Riparian Area Assessment or bio inventory report was prepared and the conditions met through the subdivision process, and for which a S.219 covenant to protect the riparian assessment area was registered on title;
- (i) Public works and services (such as construction, repair and maintenance) performed by the Municipality or its authorized agents and contractors, as long as these works and services meet or exceed the conditions of the following guidelines;
- (j) Gardening and yard maintenance activities within an existing landscaped areas, such as lawn mowing, minor pruning of trees and shrubs, planting of vegetation, and minor soil disturbance that does not alter the general contour of the land;
- (k) The removal of invasive plants or noxious weeds on a small scale (such as Scotch broom, Himalayan blackberry, morning glory and purple loosestrife), as long as such works are conducted in accordance with a vegetation management plan and sediment and erosion control plan and the area is replanted immediately (*note*: approval by the Municipality is required before any vegetation removal); and
- (l) Minor additions to existing buildings and structures to a maximum of 25% of the total floor area of the existing building or structure, as well as renovations, repairs or maintenance, as long as the proposed improvements do not result in the building or structure shifting closer to, or further impacting on, an environmentally sensitive feature.
- (m) Exemption for Aquifer Protection Only: development of buildings that house single-family or two-family dwelling units.

2.3 Development Permit Guidelines “B”: General Guidelines

The following guidelines apply to all environmentally sensitive areas within the Development Permit Area (DPA-3 Natural Environment). To protect and maintain these important assets, no alteration of land, disturbance of vegetation, movement of soils or other disturbance of land, water or subdivision of land within the DPA may be undertaken without:

- (a) Development Permit issued under these guidelines; and
- (b) Strict compliance to the terms of such a Development Permit.

Development Permits will only be issued in this Development Permit Area subject to consideration of the following specific design practices. These guidelines should be carefully considered from conceptual design through to detailed design and refinement of a development proposal.

2.3.1 Working Within the Development Permit Area

- (a) Development within the Development Permit Area will generally be considered only where:
 - (i) historical subdivision or construction has occurred before the DPA was designated;

- (ii) the DPA occupies so much of a pre-existing lot that it makes the lot undevelopable for the use permitted under its existing zoning;
 - (iii) because of topographic, natural hazard or other environmental constraints on the lot, there is no acceptable building site outside the DPA; and
 - (iv) all opportunities to relax other development requirements (such as setbacks, minimum lot size, parking) have been exhausted.
- (b) Encroachment into the DPA by all development activities must not exceed what is indicated in the site plan approved for the Development Permit. All development activities must avoid causing disturbance in the DPA beyond the building footprint. This may mean adjusting conventional practices with respect to locating machinery and stockpiles and using alternatives such as hand labour as opposed to machinery.
- (c) The onus lies with the applicant to demonstrate that encroaching into a DPA is necessary to establish a permitted use that might not 'fit' on the land outside of the DPA.

2.3.2 Environmentally Sensitive Protection Areas

Environmentally Sensitive Areas are deemed to be areas of significant ecological value and susceptible to disturbance, as determined by a Qualified Environmental Professional or other professional (see below).

- (a) All Environmentally Sensitive Areas must be maintained free of development and conserved in a natural vegetated state or remediated to return to a natural state (except as otherwise allowed under a Development Permit issued under these guidelines).
- (b) Development activity taking place outside an Environmentally Sensitive Area must make every effort through site design to avoid encroaching into the protected area and negatively affecting its natural features, functions and conditions.
- (c) **Prohibited Activities:** The following development activities are not permitted in a Protection Area unless there is proven hardship:
 - (i) construction of septic tanks, drainage and deposit fields;
 - (ii) irrigation or drainage improvements; and
 - (iii) installation of water systems.
- (d) **Relaxation of Other Land Use Regulations:** Varying or relaxing other bylaw requirements (e.g. by allowing variances to front, side and rear yard setbacks, building height or parking requirements) will be considered to facilitate safeguarding an Environmentally Sensitive Area, particularly where the relaxation can make possible the development of the remainder of the lot.
- (e) **Varying the Boundaries of Environmentally Sensitive Protection Areas:** Varying the boundaries of a Protection Area is generally not allowed and will only be considered where:
 - (i) the Protection Area occupies so much of the property as to render it undevelopable for the use for which the property is zoned;
 - (ii) because of topographic, natural hazard or other environmental constraints, there is little or no acceptable development site on the property outside the Protection Area;
 - (iii) by averaging the width of the Protection Area over a property, an equal or greater area of ecological value, acceptable to the Municipality, is provided;
 - (iv) in the case of the Watercourse Protection Development Permit Area: an assessment has been undertaken by a Qualified Environmental Professional in accordance with the Riparian Area Regulation, the assessment supports any proposed boundary change; and the Department of Fisheries and Oceans and the provincial Ministry of Environment agree

