

14.0 Development Permit Guidelines



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14.0 Development Permit Guidelines

14.1 Overview

14.1.1 Background

From 2009 to 2012, the City undertook an extensive public consultation process to determine the community's vision for the future. As a result of this process, strong support was revealed for the:

- retention of agricultural lands for farming;
- protection of the City's ecological network, natural environment and island foreshore;
- proper design and implementation of more housing choices in certain neighbourhoods;
- planning for the densification of neighbourhood shopping centre areas over time;
- focussing development in the City Centre.

The Official Community Plan (OCP) is the blueprint for achieving this vision. One of the tools it will use for this purpose is the designation of Development Permit (DP) Areas and the specification of DP Guidelines as permitted in the Local Government Act. The DP Areas and Guidelines support the goals, objectives and policies of the OCP. They outline the City's expectations for future growth and change by redevelopment and development, and provide guidance regarding form and character of development or other objectives (i.e., promotion of energy conservation) for the community.

14.1.2 Objectives

The OCP DP Areas and Guidelines are intended to help support the establishment of:

- the City Centre as a "premier, urban-riverfront community" characterized by outstanding public places and spaces where people can take pleasure in public life within walking distance of where they live, work, shop, learn and play;



- strong and identifiable local character for “neighbourhood centres” located within and around local shopping malls;
- pedestrian-friendly, walkable, green neighbourhoods with a strong human scale and unity of character;
- complete and sustainable neighbourhoods that include a range of housing choices and services, and promote residential densities that support convenient local retail/commercial uses that are easily accessible via an integrated pedestrian-vehicular circulation network;
- a high standard of development, incorporating basic design elements for site planning, building massing, building practices, quality of materials, energy efficient building practices and adequate climate and weather protection;
- natural features and ecologically significant areas that are protected, and Environmentally Sensitive Areas (ESAs) as a component of the ecological network;
- a special Richmond character, enhanced by the distinct qualities and opportunities of its developing districts and neighbourhoods;
- a high quality public realm, including public streets and lanes, parks and other open spaces, publicly accessible parts of buildings, and a built form defining and/or adjacent to public spaces.

14.1.3 Legal Authority

The Local Government Act allows the OCP to designate DP Areas for the following purposes.

A DP Area is intended to address special development circumstances, and if a property is within a DP Area, certain types of development activity cannot proceed without a DP being issued.

Protection of Farming

Bylaw 10231
2021/04/19

The principal farming areas in Richmond are in the designated Agricultural Land Reserve (ALR). Farms along the edge of the ALR which abut non-farm development require special protection. Consequently, all significant new development (excluding single-family development) outside of, but along the edge of, the ALR requires a DP to reduce the impact on the existing or potential farms and related uses by adequate setbacks, screening or other appropriate measures.

Protection of the Natural Environment

As part of the OCP, the City has updated its ESA Strategy using an ecological network approach. Based on this Strategy and public consultation, certain areas are designated as ESA DP areas (Attachment 2 of the OCP).

Protection of Development from Hazardous Conditions

Because it is on an estuarine island, all development in Richmond has to be protected from flooding. The principal method used is to construct and maintain perimeter dikes. This is an ongoing task in which all three levels of government have participated from time to time.

A secondary method of protection is to minimize potential flood damage by raising vulnerable building areas above the maximum anticipated flood level. This raises questions of form and character where new development is interspersed with older development. The OCP contains DP Guidelines to minimize the impact of new development on its surroundings.

Finally, since the foreshore area is the front line of protection against flooding, it deserves special consideration. The foreshore areas are designated as an ESA DP Area and the DP Guidelines serve the dual purpose of flood and environmental protection. Marinas are also subject to special DP Guidelines because of their foreshore location.



Form and Character of Multiple Family Residential, Commercial or Industrial development

Commercial and industrial developments have the potential for causing significant aesthetic, environmental or other adverse impacts on surrounding uses. All commercial developments are deemed to merit the site-by-site consideration afforded by the DP process. Industrial uses grouped together, as in an industrial park, do not merit the same consideration, but do where they are:

- adjacent to specified non-industrial uses;
- in the City Centre, where harmonious civic design is a major consideration.

A key housing policy of the OCP is to carefully integrate new housing development into existing neighbourhoods. All multiple family residential and mixed use projects merit site-by-site consideration for form and character in order to achieve the desired relationship to surrounding areas and to ensure high standards of new housing design.

Form and Character of Intensive Residential Development

As part of the OCP, the City is proposing to permit granny flats and coach houses in certain selected neighbourhoods. In order to ensure that these new forms of housing fit into these neighbourhoods and are well designed, the public has supported the notion of designating the areas where the granny flats and coach houses will be permitted as DP Areas.

Energy and Water Conservation and Greenhouse Gas Emissions

The Province is either requiring or encouraging local governments to address these environmental issues. In addition to the variety of other things Richmond is already or proposing to do, the establishment of some general DP guidelines regarding green buildings and sustainable infrastructure are included in this OCP.

14.1.4 Application and Intent

The intent of the DP Areas and Guidelines is to support the goals, objectives and policies of the OCP and to build upon the past achievements and strengths of the City of Richmond. The guidelines identify basic development standards to be applied across the entire community, as well as measures appropriate to specific land uses.

A DP Area addresses special development circumstances, and if a property is within a DP Area, certain types of development activity cannot proceed without a DP being issued. The DP Guidelines include:

- General Guidelines: Basic development standards applicable across the City;
- Specific Guidelines: Development standards applicable to specific land uses.

In certain cases, these DP Guidelines are surpassed by more detailed DP Guidelines outlined in Area Plans or Sub-Area Plans adopted by the City of Richmond. In the event of a conflict between the DP Areas and Guidelines contained in the OCP (Schedule 1) and those contained in the Area Plans or Sub-Area Plans (Schedule 2), the latter shall apply. The only exceptions to this rule, in which case the OCP DP Areas and Guidelines apply, are:

- Environmentally Sensitive Areas (ESAs);
- marinas;
- sites abutting the edge of the Agricultural Land Reserve (ALR).

In the event of a conflict between the DP Guidelines and regulations outlined in the City of Richmond's Zoning Bylaw, the latter shall take precedent.



The DP Guidelines do not require literal interpretation, in whole or in part. They will, however, be taken into account in the consideration of DP applications. The DP Panel may, at its discretion, recommend denial of, or require modifications to a DP application for failure to meet the standards contained within these Guidelines, in whole or in part. Developers and architects are encouraged to read the reasoning behind the criteria and meet the spirit of the criteria as well as the letter of the law.

14.1.5 Development Permit Area Designations

Pursuant to the Local Government Act, the City of Richmond designates the following as DP Areas:

Bylaw 10630
2025/03/24

- intensive residential areas where small-scale multi-unit housing development is permitted and involves:
 - a building greater than one storey or 5.0 m (16.4 ft.) in height that is located, in whole or in part, within 6.0 m (19.7 ft.) of a rear lot line; or
 - land along arterial roads within the Arterial Road Land Use Policy Area, excluding development of a lot with only one dwelling unit or two dwelling units where one dwelling unit is a secondary suite;

Bylaw 9603
2016/12/19

- intensive residential areas where granny flats and coach houses are permitted (e.g., Edgemere);
- intensive residential areas where duplexes and triplexes are permitted along arterial roads within the Arterial Road Land Use Policy Area;
- all multiple family sites throughout the City;
- all commercial sites throughout the City;
- all mixed-use developments (where residential and non-residential uses are combined on a site) throughout the City;
- all industrial sites in the City Centre Area Plan (CCAP);
- those industrial sites adjoining or within 30 m (98.4 ft.) to another site which is zoned or designated for residential, community institutional, park, school, conservation area, or mixed use;
- Environmentally Sensitive Areas (ESAs) shown in Attachment 2 to this OCP;
- all marinas;
- all sites abutting to the edge of the Agricultural Land Reserve (ALR);
- all industrial sites with two or more storeys that have exterior vehicular access to upper storeys.

Bylaw 10180
2021/02/16

14.1.6 Development Permit Area Exemptions

14.1.6.1 All Areas Except Environmentally Sensitive Areas (ESAs)

Exemptions to the DP process are as follows:

- renovations to interiors of all buildings except neighbourhood public houses;
- renovations to interiors of neighbourhood public houses where the interior renovations cost less than \$5,000;
- exterior renovations of all buildings, except neighbourhood public houses, which cost less than \$75,000;
- exterior renovations of neighbourhood public houses where the exterior renovations cost less than \$5,000;
- new buildings or building additions of 100 m² (1,076.4 ft²) or less, excluding small-scale multi-unit housing development on irregularly-shaped lots (i.e., not rectangular);
- new buildings or building additions of 100 m² (1,076.4 ft²) or less, excluding development involving small-scale multi-unit housing;

Bylaw 10579
2024/07/15

Bylaw 10630
2025/03/24



Bylaw 10039
2023/05/15

- exterior renovations of all buildings, exterior changes to all buildings or land, new buildings or building additions, new ancillary buildings on protected heritage property subject to a Heritage Alteration Permit or subject to a Heritage Revitalization Agreement. Heritage Alteration Permits issued for protected heritage properties that are to be conserved and maintained will be consistent with the “Standards and Guidelines for the Conservation of Historic Places in Canada”, prepared by Parks Canada, and any Heritage Alteration Permits for new buildings or additions to protected heritage properties will be consistent with the applicable Development Permit guidelines in addition to the “Standards and Guidelines for the Conservation of Historic Places in Canada”, prepared by Parks Canada.

14.1.6.2 Environmentally Sensitive Areas (ESAs) Only

Exemptions to the DP process are as follows:

- renovations to interiors;
 - exterior renovations and construction activities which do not impact upon, or extend into, the designated ESA (e.g., within the existing footprint of buildings or paved areas);
 - maintenance activities on existing structures which can be reasonably shown to not result in damage to trees, shrubs or fish habitat. (Note: the City may require that a qualified professional review such proposed works);
 - regular and emergency City maintenance activities for drainage control and diking (environmental best management practises will be followed);
 - construction and maintenance activities carried out by, or on behalf of the City, and designed to enhance and protect natural habitat and public trails;
 - where an ESA covenant satisfactory to and in favour of the City of Richmond has already been registered for the protection of an ESA;
 - streamside enhancement and fish and wildlife habitat restoration works (e.g., planting riparian species, removing invasive species) that have obtained the required senior government approvals;
 - the removal of trees deemed hazardous by a qualified arborist that threaten the immediate safety of life and buildings;
 - subdivision and development operations (which include but are not limited to demolition/ clearing, fill placement, crossing replacement upgrade and building) on City owned lands which are within 30 m (98.4 ft.) landward of the high water mark and within 5 m (16.4 ft.) and 15 m (49.2 ft.) of the Riparian Management Area (e.g., West Dike). Such operations will be subject to the Riparian Management Area (RMA) protection requirements (see Bulletin Info-23);
 - activities (e.g., construction of fences) on privately owned lands along the West Dike which are within 30 m (98.4 ft.) landward of the high water mark and within 5 m (16.4 ft.) and 15 m (49.2 ft.) of the Riparian Management Area. Such operations will be subject to the Riparian Management Area (RMA) protection requirements (see Bulletin Info-23);
 - City parks which are below the high water mark and extend seaward 30 m (98.4 ft.);
- Note: There is a continuous 30 m (98.4 ft.) ESA buffer below the highwater mark. This exemption is intended to exclude those areas of park that fall into this buffer (e.g., Garry Point Park).
- First Nation owned lands (e.g., currently on Sea Island) near the Metro Vancouver Iona Sewage Treatment Plant and if more occur, they too are to be exempt;
 - agricultural activities.



To take advantage of an ESA DP exemption for the agricultural activities identified below, property owners must provide, to the satisfaction of Council or its designated staff, information to demonstrate that they are legitimately farming:

- for existing farmers: For example, that they have generated on the affected site, legitimate agricultural income (e.g., from government tax records), and this information is to be supplemented by other sources (e.g., a government Farm Number, BC Assessment information, City tax or assessment information);
- for new farmers: a farm plan produced by a professional Agrologist to the satisfaction of the City (including information on unimproved/improved agricultural capability/suitability, soils, drainage, irrigation, proposed farm product and operator, and agricultural improvement cost estimate). Where legitimate farming activities are not demonstrated in accordance with the farm plan, or where this permission has not been granted but environmental assets and services have been modified, the City may require the owner to restore and rehabilitate the modified environmental asset and services;

Bylaw 10232
2021/04/19

- exempt agricultural activities:

Where the above criteria are met, the following agricultural activities are exempt from obtaining an ESA DP:

- accessory farm buildings (e.g., agricultural barns, sheds, accessory accommodation for seasonal farm workers, greenhouses), excluding the principal accessory farm residence;
- agricultural farm cultivation including land clearing, field drainage, irrigation, Agricultural Land Commission (ALC) and City approved farm soil filling, growing crops, fencing, raising animals and bee keeping;

- non-exempt agricultural activities:

For clarity, all owners of proposed residences in the ALR and City designated and zoned agricultural areas are to apply for and receive an ESA DP. Accessory residential buildings and structures (e.g., detached garages; swimming pools; tennis courts) and subdivisions will also require an ESA DP;

- other Federal and Provincial Agriculturally Related Policies:

- agricultural activities in Riparian Management Areas are subject to the Fisheries Act;
- non-agricultural buildings and infrastructure on ALR lands are subject to the conditions of the Provincial Riparian Area Regulations.

Bylaw 10232
2021/04/19



14.2 General Guidelines

These Guidelines are intended to provide general conditions that would apply to applicable developments that require a Development Permit. The General Guidelines are supplemented, and may be superseded, by the additional Guidelines for specific land uses outlined in subsequent sections.

14.2.1 Public and Private Views

The intent is to maintain views wherever possible; public off-site views as well as private on-site views should be carefully considered in the site design of every development.

- a) Taller buildings should be located to both protect existing views and provide new views, minimize shadow impacts on open space, create a sense of place and identify and provide landmarks in the cityscape.
- b) Design building massing to minimize the disruption of significant views from existing developments and public places while supporting opportunities for the creation of new views.
- c) The form and placement of buildings should consider the following aspects of public views from the site:
 - preservation to a reasonable extent, of views to the Fraser River, North Shore Mountains and south to Mount Baker;
 - views to “near” views of parks, natural and landscaped areas both on and off site, as well as special views, such as of the mountains or waterfront.
- d) Design building massing to minimize shadow impacts on open space, sun-shadow between new developments, and to create a sense of place and identity and to provide landmarks in the Cityscape.



- e) Views shall be preserved and enhanced through view corridors, the terracing of buildings and creation of public open spaces.
- f) Provide opportunities for near views of parks, gardens, green roofs, and landscaped areas for residents.
- g) Views should be shared between developments. Buildings should be massed to preserve views through and past the site. The design of the development itself should also create a good view for other developments.
- h) Situate open space furnishings to take advantage of views and sun.
- i) The form and placement of buildings should respect existing views and consider existing policy regarding heights and built form for redevelopment as the baseline for assessing private view impacts.
- j) Ensure that new development allow for views that retain a substantial amount of view to the sky or retain some views through a site or near the ground.

14.2.2 Public Realm and Pedestrian Amenity

The intent is to create a high-quality, vibrant, and pedestrian friendly public realm.

14.2.2.A Sunlight Penetration

- a) The height, massing, and siting of new development should not detract from and should allow for adequate sunlight penetration to the public realm (e.g., parks, streets) and private open space.
- b) On semi-private open spaces, both at-grade and above, maximize sunlight penetration/exposure during high-use periods of the day between March 21 and September 21 as follows:
 - between 10:00 a.m. to 2:00 p.m., for non-residential uses;
 - all day, but especially from 10:00 a.m. to 2:00 p.m. and 4:00 p.m. to early evening, for residential use.

14.2.2.B Weather Protection

Rain and Sun Protection

- a) Weather protection is strongly promoted where:
 - retail uses are encouraged at grade;
 - common entries to multiple family residential building front a public sidewalk or open space.
- b) Types of weather protection encouraged are awnings, canopies, and, under special circumstances, arcades.
- c) The design should also ensure good daylighting to protected areas through their proportion of height to depth, and special measures, such as glass roof panels.
- d) Weather protection considered to be permanent structures may not extend into public street right-of-ways.
- e) Typically canopies should be a minimum of 1.8 m (5.9 ft.) clear deep and 2.7 m (9 ft.) clear high.



Wind Protection

- a) New development should seek to protect pedestrians in general and high activity pedestrian areas in particular, from the negative effects of the prevailing easterly wind, local wind conditions, and site-generated wind conditions:
 - design sites, buildings, and associated landscaped areas to minimize wind induced by buildings, and its impact on both the public and private realms;
 - provide areas of calm and wind mitigating measures to enhance enjoyment of the outdoors, and to extend the seasonal duration of outdoor activities, including socializing, shopping, and dining.

14.2.3 Public Art

The intent is to promote and facilitate the integration of public art throughout Richmond that expresses the ideas of artists and the community and create opportunities to participate in the design, look and feel of Richmond.

- a) Development should support the public art program by either:
 - contributing to Richmond's Public Art Reserve and Public Art Provision and/or;
 - providing public artwork which meets the terms of the "Richmond Public Art Program Policy, Administrative Procedures Manual and Plans" either on site or at a location acceptable to the City.
- b) Regardless of whether a development provides public art on-site, public art locations should be secured which benefit from:
 - visibility for pedestrians and/or motorists;
 - proximity to high pedestrian activity areas, (e.g., active retail areas, transit stops (especially those serving high ridership routes), places of public gathering, public open spaces, and recognized pedestrian routes;
 - opportunities to expand on existing or future public art works as part of an existing or proposed multiartwork concept;
 - places of special heritage or community significance.
- c) The "Richmond Public Art Program Policy, Administrative Procedures Manual and Plans" should be referred to for guidance on public art budget calculations and criteria.

14.2.4 Heritage Preservation

The intent is to ensure that the character of development, including landscaping, and the siting, form, exterior design, and finish of buildings and structures respects, preserves, and enhances the historic nature of the heritage area.

- a) New buildings and structures should be compatible in form, character, exterior design, and finish with existing historic structures.
- b) Retain and re-use historic and/or culturally-significant structures in ways which respect their unique value and heritage potential.
- c) Encourage the protection and enhancement of significant landscape features, including trees and water courses, through the sensitive design and infill of new development.
- d) Enhance public enjoyment and awareness of local natural and man-made features (e.g., the riverfront, and provide complementary amenities such as trails and signage).
- e) Encourage a variety of opportunities to respect, honour, and celebrate the heritage of the City of Richmond and its people.



- f) The exterior design and finish of buildings and structures should be compatible with existing heritage buildings on the same site or neighbouring sites, where appropriate.
- g) Retain and re-use historic and/or culturally significant structures in ways which respect their unique value and heritage potential.

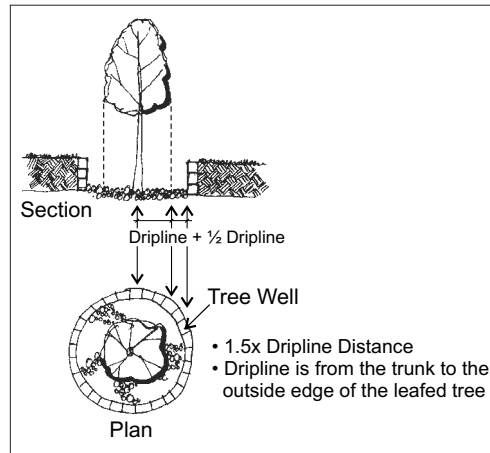
14.2.5 Site Landscaping

The intent is to reinforce and enhance the image of the City of Richmond as the Garden City through preservation of mature vegetation and through inclusion of abundant landscaping in all developments.

14.2.5.A Tree Preservation

- a) Take special efforts to preserve trees and mature vegetation.
- b) Prior to the design of the project, a detailed survey indicating the location and condition of existing trees and vegetation on a site should be conducted and provided to the City as part of the development process.
- c) A Landscape Architect and Arborist should be retained to determine which trees are suitable for retention. For survey requirements refer to the City of Richmond Bulletins, *Tree Survey Guidelines for Rezoning, Subdivision and Non-ESA Related Development Permit Applications and Protection of Existing Trees During Construction*.
- d) Plan open spaces and walkways with landscaping first, then group buildings around the spaces. Special efforts should be made to retain trees identified on the Significant Tree Inventory.
- e) To reinforce a well-established landscape, developers are encouraged to retain and incorporate mature trees and landscaping into the development area. Where this is not possible, trees should be relocated. Where one or more existing trees are being removed, the City's tree replacement policy requirements as specified in Tree Protection Bylaw 8057 must be met.
- f) Landscape drawings shall include the following information:
 - the location of all protective tree fencing;
 - a grading plan or cross section showing finished grade;
 - a drainage plan for the site.
- g) Prior to the issuance of any permits (demolition, development, building), a tree protection fence shall be placed outside the drip-line of retained trees. The fence shall be constructed of 2 x 4 wood frame with cross-brace construction and snow fencing around or equivalent solid fence material (refer to information Bulletin "Protection of Existing Trees During Demolition and Construction" Tree-03). The tree protection fence shall be clearly signed "Tree Protection Zone – Do Not Enter" as per Information Bulletin Tree-03.

Bylaw 10339
2022/03/21



- h) Provide tree wells and/or creative grading of the ground away from vegetation to facilitate retention of existing trees and woodlot/hedgerow vegetation. Where tree wells are to be constructed the wells should be a minimum distance of 1.5 times the distance from the trunk of the tree to the drip line.
- i) Pruning, root pruning, and all work within 1.5 times the existing trees' drip-line shall be supervised by an Arborist.
- j) No excavation, storage of materials, parking, preloading, or filling shall occur within the drip-line of the trees being preserved.

14.2.5.B City Boulevards

- a) Trees shall be protected on city property, boulevards and adjacent sites during development and are not to be removed or damaged under any circumstances unless authorized by the City.
- b) Ditches adjacent to a property may not be covered, altered, or filled-in other than as authorized by an approved Ditch Crossing Application from the City of Richmond Public Works Division.
- c) After completion of construction, City boulevards should be graded to suit existing drainage and landscaped with topsoil and grass or other materials to suit site-specific City objectives.

14.2.5.C Open Space (Landscaping)

- a) Provide new plantings and trees to define public spaces and provide shade as needed.
- b) Maximize the amount of landscaped areas on a site and minimize the amount of impervious surfaces to increase the natural absorption of storm water. Development should strive to achieve a minimum of 25% of the site as soft landscaping, including plant materials.
- c) Where possible, the landscape should provide for or enhance wildlife habitat. Include species that will attract birds (which in turn enhance both biodiversity and create a pleasant soundscapes).
- d) A diversity of tree species is encouraged to increase the survival ratio of new landscaping. Indigenous or native species should be chosen whenever possible. Avoid tree species which would have difficulty surviving or be difficult to maintain in urban areas.
- e) Cluster trees to create "outdoor rooms" or to divide yards into smaller, more intimate areas for people to gather in while typically avoiding a heavily partitioned character.



- f) Public seating should be provided where walkways intersect public streets and areas of high activity; (see 14.2.12 Accessibility/Universal Design Principles).
- g) In general, plazas and forecourts should consist of these elements:
 - a widened hard surface;
 - decorative light standards;
 - fixed benches and/or other seating;
 - a distinct pattern, form or changes in colour of paving;
 - bollards preventing non-essential vehicular access;
 - accent planting;
 - bicycle racks in close proximity;
 - garbage and recycling receptacles;
 - areas for public art.
- h) Group trees and shrubs to frame building elevations and to add visual interest to blank facades and open spaces.
- i) Install plant material to soften building elevations, maintain a pedestrian scale and provide definition to public walkways and open spaces.
- j) Provide protection from excessive summer sun and cold winter winds, especially adjacent to outdoor areas where people congregate.
- k) Consider deciduous shade trees on the south side of buildings to reduce summer building heat loads and maximize winter building heat gain.
- l) Stabilize slopes through the use of soft and hard landscape material, such as retaining walls, ground cover and trees.
- m) Select plant materials which are ecologically sound, appropriate for the existing and future site conditions, and suitable for all seasons.
- n) Incorporate drought resistant plant material in order to reduce long-term maintenance requirements and conserve water (xeriscaping).
- o) Select native plant materials where appropriate and avoid the use of invasive plant species.
- p) Provide seasonal colour, texture and variety.
- q) Implement design practices, which contribute to successful long-term maintenance.
- r) Protect natural features and promote tree conservation.
- s) Landscape Planting Plans should include a detailed plant schedule providing the following information: botanical name, common name, quantities, proposed planting size and condition, mature size, volume of topsoil available per tree and any other appropriate remarks.
- t) The spacing of plant material should account for the ultimate size and form of the selected species as well as intention (e.g., screening, shade, aesthetics, naturalizing, rehabilitation, etc.).

14.2.6 Vehicle Access and Circulation

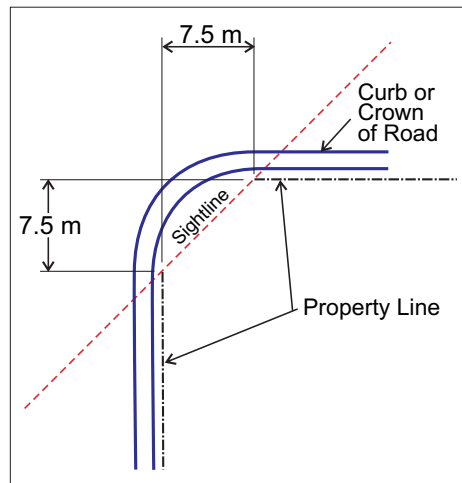
The intent is to provide safe and efficient circulation for vehicles without compromising the pedestrian environment or the livability of developments.

14.2.6.A Access Driveways

- a) Maximize the distance between access driveways and the distance between access driveways and intersections.



- b) Driveway access should be avoided along major collector and arterial roads. If driveways are required, the number of access points should be minimized and sharing of driveways with adjacent properties should be considered. Left turn movements at any driveway along arterials and collectors should be discouraged.
- c) Ensure pedestrian and cyclist safety and maximize visibility at driveways.
- d) Where the internal pedestrian walkways is adjacent to the drive aisle, an attractive, physical treatment should be incorporated into the design to define and delineate the pedestrian space.



- e) Sight Lines: Corner visibility for drivers shall be maintained by providing a Sight Triangle (ST) of 7.5 m x 7.5 m (24.6 ft. X 24.6 ft.) with no obstructions to the line of vision above 0.9m (2.95 ft.) as per the Richmond Engineering Design Specifications. The ST should be measured from the intersection of the property lines adjoining the streets and bounded by the property lines and a line connecting the 7.5 m by 7.5 m (24.6 ft. X 24.6 ft.) distance.
- f) For driveways with security gates, the gate is to be setback at least 6 m (19.6 ft.) from the property line.
- g) Where gates require card activation by drivers the sensor device is to be centred on a pedestal in the centre of the driveway on the driver side. The driveway should be widened to accommodate the width of the pedestal.

14.2.6.B Large Vehicle Access

- a) Access provision should be made for emergency vehicles, moving vans and service vehicles. Wherever possible, combine and share emergency vehicle access roads between developments. Until such time that the shared access is functional, all manoeuvring for trucks required on-site as outlined in the Richmond Zoning Bylaw shall be provided internally, with no more than one back-up movement required for turnaround.

14.2.6.C Garbage/Recycling Collection Vehicle Access

- a) Vehicle access route requirements are intended to minimize traffic disruptions and avoid unnecessary manoeuvring by collection vehicles. Whether provided indoors or outdoors, the vehicle access route shall:
 - be designed in such a way as to allow a collection vehicle to enter the site, collect the garbage/recycling and exit the site in a forward motion, or via the use of a turnaround area allowing for a three-point turn of not less than one truck length—trucks will not be allowed to reverse onto a public road;



- be situated in a location that will minimize interface with pedestrian traffic and public vehicular access to the building's main parking area, including underground garage and visitor parking areas;
 - maintain a vertical clearance of 4.4 m (14.4 ft.) throughout the entire access route;
 - provide the collection vehicle a minimum turning radius of 12.5 m (41 ft.) throughout the entire access route.
- b) The site plan should include a diagram illustrating the anticipated movement of the collection vehicle through the building site. This diagram should indicate turning radii, and show how the layout of the loading area meets the necessary turning radius requirement for an appropriately sized collection vehicle.

14.2.6.D Lanes

- a) New development should retain or expand existing lanes and, where appropriate, create new lanes to facilitate service functions.
- b) Where service lanes cannot be introduced, service functions should be internalized within the site in off-street locations.

14.2.6.E Access

- a) Vehicle access to sites and their off-street parking area should be provided from a lane or a local street at the rear of a site to allow the fronting street to be developed for pedestrians activities, cycling routes and/or an expanded public realm.
- b) Minimize the typical width and frequency of driveways crossings of sidewalks. Where crossings are needed, use measures to ensure that such crossings do not inconvenience or endanger pedestrians or the mobility impaired and do not limit the provision of street trees, landscaping, or furnishings in appropriate locations.
- c) Driveways that cross pedestrian routes should be consolidated to reduce disruption to pedestrian movement, to maintain pedestrian safety on sidewalks, to reduce duplication of vehicular routes, and to provide for more coherent vehicular circulation.
- d) Adjacent developments are strongly encouraged to combine and share access driveways to minimize vehicular crossings to sidewalks and integrate driving aisles, pedestrian sidewalks, or walkways between adjacent sites.
- e) Vehicle (and parking ramps) and service entrances should be consolidated and integrated into the facade design to reduce vehicular crossings of pedestrian routes and limit the impact of these elements on buildings appearance.
- f) All site vehicular circulation is to be confined on-site without use of the adjacent public roadways or lanes.

14.2.7 Site Vehicle Parking

The intent is to ensure that vehicle parking is appropriately located and designed taking into account pedestrians, crime prevention and parking reduction opportunities.

14.2.7.A Surface Parking

- a) Surface parking should be located to the rear of buildings and screened from public streets.
- b) Where provided to the rear of buildings, it should be screened from adjacent properties with a minimum of 2 m (6.56 ft.) wide x 1.5 m (4.92 ft.) high landscape planting or trellis strips.



