Corporation of the City of
NEW WESTMINSTER

Attachment 1

Design Guidelines

NEW WESTMINSTER

Queen Elizabeth Elementary School Design Guidelines

April 2022

1. Overview

The intent of the guidelines listed below is, in consultation with the City of New Westminster (the "City"), for the addition to Queen Elizabeth Elementary School to achieve the following urban design objectives:

- Implement good design and massing to highlight the expanded elementary school as a significant educational facility for the School District and residents of Queensborough.
- Ensure the expanded school is designed as part of a larger campus of community amenities and facilities, and compliments the surrounding context.
- Maximize walking, cycling and transit access to the site and minimize impacts of vehicular parking and circulation on the public realm.
- Follow an integrated design process that considers all appropriate building and site sustainability features.

2. Building Siting, Massing and Design

The form and massing of buildings should showcase a high level of design and creativity, respecting the pedestrian scale of the surrounding neighbourhood.

a. Use high quality materials and an architectural approach (e.g. massing, facade treatment, detailing, materials and colour choice) which is harmonious with the riverfront community context.
b. Design the addition to respect and enhance the existing elementary school context and bridge the transition between the older building and the newer taller addition.
c. Consider enhancing the entryway to the existing elementary school with new architectural detailing or public art, providing a more prominent entrance to the school.
d. Design entrances to have a clear hierarchy from main entrances to secondary student/teacher access, to service access.
e. Ensure the siting and massing of the addition respects the existing school, the Community Centre, adjacent residential lands, and adjacent passive and active outdoor uses.

f. Design the addition to minimize blank walls. Consider creative use of features such as clear storey windows, interesting materials, art, landscaping treatments and colour to provide visual interest.
g. Locate detached accessory structures such that they will be screened from streets and open space.
h. Optimize access to natural daylight.
i. Neighbourhood Learning Centre (NLC) uses should be located such that there is easy access to the outside. Ensure the entry from the outside is identifiable and clearly visible to the public.
j. All rooftop mechanical and service equipment should be screened in a way that incorporates it as an integral part of the building's architectural design.
k. Ensure any mechanical systems located outside of buildings, including emergency generators, are in compliance with Noise Bylaw. Ensure mechanical units are situated and designed to have the least impact on neighbouring properties.

3. Parking and Vehicular Circulation

Parking and vehicular circulation is largely established on the site, but in adding spaces for the growing school community, parking and circulation should be compliant with design criteria and bylaw requirements. As a general principle, the parking should avoid negative impacts on the school and public pedestrian environments, and to adjacent properties.

a. Explore reduced parking provisions where carpool and other trip-reduction measures are incorporated into the development that can be demonstrated to reduce parking demand.
b. All pick-up and drop-off functions must be accommodated on-site and should not interfere with pedestrian, cyclist or transit access to the site.
c. Integrate electric vehicle charging stations and new vehicle technologies into parking within the site.
d. Design a landscaped buffer that provides clear delineation between surface parking and adjacent uses, particularly outdoor play spaces.
e. Loading bays should be screened and located to avoid conflict with non-motorized users of the site.

4. Pedestrian/Cyclist Circulation and Comfort

Pedestrian and cycling circulation is largely established on the site, but improvements should help create a high quality, comfortable and pleasant experience for pedestrians and cyclists around and/or through the site during school and extracurricular hours, for example by providing spatial definition of outdoor spaces, circulation, building entries and capitalizing on desire lines.

a. Consider providing for public access through the site, to allow for future connection of the Mid-Island Trail network.
b. Explore opportunities to improve pedestrian circulation within the site, ensuring safe circulation by distinguishing areas for walking and cycling from areas for parking, motor vehicle circulation and loading.
c. Apply Universal Design Principles, with safe access that is suitable for all ages and abilities throughout the site, including from the street to building entrances. Provide smooth, non-skid walking surfaces and sloped walkways with maximum 5% slope.
d. Building entries shall be clear and coordinated with circulation patterns and landscaping elements.
e. Provide end of trip facilities in close proximity to building entrances for people who are cycling, including secure, for conveniently located, covered bicycle parking, meeting or exceeding the requirements of the Zoning Bylaw.
f. Provide a strong connection to the Queensborough Community Centre and park spaces.

5. Outdoor Spaces

Outdoor spaces should be thoughtfully designed, versatile and flexible, to meet the diverse programmatic needs of students, children in child care, staff and visitors. All outdoor space will serve to maximize daylight and provide functional space that is comfortable for a variety of ages and users.

a. Provide high quality, interesting, and durable outdoor spaces. Coordinate the design of all elements including lighting, paving, outdoor furniture, and garbage/recycling receptacles.
b. Consider providing covered outdoor play areas below the flood construction level within the building footprint of the addition.
c. Consider incorporating overhangs, canopies and/or trees for shade and rain protection over a portion of outdoor gathering areas.
d. Identify locations for future integration of public art within the architecture of the site.

e. Consider how views into or from the addition will create a connection to outdoor areas.
f. Avoid creating hidden corners, alcoves, and areas with limited surveillance opportunities which may be used by the public after traditional school hours. Ensure seating (whether formal, such as benches, or informal, such as retaining walls, etc) are placed in areas that are conducive to groups of people gathering with adequate surveillance and lighting.