- that there will no harmful alteration or destruction of fish habitat;
- (v) in the case of other environmentally sensitive areas, an assessment prepared by a Qualified Environmental Professional demonstrates to the satisfaction of the Municipality that the natural features, functions and conditions of the Protection Area will be preserved, protected and/or enhanced by the proposed development design.
- (f) **Buffer Areas:** Buffers must be established around the Protection Area in keeping with the following guidelines:
 - (i) Buffers must be wide enough to protect the ecological integrity of the resource.
 - (ii) Riparian buffers must consider the needs of all species, not just fish.
 - (iii) Light penetration into a buffer area must be minimized.
 - (iv) The long-term protection of buffer areas must be secured through dedication, donation, covenant or other legal mechanisms.
 - (v) Permanent barriers may be required to be installed to discourage access.
 - (vi) Invasive plant species within the buffer must be removed and replaced with native species.
 - (vii) Buffer areas must be physically located on the ground by a B.C. Land Surveyor or Qualified Environmental Professional before any development, land alteration or vegetation removal occurs.
 - (viii) For developments not subject to subdivision, the limit of a Protection Area may be determined and flagged on-site in cooperation with the Municipality.
 - (ix) Temporary barrier fencing, to demarcate the area of no disturbance, must be installed along all buffer areas before any development activities begin.
 - (x) Permanent fencing may be required to be installed to demarcate the Protection Area over the long term. Where required, it must be designed to allow for free and uninterrupted movement of organisms between the Protection Area and upland ecosystems and must be maintained in good order.
 - (xi) Signage may be required to be installed. Where required, it must be in a clearly visible location a minimum of every 10 m, and at least one sign must be installed on each proposed lot adjacent to the Protection Area.
- (g) **Subdivision:** When land containing a Protection Area is to be subdivided all lots smaller than 1.0 ha (2.47 acres) within the Urban Containment Boundary must meet the minimum lot size and dimensions required under the Zoning Bylaw exclusive of the Protection Area.
- (h) **Dedication:** Where possible, Protection Areas should be dedicated for conservation purposes using one of these mechanisms:
 - (i) reversion to the Province (a "Return to Crown");
 - (ii) dedication to the municipality where the land would be managed primarily to protect the environmental values;
 - (iii) dedication to a private land trust where the land is managed for conservation purposes;
 - (iv) registration of a section 219 (conservation) covenant in favour of the municipality, provincial agency, recognized stewardship group or land trust; or
 - (v) other suitable mechanism as determined by the Municipality.

- (i) **Sediment and Erosion Control:**
- (i) All development within this Development Permit Area (DPA-3 Natural Environment) must be undertaken and completed in such a manner as to prevent the release of sediment to any watercourse, storm sewer or over land.
 - (ii) An erosion and sediment control plan may be required as part of the Development Permit application and should include actions to be taken before land clearing and site preparation, and the proposed timing of development activities to reduce the risk of erosion.
 - (iii) Sediment containment and erosion control measures must be installed before any land development activity begins.
 - (iv) Development must be avoided on slopes greater than 20% because of the high risk of erosion and bank slippage.
 - (v) The standards for sediment and erosion control outlined in the *Land Development Guidelines for the Protection of Aquatic Habitat* (jointly published by BC Ministry of Environment and Department of Fisheries and Oceans) must be adhered to.
- (j) **Monitoring:** The Municipality may require a qualified environmental professional to monitor and ensure that implementation of environmental mitigation, restoration or enhancement measures approved under a Development Permit are being done.
- (k) **Unauthorized Development Activity in a Protection Area or Development Permit Area:** Where land alteration has occurred within any Protection Area or Development Permit Area without prior Municipality approval, the Municipality will require:
- (i) an environmental impact assessment report to be completed by a Qualified Environmental Professional to identify mitigation and restoration requirements;
 - (ii) the owner to apply for a Development Permit and to meet the conditions established to mitigate and restore the environmentally sensitive area; and
 - (iii) the owner to post a financial security in an amount that is equal to the amount required to pay for:
 - the cost of rehabilitating and/or restoring an environmentally sensitive area;
 - the cost of repairing damage caused by construction or site disturbance; and
 - the cost of restoring fish habitat.
- (l) **Performance Bonding:** The Municipality may require the applicant to submit an estimate, prepared by a qualified professional and accepted by the Municipality, of the total cost to rehabilitate and/or restore the environmentally sensitive area and to ensure the conditions of the permit and these DP guidelines are met. Financial security, based on the cost estimate approach outlined above, must be provided to the Municipality before any approval for construction, land alteration or vegetation removal will be issued. For example, security may be required, and applied against, erosion control works, site grading, phased clearing, barrier fence installation, habitat restoration works, post-development success of revegetation and restoration works, or any other requirements of a Development Permit.

2.3.3 Best Management Practices

Development design must reflect the objectives and guidelines of “Best Management Practices” outlined in the following documents and others that may be developed, updated and or amended from time to time. As stated in the preamble of this document, there are numerous references to documents, guidelines, plans and strategies developed and administered by other government agencies and

organizations throughout this document. While these documents are relevant and useful as of the date of adoption of this document, it is always advisable to confirm with Municipal Planning staff that specific documents and information remains up-to-date and supported by the Municipality.

- (a) *Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia*
- (b) *Best Management Practices for Amphibians and Reptiles in Urban and Rural Environments in British Columbia*
- (c) *Instream Flow Guidelines for British Columbia*
- (d) *Standards and Best Management Practices for Instream Works*
- (e) *Riparian Area Regulation Assessment Methods*
- (f) *Best Management Practices for Lakeshore Stabilization*
- (g) *Stream Stewardship: A Guide for Planners and Developers*
- (h) *Access Near Aquatic Areas: A Guide to Sensitive Planning, Design and Management*
- (i) *Stormwater Planning: A Guidebook for British Columbia*
- (j) *Community Green Ways Linking Communities to Country and People to Nature*
- (k) *Guidelines to protect fish and fish habitat from treated wood used in aquatic environments in the Pacific Region*
- (l) *Land Development Guidelines for the Protection of Aquatic Habitat*
- (m) *Living by Water*
- (n) *Marina Development Guidelines for the Protection of Fish and Fish Habitat*
- (o) *Riparian Revegetation*
- (p) *The Shore Primer – A Cottagers Guide to a Healthy Waterfront; and*
- (q) *Other Fisheries and Oceans best practices materials for docks, wharves and retaining structures or other waterfront development.*