- c) Trees should also be planted at a minimum ratio of one tree for every six parking stalls.
- d) In cases where surface parking is situated between a building and the adjacent public street, provide:
 - a covered walkway between the building and the adjacent public street;
 - a minimum of one tree for every two parking spaces situated on-site between the building setback line and the adjacent public street;
 - special paving and landscape measures to further enhance the pedestrian movement.
- e) Provide landscape, fencing, and other appropriate treatments for surface parking lots in order to improve the appearance of lots along public streets and contribute to the continuity of the street edge without compromising the safety and security of the public inside the lot and on public street.
- f) Parking lots should be partitioned into areas no larger than 0.25 ha (0.6 ac.). Areas should be defined at the boundaries by drive aisles, sidewalks, trees, and landscape.
- g) Non-residential developments with large or multiple-surface parking areas should provide a direct pedestrian pathway system through the parking area to provide convenient and safe pedestrian access between building entrances, parked cars, and sidewalks of adjoining streets; The pathway system should incorporate landscape with trees and benches, overhead weather protection, and distinct paving where appropriate. It should also be wide enough for wheelchairs/scooters and should include a tactile strip for the visually impaired.
- h) Internal vehicular ramps should not be used for pedestrian circulation.
- i) Where pedestrians must cross service roads or access roads to reach parking areas, crosswalks should be clearly designated by means of pavement markings, signs, flashing lights, or even traffic signals, if warranted.
- j) Provide curb cuts or curb letdowns in appropriate locations to facilitate convenient and direct access from the parking space(s) to the building(s) for people with disabilities. Pedestrian movement should be designed to avoid any obstruction by parked or manoeuvring vehicles.
- k) Minimize the surface area of blacktop asphalt parking by using alternate treatments and by complementing the asphalt with a variety of decorative paving materials.
- l) Consider the use of shallow concrete gutters or swales with rolled edges between driving aisles as an alternative treatment for surface drainage.

14.2.7.B Parking Structures

- a) Multi-level parking structures should not front public streets at grade.
- b) Where possible, all garage structures and parking should be located to the rear or beneath buildings, with vehicular access from lanes. Where lane access is not possible, access should be from streets via narrow driveways.
- c) Parking control equipment, e.g., ticket dispensers and card readers, should be located a sufficient distance from the public street (minimum 6 m or 19.69 ft.) to prevent parking queues extending onto the street. Similarly, a minimum distance of one car length, and preferably two car lengths, should be provided between an exit gate and the street edge to accommodate cars waiting to enter the traffic stream;
- d) In the case of above-grade parking, provide non-parking uses or special facade treatments along street frontages to enhance the building's appearance, animation, and character. On non-street-fronting facades, walls of parking structures should be concealed with sloped, landscaped berms and massed landscape.



Bylaw 9520
2017/12/18

- e) Rooftop parking structures should be treated to reduce the visual impact as seen from above. For example, they may be landscaped with trees and overhead planting.
- f) Unfinished ceilings, lights, pipes, etc. should not be visible from a public street or sidewalk.
- g) Interior lighting levels (natural or artificial) should be inviting and not radiate a glare or unduly distort the colour of people, cars, signs, and other graphics.
- h) For sites with little or no surface parking, the ground-level parking areas in a parking structure should have sufficient height clearance to accommodate most light trucks and passenger vans.
- i) Refer also to Richmond Zoning Bylaw 8500, Section 7—Parking & Loading.

14.2.7.C Crime Prevention Through Environmental Design (CPTED) Considerations for Parking Facilities

- a) Pedestrian routes within and to/from parking facilities must be clearly delineated, logical in terms of directness, and easy to remember.
- b) Pay particular attention to the design and operation of parking facilities, both surface and multi-level, to ensure their convenient and safe use. For example, locate parking control personnel within visual range of the entire parking areas, wherever possible.
- c) Design exits and interior spaces within parking structures to ensure maximum visibility within the parking areas. Avoid hidden spaces or alcoves.
- d) Use glassed stairwells, elevators, and “open” ramping systems to enhance visibility and aesthetics.
- e) Provide adequate lighting to enhance security. Avoid “dark distant corners” in parking areas. Pedestrian entrances to buildings and designated pedestrian routes should be highlighted with additional secondary lighting fixtures.
- f) Consider using electronic security devices and monitoring systems as a supplement to natural surveillance opportunities to increase safety in parking structures and parking areas.
- g) Walls and ceilings of parking structures should be painted white to enhance or reflect light.
- h) Secure residential parking separate from public parking.
- i) Do not locate employee parking in remote areas of parking lots, behind blank walls, or within service or loading areas.
- j) Gate tenant parking apart from that for visitors and consider incorporating gates on visitor parking areas.
- k) Do not allow free access to adjacent buildings without direct monitoring.
- l) Public and private parking spaces should be designated.
- m) Pedestrian and vehicular access gates should be mechanically or manually controlled, or be within effective visual range of security/parking personnel.
- n) Elevators should be close to the main entrance with the entire interior of the elevator in view when the doors are open. Glass doors for elevators are preferable.
- o) Ground floors should be designed to be open for visibility, but secured to prohibit access by wire mesh or stretch cable.
- p) Access should be limited to no more than two designated, monitored entrances.



14.2.7.D Parking Reduction Opportunities

- a) Projects with a mix of uses should seek to reduce parking needs where the varied parking demand for proximate uses allows joint use of a single parking facility. Shared-use opportunities may be possible between non-residential uses and residential visitor demand, or between mixes of non-residential uses. Where parking is to be shared, measures must be in place to ensure non-exclusive use.
- b) Residential projects with a high percentage of small units and good access to transit and public services should seek to limit the number of parking spaces provided to reflect the more limited parking demand of such development.
- c) Where a development proposal features reduced parking standards, the proponents shall identify potential “spill-over” impacts on the neighbouring area and possible mitigation measures.
- d) Refer also to Richmond Zoning Bylaw 8500, Section 7—Parking & Loading and Parking (Off-street) Regulation Bylaw 7403.

14.2.8 Garbage, Recycling, Organics and Other Service Areas

The intent is to organize site plans for efficient use of service areas and so that the impact of servicing functions on streets, developments, and open space is minimal.

- a) Garbage, recycling, organics storage and disposal, loading docks, ramps to underground parking, vents, air conditioner compressors, meters and transformers should be incorporated into the design of the building and/or integrated into landscaped areas, and out of view from streets to minimize their noise and unsightly visual impact on pedestrian areas, streets and adjacent homes.
- b) Garbage, recycling and organics bins must be easily accessible, contained in a room within the development or an outdoor walled enclosure and screened from public view.
- c) The design of the enclosure of outdoor garbage, recycling and organics areas and the screening of other areas should be co-ordinated with the overall design of the development.
- d) Ensure shipping, loading bays, utility and garbage/recycling areas, satellite dishes, and other similar structures, (e.g., outdoor vents, mechanical equipment, satellite dishes) are located out of view from public streets or screened with landscaping, walls and buildings.
- e) Underground utility wires wherever possible and conceal related equipment so as not to impact the appearance or use of municipal boulevards, rights-of-way, pedestrian areas or public open spaces.

14.2.9 Floodproofing and Dike Setbacks

The intent is to ensure that floodproofing of buildings is carried out to protect public safety and private property from flood hazards in a manner which is consistent with the form and character of the community, and that sufficient space is reserved for future dike raising needs.

14.2.9.A Floodproofing

- a) All buildings must meet a minimum habitable floor elevation as identified in Richmond’s 2008–2031 Flood Protection Strategy defined in Bylaw 8204.
- b) Floor and pad elevations vary across the City based on location specific factors including whether or not a building is inside or outside of the dike.



- c) Buildings may be partially or fully exempt from meeting minimum floor elevations for a number of reasons specified in the bylaw, for example:
 - a permit is issued solely for building renovation;
 - a building's additions are relatively small;
 - the building's area is to be used for a carport or garage with unobstructed pedestrian access;
 - the building relates to farming (non-dwelling use);
 - a building has specific public access requirements;
 - the form and character of its neighbourhood is unacceptably compromised.
- d) Building floor and pad elevations may be achieved by:
 - structural elevation;
 - compacted fill;
 - a combination of the above.
- e) The method chosen to elevate a floor or pad should be the one that optimizes the relationship between the new construction and the surrounding existing development and land grading.
- f) Natural grade should be maintained wherever practicable. In some cases, where filling is necessary, it shall be accomplished by matching the grade on adjacent properties, or by changing grade at a slope not to exceed 6:1. Tall retaining walls or steep terraces are to be avoided.
- g) Construction or landfill should be carried out in a manner that is sympathetic to the character of an area. Precautions should be taken to avoid drainage problems, differential settlement, unsafe slopes, or unsightly edges to adjacent properties.

14.2.9.B Dike Setbacks

- a) No landfill or structural support required to support a floor system or pad shall be constructed, reconstructed, moved, extended or located:
 - where a standard dike exists, within 7.5 m (24.6 ft.) of a dike right-of-way;
 - where a standard dike does not exist and land is situated within the dike alignment, within 30 m (98.4 ft.) of the natural boundary.

14.2.10 Green Buildings and Sustainable Infrastructure

Bylaw 10364
2022/07/18

The intent is to provide general direction in regards to the undertaking of green building and sustainable infrastructure to support City of Richmond greenhouse gas (GHG) emission reduction and sustainability objectives and help reduce the demand for energy and resources.

14.2.10.A Low Carbon, Energy Efficient Buildings

- a) New buildings are encouraged to be designed to achieve low or zero GHG emissions in their operations.
- b) As required in the Building Regulation Bylaw, applicable new buildings will be designed and constructed to meet the BC Energy Step Code to support more energy efficient development, which may include, but may not be limited to, the high-performance building considerations set out in the table below.
 - Through rezoning, Development Permit and other permit approval processes, proposed buildings shall demonstrate compliance with the applicable requirements of the BC Energy Step Code to the satisfaction of the City (for example, by providing energy modelling outputs);



Bylaw 10364
2022/07/18

- Compliance with a given Step of the BC Energy Step Code shall not compromise the intent of any of the Development Permit Guidelines contained in Schedule 1 or Schedule 2 of the OCP;
- In the event that, during the Building Permit process, a new building subject to an approved Development Permit requires remedial actions to achieve compliance with the applicable step of the BC Energy Step Code, any such remedial actions shall not compromise the intent of the Development Permit Guidelines applicable to the building.

Features	High-Performance Building Considerations
Massing & Roofs	<ul style="list-style-type: none"> • Consider compact massing to reduce the overall size of the building envelope¹. • Consider simple building and roof forms to enhance thermal performance. • Use fewer architectural features with complex junctions that may contribute to heat loss due to thermal bridges² and/or increased building envelope area (e.g., bay windows, dormers, recesses, and stepping).
Orientation & Shading	<ul style="list-style-type: none"> • Consider strategic building and window orientations that enhance opportunities for winter solar heat gain and summer shading. • Provide external shading devices on key south and west facades (e.g., balconies, fins, blinds, shutters, and deciduous trees). • Include operable windows to enable natural ventilation.
Windows & Daylighting	<ul style="list-style-type: none"> • Limit the window-to-wall-ratio (WWR)³ to reduce solar heat gain (i.e. typically 40% or less, as applicable). • Consider fewer, larger windows (rather than more smaller or multi-pane windows) to minimize thermal bridging through window frames, mullions, and muntins. • Raise window sills to reduce window size without compromising daylighting.
Balconies & Roof Decks	<ul style="list-style-type: none"> • Use thermally-broken⁴ balcony designs (e.g., modified slab, pinned, hanging, and self-supported) to reduce thermal bridging at building connection points. • Avoid recessed balconies and/or consider stacking recessed balconies to reduce thermal bridging due to increased wall area, corners, and connection points. • Where appropriate, consider using roof decks in place of balconies.
Envelope Materials & Design	<ul style="list-style-type: none"> • Increase insulation (e.g., thicker exterior wall assemblies and triple glazing), especially where heat loss is unavoidable (e.g., due to a high WWR). • Reduce use of lower-performing window/wall systems (e.g., curtain wall). • Where appropriate, consider enhancing thermal performance of the building envelope by utilizing variation in colour, materials, and pattern as building articulation strategies in lieu of complex massing and architectural features.

¹ "Building envelope" means the connected system of foundations, floors, windows, walls, ceilings and/or roofs, which provide an air, moisture and heat insulation barrier separating the conditioned interior spaces of a building from unconditioned interior spaces (for example, an unheated garage or attic) and/or the outdoors.

² "Thermal bridge" means a building component or system that permits a greater heat transfer through the building envelope than surrounding materials.

³ "Window-to-wall ratio (WWR)" means, for a given building, the total surface area of windows, divided by the total wall area (including windows).

⁴ "Thermally-broken" means use of a building component or system to minimize heat transfer through the building envelope by mitigating potential thermal bridges.

**14.2.10.B Water Conservation**

- a) Design buildings and site infrastructure to use less potable water by considering the following:
- install plumbing fixtures that conserve water;
 - utilize high efficiency irrigation and drought tolerant plants for landscape areas to minimize the need for watering and maintenance;
 - specify water efficient HVAC, chillers, and other equipment and appliances.

14.2.10.C Building Materials

- a) Design buildings that incorporate sustainable building materials by using:
- recycled and renewable building materials;
 - new materials that have low embodied energy rating to help conserve energy;
 - materials that have long-life, low maintenance properties to extend the lifespan of the building;

14.2.10.D Rainwater Management

- a) Manage as much rainwater on site as possible by:
- incorporating intensive and accessible extensive Green Roofs, bio-swales, infiltration and other best management practices throughout the site to store rainwater, mitigate urban heat island effect, reduce heating and cooling loads and reduce the impact on City drainage systems;
 - using pervious surfaces to promote rainwater infiltration;
 - using rainwater harvesting systems for irrigation and toilet flushing.
- b) Newly or re-developing areas should manage rainwater runoff by using boulevard swales, rainwater gardens and other best practice techniques that slow down water conveyance and reduce pollutant wash off into the City's drainage system.

14.2.10.E Waste Reduction

- a) Reduce the generation of waste through careful design and construction practices, by recycling construction materials, and provide recycling facilities, as feasible by:
- recycling demolition waste;
 - support educational recycling programs for construction workers and site occupants;
 - providing facilities to encourage three stream waste separation and recycling.

14.2.10.F Health and Air Quality

- a) Improve indoor air quality, and minimize noise, noxious emissions, and dust by:
- retaining and planting trees where possible to improve air quality and mitigate heat island effects;
 - selecting and encouraging green materials (e.g., paints, adhesives that minimize toxic chemicals and gases).

14.2.10.G Urban Agriculture

- a) For urban developments, promote urban agriculture by providing where feasible, garden plots and necessary facilities (i.e., tool sheds, composting).



14.2.11 Crime Prevention Through Environmental Design (CPTED)

The intent is that through the use of CPTED principles (Crime Prevention Through Environmental Design), opportunities for crime are minimized and a sense of security is promoted.

CEPTED involves the proper design, effective use, maintenance, and management of the built environment to minimize opportunities for crime, fear of crime, achieve a greater sense of security and an improvement in the quality of life. CPTED involves the inclusion of the following four principles best applied at the concept stage of design and site planning:

- Natural Access Control;
- Natural Surveillance;
- Territoriality (defensible space);
- Maintenance.

14.2.11.A Natural Access Control

- a) Design features that guide people to and from a space by creating real or perceived barriers (e.g., separate lobbies and circulation between residential and non-residential uses).
- b) Create safe routes for pedestrians and create clearly-defined pedestrian entries and separate vehicle access from pedestrian access.
- c) Minimize the number of formal access points where possible.
- d) Define edges and corners with low landscaping, low curbing, low permeable fencing, columns, paving stones or decorative paving treatment, and elevation changes.
- e) Place orientation and directional signage at public access points.
- f) Design portions of the building to act as a form of access control.
- g) Provide separate lobbies and circulation between residential and non-residential uses.
- h) Semi-private open spaces should be situated and designed to maximize resident access, surveillance and enjoyment.
- i) Walkways should be direct, follow natural pathways and avoid blind corners.
- j) Illuminate walkways and access points to open spaces.

14.2.11.B Natural Surveillance

- a) Provide “surveillance” opportunities that allow people to easily view what is happening around them during the course of everyday activities.
- b) Make all exterior public or semi-public spaces visible and defensible, so that residents can control their own surroundings.
- c) Cluster residential units, shared tenant facilities, and semi private areas to encourage neighbour-to-neighbour surveillance without impairing necessary privacy.
- d) Design landscapes and circulation routes to allow clear, unobstructed views of surrounding areas, (e.g., make elevator lobbies clearly visible and easily accessible from the public street).
- e) Eliminate entrapment spots, and incorporate barriers that permit visual access without loss of privacy, (e.g., glazing in lobby doors and stair-wells).
- f) Encourage “eyes on the street” with windows, front doors, and activity generators (e.g., playgrounds and seating).



- g) Group common facilities or areas so that each facility or area will be automatically monitored by the constant presence of users of other facilities or areas.
- h) Ensure that windows and doors remain visible from the street and are not hidden by vegetation.
- i) Design buildings to allow for passive observation of outdoor amenity areas, pedestrian or vehicle access points to provide “eyes on the street”.
- j) Ensure a strong orientation between buildings and the street (e.g., porches, bay windows, stoops).
- k) Ensure that windows and door remain visible from the street and are not hidden by vegetation.
- l) Utilize a variety of glazing to project a sense of surveillance.
- m) Consider pedestrian or bike friendly design to activate space and add to passive surveillance.
- n) Illuminate spaces with low-level lighting that provides light and security for semi-private space, but does not produce glare into the adjacent residential buildings.
- o) Provide opportunities for passive surveillance (seating, arrangement of windows and viewing decks) that permit observation of children at play.
- p) Carefully select the types and location of planting to maintain visibility and surveillance and minimize opportunities for intruders to hide.
- q) Use low ground covers and shrubs less than 0.9 m (3 ft.) in height and prune trees limbs to a height of 3 m (9.84 ft.).
- r) Allow user to view entrances, exits, pathways and the immediately surrounding areas.
- s) Ensure lighting does not produce shadows close to pathways and entries or exits.
- t) Ensure windows and doors remain visible from the street and are not hidden by vegetation.
- u) Ensure unimpeded sightlines, particularly along pedestrian pathways and at building entrances to prevent concealment; apply the 2-2-8 rule to ensure a clear line of sight (i.e., 0.61 m (2 ft.) or from any entry/window or pedestrian access point, 0.61 m (2 ft.) or maximum landscaping/fence/ screening height).

14.2.11.C Territoriality (Defensible Space)

- a) Distinguish public and semi-public spaces from private spaces and design symbolic barriers through building siting, design and landscape such as changes in paving, vegetation, grade or through architectural features (e.g., low wall, bollards, raised planters, rather than continuous solid fences or walls).
- b) Personalize impersonal space such as streets, surface parking and open spaces through the use of place-making techniques through the use of signage, colour, hard and soft landscaping, grading, fencing, artwork, lighting, community boards and gardens, landmark, pedestrian and bike paths, fountains, seating, and playground that encourage people to congregate.
- c) Light open spaces, pedestrian and vehicular circulation routes, parking lots, and building entries to provide security, safety, and convenient access without producing glare into adjacent properties and sensitive uses:
 - lighting should be located and designed to ensure that all areas are well lit. Avoid glare and reduce shadows;
 - apply suitable lighting to project ownership and control;



- lighting along pedestrian pathways should be at a scale appropriate for pedestrians while providing optimum visibility;
 - illuminate entry points, and set light levels to provide for a comfortable transition between neighbouring locations;
 - provide vandal-resistant light fixtures that are easy to maintain and operate.
- d) Semi-private open spaces should be clearly defined from public spaces for the exclusive use of building/complex occupants through the use of changes in grade, low walls or fences, planting, or siting within the confines of the buildings.
- e) Provide landscaping, terracing, screening, low-level hedges, and/or garden walls between private ground-oriented outdoor spaces and the public realm.
- f) Where a residential front yard provides a unit's only private open space, ensure that this space is usable/practical while also enhancing the streetscape. Changes in grade/terracing should be used in combination with hedges, trees, shrubs, open lattice screens, and low fences to provide an area of privacy near the unit while still providing an open, inviting public edge.
- g) Provide signage that is clearly visible, easy to read and simple to understand.

14.2.11.D Maintenance

- a) Ensure the continued use of space for its intended purpose and ensure landscaping is maintained (not overgrown) and lighting is operable.
- b) To ensure safety and security, provide sightlines through any cluster of tall growing vegetation by selective and judicious pruning of shrubs or multi-stemmed trees and by keeping all other understorey to a maximum of 1.2 m (3.9 ft.) in height.
- c) Ensure city bylaws regarding nuisance, graffiti removal or unsightly premises are adhered to.

14.2.12 Accessibility (Universal Design Principles)

The intent is to ensure that the design of a development enables all people, including people with disabilities, to have full and unrestricted access to every part of a project.

14.2.12.A Site Accessibility/Circulation

- a) All parking spaces allocated for people with disabilities should be located as close as possible to the main entrance of the building.
- b) Ensure that access for the mobility impaired is provided via at least one path of travel with a minimum clear width of 1.5 m (4.92 ft.) to the major portion of any open space, any building lobby accessible to the open space and any use that may be present on or adjacent to, open space.
- c) All pedestrian pathways should be fully accessible to people with disabilities. Pedestrian pathways should also include, wherever possible, a linear textured band of roughened surface for the benefit of people with vision impairment. The band should be appropriately located towards the middle of a pathway and should be designed to avoid potential conflicts with seating areas or plant materials at edges of walkways.
- d) Pedestrian pathways should provide easily understood direct connections between desired destinations (e.g., transit stops, pedestrian crossings, public sidewalks, building entry, amenity areas, and parking and service areas).
- e) Pedestrian pathways should be wide enough for a comfortable experience and to accommodate passing wheelchairs, strollers and bicycles.



- f) Building and site design features which segregate circulation/ areas/ uses for people with disabilities from typical public usage are discouraged, except where required due to reasons of safety or significant space limitations. For example, ramps are discouraged in favour of more gentle grade changes and alternate design approaches.
- g) Ensure that access for the mobility impaired (including people with baby strollers) is provided via at least one path of travel, with a minimum clear width of 1.5 m (4.92 ft.) to the major portion of any open space, any building lobby accessible to the open space, and any use that may be present on, or adjacent to, open space.
- h) Site designs should seek to integrate features that accommodate persons of varying ability levels.
- i) The design and placement of site furniture should allow a person in a wheelchair to sit alongside fixed seating or, where tables are provided, to allow a person in a wheelchair to pull up to each table.
- j) Ramped portions of walkways should have a maximum slope of 1:20 and minimum width of 1.2 m (3.94 ft.).
- k) All parking spaces allocated for people with disabilities should be designed to achieve the following:
 - located as close as possible to the main entrance(s) of each building;
 - located away from designated fire routes, intersections or commercial loading zones;
 - located with connection to pedestrian pathways. Landscape and other design features should be used to prevent vehicles from protruding over pedestrian pathways of travel.
- l) For shopping malls, large complexes or where multiple buildings exist on a site, the required number of designated spaces should be evenly distributed at all public entrances.
- m) The entrance nearest the designated parking spaces should be equipped with a power door operator.
- n) Designated parking space(s) are required to be painted with the international symbol of accessibility. The symbol shall be painted with white solvent-based traffic paint on a minimum 1.5 m x 1.5 m (4.92 ft. x 4.92 ft.) blue solvent-based traffic paint background.
- o) Designated parking space(s) are required to be marked with clearly visible signage that conforms to the *Motor Vehicle Act Regulations*. Signs mounted on moveable bases are unacceptable.
- p) Designated parking spaces should be:
 - located as close as possible to a required passenger elevator;
 - provide a minimum vertical clearance of 2.75 m (9.02 ft.);
 - provide level, non-slip, non-glare, textured, hard surfaces.
- q) Provide directional signage in large parking areas or for hidden parking spaces.

14.2.12.B Site Design

- a) Site designs should seek to integrate features that accommodate persons of varying ability levels.
- b) Drinking fountains should be a maximum of 0.76 m (2.5 ft.) high and allow for both hand and foot operation to accommodate wheelchair users and companion animals.
- c) Seating in public areas should provide for:
 - minimum seat depth of 40 cm (15.7 in.) without backrests, or minimum seat depth of 35 cm (13.8 in.) where backrests at least 30 cm (11.8 in.) high are provided;
 - features designed to allow a wheelchair to sit alongside fixed seating or, where tables are provided, to allow a wheelchair to pull up to each table;



- minimum of 5% of all seating in public areas to be provided with backrests.

14.2.12.C Building Design

- a) Building designs shall incorporate features which address the functional needs of persons with disabilities, including those who are mobility, visually, and hearing impaired and have reduced manual dexterity or strength.
- b) Building entries should be:
 - clearly addressed with large numbers visible from the street;
 - directly accessed from the street without stairs;
 - provided with level areas measuring at least 1.5 m x 1.5 m (4.9 ft. x 4.9 ft.) both inside and outside the doorways;
 - provided with weather protection, exterior lighting, and power-assisted door openers.
- c) New development should accommodate the function needs of residents of all ages and abilities.
- d) All rooftop areas intended for use (i.e., recreational) by building occupants or others should be designed and landscaped to ensure universal accessibility.
- e) Building design should accommodate the functional needs of people of all ages and abilities:
- f) Main entrances to buildings and internal circulation routes should be designed to comfortably accommodate pedestrians, people in wheelchairs, and children in strollers.
- g) At least one elevator in each building should be able to accommodate a prone stretcher.
- h) All outdoor and indoor common areas should be wheelchair accessible and incorporate measures for people with vision impairment.
- i) All doorways, including those within units and those accessing private outdoor areas, should be wheelchair accessible.
- j) Floor surfaces should be slip-resistant and non-glare.
- k) All locks, latches, handles, closers, and controls should be easy to read, reach, grasp, and use.
- l) Manoeuvring spaces in kitchens, bathrooms, bedrooms, and hallways should accommodate wheelchair accessibility.
- m) Counters, cupboards, sinks, tubs, and showers should be well lit and easy to use.
- n) Additional electrical/electronic features, such as outlets and controls, should be provided to allow the use of remote controls, computers, and security devices.

14.2.13 Non-Residential Noise Mitigation

The intent is to ensure that non-residential buildings are built to ensure that indoor and outdoor uses are appropriately designed and located so as to mitigate potential noise.

- a) New non-residential development should ensure that sensitive indoor and outdoor uses are buffered to reduce noise impacts on adjacent residential uses through design and construction measures.
- b) Development in noise sensitive areas (see Section 3.6.3 Noise Management) may require a report from an acoustical consultant and special noise mitigation measures to mitigate potential noise sources.
- c) Locate building ventilation systems to minimize noise and exhaust in pedestrian areas, residential units and outdoor spaces.



- d) Landscape buffers should be provided along common property lines for new commercial/ industrial developments adjacent to residential uses.
- e) External HVAC units must be visually screened and achieve compliance with the City's Noise Bylaw and any other Public Health Bylaw noise limits.

14.2.14 Agricultural Land Reserve (ALR) Landscape Buffers

The intent is to accommodate and encourage development while minimizing the impacts of new developments on agricultural land.

- a) The purpose of the Agricultural Land Reserve (ALR) buffer is to achieve public safety, and to minimize agricultural-urban land use conflicts and complaints.
- b) For all significant development immediately adjacent to sites designated within the ALR (i.e., no intervening road), a landscaped buffer of approximately 15 m (49.2 ft.) wide, or an alternative width deemed appropriate and acceptable to the Director of Development, should be provided between the development and the agricultural land.
- c) Where there is an intervening road between the ALR and the non-ALR lands, provide an appropriate landscaped setback on the non-agricultural lands (e.g. 3 m (9.8 ft.) to parking and 4.5 m (14.8 ft.) to buildings).
- d) The landscaped buffer should be designed, established and maintained in accordance with the Ministry of Agriculture's Guide to Edge Planning.
- e) Where a landscaped buffer is provided on sites near agricultural lands, the design of the development should protect the landscaped buffer from potential impacts related to on-site activities (e.g., drainage).

Bylaw 10231
2021/04/19



Bylaw 9603
2016/12/19

14.3 Intensive Residential Guidelines

These Guidelines are intended to provide direction on the general form and character of intensive residential developments.

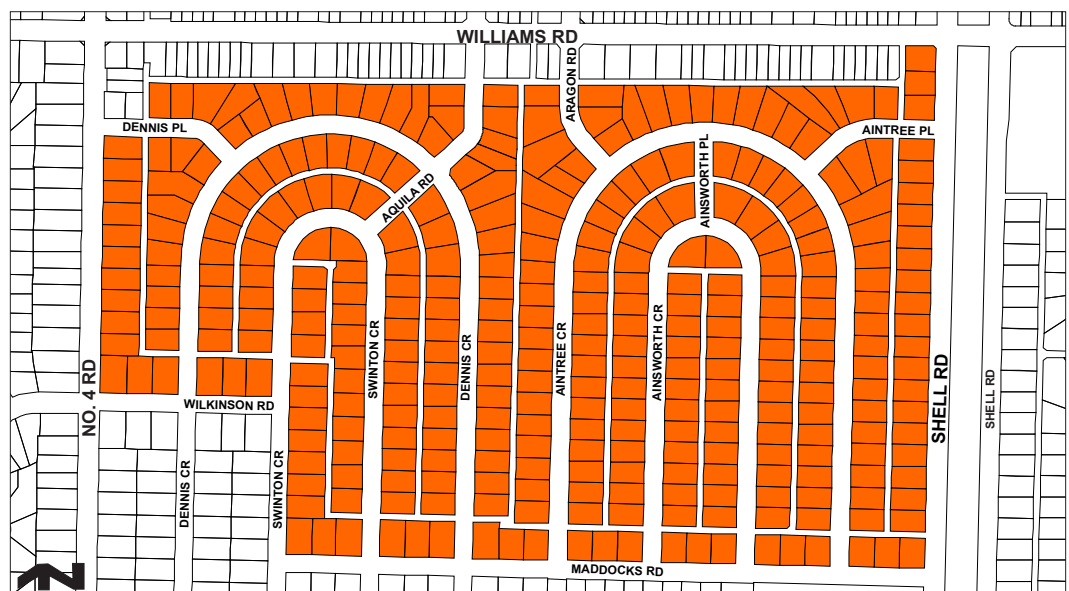
Bylaw 10579
2024/07/15

A. REAR YARD INFILL DEVELOPMENT

The intent is to ensure that granny flats and coach houses (which for the purpose of these guidelines shall be understood to include other rear yard infill housing types), achieve a high quality of design and complement the form and character of existing neighbourhoods in the following intensive residential areas:

- Edgemere; and
- small-scale multi-unit housing areas.

