



City of Vancouver *Land Use and Development Policies and Guidelines*

Planning, Urban Design and Sustainability Department

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GREAT NORTHERN WAY CD-1 GUIDELINES (555 GREAT NORTHERN WAY)

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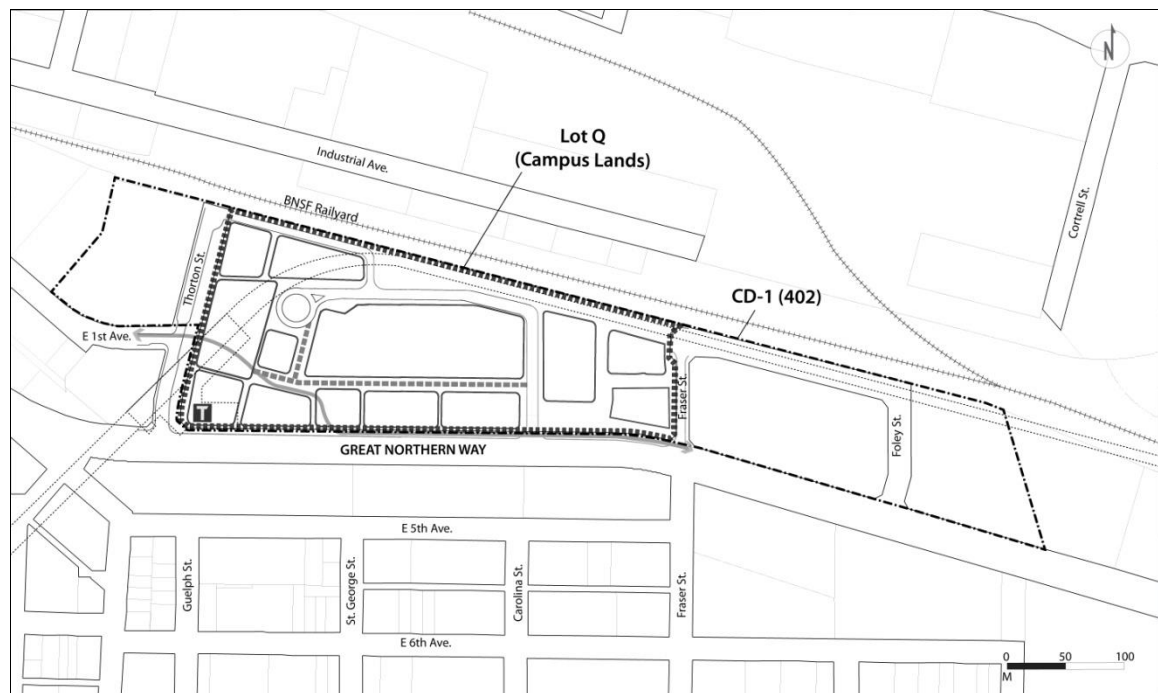
1 Application and Intent

1.1 Application

These guidelines should be used in conjunction with the Great Northern Way CD-1 (402) by-law for 555 Great Northern Way to guide development of the area. As well as assisting the development permit applicant, the guidelines will be used by City staff in evaluating proposed developments.

The guidelines will assist the design of individual developments to ensure compatibility with the overall urban design concept and principles for the Great Northern Way Campus (Lot Q) and adjacent lands (Figure 1).

Figure 1 - Guideline Boundaries



1.2 Intent

The intent of these guidelines is to assist the applicant in meeting the following goals and objectives:

- (a) Assist in the creation of a cultural and artistic district that supports both educational and commercial uses.
- (b) Integrate existing and future greenways, and walking and cycling connections.
- (c) Enhance the False Creek Flats' importance as an industrial area, particularly for new and future industries.
- (d) Achieve overall development which demonstrates urban design excellence and innovation in architecture.

1.3 Site and History

The Great Northern Way Lands consist of 10.7 ha (26.5 acres) of land in the False Creek Flats, located between Great Northern Way and the Mt Pleasant neighbourhood to the south and the Burlington Northern Sante Fe Railway to the north. Lot Q, the 'Campus Lands', form a single 5.7 ha (14 acre) sub-area bounded by Fraser Street and Thornton Street. Currently located to the east are office buildings, a low-scale warehouse building and the VCC-Clark Millennium Line SkyTrain station. To the west are a series of smaller parcels containing a mix of small-scale warehouse and industrial uses along with an artist live/work studio building.

Historically, the high-water mark of the former False Creek tidal flats ran across the site until the 1910s, when the flats were filled in. Some cutting has also occurred at the western end, rendering the site essentially level in grade. China Creek emptied into the mud flats at the eastern end and is now contained within a culvert in an easement across the site. The mouth of Brewery Creek was near the western end of the site.

2 Urban Design Principles

The concept for this area is to establish a framework for the making of a creative campus on Lot Q, the centre of which will be a facility for Emily Carr University of Art & Design.

The Campus will be organized around a central pedestrian spine, accentuated by two key public open spaces; a newly created St. George's Plaza, as well as a central open space which will support campus life in addition to accommodating the future transit station.

