



ADMINISTRATIVE REPORT

Report Date: June 29, 2018
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Meeting Date: July 11, 2018

TO: Standing Committee on City Finance and Services

FROM: General Manager of Real Estate and Facilities Management in consultation with General Managers of Parks and Recreation, and Arts, Culture and Community Services, and Chief Librarian of the Vancouver Public Library.

SUBJECT: Britannia Renewal – Approval of Master Plan

RECOMMENDATION

- A. THAT Council approve the Britannia Renewal Master Plan (attached as Appendix A), as the basis for renewing and transforming the site over the next ten to twenty (10-20) years.
- B. THAT Council direct staff to proceed with the next phase of the Britannia Renewal with Site Partners (the City of Vancouver, the Britannia Community Services Centre Society, the Vancouver School Board, the Vancouver Public Library and the Vancouver Park Board), including site rezoning and design development options and report back to Partner Boards and Council.
- C. THAT Council endorse the following funding strategy to support the implementation of the Britannia Renewal Master Plan:
 - Allocating property tax funding toward the renewal components included in the Master Plan, including approval of \$10 million from the 2015-2018 Capital Plan and, subject to Council approval on July 25, \$5 million from the 2019-2022 Capital Plan to support the rezoning and design development options and implementation of the first phase of the Master Plan;
 - Allocating development contributions, such as Community Amenity Contributions and Development Cost Levies, to support the growth-related components included in the Master Plan; and

- Pursuing Federal and Provincial government funding toward the implementation of the Master Plan, with high priority given to pursuing funding for the construction of the first phase of the Master Plan.

Expenditures in 2018 to be managed within the current overall Annual Capital Expenditure Budget; expenditures for subsequent years to be brought forward as part of the annual Capital Budget process.

REPORT SUMMARY

This report provides an overview of the Britannia Renewal Master Plan which is the culmination of a comprehensive multiple-partner planning and community engagement process. The Master Plan lays out a long-term vision for the renewal of the Britannia Community Services Centre (BCSC) and the 18 acre site on which it sits. The project represents a significant collaboration of the five (5) Site Partners who are the City of Vancouver (COV), the Britannia Community Services Centre Society (BCSCS), Vancouver School Board (VSB), Vancouver Public Library (VPL) and Vancouver Park Board (VPB). The Master Plan provides a clear long-term framework to guide development of the Britannia site. The Master Plan was shaped by Site Partner and community priorities established through a robust year-long public engagement process.

Situated in the heart of Grandview-Woodland, a thriving medium-density neighbourhood, Britannia is a community facility co-located with a community centre, childcare, family place, seniors and youth centre, library, swimming pool, ice rink, elementary school and secondary school. Britannia provides a wide variety of services and programs to support the northeast quadrant, including the diverse populations of Grandview-Woodlands, Strathcona to the west and Hastings-Sunrise to the east.

This community is home to members of the local Musqueam, Squamish, and Tsleil-Waututh First Nations, and a significant number of urban Indigenous peoples including First Nations, Métis and Inuit from across British Columbia and the rest of Canada. By raw numbers, the community's 2195 Indigenous residents account for almost a fifth (18%) of Vancouver's off-reserve urban Indigenous population, the largest number living in any neighbourhood.

The Master Plan seeks to reinforce and build on existing successes by renewing the 1976 facility and public realm and providing new spaces to meet expanding current and future community needs. Key Partner and community values, sound urban planning principles, and important city objectives addressing affordability, sustainability, reconciliation and liveability form the foundation of the Master Plan. The Master Plan strives to maintain the distinct character of the area, improve housing diversity and renew the site in a phased approach that allows the five Site Partners to continue to deliver programming during construction and meet their strategic objectives throughout the entire renewal process.

Staff have sought alignment and received support from the Partner Boards at significant milestones throughout the project, including sharing the preferred Master Plan concept in Spring 2018. The final Master Plan report is being shared with Partner Boards for endorsement. The BCSS provided approval in principle on June 13, 2018 and the VPL

Board endorsed the report on June 27, 2018. Staff will bring the final master plan to the VPB on July 9, 2018 and to the VSB on July 2, 2018 to seek their endorsement.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

Britannia Renewal was established as a Council Priority through the 2015-2018 Capital Planning process. Relevant plans and strategies include:

- Grandview-Woodland Community Plan (2016)
- City of Reconciliation Framework (2014)
- Greenest City Action Plan (2011, updated 2015)
- Transportation Plan 2040 (2012)
- Healthy City Strategy 2014-2025 (2014)
- Creative City Culture Plan 2008-2018 (2008)
- Cultural Facilities Priorities Plan (2008)
- Housing Vancouver Strategy (2017)
- Age Friendly Action Plan 2013 – 2015 (2015)
- Heritage Action Plan (2013)
- Building a Path to Parks and Recreation for All: Reducing Barriers for Trans and Gender Variant Community Members (2014)
- Park Board Strategic Framework (2012)
- Parks and Recreation Services Master Plan (in process - 2019)
- VanSplash, Vancouver Aquatic Strategy (in process - 2019)
- Urban Forest Strategy (2014)

In addition to the aforementioned policies, the Master Plan was developed to align with relevant strategic policies of the Partner Boards.

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The General Manager of Real Estate and Facilities Management and the General Manager of Finance, Risk and Supply Chain Management recommend that Council endorse the Master Plan in principle and direct staff to proceed to the next phase of work, with funding to be incorporated in the 2019-2022 Capital Plan.

REPORT

Background/Context

Britannia has its origin in cooperative community action. Local citizens and various civic agencies created the BCSCS organization in 1974 to coordinate and integrate a wide range of human services. When opened in 1976, the BCSC pioneered an integrated service delivery model. Over the years, this model has garnered much interest from other communities who have sought to learn from its innovative methods.



Figure 1 – Aerial of Existing Britannia Site

The BCSC (*Figure 1*) spans over two parcels of land owned by the VSB and COV, and operated through a tripartite agreement with the BCSCS. Although the review of ownership and operating agreements was not part of this Master Plan, the Plan has been developed with the consideration of clarifying future operational responsibilities. Staff will continue to work closely with the VSB and BCSCS on this through the next phase of rezoning work.

There is wide-ranging community support for the renewal of the BCSC, and there has been a considerable amount of community-based effort to advocate for the renewal of Britannia prior to this Master Plan.

In 2007, the BCSCS developed a Facilities Master Plan to investigate and assess the condition of the buildings and to establish a basis of space programming on the site.

In 2011, the BCSCS developed a Strategic Master Plan that provided the BCSC with a vision, principles, and a number of site concept options intended to guide future planning work. This BCSC-led study was developed with some involvement and feedback from Site Partners, but without a collaborative governance model in place or dedicated Partner staff assigned to the project.

This 2018 Britannia Renewal Master Plan builds on previous work and defines the scope, priorities and phasing of the renewal of the entire 18-acre site. It has been developed with the full participation and support of the five (5) Site Partners (COV, VPB, VPL, VSB, and BCSC) and a robust year-long public engagement process that builds on community direction established through the Grandview-Woodland Community Plan.

The 2015-2018 Capital Plan allocated funding for the first phase of the Britannia Renewal process. Although the 2015-2018 Capital Plan indicated that the initial phase of work is focused on the portion of the site which contains the swimming pool, fitness centre, the Gym C building and the information centre, an overall site phasing strategy was required to prioritize renewal in a way that accommodates the needs of all Partners. Phasing recommendations needed to be confirmed based on a vision and program

verification developed in consultation with the Site Partners and greater community. This project was guided by the recommendations of the Grandview-Woodland Community Plan, including directions from the plan to seek ways to mobilize air parcels in the Britannia site to achieve plan objectives for social housing through co-location with other public facilities, provided there is no loss of green space.

The Britannia Renewal Master Plan is the result of a comprehensive engagement with community members, service providers and Partner staff and Boards. It represents a distillation of many voices and a record of the needs, dreams and aspirations of the community for Britannia's renewal.

Strategic Analysis

1) Reconciliation

Reconciliation informed both the project process and the Master Plan outcome. As a key part of the project process, the Partners have engaged with Indigenous community members, service providers, and advisors to ensure their voices are heard and their needs are reflected in the design of the Master Plan. The process also included liaising on the project at a government-to-government level with the Musqueam, Squamish and Tsleil-Waututh Nations at regular meetings and an Open House held at the Musqueam Community Centre. Indigenous-focused public engagement on the project included: a visionary speaker from Reconciliation Canada, focus groups led by Indigenous facilitators, one-on-one meetings with community leaders, regular visits with Indigenous elders to build relationships and seek guidance, an Indigenous youth workshop, online and print surveys, walking tours, and an Indigenous-led design charrette.

The entire year-long public engagement process was opened and closed with Indigenous ceremony. The first visionary speaker who set the tone for the project was Yvonne Rigsby-Jones of Snuneymuxw First Nation who spoke on the significance of grounding the Master Plan process in a dialogue of Reconciliation. The engagement process also saw some significant innovation in Indigenous Engagement for the COV. The City's first ever Indigenous Engagement Specialist was dedicated to the Master Plan project, and led a unique, relationship-focused process. Part of this process was the first ever Indigenous-led Design Charrette co-lead by BC's first and only female Indigenous architect.

2) Community Engagement

An in-depth community consultation process was undertaken to gather feedback and ideas from the community including service providers, residents in the area, BCSC users, and those who do not currently access the facilities. A Vision Report documents the first phase of the engagement process where the community was engaged through a wide variety of events and workshops with the goal of creating a substantive basis for the Master Plan process. Partner and community engagement continued throughout the following phases of work, including Program Verification, exploration of Master Plan concepts, and the development of the preferred Master Plan.

Over 3,500 touchpoints have been recorded in the engagement process. Engagement activities and events in the visioning phase included:

- Indigenous Engagement

- Focus Groups (Including LGBTQ2+, Newcomers, Seniors and Youth, and others)
- Spaces and Places Workshops
- Open Houses
- Visionary Speakers' Series
- B-LAB! (Britannia Renewal Lab)
- Program Verification Workshops
- Community event outreach

Engagement in the Concept Design and Master Planning phases included:

- Concept Options Open House
- Master Plan Presentation

The goal of the first phase of public engagement activities was to develop the values and principles that should guide the Britannia Renewal. Through this and subsequent phases of the engagement process, staff have developed an effective working process with the Site Partners and community individuals and organizations.

Together with the Site Partners, staff intend to maintain and build on those existing relationships as we move into implementation through rezoning and detailed design in the next phases. Further public engagement will provide feedback on issues related to form of development. Public consultations built into the rezoning and permitting processes will serve as feedback mechanisms.

3) Shared Values

The engagement process worked to develop a set of shared values that were used to frame priorities for the renewal of Britannia. Key themes that emerged during visioning sessions with the Partners and community engagement included:

- Take action on reconciliation
- Honour history and culture
- Value sharing and caring
- Be accessible, welcoming, and safe for all
- Support wellbeing and growth of the individual and community
- Optimize resilience and sustainability

4) Renewal of Britannia's Spaces and Places

The community places a high value on Britannia's vital role as a multi-use community services hub - a one stop shop for active living, learning, arts and culture, and social development.

Recognizing that the facility can be more than the sum of its parts, it is important to capitalize on synergies between programs, service providers and community members. Throughout the engagement process, commonly identified barriers to use at Britannia include lack of flexible and integrated multi-use and gathering spaces, site and building accessibility challenges, Crime Prevention Through Environmental Design concerns, and challenges in wayfinding and visibility within the community.