Granny Flats and Coach Houses Map—Edgemere





14.3.1 Neighbourhood Character

The intent is to achieve variety and have this new form of housing fit into the neighbourhood.

- a) Granny flats and coach houses should demonstrate that they:
- respect the height and setback of neighbouring properties;
 - recognize the unique character of the neighbourhood.

14.3.1.A Variety in Location

- a) No two similar granny flats and coach houses should be located in a row on neighbouring lots, and wherever possible the two granny flats and coach houses should be offset from each other so as not to be located side by side.

14.3.1.B Variety in Design

- a) Variations in the design of granny flats and coach houses should be encouraged so as not to repeat the same architectural appearance, building form and elevations on the same lane in a City block (Modular construction is allowed).

14.3.2 Building Form

The intent is to ensure that granny flats and coach houses are attractive and do not adversely impact adjacent homes.

14.3.2.A Scale and Massing

- a) The tallest element of granny flats and coach houses should be located adjacent to the lane.
- b) The upper level of coach houses should step back from the rear yard of the principal residence in order to enhance solar access to this yard and limit the sense of scale to adjacent neighbours.

14.3.2.B Roofs

- a) A flat roof is not permitted on granny flats and coach houses, unless:
- it is built and approved as a green roof that is an urban garden; or
 - it has a contemporary architectural expression that is uniquely designed.
- b) Cross gable, shed and roof lines that run across or perpendicular to the property are encouraged, with a roof pitch of between 6:12 to 8:12.

14.3.2.C Privacy of Neighbours

- a) Granny flats and coach houses should be:
- oriented and sited to protect the privacy and minimize the overlook and shadowing of adjacent properties;
 - screened from neighbouring yards by suitable landscaping.

14.3.2.D Corner Lots

- a) Granny flats and coach houses on a corner lot are not to be accessed by vehicles from the street but from the lane only.
- b) Primary windows to living rooms and bedrooms may face the street and/or lane.

14.3.2.E Visibility

- a) Granny flats and coach houses should front onto and be clearly visible from the lane, with the primary entry and front door:



- facing towards and accessible from the lane;
- illuminated at night.

b) A secondary entrance and access may be from the street.

14.3.2.F **Appearance of the Lane**

a) Granny flats and coach houses should be designed to enhance the lane as a public road or space since this is the primary entrance and access point to these forms of housing.

14.3.2.G **Lighting along the Lane**

a) Lighting on granny flats and coach houses should be designed to enhance the pedestrian experience of the lane at night by such means as eaves lighting, porch lighting, and bollard or garden lights (not high-wattage, motion-activated security lights).

14.3.2.H **Building Materials and Colours**

a) The exterior materials and colours of granny flats and coach houses should:

- complement, but not replicate, the character of the principal residence;
- complement, the overall character of the existing neighbourhood;
- have a high quality of architectural design and detailing (e.g., vinyl siding would only be permitted if finished with wood or other high quality detailing).

14.3.2.I **Building Facades**

a) The primary façade of granny flats and coach houses facing the lane, and the street on a corner lot, should be:

- articulated to create depth and architectural interest;
- visually broken into smaller components or sections to discourage wide, flat and unbroken facades.

14.3.2.J **Building Faces, Projections and Dormers**

a) Granny flats and coach houses should be designed with consideration given to the relationship between window sizes and the placement and scale of building faces, projections and dormers.

14.3.2.K **Windows**

- a) Windows should be oriented toward the lane and be designed to maximize light penetration into the interior of granny flats and coach houses while mitigating overlook onto the principal residence and adjacent properties.
- b) The primary living room and bedroom windows on any upper floor should face the lane.
- c) Windows in the upper floor of coach houses facing the yard of the principal residence should be modest in size.
- d) Side yard windows should also be modest in size and be recessed in that section of the building façade.
- e) Building faces and dormers should not be windowless, and sidelight windows should be incorporated into bay projections.
- f) Skylights, clerestory windows or glass block should be installed where possible.

14.3.2.L **Garage Doors**

a) Garage doors should be recessed behind the main façade where feasible and designed to minimize the visual impact to the lane through careful detailing and sensitive design, such as garage windows and narrower door width facing the lane.



14.3.2.M **Impact on Private Outdoor Space**

- a) Granny flats and coach houses should be located so as to minimize the amount of shadow cast onto the private outdoor space of the granny flat or coach house and the principal residence.

14.3.2.N **Trees and Vegetation Retention**

- a) Existing trees and prominent landscape features located outside the building envelope of granny flats and coach houses should meet the Tree Bylaw, for example:
- retained, unless proven to be diseased or in conflict with utilities and services;
 - protected before land clearing, demolition or construction commences.

14.3.2.O **Underground Services**

- a) Underground hydro and communication service lines should be utilized wherever possible to granny flats and coach houses.

14.3.2.P **Sustainability Initiatives**

- a) Granny flats and coach houses should incorporate sustainable design elements acceptable to the City into site and building design and construction, and exhibit design excellence through such means as:
- natural filtration of rainwater into a rain garden, rainwater collection system, bio-swale or rock pit;
 - solar power technology as an energy source;
 - energy star appliances and low water plumbing fixtures;
 - green technology building products;
 - naturescaping and permeable materials on outdoor surfaces.

Bylaw 10579
2024/07/15

B. MULTI-PLEX DEVELOPMENT

The intent is to ensure that duplex and triplex development (which for the purpose of these guidelines shall be understood to include house-plexes and other small multiple-unit housing types), achieves a high quality of design and incorporates appropriate building and landscape articulation and character in the following intensive residential areas:

- lots along arterial roads; and
- small-scale multi-unit areas.

14.3.3 Neighbourhood Character

The intent is to achieve variety in form and design to ensure this form of housing is compatible with existing neighbourhood character.

- a) The form and character, scale and siting of new buildings should be compatible with the existing character and scale of the surrounding single-family neighbourhood.
- b) The exterior finish of duplexes/triplexes should:
- complement, but not replicate, the overall character of the existing neighbourhood;
 - have a high quality of architectural design and detailing.

14.3.3.A **Variety in Design**

- a) Developments should include a variety of unit types, sizes, and unit treatments to encourage architectural diversity.
- b) Variations in the design of duplex/triplex clusters should be encouraged so as not to repeat the same architectural appearance, building form and elevations on the same block.
- c) No two (2) substantially similar duplex/triplex clusters should be located side by side.
- d) Duplex/triplex units within the same building cluster should avoid the mirror image effect.



- e) Variations in height and roof lines are recommended between building clusters and between units within a building cluster to provide visual diversity within the same development; however, overall expression should be a cohesive urban form and unity of architectural expression.

14.3.3.B Streetscape

- a) The design of duplexes and triplexes should enhance the streetscape, and should include landscaped front yards and strong front doors and building entries.
- b) Small variations in setbacks between building clusters should be utilized, in order to reflect the scale and articulation found in single family areas.

14.3.4 Site Planning

The intent is to provide direction on the location of the building clusters, services and parking.

14.3.4.A Circulation

- a) Each development should have adequate, well-defined circulation routes, parking areas and site access.
- b) Vehicle access should be from a lane or a local road, where possible.
- c) Access driveways from arterial roads should be limited to 6.0 m (19.7 ft.) in width, and driveways to adjacent lots should be combined/shared.
- d) All shared access must provide vehicle access and egress between the front lot line and the garages, carports, and parking pads on site.
- e) Internal drive aisle(s) providing access to garages should be designed to accommodate a turnaround area allowing for passenger vehicles.
- f) Fire access, adequate space for garbage and recycling facilities, and mail services should be provided on site to the satisfaction of the relevant authorities.

14.3.4.B Entrances

- a) Entrances to units should front public streets, where possible, and be directly accessible from the adjacent public sidewalk with minimal changes in grade.
- b) Individual unit entrances should be designed to be highly visible from the street.
- c) Entry porches are encouraged. The maximum depth of the porches should be limited to 1.5 m (4.92 ft.). Design porches to incorporate prominent main entries and integrate into the façade.
- d) Verandas are encouraged. Verandas should be between 1.8 m (5.91 ft.) and 2.5 m (8.2 ft.) deep to allow for usability. Design verandas to be integrated into the facade and the main entries.

14.3.4.C Parking and Garages

- a) Garages should be designed to minimize the visual impact along any rear lane and the internal drive aisle.
- b) Garage door width and driveway width should be minimized and driveways should be paired or combined to provide additional landscaping opportunities along the rear lane and internal drive aisle.
- c) Paired garage doors should be separated by a small landscaped area large enough to accommodate a tree with a minimum caliper size of 6 cm (2.5 in.).
- d) Garage doors should not front onto an arterial road.



- e) Front yards and flanking side yards should not be used for parking.
- f) Resident parking should be covered and screened from the street.

14.3.4.D Outdoor Amenity Space

- a) Each dwelling unit should have a well-defined private outdoor space of 30 m² (323 ft²) unoccupied and unobstructed by any buildings, structures, projections and on-site parking, except for cantilevered roofs and balconies which may project into private outdoor space for a distance of not more than 0.6 m (1.97 ft.).
- b) Private outdoor space provided in the form of yard space should have a depth no less than 4.5 m (14.8 ft.); or 3.0 m (9.84 ft.) for duplexes on compact lots.
- c) Paved patio or deck space within a private outdoor space in the yard space should have a depth no more than 2.5 m (8.2 ft.).
- d) Private outdoor space provided in the form of balcony and/or deck above the ground floor should have a depth no less than 1.8 m (5.91 ft.).
- e) Where the only private open space of a unit is provided on the yard facing an arterial road, a balcony or deck space facing the interior side or back yard should be provided.

14.3.4.E Garbage, Recycling and Organics Storage

- a) Garbage, recycling and organics storage bins should be easily accessible, and be contained within a roofed/walled enclosure.
- b) Where there is lane access, the roofed/walled enclosure should be set back a minimum of 1.5 m (4.92 ft.) from the rear lot line.
- c) Where vehicle access is from the fronting street, a paved area for the placement of garbage, recycling and organics storage bins should be provided within the front yard by the entry driveway; and this area should be screened from the street.

14.3.5 Building Form

The intent is to ensure that duplexes/triplexes are attractive and do not adversely impact adjacent homes.

14.3.5.A Scale and Massing

- a) Building mass should be arranged to minimize shadowing and optimize natural lighting.
- b) At least 40% of the gross floor area of each duplex unit developed as a Compact Lot Duplex should be located on the second floor.
- c) The minimum length of party wall connecting duplex/triplex units on the same lot should be the greater of:
 - 5.4 m (17.7 ft.); or
 - 70% of the overall width of the front-to-back units or 70% of the overall depth of the side-by-side units.
- d) Party wall between duplex/triple units on the same lot should be no less than one (1) storey high.

14.3.5.B Adjacencies

- a) Privacy of adjacent dwellings should be maintained through increased setbacks above the ground floor, careful placement of doors and patios, and offsetting windows on adjacent facades.
- b) Site design should include fencing, screening and landscaping, to ensure privacy for adjacent properties.



14.3.6 Architectural Treatment

The intent is to ensure that development has a high quality character and finishing.

14.3.6.A Character

- a) The primary façade of duplex/triplex unit facing the street should be articulated to create architectural interest.
- b) Entrances should be designed to articulate the individual units and to enhance the pedestrian-scale character of the site through a strong connection with public streets.
- c) Finished site grade of the main unit entries should be no more than 1.2 m (3.94 ft.) above the public sidewalk to ensure an appropriate level of street interface.
- d) Architectural treatment of unit entrances should reinforce proximity to grade level (e.g., avoid two-storey features).
- e) Duplexes and triplexes that are developed on flanking lots should be designed with sufficient articulation and building character to “address” both the flanking and fronting streets.
- f) The primary façade of duplex/triplex unit facing the internal drive aisle should be visually broken into smaller components or sections to discourage wide, flat unbroken facades.
- g) Discourage situations where the main entrances to units are adjacent to, or on the same façade as garage doors. Where this situation is unavoidable, unit entry should be visually prominent.
- h) Garage doors should be recessed behind the main façade along the internal drive aisle.
- i) In order to minimize the apparent bulk of a building, recessed and partly recessed balconies are preferred to projecting balconies.
- j) Exterior stairs should be designed to be integrated into the overall architectural and/or landscape concept of the development.
- k) Eaves, bay windows and other projections from the building face are encouraged.

14.3.6.B Windows

- a) Windows should be visually prominent in street fronting façades and should be articulated with colour and/or white trim. The use of muntins and mullions in street fronting windows is encouraged.
- b) Scale and proportions of dominant windows should be compatible with the massing and roof forms of the building or portion of the building that contains them. Large, horizontal picture windows are not considered appropriate.
- c) Side yard windows should also be modest in size and be recessed in that section of the building façade.
- d) Building faces and dormers should not be windowless, and sidelight windows should be incorporated into bay projections.

14.3.6.C Exterior Finishing

- a) Materials to convey an image of quality, durability and a high level of craftsmanship.
- b) Buildings and roofing materials should reflect the heritage and climate of Richmond.

14.3.6.D Materials

- a) A variety of complementary materials and colours is encouraged for visual interest.
- b) Strong, bold colours in contrast with white or light colours for façade details and trim is encouraged.



- c) Stone is recommended as an accent material.
- d) Stucco is acceptable when used in combination with other exterior finishing materials.
- e) Vinyl siding is acceptable if finished with wood or other high quality detailing.

14.3.6.E Roof Materials

- a) Cedar shingles or a similar type of roofing (in terms of colour and texture), or high profile asphalt shingles are preferred to accentuate a single family character.

14.3.6.F Flashing and Gutters

- a) Flashing and gutters should be integrated into the design of the building in terms of colour, location on the façade, or other method.

14.3.7 Landscaping

The intent is that landscaping be lush and that fences or gate be attractive, particularly along any street frontages or common area.

14.3.7.A Trees Retention and Replacement

- a) Existing natural landscaping, including significant trees, should be retained and incorporated into site development plans.

14.3.7.B Tree Planting

Bylaw 10339
2022/03/21

- a) Where one or more existing trees are being removed, the City's tree replacement policy requirements as specified in Tree Protection Bylaw 8057 must be met.
- b) Comply with the minimum planting sizes specified in the City's Tree Protection Bylaw where replacement trees are being planted.
- c) A grassed strip with at least one (1) deciduous tree (minimum 6 cm or 2.5 in. caliper) per lot should be installed along the front property line.
- d) A minimum of one (1) deciduous tree (minimum 6 cm or 2.5 in. caliper) or one (1) coniferous tree (minimum height 3.5 m or 11.5 ft.) should be planted on each lot in the front yard.
- e) In the case of a corner lot, additional trees should be planted within the flanking side yard.
- f) Include an appropriate mixture of deciduous and coniferous trees, with the coniferous being sized and spaced appropriately.

14.3.7.C Landscaping

- a) Landscaping should pay special attention to front yard quality, including protection of mature trees. Low-maintenance, native plant materials are preferred.
- b) The grade between the City's sidewalk and the landscaping along the front property line should be the same.
- c) All front yard areas along front property lines should be planted with a combination of lawn, flower beds, flowering shrubs and ground cover to provide seasonal interest and water permeability.
- d) If individual shrubs are planted in the front yard, they should be of a low height that will not exceed 1.2 m (3.94 ft.) and should be located behind any fencing on the front property line.
- e) Continuous hedges are not permitted within the front yard.
- f) For duplex development on a compact lot, an unobstructed, permeable pathway of a minimum 0.9 m (2.95 ft.) wide should be provided between the front or flanking lot line and the pedestrian entry to each of the dwelling units.



- g) A walkway should also be provided between parking garage/area and each of the duplex units.
- h) Material for walkways/pathways from the arterial road to the entrance of the duplex/triplex units should be aggregate concrete, stamped concrete, paving stones, pervious paving or other acceptable material to the City. Asphalt is not permitted.
- i) Permeable material is strongly encouraged for use in unenclosed surface parking areas and carports as well as paths.
- j) Landscaping should be provided on areas along the rear property line and internal drive aisle where the areas are not used for parking purposes.
- k) Provide adequate lighting to enhance security and visibility, particularly along the rear lane and internal drive aisle. Exterior lighting should be designed to avoid “light-spill” onto adjoining properties.

14.3.7.D Fences and Gates

- a) Fences within the front and flanking side yards should be a maximum of 1.2 m (3.94 ft.) in height and should be placed a minimum of 0.50 m (1.64 ft.) from the internal edge of the sidewalk.
- b) Fences in front yards and flanking side yards should be picket, wicket or post-rail; metal transparent fences with brick or stone pilasters are also encouraged. Solid panel is not permitted.
- c) Fencing areas should be designed to incorporate flower beds, flowering shrubs and other low lying landscaping.
- d) Decorative arbours/brackets/trellis features may be used to further articulate the fencing provided that they are in scale with and complementary to the fencing details and be placed a minimum of 2.0 m (6.56 ft.) from the front property line.
- e) Vehicle gates at duplex/triplex site entrances are discouraged. To define the boundary between private and public space, provide:
 - pavement in contrasting colour and texture across driveway entrances;
 - minor architectural elements;
 - appropriate landscaping.
- f) Fences within the side and rear yards should be a maximum of 1.83 m (6 ft.) in height.





14.4 Multiple Family Guidelines

These Guidelines are intended to provide direction on the general form and character of townhouses, stacked townhouses, rowhousing, low to mid-rise housing and high-rise housing (outside the City Centre).

The Multiple Family Guidelines and General Guidelines apply to all multiple family residential developments.



A. GENERAL CONSIDERATIONS

The intent is to carefully integrate new multiple family residential development into existing neighbourhoods.



14.4.1 Pedestrian-Oriented Streetscapes

The intent is to give prominence to the pedestrian realm as a major element of the neighbourhood theme and character.

14.4.1.A Streetscape

- a) Streetscapes should animate the street and provide a high level of pedestrian interest along their public edges.
- b) Along major roads, provide exterior staircases up to the first habitable level wherever appropriate. Exterior stairs should be designed to be integrated into the overall architectural and/or landscape concept of the development.
- c) At the common entry to multiple family residential buildings, provide public seating and clear, pedestrian-oriented signage. Art at building entries is encouraged.
- d) Ground oriented units are encouraged in all types of multiple family developments. Grade-level residential units along publicly-accessible walkways and streets should feature individual front doors fronting the walkways and street, with individual paths leading from the public sidewalk or pedestrian walkways to front doors. The front doors of the units should be accessible and visible from the public sidewalk and should not be hidden by vegetation.
- e) Grade-level units should be no more than 1.2 m (3.94 ft.) above the grade of adjacent public sidewalks and walkways.
- f) Employ features such as front stairs, stoops, gateways, porches and weather protection to enhance the residential quality of unit and building entries, the visibility of such entries, a comfortable architectural rhythm along the street and a human scale.
- g) Create an attractive street frontage, using windows and doors to help animate the building facade and promote a more human-scale character. Windows and doors should be oriented streetward.
- h) Use internal drive-aisles to maximize the sense of open space and enhance pedestrian character. Where possible, vehicle and pedestrian access should be either specifically marked or separated from each other and appropriately located.
- i) Visually enhance pedestrian linkages and create a sense of arrival through the use of arrival plazas, special plantings and benches at intersections.

14.4.1.B Entrances, Stairs and Porches

- a) Entrances to buildings and complexes should front public streets and be directly accessible from sidewalks or other public areas with minimal changes in grade. The entrances should be designed to be highly visible from the street and clearly addressed with large numbers.
- b) Convenient indoor waiting areas and outdoor pedestrian weather protection should be provided at building entrances.
- c) New developments should promote the provision of individual grade-level entries to residential units wherever possible, with intimate courtyards, landscape features and/or special weather protection at common building entries.
- d) Enhance the livability of dwellings and the vitality of parkways and linear walkways by providing secondary entrances, doorways, gates and garden entries to ground level units adjacent to pedestrian routes.

14.4.1.C Yards

- a) Yards adjacent to streets, lanes, public walkways and pathways should be designed to be open and inviting and allow good visibility from adjacent public areas to building entries.



- b) Define the street edge through landscaping with layers of planting, low walls, hedges, or changes in grade along the property line.
- c) Yards should be raised no more than 0.5 m (1.64 ft.) above adjacent public sidewalks; low retaining walls in front yards along the street should not be higher than 0.5 m (1.64 ft.). In yards that abut public spaces, landscaped terraces no greater than 0.5 m (1.64 ft.) in height and no less than 0.75 m (2.46 ft.) deep should be used to reach the new grade.

14.4.1.D Fences

- a) Fences or walls along the streetfront should be limited in height and length and should be supplemented with landscaping.
- b) Fences or walls should be no more than 15 m (49.2 ft.) long without a break or jog.
- c) Fences should be a maximum of 1.2 m (3.94 ft.) high when located within front yard of the street.
- d) Landscaping on the street side of fences should include plants of low maintenance varieties (e.g., hearty shrubs, groundcover and trees). Large evergreen hedging along the street is not acceptable.

14.4.1.E Fire Access

- a) Fire lanes should conform to the City's Building Bylaw and be designed to meet the needs of the City's Fire Department. They should be similar in design to other access routes and, wherever possible, combined with pathways and other routes. Decorative forms of paving should be used both for aesthetic reasons and to distinguish them from common asphalt-paved vehicular access routes. Where they intersect or are combined with pedestrian pathways, distinctive paving should be used to highlight the dual function.

14.4.1.F Preservation of Existing Natural Features

- a) Wherever possible, existing trees and natural features should be retained.
- b) Special attention should be paid to the preservation of mature trees. Any hard-surface area, including building footprint and driveways, should be planned and designed to maximize retention of existing woodlots or specimen trees. Existing mature trees and vegetation corridors should be retained and incorporated, wherever possible, into the design of external streetscapes and internal private landscapes.
- c) Special efforts should be made to retain mature trees by adjusting retaining walls to accommodate trees.

14.4.2 Building Scale and Form

The intent is to ensure that all multiple family residential developments have adequate sunlight and are appropriately located on site.

14.4.2.A Sunlight Access

- a) Ensure that a minimum of 75% of dwellings and their private open spaces in each development receive direct sunlight every day of the year.
- b) To ensure sunlight access to residences, the minimum north-south spacing between adjacent buildings should be determined by the vertical angle of the sun at solar noon at the equinoxes.

14.4.2.B Diversity

- a) Developments should include a variety of unit types and unit treatments to encourage architectural and social diversity.



14.4.2.C Adjacency Considerations

- a) New multiple family developments should be designed to maintain a residential character and be compatible with adjacent uses.
- b) Side yard interfaces with adjacent single family housing should be particularly sensitive to issues of privacy/overlook. Consideration should be given to greater setbacks above the ground floor, special landscaping measures and/or orienting living areas away from neighbouring sites.

14.4.2.D Scale and Massing Considerations

- a) The apparent length and mass of buildings should be reduced through architectural design and detailing. Establish residential scale through articulation of the building facade through the use of projections, recesses, solids and voids and by including house-like elements such as chimneys and multi-paned windows.
- b) Vary the design to include more than one building form on each site sharing common architectural elements.
- c) Break up the apparent length of individual buildings by expressing larger buildings as a series of smaller buildings, or as identifiable parts of a grander scheme. Building facades should be broken up into smaller components, with special measures used to reinforce a rhythm and scale that gives the appearance of individual units along the street (e.g., smaller components that express strong unit identity with direct grade access).
- d) Reduce the apparent height of buildings with architectural treatment that promotes recognition of individual storeys and avoids the appearance of sheer blank walls, for example:
 - give each building or portion of building a distinct top, middle and base;
 - use trim, intense colour accents, secondary roof elements, building recesses;
 - terraced building forms that emphasize lowered height of end units.
- e) Large projecting balconies are discouraged along streetfronts, as they emphasize building bulk. Recessed balconies will be permitted in some areas.
- f) Avoid the appearance of a solid wall of buildings by varying street edge treatment through use of strategically placed open spaces with intensely clustered plantings, staggered or varied building setbacks and other techniques.

14.4.2.E Space Between Buildings

- a) Buildings should relate to the height and spacing of adjacent buildings. A ratio of 1:4 between the distance and height of the adjacent buildings should be considered.
- b) The size of spaces between buildings should be determined by designing for an identifiable use which enhances the amenity and enjoyment of residents.

14.4.3 Architectural Treatments

The intent is to employ a variety of overall roof heights and forms, and to maximize light into units and to express the residential character of the neighbourhood through appropriately scaled and proportioned windows.

14.4.3.A Roof Form and Elements

- a) A variety of overall roof heights and forms should be employed within a multiple building proposal to give interest and offer a residential character.
- b) Sculpt and terrace upper floors in buildings over 4 storeys in height to reduce mass, create a transition in height and maximize views.



- c) Reduce apparent height of buildings and establish a pedestrian scale along walkways, semi-private open space and main vehicular entrances through the use of secondary roofs or trellises over entries, patios and other openings at lower levels.
- d) Consider pitched roofs to express a traditional residential character.
- e) Decorative elements close to the roof should emphasize and complement the roof pitch visible from the street.
- f) Mechanical equipment must be concealed from view and antennae, radio-wave receiving and transmitting devices, vents and similar obtrusive equipment should be situated where least visible from public areas.
- g) Skylights should be designed to minimize interruption of the roof line.
- h) In general, flat roofs are not considered appropriate for townhouses. However, this roof form might be appropriate in low to medium rise (and mix-use) developments at the perimeter of Neighbourhood Centre areas to reflect the transition character of these areas.

14.4.3.B Windows and Skylights

- a) Orient principal windows to the south in order to maximize solar gain.
- b) Consider the use of various forms of projections, such as bay windows, as a device to maximize sunlight and views, provide interesting unit articulation and improve building mass.
- c) Locate windows to focus views, to maximize light penetration into units and to minimize opportunities to look into units from other units or from paths and open spaces around buildings.
- d) Traditional window treatment with a vertical impression should be used where visible from the street. Skylights, plastic bubble windows, tinted glaze and other non-traditional windows should not be used in prominent locations on buildings that are visible from the street.
- e) Windows should be openable, of residential scale and should add to the sense of neighbourliness, safety and security by providing visual interest while maximizing surveillance opportunities over public areas.
- f) The openable part of a window should be located a minimum of 0.6 m (2 ft.) above a floor as a safety precaution for small children.
- g) Windows, used singly or in combination, should be transparent at eye-level to reinforce the sense of surveillance over the street.
- h) Consider the use of skylights as a means to access light within a vocabulary of pitched roof forms, except where aircraft noise is of concern.

14.4.3.C Materials

- a) Exterior cladding materials and detailing should be carefully considered to counteract the effects of the rainy west coast climate of Richmond. Stucco should be treated to prevent discolouration and particular care should be taken in detailing of north-facing facades.
- b) A variety of complementary materials and colours is encouraged for visual interest.
- c) Ensure the façades of the buildings are visually interesting through a sufficient level of surface and architectural detail.
- d) Select roofing materials that are suitable for the level of articulation desired in the roof forms.



14.4.4 Pedestrian Access

The intent is to provide clear, convenient and safe pedestrian access to and within multiple family residential development sites.

14.4.4.A Pedestrian Circulation

- a) Pedestrian circulation should be provided for all major areas of the site. Pedestrian access throughout the site should be designed to be accessible to disabled persons.
- b) Consider designing the circulation system to encourage children's play throughout a development:
 - make the system safe for bicycles and tricycles. Drop curbs at road crossings; create traffic calming devices; vary the paving;
 - explore the possibilities of reclaiming hard surfaces as play areas;
 - accommodate play on internal roads through a design that avoids conflict between cars and people (e.g., a basketball hoop in a dead-end roadway);
 - indicate shared uses of roadways through devices such as changes in road surface, variation in road width and signage. Clear delineation of edges and surfaces is important.
- c) To avoid duplication, pathways should be combined with fire lanes wherever possible.

14.4.4.B Pedestrian Pathways

- a) Pathways should be treated with decorative surfaces and landscaped with small-scale plant materials, shrubs and trees. Where possible, existing vegetation should be preserved along these pathways.
- b) All paths should be open to the sky.
- c) Maximize visibility and animation along pathways by orienting windows, entries and balconies on adjacent buildings towards pedestrian paths.
- d) Ensure that pathways are well-lit, visible from the street and clearly marked, with entrances embellished by ornamental planters, trees, or prominent architectural components.
- e) Pathway should have focal areas in the form of arrival plazas and entry courts.

14.4.4.B Public Pedestrian Corridors

- a) Main pedestrian access corridors through developments should be a minimum of 6 m (19.69 ft.) wide and should:
 - include a paved walkway, minimum 2 m (6.56 ft.) wide, with the distance between adjacent building faces being at least 6 m (19.69 ft.);
 - have a maximum length of 70 m (230 ft.) (as measured between public streets or open spaces), except where the space between adjacent building faces is less than 9 m (29.53 ft.), in which case the maximum walkway length should be 15 m (49.21 ft.) between open spaces;
 - should have focal areas in the form of arrival plazas and entry courts;
 - should provide a series of events and places for the public and residents to experience.



14.4.5 Landscaping and Open Space Design

The intent is to ensure that multiple family residential sites are landscaped with attractive landscaping, screening and surface treatment, enhance the natural beauty of Richmond, improve the livability of the development, and provide adequate separation between uses.

14.4.5.A Public Open Space

Trees

- a) Plant trees along all street frontages to form an avenue of trees. The spacing between trees may vary according to the species.
- b) Major internal roadways should be lined with landscaped and treed boulevards. Pedestrian-oriented lighting should be included along the internal roadways.
- c) Trees may be planted in pairs at entranceways to define a gateway.
- d) Landscape all pedestrian paths with trees and other plant materials.