2.3.4 Vegetation Management, Restoration and Enhancement

- (a) Existing, native vegetation must be retained wherever possible to minimize disruption to habitat and to protect against erosion and slope failure.
- (b) To ensure their long-term health, existing trees and shrubs that are retained must be clearly marked before development, and temporary fencing must be installed at the drip line (at a minimum) to protect the trees during clearing, grading and other development activities.
- (c) If the area has been previously cleared of native vegetation, or is cleared during the process of development, replanting must be done in keeping with these guidelines or with requirements specified in the Development Permit. Areas of undisturbed bedrock exposed at the surface or natural sparsely vegetated areas shall not require planting.
- (d) Where existing trees and vegetation are retained, the following actions are allowed:
 - (i) pruning or removing of hazardous trees (as determined by an arborist), but leaving wildlife trees and snags (dead, upright trees, or stumps) wherever safe;
 - (ii) pruning of undergrowth within 1 m of existing or proposed public trails to avoid injury to users; and
 - (iii) supplementing existing vegetation with planted stock as needed to landscape bare or thin areas, following specifications noted below.
- (e) Invasive plants (e.g. blackberry, Scotch broom, English ivy) and noxious weeds may be required to be removed from the lands and areas replanted in keeping with these guidelines.
- (f) Plant species selected for replanting, restoration or enhancement should: suit the soil, light and groundwater conditions of the site; be native to the district; and be suitable for erosion control and, as needed, for fish and habitat wildlife habitat.

- (g) Replanting requirements will be set out in plans developed as part of the Development Permit application and approved by the Municipality, or will be expected to meet the guidelines provided by the Municipality and will form part of the Development Permit.
- (h) All replanting must be maintained by the property owner for a minimum of two years from the date of completion of the planting. This may require removal of invasive plants and maintenance of irrigation systems. Unhealthy, dying or dead stock will be replaced at the owner's expense within that time in the next regular planting season.

2.3.5 Rainwater Management Strategies

- (a) Rainwater management systems should be designed in accordance with the following principles:
 - (i) Development practices shall not increase nutrient inputs to waterways beyond natural levels.
 - (ii) Development must not increase or decrease the amount and quality of surface and groundwater.
- (b) Rainwater management systems should be designed with reference to the provincial Ministry of Environment's document *Stormwater Planning: A Guidebook for British Columbia*, and should consider the following guidelines:
 - (i) Manage rainwater on site so that post-development rainwater flow levels from the site are equal to pre-development levels.
 - (ii) Use rain gardens, vegetated swales, reduced impervious surfaces, increased soil depths and other technologies for managing rainwater on site.
 - (iii) Install features for controlling erosion and rainwater quality and quantity to the Municipality's satisfaction, to minimize impacts of outflow on slope stability, fish habitat and downstream impacts.
 - (iv) Make provision, and undertake works, to provide for the disposal of surface run-off and stormwater flowing over the land which may stem from later development. Such works must divert drainage away from areas subject to sloughing.

2.4 Development Permit Guidelines "B": Specific Guidelines

Development Permits will only be issued in this Development Permit Area (DPA-3 Natural Environment) subject to consideration of the following specific design practices. These guidelines should be carefully considered from conceptual design through to detailed design and refinement of a development proposal.

2.4.1 Watercourse Protection Areas

The layout and design of development proposed within DPA-3 (a. Stream and Watercourses), or any associated Environmentally Sensitive Protection Areas as defined in section 2.3.2, must strive to:

- (a) preserve and protect sensitive riparian and aquatic ecosystems;
- (b) preserve and protect water quality within aquatic ecosystems;
- (c) ensure riparian and watercourse protection areas remain large enough to protect habitat, prevent flooding, control erosion, reduce sedimentation and recharge groundwater.
- (d) connect environmentally sensitive areas by retaining wildlife corridors wherever possible;
- (e) design development layout to allow flooding, streambank erosion and other natural processes to continue unimpeded;
- (f) protect the ecological values of riparian areas and watercourses during and after development;

- (g) restore degraded ecosystems where possible;
- (h) ensure that all planning and development in the DPA occurs according to the requirements of the Riparian Area Regulation and other environmental protection regulations;
- (i) maintain hydrologic regimes, including not dyking or damming inflow and outflow streams; and
- (j) maintain normal wetland and water processes such as flooding, seasonal drawdown and groundwater recharge.

2.4.2 Terrestrial Habitat and Endangered Species Protection Areas

Habitat Protection Area boundaries should be located, with the assistance of a professional environmental professional, to maximize the inclusion within them of one or more of their natural features, functions or conditions. The layout and design of development proposed within DPA-3 (b. Environmentally Sensitive Areas), or any associated Environmentally Sensitive Protection Areas as defined in section 2.3.2, must strive to:

- (a) develop away from the most pristine and least disturbed habitat areas;
- (b) ensure development results in no net loss to environmentally sensitive terrestrial ecosystems;
- (c) protect endangered Douglas-fir forests and the critical habitat contained in them from disturbance;
- (d) protect endangered Garry oak meadow ecosystems, including their spring wildflowers, grasses, mosses, shrubs, lichens and fungi, as well as the variety of animal and insect species that thrive in this unique environment;
- (e) maintain connectivity and linkages between sensitive ecosystems and habitat areas, and minimize fragmentation within one property and among adjacent properties;
- (f) favour maintaining fewer larger undisturbed areas rather than many small but isolated areas;
- (g) maintain and establish more complex areas of habitat that contain a variety of plant species, ages and multi-storey vegetation;
- (h) protect and enhance biodiversity within terrestrial ecosystems;
- (i) design habitat areas without creating barriers to wildlife passage (e.g. walls, solid fences, roads);
- (j) protect the ecological values of terrestrial areas during and after development; and
- (k) restore degraded ecosystems where possible.

