

## 18.5 Guidelines

The expertise of qualified environmental professionals (retained by applicants), is strongly encouraged and may be required in certain circumstances.

### 18.5.1 Lands Free of Development

Lands to remain free of development, with conditions:

1. Lands within 7.5 m of the high watermark of the Gorge Waterway shall be retained in as natural a state as possible. Where the land has been previously altered, the area shall be restored with native trees and plants.
2. New buildings/ structures shall not be located within 20 m of the high watermark of the Gorge Waterway.
3. New buildings/ structures shall not be located within 10 m the high watermark of the Strait of Juan de Fuca.
4. Replacement of, expansion of, densification and intensification of the use of existing buildings within 20 m of the high watermark of the Gorge Waterway is discouraged; detached accessory dwelling units are strongly discouraged in this location.
5. Replacement of, expansion of, densification and intensification of the use of existing buildings within 10 m of the high watermark of the Strait of Juan de Fuca is discouraged and detached accessory dwelling units are strongly discouraged in this location.
6. Variances to 'Building Height' and 'Siting Requirements' will be considered where natural areas and trees are being protected.
7. Consider the use of conservation covenants for areas having high ecosystem conservation values. Property owners are encouraged to work with local land trusts to protect natural features and valuable habitat areas through land covenants.

### 18.5.2 Natural Features

Natural features and areas to be preserved, protected, restored, and enhanced where feasible:

1. Retain existing healthy native trees, vegetation, rock outcrops and soil wherever possible.
2. Preserve and enhance native tree and shrub clusters that overhang the waters edge as these provide shade, protection and feeding habitat for fish and wildlife.
3. Preservation of natural topography is favoured over blasting or building of retaining walls.
4. Narrower manoeuvring aisles, fewer and smaller parking spaces can be considered where natural areas are being conserved.
5. Design new development and landscaping to frame rather than block public views.
6. Avoid disturbing, compacting and removing areas of natural soil as this can lead to invasion by unwanted plant species, poor water absorption and poor establishment of new plantings. Use of local natural soil in disturbed and restored areas will support re-establishment of ecosystem functions.

### 18.5.3 Biodiversity

Landscaping features that will protect, restore and enhance biodiversity. Where feasible:

1. New landscaping shall consist predominantly of native plant and tree species. Plants that are native to the Coastal Douglas-fir biogeoclimatic zone are preferred in landscape treatments as they provide habitat for threatened indigenous flora and fauna. Drought tolerant plants native to western North America, that are known to be non-invasive, are a good alternative choice for landscaped areas.
2. In residential locations plan for 'nature out front'; for new landscaping in front and exterior side yards use a variety of site-appropriate, native species; thereby contributing positively to pedestrian friendly urban streets, future greenways and habitat enhanced corridors.
3. Choose trees and plants for site conditions; consider shade, sunlight, heat, wind-exposure, sea spray tolerance, and year round moisture requirements in their placement.
4. Consider the habitat and food needs of birds, pollinators, and humans in tree and plant species selection and placement; native plantings and food gardens compliment each other.
5. Encourage native plant and food gardens to spill from private land into boulevards.
6. Avoid monoculture plantings, especially expanses of turf grass outside of playing field sites.
7. Snags, logs, driftwood and rock cairns may be used as interesting landscaping features that also provide habitat for native flora and fauna.
8. Avoid using fast-growing non-native plants to cover and retain soils as they may become invasive and a constraint to the establishment of other plants.
9. Locate civil servicing pipes/lines under driveways or other paved areas to minimize tree root damage. (Note that the majority of trees have their roots in the top 0.6 m of the soil).
10. Design retaining wall spacing and landscape planting areas of sufficient width and depth to support plantings (eg. provide larger spaces for trees).
11. Support the daylighting of portions of the stormwater system for enhanced habitat.
12. Aim to meet the Canadian Landscape Standards in all landscaping installations.