Through a series of Spaces and Places workshops and Program Verification sessions with staff and stakeholders, space needs were identified for specific program areas. These were grouped into broad categories based on the focus of services being provided as follows:

- Shared Public Space - Community living room - space for casual engagement;
- Food Hub - Community kitchen, garden and dining space;
- Social Development - Childcare, youth and seniors spaces, meeting space for advocacy, education, and organization;
- Arts and Culture - Spaces for making, rehearsing, and exhibiting and gathering spaces for performance, celebration, and ceremony;
- Library - Supporting life-long learning;
- Recreation - Active Living facilities supporting sport for life including aquatics, ice rink, gymnasias, fitness centre, multipurpose fitness studios and specialized facilities such as martial arts or gymnastics;
- Public Realm - Outdoor places for performance, gathering, recreating and just hanging out; and
- Non-Market Housing – Opportunities to locate approximately 200-300 non-market housing units with no loss of green space have been identified in the Master Plan.

The outcome of the workshops resulted in overall program areas required to accommodate the identified space needs. Figure 2 illustrates the relative proportion of program space for a renewed Britannia, and Figure 3 indicates existing program areas in lighter colour with growth through the Master Plan indicated in saturated colour above.

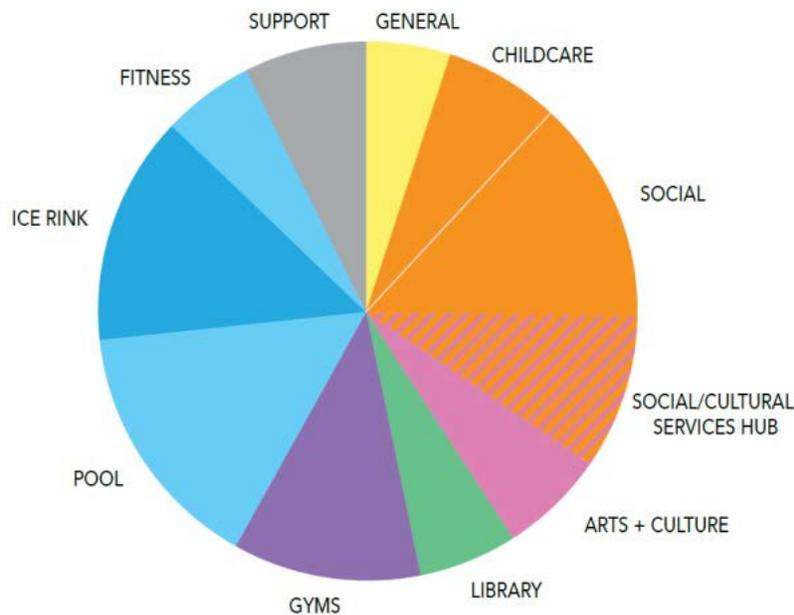


Figure 2 – Program Space in the Renewed Britannia

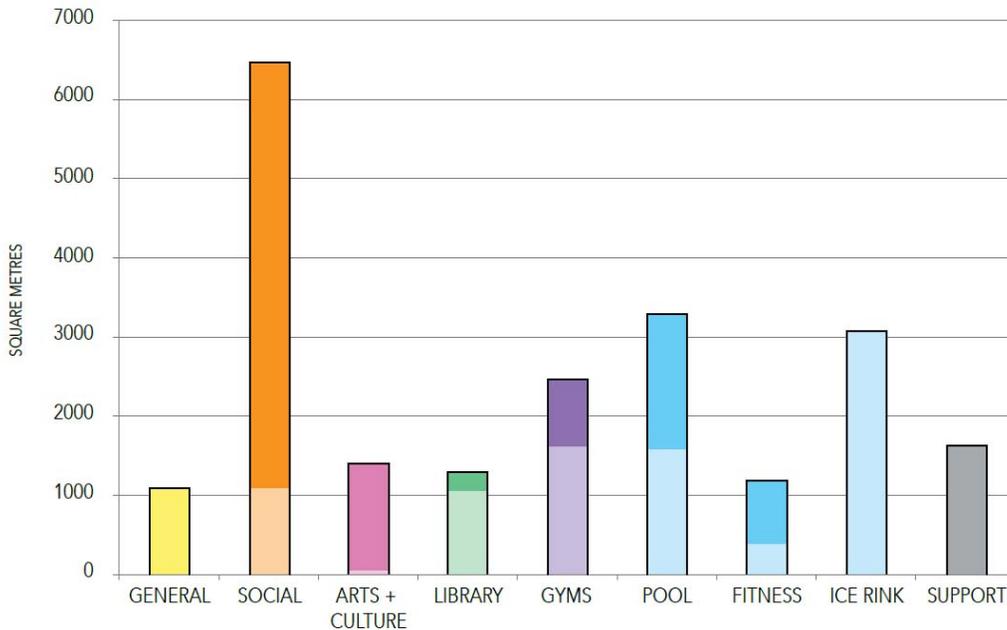


Figure 3 - Comparison of Areas Before and After Renewal

The Master Plan

The Master Plan evolved from a combination of technical requirements, space needs, policies, urban design best practices, and community input from the Visioning and the Concept Options consultations.

The Master Plan includes:

- A Vision to inform both the Master Plan and future design work.
- Indoor and outdoor space needs that inform the types and sizes of recreation, social development, arts and culture, and library spaces to meet future needs at Britannia.
- Location of all the spaces and places on the site.
- Phasing of the spaces and places to be developed over the multi-year Britannia Renewal project.
- The Master Plan will be used as the basis for site rezoning and the realization of Britannia’s renewal.

Key planning elements include:

- A central Common gathering and event space
- A greenspace connection or Play Way connecting the site to Grandview Park
- Extending street right of ways into the site as fully accessible Pedestrian Promenades
- Framing and maintaining the “grand” views of the city and mountains from key places
- Locating the Carving Centre as a gateway to site
- Adding significant green space to the site through greenways and intensive native plants and trees

- Incorporating water play in central gathering space
- Consolidating social and cultural services to create a sharing and caring place
- Building community and resilience through a central food hub
- Locating Childcare on lower roof tops with large outdoor play decks
- Including affordable non-market housing above community facilities

Figure 4 illustrates the general arrangement of buildings and spaces on the site. Dashed lines show the envelope within which non-market housing could be developed and are not intended to represent building form or design. Building numbers align with project phasing order.



Building 1
 Aquatics
 Fitness + Gym C
 Childcare
 Non-market housing

Building 2
 Rink
 Rooftop Sport Park
 Non-market housing

Building 3
 Library
 Art Gallery
 Childcare
 Non-market housing

Building 4
 High School Shops
 + Classrooms
 All Weather Field above

Building 5
 Event Spaces + Food Hub
 Social Hub + Art Studios
 Meeting Rooms + Gym D
 Social + Cultural Non Profit Hub
 Street Front School + Urban Farm

** The uses indicated above are listed on a floor by floor basis starting from the ground up

Figure 4 – The Master Plan

Key features include:

- The majority of the community facilities are located along the Parker Promenade
- 11% increase in total public realm/green space
- Easily achievable phasing - Phases 1, 2 and 3 do not interrupt operations or impact VSB spaces and allows the majority of the Renewal to be undertaken immediately
- Higher buildings are located on the north minimizing shadowing on the site and transitioning to adjacent allowable Industrial Zone height
- All development above community facilities, including Childcare and housing, is stepped back from the face of community facilities to minimize visual impact
- Field on top of VSB Shops/Classroom roof provides an accessible sports field for Elementary school and opens clear sight lines from Grandview Park
- Significant improvement to lanes with active public spaces spilling out
- Vehicular access concentrated on Venables Lane
- Pool and Rink adjacent - optimal for energy and operations efficiency
- Topography utilized to provide level access to a new Sport Park above the Rink
- Non-market, mid-rise housing above up to three community centre buildings provides much-needed affordable housing, while maximizing access to daylight and key view corridors
- Reduction in land allocated to surface parking lots

The Britannia Centre project will be built in several phases. A phasing plan has been developed which aligns with the timelines and strategic goals of all Project Partners. The plan is designed to limit interruption to services throughout an incremental implementation of the Master Plan. The first building will include the pool, recreation centre, a childcare centre and housing, to be located west of the existing ice rink. Refer to Master Plan Report Section 5.9 for detailed phasing.

Implications/Related Issues/Risk

Financial

It is estimated that \$410 to \$490 million (2018 dollars) in funding is required to implement the Master Plan:

	Renewal component:	New/expansion component:	TOTAL:
Community facilities	\$95-\$110 M	\$140-\$170 M	\$235-\$280 M
Childcare	\$5 M	\$15-\$20 M	\$20-\$25 M
Affordable housing	n.a.	\$115-\$130 M	\$115-\$130 M
Other: public open space, site development, etc.	\$30-\$40 M	\$10-\$15 M	\$40-\$55 M
TOTAL	\$130-\$155 M	\$280-\$335 M	\$410-\$490 M

The proposed funding strategy to implement the Master Plan includes:

- allocating property tax funding toward the renewal components;
- allocating development contributions, such as Community Amenity Contributions and Development Cost Levies, to support the new/expansion components; and
- pursuing Federal and Provincial government funding toward both the renewal and new/expansion components.

Given the scale of this project, it is anticipated that implementation will take 10 to 20 years. The implementation time frame will be shortened if the City is successful in securing senior government funding, and it is recommended that the City pursue funding toward construction of the first phase of the Master Plan, which includes renewed and expanded community facilities, additional childcare and new affordable housing.

The initial phase of work includes rezoning process to update the CD-1 zoning by-law governing the site and the design of the first building, at an estimate cost of \$15 million. Proposed funding for this work is as follows:

- \$10 million from the 2015-2018 Capital Plan:
 - \$7 million remaining from the allocation to Britannia Centre renewal (funding source: property tax); and
 - \$3 million remaining from the allocation to childcare renewal (which was anticipated to fund the renewal of the childcare at Britannia Centre) (funding source: property tax);
- \$5 million from the 2019-2022 Capital Plan (funding source: property tax), subject to Council approval of the 2019-2022 Capital Plan.

Expenditures in 2018 will be managed within the current overall Annual Capital Expenditure Budget; expenditures for subsequent years to be brought forward as part of the annual Capital Budget process.

Capital investments, especially for new and/or upgraded amenities, often result in ongoing financial implications associated with programming and facility operation and maintenance. The expanded community facilities at Britannia are anticipated to generate additional operating revenue which can offset a portion of the increased operating costs.

Consistent with Council policies, affordable housing projects are expected to be self-sustaining over the long term where rents are set at levels that will cover mortgage payments (to repay some or all of the construction costs), operating costs and capital replacement, and do not require further operating subsidies, property tax exemptions, and/or financial guarantees from the City. To achieve the Housing Vancouver income targets and the necessary level of affordability, the City will need partnership funding such as Provincial rent supplements, BC Housing, CMHC, and/or non-profit and partner equity contributions.

The budget impact will be presented to Council with each phase as the Master Plan is implemented.

Environmental

A Phase I Environmental Site Assessment was performed in 2017, and it was concluded that there is a potential for constituents of concern associated with on and off-site soil, groundwater, and/or vapour contamination at concentrations greater than the applicable CSR land and water use standard. Further investigation is warranted and will be included in next phases of work as appropriate.

The public realm design of Britannia includes a number of sustainable site strategies focused on provision of ecological habitat, biodiversity and sustainable water management. These strategies include absorbent landscapes, rain gardens, infiltration galleries, and a focus on native plantings or non-native species well adapted to our climate.