The urban design principles outlined below reflect the vision for the site as a cultural hub and art district featuring an art school campus and other related uses. Key urban design principles guiding development are as follows:

2.1 Site Planning and Buildings

- (a) Create a strong sense of place and identity by reflecting both the industrial history and emerging media and arts character through architecture, site planning, design and public realm features.
- (b) Create a pedestrian spine within the campus to enhance wayfinding as well as linking buildings to open spaces and a future transit station.
- (c) Provide a high degree of amenity – and quality open space such as cafés, for the campus population that also serves neighbouring residents.
- (d) Work within existing height limits and preserving view corridors.
- (e) Create an enhanced public realm interface with Great Northern Way through buildings that actively address and engage the street frontage.
- (f) Establish new grades to better integrate the site into the surrounding community and with Great Northern Way. In particular, raise the ground plane to meet the grade at the corner of Thornton Street and Great Northern Way.
- (g) Establish site grades in the context of current defined flood plain levels
- (h) Provide interim solutions which facilitate the retention of existing buildings but also anticipates future finished grade conditions.
- (i) Create a vibrant community through identifying a viable development site for Emily Carr University along with other complementary projects on adjacent parcels.

2.2 Open Space

- (a) Provide 1.22 ac. of public open space on the site as a distinctive central feature of the public realm which is a focus for campus activity and surrounded by active uses.
- (b) Provide strong visual links to the open space from adjacent streets to invite the community in.
- (c) Create a unique sense of place in the surrounding public realm elements that support opportunities for social engagement and public art.
- (d) All open spaces should foster social interaction and become neighbourhood meeting places.
- (e) Commemorate the historical terminus of St George Creek on site as an element of the St George Rainway through Mount Pleasant.

2.3 Movement and Circulation

- (a) Integrate the development with the city by extending the street grid into the site to create physical and visual connections with the adjacent areas. Create rational normalized intersections wherever possible.
- (b) Provide safe, comfortable, and convenient walking and cycling connections, accessible to all users, between the Campus and Mount Pleasant.
- (c) Design streets to prioritize walking and cycling over motor vehicles.
- (d) Create or enhance walking and cycling routes to provide both connections for the city-wide Greenways Plan and links to local neighbourhoods, emphasizing connections to the future Broadway Subway station for site users and the greater community.
- (e) Minimize slopes on the site to provide comfort for people walking, cycling or using mobility aids.

- (f) Design all roads, pathways and public spaces on the site to be fully accessible.
- (g) Design Great Northern Way to allow safe access and egress to the site for all road users and prioritize pedestrians and cyclists while respecting the street's role as a major traffic and goods movement corridor.
- (h) Locate vehicular access and servicing points for all development sites to minimize conflicts and provide a safe environment for all road users.
- (i) Allow for a potential future elevated Thornton St connection over the rail yard to the north.

2.4 Sustainability

- (a) Design for Green Mobility through transit-oriented design, emphasis on non-automotive transportation, appropriate parking standards for cars and bikes, and enhanced opportunities for public bike share, car-share and electric vehicles.
- (b) Create opportunities for sustainable green energy through integration of all new buildings, where feasible, with the SEFC Neighbourhood Energy Utility.

2.5 Servicing

- (a) Ensure the on and off-site services (water, sewer, etc.) are adequately sized to accommodate development proposals and, where necessary to allow for existing infrastructure to be upgraded.

2.6 Broadway Subway (Millennium Line Extension)

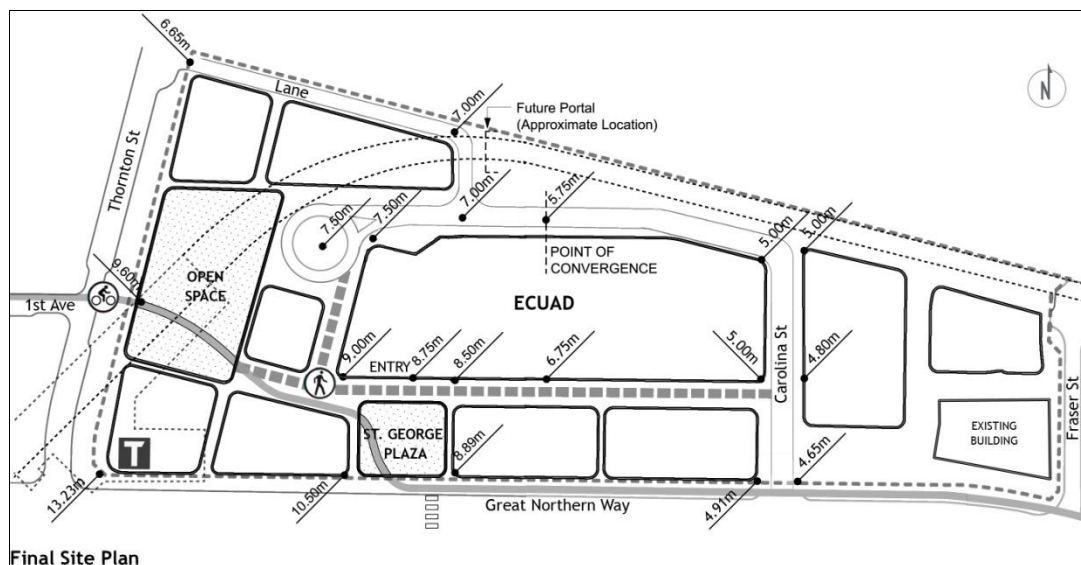
- (a) Provide unencumbered access to the proposed Broadway Subway alignment.
- (b) Consider Broadway Subway construction access and staging when planning the site and construction phasing.
- (c) Design site grading to facilitate integration of the future Broadway Subway into the site, including minimizing the exposure of the portal and the tunnel where the line transitions between above grade and underground.
- (d) Use the future transit station as a key organizing principle of the site's design