### 18.5.4 Natural Environment

Measures to protect, restore and enhance the natural environment (limit noise, light and air pollution). Where it is reasonable:

1. Strategically locate leafy trees/ hedges and water features to mask urban noises such as traffic, garbage collection and delivery locations. Consider that leafy rough barked trees, vine covered walls and natural ground cover materials (mulch, soil) will help dampen urban noise.
2. Use International Dark-Sky Association approved lighting fixtures in outdoor locations. Outdoor lighting shall be no brighter than necessary, be fully shielded (directed downward and designed to serve pedestrian needs), have minimal blue light emissions and only be on when needed. Avoid vanity lighting, and lighting directed into the night sky and trees tops.
3. Light spillage on to waterways is strongly discouraged.
4. Place trees and vegetation near sources of air pollution including busy roadways, to assist in reduction of air pollution through the collection of particulate matter on leaves and needles, and absorption of toxic gases, including but not limited to: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, carbon dioxide, cadmium, chromium, nickel and lead.

### 18.5.5 Drainage and Erosion

Measures to control drainage and shoreline erosion. Where it is reasonable:

1. Preserve, restore and enhance treed areas. Trees are the most effective form of absorbent landscaping due to their extensive root zones and their ability to both absorb water from the soil and intercept precipitation on leaves, needles and branches. Consider that native conifers are well adapted to local wet winters.
2. Reduce the impact of surges in stormwater on shorelines by designing on-site stormwater retention systems to contain the first 3 centimetres [1.25 inches] of precipitation on site, per precipitation event; and incorporating rainwater collection systems into roof design and landscaping.
3. Consider using shared private/ public rain gardens. Direct a portion of stormwater to adjacent public open spaces, when deemed appropriate by the Director of Engineering and Public Works.
4. Maximize the ratio of planted and pervious surfaces to unplanted surfaces, and design paved areas to direct water towards vegetated areas, to help reduce surface run off. Where paved surfaces are needed, intersperse with drought resistant vegetation and trees, to help absorb stormwater, provide shade and reduce the local heat island effect.
5. Use porous surfaces to enhance stormwater infiltration, permeable paving is preferable for all open air parking areas. Ensure installation methods contribute to sustained permeability and retention of stormwater on the site.
6. Choose absorbent landscaping materials; leaf mulches, wood chips and good quality top soil, over gravel, pavers and concrete. Provide mulch of organic, locally derived materials; leaf mulch from local tree leaves is most desirable.
7. Incorporation of rain gardens, bio-swales, rain barrels, and even small depressions (puddles) into landscaping will help reduce surges of stormwater entering local waterways.
8. Planting densities should ensure that vegetated areas will have near 100% plant coverage after two full growing seasons.

### 18.5.6 Protect, Restore and Enhance Shorelines

Measures to protect, restore and enhance local shorelines (reducing shoreline hardening and dock development). When it is feasible:

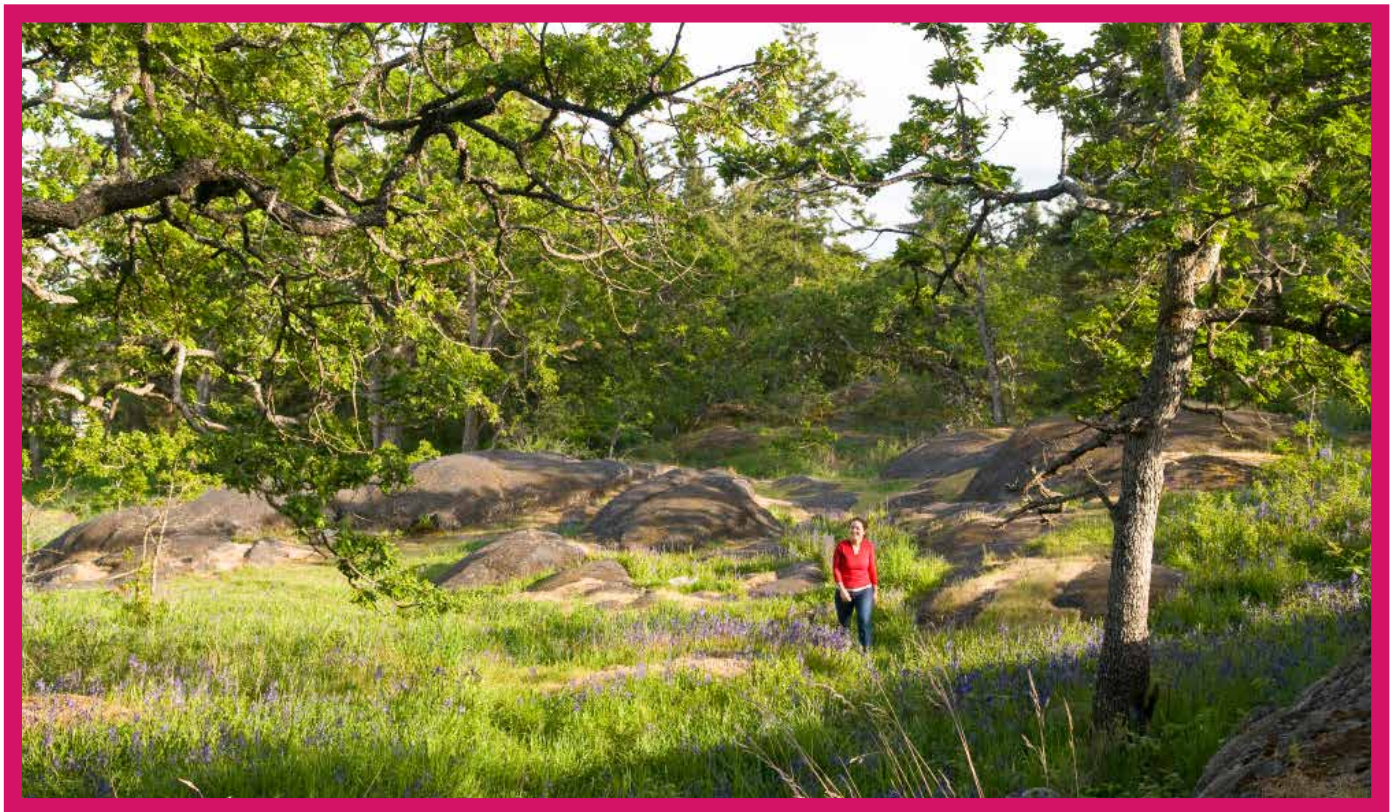
1. Waterfront property owners are encouraged to become familiar with and adopt a 'soft shore' restoration approach to the care of their foreshore property (i.e. Green Shores for Homes).
2. Avoid the expansion of dock area, bulkheads, groins or other shoreline hardening structures. Removal or reductions in the surface area of existing private docks is encouraged.
3. Where shoring methods are required to prevent erosion or the sloughing of the shoreline, choose bio-engineering methods over the use of sea-walls or retaining walls. Where sea-walls or retaining walls are the only means of effectively preventing erosion, design in consultation with qualified environmental professionals, as well as engineering professionals.

### 18.5.7 Native Bird Biodiversity

Measures to protect, restore and enhance native bird biodiversity. Where it is reasonable:

1. Protect and enhance habitat features like mature trees, shrub clusters, native fruit bearing shrubs, fresh water ponds and ephemeral damp areas (puddles).

2. Encourage increased front yard habitat along quieter streets to reduce bird vehicle conflicts and enhance the pedestrian experience through native plantings.
3. Sustain a mix of habitat types; including forest, shrub-land, meadow, riparian wetland and coastal shoreline ecosystems in landscaping.
4. Incorporate a vertical vegetation structure [vertical habitat] including layers of ground cover, shrub, understorey and canopy in landscape design.
5. Choose a range of native plant species and sizes; a mix of coniferous and deciduous trees will enhance bird species diversity.
6. Incorporate architectural features that limit collisions between birds and windows including patterned, frosted or tinted glass, exterior louvers, blinds, sun shades and canopies.
7. Cap and screen all ventilation pipes and grates, avoid openings greater than 2.0 x 2.0 cm.