2.4.3 Shoreline Protection Areas

- (a) Development in a Shoreline Protection Area is restricted generally only to those uses necessitating shoreline access, and then only with appropriate environmental assessment and mitigation measures.
- (b) The layout and design of development proposed within DPA-3 (c. Marine Riparian Areas), or any associated Environmentally Sensitive Protection Areas as defined in section 2.3.2, must strive to:
 - (i) minimize erosion, retain wildlife habitat and maintain water quality, slope stability and natural vegetation along shorelines;
 - (ii) avoid areas with poor slope stability and locate foreshore accesses/structures sensitively;
 - (iii) maintain existing marine habitat (e.g. eelgrass beds, shell fish beds) in their natural state to protect the resource;
 - (iv) establish water views selectively by pruning branches of shoreline trees instead of topping or removing healthy trees; and
 - (v) maintain public access.

- (c) Installation of hard structural shore protection measures (e.g. riprap structures, lock block walls, concrete walls) to address shoreline erosion is strongly discouraged. The use of non-structural options is preferred, such as using bio-engineering techniques, locating new buildings/structures farther from the shoreline, or installing on-site drainage improvements are preferred.
- (d) Before any shore protection measure is taken, an appropriate qualified coastal professional must provide conclusive evidence that the development structure is at risk from shoreline erosion caused by tidal action, currents, or waves. Evidence of normal sloughing, erosion of steep bluffs or shoreline erosion itself without a scientific or geotechnical analysis is not a sufficient demonstration of need. Confirmation is required that the erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.
- (e) All shore protection measures must be designed by an appropriate qualified coastal professional.
- (f) Shore protection measures that could cause erosion or other physical damage to adjacent or down-current properties or that impedes public access are not supported.
- (g) The size of any shore protection device must be limited to the minimum size necessary.
- (h) All structural shore protection measures should be installed within the property line or upland of the natural boundary, whichever is farther inland.
- (i) Backfilling to extend the existing top of bank is not permitted unless it can be clearly demonstrated that the fill is necessary to prevent further erosion or sloughing of the bank that would potentially endanger existing buildings/structures.
- (j) A geotechnical assessment of the site and shoreline characteristics may be required to establish safe setbacks from the top of bank and to identify measures to ensure safe building site areas or usable lots. Such assessment must consider rising sea levels. [See also DPA 4 – Hazard Lands, Sea Level Rise]
- (k) Where a Shoreline Protection Area includes native plant species or plant communities that are identified as sensitive, rare, threatened or endangered, or have been identified by a Qualified Environmental Professional as worthy of particular protection, their habitat areas must be left undisturbed. If disturbance cannot be entirely avoided, development and mitigation/compensation measures must be undertaken under the supervision of the Qualified Environmental Professional and may require additional advice from applicable senior governmental agencies.

2.4.4 Nest Tree Protection Areas

All nest trees are protected under the provincial *Wildlife Act*. Therefore, notifying the Municipality of these nest trees before and during construction and adhering to these guidelines will protect an applicant, landowner or developer from potential prosecution under the *Wildlife Act* and or under this bylaw.

- (a) The layout and design of development proposed within a DPA-3 (b. Environmentally Sensitive Areas), or any associated Environmentally Sensitive Protection Areas as defined in section 2.3.2, should ensure that buffer areas are established based on the Ministry of Environment's best practices, as detailed in *Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia*, and strive to:
 - (i) identify: areas to be maintained free of development and in a naturally vegetated state; areas of no disturbance and with noise control during the breeding season (usually January 30 to June 30), including areas around a nest tree in which no blasting should occur during the breeding season;
 - (ii) retain wildlife trees (including fallen trees and snags, trees with cavities), leaf litter, fallen debris and natural vegetation; and
 - (iii) locate artificial snags to help improve habitat.

2.4.5 Aquifer Protection Areas

- (a) Developments found to have the potential to pose detrimental impacts on either the quality or quantity of groundwater will not be supported.
- (b) The use or disposal of substances or contaminants that may be harmful to area aquifers is prohibited and, wherever practical, steps must be taken to ensure the proper disposal of such contaminants.
- (c) Where the possibility of a development impacting an aquifer exists, the applicant must submit to the Municipality a report from a registered professional that includes:
 - (i) an assessment of the characteristics of the aquifer and its ability to accommodate the additional groundwater demand proposed by the development, including an assessment of the anticipated demand given the development potential of the subject property based on its current zoning, and given potential impacts on adjacent properties;
 - (ii) a statement backed by a professional assessment that the proposed development will not have a negative impact on the aquifer; and
 - (iii) recommendations of measures required to ensure the aquifer is protected.
- (d) The layout and design of development proposed within DPA-3 (d. Aquifer Protection), or any associated Environmentally Sensitive Areas as defined in section 2.3.2, must strive to:
 - (i) ensure that drainage from all impervious surfaces and areas where vehicles are parked is directed through an appropriately sized and engineered sedimentation, soil, water and grease separator, or is managed with another engineered solution;
 - The engineer must provide an appropriate maintenance schedule.
 - A section 219 covenant may be required to be registered on the title of the land, outlining the maintenance schedule and a commitment to maintain the sedimentation, oil, water and grease separator in keeping with the engineer's recommendations.
 - (ii) make provision for grease, oil, and sedimentation removal facilities and the ongoing maintenance of these facilities to handle treated effluent and diverted rainwater collection and discharge systems on development sites (commercial, industrial, multi-residential and others) where there is potential for silt and petroleum-based contaminants to enter a watercourse or infiltrate into the ground; and
 - (iii) use permeable paving and other methods to reduce rainwater run-off.