3 Site Considerations

3.1 Siting

The location of streets, open spaces, development parcels and buildings should generally be as described in the illustrative plan shown in Figure 2. Buildings are to be organized to define streets and to form a vertical and horizontal built-form edge.

Figure 2 - Illustrative Plan including Final Grades



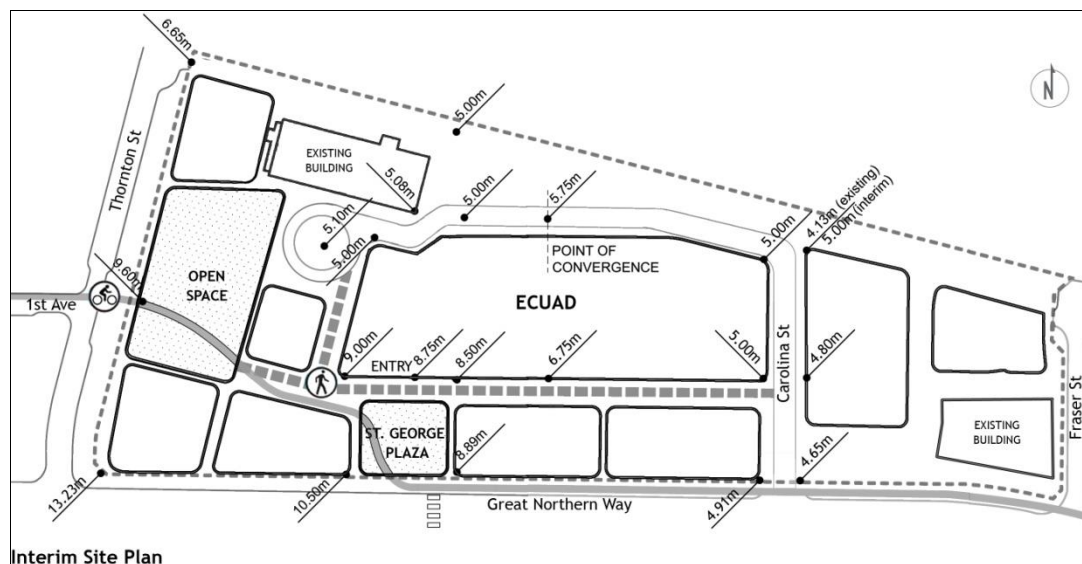
3.2 Setbacks

- (a) Provide a 3-m (10-ft.) setback along Great Northern Way, west of Carolina St.
- (b) Provide a 9-m (30-ft.) setback along Great Northern Way, east of Carolina St, noting that this may be reduced to 3-m (10-ft.) where conditions permit.
- (c) Provide a 15-m (50-ft.) landscape setback along the westerly and easterly most property lines of the CD-1 boundary to be reserved for the commemoration of China and Brewery Creeks.
- (d) Building setbacks from property lines need to be provided and will be analyzed on a site by site basis. Solar performance and other design criteria such as the effect on adjacent open spaces; adjacent building design and use; any other concerns of a similar nature to the foregoing will need to be taken into account.
- (e) Parking or loading access is not to be located at or above grade in the landscape setbacks.

3.3 Site Grades

- (a) **Existing Grades:** The existing site topography traces back to the historical condition when the site sloped down from the south to the shoreline edge of a tidal flat. The site still reflects the tidal flat condition which from this low point of the site begins a considerable rise toward Great Northern Way, creating an escarpment of eight meters at the corner of Thornton Street and Great Northern Way.
- (b) **Final Grades:** Final grading for the site will meet the existing grades of Great Northern Way and slope gradually across the site to the north and to the east, in order to meet the lower existing grades, as generally indicated in figure 2. Final grades will facilitate convenient walking and cycling access into and through the Campus Lands, reflect the natural slope of the land, help visually integrate building massing (and Broadway Subway components) into the landscape and provide adequate soil depth over the Broadway Subway alignment to support robust landscape design.
- (c) **Interim Grades:** Interim grading, as generally indicated in figure 3, will be considered as a strategy to allow for the retention of some of the existing buildings on site, as well as to facilitate the construction of a future Broadway Subway and the related station. Some buildings will need to respond to and address both interim and final grading solutions in terms of entries, plazas, roads and pedestrian circulation systems. Creative and innovative methods of soil retention and grade changes will be desired.