As per City Council adoption of the Zero Emissions Building Plan on July 15, 2016, this project will be designed to be certified to the Passive House standard or alternate zero emission building standard, if viable, and use only low carbon fuel sources. The project include a ground source heat pump system designed to expand as building phases come on line and provide waste heat capturing from the ice rink to heat the pool and other spaces. On site renewable energy generation opportunities will be explored to achieve zero emissions.

Legal

As noted above, there has been a Tripartite Agreement in place amongst BCSCS, VSB, and the City for several decades setting out the day-to-day operational responsibilities of each party. The approval of the Master Plan will not alter or amend the Tripartite Agreement. However, if, as and when any new facilities contemplated by the Master Plan are brought back to Council for rezoning and development approval, this will likely require concurrent approval by Council, the BCCSS and VSB of amendments to the Tripartite Agreement to accommodate the new facilities as well as any land exchanges between the City and VSB that may be required.

CONCLUSION

The Britannia Renewal Master Plan provides a clear path forward for the redevelopment of the site. Staff recommend proceeding immediately on next phases of Britannia Renewal by continuing to work with the Site Partners and community in developing rezoning options and Phase 1 detailed design for the site, and reporting back to Partner Boards and Council as identified in the Master Plan.

* * * * *

Britannia

RENEWAL



MASTER PLAN REPORT

Britannia Renewal Master Plan
Britannia Community Services Centre



Vancouver Public Library



Britannia

RENEWAL

BRITANNIA RENEWAL MASTER PLAN
BRITANNIA COMMUNITY SERVICES CENTRE
MAY 2018

Prepared for:
City of Vancouver

Prepared by:
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*We would like to particularly acknowledge the many community contributors who gave tirelessly of their time and shared their thoughts and dreams towards a renewed Britannia. **Special Thanks to:***

Lindsay Grant, BCSC for her tireless support and organization of each event held at Britannia

Ian Marcuse, Grandview Woodlands Food Connection, and his team of volunteer chefs for preparing meals that sustained the community through each engagement event.

Nancy Strider and Chris Dahlton, community members who attended almost all of the dozens of community consultations and gave generously of their time and thoughts for renewing Britannia.

The following Elders honoured the community engagement process with their opening words and songs and set the project process on a right footing. We give thanks for their special contribution:

Vera Jones, Nisga'a Elder
Annie Danillo, Haida
Madeline MacIver, Metis
Anne Prince, Carrier Sekani
Norm Leech, T'it'q'et First Nation
Shane Point, Musqueam

A special call out to the folks that got us going and helped us celebrate - the Lax Kxeen Traditional Tsimshian Dance Group and the Carnival Band!

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EXECUTIVE SUMMARY

Britannia

RENEWAL

This project is a Master Plan for the renewal of the Britannia Community Services Centre (BCSC) and the 18 acre site it sits on. The project is a partnership with the City of Vancouver, the Britannia Community Services Society (BCSS), Vancouver School Board (VSB), Vancouver Public Library (VPL) and Vancouver Park Board (VPB).

The Britannia Renewal project is located on the unceded homelands of the Musqueam, Squamish, and Tsleil-Waututh Nations.

The new Grandview-Woodland Community Plan affirms that the City will work together with local First Nations and urban Indigenous residents to continue to acknowledge their long-standing presence, respond to the adverse impacts of colonialism, and strive, wherever possible, to forge new, positive, and constructive relations that offer benefit to all residents of the community.

Reconciliation is informing both the project process and the Master Plan. As a key part of the project process, we are engaging with Indigenous community members, service providers, and advisors to ensure their voices are heard and reflected in the design of the Master Plan, as well as liaising with the Musqueam, Squamish and Tsleil-Waututh Nations.

BCSC is more than a community centre - it is the heart of the community, providing a wide variety of services and programs to the diverse population of the Grandview-Woodland and Strathcona neighbourhoods. As an integrated multi-purpose facility, it is a place for all community members and provides many critical services for vulnerable community residents.

This Master Plan document is the result of a comprehensive engagement with community members, service providers and staff. It is a distillation of many voices and a record of the needs, dreams and aspirations of the community for Britannia's renewal.

ENGAGEMENT PROCESS

An in-depth community consultation process was undertaken to gather feedback and ideas from the community including service providers, residents in the area, BCSC users, and those who are not currently using the facilities. A Vision Report documents the first phase of the engagement process - Visioning - where the community was engaged in a wide variety of events with the goal of creating a substantive basis for the Master Plan process.

Following phases of work included Program Verification, exploration of Master Plan Concept Options, selection of a Preferred Option, and the detailing of a development strategy for phasing relative to funding available. The community was consulted as the Master Plan evolved.

There were over 3,500 touch points with community members in the engagement process. Engagement activities and events in the visioning phase included:

- Indigenous Engagement
- Focus Groups
- Spaces and Places Workshops
- Open Houses
- Speaker's Series
- B-LAB! (Britannia Renewal Lab)
- Program Verification Workshops
- Community event outreach

Engagement in the Concept Design + Master Planning phases included:

- Concept Options Open House
- Master Plan Presentation



SHARED VALUES

While diverse, the community of Britannia, as a whole, embraces cohesive shared values.

Key themes emerged during the community engagement that were commonly held to be of a prime importance in the renewal of Britannia:

- **Take action on reconciliation**
- **Honour history and culture**
- **Importance of sharing and caring**
- **Be accessible, welcoming, and safe for all**
- **Support well being and growth of the individual and community**
- **Optimize resilience and sustainability**

RENEWAL OF BRITANNIA'S SPACES AND PLACES

The community places a high value on Britannia's vital role as a multi-use community services hub - a one stop shop for active living, learning, arts and culture, and social development.

Recognizing that the facility can be more than the sum of its parts, it is important to capitalize on synergies between programs, service providers and community members.

It was widely acknowledged throughout the engagement process that the main barrier to improved use of Britannia is lack of space - whether it is meeting space, program space, or ice time.

Through a series of Spaces and Places Workshops and Program Verification Sessions with staff and stakeholders, a Community Vision and Space Needs have been identified for specific program areas. These are grouped into broad categories based on the focus of services being provided as follows:

1. **Shared Public Space** - Community living room - space for casual engagement
2. **Food Hub** - Community kitchen, garden and dining space
3. **Social Development** - Childcare, youth and seniors spaces, meeting space for advocacy, education, and organization.
4. **Arts + Culture** - Spaces for making, rehearsing and exhibiting. Gathering spaces for performance, celebration, and ceremony.
5. **Library** - Supporting life long learning
6. **Recreation** - Active Living facilities supporting sport for life including aquatics, ice rink, gymnasium, fitness centre, multipurpose fitness studios and specialized facilities such as martial arts or gymnastics.
7. **Public Realm** - Outdoor places for performance, gathering, recreating and just hanging out.
8. **Non-Market Housing** - Will be incorporated on the Britannia site. Details will be finalized during the rezoning stage.



CONCEPT OPTIONS

Three concept options were developed by the consultant team out of the Visioning and Program Verification processes. Input was provided from all Project Partners, and the refined Concept Options were presented to the public in a Concept Options Public Open house.

The Parker Concept (see right) was the preferred option of the three options. This option, combined with aspects of and feedback from the other two options, informed the final Option presented in this Master Plan.

MASTER PLAN

The final Option developed for this Master Plan is focused on the east side of the site along the Parker Street right-of-way, with the majority of the proposed facilities cascading down the length of the site to McLean. The community services and arts building provides programming to activate both the Commercial Mews and the Commons. The shops and specialty classrooms that are slated for demolition to accommodate the Commons are relocated under a new raised playing field with level access to the Elementary School. A phasing plan has been developed which aligns with the timelines and strategic goals of all Project Partners.

REALIZATION

The Britannia Renewal Master Plan is the first step in the City of Vancouver's long-term strategy to redevelop facilities for a renewed Britannia. When complete, the Master Plan will be presented to City Council with recommendations on phasing and capital commitments for the first phase of redevelopment. Subsequent steps will include rezoning the site, developing a detailed design, and construction.



The final massing of the Master Plan

A wide-angle, low-angle shot of the entrance to the Britannia Ice Rink. The building features a prominent sign above the entrance that reads "BRITANNIA ICE RINK". The entrance is flanked by two large, textured columns. To the left, there is a large window with decorative glass. To the right, a bicycle is parked near a trash can. The foreground shows a paved area with circular patterns. The entire image has a blue tint.

BRITANNIA ICE RINK

1 OVERVIEW

1.1 PROJECT SUMMARY

Britannia

RENEWAL

The vision for Britannia Renewal is to create a welcoming and inclusive community place for reconciliation, social connection and development, learning, cultural exploration and expression, play, and recreation - enhancing the life and well-being of all.

The City of Vancouver, in partnership with the Britannia Community Services Society (BCSS), Vancouver School Board (VSB), Vancouver Public Library (VPL) and Vancouver Park Board (VPB) have commissioned a Master Plan for the renewal of the Britannia Community Services Centre (BCSC) and the 18 acre site it sits on.

Britannia is located on the unceded homelands of the Musqueam, Squamish, and Tsleil-Waututh Nations. Undertaken with a reconciliation mandate, the Britannia Renewal project is actively working towards a sustained relationship of mutual respect and understanding with local First Nations and the Urban Indigenous community in both the project process and planning outcomes.

As a key component of the Grandview-Woodland Community Plan, the renewal and expansion of the BCSC is critical to ensuring there are appropriate community services and facilities to support existing residents and the additional 10,000 area residents expected in the next 30 years. The Community Plan also identifies the consideration of mixed income non-market rental housing on site as part of the redevelopment and replacement of the community centre over the long term.

The key challenge is to establish a phased renewal plan that allows continued operations and service delivery, addresses complex tenure issues, creates an authentic sense of place, and integrates the new development into the fabric of the neighbourhood.

As the city densifies, our public spaces are increasingly vital as the “living room” of the community. **BCSC is more than a community centre - it is the heart of the community**, providing a wide variety of services and programs to the diverse population of the Grandview-Woodland and Strathcona neighbourhoods. As an integrated multi-purpose facility, it is a place for all community members and provides many critical services for vulnerable community residents.

This project presents many opportunities to build upon existing partnerships, foster new connections, further integrate BCSC into the community, and revitalize a much loved community centre to reflect and serve the community.

Further, this project is an opportunity to reinforce the City’s commitment to creating affordable and sustainable communities by creating a Master Plan for a community services centre that is an integrated vibrant neighbourhood hub for fitness, leisure, recreation, library, seniors, education, community and childcare services. In addition to the community facilities, City Council has directed that the inclusion of low cost non-market housing be considered on the site.

Grounded in work done to date

The BCSC project builds upon the recent work completed to date for this site, ensuring that the dedicated work of the community is acknowledged and valued. This work includes the following:

- 2007 Master Plan by DGBK Architects
- 2009 Vancouver School Board Building Assessment
- 2011-2021 Capital Strategic Outlook
- 2011 Master Strategic Plan by HCMA Architects
- 2016 Grandview-Woodland Community Plan

Purpose of this Master Plan Document

This Master Plan will be used as the basis for rezoning of the site and phased development realizing renewal.

This Master Plan document is the result of a comprehensive engagement with community members, service providers and staff, and a distillation of many voices and a record of the needs, dreams and aspirations of the community for Britannia’s renewal. It includes a functional space program (types, sizes, and adjacencies of space needs) and a preferred design option. The vision it presents was created through a transparent and inclusive community process that worked to engage the unique and diverse communities of Grandview-Woodlands and Strathcona, and the service providers who work in those neighbourhoods.