Building Setbacks

- a) Building setbacks along major streets are encouraged to provide for “display gardens” and semi-private entry transition areas.
- b) Where a development faces across a street from an existing single family neighbourhood, front yard landscaping features should be used to create a sense of transition. Appropriate features might include: roofed pedestrian entry portals; trellises; and small entry courts edged with ornamental trees, shrubs and plants.

Landscape Treatments

- a) Create visual focal points by providing landscaped areas at the curves of internal roads and at the “dead-ends” of development sites. Allow for future pedestrian access to adjacent development areas within the landscaped areas.
- b) Consider using mounds of earth or berms to contain or screen an area and to create visual and textured interest in otherwise flat terrain.
- c) Use landscaped trellises to conceal garages and visitor parking stalls.
- d) Vines or other cover should be planted to soften retaining walls.
- e) Soften hard surfaces through the use of landscaping, trellises and tree planting.

Surface Treatment

- a) Show variety and change of use through variations in the colour and texture of materials for patios, walkways and roadways. Use changes in paving materials near entrances to walkways and children’s play areas.
- b) Use a variety of decorative surface treatments (e.g., stamped concrete grey pavers) to soften the visual impact of driveways.
- c) Consider using materials that support children’s play throughout a development (e.g., rubber tiles instead of concrete pavers; walkways for chalk drawings, etc.).
- d) Use permeable surfaces as much as possible.

Signage

- a) Signage should have a pedestrian scale and orientation. Back-lit acrylic signs or permanent, free-standing commercial signage will not be permitted.
- b) Way finding signage to visitor parking spaces for residential units should be provided at the entrance to the development, at each location where a visitor vehicle needs to turn and at a maximum spacing of 50 m (164 ft.). The design/format and colour of the way finding signage is to be reviewed and approved by the City.

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**14.4.5.B Semi-Private Open Space**

- a) Provide convenient, safe and accessible semi-private open spaces for the common use of all building/complex occupants.
- b) Semi-private open spaces should be clearly defined from public spaces for the exclusive use of building/complex occupants through the use of changes in grade, low walls or fences, planting or siting within the confines of the building.
- c) Spaces should be situated and designed to maximize resident access, surveillance and enjoyment.
- d) Provide landscaping with substantial trees, planting and features appropriate to a range of ages and interests, including families with children.
- e) Illuminate spaces with low-level lighting that provides light and security for semi-private space but does not produce glare into the adjacent residential buildings.
- f) Semi-private open spaces for family-oriented housing should be equipped with children's play apparatus and benches. Locate equipment and seating to take advantage of sun and natural shelter from the weather.
- g) Spaces should be designed to ensure barrier-free access.
- h) Ground surfaces should be paved with a mixture of hard surfaced and natural landscaping.

14.4.5.C Private Open Space

- a) Public and private outdoor space should be clearly defined to enhance both the privacy of residences and the pedestrian experience.
- b) Provide landscaping, terracing, screening, low-level hedges and/or garden walls between private ground oriented outdoor spaces and the public realm;
- c) Separate private outdoor spaces from the semi-private open spaces. Use changes in grade and/or landscaping to ensure the privacy of an individual unit's open space without the use of high fences.
- d) Private outdoor spaces should be separated from the private outdoor spaces of other units for privacy purposes. Private outdoor spaces in family-oriented developments should be "enclosed" (i.e. fenced, for the security of small children and pets).
- e) Where a change in grade no greater than 1.2 m (3.94 ft.) occurs between the outdoor space of a unit and the level of a street or public access it faces, "front stair" connections should be provided between the two outdoor spaces.
- f) Articulate building edges to define private balconies and patios that become a natural extension to the residential unit.
- g) Where a residential front yard provides a unit's only private open space, ensure that this space is usable/practical while also enhancing the streetscape. Changes in grade/terracing should be used in combination with hedges, trees, shrubs, open lattice screens and low fences to provide an area of privacy near the unit while still providing an open, inviting public edge.
- h) Undersides of balconies and porches that are visible from a street or public walkway should be covered by soffits or exterior finishes to provide a finished appearance to public view.
- i) Consider the importance and the safety of small household pets by ensuring that a gap no larger than 5 cm (2 in.) is provided between the ground and the base of a fence. All fences should have gates that provide direct access to semi-private and public areas.



Balcony and Outdoor Space Sizes

- a) Ensure a substantial depth of balconies, patios and gardens to create usable and livable outdoor spaces.
- b) Apartment units should have a private outdoor space of 6 m² (64.59 ft²) in area and 1.8 m (5.9 ft.) in depth, with larger than-minimum spaces strongly encouraged. An area of shelter and privacy should be provided within each private outdoor space. It is suggested that half of the minimum required outdoor space be recessed behind the building face.
- c) Each townhouse unit should have a private outdoor space of 30 m² (323 ft²) in area (not in average). Private outdoor space provided in the front yard and/or rear yard of the unit should have a depth no less than 4.5 m (14.76 ft.). Private outdoor space provided in the form of balcony and/or deck above the ground floor should have a depth no less than 1.8 m (5.9 ft.).
- d) Paved patio or deck space within a private outdoor space in the yard space should have a depth no more than 2.5 m (8.2 ft.).

Balcony and Outdoor Space in Aircraft Noise Sensitive Development

- a) Private balcony space in aircraft noise sensitive development should mitigate the impact of aircraft noise by appropriate siting and/or by using appropriate noise mitigation techniques and architectural treatment (e.g., enclosed balconies) that do not result in the balcony being indoor living space.
- b) Private open space (e.g., patios, decks) in aircraft noise sensitive development should mitigate the impact of aircraft noise by appropriate siting and/or by using appropriate noise mitigation techniques and architectural treatment (e.g., canopies, fences, landscaping) that do not result in the area being indoor living space.

14.4.5.D Amenity Space

- a) Indoor and Outdoor amenity space should be provided as outlined in the following chart in order to provide common amenities to be shared by all households in each multiple family development project of more than three units.

Number of Dwelling Units	Indoor Amenity Space Required	Outdoor Amenity Space Required
0-3 units	None	None
4-19 units	<ul style="list-style-type: none"> Indoor amenity space of a minimum of 50 m² (538 ft²). 	<ul style="list-style-type: none"> Outdoor amenity space of 6.0 m² (64.59 ft²) per unit. Outdoor space should be designed to facilitate children's play.
20-39 units	<ul style="list-style-type: none"> Indoor amenity space of a minimum of 70 m² (753 ft²). 	<ul style="list-style-type: none"> Outdoor amenity space of 6.0 m² (64.59 ft²) per unit. Outdoor space should be designed to facilitate children's play and 3.0 m² (32.29 ft²) per unit should be designed as a children's play area.
40 units or more	<ul style="list-style-type: none"> Indoor amenity space of a minimum of 100 m² (1,076 ft²). 	<ul style="list-style-type: none"> Outdoor amenity space of 6.0 m² (64.59 ft²) per unit. Outdoor space should be designed to facilitate children's play and 3.0 m² (32.29 ft²) per unit should be designed as a children's play area. The maximum play area size is 600 m² (6,459 ft²).



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- b) • Contributions of cash in-lieu of providing indoor amenity space for multi-family developments under the Development Permit Guidelines, may be provided by an applicant/developer as an option as part of the Development Permit application process as set out below.

Number of Dwelling Units in a Multi-Family Project	Amount of Cash-In-Lieu Payment (exempt where the average unit size exceeds 148 m ²)
1-3 units	None
4-19 units	\$1,600 per unit; plus
20-39 units	\$3,200 per unit; plus
40 units & above	\$4,800 per unit for the remaining units

- Cash in lieu funds are to be deposited in a Leisure Facilities Reserve Fund to be used for indoor public amenity space as identified by the Community Services Division and in alignment with Council priorities for facility and amenity needs for the local community and City-wide.
- On February 28, 2019, and then by February 28 every two years thereafter, the above contribution rates are to be revised by adding the annual inflation for the preceding two calendar years by using the Statistics Canada *Vancouver Construction Cost Index – Institutional* inflation rate; with revised rates published in a City Bulletin.

14.4.5.E Indoor Amenity Space

- The amenity space shall include a multi-purpose facility designed to accommodate a variety of activities such as parties, children's play and meetings (e.g., involving 40% of the development's estimated adult population).
- In larger, family-oriented developments, special emphasis should be placed on the design of indoor amenity space and associated outdoor areas in order that they may provide opportunities for licensed childcare use (should such a need be recognized) without compromising tenant needs.
- Indoor amenity spaces should be located on the south face of buildings and should be linked directly to outdoor amenities and to public walkways wherever possible.

14.4.5.F Outdoor Amenity Space

Location

- Outdoor amenity space should be in a central location on the site where it is convenient for the largest number of residents on site and contiguous with an indoor amenity space wherever possible.
- Outdoor amenity space may also locate in the area where existing landscape features are to be retained on site.
- Outdoor amenity space may also locate adjacent to open space on a neighbouring multiple family site. Siting and design of these open spaces should be complementary and should encourage common use by residents of both sites. No fence or barrier shall be erected between the open spaces, though changes in grade may be used to better define public versus semi-public areas.
- Outdoor amenity spaces and play areas should not be located near parking areas or garbage/recycling storage areas.
- Locate the outdoor amenity area to take advantage of sunlight and of natural shelter from inclement weather.



- f) Outdoor amenity space located within any required yard setback is discouraged. If this situation is unavoidable, the size of the outdoor amenity area should be substantially larger and wider than the minimum requirement in order to provide an adequate landscape buffer to deal with the interface along the property lines and clearly differentiate public, semi-private and private spaces.
- g) Amenity areas should be consolidated in one compact area as linear or scattered configurations are generally not as successful in meeting residents' needs.
- h) The minimum longitudinal dimension for an outdoor amenity space should be 5 m (16.4 ft.). It is recommended that an outdoor amenity space, when located on ground level, should have at least 50% of the minimum longitudinal dimension front an internal road or walkway.
- i) The recommended shape configuration should be a maximum ratio of 1:3 (width to length).
- j) Ensure that surveillance of the area is provided from adjacent units and that the area has barrier-free access.

Play Areas

- a) For multiple family developments up to 19 units in size, outdoor space should be designed to facilitate children's play. For developments over 19 units in size, children's play space should be provided at a ratio of 3 m² (32.29 ft²) per unit. The maximum suggested size for a children's play area is 600 m² (6,459 ft²).
- b) Locate children's play apparatuses and benches within the open space along with other urban design features such as gardens, fountains, arbours and art.
- c) Outdoor fenced play areas should be located, where possible, adjacent to indoor spaces on the south side of the buildings, in a sunny location protected from easterly wind. Opportunities for passive adult surveillance should be provided, such as seating nearby and/or arrangement of windows and viewing decks that permit observation of children at play.

Surface Treatment

- a) Provide a mixture of permeable hard-surfaced and natural landscaping in the outdoor amenity area.

Aircraft Noise Sensitive Development Outdoor Amenity Space

- a) Outdoor amenity space in aircraft noise sensitive development should mitigate the impact of aircraft noise by appropriate siting and/or replacing outdoor amenity space with an equivalent area of additional indoor amenity space designed to facilitate children's play, senior's enjoyment, or other appropriate passive recreational use.

14.4.6 Services

The intent is to ensure that multiple family residential developments provide adequate garbage, recycling, organics, mail and other services for the convenience of the residents.

14.4.6.A Garbage and Recycling

- a) There should be a minimum of one garbage container per complex.
- b) Recycling should be provided at a minimum of one facility for each 10 residential units, with a minimum of 3 carts per depot area (3 bins for 3 material types).
- c) Organics (food scraps, etc.) collection should be included on-site.
- d) Refer to the City's document entitled "Waste Management Guidelines for Multiple-Family Residential and Mixed-Use Buildings" for additional requirements and details.



Recycling, Garbage and Organics Storage

- a) A room in the development or a gated and covered structure should be provided to contain residents' garbage, recycling and organics materials.

Recycling, Garbage and Organics Storage Area Design

- a) The design of this structure should complement the design of the units in the project.
- b) The enclosure should be in a central location that is easily accessible to all residents but away from pedestrian accesses and children's play areas.
- c) Landscape screening of the enclosure should be provided. The area should be easily accessible for collection purposes and should provide adequate manoeuvring space for 13.7 m (44.95 ft.) long garbage trucks.
- d) A recycling area of a minimum of 2.4 m (7.87 ft.) by 3.5 m (11.48 ft.) in size for each 30 units, should also be provided near garbage areas.
- e) The recycling area should be well lit, sprinklered, separated from the remainder of the building by a one-hour fire separation and wheelchair accessible.
- f) If located outdoors, the recycling area should be screened from public view, without a roof and a minimum 3 m (9.84 ft.) away from a combustible building. Located next to a building, the side of the building next to the recycling area should be of non-combustible materials.

On-site Composting

- a) Consider providing an area for on-site composting to generate materials that can be used for landscape maintenance or to allow for garden plots on the site.

14.4.6.B Mail Delivery

- a) Provide a covered mail box in a central location that is easily accessible to all residents. The design of this structure should be to Canada Post standards and be compatible with the design of the units in the project.

14.4.6.C Storage

- a) Provide adequate area for storage within dwelling units, particularly for family-oriented developments.

14.4.7 Acoustics

The intent is to minimize the impacts of aircraft noise and traffic/transit noise to residential developments.

- a) Provide acoustic separation between dwelling units, particularly in family-oriented developments. Control sound transmission passively through unit design (e.g., avoid placing bedrooms of one unit adjoining the living room of the neighbouring unit; avoid hard-surfaced floor areas such as kitchens over bedrooms or other quiet rooms).

14.4.7.A Traffic/Transit Noise and Commercial/Industrial Adjacency

- a) Developments that may be affected by land use interface issues (traffic/transit noise, commercial/industrial adjacency) must be designed and constructed in a manner that mitigates potential noise within the proposed dwelling units. Dwelling units must be designed and constructed to achieve:
 - ASHRAE 55-2004 "Thermal Environmental Conditions for Human Occupancy" Standard for interior living spaces;



- CMHC guidelines for interior noise levels as indicated in the chart below:

Portions of Dwelling Units	Noise Levels (decibels)
Bedrooms	35
Living, dining, recreation rooms	40
Kitchen, bathrooms, hallways and utility rooms	45

- b) All Development Permit applications are required to provide an acoustical report to demonstrate how all residential units meet the above requirements. Inclusion of the thermal requirements is critical as being able to meet thermal comfort standards with the windows closed during the summer months is extremely important. All units within the project are to meet these standards. The source noise level referenced in the acoustical report should be based on the maximum source level noise permitted by the City Noise Bylaw.
- c) The acoustical report must also detail whether additional noise alternatives is required due to the proximity of the Canada Line guideway or station platform.
- d) New multiple family residential development adjacent to the Canada Line guideway is to ensure the building design reflects Canada Line adjacency. Where possible, residential units should not be created directly adjacent to the guideway (e.g., avoid residential units at the guideway elevation if possible).
- e) Where private outdoor space is adjacent to noise source (i.e., arterial roads, commercial/industrial developments), noise mitigating measures should be utilized, such as fencing, berming and landscaping; or provide special mitigation measures as determined by a registered professional trained in acoustics.
- f) Noise from major street and commercial/industrial interface can also be mitigated by:
 - careful site layout;
 - orienting private outdoor spaces away from noise source;
 - orienting the front entry and public part of the dwelling toward the noise source and locating quiet rooms such as bedrooms away from the noise source;
 - recessing balconies and facing them with solid balustrades;
 - finishing soffits with material which absorbs or baffles sound waves;
 - providing extra insulation for walls of buildings adjacent to the noise source;
 - triple-glazing windows to reduce noise infiltration;
 - using enclosed balconies or sunrooms facing the noise source as a buffer between living areas and the noise source.

14.4.7.B Aircraft Noise

- a) All Development Permit applications in areas identified in the Aircraft Noise Sensitive Development Map (see Section 3.6.3 Noise Management) shall require evidence in the form of a report and recommendations prepared by a person trained in acoustics and current techniques of noise measurement, demonstrating that the noise level in those portions of the dwelling units listed below shall not exceed the noise level and thermal condition standards set out in the corresponding right-hand column and the ASHRAE 55-2004 "Thermal Environmental Conditions for Human Occupancy". The noise level utilized is an A-weighted 24-hour equivalent (leq) sound level and will be defined simply as noise level in decibels.



Portions of Dwelling Units	Noise Levels (decibels)
Bedrooms	35
Living, dining, recreation rooms	40
Kitchen, bathrooms, hallways and utility rooms	45

- b) Skylights are discouraged in homes located within the area identified in the Aircraft Noise Sensitive Development Map.
- c) In addition to the above, a trained professional is to assist in the design of the private patios and balconies to minimize the noise levels with recommendations for building material selection and space planning.

14.4.8 Edge Conditions (Environmentally Sensitive Areas and Public Open Space)

The intent is to accommodate and encourage new development while responding to and enhancing adjacent uses such as parkland or environmentally sensitive areas.

- a) Where multiple family sites lie adjacent to an ESA or park, these landscapes should be “extended” into and through the multiple family site, especially along walkways, pathways, semi-public open spaces, and public areas. In addition, dense planting of indigenous plant material (with appropriate soil and irrigation conditions) should be provided to screen any fences on or adjacent to the ESA from the view of residents.



B. TOWNHOUSES, STACKED TOWNHOUSES AND ROW HOUSING

The intent is to ensure that all new townhouse and row house development demonstrates high quality design and neighbourhood fit and careful integration into the character and fabric of existing buildings and streetscapes.

14.4.9 Building Location and Organization (Site Planning)

The intent is to provide direction on the location of the multiple family residential units, services and parking.

14.4.9.A Street Presence

- a) Varied setbacks are encouraged between townhouse clusters along street frontages within a site.



- b) A smaller front yard setback maybe considered to create a well defined street edge (e.g., entry, front stoop and landscaping between the public sidewalk and unit) and to reinforce a stronger “urban” character, provided that compatibility with setbacks of adjacent residential development is achieved.
- c) Finished grade elevation of main floor units to be no more than 1.2 m (3.98 ft.) above the public sidewalk to ensure an appropriate level of street interface.

14.4.9.B Entrances

- a) Entrances to townhouses should enhance the pedestrian-scale character of the area by strengthening a unit’s connection with public streets and internal roadways.
- b) Main pedestrian entrances to the housing units should front onto public streets and walkways; otherwise, front onto the internal courtyards, walkways and drive aisles.
- c) Where townhouses are designed with the end wall adjacent to the public street, the pedestrian entry for the end unit should be designed to face the street.
- d) Porches are encouraged. The maximum depth of the porches should be limited to 1.5 m (4.92 ft.). Design porches to incorporate prominent main entries and integrate into the facade, rather than appearing “tacked on”.
- e) Verandas are encouraged. Verandas should be between 1.8 m (5.9 ft.) and 2.5 m (8.2 ft.) deep to allow for usability. Design verandas to be integrated into the facade and the main entries.
- f) Discourage situations where the main entrances to units are adjacent to, or on the same façade as garage doors. Where this situation is unavoidable, sufficient space for access to front doors should be provided and the pedestrian entry should have a visual prominent.
- g) Unit entrances should not be located adjacent to visitor parking stalls, outdoor amenity area and garbage and recycling collection area. If this situation is unavoidable, a transition zone between the unit entry and these amenities is required.

14.4.9.C Adjacent to Parks and Open Space

- a) Organize layout and design of townhouses adjacent to parks and pedestrian corridors so that buildings:
 - face parks and open spaces across a parkside street and/or face an abutting linear park or pedestrian corridor;
 - have direct access from the units to the park/pedestrian corridor.

14.4.9.D Garbage, Recycling and Organics Storage

- a) Garbage, recycling and organics storage bins must be easily accessible, contained within a roofed/walled enclosure.
- b) Locate storage structures and/or enclosures closer to the site entrance.
- c) Consider attaching the enclosures to a townhouse cluster ending.
- d) Locating storage structures and/or enclosures at the entry driveway is discouraged. If this situation is unavoidable, the facilities must be fully enclosed and screened from public view.
- e) Locating storage structures and/or enclosures within any required yard setback is discouraged. If this situation is unavoidable, the facilities must be fully enclosed and screened from view.



14.4.9.E Parking and Garages

Surface Parking

- a) Surface parking should not be located within the front yard or flanking side yard.
- b) Surface parking located within the required side and rear yard setbacks is discouraged. If this situation is unavoidable, the parking stalls should be appropriately screened and designed with adequate manoeuvring space at the “dead-ends”.
- c) Surface parking should not be located in obstruction to any unit entrances and internal pedestrian circulation.

Parking and Garages

- a) The setback to garage doors from the edge of an internal drive aisle should not be less than 0.6 m (1.97 ft.) or more than 1.0 m (3.28 ft.) to ensure that temporary parallel parking does not occur across the garage door.
- b) Paired garage doors should be separated by the entry door to the unit or by a small landscaped area that could accommodate a tree with a minimum caliper size of 6 cm (2.36 in.).
- c) Garages that provide a tandem parking arrangement will be evaluated on a site by site basis.
- d) In developments containing more than 20 units, a combination of two-car side by side garages with single car tandem parking garages is recommended.
- e) If a one-storey attached garage extends toward the internal drive aisle, its mass should be minimized as much as possible and the portion of a one-storey garage that extends out toward the internal drive aisle should be no more than 50% of the depth of the garage.

14.4.10 Building Form

The intent is to have new development fit into the neighbourhood and on the site.

14.4.10.A Building Massing and Scale

- a) Buildings should be compatible in scale and form with the surrounding developments.
- b) Overall massing of the buildings should be based on simple, regular shapes with strong gable roof forms, with a strong pitch as a component in the façade toward the street.
- c) High pitch, strong roof slopes and overhangs/eaves projections are recommended; the minimum desirable roof slope is 8/12.
- d) Consider the use of roofs as key elements to help “break up” multiple family buildings so they may adopt a form, scale and rhythm sympathetic to adjacent single family developments.

14.4.10.B Articulation of Building Clusters

- a) Clusters along the street should not be repetitive. Duplex clusters should avoid the mirror image effect.
- b) Small variations in setbacks for individual units within a building cluster along a street are recommended to reflect the scale and articulation found in single family areas and avoid long, continuous and unarticulated building frontages along the street. Staggering of units along internal drive-aisles is also encouraged.
- c) Variations in height, separations, roof lines may be considered between clusters to provide visual diversity within the development; however, overall expression should be a cohesive urban form and unity of architectural expression.



- d) Eaves, bay windows and other projections from the building face are encouraged.
- e) The height of the end units of a building cluster should be lowered to provide mass articulation and, where the cluster ends perpendicular to the street, achieve a gradual transition to pedestrian scale.
- f) The maximum number of townhouse units in a cluster should be six. The number of units in a cluster may be increased to eight if the cluster is at the edge of a school site or a park/pond, or if the adjacent clusters are separated by broader open areas developed to improve circulation and enhance the landscape.
- g) Any housing unit exposed to direct views from the street (such as cluster ends on both sides of a drive aisle entrance to a site or cluster ends that abut a public street), should provide sufficient architectural detailing and be treated as a front elevation.

14.4.10.C Transition to Adjacent Single Family Housing

- a) Townhouse units situated near single family developments should be particularly sensitive to issues of privacy/overlook over adjacent properties. Consideration should be given to greater setbacks above the ground floor, special landscaping measures and/or orienting living areas away from neighbours.
- b) Provide a transition between townhouse units and single family housing by building duplex units along property lines as buffer zones.

14.4.10.D Light, View & Privacy

- a) Maximize sun access through proper building configuration, massing and building cluster orientation.
- b) Consider terracing upper levels of townhouse clusters to increase sun penetration to the interior of the site, especially toward outdoor amenity areas.
- c) Provide adequate distance between buildings to ensure appropriate light, view and privacy.
- d) The location and orientation of windows, decks and balconies should be carefully considered to reduce looking into close-by windows of existing adjacent development.

14.4.11 Building Face: Architectural Treatments

The intent is to ensure that development has a high quality character and finishing.

14.4.11.A Image and Character

- a) Architectural design, character, materials and detailing of townhouse developments should incorporate many of the features found in single family areas but at a higher intensity of development.
- b) Individual units of townhouse clusters that front on the street should be designed to be identifiable through single family residential design features including, among others, simple roof forms with strong gable lines, dormers and habitable attics, extended porches and recessed entries that will also provide articulation to facades and reinforce an unified residential character along the street.
- c) To relate to the character of any adjacent single family in the neighbourhood, the design of townhouses fronting the street may incorporate, as a dominant component of the facade, one or several of the following architectural features/elements: bay windows; windows with muntins and mullions; rectangular/square shaped windows; French doors; porches, verandas and colonnades where possible.
- d) Provide appropriate design treatment to both street facades when the building is on a corner. The design of a corner can be unique and incorporate special features.



- e) Individual unit designs should be varied to avoid significant repetition either within a row or between adjacent rows of units.
- f) Townhouse units fronting onto a local road should reflect a single family character (e.g., 2 storey height, except that 2 ½ storeys may be permitted at the corner of an arterial road and local road).
- g) Consideration should be given to variations in building height, separations, roof lines and setbacks between buildings to provide visual diversity within the same development.
- h) Architectural treatment of unit entrances should reinforce proximity to grade level (e.g., avoid two-storey features).
- i) Decorative architectural detailing, complementary to the rest of the units, is to be considered in the building clusters along the internal drive aisle.
- j) Incorporate decorative architectural treatments that are complementary to unit finishes, such as windows, on and above garage doors.

14.4.11.B Shape and Layout of Windows

- a) Windows should be visually prominent in street fronting façades and should be articulated with colour and/or white trim. The use of muntins and mullions in street fronting windows is encouraged.
- b) Scale and proportions of dominant windows should be compatible with the massing and roof forms of the building or portion of the building that contains them. Large, horizontal picture windows are not considered appropriate.

14.4.11.C Exterior Walls and Finishing

Quality and Durability of Materials

- a) Materials to convey an image of quality, durability and a high level of craftsmanship.
- b) Buildings and roofing materials should reflect the heritage and climate of Richmond.

Materials

- a) The number of dominant materials used in any elevation should be no more than two (2). A third material might be used on upper floors, on gable ends.
- b) Recommended materials to be used on any elevation can include: clapboard, scale, wood, vinyl and shingle siding, brick and board and batten.
- c) Horizontal siding and wide trim around windows is the recommended basic finishing. Consider the use of strong, bold colours in contrast with white or light colours for façade details and trim.
- d) Stone is recommended as an accent material.
- e) Stucco is acceptable when used in combination with other exterior finishing materials.

Roof Materials

- a) Cedar shingles or a similar type of roofing (in terms of colour and texture), or high profile asphalt shingles are preferred to accentuate a single family character.

Flashing and Gutters

- a) Flashing and gutters should be integrated into the design of the building in terms of colour, location on the façade, or other method.



14.4.12 Landscaping and Open Space Design

The intent is that landscaping be lush and that fences or gates be attractive, particularly along any street frontages or common areas.

14.4.12.A Landscaping

- a) Landscape both the public boulevard and private property to enhance the pedestrian environment.
- b) Consider a landscape design of the street-fronting portion of the site that reflects the character of front yards in adjacent single family, where appropriate to the context.
- c) Where the ground floors of units are not intended as habitable space, yards should be raised to enhance relationships between the first living level and the public realm and to discourage conversion of ground floor space to other uses. However, unit entry should be no more than 1.2 m (3.94 ft.) above the grade of adjacent public sidewalks and walkways.
- d) Where the only private open space of a unit is provided on the yard facing an arterial street, a balcony or deck space adjacent to the main living area, facing the internal drive aisle or walkway, should be provided.

14.4.12.B Fences and Gates

- a) If fences are unavoidable, provide metal transparent fences and brick or stone pilasters (in combination with landscaping).
- b) In some cases, wooden picket, lattice, three board fences or similar is acceptable.
- c) Vehicle gates at townhouse site entrances are discouraged. To define the boundary between private and public space, provide:
 - pavement in contrasting colour and texture across driveway entrances;
 - minor architectural elements;
 - appropriate landscaping.
- d) Individual gates that access street fronting yards and the main door of street oriented townhouse units are encouraged.
- e) Trellises, arbours and low walls may be considered at the entrance point of walkways from the street to the interior of townhouse sites or ending of internal drive aisle to screen paved areas from view and to clearly define the threshold between public and private spaces.
- f) Fences within the front yard should be no higher than 1.2 m (3.94 ft.) and should be placed a minimum of 0.50 m (1.64 ft.) from the internal edge of the sidewalk. Trellises and arbours should be placed a minimum of 0.50 m (1.64 ft.) from the fences along the front property line. In yards that abut public spaces, landscaped terraces no greater than 0.5 m (1.64 ft.) high and no less than 0.75 m (2.46 ft.) deep should be used to reach the new grade.
- g) Internal drive aisles that provide access to garages should be treated as vehicle courtyards and include textured, contrasting, coloured pavers.
- h) The use of decorative pavers within a drive aisle is encouraged to define a pedestrian pathway where there is no other means of pedestrian circulation through the site.



14.4.13 Arterial Road Guidelines for Townhouses Bylaw 9603 2016/12/19

The intent is to provide articulation and character to the building form and landscaping of townhouse development on the arterial roads.

14.4.13.A Front Yard—Building Heights and Form

- a) Building massing of 3 storey townhouse units should be reduced by stepping back the top storey or enclosing it under a pitched roof.

14.4.13.B Side Yard—Building Heights

- a) Step down to a maximum building height of 2 storeys or 9 m (30 ft.), whichever is less, within 7.5 m (25 ft.) of the side yard interface with single-family housing and 2 storey townhouse developments. For townhouse buildings with a flat roof, the maximum height is 7.5 m (25 ft.).

14.4.13.C Rear Yard—Building Heights and Form

- a) Along the rear yard interface with single-family housing:
 - the building height should be 2 storeys or 9 m (30 ft.), whichever is less. For townhouse buildings with a flat roof, the maximum height is 7.5 m (25 ft.);
 - the building form should be limited to two (2) units in a townhouse cluster (i.e., duplex), except in certain situations where the City deems three (3) units in a townhouse cluster (i.e., triplex) as being appropriate.