3.0 Hazardous Conditions Development Permit Guidelines "C"

3.1 Development Permit Guidelines "C": Objectives & Application

The objectives of this Development Permit Area are to:

- (a) Prevent personal injury and property loss;
- (b) Protect structures from damage;
- (c) Provide stable and accessible building sites; and
- (d) Mitigate hazards while not compromising environmental issues.

The Development Permit Guidelines "C" are associated with DPA-4 Hazardous Conditions, and will be applied to all lands with steep slopes over 20%, lands vulnerable to interface wildfire, lands on floodplains, and coastal lands.

3.2 Development Permit Guidelines “C”: Exemptions

See Table 1: Development Permit Guidelines Exemption Criteria (Page 150)

An exemption from Development Permit requirements under this DPA may be granted if one or more of the following criteria apply:

3.2.1 General:

- (a) Emergency procedures necessary to prevent, control or reduce flooding, erosion or other immediate threats to life and property, including:
 - (i) Emergency flood or erosion protection works;
 - (ii) Clearing of an obstruction from a bridge, culvert or drainage flow;
 - (iii) Planting of native vegetation for bank stabilization;
 - (iv) Repairs to bridges and safety fences.
- Note:* Any emergency action for flood protection and clearing of obstructions by anyone other than the Municipality of North Cowichan or a provincial ministry must be reported to the Municipality and applicable provincial ministry immediately to secure exemptions under this provision.
- (b) The proposed development has been assessed by a qualified professional who has identified that the land is subject to hazardous conditions, provided a set of recommendations to address the hazard, concluded in a report that the land can be developed safely if the recommendations are followed, and this report, together with a “save harmless” covenant in favour of the Municipality of North Cowichan, is registered on title.
 - (c) The following activities are being undertaken: fence-building, growing, rearing, producing or harvesting of agricultural products in accordance with the *Farm Practices Protection (Right to Farm) Act*, or forest management activities on lands subject to the *Forest Act* or *Private Managed Forest Land Act*.
 - (d) Hazardous trees that present an immediate danger to the safety of people or are likely to damage public and private property need to be cut down in accordance with recommendations contained in a report prepared by an arborist or other qualified professional.
 - (e) Construction, repair and maintenance of works is being done by the Municipality or its authorized agents and contractors.
 - (f) A trail across or through the Development Permit Area is being constructed.
 - (g) A fence is being constructed.

3.2.2 Fire Hazard:

- (a) An accessory building is being constructed, such as a gazebo or tool or garden shed having a total floor area not exceeding 10 m².
- (b) An addition that is 50 m² or less is being constructed on an existing building, unless more than 50% of the existing roof will be replaced as part of the construction.
- (c) Residential development is planned on a lot for which an Interface Wildfire Assessment was prepared and conditions have accordingly been met through the subdivision process.

3.2.3 Floodplain:

- (a) An addition to an existing building or structure used as a residence is being constructed that would increase the size of the building or structure by less than 25% of the existing floor area.
- (b) The portion of a building or structure that is being constructed is designed or intended for uninhabitable residential use, such as a carport or garage, storage area, utility area or workshop.

3.3 Development Permit Guidelines "C": General Guidelines

Development Permits will only be issued in this Development Permit Area (DPA-4 Hazard Lands) subject to consideration of the following specific design practices. These guidelines should be carefully considered from conceptual design through to detailed design and refinement of a development proposal.

- (a) No alteration of land, disturbance of vegetation, movement of soils or other disturbance of land or water or subdivision of land within the Development Permit Area may be undertaken:
 - (i) without a Development Permit issued under these guidelines; or
 - (ii) contrary to the terms of a Development Permit issued under these guidelines.
- (b) Before any development or alteration of land, a geotechnical engineering report must be prepared by a qualified professional engineer with experience in geotechnical engineering and, preferably, with experience in hydraulic engineering. The geotechnical report should include:
 - (i) a topographic and geomorphic description of the site and a statement as to which type of natural hazards may affect it;
 - (ii) a review of previous geotechnical studies affecting the site and/or engineering work in the vicinity;
 - (iii) a description of the extent of the nature, extent, frequency (probability) and potential effect of the hazard, including a description of the methodology used to define these parameters;
 - (iv) proposed mitigation works (including construction and maintenance programs for such works) and/or actions designed to prevent hazardous occurrences;
 - (v) proposals for vegetation protection, enhancement or retention;
 - (vi) an assessment of the effect of the mitigative work in terms of its ability to reduce the potential impact of the hazard; and
 - (vii) a statement confirming that the site is safe for the intended use and providing any other recommendations that the qualified professional engineer determines are appropriate to ensure the proposed development is protected from the natural hazard and will not result in a detrimental impact on the environment or adjoining properties.

3.3.1 Steep Slope Lands

Land activities must be carried out in consideration of the following factors. Development on lands with slopes greater than 30% is strongly discouraged. Development forms should be integrated with the natural environment by:

- (a) Limiting disturbance of vegetation and movement of subsoils to areas necessary for building sites, servicing and access;
- (b) Maintaining existing vegetation to control erosion and protect banks (any access improvements on the steep slope, such as footpaths or stairs, should be constructed so as not to disturb the natural slope drainage;
- (c) Using lot configurations and building designs that incorporate the topography, instead of creating large, flat lots;