Figure 3 – Interim Grading Plan



4 Vehicular Access, Off-Street Parking and Loading Areas

4.1 Parking Facilities

- (a) All off-street parking should be located on the site it serves, unless otherwise approved by the Director of Planning in consultation with the General Manager of Engineering. Some interim surface parking may be permitted, subject to landscaped setbacks and acceptable access points as determined by the Director of Planning in consultation with the General Manager of Engineering Services.
- (b) No parking or maneuvering is permitted in landscape setbacks.

4.2 Loading Areas

- (a) Loading areas should be located within buildings or, where there is lane access, off the lane and away from active streets. Access to these loading areas should be from lanes where possible.
- (b) Loading areas should be effectively screened from view of surrounding public spaces, neighbouring properties and from the overlook of nearby residential developments, using architectural elements, such as fencing and trellises, and plant material.
- (c) Loading docks and garbage bins should not be visible from the street.
- (d) Outdoor storage of goods is discouraged. When necessary, outdoor storage should be incorporated into well screened loading areas.

4.3 Parking and Loading Access

- (a) Where possible, access to parking and loading areas should be from the lane. If located along the street, parking and loading should be combined into one entrance and its width should minimize interruption to the streetwall.
- (b) Shared parking and loading entrances are encouraged for abutting properties.
- (c) Where loading access is taken from the street, trucks must not back in from (or onto) the street and all maneuvering must be done on site.
- (d) No insulation, piping or mechanical equipment is to be visible from the street unless dealt with in an architectural manner.

5 Architectural Characteristics

5.1 Building Height and Views

- (a) Building height limits are described in the By-law. Height limits vary across the site from 13.7 m (45 ft.) to 45.7 m (150 ft.). Building heights will be measured from the anticipated final grades established within the design of the structure plan.

5.2 Massing and Form

- (a) Where building length exceeds 250' massing should be broken down into smaller increments in order to allow views and light through blocks or into courtyards. In blocks which approximate the scale of the existing subdivision pattern to the south, a minimum of one break in the massing should occur. In longer blocks over 180 m (591 ft.) in length, a minimum of two breaks should occur.
- (b) Long, continuous building forms should be avoided. Express the individual functional components of a large building complex as a series of interconnected or interrelated massings in order to create identity, rhythm and variety and a reduction of apparent bulk and visual scale.
- (c) Respect the incremental rhythm of Vancouver streetscapes typical of mixed-use areas around the downtown. Large, singular building forms should be avoided in favour of an increment and rhythm of building frontage found in typical Vancouver mixed use areas.
- (d) Shallow articulation of surface elements and materials is generally ineffective in achieving adequate variation in the massing and bolder manipulations of the form should prevail.
- (e) Generic building designs that exhibit little facade interest or transparency should be avoided.

5.3 Building Entrances

- (a) Building entrances should be clearly identifiable, visible, transparent and accessible from the street.
- (b) Pedestrian interest and comfort should be provided at entrances through specifically designed seating, signage, lighting and features that signal the building's use.
- (c) Consider atrium spaces with staircases as a means to connect floors and effectively tie the entrance with the upper levels.
- (d) Where possible, internal courtyards and landscaped areas should be visible from the street.
- (e) Building entrances need to take into account and be attendant to existing, interim and finished design grades related to the overall campus site plan.

5.4 Articulation

- (a) Architectural design should be expressive of the building structure of and environmental design considerations. Functional elements, such as stairwells, elevator and mechanical cores, and entrances, should be used to break up the horizontal scale of the building form.
- (b) Building materials should be carefully chosen to break up the horizontal scale and accent edges for pedestrian interest.
- (c) Glazing with high clarity should be used to encourage visual connections between inside and out. The use of highly reflective glazing is discouraged.
- (d) Where street frontages consist of retail and service uses, they should reflect a smaller, more intimate scale and be clear-glazed to enhance openness and pedestrian interest.
- (e) Design elements which contribute to energy efficiency and animated facades should be encouraged.

5.5 Weather Protection

- (a) Main building entries should provide generous weather protection that is designed to be an integral feature of the building's architectural character.
- (b) Weather protection should be considered over walkways which connect interrelated buildings, as an amenity consistent with a campus-like environment.
- (c) Canopies and awnings should be built of durable materials, and consideration given to lightness and translucency.

5.6 Materials

- (a) A consistent palette of materials should be used throughout the site.
- (b) In general, all commercial-grade exterior finishing materials and details appropriate to local climatic conditions may be utilized, provided they contribute to:
 - (i) a high-quality image that portrays a sense of permanence; and
 - (ii) to the long-term durability of the exterior system, such that its initial integrity, quality, and visual appearance will be retained over the lifespan of the building.
- (c) Materials and treatments at grade level, particularly for buildings fronting public spaces, should provide visual interest and enhance the pedestrian scale.