14.4.13.D Rear Yard—Setbacks

- a) Along the rear yard interface with single-family housing:
 - should have a 6 m (19.7 ft.) setback;
 - may have a ground floor setback of 4.5 m (14.8 ft.) up to 50% of the width of the building, subject to:
 - no impact to tree preservation;
 - appropriate opportunities for tree planting (e.g. a landscaped area that could accommodate a tree with a minimum caliper size of 8 cm (3 in.) or a minimum height of 4.0 m (14 ft.), outside of any SRW's);
 - the provision of appropriate private outdoor space (e.g. minimum 30 m² or 323 ft²);
 - bay windows and porches not projecting into the 4.5 m (14.8 ft.) setback.

14.4.13.E Front Yard—Setbacks

- a) Along the front yard facing the arterial road:
 - should have a 6 m (19.7 ft.) setback;
 - may have a 4.5 m (14.8 ft.) setback where a 6 m (19.7 ft.) rear yard setback to both the ground and second floors of the rear units is provided, subject to:
 - no impact to tree preservation;
 - an appropriate interface with neighbouring properties;
 - appropriate building articulation with a mix of projections, recesses, and staggered or varied building setbacks;
 - appropriate opportunities for tree planting (e.g. a landscaped area that could accommodate a tree with a minimum caliper size of 8 cm (3 in.) or a minimum height of 4.0 m (14 ft.), outside of any SRW's);
 - the provision of appropriate private outdoor space (e.g. minimum 30 m² or 323 ft²);
 - balconies, bay windows, and porches not projecting into the 4.5 m (14.8 ft.) setback.



14.4.13.F **Design Fronting Local Roads**

- a) Design the townhouse units fronting onto a local road to have a single-family character (e.g., 2 storey height, except that 2½ storeys may generally be permitted at the corner of the arterial road and local road).

14.4.13.G **Overlook and Privacy**

- a) Locate windows and private outdoor areas carefully to avoid adjacent overlook and privacy concerns.

14.4.13.H **Roof Lines**

- a) Vary roof lines to break down the massing, promote opportunities for sunlight penetration and provide visual interest.

14.4.13.I **Landscaping**

- a) Landscaping for townhouse developments shall:

Bylaw 10339
2022/03/21

- meet the City's tree replacement policy requirements as specified in Tree Protection Bylaw 8057 where one or more existing trees are being removed;
- comply with the minimum planting sizes specified in the City's Tree Protection Bylaw where replacement trees are being planted, unless approved otherwise by the Director of Development or designate;
- have a minimum planting height of 0.3 m–0.45 m (1 ft.–1.48 ft.) for shrubs; shrubs over 1.2 m (3.94 ft.) in height is discouraged;
- include an appropriate mixture of deciduous and coniferous trees, with the coniferous being sized and spaced appropriately and to address Crime Prevention Through Environmental Design (CPTED) principles.

14.4.14 **Arterial Road Guidelines for Row Houses**

Bylaw 9603
2016/12/19

The intent is to provide articulation and character to the building form and landscaping of row house development on the arterial roads.

14.4.14.A **Site Planning**

- a) All row house units should be oriented toward the arterial road with vehicle access from a rear lane.

14.4.14.B **Variety in Design**

- a) Developments should include a variety of unit types, sizes, and unit treatments to encourage architectural diversity.
- b) Variations in the design of row house clusters should be encouraged so that no two (2) substantially similar row house clusters are located side by side.
- c) Row house clusters should avoid the mirror image effect.

14.4.14.C **Street Presence**

- a) All row housing units should be oriented towards the street through individual front entrances and landscaped front yards.
- b) Row housing units that are developed on flanking lots should be designed to address both the flanking and fronting streets.

14.4.14.D **Entrances**

- a) Pedestrian entry for the corner unit should be designed to face the flanking street.
- b) Entrances should be designed to articulate the individual units in keeping with surrounding neighbourhood character and to enhance the pedestrian-scale character of the area.

**14.4.14.E Private Outdoor Space**

- a) A private outdoor space with a minimum area of 30 m² (323 ft²) and a minimum width and depth of 4.5 m (14.8 ft.) should be provided on the lot outside of the front yard and flanking side yard unoccupied and unobstructed by any buildings, structures, projections and on-site parking, except for cantilevered roofs and balconies which may project into private outdoor space for a distance of not more than 0.6 m (1.97 ft.).

14.4.14.F Parking and Garages

- a) All row housing lots should have direct access to a rear lane from which parking can be accessed.
- b) Garages should be designed to minimize the visual impact along the rear lane.
- c) Garage door width should be minimized and paired up to provide additional landscaping opportunities along the rear lane.
- d) Paired garage doors should be separated by a small landscaped area that is sufficiently large to accommodate a tree with a minimum caliper size of 6 cm (2.5 in.).

14.4.14.G Garbage, Recycling and Organics Storage

- a) Garbage, recycling and organics storage bins should be easily accessible, and should be contained within a roofed/walled enclosure that is set back a minimum of 1.5 m (4.92 ft.) from the rear lot line.

14.4.14.H Building Massing and Scale

- a) Building mass should be arranged to minimize shadowing and optimize natural lighting. Consider terracing upper levels to increase sun penetration to the interior of the site, especially toward the private outdoor areas.
- b) The maximum number of units in a row house cluster should be 6 units and the maximum length of a row house cluster should be of 35 m (115 ft.).
- c) At least 40% of the gross floor area of each row house unit should be located on the second floor.
- d) The maximum building depth of an interior unit should be 15 m (49 ft.).
- e) Party wall between two (2) row housing units should be no less than 75% of the total area of the exterior walls on or adjacent to the common side lot line on either unit.
- f) The maximum length of a garage cluster should be 20 m (66 ft.).

14.4.14.I Character

- a) Row house developments should use visual means to separate units in order to avoid monotony and avoid the impression of one long, continuous and unarticulated building front.
- b) Row house units should be designed to be identifiable through single family residential design features that will also reinforce a unified residential character along the street.

14.4.14.J Windows

- a) Side yard windows should be modest in size and be recessed in that section of the building façade.
- b) Building faces and dormers should not be windowless, and sidelight windows should be incorporated into bay projections.

14.4.14.K Materials

- a) Vinyl siding is acceptable if finished with wood or other high quality detailing.



14.4.14.L **Tree Planting**

Bylaw 10339
2022/03/21

- a) Where one or more existing trees are being removed, the City's tree replacement policy requirements as specified in Tree Protection Bylaw 8057 must be met.
- b) Comply with the minimum planting sizes specified in the City's Tree Protection Bylaw where replacement trees are being planted.
- c) A grassed strip with at least one (1) deciduous tree (minimum 6 cm or 2.5 in. caliper) per lot should be installed along the front property line.
- d) A minimum of one (1) deciduous tree (minimum 6 cm or 2.5 in. caliper) or one (1) coniferous tree (minimum height 3.5 m or 11.5 ft.) should be planted on each lot in the front yard.
- e) In the case of a corner lot, additional trees should be planted within the flanking side yard.
- f) Include an appropriate mixture of deciduous and coniferous trees, with the coniferous being sized and spaced appropriately.

14.4.14.M **Landscaping**

- a) The grade between the City's sidewalk and the landscaping along the front property line should be the same.
- b) All front yard areas along front property lines should be planted with a combination of lawn, flower beds, flowering shrubs and ground cover to provide seasonal interest and water permeability.
- c) If individual shrubs are planted in the front yard, they should be of a low height that will not exceed 1.2 m (3.94 ft.) and should be located behind any fencing on the front property line.
- d) Continuous hedges are not permitted within the front yard.
- e) Material for walkways/pathways from the arterial road to the entrance of the row house units should be aggregate concrete, stamped concrete, paving stones, pervious paving or other acceptable material to the City. Asphalt is not permitted.
- f) An unobstructed, permeable pathway of a minimum 0.9 m (2.95 ft.) wide should be provided between the rear lane and the private outdoor space of the lot if the lot in question is an interior lot or an end lot, which has a lot width equals to or great than 7.2 m (24 ft.).
- g) Landscaping should be provided on areas along the rear property line and internal drive aisle where the areas are not used for parking purposes.
- h) Provide adequate lighting to enhance security and visibility, particularly along the rear lane. Exterior lighting should be designed to avoid "light-spill" onto adjoining properties.

14.4.14.N **Fences and Gates**

- a) Fences in front yards and flanking side yards should be picket, wicket or post-rail; metal transparent fences with brick or stone pilasters are also encouraged. Solid panel is not permitted.
- b) Fencing area should be designed to incorporate flower beds, flowering shrubs and other low lying landscaping.
- c) Decorative arbours/brackets/trellis features may be used to further articulate the fencing provided that they are in scale with and complementary to the fencing details and be placed a minimum of 2.0 m (6.56 ft.) from the front property line.



C. LOW TO MID-RISE HOUSING

The intent is to integrate 4-storey buildings (and up to 6 storeys at some locations) into some areas located in close proximity to future Neighbourhood Centres (e.g., Broadmoor, Blundell and Garden City Shopping Centres), to provide a more urban character to the Neighbourhood Centres and to define a transition between the Neighbourhood Centres and lower density townhouses and single family neighbourhoods.

14.4.15 Building Location and Organization (Site Planning)

The intent is to provide direction on the location of the apartment entrances, services and parking.

14.4.15.A Building Orientation/Setbacks from the Street

- a) Locate the main facade parallel to the street, not perpendicular and set it in line with adjacent buildings.
- b) Whenever possible, a north-south orientation of the building should be provided to improve sun access for most of the units.
- c) Provide individual access from grade for as many units as possible and these units should be setback a minimum of 4.5 m (18.76 ft.) from the property line.

14.4.15.B Entries and Front Yards

- a) To reinforce a friendly and pedestrian oriented streetscape, provide grade level units with presence on the street including:
 - separate and individual pedestrian entries;
 - entry gates and front gardens as semi private amenity space;
 - raised patio areas or porches/stoops.
- b) To provide adequate privacy to these outdoor areas, the front deck/patios along the street frontage should be:
 - 3.0 m (9.84 ft.) minimum depth;
 - a minimum of 0.6 m (1.97 ft.) to a maximum of 1.0 m (3.28 ft.) above the sidewalk grade elevation.
- c) Finished grade elevation of main floor units may be slightly higher than the patio/deck elevation but not higher than 1.2 m (3.94 ft.) above the public sidewalk.



- d) If in close proximity to a Neighbourhood Centre area (shopping mall site), consider providing retail/office uses (Live/Work type) in the building main floor with reduced front yard setbacks and clear and direct access from the public sidewalk.

14.4.15.C Main Building Entrances

- a) The main entry to the building should be located fronting on the street and the main lobby clearly visible from the sidewalk.
- b) Building entrances should be clearly identifiable. Consider highlighting the entrance to the building with a canopy that extends toward the street.
- c) Consider gateways, special paving on entry walks, rows of trees or pairing of light standards along the way leading to the building entrance(s).
- d) Individual buildings in apartment complexes should have a clearly visible street address and direct access to their own parking areas.
- e) The main entrance should be in a prominent location to enable a motorist to easily identify a multiple family complex and the driveway at the same time.
- f) Entrances for sites with long driveways should be accessible by a distinct and separate pedestrian sidewalk that is clearly visible from the public street.
- g) Buildings with the main pedestrian entrance located on the street may have the front setback reduced provided there is sufficient transition space between the sidewalk and the entrance.

14.4.15.D Landscaping and Open Space Design

- a) Landscaping should consider low retaining walls or step planters to help define private and semi-private space of units fronting the street.
- b) Low stone or masonry walls or pilasters in combination with low transparent metal fences are required along all street frontages to achieve a strong delineation of public and private space.
- c) Fences within the front yard should not be higher than 1.2 m (3.94 ft.).
- d) Low retaining walls, planters and/or raised decks should be located a minimum of 0.5 m (1.64 ft.) from the inside edge of the public sidewalk and should not be higher than 0.5 m (1.64 ft.). Landscaped terraces no greater than 0.5 m (1.64 ft.) high and no less than 0.75 m (2.46 ft.) deep should be used to reach the new grade.
- e) Landscaped areas should include large deciduous trees to provide shade in summer and allow for sun penetration in winter time.
- f) Front yard areas should be landscaped in the same character and relate to the landscaping and streetscape found in the single family or townhouse areas of the adjacent neighbourhood.
- g) The distance from the sidewalk to the closest paved area within the site should not be less than the required front yard setback.
- h) Trellis structures in combination with low planters, fences and landscaping should be used to screen any paved areas exposed to views from the street.

14.4.15.E Access and Parking

- a) Access to be provided from a secondary street or from a rear lane.
- b) Parking should be located in parking structures or in covered parking lots, with clearly marked entrances and generally screened from public view.
- c) Visitor parking may be provided at grade if screened from view from the street and not located within the required front yard setback.



- d) No portion of surface parking or an internal drive aisle should be provided within the required front yard setbacks.
- e) In order to screen paved areas and long views toward the interior drive aisles of a proposed development, landscaping, combined with trellis structures and low planters should be provided at any internal drive aisle that ends at the front yard setback line, perpendicular to the street.
- f) On-street parking (parking pockets) in front of the ground floor units is desirable to activate the street, reinforce pedestrian character and act as traffic calming.

14.4.16 Building Form

The intent is to have new development fit into the neighbourhood and on the site.

14.4.16.A Massing and Scale

- a) Development should be massed and located in such a way that respects the scale of adjacent buildings, protects views, minimizes overlook and shadowing of existing residences.
- b) The maximum length of an apartment building (or a building face without a strong recessed vertical break) should be no more than 40.0 m (131.23 ft.).
- c) Street wall building should respond to the rhythm of adjacent blocks. Long frontages should be avoided or expressed as a series of distinct adjacent buildings or building forms.
- d) Break the massing into smaller vertical components to express the rhythm of a series of house forms or the individual and repeated expression of rowhouses.
- e) Building massing should be broken down in various sub-components and articulated to facilitate the transition to lower density and smaller scale forms, such as townhouses and single family housing.
- f) Architectural features and a unique resolution of the end/corner of building(s) should be considered to establish landmarks at strategic locations.

14.4.16.B Terracing and Setbacks

- a) Building setbacks should aim to optimize views, open space and achieve a proper interface with adjacent developments.
- b) Employ terracing and building setbacks on upper levels of taller street-wall buildings (over 4 storeys) to create interest, improve access to light and views and to reduce apparent bulk.
- c) Variation in setbacks along the building frontage is recommended to provide stronger massing articulation and avoiding continuous long, flat, building frontage to the street.
- d) Provide stepping-back of the upper levels of buildings to allow for mass and height transition (and allow for terraces/decks in upper level units) toward lower townhouse building areas and/or the street.
- e) Transition from higher to lower building height/mass should take place across a street.
- f) Height /mass transition to abutting sites, without the intervention of a street, should be achieved through gradual stepping-down of the height to match that of the lower abutting existing or expected building type.
- g) In buildings higher than 4 storeys, floors above the second level should be recessed from the lower floors by a minimum of 2.0 m (6.56 ft.) to maintain the pedestrian scale at street level.



- h) New development along edges immediately adjacent to existing residential and where there are no intervening streets or lanes, should not exceed 3 storeys and should be setback a comparable distance from the shared property line.

14.4.17 Building Face: Facade Articulation

The intent is to ensure that development has a high quality character and finishing.

14.4.17.A Roof Design

- a) Roof design should relate to the size and scale of the building, relate to the character of the surrounding buildings and contribute to the streetscape.
- b) Roof forms should borrow gable roof characteristics when inserted in an area with a dominant single family or low-density townhouse residential character.
- c) Flat roofs are considered appropriate at strategic locations if provided with large overhangs.

14.4.17.B Balconies and Decks on Upper Levels

- a) Balconies and decks should be designed as integral parts of the building massing and facade composition.
- b) Recessed entries and decks in upper levels should be used to articulate facades and reinforce a unified residential character.

14.4.17.C Windows

- a) Punched-in windows and brick veneer should be dominant on the lower portions of the building to reduce the apparent building mass and height. Extension of these features up to the top of the building may be also used to provide interest and provide vertical articulation to the building façade.
- b) Window placement and design should be well ordered and be of a simple configuration.
- c) Large picture windows without muntins and/or mullions are not appropriate.
- d) Window planters are suggested to create a festive and friendly face for the dwelling units facing the street.

14.4.17.D Exterior Walls and Finishing

Quality and Durability of Materials

- a) Materials should be designed and detailed to express quality and ensure durability.
- b) Materials used should be appropriate to the scale and design of building elements.
- c) Exterior wall cladding materials should be limited in number and changes in cladding should relate to the building design, such as to express the base or foundation of the building.
- d) The same quality of materials and architectural treatment should be used in all facades.
- e) Large blank walls should be avoided. Window openings, detailing, materials, colour, wall articulation and landscaping should be used to enliven them and reduce their scale.

Materials

- a) Recommended exterior materials include wood siding, stained or painted; vinyl siding in combination with other quality materials such as brick; brick veneer, acrylic stucco, stone and stucco are to be used preferably in the lower parts of the building.
- b) Stone and masonry is to be on planters and paving.



Roofing, Eaves, Brackets

- a) Building details and roofing structures (eaves, brackets, etc.) should express a high level of craftsmanship and reflect the local/regional climate.

Guardrails, fences, canopies, sunscreens

- a) Consider steel or aluminum for guardrails, fences, canopies, sunscreens and other architectural details. These materials may be combined with glass where appropriate.

Colours

- a) Light colours are preferable for use on fascias and trim to contrast with strong colours for wall finishing materials to highlight architectural details. Soffits and ceiling of balcony projections could consider burnished natural wood to add a touch of warmth and single family flavour.
- b) Deep, rich colours and greys are recommended for the buildings or combined with lighter colours to highlight, contrast and articulate facades. A variety of colours is encouraged in the buildings where in group and even within individual buildings.

Flashing and Gutters

- a) Flashing and gutters should be well integrated into the design of the building and positioned in the facades following the inside corners in an inconspicuous manner.

Shading Elements

- a) The west side of buildings should provide shading elements such as sunshades, screens, eave projections, balconies, overhangs, etc. to minimize the impact of horizontal sunlight late in the afternoon.



D. HIGH-RISE HOUSING

The intent is to provide guidelines for high-rise housing outside of the City Centre and outside those areas covered by an Area Plan or Sub-Area Plan.

14.4.18 Building Location and Organization (Site Planning)

The intent is to ensure that the entrances to the main building are highly visible from the street and easy to access for pedestrians.

14.4.18.A Main Building Entrances

- a) Entrances to buildings should be located on a public street.



- b) Individual buildings in apartment complexes should have a clearly visible street address and direct access to their own parking areas.
- c) The main entrance should be in a prominent location to enable a motorist to easily identify a multiple family complex and the driveway at the same time.
- d) Entrances for sites with long driveways should be accessible by a distinct and separate pedestrian sidewalk that is clearly visible from the public street.
- e) Buildings with the main pedestrian entrance located on the street may have the front setback reduced provided there is sufficient transition space between the sidewalk and the entrance.

14.4.19 Building Form

The intent is to have new development fit into the neighbourhood and on the site.

14.4.19.A Massing and Scale

- a) Towers should be designed to minimize shadowing, view and privacy impacts.
- b) Towers should have “slim” profiles and compact floor plates. Tower floor plates above an elevation of approximately 21 m (68.9 ft.) from grade should be limited to a maximum size of approximately 600 m² (6,459 ft²).
- c) Towers should incorporate low-rise “podium” buildings of a scale and character in keeping with the local area.
- d) Towers should be set back at least 4.5 m (14.76 ft.) from the face of low-rise “podium” buildings.
- e) Where appropriate, mid-rise terracing between towers and low-rise “podium” buildings are encouraged.
- f) A distance of at least 24 m (78.74 ft.) to 36 m (118.11 ft.) between towers should be maintained.
- g) Staggered spacing of towers and units is recommended to maximize primary private views past neighbouring high-rise developments and to avoid overlook from one tower to another.
- h) Towers should be designed to break down the massing and present a residential scale to the street.
- i) Provide a side yard height step-back where towers are adjacent to townhouse or single family housing. Also, provide height step-backs at street corners, in the form of lower (e.g., 1 or 2 storeys), building elements.

14.4.19.B Roofscape

- a) Vents, mechanical rooms, mechanical equipment and elevator penthouses should be integrated into architectural roof treatments, or screened with materials and finishes compatible with the overall building design.
- b) Open upper decks of parking garages should be landscaped.
- c) Rooftops should be landscaped and made accessible to residents as usable common (and private) outdoor space, particularly on roofs of low-rise “podium” buildings. For mixed uses, where alternative public open spaces are limited, accessible lower-level roof decks should also be developed to provide open space for non-residential tenants, or the public.





14.5 Commercial and Commercial/ Mixed Use Guidelines

These Guidelines are intended to guide the form and character of development in Neighbourhood Service Centres as well commercial buildings and mixed use developments (e.g., commercial and residential uses) outside the City Centre and Steveston Village.

The Commercial and Commercial/Mixed Use Guidelines and General Guidelines apply to developments that require a Development Permit in these areas.



A. COMMERCIAL MIXED-USE REDEVELOPMENT WITHIN SHOPPING MALL SITES, OUTSIDE THE CITY CENTRE

The intent is to enhance the design, character and function of shopping mall sites to reinforce their future role as vibrant, compact mixed use hubs and community focal points with a mix of housing, shops and services.

Prior to redevelopment and densification, shopping malls outside the City Centre will be subject to specific master planning processes. Below are some general considerations to guide the redevelopment of the shopping mall sites.

14.5.1 Site

The intent is to ensure that development fits into the neighbourhood and enhances the public/pedestrian realm.

14.5.1.A Street Presence

- a) Place new buildings along the perimeter of the site close to property lines along the arterial roads to reinforce building frontage continuity and create a street edge.
- b) Commercial units at the ground floor should have direct pedestrian access to the public sidewalk along the arterial roads.

14.5.1.B Mall Site Integration to Adjacent Neighbourhood

- a) Create a hierarchy of access routes and pathways through the site.
- b) Improve the connectivity of the site to the broader community by creating multiple access points/connections to the site from adjacent neighbourhood, local streets, parks, school sites and other focal points.
- c) Design prominent corners (mall site intersections) and entry points as unique gateways and landmark features that identify the access points for pedestrians.
- d) Consider creating a public urban space at a corner.
- e) Provide pedestrian connections through main blocks of buildings to the adjacent neighbourhood.



14.5.1.C Pedestrian Circulation and Connections

- a) Pedestrian corridors should connect significant nodes within the site, have a beginning and ending, and be separated from parking areas and driveways.
- b) Define sidewalks and pedestrian corridors through the site by using contrasting pavement colours, surfaces and textures.
- c) Embellish corridors with landscaped features and human scale lighting.
- d) Ensure that corridors are universally accessible and accommodate a range of users (e.g., wheelchairs and strollers) by methods such as curb cuts and level entry ways.
- e) Extend pedestrian pavement across drive aisles to reinforce pedestrian priority over vehicles and establish a continuity of pedestrian circulation.
- f) Transit stops should be visible and easily accessible by pedestrians and cyclists.
- g) Buildings adjacent to transit stops should integrate transit shelters into building design with weather protection - awnings, overhangs and waiting spaces.

14.5.1.D Character and Amenities

- a) Provide open spaces, unique landscapes, public art, furnishings and landmark features to enhance the character and reinforce the role of the shopping centre as a neighbourhood focus.
- b) Create and design internal nodes to be neighbourhood gathering places.
- c) The choice of materials, colours and elements such as lamp standards, benches, fences and trash receptacles should be consistent in design and contribute to an identifiable character.
- d) Seating (seating walls or benches integrated with planters) should be provided along all pedestrian routes.
- e) Bicycle parking facilities should be provided at all residential and commercial building entrances.

14.5.1.E Signage

- a) Consider signage that identifies the neighbourhood centre by name, provides directional information within the shopping centre sites and to key focal points in the community.
- b) Signage should be integrated with the existing architecture and be compatible with adjacent residential areas.

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- c) Way finding signage to visitor parking spaces for residential units should be provided at the entrance to the development, at each location where a visitor vehicle needs to turn and at a maximum spacing of 50 m (164 ft.). The design/format and colour of the way finding signage is to be reviewed and approved by the City.

14.5.1.F Vehicle Access and Loading and Parking

- a) Multiple vehicle access points will be discouraged.
- b) Access will be designed to minimize disruption of the pedestrian environment.
- c) Integrate loading areas as part of the building and provide appropriate visual screens and/or gates.

14.5.1.G Parking

Parking Within the Building Envelope

- a) All residential parking and most of the commercial parking will be located within the building envelope on one or more levels.
- b) Parking structures will be screened from view either by wrapping the parking with residential or commercial units, or through the use of architectural features.



Surface Parking

- a) Minimize the amount of surface parking and limit to convenience parking for retail shops.
- b) Organize parking into small clusters and screen from direct views from streets by the placement of buildings, trellis and/or lattice structures, low planters and landscaping.

14.5.1.H Landscaping

- a) There should be a hierarchy of continuous, grade separated pedestrian walkways through parking lots.
- b) Pedestrian walkways and sidewalks through surface parking areas should be separated from parking spaces by a landscaped area and include shade trees at an approximate ratio of one tree per six parking spaces.
- c) Trees in parking lots should be planted as rows with continuous trenches (not pocket planted).
- d) Plant a double row of trees around the perimeter of the site and on main entry driveways to form a canopy over the sidewalks and driveways.
- e) Plant “groves” of trees and shrubs in surface parking areas so that, approximately 10 years after planting, at least 50% of the parking lot will be covered by a canopy of leaves in the summer.
- f) Provide a few larger planting areas to create visual landmarks and that allow the growth of large size trees on small landscaped islands evenly distributed throughout the parking areas.
- g) Trees and shrubs and appropriate landscaping reinforce the alignment of the pedestrian corridors through the site and add colour, texture and interest around the site.
- h) Utilize trees and landscaping to separate sidewalks from parking areas to protect people from vehicle traffic and create a pleasant pedestrian zone.

14.5.2 Form and Character

The intent is to provide architectural detail and weather protection along the streetscape.

14.5.2.A Massing and Height

- a) Buildings will vary in height and massing to create identifiable nodes and interest and contain a variety of commercial spaces and residential units.
- b) Employ terracing and building setbacks on upper levels or taller (over 4 storeys) of street-wall buildings to create interest, improve access to light, to reduce overlook and minimize massing.
- c) Large building blocks should be architecturally broken down into an expression of smaller street-fronting retail.

14.5.2.B Commercial Building Facades

- a) Facades should be broken down into smaller components with individual retail entrances and windows fronting the street and major pedestrian routes.
- b) Facade and glazing facing streets should allow visual connection between the interior and the street. Solid walls or large expanses of reflective glass or glass block are not appropriate.
- c) Provide an active streetscape with direct pedestrian access from the street sidewalk.



- d) Provide as much outdoor space adjacent to building fronts as possible to allow use or activity in the building to be extended onto the sidewalk for vibrancy. Examples are outdoor seating areas for restaurants, display areas, for retail stores and display sales areas for produce and flowers.
- e) Consider providing outdoor space adjacent to internal building fronts to allow use or activity in the buildings to be extended onto the sidewalk without obstructing pedestrian circulation (e.g., outdoor seating areas for restaurants, display areas for retail stores, and display/sales areas for produce and flowers).

14.5.2.C Canopies, Awnings and Overhangs

- a) Provide awnings, canopies and overhangs for continuous weather protection along street frontages and on pedestrian routes on all internal facing buildings.
- b) Fabric canopies and signage on canopies are discouraged.

14.5.3 Green Building and Sustainable Infrastructure

The intent is to incorporate innovative approaches for green infrastructure and green buildings that flexibly address on-site rainwater management, energy efficiency and renewable energy production, potable water conservation and waste minimization.

- a) In shopping mall redevelopment, buildings and site infrastructure will be designed so that, at a minimum, they will meet City Centre Area Plan policies for green buildings (e.g., LEED rating system and credits), or LEED Silver Certification or equivalency.
- b) Design will minimize the use of energy and reduce Greenhouse Gas Emissions.
- c) Applicants will demonstrate how buildings measures up to LEED Silver equivalency and quantify reductions in Greenhouse Gas Emissions.
- d) Buildings will be designed to use:
 - less potable water;
 - mitigate, manage, and clean as much rainwater on site as possible;
 - reduce the generation of waste through careful design and construction practices;
 - incorporate ways to improve indoor air quality, reduce noise, noxious emissions and dust.
- e) Consider opportunities for urban agriculture (growing of food) on the site.
- f) Local sustainable materials should be used wherever possible (e.g., wood, recycled or renewable materials).



B. COMMERCIAL BUILDINGS

The intent is to help reinforce the “inner core” of neighbourhood centres and commercial nodes outside the City Centre by encouraging development that enhances pedestrian interest, complements the character of the shopping areas, and provides for the personal expression of individual stores and businesses. These guidelines are intended to achieve a level of unity in commercial areas.

14.5.4 Building Scale and Form

The intent is to encourage a high standard of design for commercial buildings.

- a) Street-oriented development is encouraged. Small-scale retail fronts that provide visual diversity, reinforce a human scale, and enhance pedestrian interest are preferred.
- b) Developments should have a strong and continuous street edge definition, with small shops, “anchor” stores, community services and significant public uses at grade.
- c) Single, dominant building masses should be avoided.
- d) Substantial variations in massing should include changes in height and horizontal plane. Changes in massing should relate to the building’s structural systems and reflect its interior arrangement of spaces.

14.5.4.1 Building Frontages

- a) Buildings should reflect a street-edge character in their built form, and provide sufficient building continuity to maintain interest and a viable commercial activity along the street frontage (along the arterial roads) and around internal parking areas.
- b) Building frontages should reflect a strong human, pedestrian scale with direct access to retail uses at short intervals along the street.
- c) Building frontages should be as continuous as possible along both sides of any arterial road and or commercial node adjacent to the shopping mall site.
- d) Buildings should be located with their longer side fronting on the street. Building frontage should extend for at least 2/3 of the site frontage along the street.
- e) Continuity of the commercial frontage is to be achieved by a series of narrow frontage retail bays instead of a large single commercial space. The CRU’s should have a facade module of between 6.0 m (19.69 ft.) to 8.0 m (26.25 ft.) and be clearly expressed in the continuous commercial frontage by a small setback articulation.