## 23.5 Guidelines

1. The size and siting of buildings that abut existing single- and two-unit and townhouse dwellings should reflect the size and scale of adjacent development and complement the surrounding uses. To achieve this, height and setback restrictions may be imposed as a condition of the development permit.
2. New buildings should be designed and sited to minimize visual intrusion on to the privacy of surrounding homes and minimize the casting of shadows on to the private outdoor space of adjacent residential units.
3. High-density multi-unit residential buildings or mixed commercial/residential buildings in commercial areas should be designed so that the upper storeys are stepped back from the building footprint, with lower building heights along the street front to address human scale, public space, and maximum light penetration at street level.
4. Landscaping should emphasize the creation of an attractive streetscape, as well as provide privacy between individual buildings and dwellings, screen parking areas and break up large expanses of paving.
5. Surface parking areas in developments less than five storeys in height, will be situated away from the street and screened by berms, landscaping or solid fencing or a combination of these three.
6. Underground parking should be encouraged for any multi-unit residential buildings exceeding four storeys.
7. The retention of public view corridors, particularly views to the water, should be encouraged wherever possible.
8. To preserve view corridors and complement natural topography, stepped-down building designs are encouraged for sloping sites.
9. Retention and protection of trees and the natural habitat is encouraged wherever possible.
10. Townhouses will be designed such that the habitable space of one dwelling unit abuts the habitable space of another unit and the common wall overlap between adjoining dwellings shall be at least 50 percent.
11. Site lighting should provide personal safety for residents and visitors and be of the type that reduces glare and does not cause the spillover of light on to adjacent residential sites.
12. Avoid excessively long blank walls adjacent to public streets.
13. Use architectural emphasis to define street corners.
14. Provide for building occupants to overlook public streets, parks, walkways and spaces, considering security and privacy of residents.
15. Provide for slightly raised entrances to ground floor residences along with private yards that are accessible from the fronting street or lane to encourage community interaction.
16. Use of indigenous and adaptive plant species is encouraged.
17. All exterior lighting should avoid excessive stray light pollution and should meet International Dark-Sky standards.

18. Wherever possible, outdoor storage and parking areas should be screened from view.
19. Avoid expansive blank walls (over 5 m in length) and retaining walls adjacent to public streets. When blank walls and retaining walls are unavoidable, use an appropriate design treatment, such as the following:
  - Install a vertical trellis in front of the wall with climbing vines or other plant material.
  - Set the wall back slightly to provide room for evergreens and conifers to provide year-round screening.
  - Provide art (a mosaic, mural, relief, etc.) over a substantial portion of the wall surface.
  - Employ quality materials of different textures and colours to make the wall more interesting visually.
  - Provide special lighting, canopies, awnings, horizontal trellises or other human-scale features that break up the size of the blank wall surface and add visual interest.
  - Incorporate walls into a patio or sidewalk café space.
  - Terrace (step down) retaining walls.
20. Exposed stairway and hallways on the exterior street facing portion of the building are discouraged.

- Support the construction of new buildings that contribute to those neighbourhoods where people are delighted to live, work, walk and play;
- Support development to have a positive impact on the biosphere, community resilience and residents' health.

## 24.4 Exemptions

1. Minor alteration/ addition to the exterior of a building. For the purpose of this section, "minor" is defined as a change which does not:
  - Increase the lot coverage by the lessor of 5% of the parcel or 50 m<sup>2</sup> (based on the site coverage of all buildings and structures);
  - Increase any bylaw non-conformities;
  - Comprise an addition of more than 50 m<sup>2</sup> of gross floor area; or
  - Require a Development Permit for 'Form and Character.'
2. Landscaping.
3. Installation of temporary tent/carport structures intended to be used for less than one year.

## 24.5 Guidelines

The expertise of qualified environmental professionals (retained by applicants) is strongly encouraged and may be required in certain circumstances.

### 24.5.1 Siting of buildings and structures

Where it is feasible:

1. Orient buildings to take advantage of site specific climate conditions, in terms of solar access and wind flow; design massing and solar orientation for optimum passive performance.
2. Build new developments compactly, considering the solar penetration and passive performance provided for neighbouring sites, and avoid shading adjacent to usable outdoor open spaces.
3. In commercial, residential or commercial mixed-use designated areas with taller developments, vary building heights to strategically reduce the shading on to adjacent buildings.
4. Provide space for pleasant pedestrian pathways between buildings.
5. Strategically site buildings to sustain and increase the community's urban forest tree canopy cover.
6. Provide space for significant landscaping including varying heights of trees, shrubs and ground covers.
7. Provide intuitive pedestrian access to storefronts and businesses with site connectivity to nearby amenities and services to help promote walking and the use of other active transportation modes.
8. Provide usable outdoor amenities such as seating, food gardens, mini-libraries, and play spaces in semi-public areas to enhance the experience of walking and recreating in the neighbourhood.

9. In residential neighbourhoods, provide space for larger trees and a second row of street trees as this will enhance the pedestrian experience by lowering wind velocity at street level, reducing excessive heating at ground level and absorbing vehicle and other urban noises.