6. Landscaping

Abundant landscaping should be used to soften the urban landscape, enhance access to nature, and support stormwater infiltration.

a. Retain mature trees on the site as per the City of New Westminster Tree Protection Bylaw. Develop a complete tree management plan in consultation with a certified arborist to ensure any retained or relocated trees will be protected throughout construction and will thrive once construction is complete.
b. Provide shade trees and other native planting as often as possible adjacent to hard surface areas, such as walkways, building entrances and parking areas. Centre of tree to be planted min. 2.0m from the edge of paved and concrete surfaces. If minimum setback requirement is not met, provision must be made for placement of soil infrastructure (i.e. soil cells) below paved areas.
c. Locate native plantings to create a comfortable environment for people, provide habitat value, minimize the urban heat-island effect, and intercept precipitation, as well as to soften the views and reduce the visual scale of parking areas from the sidewalk and street.
d. Consider enhancing building energy efficiency by locating deciduous trees on the south and west side of buildings to provide shade in summer and allow sunlight through in winter.
e. In general, choose hardy, climate-adapted, perennial plant species that reduce the need for maintenance and irrigation.
f. Design landscapes and hard surfaces, including playing fields, parking areas, planters and decorative landscape areas, to incorporate low-impact stormwater retention features such as rain gardens that retain and/or infiltrate stormwater run-off. Also consider stormwater collection and storage in cisterns to use for landscape irrigation. Directions from the City's Integrated Stormwater Management Plan should be applied.
g. Consider providing space for student and community urban agriculture activities.

7. Sustainability, Energy and Emissions

The intent is to minimize environmental impacts optimize and energy conservation opportunities through application of passive design principles and by encouraging use of alternative energy sources and the use of high quality durable materials with a long lifespan.

a. If the heating and ventilation systems are independent from the existing school building, the school addition should be constructed to BC Energy Step Code 3 standard for new construction. The City is supportive and encourages the School District to pursue a higher performance standard to maximize energy costs savings over time:

    1. The addition should be highly energy efficient, minimize greenhouse gas emissions and incorporate innovative, low impact energy sources.
    2. Passive Design principles should be an integral part of all new and upgraded buildings, with the addition constructed and landscaped to maximize benefits and minimize impacts from sun, wind, rain and other environmental factors.
    3. Minimal energy and emissions should be produced for construction and operation, including the operation of construction machinery and the embodied energy and greenhouse gases related to fabricating construction materials.

b. Buildings should be designed to minimize impacts on occupants and neighbours, including noise, vibrations, traffic, emissions and visual and light intrusion.
c. Orient and mass buildings to maximize opportunities for passive solar heating and cooling and natural lighting and ventilation. Buildings should be designed with full life-cycle costs in mind, including capital costs, operating costs, rehabilitation costs and the costs of decommissioning the building at the end of its functional life. Use local, renewable materials wherever possible.
d. Design roofs to minimize energy used for cooling. Natural features that reduce energy requirements and urban heat island microclimates, such as green roofs, should be integrated to the extent possible.
e. Use exterior shading devices designed to shade during the summer and provide solar access in winter. These may be adjustable, such as fixed awnings, or fixed, such as projecting roofs, light shelves, fixed fins and similar features.
f. Use glazing technologies that allow daylight penetration into buildings and minimize heat conduction.
g. Select exterior materials with low embodied energy and long lifespan to minimize energy used in building construction.

h. Buildings and infrastructure should be constructed with durable, low impact materials that include a significant component of natural and renewable materials.
i. There should be negligible waste from construction by-products and practices. On-site building materials, including wood, aggregate and soils, should be retained, recycled, repurposed or reused to the extent possible.
j. Strive to absorb rainwater on site and replicate natural infiltration processes to the extent possible. If stormwater cannot be infiltrated on site, provide a detention system designed to reduce the 25 year post development peak flow to the 25 year predevelopment peak flow.

10. Solid Waste, Recycling, Compost, Water and Wastewater

The location of recycling, garbage and compost receptacles should be given thoughtful design to encourage the reduction of solid waste and promote sustainability.

a. Receptacles and space allocation for 3-stream collection facility must be adequate for size of property. Enclosures should be well designed and storage of receptacles should be secured. Ensure the property has adequate and designated areas for servicing of the receptacles within the property lines, accessible to both staff and service trucks.
b. Reduce the impact of odor from compost bins through careful location and an enclosed design complementary to the design of the building.
c. Waste facilities should be located to minimize visual impact and odor.
d. Install or provide space for 3-stream (compost, recyclable, waste) collection within any food preparation areas and staff rooms of the building.
e. Landscaping and plumbing fixtures should reduce the use of treated water as much as possible and the capture and re-use of rainwater should be maximized.
f. Wastewater returned to the sewer system should be minimized, being treated locally where possible, and consideration should be given to using wastewater as a resource, such as for irrigation, fertilizer or heat.
g. Waste to landfill from construction, operation and future deconstruction activities should be minimal and building components should be designed to be recycled, reused and repurposed.

8. Urban Archaeology

Historic artefacts that are buried beneath a City are the fragile physical remains of the history of the area and can represent a variety of historic timelines and cultures. Archaeological artefacts that date from prior to and including the year 1846 are protected by the Heritage Conservation Act and fall under the auspices of the provincial

Archaeology Branch. For post-1846 artefacts, the following should be applied to the school site:

a. New Westminster Museum and City Planning Division and a professional Archaeologist should be notified by the School District when an artefact or evidence of unexpected human activity (e.g. foundations or footings) is found.
b. City staff will conduct a site visit, assess and document the artefact(s) and determine if a professional Archaeologist should be contacted for further analysis.
c. In the event that the Museum is not called for a site review, the property owner/contractor will be encouraged to document the location of the artefact(s) with photographs prior to removing the items, followed up with close-up photographs of the items. The Museum will accept copies of this information.
d. Although any found items belong to the property owner, the City would appreciate the opportunity to accept any donations of found artefacts.