14.5.4.2 Variation in Setbacks

- a) Small commercial/retail unit frontage setbacks are recommended at various intervals to achieve facade articulation along the length of the street.
- b) Vary setbacks for commercial frontages between 0.30 m (0.98 ft.) to 0.50 m (1.64 ft.) and display windows or storefronts should encompass a minimum of 70% of the unit's frontage.
- c) Consider providing small building frontage setbacks at specific locations so as to provide extra space for outdoor pedestrian activity, to define building entry areas, and achieve facade articulation along the length of the street. Recess building facades at the corner, building ends and mid-building locations.

14.5.4.3 Corner Sites/Intersections

- a) Commercial buildings should architecturally anchor corners and act as landmarks.
- b) On a corner site, a dominant mass combined with strong architectural features should be considered on the portion of the building at the street intersection to anchor the corner and become a visual landmark.
- c) Commercial units at corner locations should provide an active frontage on both street sides, with facades that offer the same detailing. Glassed storefront of CRUs should extend around the corner(s) for at least 1/3 of the side elevation.
- d) The design of facades facing lanes should incorporate high quality finishes and materials complementary to overall design.

14.5.5 Architectural Elements, Materials

The intent is to utilize materials and architectural elements that enhance the street and reflect the image of Richmond.

14.5.5.1 Image and Character

- a) Storefronts/overall appearance should consider incorporating elements of the residential architectural vocabulary (e.g., roof form, window shapes).
- b) Monotonous building frontages should be avoided by incorporating variety, glazing and articulation.
- c) Use of vertical elements and material and colour changes to add interest and to maintain the unity of street enclosure.
- d) Bay windows and recessed doors (muntins and wide trims) are desirable as standard features in commercial storefronts to reinforce a pedestrian residential scale.
- e) The primary facade of commercial buildings should address public streets and main pedestrian corridors, with individual entries distinguished by display windows, shop windows, awnings, canopies, and signage to enliven the public realm and create an engaging walking environment.
- f) CRU facing streets should be double loaded with service corridor down the middle (e.g., with CRUs facing the street and CRUs facing the interior of the site).
- g) CRUs facing a street should be a maximum of 6 m (19.69 ft.) to 8 m (26.25 ft.) wide.
- h) Parkades along fronting streets should have retail/commercial storefronts facing the street.

14.5.5.2 Materials

- a) Building materials should reflect the regional heritage, climate and landscape and express a level of craft in the process of construction.



- b) Desirable facade materials are wood (lap siding), masonry, brick, stucco and metal cladding with strong detailing (trim) around the storefront (e.g., doors, windows).
- c) Choice of roofing materials should achieve an appropriate fit with the structural massing, articulation and roof forms of the building.
- d) Windows and fenestrations should be provided on the street fronting side of the building even though in some cases, the principal access to the commercial retail units may need to be provided from the internal parking areas.
- e) Outdoor display areas that are fenced and are used for overnight storage are not permitted.
- f) Building form and materials should be co-ordinated with and be responsive to the “human scale” of buildings on adjacent streets (commercial, residential).

14.5.6 Sidewalk Treatment, Curb Extensions

The intent is to provide wide, landscaped boulevards and pedestrian accesses to commercial developments.

- a) Consideration should be given to provide for wider sidewalks that extend to the building face. Recommended cross-section includes: 1.5 m (4.92 ft.) wide decorative paving boulevard with trees in grates (or grass boulevard in front of residential areas where on-street parking is provided) and a minimum 2.0 m (6.56 ft.) wide patterned paved sidewalk (in commercial areas, this pavement to extend up to the face of the commercial building).
- b) Boulevard conditions from back of gutter should include 1.5 m (4.92 ft.) wide boulevard planting strip with street trees, light poles and grass, 2.0 m (6.56 ft.) wide public sidewalk, 1.5 m (4.92 ft.) Public Right of Passage (PROP) Statutory Right-of-way (SRW) for second row of street trees, 2.0 m (6.56 ft.) wide PROP SRW sidewalk on private land fronting the CRUs.
- c) 1.5 m (4.92 ft.) wide colour contrasting pavers boulevard with trees planted on grates to be provided along all street fronting (arterial roads) commercial areas that allow on-street parking and along commercial frontages along an internal parking area of a commercial centre.
- d) Special paving pattern and materials on sidewalks to be used to define a distinct character in commercial and mixed-use areas of the Neighbourhood Centres.
- e) Decorative paving (or pavement of contrasting colour and texture) may also be used to identify on-street parking areas/lanes; a concrete roll-over curb is suggested at the line of the pavement change.
- f) Curb extensions (i.e., narrowing of driving lanes) are recommended at intersections or pedestrian crossings along retail/commercial streets or fronting in and around neighbourhood centres to reduce the crossing distance for pedestrians and to limit vehicle speed.

14.5.7 Signage

The intent is to include signage in the Development Permit process so as create suitable, sensitive signage.

- a) Signage should be integrated with the building and to create a hierarchy of scale (some designed for visibility from the road and other signage designed at a pedestrian scale).
- b) Signage for the various stores should be compatible with the character of the street.
- c) Signs should be colourful, decorative and offer graphic imagery.



- d) Acceptable sign types include:
 - projecting, hanging and handcrafted signs;
 - canopy signs, under-canopy signs;
 - fascia signs and window signs.
- e) Fascia signs and projecting signs should be incorporated as part of the architectural character proposed for the commercial areas. Sign lighting should preferably be spot or flood lighting.
- f) Sign size, location and information provided on signs should be designed and oriented to pedestrian and relate to the scale and character of the surrounding residential areas.
- g) Free-standing signs are not considered appropriate in neighbourhood centre areas unless approached as a public art visual landmark that announce the neighbourhood centre rather than to provide copy area for anchor and principle.
- h) Encourage a comprehensive design approach to signage in commercial areas, avoid the proliferation of signage in commercial areas and minimize visual distraction for drivers.
- i) Signage should consist of functional, attractive, discrete and informative signs compatible with the overall design of the buildings and complementary to the image and character of the City.
- j) Ensure that signage is an integral and attractive part of all designs.
- k) Discourage conventional back lit sign bands and boxes in favour of more sophisticated, less homogeneous approaches that are supportive of local character and a comprehensive design strategy. Wall mounted, backlit acrylic boxes are discouraged.

14.5.8 Canopies and Awnings

The intent is to have attractive canopies and awnings that enhance the pedestrian experience.

- a) All commercial buildings at ground floor level along the arterial should be provided with adequate weather protection and to reinforce a pedestrian scale. Canopies, awnings or architectural overhangs, should extend at least 1.8 m (6 ft.) from the face of the building.
- b) Metal structures and glass, or metal are recommended as primary materials and vinyl is discouraged.
- c) If not made out of glass, canopies should have a flat, solid colour and should be co-ordinated with the colour scheme of the building.
- d) A 45° inclination slope is recommended for canopies.
- e) Compatibility and co-ordination of canopies is encouraged.
- f) Where appropriate (i.e. building fronting the public open space/park), a colonnade treatment along the ground floor retail commercial frontage may be considered to provide weather protection for pedestrians and outdoor extension of commercial users, and achieve a stronger vertical separation between retail/commercial and residential uses.

14.5.9 Landscaping and Street Furniture

The intent is to have appropriate landscaping and services, including plazas where appropriate, in the public domain.

14.5.9.1 Tree Plantings

- a) Low shrubs and tree planting on the curb extensions, and pavement treatment at intersections and pedestrian crossing, should be used to reinforce the priority of pedestrians over vehicles.



- b) Street tree planting should include a combination of species in order to provide bio-diversity, and promote tree health by lowering the potential impact of common pests and diseases.
- c) Formal tree planting in grates and unique sidewalk pavement (colour, pattern, texture) is recommended for main pedestrian routes in front of commercial frontages or through large commercial parking areas.
- d) Self standing trellis structures combined with low planters and landscaping are recommended along street frontage and at the end of parking areas/drive aisles that are exposed to direct views from adjacent streets.

14.5.9.2 Street Furniture

- a) Street furniture including benches, garbage receptacles, etc to be design-co-ordinated.
- b) A combination of planters and seating areas with trees is recommended along commercial frontage sidewalks within the neighbourhood centre; arrangement of planters should allow for clear circulation of pedestrians.

14.5.9.3 Lighting, Lamp Posts

- a) Lamp posts with single or double luminaries of a strong contemporary character and scale that also reinforce a pedestrian priority are recommended for use in the Neighbourhood Centre and on all areas around commercial nodes.
- b) Street light posts in the Neighbourhood Centre areas and commercial centres should include hardware for hanging flower baskets and/or banners, duplex electrical outlets, and provide pedestrian scale luminaries over the sidewalk.
- c) Wall mounted lighting fixtures are recommended on all commercial developments along commercial streets in addition to standard street lighting, and around parking areas.

14.5.9.4 Urban Plazas

- a) At the corner of larger commercial sites and at the corner of major street intersections, consider providing a small urban plaza/public space node.
- b) Urban plazas should contain a vertical landmark feature/public art to serve as a visual reference point for the neighbourhood center.
- c) Urban plazas should also be considered along the open linear spaces/pedestrian corridors at the transition point between residential and commercial areas of the Neighbourhood Centre.
- d) The main entrance to retail/commercial units or higher density multiple-family residential buildings around this urban plaza/intersection should be oriented toward the corner.

14.5.10 Parking

The intent is to provide safe and efficient circulation for vehicles without compromising the pedestrian environment or the livability of developments.

14.5.10.1 Access

- a) Access to parking areas should be provided from a lane or from secondary streets. In cases where access can only be provided from a fronting street, the entrance should be located and designed to minimize disruption of the pedestrian environment on the street.
- b) Access from a main or fronting street should be designed as a single access point, or as a shared access with a neighbouring site. Multiple access points are discouraged.



14.5.10.2 Off-street parking

- a) Surface parking for any development within should be provided behind the building(s), screened from direct views from adjacent streets or from any public open space, or linear pedestrian corridor that links commercial and residential areas within the neighbourhood.
- b) Employee parking should be identified as a special parking area and located at a less prominent, but safe location.
- c) Where parking is provided directly at the back of a long commercial building, the entrance to the building and/or a breezeway between the parking area and the street should be provided to facilitate access to street fronting commercial uses. Access to residential uses in upper levels may also be provided from the breezeway.
- d) The edge of any parking area exposed to views from a street should include trellis structures combined with low walls and landscaping to screen parking and achieve a visual bridge between buildings.
- e) Low dense landscaping comprised of a combination of well-spaced trees, shrubs, and ornamental plants shall be planted and maintained around the perimeter of parking lots to screen the cars from public streets.
- f) In addition to perimeter landscaping, major trees of a minimum 7.6 cm (3 in.) calliper shall be interplanted within the parking lots.
- g) Consider permeable paving for surface parking.
- h) Discourage parking configurations that unnecessarily restrict vehicle movement within off-site surface parking lots.

14.5.10.3 On-street Parking

- a) Short-term on-street parking should be considered (and encouraged) in front of commercial buildings on any street within neighbourhood centre areas.
- b) Where on-street parking is provided in front of retail commercial frontages, the grass boulevard should be replaced by decorative pavers.
- c) Decorative pavers (or pavement of contrasting colour and texture) may also be used to identify on-street parking areas/lanes; a concrete roll over curb is suggested at the line of the pavement change.
- d) Angle parking is recommended in parking pockets on both sides of a commercial street or parking drive aisles of commercial centres in order to reduce the amount of paved areas and facilitate safer pedestrian crossings.
- e) Landscaped curb extensions which define the parking pockets to be planted with trees and shrubs and, where appropriate, because of the intensity of commercial activity, accommodate benches and associated street furniture.

14.5.10.4 Parking Structures

- a) Any above-ground parking structures should be located at the rear of a development or away from the main or fronting street and should be treated with decorative screening and/or landscaping to minimize the visual impact of a parkade from the street.
- b) Above-grade parking structures that face a street or public space should be designed with commercial frontage (e.g., retail shops or offices, at the ground floor level).

14.5.10.5 Shared Parking Arrangements

- a) Encourage shared parking between office, retail and residential (off-peak) parking provided that shared parking is not exclusively assigned.
- b) Consideration should be given to shared parking access driveways between adjacent developments.



14.5.10.6 Electrical Vehicle Outlets

- a) Consider some co-op, family and 5% of CRU parking stalls equipped with conduit for electrical vehicle outlets and 5% of CRU parking stalls equipped with 240-volt electrical outlets.

14.5.10.7 Parking Area Lighting

- a) Non-glare lighting shall be provided in parking areas for safety and convenience.
- b) Lighting shall be oriented directly into the parking lot and away from residential areas to avoid intrusion into those areas.
- c) Lighting should be directed so that there is a maximum of 3 foot-candles at the property lines.

14.5.11 Amenities

The intent is to ensure that amenities are provided to commercial employees.

- a) Developments over 2,000 m² (21,529 ft²) should provide amenity spaces within the project.
- b) Amenity spaces should be provided at a minimum ratio of 1 m² (10.8 ft²) per 100 m² (1,076.41 ft²) of gross leasable building area.
- c) Amenity spaces may consist of social, recreational, educational, or cultural facilities, either indoor or outdoor. Consolidate in one location, either dedicated to a single use or adaptable to multiple uses.
- d) On-site employee or public amenities should include change rooms, showers, lockers, a lounge, and a covered outdoor seating area.
- e) Ensure the shape of the facility, the configuration of spaces within the facility, and the location of the facility are tailored to its intended uses(s).
- f) Situate the facility to encourage public use and provide for convenient public access (i.e., in a highly-visible, grade level location fronting a pedestrian-oriented street or open space).
- g) Wherever possible, provide direct public access from the facility to the outdoors, and convenient access to bicycle parking, vehicle parking, and passenger drop-off areas. Ensure that barrier-free access is provided to and throughout the facility.
- h) Whenever possible, provide access to outdoor open space for use by facilities users.
- i) Ensure that exterior windows extend for a length equal to, or greater than, 20% of the perimeter of the facility.

14.5.12 Garbage and Recycling

The intent is to organize site plans for efficient use of service areas so that the impact on streets, open space and other development is minimal.

- a) Garbage and recycling container storage areas should be integrated as extensions of the building, enclosed, covered and screened with landscaping from views from any adjacent residential development, views from above, nearby sidewalks, and pedestrian walkways.
- b) Garbage, recycling, and pick-up should be situated in areas which do not conflict with pedestrian traffic.



C. MIXED-USE COMMERCIAL-RESIDENTIAL BUILDINGS

The intent is to create a vibrant mixed use neighbourhood centre by integrating new mixed use commercial-residential buildings into the inner core of neighbourhood centre areas (on the arterial roads adjacent to shopping mall sites) to produce a high quality living environment for residents.

14.5.13 Site

The intent is to ensure that development fits into the neighbourhood and enhances the public/pedestrian realm.

14.5.13.A Street Presence

- a) Buildings should be located with their longer side parallel to the street to define a continuous building frontage.
- b) Mixed use developments should accommodate commercial uses at grade and residential uses above and be designed to ensure that each different use, is self-contained and has a separate entrance.
- c) Frontage of mixed-use buildings should reinforce the character of the immediate context by locating street-frontage ground floor commercial uses oriented to and having direct access from the commercial frontage street(s). Conversely, access to residential upper levels should be located toward the residential areas of the neighbourhood.
- d) Commercial component of the mix-use buildings should have a minimum 2.0 m (6.56 ft.) setback, maintain a continuous frontage and provide pedestrian street interest and amenity. Outdoor extensions of cafes and restaurants are encouraged where the context is appropriate (e.g., around the south public open space /park).
- e) Retail commercial uses are preferred along street frontages; office commercial uses should preferably be located on upper levels. If office commercial uses are proposed at street level, they should not extend for more than 1/3 of the building frontage.
- f) Street fronting character and relationship to the street of residential units at grade will generally meet the street fronting guidelines associated with mid rise residential buildings in Section 14.4.C.
- g) The front door entry area of each unit should be architecturally highlighted and identified.



- h) Corner units with entries on both elevations should be articulated to address both streets (with a vehicular or pedestrian character, if necessary).
- i) All commercial buildings should reflect a street-edge character in their built form and provide sufficient building continuity to maintain interest and a viable commercial activity along the street frontage and around the internal parking areas frontage.
- j) Windows and fenestrations should be provided on the street fronting side of the buildings even though in some cases the principal access to the commercial retail units may need to be provided from the internal parking areas.

14.5.13.B Weather Protection

- a) Retail commercial uses located at ground floor level should be provided with adequate weather protection. Awning or architectural overhangs, extending a minimum of 1.8 m (6 ft.) from the building face should be provided.
- b) All weather protection elements (canopies or other) should be designed to facilitate a continuous, architecturally integrated building frontage. Minimum canopy protection from the building face to be not less than 1.8 m (6 ft.).
- c) Where appropriate (i.e., building fronting the public open space/park), a colonnade treatment along the ground floor retail commercial frontage may be considered to provide weather protection for pedestrians and outdoor extension of commercial users, and achieve a stronger vertical separation between retail/commercial and residential uses.

14.5.13.C Signage

- a) No other free-standing sign other than a single identification sign should be provided along any street abutting a neighbourhood commercial centre or arterial road. Signage should be restricted to fascia sign on buildings or storefront signs.
- b) Way finding signage to visitor parking spaces for residential units should be provided at the entrance to the development, at each location where a visitor vehicle needs to turn and at a maximum spacing of 50 m (164 ft.). The design/format and colour of the way finding signage is to be reviewed and approved by the City.

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14.5.13 D Parking

- a) Vehicular access to residential parking should be provided from lanes or secondary streets so as to avoid potential conflict with pedestrian activity along the commercial frontage.
- b) Surface parking should be provided behind the building(s) screened from direct views from adjacent streets or from any public open space and pedestrian corridor.
- c) Where parking is provided directly at the back of long mixed use building, the entrance to the building and/or breezeway between the parking areas and the street should be provided to facilitate access to street fronting commercial uses. Access to residential uses in upper levels may also be provided from this breezeway.
- d) The edge of any parking area exposed to views from a street should include trellis structures combined with low walls and landscaping to screen parking and achieve a visual bridge between buildings.

On-street Parking

- a) On-street short term parking should be provided along the neighbourhood streets in front of all mix-use developments. On-street parking is a convenience for people visiting ground floor shops and offices for a short time. This parking option helps to improve the public realm at the street edge by providing pedestrians with a buffer to moving traffic and help to reinforce a more peaceful ambiance for the residential uses on upper levels.
- b) Short term on-street parking areas should preferably be identified by decorative, coloured pavers contained within a series of parking pockets.



Shared Parking

- a) Where there is some shared use of parking between residential and commercial uses, the parking area reserved for joint use should be accessible and clearly marked as such. It should be accessible to both uses at all times and in perpetuity.
- b) Consideration should be given to shared parking access driveway between adjacent developments.
- c) Concrete pavement of public sidewalk should be continued and be well defined across driveway entrances to parking areas/parkades.
- d) Presence of opening of the entry to parkade in the street building frontage should be minimized. The use of trellis or open beams structure combined with low edge planters and/or landscaping is recommended.
- e) Wall of parking level(s) exposed to views from the street are not permitted. If screening of the parking levels with a commercial or residential frontage is not possible, a sloping landscaped areas or stepping planters (including tree planting) should be provided along the street, in front of the parade structure.
- f) A minimum 0.50 wide (1.64 ft.) landscaped area should be provided along the street between the edge of the public sidewalk and the first low retaining wall/planter around any parkade structures that is not screened by a building.
- g) The closest retaining wall/planter alongside a public sidewalk should not be higher than 0.60 m (1.97 ft.).

14.5.13 E Servicing and Loading

- a) Visual impact of service and loading areas adjacent to the street should be avoided. The impact of these should be minimized through proper design of enclosures, integration of building mass, screening, high quality finishes, sensitive lighting and landscaping.

14.5.13 F Garbage and/or Recycling

- a) Open garbage and/or recycling containers storage areas of commercial uses that are exposed to the street are not permitted. These service areas must be integrated as extensions of the building, enclosed, covered and screened with landscaping from views from any adjacent residential development, views from above, nearby sidewalks and pedestrian walkways.

14.5.14 Building Form

The intent is to provide architectural detail to the development.

14.5.14 A Building Massing

- a) Residential uses above the street retail commercial uses should be set back from the ground floor level at least 3.0 m (9.85 ft.); and consider terraces, balconies and/or decks toward the street to improve privacy and achieve a good separation between uses.
- b) Recommended maximum building height is two storey for commercial uses with additional residential floors above in mixed-use development at strategic landmark locations (see Commercial section).
- c) The massing, setbacks and orientation of buildings shall be co-ordinated with and be responsive to the human scale of buildings on adjacent streets (commercial, residential).
- d) A minimum height of two storey (9.0 m or 29.53 ft.) is recommended for commercial only building along a street frontage in a neighbourhood centre and along arterial roads.



- e) Mixed-use buildings should be designed to ensure that each different use, especially a residential use, is self-contained and has a separate entrance.
- f) Design buildings and outdoor spaces to enhance visual privacy and reduce sound transmission between different uses.
- g) Mixed-use developments should provide venting from restaurants to the top of the uppermost roof in the development. Venting from restaurants should also incorporate sufficient noise- and odour-reducing equipment to prevent sound and smell overflows from creating an environmental nuisance.



14.6 Industrial Guidelines

These Guidelines are intended to encourage and maintain industrial development in the City of Richmond while maintaining a high standard of visual integration into the built and natural environment, and minimizing negative impacts on neighbouring uses.

The Industrial Guidelines and General Guidelines apply to industrial developments that require a Development Permit.

14.6.1 Adjacent Uses (Edge Conditions)

The intent is to ensure that industrial developments compliment and do not adversely impact adjacent uses, particularly residential development.

- a) Locate parking and site entrances for heavy vehicles, service vehicles and trucks away from residential sites. In sites where this is not possible, provide landscaping and other measures to reduce noise, fumes, and other potential impacts on adjacent residential areas. An impact study may be required.
- b) Buildings in developments that adjoin designated agricultural lands and residential areas should be designed and oriented to maximize views beyond and between buildings.
- c) Where industrial sites abut residential areas, consider increasing the setbacks to reduce impacts such as noise, odour, or shadow from any industrial building or structure.
- d) Provide a landscaped buffer, minimum 6 m (19.7 ft.) wide, between industrial developments and adjacent residential areas.
- e) All exterior lighting should be oriented away from residential areas to avoid impacts such as glare into adjacent residential neighbourhoods. The lighting should be directed so that there is a maximum of 3 foot-candles at the property line.



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2021/02/16

- f) Fences abutting residential sites should be constructed with materials in keeping with the fences generally used in residential areas.
- g) Unenclosed storage areas should not be located beside or across from residential sites or be visible from any street.
- h) External HVAC units must be visually screened and achieve compliance with the City's Noise Bylaw and any other Public Health Bylaw noise limits.
- i) for all industrial sites that have two or more storeys with exterior vehicular access to upper storeys, they shall be located no closer than 100 m of a residentially zoned site, have good access to truck routes and the Provincial highway network. Corner lots are to be discouraged as any visible exterior ramping for trucks and vehicles should be from the interior side yard setback or the rear yard setback.

14.6.2 Circulation and Parking

The intent is to guide the location of vehicles and trucks on industrial sites.

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- a) Parking should not be located within front yard setbacks.
- b) Vehicle circulation should be designed to avoid conflicts between trucks or other heavy vehicles and employees' and visitors' passenger vehicles.
- c) Loading areas and zones should be located in the side and rear of buildings.
- d) Surface parking must be defined by landscaping and screening elements. Refer to general landscaping guidelines for parking lot landscape treatment.
- e) For industrial development with two or more storeys that have exterior vehicular access to upper storeys:
 - the number and size of access driveways to the site should be limited to minimize impact on sidewalks and the public realm;
 - exterior ramping should be from the interior side yard setback or the rear yard setback; and
 - design loading/parking areas to maximize flexibility, to adapt and to accommodate changing industrial uses and practices.

14.6.3 Building Scale and Form

The intent is to encourage a high standard of design for industrial buildings.

- a) Locate offices, reception, and other public use areas at the front of buildings to face streets. Design facades so that these areas are easily identifiable and visible from roads.
- b) Buildings should generally be located at the minimum setback from property lines next to streets.
- c) Buildings should be designed to exhibit a cohesive appearance and architectural character. Consider providing skylights, roof forms or other elements to visually express interior spaces or functions. Also consider using architectural elements, materials, finishes, glazing, and textured surfaces.
- d) Façade articulation, such as recessed window and door penetrations, is encouraged to create depth and variation. Deeply articulated facades integral to the design of the building are encouraged; "add-on" elements are discouraged.
- e) Include glazing as a major component on street-facing building facades. Features such as texture, graphics, reveals, and colours should be incorporated into facades that may contain blank walls. Landscaping should also be provided in front of blank walls.
- f) Building facades with significant areas of non-reflective opaque materials should have decorative floodlighting to accent recessed or articulated surfaces.
- g) Main entries should be located and designed to be clearly identified from street or entry driveways.



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- h) Entrances to buildings and dramatic multi-storey interior spaces should be illuminated to enhance their after-dark visibility and significance.
- i) Service doors (e.g., an overhead door at a loading dock) should not be located on a building façade that faces a street. Design service doors to fit with the overall design of the building.
- j) Ancillary or secondary buildings on a site, including those constructed for the purpose of storing materials, should be visually screened from public streets with dense evergreen planting or should be designed and finished in a manner consistent with the principal building.
- k) All rooftop mechanical equipment should be screened from public view or integrated within the architecture.
- l) For industrial development with two or more storeys that has exterior vehicular access to upper storeys:
 - encourage vertical stacking of industry and production spaces;
 - building elements over 12 m in height are to be oriented with consideration of daylight and solar performance, architectural expression and impact on adjacencies;
 - reduce physical and visual bulk and massing for building elements with height over 12 m by stepping back the portion of the building above 12 m from the street frontage;
 - encourage architectural and façade articulation (e.g., transparent views through to on-site uses and connections, building recesses, clerestory windows at upper storey, etc.); and
 - visible vehicle ramps are to be architecturally treated.

14.6.4 Site Planning and Landscaping

The intent is to provide direction to the landscaping, storage and servicing of industrial lands.

- a) Identify and retain, as far as possible, existing mature trees on sites. Provide measures for their preservation and long-term maintenance.
- b) Provide a minimum 3 m (9.8 ft.) wide landscaped area along all property lines that abut streets. Co-ordinate the landscaping with that of adjoining developments and integrate landscaping with landscaping in the public realm.
- c) Provide landscaping to identify and define entrances to the site and buildings.
- d) Developments with more than one building on a site should provide sidewalks and pathways connecting the buildings and sidewalks along the front of each building where entrances are located.
- e) Create visual landmarks at locations of high visibility or significant street corners. Provide landscaping at these locations and consider incorporating features such as flag poles, banners, visual art, ornamental trees, and architectural elements and structures.
- f) Fences should be integrated into the landscaping, with adequate planting provided in front of the fence, particularly on sites adjoining or across from residential sites. Berms may be considered as an addition to or as an alternative to a fence.
- g) Chain link fences should be avoided, particularly along street frontages. If a chain link fence is unavoidable, a dense landscaped material such as a hedge must be provided on the outside of the fence.
- h) Outside storage and staging areas may be permitted in the side or rear yard of buildings under the following conditions:
 - such areas do not encroach on required minimum setbacks;
 - staging and storage of supplies, materials, products, or vehicles are visually screened from public thoroughfares and/or residential uses with landscaping or with screening finished in a manner consistent with the principal building.



- i) Service areas, dumpsters and garbage containers, recycling containers, and utility kiosks should be integrated into the landscape and screened. The minimum treatment should be evergreen planting a minimum 2 m (6.6 ft.) in height. Alternative treatment to screen areas adjacent to buildings would be a building or screen wall constructed from the same materials and colours as the principal building, minimum 2 m (6.6 ft.) high.
- j) Any part of a building site left vacant for future development should be landscaped consistent with the landscape plan for the remainder of the building site. The minimum ground surface treatment shall be lawn. If the undeveloped portion of the site is unaltered from its natural state (i.e., forested or retaining mature trees and native vegetation), the natural state should be preserved.
- k) Surface treatments such as bark mulch, gravel, or similar material are not acceptable.
- l) All landscaped areas should be irrigated with an approved automatic irrigation system.
- m) All landscaping shall be completed within 60 days after the substantial completion of the construction of any improvements on the building site.
- n) Consider providing landscaping on flat roofs to soften the visual impact of large expanses of roof as seen from above.
- o) For industrial development with two or more storeys that have exterior vehicular access to upper storeys:
 - yard setback areas should be raised no more than 0.5 m (1.64 ft.) above adjacent public sidewalks; low retaining walls in front yards along the street should not be higher than 0.5 m (1.64 ft.). In yards that abut public spaces, landscaped terraces no greater than 0.5 m (1.64 ft.) in height and no less than 0.75 m (2.46 ft.) deep should be used to reach the new grade;
 - visible exterior vehicle ramps shall be setback and screened by a minimum of 5 m layered landscaped treatment including vertical screening while providing strategic visual access to entries and access areas.

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14.6.5 Amenities

The intent is to ensure that amenities are provided for industrial employees.

- a) Provide indoor amenities such as a lunch room for employees and provide an outdoor landscaped area in close proximity to the indoor amenity area. The landscaped area should be accessible from the indoor space and should include seating areas and a structure for shelter from sun or rain. Consider including a space for outdoor recreation.
- b) For industrial developments with multiple tenancies, provide amenity spaces for the common use of employees and visitors. Amenity spaces for individual tenancies may be consolidated into large indoor and outdoor amenity spaces for the common use of all tenancies.

14.6.6 Environmental Controls

The intent is to encourage environmental responsibility in industrial areas.