1.2 PARTNER ASPIRATIONS

Project Goal

The Britannia Renewal Steering Committee will operate in partnership to deliver a Master Plan for the BCSC facilities and the entire 18 acre Britannia site that provides best value, in both economic and social outcomes, to the community by maximizing space through sharing and good stewardship. Reconciliation and Partner priorities will form a framework for the plan.

Partner Values

At the outset, the project Partners established key values to guide this project. They agreed that a renewed Britannia will:

TAKE ACTION ON RECONCILIATION

- Embed reconciliation and relationship building throughout the Britannia Renewal
- An Indigenous lens is to be applied to all spaces and places within Britannia's Renewal

EMBED SENSE OF PLACE

- Cultivate connections to support community socializing, engagement, activism, and celebration.
- Support building community partnerships to maximize service engagement effectiveness.

BE ACCESSIBLE, WELCOMING, AND SAFE FOR ALL

- Celebrate diversity in its programming and its users.

SUPPORT AND FACILITATE SERVICE PROVISION

- Integrated Community Service
- Life Long Learning and Education
- Social Development
- Active Living
- Arts and Culture

OPTIMIZE RESILIENCE + SUSTAINABILITY

- Show leadership in social, cultural, financial and environmental sustainability.
- Be adaptive and flexible for current and future needs.

EMBODY INNOVATION + EXCELLENCE

- Inspire curiosity and growth within users.
- Provide opportunity through service provision.

Guiding Strategies and Policies

The Master Plan will align with:

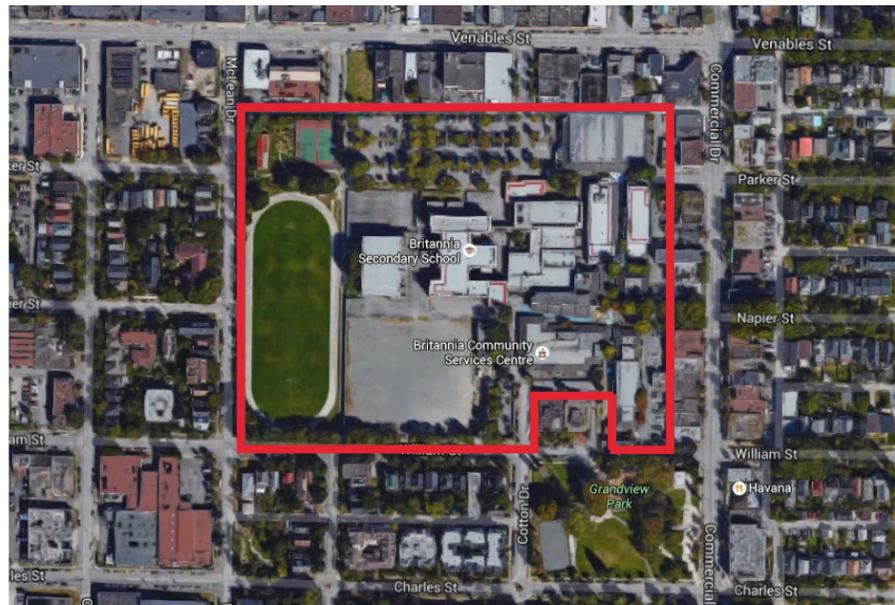
1. The Grandview-Woodland Community Plan
2. Approved City-wide Policies and Initiatives:
 - Grandview-Woodland Community Plan (2016)
 - City of Reconciliation Framework (2014)
 - Greenest City Action Plan (2011, updated 2015)
 - Transportation Plan 2040 (2012)
 - Healthy City Strategy 2014-2025 (2014)
 - Creative City Culture Plan 2008-2018 (2008)
 - Cultural Facilities Priorities Plan (2008)
 - Housing Vancouver Strategy (2017)
 - Age Friendly Action Plan 2013 – 2015 (2015)
 - Heritage Action Plan (2013)
 - Building a Path to Parks & Recreation for All: Reducing Barriers for Trans & Gender Variant Community Members (2014)
 - Park Board Strategic Framework (2012)
 - Parks and Recreation Services Master Plan (in process - 2019)
 - VanSplash, Vancouver Aquatic Strategy (in process - 2019)
 - Urban Forest Strategy (2014)
3. The policies of each of the Partner's Boards

Project Structure

The Britannia Renewal Master Plan project structure and decision making hierarchy are illustrated in the diagram below. The Partners Sub-Committee met biweekly with the Consultant Team throughout the project duration. The five site partner structure fostered ongoing collaboration throughout the project process and to the benefit of a cohesive mutually agreed upon project result.



1.3 BACKGROUND



The 18 acre site is owned by both the Vancouver School Board and the City of Vancouver.

Community Context

Britannia sits at the heart of the Grandview-Woodland neighbourhood, an engaged, eclectic, and deeply compassionate community. The community has a diverse social fabric - including one of the city's highest proportions of urban Indigenous residents. The urban Indigenous population of the area hail from First Nations and Metis communities across the country.

Britannia Community Services Centre History

The history of the current Britannia Community Services Centre (BCSC) and the Britannia site is as follows:

- 1911 Britannia High School built
- 1974 Community rallies to oppose viaducts and advocate for an integrated community services centre
- 1976 Britannia Community Services Centre realized
- 1996 Deficiencies arise in facilities
- 2005 Needs first analyzed
- 2007 Facilities Plan
- 2011 Master Plan for new pool facilities
- 2014 Vancouver City Council approves the 2015-2018 Capital Plan, which includes a \$25 million allocation toward the first phase of renewal at Britannia Centre
- 2016 Britannia Renewal Master Plan project initiated

The Britannia Community Services Centre (BCSC) has its origin in cooperative community action in the 1970s. Local citizens and various civic agencies created the organization in 1974 to coordinate and integrate a wide range of human services to meet the interests and needs of residents. The official opening was Saturday, June 5, 1976.

The non-profit Britannia Community Services Society (BCSS) provides a leadership role in developing and facilitating educational, recreational, library and social services for the communities of Grandview-Woodland and Strathcona.

In collaboration with personnel from the Vancouver School Board, the Vancouver Public Library Board and the Vancouver Board of Parks and Recreation, the Society manages the community centre complex.

Britannia Community Services Centre Mission Statement

To develop, coordinate and support a wide range of excellent programs and services for Grandview-Woodland and Strathcona, by working with community members, partners, and local agencies.

Britannia Community Services Society's Vision

The Society's Vision Statement is:
To be a catalyst for social connection, capacity building and integration of services in our community while celebrating diversity, and enhancing the life and well-being of everyone who lives, works and plays in our community.

Vision for Renewal of the BCSC

The Britannia Community Services Centre:

... **IS THE HEART OF THE COMMUNITY**, serving as an integrated hub of education, arts, culture, recreation, wellness, and sustainability.

... **ITS STRENGTH LIES IN ITS INNOVATIVE PUBLIC-SECTOR PARTNERSHIPS**. These give life to unparalleled opportunities for collaborative decision-making, programming, and service delivery, and the flexibility to continually meet the evolving needs of the community.

... **IS ACCESSIBLE AND WELCOMING**, drawing users whose diversity is matched only by the diversity of programs offered by the centre.

... **RESPECTS AND CELEBRATES ITS SOCIAL AND PHYSICAL CONTEXT**, fostering a sense of stewardship towards the people and settings that are the source of its richness.

Existing Facilities

Largely constructed in the 1970s with the exception of Britannia Secondary School which was built in 1911, the majority of the site's facilities are reaching the end of their life and require significant upgrading.

Spread across numerous buildings, the BCSC's public facilities include:

RECREATION (operated by BCSC with VPB staff):

- Ice Rink
- Britannia Pool + Fitness Centre
- Gym C w/ Racket ball Court + Mat Room

SOCIAL DEVELOPMENT (operated by BCSC):

- Information Centre and Administration Offices
- Multi-purpose Meeting Room
- Community Learning Centre
- Teen Centre
- Al Mattison Lounge (55+ facility)
- Britannia Art Gallery
- ʔxʷqʷeləwən ct Carving Centre

LIBRARY (operated by VPL):

- Britannia Branch Library

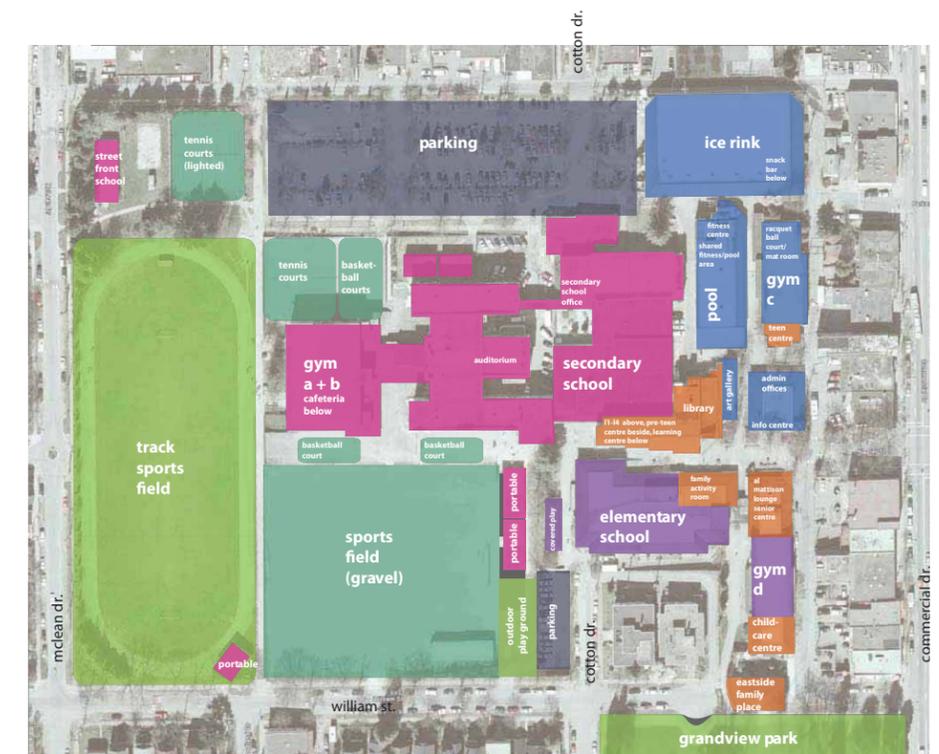
CHILDCARE + FAMILY RESOURCES:

- Britannia Preschool
- Britannia Out of School Care
- Eastside Family Place + Canucks Family Education Centre

Sharing the site and integrated with the Britannia community facilities are education facilities operated by the VSB:

- Britannia Elementary School including Gym D
- Britannia Secondary School including Gym A + Gym B and Auditorium
- Streetfront Alternate School

Outdoor VSB spaces include playing fields, running oval, basketball courts, and tennis courts.



The existing facility uses are illustrated above in the diagram from the 2011 Strategic Master Plan by HCMA.