- (d) Using building heights and roof forms that conform to topography and minimize visual impact;
- (e) Protecting special natural features such as rock outcroppings, significant trees, watercourses and ridgelines;
- (f) Incorporating controls on erosion during the construction phase, and measures to mitigate erosion on the finished development;
- (g) Balancing the desire for views with the need to maintain vegetation;
- (h) Designing building foundations to step down slopes to fit with the natural terrain profile;
- (i) Clustering residential development on the most level portions of the land to retain natural vegetation;
- (j) Establishing safe setbacks from the tops of ridgelines and bluff crests;
- (k) Designing and fitting roads and buildings to the natural terrain to maintain the integrity of natural landforms and drainage patterns;
- (l) Minimizing excavation and site grading to protect native vegetation and drainage patterns;
- (m) Aligning access roads and driveways to the natural topography to avoid straight alignments and to keep them narrow to reduce site disturbance;
- (n) Re-vegetating exposed disturbed areas to a natural condition immediately after site grading to prevent erosion;
- (o) Preferring the use of native plant materials for site restoration and residential landscaping;
- (p) Making provision for, and undertaking works, to ensure the disposal of surface run-off and stormwater currently flowing over the crest of the slope and which may stem from further development (such works are required to divert drainage away from areas subject to sloughing); and
- (q) Prohibiting the use of non-engineered retaining walls over 1.2 m tall.

3.3.2 Fire Hazard Lands

Land development activities must be carried out in consideration of the following:

- (a) All roofing materials and insulation requirements must meet class "B" fire rating requirements contained within the current B.C. Building Code.
- (b) Building design and construction must generally be consistent with the standards in the National Fire Protection Association (NFPA) Standard 1144 – *Standard for Protection of Life and Property from Wildfire*.
- (c) All eaves and attic vents must be screened using 3-mm non-combustible wire mesh at a minimum to prevent the entry and accumulation of combustible materials and wind-blown embers.
- (d) Any building or structure used to store wood must not be located within 10 m of the dwelling unit/principal building unless the building or structure is built in accordance with guideline a), b) and c) above.
- (e) All land clearing debris (wood and vegetation) resulting from development must be disposed of by chipping and removal or burning in accordance with the Fire Protection Bylaw. Chipping and removal is the preferred option.
- (f) Where building construction or management of vegetation (trees, shrubs and ground cover) is proposed to take place within environmentally sensitive areas, all work undertaken must be consistent with Natural Environment Development Permit Guidelines "B" and all other relevant

bylaws and regulations.

- (g) Where a Registered Professional Forester, Registered Forest Technician or Registered Professional Engineer qualified by training or experience in fire protection engineering has undertaken an assessment of a proposed development and determined the fire hazard to be low (provided specific conditions are met), the requirements of these guidelines may be relaxed as long as the development is carried out in accordance with such conditions.
- (h) Subdivisions within the high to extreme fire hazard Development Permit areas must be designed in accordance with the *Fire Protection Guidelines for Subdivision Development in the Wildland Urban Interface at the Municipality of North Cowichan* (Strathcona Forestry Consulting).

3.3.3 Floodplain Lands

Land development activities must be carried out in consideration of the following:

- (a) Any development activities within designated floodplains must be very carefully planned in consideration of the significant impacts created by flooding. Where residential development is currently allowed within the floodplain, structures should be flood proofed to standards specified by the BC Ministry of Environment and/or the Municipality of North Cowichan. Habitable space and building systems that could be damaged by flood waters should be elevated to meet Flood Control requirements.
- (b) The Municipality will discourage new filling within designated floodplains because of the cumulative impact that such works can have. Where filling cannot be avoided, i.e. where filling is required to create a development site, it will only be permitted when it is shown that the drainage of other lands will not be affected. Any application to use fill in a floodplain will require a sediment and erosion control plan. Permission to fill will be limited to the extent of creating a house site
- (c) On-site stormwater management systems are required throughout the district to reduce potential flood impacts and to improve rainwater infiltration. [See also DPA-3 Natural Environment]
- (d) Where a floodplain setback from a designated watercourse renders a property totally undevelopable, the setback may be reduced provided that:
 - (i) the development is to be located only where there is no risk to life;
 - (ii) a geotechnical report from a professional engineer certifies that the land may be used safely for the intended use and provides measures to safeguard buildings from flood or erosion damage;
 - (iii) environmental factors such as building siting, placement of fill, soil disturbance, planting and maintenance of vegetation have been considered; and
 - (iv) a Save Harmless Covenant is registered in favour of the Municipality.
- (e) For the Lower Cowichan River floodplain, flood hazard mitigation measures, including land use restrictions, will be undertaken in accordance with the Lower Cowichan/Koksilah River Integrated Flood Management Plan (Final Report, September 2009), and for the Cowichan Estuary will be undertaken in accordance with the Cowichan Estuary Environmental Management Plan (1992).
- (f) Where high-risk land use activities involving the use, handling, storage or manufacture of potential contaminants are proposed within the floodplain, groundwater protection best practices must be incorporated in the design and ongoing operations of the activities.
- (g) Development or subdivision of land should be designed to:
 - (i) replicate the function of a naturally vegetated watershed;

- (ii) maintain the hydraulic regime of surface and groundwater and pre-development flow rates;
- (iii) not interfere with groundwater recharge; and
- (iv) not introduce or remove materials where doing so would cause erosion of or the filling in of natural watercourses or wetlands.

4.0 Farm Land Protection Development Permit Area Guidelines “D”

4.1 Development Permit Guidelines “D”: Objectives & Application

The objectives of this Development Permit Area are to establish and/or protect a vegetated visual buffer between agricultural and non-agricultural uses on lands outside of the Agricultural Land Reserve (ALR) and minimize potential land use conflicts and protect for long-term capability to produce local food and agricultural products. The Development Permit Guidelines “D” are associated with DPA-5 Farm Land Protection, and will be applied to all lands within 30.0 m of any property situated within the Agricultural Land Reserve (ALR). The 30.0 m buffer shall be made up of a minimum of 15 m vegetated buffer and 15 m setback for principal buildings.