- a) Industrial development should be designed so that the uses and activities shall not cause nor become an annoyance or nuisance to surrounding areas by reason of unsightliness, the emission of odours, liquid effluents, dust, fumes, or smoke, vibration, noise or glare, high brightness light sources, heat, or anything which creates or causes a health, fire, or explosion hazard, electrical interference or undue traffic congestion.
- b) Garbage and waste material shall be stored in containers which are weatherproof and animal-resistant within the boundaries of each site and shall be visually screened from all adjacent sites and public thoroughfares.
- c) Glare and bright yard or building lighting should be avoided and must be visually screened from the views of surrounding residential areas.



14.7 Environmentally Sensitive Area (ESA) Guidelines

ESA DP Guidelines apply to developments and subdivisions that occur in designated OCP Environmentally Sensitive Areas (ESAs). They are intended to protect and enhance the environmental resources and ecosystem services in ESAs which are part of the OCP Ecological Network. Environmentally Sensitive Areas are critical components in maintaining Richmond’s natural attributes and liveability.

14.7.1 ESA DP Guideline Process and Requirements

The table below explains the basic requirements and process to follow when:

- a property is exempt from an ESA DP;
- an ESA DP is required.

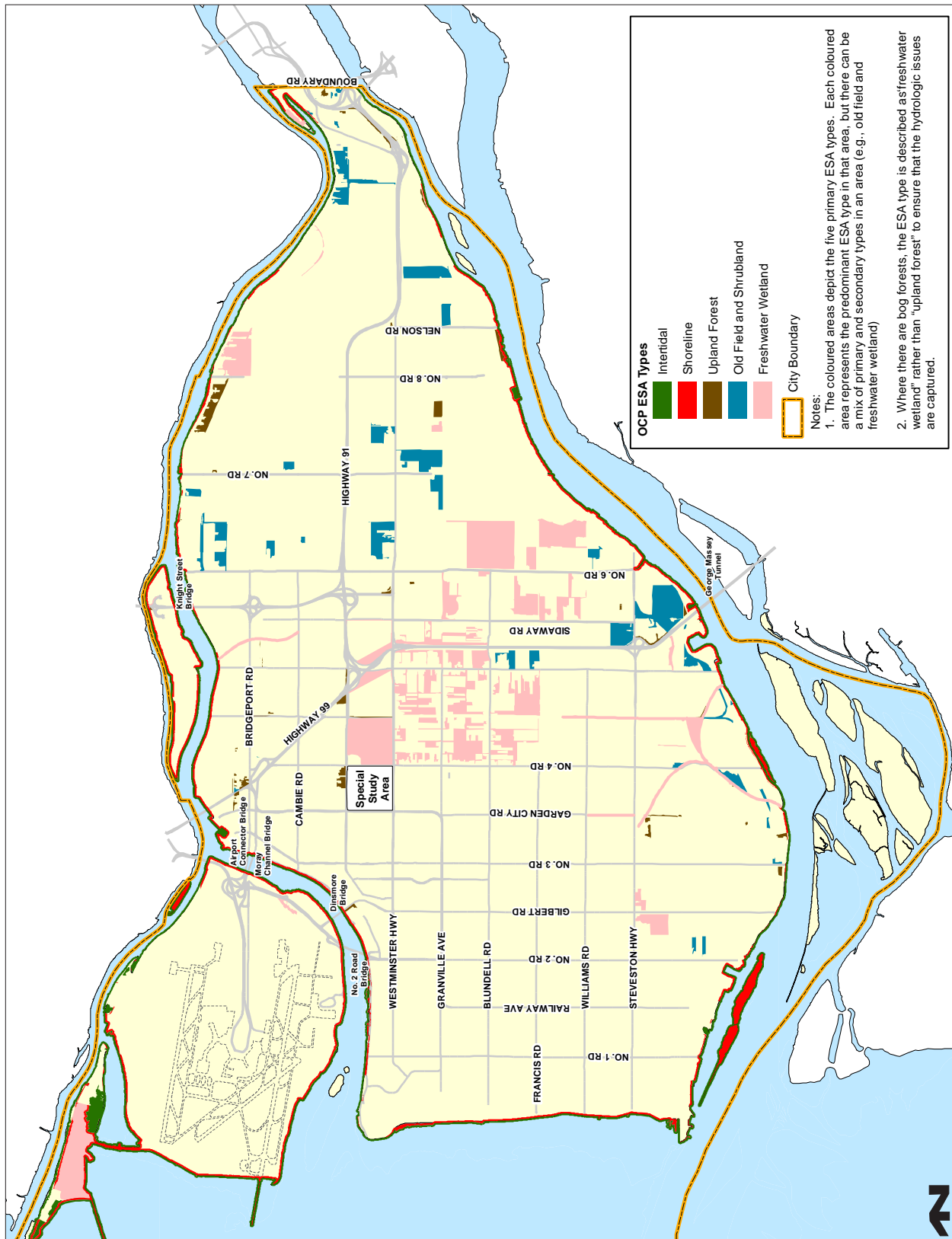
Overview	
ESA DP Guidelines Process and Requirements	
1.	All property owners, who appear to be affected by an OCP ESA designation within or near their property, are to first consult City staff, to determine if and how their property is affected by an ESA designation and the approval requirements and the process.
2.	City staff will verify: <ul style="list-style-type: none">• if there is an ESA designation on their land;• if a proposed activity is exempt (Type 1) as per Section 14.1.6.2 “Development Permit Area Exemptions.” This process includes determining if the property owner is a legitimate farmer (e.g., are actually generating or will be actually generating farm income from the affected property).
3.	If a proposed activity is within an ESA, staff will determine if, with modifications to their proposal, they can avoid affecting the ESA and thus be exempt from an ESA DP.



Overview ESA DP Guidelines Process and Requirements		
<p>4. If the proposed activity encroaches into the ESA on the property, an ESA DP will be required.</p> <ul style="list-style-type: none"> • Type 1 and Type 2 level of disturbance will be determined by City ESA staff using existing information such as recent orthophoto imagery and City of Richmond 2012 ESA maps and data. • City staff will advise on the process, requirements and next steps depending on the level of disturbance to the ESA (Type 2 or Type 3). 		
Type 1	Type 2	Type 3
Exemption from an ESA DP	Minimal ESA Disturbance ESA DP Requirements	Moderate to Significant ESA Disturbance ESA DP Requirements
<p>If a development or activity is exempt from an ESA DP, the activity can proceed (e.g., to any other Development Permit or Building Permit Process). See Chapter 14.1.6.2 for ESA exemptions.</p> <p>Example: A bona fide farmer wishes to cultivate land on his/her property which an ESA will affect.</p>	<p>Example: The proposed construction of a single family house will extend into an ESA area, thereby decreasing the ecological functioning and spatial extent of the ESA by less than 0.1 ha (1,000 square meters; 11,760 sq. ft).</p> <ul style="list-style-type: none"> • City staff will work with the owner to identify the location, condition and type of ecological features on the site including the boundaries of the ESA using existing information such as recent orthophoto imagery and City of Richmond 2012 ESA maps and data. • At a minimum, an owner survey is required to identify existing trees, vegetation, and known wildlife habitat within and adjacent to the portion of the ESA affected by the development proposal. • City staff and the owner will work together to discuss appropriate mitigation such as compensatory plantings. • An environmental assessment of the site may be required. 	<p>Example: Proposal for multi-family development on a site where the new building will significantly or adversely affect the ecological functioning of an ESA and encroach into an ESA by more than 0.1 ha (1,000 square meters; 11,760 sq. ft), or the ESA is a fresh water wetland affecting drainage and local hydrology.</p> <ul style="list-style-type: none"> • Due to its complexity, the City will require an Environmental Report (see 2012 City of Richmond ESA Management Strategy) and be in general conformance with the BC government publication "Develop with Care". At a minimum, the report will contain: <ul style="list-style-type: none"> - a preliminary bio-inventory (site survey); - a detailed inventory and conservation evaluation including an assessment and recommendations regarding mitigation and compensation for lost ESA area; - an environmental monitoring program, if applicable.



OCP ESA Development Permit Type Map





14.7.2 Intertidal

The intent is to prevent infilling or direct disturbance to vegetation and soil in the intertidal zone, maintain ecosystem processes such as drainage or sediment that sustain intertidal zones.

Area Designation: Coastal areas within 30 m (seaward) of the high water mark¹ which are influenced by waves, tides, and other processes along the Fraser River or Strait of Georgia. Also includes the shallow subtidal zone in some sites.

Typical Conditions: Mudflats, and a range of vegetated estuarine or salt marsh communities; tidal channels or shallow ponds are often present; developed shorelines with riprap, docks, and pilings are also included.

Justification: The intertidal zone is important for:

1. fish and wildlife habitat—the intertidal zone around Richmond's Islands is recognized for its importance for fish such as juvenile salmon from throughout the Fraser River watershed, but also for spawning eulachon, and smaller fish such as starry flounder which are an important part of the foodweb;
2. protection of Richmond's dikes and other infrastructure from wave and current water erosion by dissipating energy;
3. aesthetic and cultural values that make intertidal zones an important part of Richmond's parks and greenways.

Related Regulations: All intertidal zones in the City of Richmond area are considered *fish habitat* under the federal Fisheries Act. DFO regulates activities affecting fish habitat through their participation in the Fraser River Estuary Management Program (FREMP)². Port Metro Vancouver, as a federal agency, is also responsible for fish habitat management. Many intertidal zones also have important values for migratory wildlife such as shorebirds and waterfowl; migratory birds and their nests are protected under the Migratory Birds Convention Act and intertidal zones designated as part of provincial Wildlife Management Areas (including Sturgeon Bank WMA) are also managed for conservation values. Other

¹ The High Water Mark is the highest extent of tidal inundation under normal tides (e.g., no storm surges or abnormal water temperatures). It is usually defined in the field by vegetation and debris indicators. Note that the high water mark used for the ESA mapping was defined by visual interpretation of 2009 orthophoto imagery supplemented with field assessment in a few areas.

² Fraser River Estuary Management Program. See here or http://www.bieapfrempp.org/main_frempp.html



relevant legislation and regulations that affect the intertidal zone include the provincial Dike Maintenance Act, the provincial Wildlife Act (for listed wildlife as well as Wildlife Management Areas), the federal Species at Risk Act, and the federal Navigable Waters Protection Act.

Environmental Report Assessment Requirements: For all ESA areas classified as intertidal zone:

1. Confirm the ESA boundary including location of high water mark based on field assessment by a qualified professional.
2. Assess and confirm ecological characteristics including general vegetation types using existing information such as FREMP mapping and field assessment by a qualified professional.
3. Review FREMP habitat coding (red, yellow, green) and relevant policies.
4. Identify any previous habitat compensation or enhancement activities such as a marsh restoration and fill removal.
5. Review site history to determine the potential for contaminants or buried structures based on previous use.
6. Identify any nearby (within 100 m or 328 ft.) wildlife use such as raptor or heron nests using existing information and field surveys by a qualified professional³.

Guidelines

- a) Preserve all intertidal zones, except in accordance with the conditions of the Development Permit and other necessary permits or approvals (e.g., FREMP, Port Metro Vancouver, and Navigable Waters).
- b) Maintain ecological processes important to the long-term health of the intertidal zone including drainage and hydrology and natural sediment or detritus movement (accretion and erosion).
- c) Development must not increase shade or disrupt the movement of detritus or other materials. Where water access is necessary for transportation or recreation facilities, filling of the intertidal zone shall be avoided. The preferred method of development over the intertidal zone is on pilings or floating structures.
- d) Consider contiguous or nearby ESA areas such as shoreline zone which have the potential to influence the intertidal zone.
- e) No alterations should be made to the intertidal area without an appropriate environmental assessment and implementation of mitigation measures. The City may require preparation of an Environmental Protection Plan (EPP) prepared by a qualified professional to guide environmental management on sensitive, complex, or large sites.
- f) No recreational trails or other facilities shall be constructed in the intertidal zone.
- g) Permitted works shall use careful site design to avoid the most sensitive portions of the intertidal zone (see FREMP habitat coding).
- h) All works within or adjacent to the intertidal zone shall be constructed, where required, to preserve and enhance the shoreline by:
 - providing safe, durable access such that people are afforded an unobstructed view of the waterfront wherever possible;
 - retaining mature vegetation, including existing large trees, shrubs, and aquatic vegetation;
 - replanting disturbed areas with native vegetation.

³ Inventory Method for Raptors (BC Environment 2001). http://www.ilmb.gov.bc.ca/risc/pubs/tebiodiv/raptors/version2/rapt_ml_v2.pdf



- i) Where possible, restore degraded intertidal zones by removing historical fill, structures, or contaminated sediment, and recreating natural habitats such as mudflats and marsh.
- j) Conformance with these guidelines does not exempt applicants from meeting requirements of other agencies, such as participating in the Fraser River Estuary Management Program (FREMP), and Port Metro Vancouver. It is the responsibility of proponents to ensure they meet all external requirements.



14.7.3 Shoreline

The intent is to preserve existing shoreline vegetation and increase natural vegetation in developed areas during redevelopment or retrofitting.

Area Designation: Coastal areas within 30 m (98.43 ft.) (landward) of the high water mark with environmental values related to their association to the Fraser River and Strait of Georgia.

Typical Conditions: The marine riparian zone in Richmond typically includes the crest and backslope of the perimeter dike and its associated trails or roads, as well as developed or natural areas landward of the dike. Land uses are variable and typically include such things as developed lands such as roads, parking areas, landscaped areas, boat facilities and buildings.

Justification: The shoreline zone is important for:

1. fish and wildlife habitat, both within the forests and other ecosystems found within the shoreline, and the adjacent intertidal zone;
2. protection of Richmond's dikes and other infrastructure from wave and current erosion by dissipating energy;
3. filtering contaminants and sediment before it reaches the intertidal zone;
4. aesthetic and cultural values that forms an important part of Richmond's parks and greenways.

Related Regulations: Some shorelines in Richmond are considered fish habitat under the federal Fisheries Act because of their role in maintaining the health of the adjacent intertidal zone (e.g., shading, detritus additions, etc). Fisheries and Oceans Canada (DFO) regulates activities affecting fish habitat through their participation in the Fraser River



Estuary Management Program (FREMP)⁴. Port Metro Vancouver, as a federal agency, is also responsible for fish habitat management. Other relevant legislation and regulations that affect the shoreline zone include the provincial Dike Maintenance Act, the provincial Wildlife Act (for listed wildlife as well as Wildlife Management Areas), the federal Species at Risk Act, and the federal Navigable Waters Protection Act.

Environmental Report Assessment Requirements: For all ESA areas classified as shoreline zone:

1. Confirm the ESA boundary including location of high water mark based on field assessment by a qualified professional.
2. Assess and confirm ecological characteristics including general vegetation types using existing information such as FREMP mapping and field assessment by a qualified professional.
3. Review FREMP habitat coding (red, yellow, green) and relevant policies for the adjacent intertidal zone.
4. Identify any previous habitat compensation or enhancement activities.
5. Review site history to determine the potential for archaeological significance, contaminants or buried structures based on previous use. Refer to Provincial database on known archaeological sites.
6. Identify any nearby (within 100 m or 328 ft.) wildlife use such as raptor or heron nests using existing information and field surveys by a qualified professional⁵.

Guidelines

- a) Preserve all natural vegetation and all trees in the shoreline zone, except in accordance with the conditions of the Development Permit and other necessary permits or approvals (e.g., FREMP, Port Metro Vancouver, and Navigable Waters).
- b) Maintain ecological processes important to the long-term health of the shoreline zone including drainage and hydrology.
- c) Consider contiguous or nearby ESA areas such as the intertidal zone which have the potential to influence the shoreline zone.
- d) No alterations should be made to the shoreline zone without an appropriate environmental assessment and implementation of mitigation measures. The City may require preparation of an Environmental Protection Plan (EPP) prepared by a qualified professional to guide environmental management on sensitive, complex, or large sites.
- e) No recreational trails or other facilities shall be constructed in the shorelines zone without written approvals from FREMP or other regulatory bodies.
- f) Permitted works shall use careful site design to avoid the most sensitive portions of the shoreline zone.
- g) Water quality and natural systems shall be protected by leaving stream banks intact and by not altering natural slopes and existing vegetation.
- h) All works within or adjacent to the shoreline zone shall be constructed, where required, to preserve and enhance shoreline values by:
 - providing safe, durable access such that people are afforded an unobstructed view of the waterfront wherever possible;

⁴ Fraser River Estuary Management Program. See here or http://www.bieapfrempp.org/main_frempp.html

⁵ Inventory Method for Raptors (BC Environment 2001). See here or http://www.ilmb.gov.bc.ca/risc/pubs/tebiodiv/raptors/version2/rapt_ml_v2.pdf



- retaining mature vegetation, including existing large trees, shrubs, and aquatic vegetation;
 - replanting disturbed areas with native vegetation.
- i) Development proposals that include measures to restore degraded shoreline zones by removing historical fill, structures, or contaminated sediment, and recreating natural habitats such as riparian forest may increase the level of support by the agencies provided that the works comply with DFO and FREMP guidelines. In many areas, the shoreline zone has been developed or landscaped and improvements including tree planting will enhance its ecological value over the long-term.
- j) Conformance with these guidelines does not exempt applicants from meeting requirements of other agencies, such as those participating in FREMP and Port Metro Vancouver. It is the responsibility of proponents to ensure they meet all external requirements.



14.7.4 Upland Forest

The intent is to maintain stands or patches of healthy upland forests by preventing or limiting tree removal or damage and maintaining ecological processes that sustain forests over the long-term.

Area Designation: Treed areas (woody vegetation >5 m (16.4 ft.) tall) not including forested wetlands (swamps and bog forests) or forested riparian zones, adjacent streams, rivers, and other watercourses.

Typical Conditions: Richmond's upland forests are typically forested with paper birch, red alder, and black cottonwood with lesser amounts of western hemlock and western red cedar. Non-native trees (e.g., European birch, Sycamore maple) are also common. Upland forests range in size from large hubs (e.g., >10 ha or 24.7 ac.) to small groups or even rows of single trees. Developed forest areas such as maintained trees in urban parks with an understorey of mowed grass are not included as ESAs. Future ecological restorative works in public parks would add to the ESA inventory. Understorey vegetation is variable and ranges from partially landscaped areas, to dense thickets of native shrubs mixed with ferns, forbs, and mosses.



Justification: Upland forests are a critical part of Richmond's ecological network. Its environmental values include:

1. habitat for wildlife and plants;
2. carbon storage in above- and below-ground plant material;
3. hydrologic cycle importance through rainfall interception and evapotranspiration;
4. improvements to air quality by capture or modification of particulates and gasses such as ozone;
5. aesthetic values in urban parks and greenways.

Related Regulations: The City of Richmond's Tree Protection Bylaw (No. 8057)⁶ regulates tree removal or damage on private and public lands and applies in ESAs. Its goal is to sustain a healthy, viable urban forest. Upland forests are not explicitly protected or managed through provincial or federal legislation. Relevant regulations which influence forest protection in urban areas include the BC Wildlife Act if there are any listed wildlife (herons and eagles), the Migratory Bird Convention Act which protects the nests of most birds during the nesting season, and potentially the federal Species at Risk Act.

Environmental Report Assessment Requirements: For all ESA areas classified as upland forest:

1. Confirm the ESA boundaries based on field assessment by a qualified professional.
2. Assess and confirm general ecological characteristics including general vegetation types using existing information such as recent orthophoto imagery and field assessment by a qualified professional.
3. Review current and previous mapping including 2011 ESA, and Metro Vancouver 2011 Sensitive Ecosystem Mapping.
4. In areas proposed encroaching or adjacent (within 20 m or 65.62 ft.) to an upland forest ESA, conduct a tree survey that locates each tree, records species, size (diameter), and health based on the requirements of Richmond's Tree Protection Bylaw. The City will review the impact assessment and may approve encroachment if there is a net ecological benefit.
5. Identify any nearby (within 100 m or 328 ft.) wildlife use such as raptor or heron nests using existing information and field surveys by a qualified professional⁷.

Guidelines

- a) Preserve all upland forest, except in accordance with the conditions of the Development Permit and other necessary permits or approvals (e.g., Wildlife Act).
- b) Permitted works shall use careful site design to avoid the most sensitive portion of the upland forest (e.g., largest or older trees, wildlife habitat features, and natural understory).
- c) Where tree removal in ESA areas cannot be avoided, preserve the largest and healthiest trees and minimize the creation of narrow forest patches with edge habitat (maintain the mass and volume of the internal forest). The City of Richmond requires tree replacement on or near the development site. This may include nearby parks or other public lands. Some trees may be retained on site as artificial snags or downed logs under the direction of City staff.

⁶ City of Richmond Tree Protection Bylaw (summary). See here or <http://www.richmond.ca/services/Sustainable/environment/treeremoval.htm>

⁷ Inventory Method for Raptors (BC Environment 2001). See here or http://www.ilmb.gov.bc.ca/risc/pubs/tebiodiv/raptors/version2/rapt_ml_v2.pdf



- d) The City of Richmond's tree replacement requirements are specified in the Tree Protection Bylaw except in cases where an area-for-area replacement is permitted.
- e) The compensation ratio is replacement of one tree (6 cm or 2.36 ft. calliper as defined by BC Nursery Trades Association for deciduous tree, 2 m (6.56 ft.) height for coniferous) for every tree that is removed in an ESA area or 1.5 m² (16.15 ft²) for every 1.0 m² (10.76 ft²) of upland forest removed. Replacement trees are to be planted in other areas of the ESA unless permission is granted to plant trees on other parts of the property or City property.
- f) Preserve snags and downed logs where they are not a risk to safety.
- g) Maintain ecological processes important to the long-term health of the upland forest including hydrologic processes and soil quality.
- h) Avoid excavation, filling or soil compaction in a zone around trees measuring 30 cm (11.81 in.) for every 2.5 cm (0.98 in.) of trunk diameter (e.g., 25 cm or 9.84 in. diameter tree = 300 cm or 118.11 in. root protection zone). Use tree protection fencing and signs during construction. Works that may affect the roots of retained trees should be designed to avoid direct damage or be raised above the soil level (e.g., decks or pilings).
- i) Where possible, improve the conditions of the forest by removing invasive plant species, including: English ivy, Yellow Lamium, Himalayan Blackberry, Japanese knotweed, common Laurel, and Daphne Laurel.
- j) Restore or enhance upland forest through active management such as tree planting and thinning.
- k) Where trees are removed at the ESA edge, plant trees and understory shrubs at the margins to increase habitat in the ecotone.
- l) Vegetation is to be selected that is consistent with the existing plant communities, provide high food source and habitat values.
- m) Use pruning, thinning, supplemental planting, or other methods to reduce the risk of wind throw on newly exposed forest edges.
- n) Locate trails or other recreational facilities to avoid the most sensitive portions of upland forests, and constructed to minimize tree or shrub removal, soil excavation, or compaction. Avoid trails in the centre of large forest patches where recreation use including dog walking will reduce habitat value for wildlife.
- o) The City may require the preparation of an Environmental Protection Plan (EPP) prepared by a qualified professional to guide environmental management on sensitive, complex, or large sites.
- p) Conformance with these guidelines does not exempt applicants from meeting requirements of other agencies. It is the responsibility of proponents to ensure they meet all external requirements.



14.7.5 Old Fields and Shrublands

The intent is to maintain the extent and condition of old fields and shrublands, while recognizing the dynamic nature of these ecosystems. Preservation should recognize the balance between habitat loss and creation with the overall objective of preventing the permanent loss of old fields and shrublands.

Area Designation: Old fields and shrublands are temporarily (>2 years) or permanently abandoned agricultural or cleared lands that support mixed grass, forb, and shrub vegetation. Grass and shrub vegetation is often intermixed with increasing shrub cover after 10 years without mowing. Old field and shrubland is a man-made habitat type associated with the changing pattern of farming in agricultural landscapes, particularly the abandonment of farms.

Typical Conditions: Old field and shrublands support dense grass or shrub growth. Reed canary grass or bentgrass are commonly abundant but mixed with velvetgrass, orchard grass, and red fescue and weedy perennials such as creeping buttercup, red clover, white clover, and purple-leaved willow herb depending on moisture levels. Hardhack, Himalayan blackberry, or cut-leaf blackberry are the most common shrub species (note hardhack is often an indicator of disturbed wetlands). Old field characteristics develop quickly, usually two to three years after cessation of annual mowing or tilling in agricultural fields. Hedgerows are an important part of old field and shrubland communities.

Justification: Old fields and shrublands are important for:

1. biodiversity including small mammals and the owls⁸ and hawks that hunt in them, and invertebrate pollinators (bees and flies);
2. carbon storage in wet soils (above-ground biomass is minor);
3. hydrological benefit in areas with seasonal flooding;
4. the cultural history of Richmond and are found in areas that were important farms.

Related Regulations: Old fields and shrublands are not explicitly protected or managed through provincial or federal legislation. The Migratory Bird Convention Act protects the nests of most birds during the nesting season, and the federal Species at Risk Act protects a small suite of listed species that may infrequently use old fields such as vesper sparrow and streaked horned lark.

⁸ Including the regionally rare Short-eared Owl, which have been observed on Sea Island.



Environmental Report Assessment Requirements: For all ESA areas classified as old field or shrubland:

1. Confirm the ESA boundaries based on field assessment by a qualified professional.
2. Assess and confirm general ecological characteristics including general vegetation types using existing information such as recent orthophoto imagery and field assessment by a qualified professional.
3. Review current and previous ESA mapping including 2011 ESA, and Metro Vancouver's 2011 Sensitive Ecosystem Mapping.
4. Review site history (age of old fields) based on historical air photo assessment and local knowledge.

Guidelines

- a) Preserve large patches of old field and shrubland except in accordance with the conditions of the Development Permit and other necessary permits or approvals (e.g., Wildlife Act).
- b) Permitted works shall use careful site design to avoid the most sensitive portions of the old field and shrubland unit such as more diverse areas with a range of grasses, seasonally flooded areas, areas with perching sites for raptors.
- c) Old fields slowly change to shrublands and finally to forest cover over 10 to 25 years. While this evolution will create positive ecological benefits, maintaining old fields provides unique habitat benefits and contributes to biodiversity. Management practices such as infrequent strip mowing as occurs in the Sea Island Conservation Reserve is needed to maintain them as old fields over time.
- d) Work with farmers to retain old fields and shrublands (hedgerows) where they do not conflict with farm use. Leasing arrangements by the City may be investigated as a possible means of retaining old fields and shrublands on some sites.
- e) Enhance the value of old fields and shrublands by providing perching or roosting sites, or planting hedgerows.
- f) Conformance with these guidelines does not exempt applicants from meeting requirements of other agencies. It is the responsibility of proponents to ensure they meet all external requirements.



14.7.6 Freshwater Wetland

The intent is to maintain the areal extent and condition of fresh water wetland designated as ESAs by preserving vegetation and soils, and maintaining pre-development hydrology, drainage patterns and water quality.

Area Designation: Areas with vegetation and soils influenced by the presence of freshwater in the rooting zone for plants⁹; includes open, forested, and shrub bogs, swamps, marshes, wet meadows, seasonally flooded fields, and shallow (<2 m or 6.56 ft. depth) ponds and ditches.

Typical Conditions: Wetlands are widespread in Richmond and include bog forests with pine and birch trees, shrub swamps with Labrador tea and other bog plant species, cattail marshes, reed canary grass marshes, ditches and ponds. In some cases, wetland vegetation has been removed and only the soil remains from the previous wetland ecosystem. Bogs and related peatland wetlands are found within the previous boundaries of Lulu Island bog. Many large freshwater wetlands in Richmond such as Richmond Nature Park are within the ecological network but are not designated as Development Permit areas because they are protected as parks.

Justification: Freshwater wetlands are important for:

1. regulating water flow (hydrology) by storing water during rainfall and promoting groundwater infiltration;
2. influencing water quality through filtration, capture, and transformation of a variety of chemical constituents in plants and soil;
3. providing habitat for a diverse and often unique community of plant and animal species including amphibians, waterfowl, dragonflies, sedges, and peat-mosses;
4. storing carbon in saturated organic soils, particularly peat soils that are common in Richmond.

⁹ A wetland is land where the water table is at, near, or above the surface or which is saturated for a long enough period to promote such features as wet-altered soils and water tolerant vegetation. Wetlands include organic wetlands or "peatlands", and mineral wetlands or mineral soil areas which are influenced by excess water but produce little or no peat (Environment Canada, 1996).



Environmental Report Assessment Requirements: For all ESA areas classified as freshwater wetland:

1. Confirm the ESA boundary based on field assessment by a qualified professional.
2. Assess and confirm general ecological characteristics including general vegetation types using existing information such as recent orthophoto imagery and field assessment of soil and vegetation by a qualified professional. Wetland identification often requires specialized skills particularly in disturbed areas where soil and natural vegetation has been modified.
3. Review current and previous mapping including 2011 ESA, Metro Vancouver's 2011–2012 Sensitive Ecosystem Mapping, and Canadian Wildlife Service's historical and current wetland mapping.
4. Review the site's drainage system including watercourses, ditches, and stormwater pipes using City of Richmond's online GIS Inquiry mapping tool supplemented by field assessment if necessary.
5. Assess impacts to site hydrology for development activities that have the potential to affect hydrology and seasonal water table fluctuations (e.g., land drainage, ditches, large areas of impervious surface coverage, stormwater discharge or water storage).
6. Identify any nearby (within 100 m or 328 ft.) wildlife use such as raptor, crane, or heron nests using existing information and field surveys by a qualified professional¹⁰.
7. Assess freshwater wetland ESA areas for the presence of species or ecological communities at risk (see BC Conservation Data Centre¹¹ for current ranking).

Related Regulations: Freshwater wetlands are not explicitly protected or managed through provincial or federal legislation unless they are fish habitat or require a federal permit or approval (e.g., Navigable Waters Protection Act of Canadian Environmental Protection Act). Relevant regulations which influence wetland protection in urban areas include the BC Wildlife Act if there are any listed wildlife (herons and eagles), the Migratory Bird Convention Act which protects the nests of most birds during the nesting season, and potentially the federal Species at Risk Act for SARA-listed species. Commitments by Metro Vancouver's member municipalities under the regional Liquid Waste Management Plan may eventually provide some protection of freshwater wetlands for their role in urban watershed management.