1.4 PROJECT PHASES

Master Plan

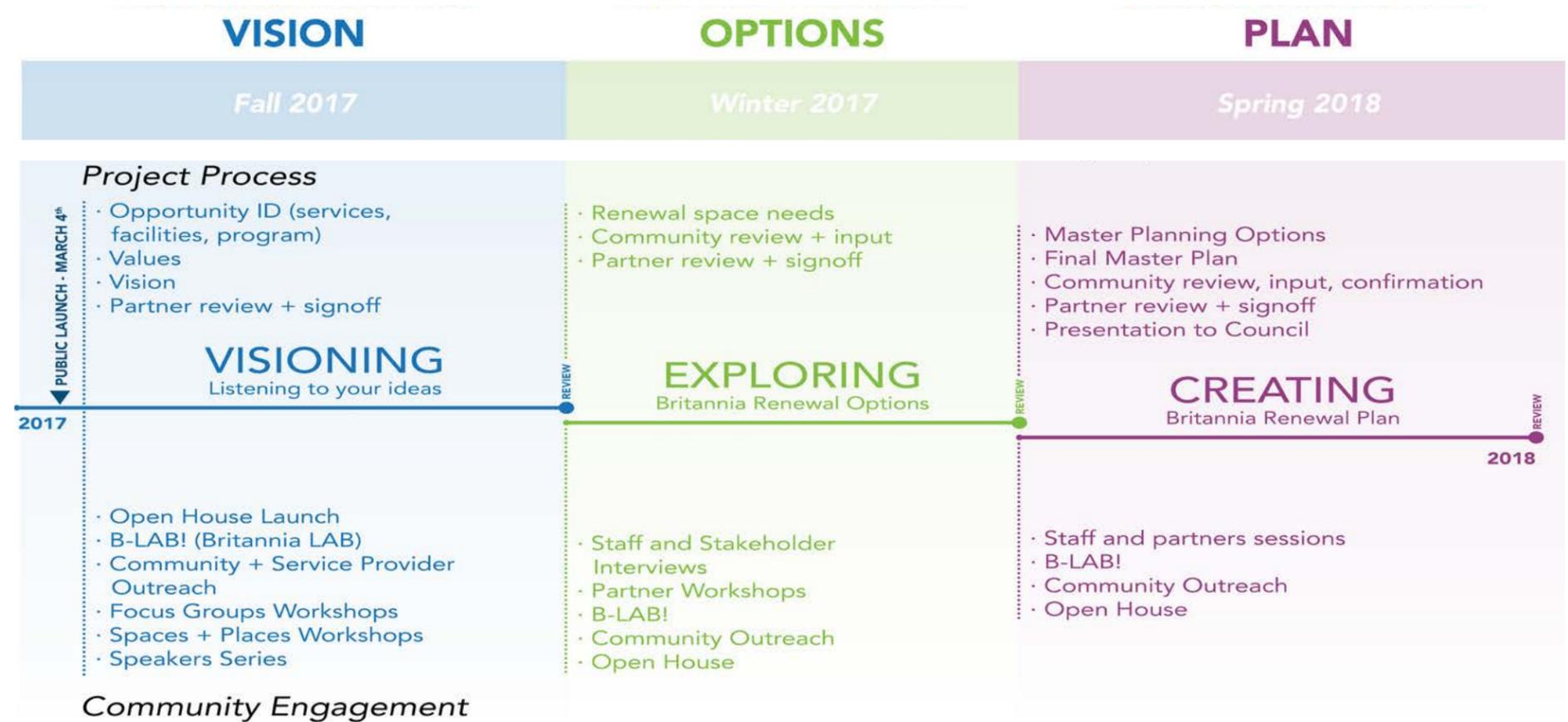
The Master Plan project process is broken into 3 key phases:

1. **Visioning** - engaging the community in creating a vision for renewal
2. **Options** - space needs, site constraints and opportunities, and master planning concept options
3. **Plan** - development of preferred concept into a master plan including phasing over time

The figure on right illustrates the Master Plan consultation process and key community engagement activities.



Britannia's facilities - arranged in a village layout - are nearing the end of their useful life.





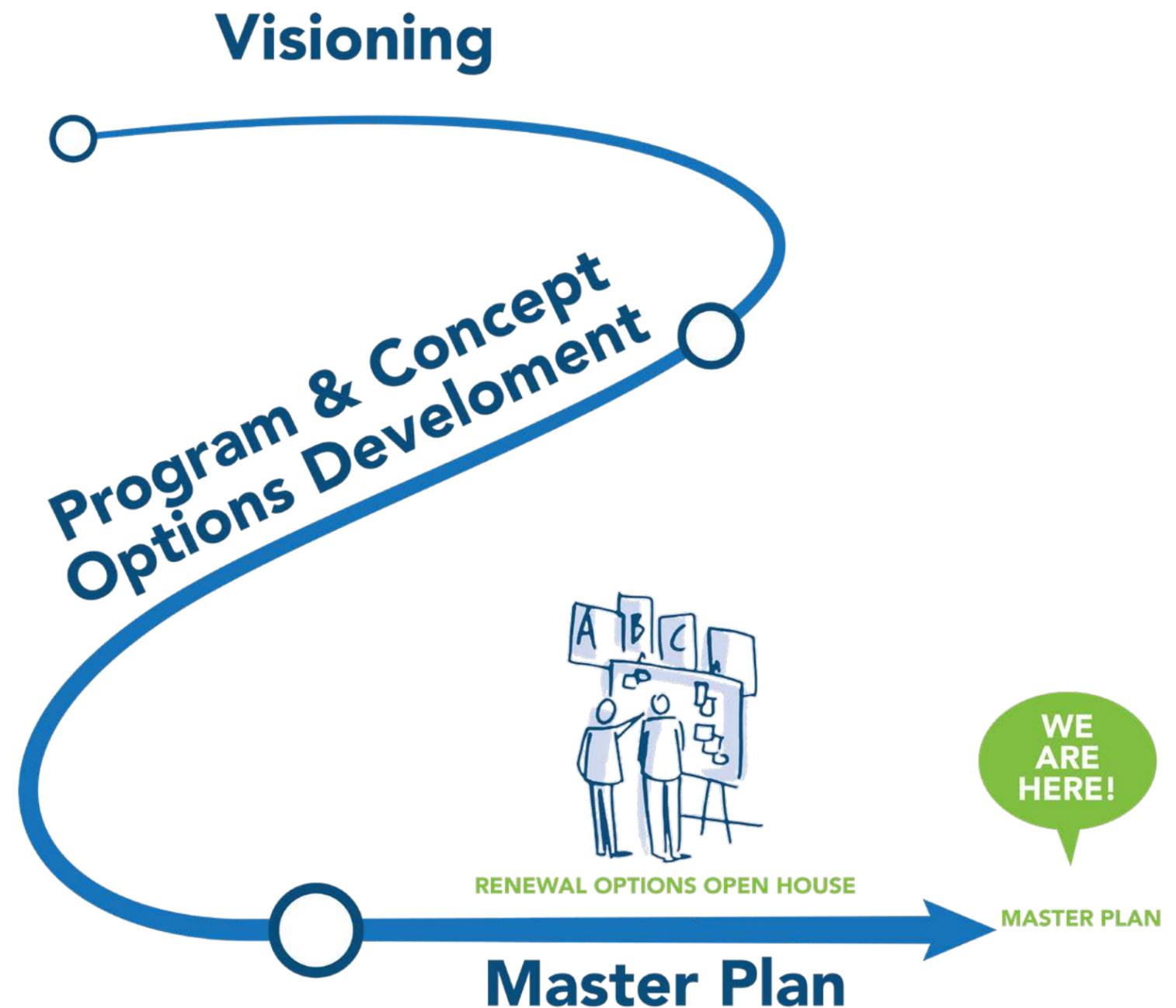
2 PROJECT PROCESS

2.1 PROJECT PROCESS OVERVIEW

How was the Master Plan developed?

The diagram at left illustrates some of the many components and considerations that have been taken in account in the creation of the Britannia Master Plan. Summarized below and elaborated in the following pages is a summary of the key elements of this Master Plan.

- **Community Engagement**
A broad and lengthy community engagement process has been the cornerstone in the creation of this Master Plan. Listening to, and building consensus between the diverse needs of the community has enriched the Master Plan through every phase.
- **Vision**
A distillation of many voices heard through community consultation, the Vision Report is a record of the needs, dreams and aspirations for Britannia's renewal and a guide for the project moving forward.
- **Program Verification**
Detailed program requirements were developed by working closely with stakeholders (including Partner representatives, facilities staff, user groups and programmers) to determine needs and aspirations for program spaces within the Britannia Master Plan.
- **Concept Options**
Three Concept Options were developed based on the Vision, Space Needs, as well as Partner policies, urban design best practices, site opportunities and constraints, and technical requirements. These options were shared with the community through a widely attended Open House.
- **Project Context**
The Master Plan is innately guided by its context. This section outlines the spaces and places needs, site conditions and planning principals which were incorporated into the creation of the Master Plan.
- **Master Plan!**
The Master Plan has evolved from a culmination of all these pieces, with input from the project Partners at every stage in the process.



2.2 COMMUNITY ENGAGEMENT

ENGAGEMENT APPROACH

Community engagement formed the foundation of the Britannia Renewal Master Plan and was embedded at each project stage, from project launch through visioning, program verification and master planning. Engagement activities were focused on creating a shared community vision for a renewed BCSC and a supporting, detailed program for that vision.

The BCSC project was a complex, multi-faceted undertaking involving five core partner groups, numerous stakeholders and an active and engaged community.

Around 4,000 people use BCSC services, programs and facilities each day, and they represent an incredibly diverse group of people: a microcosm of the larger Grandview Woodland/Hastings Sunrise/Strathcona neighbourhoods that BCSC serves. The project has engaged with a wide range of people and community organizations through a comprehensive engagement process.

As a key part of the project process we engaged with Indigenous community members, service providers, and advisors, as well as liaised with the Musqueam, Squamish and Tsleil-Waututh Nations.

Working with project Partners, a Community Engagement Plan was developed to guide Britannia Renewal engagement to provide a range of in-person, casual and formal opportunities for



Britannia Renewal Project Launch Open House



High School Focus Group

Britannia users, neighbours and residents, and other important project partners to engage in the project's evolution at each stage—visioning, program verification and master planning.

OBJECTIVES

The objectives of community consultation were to:

- Inform project partners and stakeholders, including BCSC service and program users, students, visitors and the community at large about the renewal project.
- Provide a range of in-person, on-line, casual and formal opportunities for Britannia stakeholders and the public to engage in the visioning process at each project stage.
- Ensure Indigenous inclusion or engagement and that reconciliation is a part of the process.
- Inform partners and stakeholders on the master planning process and how their input will be used in the development and review of the BCSC Master Plan.
- Develop a shared vision for a renewed BCSC.
- Gather detailed input on five programmatic areas to inform development of the Master Plan:
 - Public Space
 - Arts and Culture
 - Life-long Learning/Library
 - Social Development
 - Active Living/Recreation
- Gather and incorporate specific feedback on Draft Master Plan



This figure illustrates the basic flow of information and feedback in the engagement process throughout the project's evolution.

ENGAGEMENT PROCESS

The in-depth community consultation process was undertaken to gather feedback and ideas from the community including service providers, residents in the area, BCSC users, and those who are not currently using the facilities.

There were over 3,500 touch points with community members in the engagement process.



An info-graphic poster was created to describe the extent of community engagement through the process.

ENGAGEMENT ACTIVITIES

Engagement activities and events over the course of this Master Planning process include:

- **Indigenous Engagement:** Workshops, visits to Britannia programs, and a series of meetings and interviews with community leaders and organizations were conducted with the urban Indigenous community. In terms of Musqueam, Squamish, and Tsleil-Waututh engagement project updates were provided at City of Vancouver/Musqueam, Squamish, and Tsleil-Waututh Intergovernmental meetings and a community open house was held at Musqueam.
- **B-LAB!** (Britannia Renewal Lab): A community living room in the Britannia Info Centre where people could learn about the project, read about all engagement activities, provide input and ideas. The B-LAB hosted a Community Conversations binder, which provided a summary and transcripts of all engagement activities through the Visioning phase.
- **Speakers' Series:** Seven panel discussions in which passionate visionaries spoke about exciting topics and issues related to Britannia Renewal. The final speaker series event was a Housing Forum that focused on the possibility of including non-market housing on the Britannia site.
- **Focus Groups:** In-depth visioning sessions with specific groups including Elders/seniors, youth, LGBTQ2S, newcomers, and families.