4.2 Development Permit Guidelines “D”: Exemptions

See Table 1: Development Permit Guidelines Exemption Criteria (Page 150)

An exemption from Development Permit requirements under this DPA may be granted if one or more of the following criteria apply:

- (a) Development activities on lands within the ALR;
- (b) An application for the construction of a building or structure which is proposed to be located outside of the 30 m DPA;
- (c) The construction of fencing in accordance with *A Guide to Edge Planning Promoting Compatibility Along Urban-Agricultural Edges* published in 2009 by the Ministry of Agriculture provided existing vegetation adjacent to the ALR boundary is maintained to the greatest extent possible;
- (d) Maintenance to existing buildings and structures;
- (e) Additions or alterations to existing buildings or structures provided the alterations or additions do not result in the buildings or structures being located further within the DPA than the existing buildings or structures;
- (f) The removal of invasive plants or noxious weeds on a small scale within the DPA including, but not limited to, Giant Hogweed, Scotch broom, Himalayan Blackberry, Morning Glory and Purple Loosestrife provided native species suitable to the local light, soil, and moisture conditions are replanted to maintain and enhance the existing vegetated buffer;
- (g) Subdivision where each proposed parcel within the DPA, have a minimum parcel depth of 100 m or can provide adequate parcel depth to provide for a satisfactory building site area including accessory buildings and septic disposal system (if applicable) and provide for a vegetated buffer area in accordance with *A Guide to Edge Planning Promoting Compatibility Along Urban-Agricultural Edges* published in 2009 by the Ministry of Agriculture;
- (h) Reconstruction or redevelopment of an existing dwelling unit or other building or structure within the DPA provided the new building or structure is not located further within the DPA; and,
- (i) Development in accordance with landscaped buffer conditions previously approved by the Agricultural Land Commission.

4.3 Development Permit Guidelines “D”: General Guidelines

Development Permits will only be issued in this Development Permit Area (DPA-5) subject to consideration of the following specific design practices. These guidelines should be carefully considered from conceptual design through to detailed design and refinement of a development proposal.

- (a) A vegetated buffer must be maintained and/or established on land within this DPA parallel to and/or along the ALR boundary. All buffer areas shall generally be designed and sized in accordance with *Section 10 – Urban Side Buffer Design Criteria of A Guide to Edge Planning Promoting Compatibility Along Urban-Agricultural Edges* published in 2009 by the Ministry of Agriculture.
- (b) Despite Guideline (a) above, a vegetated buffer of lesser width or type than what is identified in *A Guide to Edge Planning Promoting Compatibility Along Urban-Agricultural Edges* may be accepted in cases where it is not possible due to parcel size or configuration, or a natural or man-made constraint to provide the buffer recommended by the document above.
- (c) Buildings and structures, except for fencing, should generally be situated outside of the vegetated buffer area. Where fencing is constructed, it should be designed in accordance with Appendix C of *A Guide to Edge Planning Promoting Compatibility Along Urban-Agricultural Edges* published in 2009 by the Ministry of Agriculture.
- (d) Plant layout, spacing, and support shall generally be in accordance with *A Guide to Edge Planning Promoting Compatibility along Urban-Agricultural Edges* published in 2009 by the Ministry of Agriculture.
- (e) A section 219 covenant for the vegetation buffer area may be required which restricts the removal of vegetation and the construction of any buildings or structures other than fencing within the buffer area.
- (f) All planning, design, and construction of a landscaped buffer shall be to the standard of the publication entitled BC Landscape Standards.
- (g) Subdivision design must minimize potential negative impacts that may occur between farm and non-farm land users. Public road endings or road frontage next to ALR should be avoided except as may be necessary for access by farm vehicles. Subdivision design and construction should minimize erosion and maintain ground water quality and quantity through adequate rainwater management.
- (h) The landscaped buffer should be installed prior to commencing construction or land alteration, where practical.
- (i) A buffer maintenance plan should be developed and signed off by a registered landscape architect or Professional Biologist.

5.0 GHG Reduction, Energy & Water Conservation Development Permit Guidelines “E”

5.1 Development Permit Guidelines “E”: Objectives & Application

The objectives and guidelines of this Development Permit Area is to reduce GHG emissions and energy and water consumption for new development within the boundaries of Municipality of North Cowichan to help meet the OCP target of net-zero GHG emissions by 2050. Objectives include: promoting GHG reduction and energy efficiency through thoughtful site, building and landscape design; moving towards a net-zero emissions target by improving efficiency of new buildings; reducing the volume of embodied carbon in new construction; encouraging the design and construction of new buildings that are resilient and responsive to climate change; and reducing water consumption demands from new development.

5.2 Development Permit Guidelines “E”: Exemptions

Any applicable exemptions under Development Permit Guidelines “A.1” or “A.2” associated with DPA-1 and DPA-2, as the case may be, shall also apply to these Development Permit Guidelines associated with DPA-6.