### **24.5.2 Form and exterior design of buildings and structures.**

Where it is feasible:

1. Orient larger roof surfaces to the south for potential use of solar panels or photo-voltaic roofing.
2. Use roof designs that reduce heat transfer into neighbouring buildings, helping reduce the local heat island effect and the need for cooling of buildings in warmer months.
3. Place more windows on the south side of buildings to increase solar gain, and fewer/ smaller windows on the north side to minimize heat loss.
4. Use roof over-hangs, fixed-fins or other solar shading devices on south and west facing windows to reduce peak summer heat gain while enabling sunlight penetration in winter months.
5. Install adjustable overhangs above windows that can help control the amount of sun exposure in warmer months thereby reducing need for cooling.
6. Provide building occupants with control of ventilation; i.e. windows that open.
7. Skylights are discouraged as they decrease insulating values and can interfere with solar panel installation.
8. Add rooftop patios and gardens, particularly food producing gardens, as they can contribute to local resilience, livability, and reduction in greenhouse gas production by reducing food transportation costs.
9. Install greenhouses for growing food on rooftops where neighbourhood privacy and light intrusion concerns are mitigated.
10. Avoid heavily tinted windows or reflective glass which will diminish the natural daylighting of interior spaces, thereby requiring increased energy requirements for interior lighting.
11. In exposed marine locations select durable materials that will withstand weather and sea spray, to ensure low maintenance costs and infrequent replacement needs.

### **24.5.3 Landscaping**

Where it is feasible:

1. Develop a front yard landscape design that is natural and delightful so residents do not need to leave the neighbourhood to experience nature.
2. Choose open space and landscaping over dedicating space to the parking and manoeuvring of private motor vehicles.
3. Conserve native trees, shrubs and soils, thereby saving the cost of importing materials and preserving already sequestered carbon dioxide.
4. Use deciduous trees for landscaping along southern exposures, as they provide shade in the summer and allow more sunlight through in the winter.
5. Strategically place taller trees and vegetation on the south and west sides of buildings where there is more direct sun exposure.
6. Strategically place coniferous trees such that they can buffer winter winds.



7. As context and space allow, plant trees that will attain a greater mature size, for greater carbon storage; removal of healthy trees is discouraged as the loss of the ecosystem services provided by larger trees will take many years to recover.
8. Plant trees with a larger canopy cover along roadways and sidewalks, thereby providing shading of paved areas, lowering the heating of paved surfaces and reducing the wind velocities in these pedestrian areas.
9. Plant shorter and sturdier vegetation closer to buildings and other structures, and taller vegetation further away to avoid potential damage from strong winds blowing vegetation against buildings.
10. For commercial areas, strategically increase green space between buildings, allowing room for landscaped pathways to improve the pedestrian experience, promote walking, and provide for improved light penetration on to sidewalks.
11. For parking areas and along boulevard/ sidewalk edges; plant trees to provide shade, store carbon and reduce the heat island effect.

#### **24.5.4 Machinery, equipment and systems external to buildings and other structures.**

Where it is feasible:

1. For external lighting:
  - Choose efficient low-energy and long life technologies;
  - Design lighting to reinforce and compliment existing street lighting;
  - Use motion-sensitive or solar-powered lights whenever possible;
  - Layer lighting for varying outdoor needs; and
  - Provide lighting systems that are easily controlled by building occupants.
2. Use heat pumps, solar panels, green (living) roofing or an innovative system to improve a building's energy performance.
3. Use durable, vandalism and graffiti resistant materials where neighbourhood surveillance may be limited.
4. Design for on-site heat recovery and re-use of water.
5. In commercial and industrial areas: design bicycle parking facilities to be inviting for cyclists. Locate bike racks near the main building entrance, with adequate lighting and weather protection.
6. In commercial areas, provide fast charge electric vehicle charging stations near locations that have quick customer turnover, and ensure the station is easily accessible, well lit, and visible from the public street.
7. Provide car sharing facilities that are well lit, available for residents, and easily accessed from the public street.