Jane's Walk with BLAB beyond

- **Space and Places Workshops:** Five workshops, each one focusing on specific program needs and space components—recreation, public space, cultural services, life-long learning, community services.
- **Open Houses:** To complete the Vision stage, two larger, drop-in style events with multiple activity stations for participant feedback were held. The first was a project launch to spread awareness and start to get community involved, and the second open house provided an opportunity for participants to review the input received throughout the Visioning stage to identify any gaps and to ensure that the consultant team “heard it right”.
- **Program Verification Workshops:** Several workshops were held with Partners, BCSC staff, and program delivery partners to review the range of programs offered at Britannia and the space needs associated with each.
- **Community Event Outreach:** Britannia Renewal information and feedback posters were also available at a number of community events, including Italian Days, Car Free Day, Stone Soup Festival, YOUUnique Youth Conference, Canada Day and at other festivals and events.
- **Vision Report:** All of the preceding engagements are summarized in the appended Vision report which has been made widely available to the community.
- **Concept Options Open House:** The Concept Options Open House attracted over 200 people and presented



Indigenous Design Charrette

3 Options for site renewal to the community. Refer to Appended Concept Options Report for further information regarding this event.

- **Concept Options Survey:** A survey augmented the Open House above collecting further feedback.
- **Master Plan Public Presentation:** A presentation of the refined Master Plan outlining the overall plan and its component parts including Site Experiences, Spaces + Places, organization, massing and height, and the inclusion of non-market housing. Refer to Appended Master Plan Report for further detail on this event.



Dancers welcome community members to the Master Plan Presentation



Concept Options Open House

2.3 VISION

VISION OVERVIEW

The community places a high value on Britannia's vital role as a multi-use community services hub - a one stop shop for active living, learning, arts and culture, and social development.

Key values identified throughout the Vision for Britannia's Renewal are as follows:

- Take action on reconciliation
- Honour history and culture
- Prioritize sharing and caring
- Be accessible, welcoming, and safe for all
- Support well being and growth of the individual and community
- Optimize resilience and sustainability

Through a series of Spaces and Places Workshops and visioning sessions, a Vision was developed for the facility as a whole and for specific program areas. These are grouped into broad categories based on the focus of services being provided.

The Vision for Britannia Renewal is to create a welcoming and inclusive community place for reconciliation, social connection and development, learning, cultural exploration and expression, play, and recreation - enhancing the life and well-being of all.



SPACES AND PLACES

The mix of **spaces and places** identified in the Vision are as follows:

1. **Shared Public Space** - Community living room - space for casual engagement
2. **Indigenous Vision** - Spaces that support gathering and intergenerational contact as well as space to practice culture
3. **Food Hub** - Community kitchen, garden, and dining space
4. **Social Development** - Childcare, youth and seniors spaces, meeting space for advocacy, education, and organization.
5. **Arts + Culture** - Spaces for making, rehearsing, and exhibiting. Gathering spaces for performance, celebration, and ceremony. Other than the ʔxʷqʷeləwən ct Carving Centre and art gallery, Britannia has no dedicated arts and cultural space.
6. **Library** - Supporting life long learning
7. **Recreation** - Active Living facilities supporting sport for life including aquatics, ice rink, gymnasia, fitness centre, multipurpose fitness studios and specialized facilities such as martial arts or gymnastics.
8. **Public Realm** - Outdoor places for performance, gathering, recreating and just hanging out.
9. **Non-Market Housing** - to provide critically needed housing for community members.



SHARED PUBLIC SPACE



SOCIAL DEVELOPMENT



ARTS + CULTURE



LIBRARY



RECREATION

SITE EXPERIENCES

Various site experiences are being planned for to activate the site and create a sense of place and community.



DAILY LIFE

The site will support an **energized daily life** at Britannia, whether passing through using the facilities or just hanging out, the spaces will facilitate both connectivity and contemplation.



GATHERING + EVENTS

The creation of a **scalable gathering space** to host performances, celebrations and a wide variety of events is a central feature of the Master Plan.



PLAY

Opportunities will be provided throughout the site for **all ages play** including a water park, a play zone connecting Grandview Park to the community facilities, and play fields and sport courts.



CONNECT TO NATURE + CAPTURE VIEWS

Increased green space and opportunities to connect to nature will be provided from inside the facility and throughout the site. Priority to be given to native planting and a naturalized landscape. Building massing and siting will allow connection to far views of mountains and city.



ACTIVE LANEWAYS

Improve laneway experience and safety - transforming Commercial and Venables lanes into **active people places**, by locating the art gallery, art studios, housing entries, and drop off areas on these laneways.



USING ROOFTOPS

Inhabit and activate roof tops with urban agriculture, sport courts, child care play areas, and community gathering space. Allow non-market, mid-rise housing above community centre facilities.

2.4 PROGRAM VERIFICATION

PROGRAM VERIFICATION OVERVIEW

A series of Program Verification Sessions with Partner representatives, staff and stakeholders were undertaken to understand the complex needs of current operations, and identify opportunities for additional programming space based on the needs of the community. These program areas are:

- Social Development
- Childcare
- Elders / Seniors
- Youth
- Arts + Culture
- Library
- Recreation

A detailed program was developed based on a combination of City policy requirements and community needs.

It was widely acknowledged throughout the engagement process that the main barrier to improved use of Britannia is lack of flexible and integrated multi-use space - whether it is gathering space, meeting space or rooms for programs.

The Space Program for Britannia’s Renewal builds upon existing program spaces. The existing facility has a total area of 9,798 m2 spread out in many individual buildings. The proposed space program expands the facilities to a total of 27,470 m2. The size is larger due to the following reasons:

1. Addition of program spaces not currently provided as including:
 - Arts + Culture spaces
 - Childcare
 - Social + Cultural Non Profit Hub
2. Enhancement of existing program spaces

Britannia operates as a facility that comes together to create more than the sum of its parts; it is important to continue to build opportunities to capitalize on synergies between programs, service providers and community members.

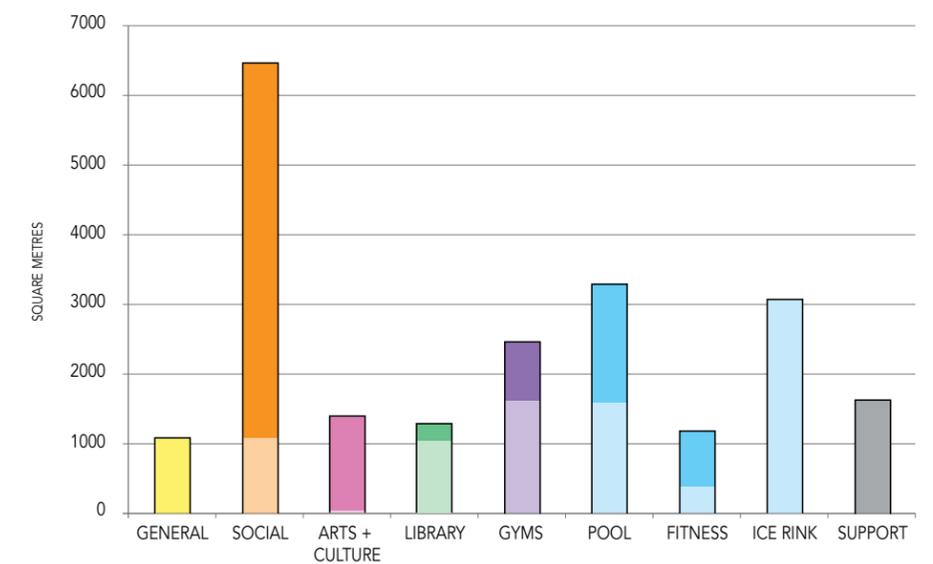
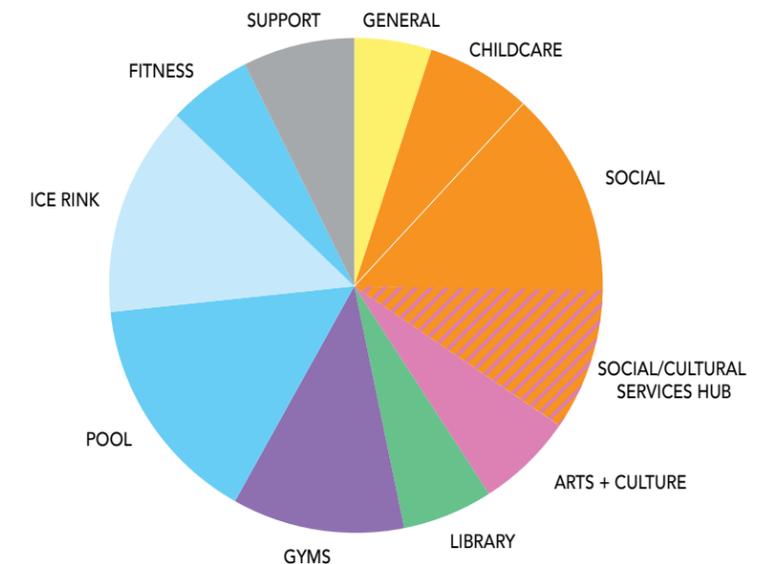
Key adjacencies were identified (for specific space relationships refer to Adjacencies in Section 6 Detailed Design Requirements) and integrated into the program document in order to insure the Britannia Master Plan worked to respond to and create new synergies as part of the Renewal process.



The scale of facility space needs defined in Program Verification and all VSB sports spaces to be retained are illustrated above.

In addition to the community centre facilities, non-market housing will be incorporated on site to provide critically needed homes for community members. It is anticipated that 200-300 units of non-market housing will be provided.

There is also a requirement for providing a significant greenspace as well as maximizing opportunities for outdoor activities. Refer to Public Realm section on page 68 for more detail.



A pie chart illustrates the relative proportion of program space for a renewed Britannia, and the bar graph below shows existing facilities in faded colour below with space additions shown in bright colour above.

FACILITIES TO BE INCLUDED IN RENEWAL

The spaces and places illustrated below are to be included in a renewed Britannia. They have evolved from a combination of the City policy requirements and community needs as summarized in the Vision. Note that the areas listed below are for planning purposes and will be confirmed through the City's rezoning process and future design development.

GENERAL

1,100 m² (12,000 ft²)

Includes public circulation and concourses and non-programmed social glue spaces



GYMNASIA

2755m² (29,655 ft²)

Gym C includes a gymnastics annex space for equipment to be left in place

Gym D will be shared with the Elementary School



AQUATICS + FITNESS

5370 m² (57,800 ft²)

Including Pool, Change Rooms, Fitness Centre, and Fitness Studios



RINK

3035 m² (32,700 ft²)

The Ice Arena will include improved player change rooms and viewing areas, dryland training space, and will share a mechanical plant with Aquatics

SOCIAL DEVELOPMENT

5945 m² (42,000 ft²)

Including 12,400 ft² of Elders/seniors, Youth, Multi-purpose spaces, and Family Place, 16,500 ft² Child Care, 8,000 ft² Admin Offices, and 4,000 ft² Food Hub



VSB HIGH SCHOOL CLASSROOMS + SHOPS

To facilitate the development of a significant gathering space, these spaces will be relocated.