Guidelines

- a) Preserve the extent and condition of all freshwater wetlands in ESAs, except in accordance with the conditions of the Development Permit and other necessary permits or approvals.
- b) Maintain ecological processes important to the long-term health of freshwater wetlands including drainage patterns, hydrology, seasonal water table fluctuations, and water quality.
- c) Consider contiguous or nearby ESA areas, or other areas of the Ecological Network, which have the potential to influence the freshwater wetland. Use vegetated buffers of at least 30 m (98.43 ft.) around wetlands to prevent direct or indirect disturbance.
- d) No alterations should be made to freshwater wetland without an appropriate environmental assessment and implementation of mitigation measures. The City may require preparation of an Environmental Protection Plan (EPP) prepared by a qualified professional to guide environmental management on sensitive, complex or large sites.

¹⁰ Inventory Method for Raptors (BC Environment 2001). See here or http://www.ilmb.gov.bc.ca/risc/pubs/tebiodiv/raptors/version2/rapt_ml_v2.pdf

¹¹ BC Species and Ecosystem Explorer. See here or <http://a100.gov.bc.ca/pub/eswp/>



- e) No recreational trails or other facilities shall be constructed in freshwater wetlands.
- f) Permitted works shall use careful site design to avoid the most sensitive portions of the freshwater wetland.
- g) Development proposals that include measures to restore degraded freshwater wetlands by removing historical fill, structures, or contaminated sediment, and recreating natural habitats such as sedge marsh or shrub swamps will be viewed positively by the City.





14.8 Marina Guidelines

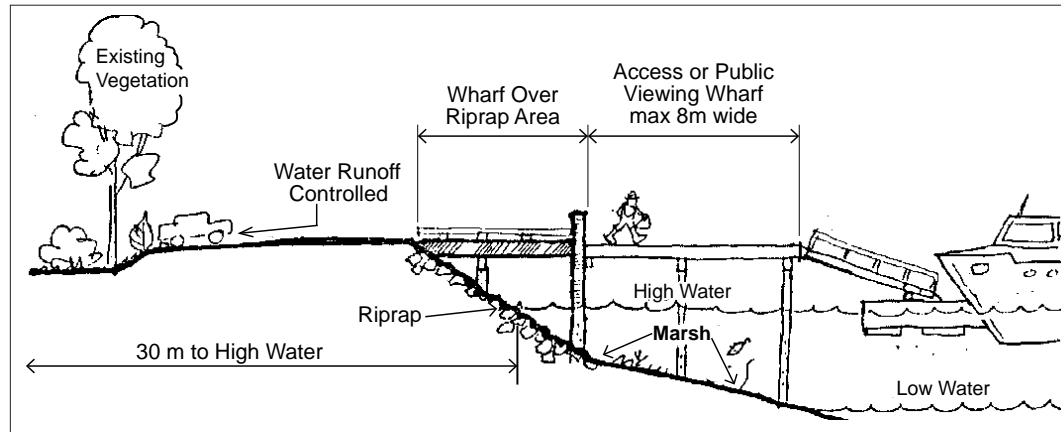
These Guidelines are intended to ensure that marinas, which are located in an Environmentally Sensitive Area (ESA), are built to respect the natural environment and are appropriately located and designed.

The Marina Guidelines, Environmentally Sensitive Area (ESA) Guidelines and General Guidelines apply to all marina developments that require a Development Permit.

14.8.1 Environment

The intent is to protect and enhance the shoreline and foreshore areas.

- a) No alterations should be made to the shoreline that would adversely affect fish or wildlife habitat. The environmentally acceptable method of development is by using upland areas or by construction of wharves or floating docks rather than by land fill. For the purposes of these marina guidelines, the shoreline is defined as the intertidal areas plus the area within 30 m (98.4 ft.) of the high-water mark.
- b) Wharves should not extend over marshes or other productive foreshore areas. Wharves should not, in any case extend over the water beyond the mean low-water mark (see sketch), except for wharves which are less than 8 m (26.2 ft.) wide and are for the purpose of access to floats or for public viewing access.

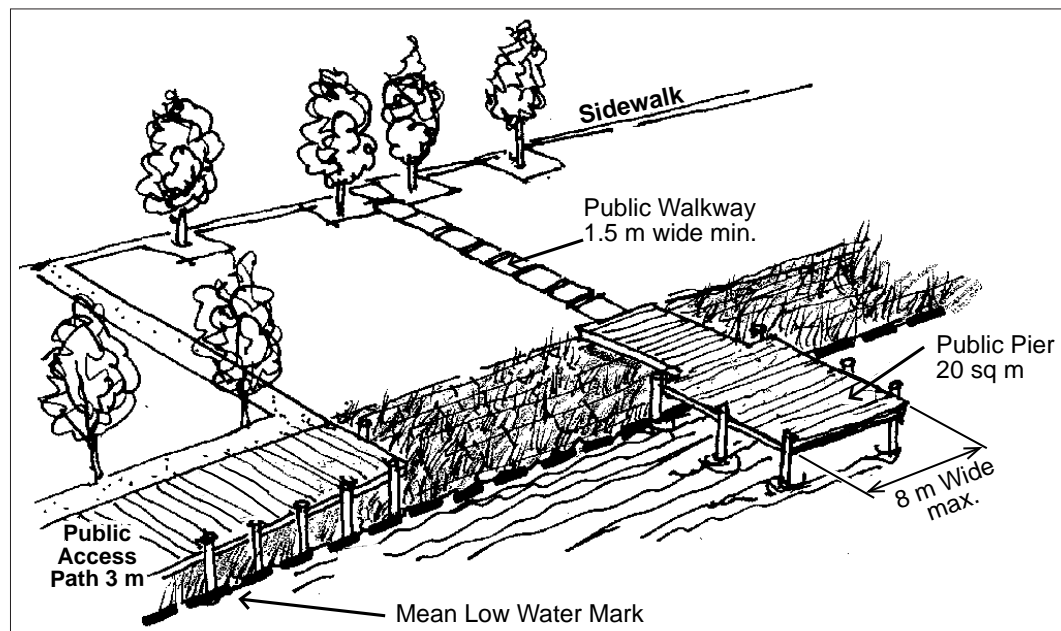


- c) Existing vegetation within 30 m (98.4 ft.) of the high-water mark should be retained or enhanced. Areas disturbed during construction or dredging shall be replanted where necessary with native species.
- d) Run-off should not be permitted to adversely affect water quality for fish. Measures taken to control run-off shall be indicated in the Development Permits.
- e) Conformance with these guidelines does not exempt applicants from meeting the requirements of other agencies such as those participating in the Fraser River Estuary Management Program (FREMP).

14.8.2 Public Access

The intent is to secure adequate public access to the water.

- a) A continuous 3 m (9.8 ft.) public-access pathway should be constructed parallel to and as close to the water's edge as practicable provided it does not impact wildlife habitat areas.





- b) In existing marinas where it is not possible to provide a continuous 3 m (9.8 ft.) public access, then a public pier of minimum 20 m² (215 ft²) should be provided at the water's edge. The public pier shall be connected to the City trail or sidewalk via a minimum 1.5 m (4.9 ft.) wide public walkway.

14.8.3 Landscaping

The intent is to protect existing trees and enhance the landscaping.

- a) All undeveloped portions of the upland shall be landscaped. The marina developer should plant and maintain on the upland one tree for every 15 m (49.2 ft.) of water frontage, or equivalent. Appropriately size native species of trees should be used wherever possible.
- b) New tree planting is not permitted on the dike. Permission to plant trees adjacent to the dike should be requested from the City's Engineering Planning Department and is subject to the Provincial Diking Inspector's review.
- c) Existing trees should be preserved wherever possible, and many fulfil the requirements of this section.

14.8.4 Design

The intent is to protect public views and provide sufficient facilities, parking and services to the marina.

14.8.4.A Views

- a) Buildings, float homes, or boat shelters on the waterfront should not obstruct the waterfront view from public roads, walkways and trails which intersect the shoreline. A view corridor equal to the width of the road should be maintained free of buildings, signs or storage.
- b) Buildings should not unduly obstruct views from public walkways or trails.

14.8.4.B Common Facilities

- a) Shared common facilities should be provided at a minimum of 50 m² per ha (218 ft² per ac.) of lot developed for residential moorage. Shared common facilities may include covered mail pickup, bulletin board, storage, shared meeting rooms, play areas, or childcare facilities. Common facilities should include both an outdoor upland play area and an indoor recreation area.

14.8.4.C Float Homes Separation

- a) All float homes and other floating habitable structures should maintain a minimum clear distance of 3 m (9.8 ft.) between structures.
- b) Plans should indicate screening and other mitigation measures to reduce the impact of incompatible adjacent uses.
- c) Areas within 10 m (32.8 ft.) of bridges should be kept clear of buildings except as approved by the Harbour Commission and the BC Ministry of Transportation and Infrastructure and as specified in the permit.
- d) Walkways, gangways and piers should have pedestrian-scale lighting; however, lighting should be shielded so as not to affect navigation. Light should not exceed two foot-candles at the harbour headline.
- e) Garbage and recycling containers should be located in inconspicuous places and screened from public view. Access for collection vehicles should be provided.

**14.8.4.D Parking**

- a) The vehicular egress and access to the street should be clearly marked and the street address should be posted in a conspicuous place and lighted.
- b) Parking lots should be designed so that pedestrian access is clearly separated from driveways and parked vehicles. In particular, the main dock entrance, the public street and parking areas should be linked by a walkway.
- c) All parking areas should be provided with adequate curbs in order to retain vehicles within the parking areas and to ensure that sidewalks, landscape areas, and buildings are separated from parked vehicles.
- d) Measurement of parking spaces may allow for 0.6 m (2 ft.) overhang, provided that adequate curbs are installed, and provided that adjacent sidewalks have 1 m (3.3 ft.) clear width.
- e) Two-way traffic should be provided in parking lots wherever practicable. Visitor parking should be clearly marked as such.

14.8.4.E Access

- a) Direct pedestrian access should be provided from parking and loading areas to the main dock. Pedestrian overpasses to parking located across major roads may be required.

14.8.4.F Dike Maintenance

- a) Wharves should be designed keeping in mind that public access may be needed for maintenance of the dike surface or for repairs to the rip-rap. A continuous 4 m (13.1 ft.) wide vehicular access must be provided on top of the dike, and a continuous 9 m (29.5 ft.) two-way emergency vehicular access should be provided either on the dike or adjacent to the dike. In some cases, the adjacent (public) road may serve as the two-way access.
- b) Access roads should be designed with a minimum impact on existing habitat.

14.8.4.G Construction Around Dikes

- a) All dike improvements should conform to the Provincial Diking Inspector's guidelines and obtain Provincial Diking Inspector review and approval under the Provincial Dike Maintenance Act.



14.9 Broadmoor Neighbourhood Centre Guidelines

These Guidelines are intended to enhance the design, character and function of the Broadmoor Neighbourhood Centre.

The Broadmoor Neighbourhood Centre Guidelines, Commercial and Commercial/Mixed Use Guidelines and General Guidelines apply to developments that require a Development Permit.

14.9.1 Centre Vision

The intent is to establish a vision for the Broadmoor Neighbourhood Centre based on public consultation that occurred.

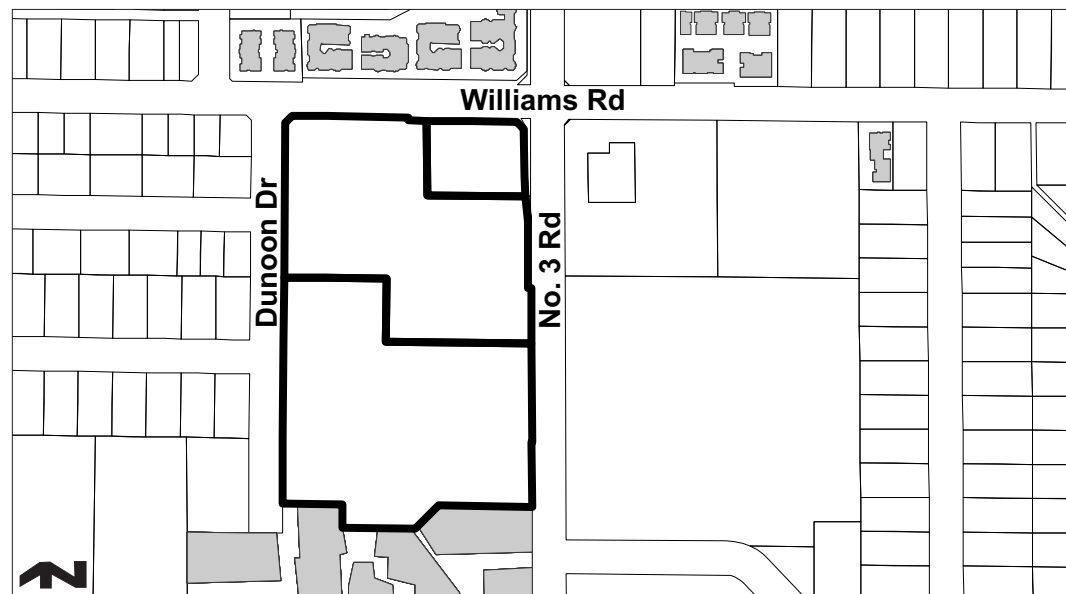
"A vibrant, accessible and sustainable mixed use hub where people will be able to live work and meet their daily needs."

The Neighbourhood Centre is envisioned to become:

- a vibrant, compact mixed use hub with a mix of housing, shops and services;
- the heart of Broadmoor where people will be able to live, work, and meet their daily needs;
- pedestrian oriented with public spaces where people can meet and pedestrian paths that link to adjacent neighbourhoods and parks;
- an area which reflects the principles of sustainability with a contemporary design that integrates durable and natural materials.



Broadmoor Neighbourhood Centre Area Map



14.9.2 Form and Character

The intent is to create a functional commercial node with more urban character and respond appropriately to the adjacent neighbourhood context.

- a) The Master Plan area exemplifies a sustainable, durable and contemporary design character.
- b) Buildings will vary in height from 2 to 6 storeys and contain a variety of commercial spaces and residential units.
- c) Buildings are placed along the perimeter of the site, close to the property line along No. 3 Road and Williams Road to reinforce building frontage continuity, especially along No. 3 Road.
- d) Large open surface parking areas to be partially screened from direct views from the street (using a combination of landscaping and lattice/arbour structures).
- e) Building frontage building heights vary between 2 and 6 storeys.
- f) Density is greatest along the main arterial of No. 3 Road and the northeast corner of the site at Williams Road and No. 3 Road, where a public urban space and architectural features would establish a landmark at this neighbourhood intersection and key gateway.
- g) Residential units are located above commercial uses and townhouse forms are at ground level when adjacent to existing residential areas.
- h) Residential units above commercial uses along No. 3 Road and Williams Road to be setback from the edge of the commercial/parking floors so that the streetwall is perceived to be not higher than 4 storeys.
- i) Buildings of various heights and massing create identifiable nodes and interest, particularly along No. 3 Road and Williams Road.
- j) Commercial retail units (CRU's) at ground floor to have direct pedestrian access from the public sidewalk.
- k) Decorative pavement to extend from public sidewalk to the building face where there is no substantial grade difference.
- l) Building facades are animated by views into active retail space.



- m) If no fenestrations provided, housing forms wrap around otherwise blank edges of internally oriented commercially space.
- n) An identifiable mass and/or landscaping feature will be created at the entrance to Dunoon Drive by incorporating a feature “ending” to the last and northerly townhouse block on the Williams Road portion.
- o) There will be residential units suitable for all family types, including opportunities for ground-oriented housing, and upper level apartment/condominiums with access to useable roof space.
- p) Where the street frontage is comprised of residential development at grade (e.g., along Dunoon), buildings will:
 - have their major entries onto Dunoon Drive or the perimeter of a privately-owned publicly accessible areas;
 - be developed with entry transitions and semi-private outdoor spaces;
 - will include steps and changes in grade, fences, gates, low walls, hedges and other plantings.
- q) Where buildings are located immediately adjacent to existing residential areas, upper storeys are stepped back to reduce overlook concerns and minimize massing.
- r) Residential windows and balconies overlook common areas and public streets, providing “eyes on the street”.
- s) Ground-oriented commercial units front internal surface parking areas, front No. 3 Road and portions of Williams Road providing an active streetscape with direct pedestrian access from the street sidewalk.
- t) Large buildings blocks are architecturally broken down into an expression of smaller street-fronting retail with varied frontages.
- u) Building and landscape design at the corner of Williams Road and No. 3 Road is distinctive and welcoming.
- v) Continuous weather protection is provided along commercial building frontages in the form of relatively continuous canopies and awnings.
- w) Commercial units provide proportional and abundant glazing at street level to contribute to an active and interesting streetscape.
- x) There will be no extensive blank walls or obscured windows along the street frontage, at grade or on upper levels.
- y) Streetscapes (defined by building heights and setbacks, sidewalk and landscaping) are consistent with a more urban overall character and compatible with the general character of the Master Plan area, and are complementary to the existing neighbourhood context.
- z) Terracing and building setbacks on upper levels of taller (over 4 storeys) street-wall buildings are employed to create interest, improve access to light and to reduce bulk.
- aa) Height and massing are varied on street buildings to create a diverse and well-articulated shopping area.
- bb) Building articulation, glazing and a variety of materials are used to prevent long, featureless facades.
- cc) Awnings and overhangs provide shade in the summer and weather protection along pedestrian routes, at the entrances of shops and residences.
- dd) Materials, colours and elements such as light standards, benches, fences and trash receptacles, contribute to a sustainable, durable, contemporary design character.
- ee) Local and sustainable products are used wherever possible (e.g., wood, recycled or renewable materials).



14.9.3 Flood Plain Construction Levels

The intent is to ensure that floodproofing is carried out in a sensitive and attractive manner.

- a) Protruding retaining walls necessary to meet flood elevation levels are screened from view with landscape planting or banks (Note: for direction on treatment of road frontages, Section 2.10.2 (a) "Attractive, Accessible Street Frontages, pages 2-116 and 2-117 of the City Centre Master Plan (CCAP) will be referred to. See pages 3-29 and 3-30 of the CCAP for direction on concealing parking below grade).

14.9.4 Key Gateways and Neighbourhood Nodes

The intent is to establish the key principles and gateway or node considerations for the development of the Broadmoor Neighbourhood Centre.

General Principles:

- the Master Plan area is permeable, safe, welcoming and accessible to people of all ages and abilities;
- prominent corners and entry points are designed as gateways that identify access points to the commercial area and routes into the neighbourhood;
- a neighbourhood node internal to the site is designed as a place to gather and interact with residents and visitors;
- the Broadmoor Master Plan identifies primary and secondary pedestrian corridors through the site and into the neighbourhood to connect to the surrounding neighbourhoods and Maple Lane Park;
- the pedestrian routes are direct, universally accessible and can accommodate a range of uses (e.g., wheelchairs and strollers);
- sidewalks and pedestrian corridors are well-defined through a combination of surfaces, landscape features and human-scale lighting;
- transit stops are visible and easily accessible by pedestrians and cyclists;
- buildings adjacent to transit stops integrate transit shelters into building and/or urban design with weather protection (e.g., awnings, overhangs and spaces for waiting);
- stairs and ramps are provided to access above grade entrances to residential and commercial units from the public realm;
- elements such as lamp standards, benches, fences and trash receptacles within the public realm are consistent in design and contribute to a sustainable, durable, contemporary design character;
- trees and other landscape features contribute to an attractive and comfortable public realm;
- trees, shrubs and appropriate landscaping frame pedestrian routes, reinforce the alignment of the pedestrian corridors through the site and add colour, texture and interest around the site;
- seating (seating walls or benches integrated to planters, or other) are provided along all pedestrian routes and in the central neighbourhood node;
- primary pedestrian corridor routes through the Master Plan area will be identifiable by pavement colour and texture, and will be separated, where feasible, from parking areas, and driveways;
- public art will contribute to the overall character and vibrancy of the service centre.



Guidelines

Gateways and Neighbourhood Nodes

- a) There are two landmark gateways and two neighbourhood nodes envisioned for the Master Plan area. These serve as a welcome to the neighbourhood centre and provide an opportunity for social interaction or seating. They are envisioned to enhance the quality of the urban environment for the benefit of land owners, tenants and residents. Key features of each gateway and node are identified below:

Williams Road and No. 3 Road Gateway

- a) The gateway at Williams Road and No. 3 Road will integrate an identifiable landmark feature consistent with the general character of the Master Plan, which could include a unique building design or landscape feature.
- b) The gateway will integrate site signage that identifies the service centre and provides directional information to key focal points in the community or at the service centre.
- c) The gateway functions as the welcome to the 'heart' of Broadmoor.

No. 3 Road (south) Gateway

- a) This gateway provides the primary vehicle access and pedestrian corridor to the service centre from No. 3 Road; the primary pedestrian corridor extends further to the east and provides access to the adjacent neighbourhood from No. 3 Road.
- b) This gateway will be designed to open up the entrance to the shopping area (to views) from No. 3 Road and highlight the beginning of the main pedestrian route and connection to Dunoon Drive and Petts Road through the neighbourhood center.
- c) Integration of all modes of transportation, safe and accessible design are the primary organizing principles for the design of this gateway.
- d) The gateway will be predominantly hardscape complimented by vegetation and corner architectural feature on adjacent buildings.
- e) Opportunities for gathering and informal interaction through the integration of landscape or architectural elements should be explored.
- f) The gateway will integrate site signage that provides directional information to key focal points at the service centre.

Central Plaza Node (A)

- a) At the centre of the service centre this node is also an anchor associated with the neighbourhood and is 800 m² (8,611 ft²) in size.
- b) Is internal to the site and it is the organizing space within the central surface parking area.
- c) Provides a central space/structure as a node in the middle of the central parking area to break the extent of paved parking surfaces into two smaller, friendlier parking clusters and organizes the parking area vehicular circulation.
- d) Contains a distinguishable feature such as a light structure retail/kiosk and associated plaza with seating, designed to facilitate gathering as well as green landscaped areas to create a buffer to the surrounding parking areas and vehicular circulation.
- e) Will include benches, waste receptacles and could be the place for a public art piece as a tall vertical element that serves as a landmark that identifies the service centre.



Dunoon Drive Node (B)

- a) Located along Dunoon Drive across from Petts Road, this space identifies the western entrance to the Primary Pedestrian Corridor to No. 3 Road through the neighbourhood service centre.
- b) Encourages pedestrian connectivity between Maple Lane Park and the service centre, and offers a key connection between park/neighbourhood and No. 3 Road.
- c) Establish a break along the continuous built frontage along Dunoon Drive and is 800 m² (8,611 ft²) in size.
- d) Adjacent buildings will be designed to ensure good access to sunlight and will front onto this area.
- e) Reinforce safety by implementing “eyes on the street” principles with clear overlook from any adjacent commercial or residential buildings, with individual residential units oriented towards and having direct access to the open space; where possible individual front doors should open along the gateway edge sidewalks.
- f) Signage provides directional information and identifies the service centre.
- g) Benches, lighting and waste receptacles are provided.

14.9.5 Key Pedestrian Corridors

The intent is to identify and plan for the important pedestrian connections in the Broadmoor Neighbourhood Centre.

Primary East-West (E-W) Pedestrian Corridors—No. 3 Road to Dunoon Drive E-W Pedestrian Corridor

- a) A centrally located, landscaped pedestrian spine that extends parallel to the vehicular access route and provides a direct connection from No 3 Road to Dunoon Drive and Petts Road.
- b) Includes decorative pavement and a double row of trees to highlight the east-west primary pedestrian corridors through the Master Plan area.
- c) Will include a 2.5 m (8.2 ft.) wide paved path with a 1.5 m (4.92 ft.) wide boulevard for tree, shrubs or other vegetation on each side.
- d) Integrate coloured pavement (contrasting with asphalt on parking/drive aisles) and pedestrian scale lighting.
- e) Integrate paved bump-outs with landscape features and seating areas along the drive aisle of this corridor; if feasible integrate parallel parking or another design solution to ensure pedestrian feel protected from the drive aisle at this edge.
- f) Ensure a vertical element (signage, gateway feature) is provided at the termini (No 3 Road (south) and Gateway B discussed above) to draw people through the corridor.
- g) Should be designed to be durable and include shade trees.

E-W Access Pedestrian Corridor

- a) This is a primary pedestrian corridor to the internal neighbourhood node (A) from the northern access on No. 3 Road, and links to the internal north-south pedestrian corridor network.
- b) The corridor will be a paved 2.5 m (8.2 ft.) wide sidewalk allowing a 1.5 m (4.92 ft.) wide boulevard for trees, trees grates and seating along the edge of the commercial parking areas.
- c) The corridor will extend along the internal storefronts or active building facades and will include raised crossings where vehicles cross its path.



North-South (N-S) Pedestrian Corridors—N-S Internal Pedestrian Corridor

- a) Provides a direct internal corridor between Williams Road and the two main E-W Primary Pedestrian Corridors connecting through the site with the internal commercial services.
- b) Includes decorative or coloured pavement and a row of trees to highlight the north-south primary pedestrian corridors through the Master Plan area.
- c) Is located along commercial frontages to the east of the development, where possible, and connects Williams Road to the internal node and the two east-west pedestrian corridors.
- d) Facilitates the integration of the service centre with the pedestrian network and connecting to surrounding residential areas.
- e) Provides pedestrian scale lighting, signage, waste receptacles and seating along the pathway.

N-S Pedestrian Corridor on Dunoon Drive from Petts Road to Maple Lane Park

- a) An enhanced pedestrian realm is desirable to extend along Dunoon Drive from the Dunoon Drive node at Petts Road to the south portion of the Master Plan area to highlight and reinforce the linkage to Maple Lane Park.
- b) Integrates with Maple Lane Park by incorporating strong and well identifiable public use pedestrian corridor along Dunoon Drive, toward Maple Lane Park.
- c) Encourage linkages to Maple Lane Park and Petts Road so that residents can easily access the service centre via pedestrian friendly corridors rather than through parking and loading driveways, or by using the car.
- d) Facilitate and allow views to the site that can be seen from Maple Lane Park; therefore providing a highly integrated pedestrian corridor connected with two gateways to access the shopping area, from Dunoon Drive and the southern portion of the site.

Secondary Pedestrian Corridors

- a) These corridors are extensions of the Primary Pedestrian Corridors and complete the pedestrian circulation network. They extend along the internal and external frontage of the residential and commercial buildings and include City sidewalks along the periphery if not identified on the Master Plan concept.
- b) Pedestrian crossings will be enhanced to be safe and highly visible at No. 3 Road and Williams Road to facilitate strong linkages to the Service Centre and to the surrounding neighbourhood to the north and east.

14.9.6 Centre Integration With Maple Lane Park

The intent is to have the Broadmoor Neighbourhood Centre integrate with Maple Lane Park.

- a) The Broadmoor Neighbourhood Service Centre will:
 - integrate with Maple Lane Park by incorporating public use pedestrian corridors and extending walkways through the shopping area and open spaces to the south along Dunoon Drive, toward Maple Lane Park;
 - provide linkages to Maple Lane Park and Nevis Drive and Pett Road so that residents can access the shopping area via pedestrian friendly corridors rather than through parking and loading driveways.



14.9.7 Parking, Loading and Access

The intent is to provide direction to the parking, loading and access needs of the Centre.

- a) Surface parking is limited to convenience parking for retail shops, while most commercial and residential parking is located within the building envelope on the first or second level.
- b) The Broadmoor Neighbourhood Service Centre will:
 - provide parking organized in small clusters, contain the parking areas within the centre of the site and minimize the amount of exposed surface parking.
- c) Surface parking exposed to views along Williams Road frontage will be partially screened from views (incorporating a combination of landscaping, low lattice fence 1.21 m (4 ft.) and trellis/arbour structure):
 - provide a balanced supply of parking that meets the residential and commercial needs of the development, while supporting and encouraging alternative modes of transportation;
 - provide ways for commercial loading and service vehicles to enter and exit the shopping area from No. 3 Road and Williams Road and ultimately not from Dunoon Drive;
 - utilize trees and landscaping to separate sidewalks from parking areas to protect people from vehicle traffic and create a pleasant pedestrian zone;
 - provide clusters of small car parking spaces combined with full size parking spaces to introduce landscaping islands with trees and other appropriate vegetation to facilitate natural drainage in the parking area, and to provide shade and visual relief of the parking surface.
- d) Bicycle parking facilities will be provided at all residential and commercial building entrances.
- e) When vehicle parking is located within a building, the parking structure will be screened from view, either by wrapping the parking with residential or commercial units, or through the use of architectural features such as louvers.
- f) Loading areas will be integrated as part of the building(s) and provided with appropriate visual screens and/or gates.
- g) Parking lots and structures are well lit and designed according to CPTED principles.
- h) Surface parking lots are landscaped with trees.
- i) Parking areas, building entrances, sidewalks and public spaces are designed to be safe and accessible to people of all ages and abilities.

14.9.8 Green Buildings and Sustainable Infrastructure

The intent is to incorporate innovative approaches for green infrastructure and green buildings, that flexibly address on-site rainwater management, energy efficiency and renewable energy production, potable water conservation and waste minimization.

- a) At the minimum, the buildings in the development will meet By-law No. 8385, "Green Roofs and Other Options Involving Industrial and Office Buildings Outside the City Centre". Other approaches to green buildings will be considered such as those required in the City Centre Area Plan (e.g., LEED rating system and credits), or LEED Silver Certification or equivalency.



- b) The Broadmoor Service Centre will design buildings and site infrastructure that:
- minimize the use of energy and reduce Greenhouse Gas Emissions;
 - use less potable water;
 - use resources efficiently and incorporate sustainable building materials;
 - mitigate, manage, and clean as much rainwater on site as possible;
 - reduce the generation of waste through careful design and construction practices;
 - incorporate ways to improve indoor air quality, noise, noxious emissions and dust;
 - consider opportunities for urban agriculture on the site.