5.7 Roofs and Mechanical Penthouses

- (a) Roofs should be designed to be attractive as seen from above as well as from ground level. Large, monotonous expanses of roof should be avoided.
- (b) Vents, mechanical rooms and equipment, elevator penthouses, and other rooftop devices should be integrated into the roof architectural treatment or should be grouped and screened with materials and finishes compatible with the building.
- (c) Design development of cellular antennae and related infrastructure to be sensitively located, out of view, or behind screening.

6 Open Space and Streetscapes

6.1 Structural Overview

A hierarchy should be established for the open space system from the public-owned and freely accessed spaces, like the street rights-of-way, to completely private and inaccessible building courtyards. In between are privately owned spaces to which the public may have some degree of access, such as the landscape setbacks. Open space is an important element which will be one of the principal amenities sought by the campus population and the surrounding neighbourhoods. Some general guidelines for open space planning include:

- (a) The landscape should be used as a unifying element for the campus with a consistent system of materials and detailing used throughout.
- (b) Open space planning and design should consider the neighbourhood context and the needs of Mount Pleasant residents, as well as the campus population.
- (c) Open space intended for public use should be clearly identified and designed as such. It should have sufficient openness to be inviting and safe for the public.
- (d) Greenways provide important walking and cycling connections to and from the site.

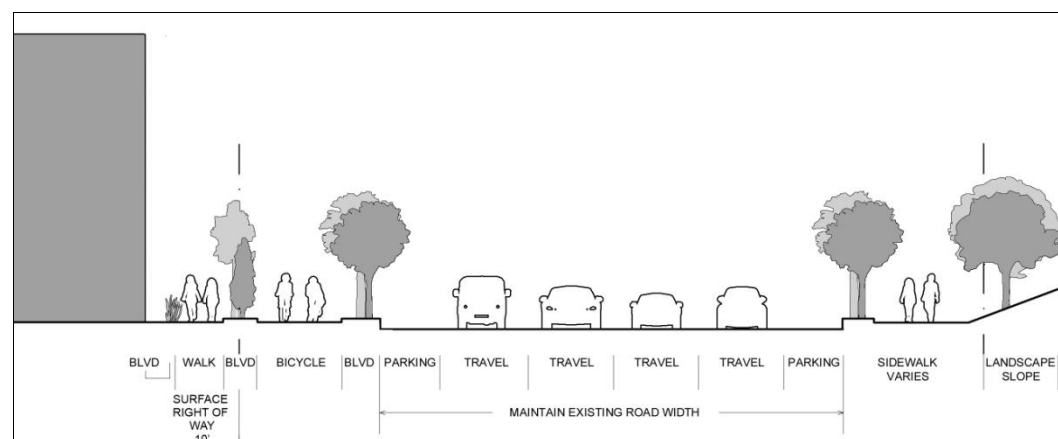
6.2 Streetscape Design

The streets should be designed and built in accordance with Engineering Services standards and requirements. Standard materials should be used on all City streets, however accent features may be accepted where appropriate. There are five types of streetscape treatments, as follows:

- (a) **Great Northern Way** – Currently the Central Valley Greenway on Great Northern Way is a shared walking and cycling path. A separated sidewalk and cycle path is expected on the north side of Great Northern Way between Fraser and Thornton Streets, to reduce conflicts between people walking and cycling. The new sidewalk will be constructed within the 3.0 metre statutory right-of-way along Great Northern Way. The potential future alignment of the Central Valley on Great Northern Way between Carolina and Clark envisions separate one-way cycle tracks and sidewalks on both sides of the street to improve crossing of the numerous existing driveways on the north side east of the campus lands.

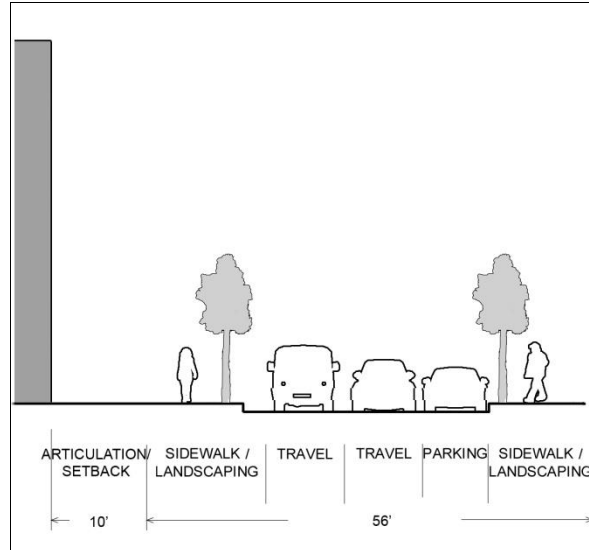
Great Northern Way is to be reconstructed with three signalized intersections, including traffic signals at Carolina and Thornton Streets and provision for a future pedestrian signal at St. George Street. Left hand turn bays will be required at the traffic signals to facilitate safe turning movements.