ARTS + CULTURE

1396 m² (15,000 ft²)

Includes an Art Gallery, Arts Studios, Event/Performance/Dance/ Movement/Rehearsal space, Music Rehearsal Studios, and the šx^wq^weləwən ct Carving Centre



NON-MARKET HOUSING

(200 - 300 units)

Non-market, mid-rise housing will be included as part of up to three community centre buildings. Further urban design analysis to determine the specific amount of housing, and housing delivery objectives, will be undertaken at the Rezoning stage.

LIBRARY

1285 m² (13,832 ft²)

VPL Branch Library including a creative digital lab and a multi-purpose meeting space



OUTDOOR SPACES

In addition to retaining the fields and sports courts on site, an outdoor spray park, a large gathering/event space, and extensive green spaces are being planned for.

SOCIAL + CULTURAL NON PROFIT HUB

2038 m² (22,000 ft²)

Office space for providers of arts and culture and social services





3 SITE



3.1 SITE OVERVIEW + CHALLENGES

Existing Site Overview

The BCSC is conceived as a “village” of independent buildings loosely arranged around a network of internal pedestrian lanes. While designed to foster community connections and a vibrant walkable public space, this design in practice presents a number of significant challenges.

Lack of Sense of Place

A key challenge will be to make the BCSC visible and attractive. Located at the heart of the Grandview-Woodland neighbourhood, the facilities are outdated and in need of repair and the exterior spaces are not conducive to community gathering or activity.

Poor Visibility

The 18 acre site is also not easily found. It is currently separated from Commercial Drive (the Drive) by the Commercial Street frontage and bounded by the lane behind to the east, Grandview Park and a residential neighbourhood along William Street to the south, a residential neighbourhood along McLean Drive to the west, and a commercial lane behind Venables Street to the north. The hidden nature of the facility presents challenges both for new community members looking to access programming and for the Centre to promote services back to the community.

Poor Accessibility

Drop-off and pick up for persons requiring assistance is difficult given the level changes and lack of connection to the street and transit. The topography presents serious access issues between levels where stairs are the primary mode of connection. There is only one elevator on the site within the Aquatics building to mediate between significant grade changes.

Poor Connectivity

There is a profound lack of connectivity with the surrounding community. Buried behind alleys and retaining walls, the BCSC has no street presence and is invisible to the general public. It is separated from the Drive and Venables by commercial lanes and is bounded by high retaining walls to the west and parts of the south edge.

Topographical Barriers

The site falls over 50 feet from the lane behind the Drive down to McLean Drive. To create level spaces for sports fields, large areas have been filled and retained by walls that are up to 15' high. This presents a solid barrier to community connectivity.

Unclear Circulation

Circulation throughout the site is not intuitive and includes many dead-ends. Other connections or routes through the site are cut off from the surrounding community by the retaining walls supporting the running track and field.

Security Concerns

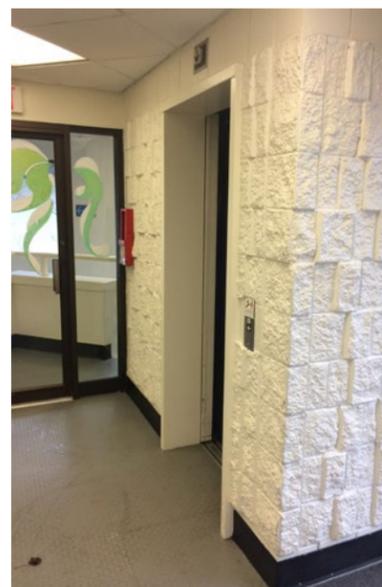
Security and safety are further compromised by the lack of visual surveillance from facilities within the BCSC, poor lighting, entrances that are recessed and difficult to locate, adjacency to commercial lanes on two sides, and lack of address and street presence.



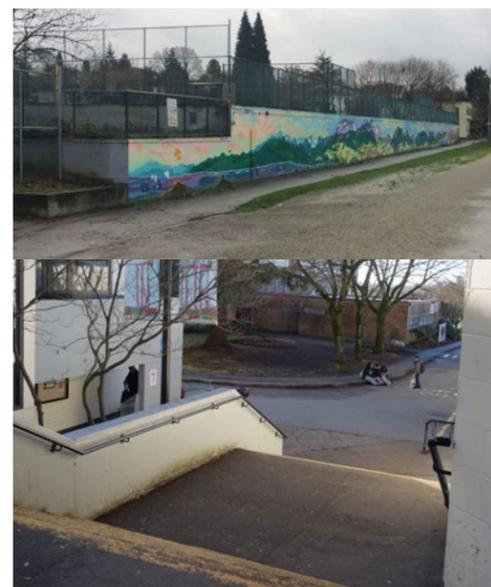
Britannia has almost no street presence from Commercial Drive.



Blank facades hinder connection between program and site.



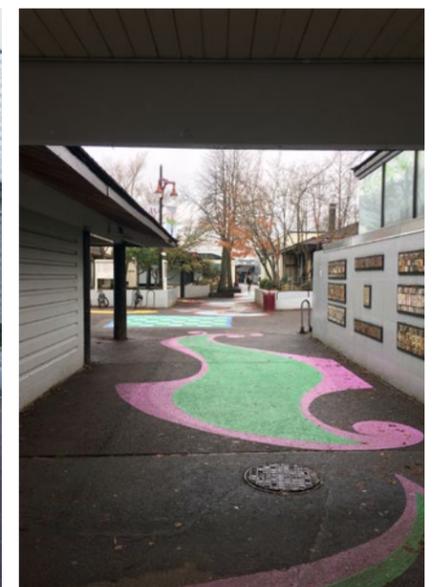
This elevator provides the only accessible connection between grades.



Britannia is characterized by large retaining walls and many sets of stairs.



The distributed nature of fenced school spaces throughout the site disrupts connectivity across the site.



The complex network of pedestrian lanes is confusing and disorienting to community members.

3.2 SITE CONDITIONS

SITE CONTEXT AND CONSIDERATIONS

Located in the heart of Grandview-Woodlands, the Britannia site is an 18 acre parcel bounded by the lanes behind Commercial Drive and Venables Street, William Street and McLean Drive. Both the Community Centre and School facilities have virtually no visual presence in the larger community.

The following diagrams illustrate key site considerations which impact the Master Plan.

CURRENT OWNERSHIP

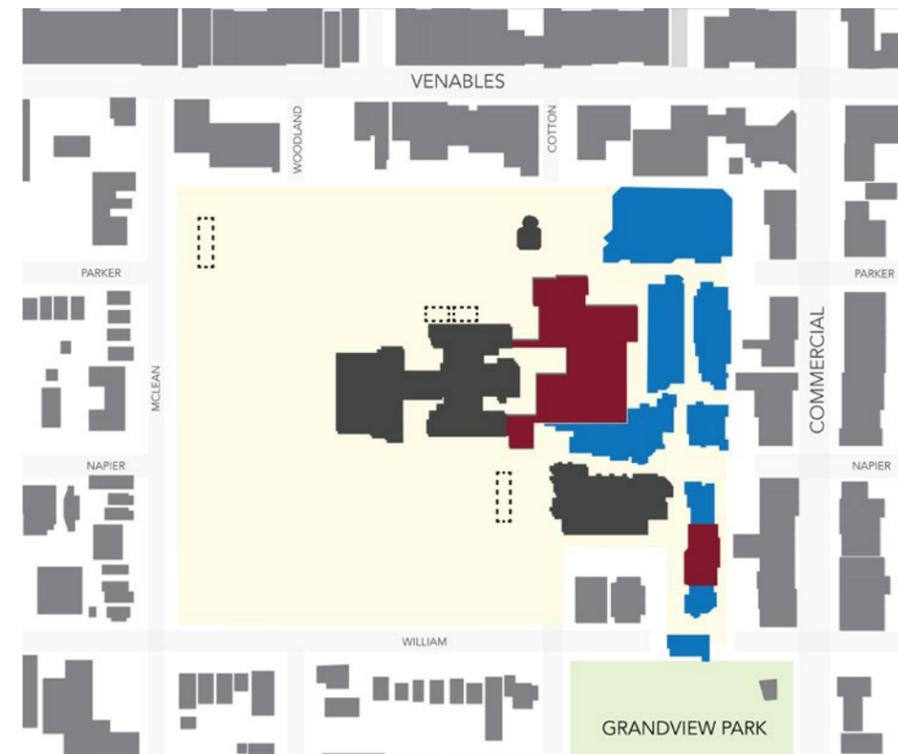
Ownership and maintenance of the facilities on site is varied and complex with the City owning 30% of the site and the VSB owning 70%.



EXISTING BUILDINGS

Many of the existing buildings on site are slated for replacement as they do not meet current seismic + energy standards.

The Heritage portion of Britannia High School built in 1911 will be retained along with its Gym + Cafeteria facilities. The High School's specialty classrooms + shop facilities will be relocated as part of this renewal plan. The Elementary School will be retained. The facilities being retained have been seismically upgraded.



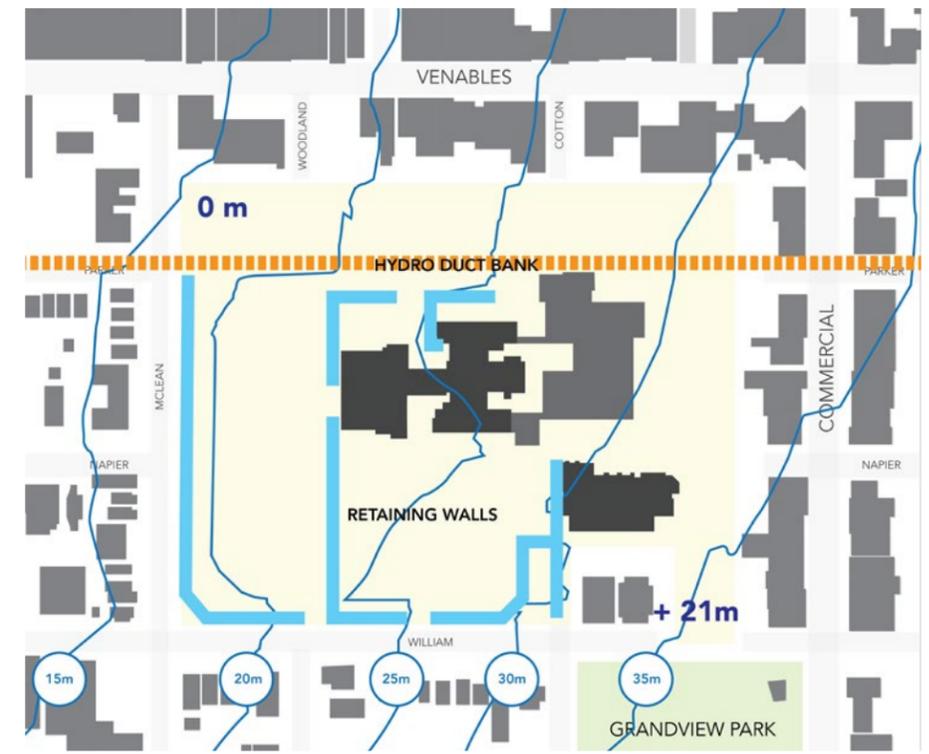
LEGEND

- VSB facilities to be remain
- VSB facilities to be upgraded or replaced
- BCSC facilities to be replaced
- VSB Portables to be removed or relocated

SITE CONSTRAINTS

The site slopes down 21 metres (69 feet) from the south east corner to the north west corner. This affords the opportunity for "grand views" from the site and community around. Coupled with the site slope, some significant retaining walls divide the site into terraces presenting challenges for ease of access and connectivity.