#### **24.5.5 Special Features**

Where it is feasible:

1. Select building materials that have been shown to have a high level of durability for the use intended.

2. Use wood for construction as a means to sequester carbon dioxide - North American grown and sustainably harvested wood is preferable for building construction.
3. Select local and regionally manufactured building products whenever possible to reduce transportation energy costs.
4. Reuse of existing buildings and building materials is encouraged.
5. Choose materials that have a high likelihood of reuse or recycling at end of life.

- Reduced potable water consumption which leads to reduced energy consumption associated with the treating of wastewater;
- The best use of existing infrastructure so that the need for system capacity expansion and extension can be reduced;
- Use of stormwater for landscaping to assist in the conservation of local water reserves; and
- Rain gardens, retention ponds, and bioswales that can provide value as an urban design element and provide a source of delight in a passive recreation environment, and enhanced wildlife habitat and biodiversity.

## 25.4 Exemptions

The following do not require a development permit:

1. Changes to landscaping that does not decrease the permeability of a property
2. A minor alteration/ addition to the exterior of a building. For the purpose of this section, "minor" is defined as a change which does not do any of the following:
  - Increase the lot coverage by the lessor of 5% of the parcel or 50 m<sup>2</sup> (based on the site coverage of all buildings and structures);
  - Increase any bylaw non-conformities; or
  - Comprise an addition of more than 50 m<sup>2</sup> of gross floor area.
3. Installation of temporary tent/carport structures to be used for less than one year.

## 25.5 Guidelines

The expertise of qualified environmental professionals (retained by applicants), is strongly encouraged and may be required in certain situations.

### 25.5.1 Building and Landscape Design

Where it is feasible:

1. Reduce the burden on built stormwater infrastructure by designing on-site retention systems to retain the first three centimetres (1.25") of stormwater on site, per precipitation event.
2. Provide space for absorbent landscaping, including significantly sized trees on the site and by not allowing underground parking structures to extend beyond building walls.
3. Incorporate rainwater collection systems into roof design; consider using living roofs and walls as part of a rainwater collection system.
4. Incorporate rain gardens into landscaping and direct rainwater towards vegetated areas.
5. Intersperse paved surfaces with drought resistant vegetation that will provide shade on those surfaces and design the paved surfaces to drain into the vegetation.
6. Design landscaping with more planted and pervious surfaces than solid surfaces.
7. Direct stormwater towards adjacent public spaces, with rain gardens/ bioswales located on public property where it would benefit both the new development and the municipality and where it is deemed appropriate by municipal staff.

## 25.5.2 Landscaping - Select Plantings for Site and Local Conditions

Where it is feasible:

1. Retain existing native trees vegetation, and soil on site.
2. Plant species native to the Coastal Douglas-fir biogeoclimatic zone, as they are most suited to our climate and require little additional irrigation once established.
3. Consider shade, sunlight, heat, wind-exposure and sea spray, as well as water needs in the selection and placement of plant species.
4. Group plants with similar water needs into hydro-zones.

## 25.5.3 Landscaping – Retaining Stormwater on Site (absorbent landscaping)

Where it is feasible:

1. Preserve and restore treed areas. Trees are the most effective form of absorbent landscaping due to their extensive root zones and their ability to both absorb water from the soil and intercept precipitation on leaves, needles and branches. Consider that native conifers are well adapted to local wet winters.
2. Use pervious landscaping materials to enhance stormwater infiltration; permeable paving is preferable for surface parking areas.
3. Avoid disturbing, compacting and removing areas of natural soil, as these are naturally absorbent areas.
4. Locate civil servicing lines along driveways and other paved areas, to lessen the disturbance of natural soils and loss of their natural absorption qualities.
5. Use good quality top soil and compost for the finish grading of disturbed areas to contribute to the water holding capacity of newly landscaped areas.
6. Choose bark mulches or woodchips for walking paths for enhanced absorption.
7. Plant at densities that will ensure vegetated areas have 100% plant canopy coverage after two full growing seasons. Consider that understory native plants are adapted to local climates, absorb seasonal soil moisture and reduce compaction due to foot traffic.

## 25.5.4 Landscaping - Water Features and Irrigation Systems

Where it is feasible:

1. Use automated high efficiency irrigation systems where irrigation is required.
2. Incorporate stormwater retention features into irrigation system design.
3. Use recirculated water systems for water features such as pools and fountains.
4. Install plantings and irrigation systems to the Canadian Landscape Standard.