Figure 4 – Potential cross-section through Great Northern Way



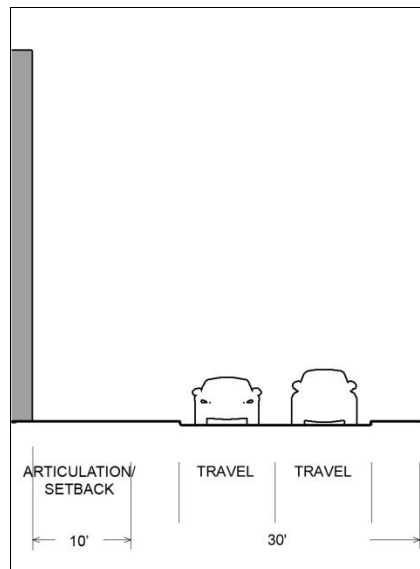
- (b) **Proposed Access Road** – A new local road is proposed into the site off Great Northern Way at Carolina Street, which will terminate at a cul-de-sac bulb. The new road will be a local street with provision for on-street parking where appropriate. The road should have landscaped boulevards, street trees and sidewalks and be designed to prioritize pedestrian movements. Traffic calming devices such as curb bulges should be incorporated into the design.

Figure 5 – Potential cross-section through Carolina Street



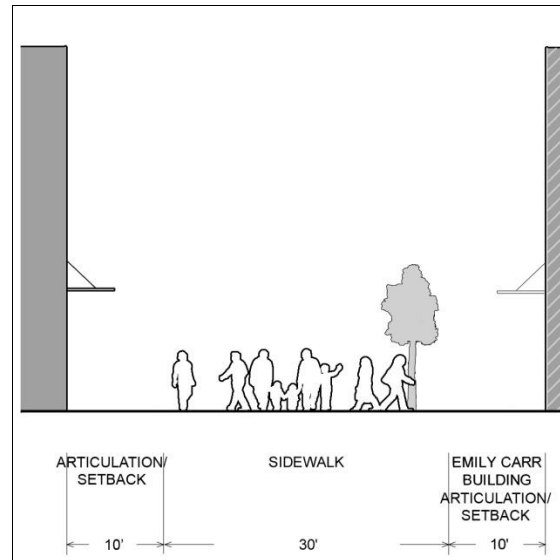
- (c) **Proposed Lane** – A new lane is proposed as a secondary access to the site off the north end of Thornton Street, to be constructed after the Broadway Subway is complete. The lane will be primarily for access to the proposed residential buildings at the northwest corner of the site and is not expected to have sidewalks or significant landscaping. An interim connection should be provided in advance of Broadway Subway construction to serve existing buildings and provide a secondary connection to the site.

Figure 6 - Cross section through lane



- (d) **Central Pedestrian Spine** - The central pedestrian spine is intended to be the central public space for the site. It will contain most of the building entrances and addresses, and be the focus of the pedestrian activity. It will therefore be designed to be highly animated and pedestrian friendly as well as fully accessible. It should have a greater level of detailing and more richness of materials in its design and an area designated for special paving, lighting and planting treatments.
- The design of the western portion of the central spine should be integrated with the design of the adjacent open space and with the proposed Subway station, such that design themes, functional relationships, materials and finishes are all coordinated. Likewise, the intersection and corner plazas proposed in the middle of the site should be well integrated with the design of the central avenue.

Figure 7 - Cross section through central pedestrian spine



- (e) **Central Valley Greenway** – The 25-kilometre Central Valley Greenway is the longest walking and cycling facility in the region, extending from New Westminster to the Seaside Greenway (Seawall) at Science World. The design of the Central Valley Greenway through the campus should provide separate, generous, and well-lit facilities for walking and cycling. The site grading should eliminate unnecessary elevation changes. Conflict points with motor vehicles should be minimized, however wherever there is a conflict point with motor vehicles (such as at the Carolina/Great Northern Way intersection), the location should be designed for safe and comfortable walking and cycling crossing, potentially including enhanced paint markings and separate traffic signal phases. Pedestrian crossings of the cycle path should be minimized and marked and treated appropriately, giving pedestrians priority with markings and surface treatments.

6.3 Landscape Setbacks

- (a) **China Creek** — The 15-m (50-ft.) wide China Creek easement at the eastern edge of the CD-1 boundary, should be given a soft landscape treatment that commemorates the former Creek. When public access to the north can be achieved, a pathway should be provided along its length, with consideration given to walking and cycling connections. The easement should provide a landscape feature for the adjacent developments which should open onto it in a positive manner. The interface between the development and the easement should be sensitively shaped by terracing and stepping of the building massing, avoiding large expanses of blank wall.

(b) **Brewery Creek** - The landscape design of the 15-m (50-ft.) wide Brewery Creek setback at the western edge of the CD-1 boundary, should commemorate Brewery Creek in a manner which is in keeping with the commemorative initiatives in the IC-3 District. It should present an attractive overlook for adjacent buildings. A pathway should be provided along its length, with consideration given to walking and cycling connections.