5.3 Development Permit Guidelines “E”: Infrastructure and Servicing Impacts

5.3.1 Energy Conservation

- (a) With respect to energy, show how conservation is incorporated and how the project endeavours to use renewable energy sources. Building siting is an important component.
- (b) Select materials and colours in building and roof construction that minimize heat absorption.
- (c) Select materials that encourage thermal massing and seasonal thermal energy storage.
- (d) Use energy-efficient exterior lighting systems with timers and sensors to provide light only when required.
- (e) Where possible, use lighting systems that are powered by renewable energy sources, such as solar energy.
- (f) Control light glare such that light does not rise more than 90 degrees from the ground (nadir) and does not cross property boundaries. Consider installing high efficiency lighting and use shields to reduce glare to the outside.
- (g) Minimize the amount of lighting on signs. Installation of video, reader board, neon or LED signs is discouraged.
- (h) Applicants are encouraged, where feasible, to use on-site renewable energy generation systems to supply electrical and heating and cooling needs to buildings and other structures, and to operate water pumps, sewage pumps and/or charging stations for electric vehicles. Renewable and alternative energy sources include, but are not limited to: geothermal energy (heat loops and wells), wind (turbines), low-impact hydropower, passive solar heating (collectors, photovoltaic panels); co-generation; fuel cells; heat energy extracted from air (heat pumps), biomass, bio-gas and wastewater effluent.

5.3.2 Water Conservation

- (a) With respect to water, show how conservation is incorporated. Site landscaping is an important component (see Objective 3 – Site Design and Landscaping).
 - (i) Manage stormwater flows and water quality by designing systems in accordance with the Ministry of Environment’s Stormwater Planning: A Guidebook for British Columbia.
 - (ii) Install above-or below-ground rainwater collection systems such as naturalized ponds, bioswales, rain gardens and/or cisterns to capture, store and potentially re-use rainwater to irrigate non-edible plants and landscaping.
 - (iii) Design, install and manage cost-effective and efficient irrigation systems that support water, soil and energy conservation practices (including system features such as temporary (2 year plant establishment), drip irrigation, mulching, watering schedules, moisture sensors and timers, and water-use monitoring for leakages).
 - (iv) Where possible, use recycled water for irrigating non-edible plants and landscaping and for washing vehicles.
 - (v) To ensure that irrigation systems are cost-effective and efficient, use certified irrigation designers and installers. The Irrigation Industry Association of British Columbia is a certifying body in the province.
 - (vi) Use low or no water toilets, appliances and fixtures.
 - (vii) Consider installing “purple pipes” (pipes carrying reclaimed water, coloured purple to distinguish them from pipes carrying potable water).
- (b) Manage stormwater flows and water quality.
 - (i) Discuss plans with the District to determine the site and off site (downstream) needs for storm water management to establish design parameters for infiltration, retention, and detention.
 - (ii) Minimize the length and amount of infrastructure (such as sewer and water lines, and roads) planned for a site.

5.3.3 Solid Waste

Reducing the amount of construction waste that ends up in landfills assists the Municipality and the Regional District in meeting their goals of reducing the amount of solid waste requiring disposal and in attaining the long-term goal of Zero Waste. It also reduces GHG emissions generated by transport of waste.

- (a) Consider renovation and adaptive reuse of existing buildings.
- (b) Use durable exterior and interior finishes to reduce the likelihood of material ending up in landfills.
- (c) Consider using salvaged materials (where permitted in BC Building Code), both for buildings and landscape (as per BC Landscape standards).
- (d) Consider specifying materials that are recycled, reused, and renewable or contain recycled content.
- (e) Select locally sourced materials. North Cowichan supports, through Council policy, the “Wood First” initiative of the provincial government.
- (f) Consider using products made from wood waste where appropriate (but watch for indoor air quality and possible off-gassing).

- (g) Consider designing structures to maximize the use of standard size materials in building design for the efficient use of materials (less waste)
- (h) In assessing and selecting finishes, review their comparative aesthetics, comfort and acoustical control.
- (i) Select appropriate material for all projects (e.g. through life-cycle assessments).
- (j) Consider building materials that have low "embodied energy," are from rapidly renewable sources, and/or have been acquired with minimal transportation kilometres. Consider using:
 - (i) locally manufactured materials;
 - (ii) low embodied energy materials such as wood;
 - (iii) durable materials for long service life and low maintenance;
 - (iv) materials with recycled material content, locally harvested materials, and sustainably harvested and certified wood.
- (k) Maximize the use of safe and healthy materials.
 - (i) Use roofing materials that support rainwater harvesting (cedar and asphalt can transfer chemicals).
 - (ii) Use insulation that does not contain harmful chemicals such as hydrochlorofluorocarbons or extruded polystyrene.
 - (iii) Use high-performance windows.
 - (iv) Choose wood with natural preservatives over chemically treated wood where appropriate.
 - (v) Avoid manufactured products with pollutants such as urea formaldehyde.
 - (vi) Specify low volatile organic compound (VOC) building products.
 - (vii) Avoid materials that trap dust and odours.
- (l) Minimize the generation of solid waste in construction.
 - (i) Install with deconstruction in mind to allow for material reuse.
 - (ii) Avoid demolition of old buildings to waste. Consider reuse/renovation as an option.
 - (iii) Prepare a plan for materials staging to protect materials from damage and possible waste (e.g. schedule just-in-time delivery; fence and protect staging area from weather).
 - (iv) Use preassembled, pre-cut components (e.g. trusses) to reduce site waste.
 - (v) Minimize the selection of materials with excessive packaging.
- (m) Maximize the diversion of solid waste from landfill.
 - (i) Use local facilities for reuse and recycling of products that are not at the end of their useful lives (consider providing a facility on site for multi or large developments).
 - (ii) Incorporate full recycling options for the completed development (e.g. recycling, organics, composting), as well as garbage collection.
 - (iii) Use chipped vegetation as mulch on site, and use logged wood from the site in the design of the building or components.
 - (iv) Design adequately for waste diversion techniques on site, and locate these conveniently for use but not to negatively impact public access, corridors or areas.
- (n) Make areas for recycling collection, composting and waste disposal sufficiently large and easily accessible and plan them so they have the capacity for expansion.