6.4 Central Open Space

The final configuration of the central open space should have a net area approximately equivalent to that originally proposed in the CD-1. (4 937 m² or 1.22 acres was proposed.) The design of this space should:

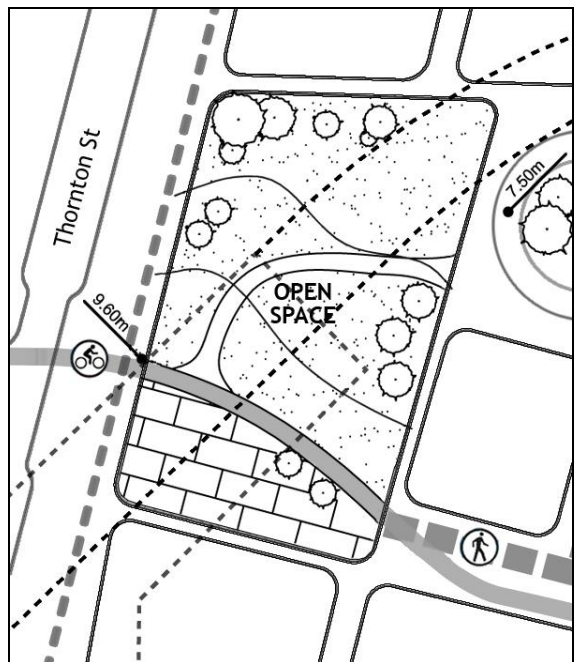
- (a) maintain the primacy of the central open space as a key feature in the planning and design of the campus;
- (b) anticipate the interim and final grading plan for the site (Figure 8 and 9);
- (c) be open and inviting for the public;
- (d) treat the central open space as an “urban room” that is flexible and serves multiple user groups, including workers, visitors, students and local area residents;
- (e) set an example of high civic design as a benchmark for future development in the area;
- (f) ensure safety and security by allowing for natural surveillance and guardianship from surrounding businesses and residents, and through the use of appropriate materials and equipment;
- (g) incorporate diversity through the use of distinctive landscape materials and design;
- (h) consider materials, i.e. plants, furnishings and lighting, that are long-lasting and durable;
- (i) maximize opportunities for users to enjoy the open space in inclement weather, for example, through dry pathways, fast-drying benches and shelters;
- (j) ensure that the space is fully accessible for people of all ages and abilities.

The central open space should be well integrated with its surroundings by:

- (a) giving strong spatial definition to the open space by the surrounding building facades;
- (b) creating strong connections into the central open space from gateways, along approaching streets and from the surrounding building edges;
- (c) Incorporating the open space into the surrounding walking and bicycling systems.

Figure 8 – Illustrative plan of the interim open space

Figure 9 – Illustrative plan of the final open space



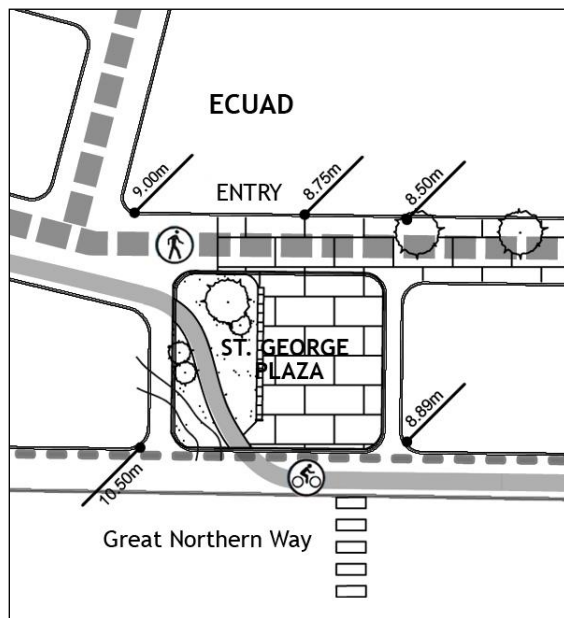
6.5 St. George Plaza

The St. George Plaza (Figure 8), will be established along Great Northern Way. Situated in alignment with St. George Street, this plaza like space will provide a 'front door' to Emily Carr University from Great Northern Way. The Plaza will also link to the St. George Rainway, a community initiative of the Mt Pleasant Public Realm Plan which seeks to create a naturalized storm water system in recognition of a historic waterway which extended along St. George Street from Kingsway to the False Creek Flats.

The design of the plaza should:

- Provide a terminus for the St. George Rainway and commemorate the historic stream through its design and public realm features.
- Accommodate the routing of the Central Valley Greenway through the site to connect to 1st Ave using a gently curving geometry to provide a safe and comfortable experience for everyone.
- Be based on the new final site grades (Figure 2) in order to provide a more direct route for the Greenway and eliminate unnecessary elevation changes
- Ensure the maximum usability of the open space for a wide range of passive recreational uses.
- Utilize design elements such as surface treatments to delineate the greenway and minimize conflict points.

Figure 10 – St. George Plaza Illustrative Plan



6.6 Private and Semi-Private Open Spaces

- Provide clear distinctions between public and private open spaces through the use of defined access points and edges, circulation systems, grade changes and the use of plant material, architectural elements and fencing.
- Provide a high degree of visual, but not necessarily physical, access into private landscaped spaces (yards and courtyards) through the use of openings in the building form, iron picket fencing, overlooks, etc.

6.7 Plant and Landscape Materials

- Use trees of sufficient caliper (minimum 75 mm) and height to create a reasonable impact when planted.
- Incorporate seasonal and coniferous planting.
- Avoid planting only one species of plant material except in special circumstances.

- (d) Use permeable materials and natural drainage processes, including channeling, ponding and percolation.

6.8 Broadway Subway Station and Environs

The Broadway Subway station will be located adjacent the central open space, the following should be considered in the design of the station:

- (a) Provide clarity in the relationship between the transit structure and the elevations of the street, platform and track levels.
- (b) Ensure that above-grade station elements contribute positively to the urban design of the campus (and conversely, that the below-grade elements are buried and out of sight).
- (c) Allow for mixed uses at the future station for a better interface between the station and the open space by giving opportunities for transit riders to pause and linger.
- (d) Minimize grade changes between the street, the central open space and the station entry.
- (e) Ensure a clear distinction, or hard line, between the station area and the adjoining open space, and ensure that there is no erosion of the proposed amount of open space throughout the station's design and implementation.
- (f) The station should have a presence at the urban scale, complementing the park and surrounding buildings.
- (g) The station should be a strong design solution. It should be open, transparent, welcoming, safe, bold and well lit at night.
- (h) Safe and convenient access to a future public bike share station between the transit station and bicycle network that minimizes conflicts with pedestrians.

6.9 Lighting

Exterior lighting should be used to ensure safety and security, and to focus attention toward site and architectural features.

- (a) Street lighting should be in accordance with Engineering Services standards and requirements, with a consistent and integrated system used throughout the Campus Lands.
- (b) Site lighting should confine the spread of light to within a development's property boundaries. Fixtures should be oriented away from public view. Lighting should be sited and specified so as to minimize direct glare impact on adjacent properties, surrounding streets and nearby residential developments. The use of concealed sources is encouraged.
- (c) Short-masted and local area lighting is preferred over high-mounted, general site lighting.
- (d) Walking and cycling pathway lighting should be configured to primarily illuminate the walking and cycling surfaces.
- (e) Landscape lighting, such as uplighting of trees, backlighting of walls to silhouette trees, underbrush lighting of groundcover, is encouraged.
- (f) Accent lighting of prominent site features, such as ponds, fountains and works of arts, is also encouraged.
- (g) Entrances to buildings and dramatic multi-storey interior spaces should be illuminated to enhance their visibility and significance after dark.

7 Signage

- (a) Signage should be consistent and integrated throughout the site.
- (b) A building's signage should be incorporated into its architectural design.
- (c) Retail signage should be incorporated in or near the canopy, visible from the sidewalk and street, and of high quality materials.

8 Sustainability

8.1 Trees and Vegetation

- (a) A variety of native trees and vegetation should be provided to minimize maintenance, water use and integrate the planting design into the traditional landscape character as much as possible.

8.2 Water

- (a) Permeable surfaces should be maximized to reduce stormwater runoff and recharge groundwater.
- (b) Consider on-site management of stormwater runoff.

8.3 Soils

Topsoil should be retained, where possible, to provide a rich basis for site planting and landscape development.

8.4 Transportation and Connections

- (a) Walking and cycling should be encouraged by linking development to adjacent bikeways, greenways and other pathways.
- (b) Design for green mobility through transit-oriented design, emphasis on non-automotive transportation, appropriate parking standards for cars and bikes, and enhanced opportunities for public bike share, car-share and electric vehicles.
- (c) Convenient, safe and accessible pedestrian and bicycle connections should be provided to major bus and SkyTrain/subway routes.

8.5 Energy

- (a) Buildings should be oriented to maximize solar orientation, taking into consideration building placement and planting design.
- (b) Building materials, systems and construction methods should be considered to conserve energy and reduce long-term operating costs.
- (c) Create opportunities for sustainable green energy through integration of all new buildings, where feasible, with the SEFC Neighbourhood Energy Utility.

8.6 Solid Waste

- (a) A comprehensive waste management plan should be considered among landowners that can provide recycling and reuse in close proximity by the various industrial, retail and high-tech uses.
- (b) Recycling facilities should be provided for each development.

8.7 Green Buildings

- (a) Buildings should embody green building and passive design. Green elements may include green roofs and terraces, roof top gardens, trees and plantings on upper levels and balconies, green walls, and supports for vertical plant growth.

9 Crime Prevention through Environmental Design (CPTED)

- (a) The design of the Great Northern Way site will take into consideration the principles of CPTED appropriate to an institutional and office environment. Each development proposed for the site, and the design of the public realm, should be subject to a CPTED review. Particular attention should be paid to incorporating CPTED principles into the design of the Broadway Subway station and the adjacent open space.

10 Phasing

The Campus Lands will be the primary staging area for the construction of the Broadway Subway Line. To accommodate this, development will occur in two phases (pre and post Broadway Line completion).