There is a large BC Hydro power cable running down the Parker Street right of way beside the Rink. Nothing can be built on top or under it, so it effectively divides the site.



LEGEND

- BC Hydro Duct Bank
- Retaining Walls 10 to 20 feet in height

AVAILABLE SITES AND PROGRAM FIT

The spaces, places, sports fields and courts shown below will need to be accommodated on the available sites indicated with red outlines.

The VSB requires that all of their playing fields, sport courts, and track to be retained or replaced if relocated.



EXISTING GREENSPACE

Much of the green space on the Britannia site is limited to planters and borders around at grade parking or sports fields.

Except for the large field inside the track at the western side of the site, open space largely asphalt.



LEGEND

- | | | | |
|---|--|---|---------------------|
| 1 | Nexways wa lh7aynexw
Community garden | ● | Deciduous trees |
| 2 | Indigenous plant garden | ● | Acer (maple) trees |
| 3 | Napier Greenway | ● | Conifer trees |
| | | ○ | Low retention value |

3.3 PLANNING PRINCIPLES

Key site planning principles that guide the Master Plan are:

PROVIDE A HEART

Throughout the Vision process people told us about the importance for a renewed Britannia to have some kind of “heart” or central space. Today, most people think of the Napier square in front of the library and Info Centre as the heart.

A key goal of the Master Plan is to provide a much larger central gathering space that support activities, orients the visitor to all parts of the site, and is a great place to hang out.

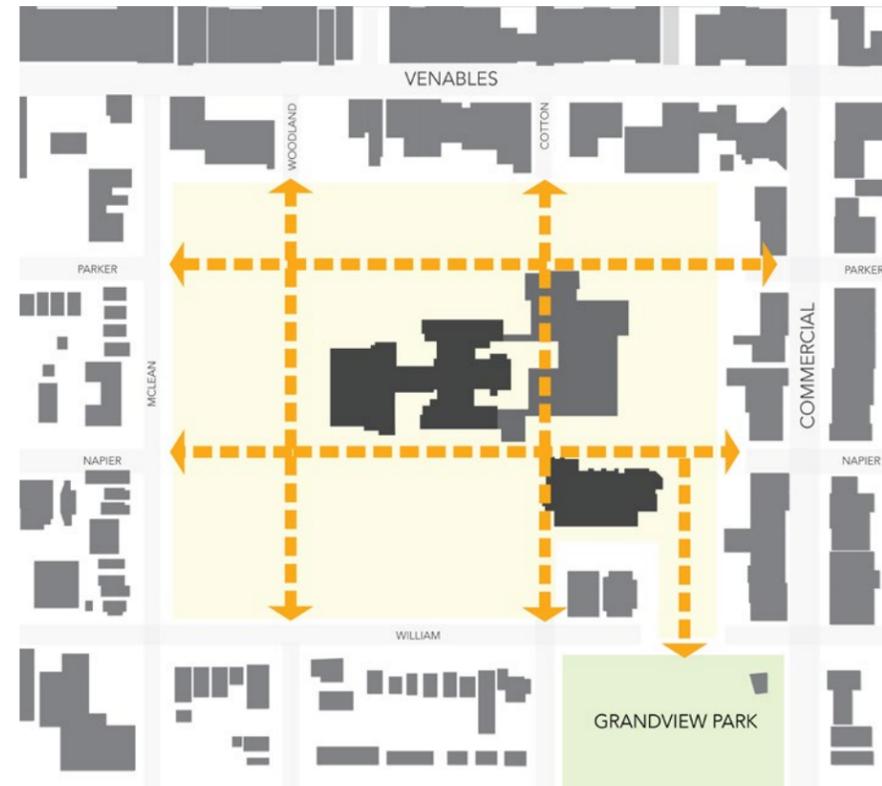


CONNECT TO COMMUNITY

Through the Vision process we heard about how hidden and poorly connected Britannia is to the larger community. The renewal process presents an opportunity to re-imagine and remake connections to the community.

A key planning principle is to tie site circulation to the existing street grid to create an easily accessed and navigated site, open up view corridors, improve site safety, and improve circulation and visibility to and through the site.

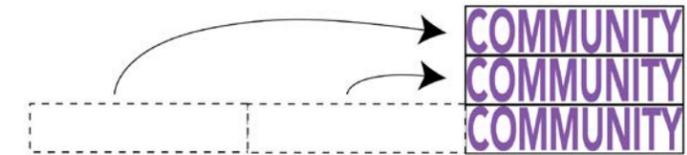
All site routes to be regraded to a maximum of 5% slope to facilitate accessibility.



MAXIMIZE OPEN SPACE

The community has consistently advocated for maintain existing or increasing open space on the site to increase opportunities to gather and for more green space.

To retain and create more open space, the community facilities will need to be stacked up.



CAPITALIZE ON TOPOGRAPHY

The sloped site presents opportunities to:

- Utilize the changing grade elevation to reduce apparent size of the facility and blend the multi-storey buildings into the site
- Open up views to Downtown Vancouver and the mountains
- Create some unique opportunities for rooftop urban agriculture and community gathering.



ACTIVATE PUBLIC SPACES

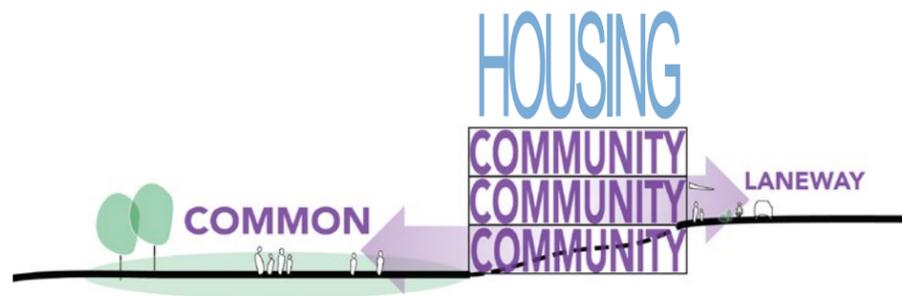
Creating a safe, vibrant and well used public place is a key priority in the Vision. Some strategies help achieve this and to activate public spaces include:

- Connecting interior and exterior gathering spaces
- Adding entries and overlook onto lanes around the site
- Providing views and overlook onto public spaces from above



PRIORITIZE GROUND PLANE FOR PUBLIC USE

Locate any non-market housing above community facilities and access from laneways. This will provide overlook of public spaces after hours and activate the laneways.



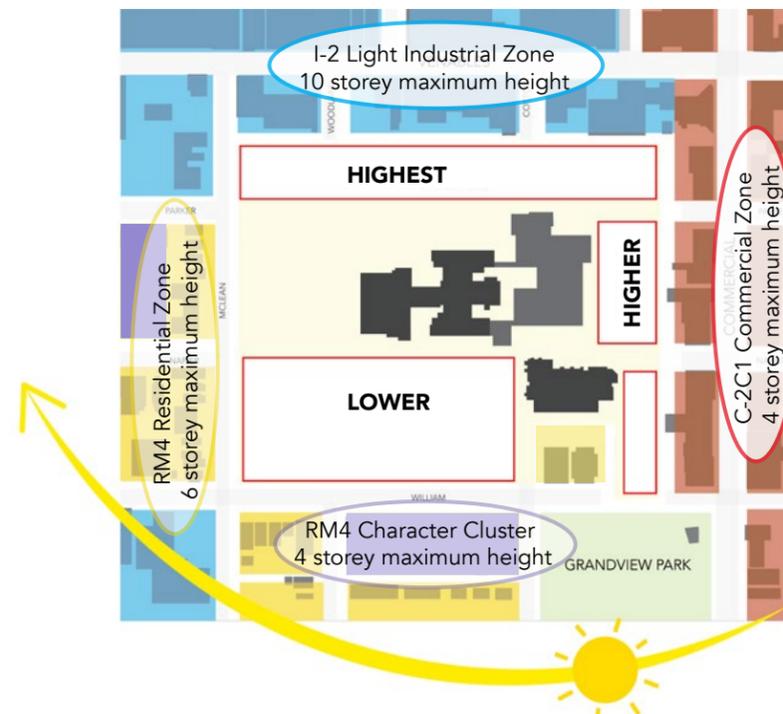
MINIMIZE HEIGHT IMPACT ON NEIGHBOURHOOD

Higher buildings will be located to the north and east, while lower buildings will be located to the south to **minimize shadowing** of public spaces and the impact of building heights on neighbourhood.

Building height will follow the topography of the site, stepping down the hill.

BRITANNIA AREA ZONING & ALLOWABLE BUILDING HEIGHTS

- RM-4 Multi-Family Residential - 6 storey maximum height
- RM-4 Multi-Family Residential Character Cluster - 4 storey maximum height
- C-2C1 Commercial Zone - 4 storey maximum height
- I-2 Light Industrial Zone - 10 storey maximum height



INCREASE GREEN SPACE + TREES

Increase the amount of green space and tree canopy cover significantly throughout the site to improve the environment from both a site experience and sustainability perspective.

Planted areas improve micro-climate, enhance biodiversity, offer shade and visual attraction. Planted areas include a variety of plant species: trees, shrubs and herbaceous plants - naturalized/indigenous, pollinator and ornamental, depending on location and program.

Green infrastructure elements such as terraced rain gardens will further support sustainability goals.

CAPTURE VIEWS

The site has access to spectacular view opportunities of the mountains and downtown citadel. Site buildings to maximize view opportunities. Protect view cones #21 and #27 (note that these pass 300' above the site ground plane).



CONCEPT 1 - WILLIAM

Focused on the south side of the site on the gravel fields along William Street to consolidate as much of the community centre facilities as possible for effective operations and services for the community.



UNIQUE FEATURES

- The majority of the facilities are located in Buildings 1 and 2 along William between Cotton and McLean.
- Other program elements such as the Library, Art Gallery, Child Care and Non-profit Services Offices are located closer to Commercial Drive and frame the Commons.
- VSB Classroom and shops are relocated to the north side of site adjacent to the High School to create space for the Commons.
- Raised Field. One of the all-weather fields is relocated on top of the gyms to be level with the Elementary School it serves.

PROS

- Consolidated footprint
- Visible from Grandview Park
- Cotton Walk and William Street address

CONS

- Adjacent to residential neighbourhood
- Remote from Commercial Drive energy
- Community connectivity is discontinuous from east to west.
- Spaces and places are split across site
- Traffic impact on residential neighbourhood
- Requires replacement of all VSB fields
- Open site edge at Variables lane unsupported by uses
- Reduced opportunity for housing
- Difficult phasing

Building 2

Apartment + Office w/ raised field uses

Building 3

High School + Non-profit Services

4 CONCEPT OPTIONS

4.1 PROCESS

OVERVIEW

The Concept Options were developed from the Vision, Space Needs, Partner Policies, and the established Planning Principles, as well as urban design best practices, site opportunities and constraints, as well as technical requirements.

Three Concepts were developed and shared with the community. Each Option tests the capacity of a different area of the site to accommodate the proposed facilities. The options are:

OPTION 1 - WILLIAM

This option locates the majority of the community centre facilities along William Street.

OPTION 2 - COMMERCIAL

This option focuses the facilities towards Commercial Drive.

OPTION 3 - PARKER

This option locates the majority of the facilities along the Parker Street right of way.

The three Concept Options are outlined on the following page with their focus, unique features, and pros and cons. Community input and response follows.

Each option has the same spaces and places, but organizes them differently based on exploring a different focus on siting.

Each option employs the same planning principles and includes:

-  a significant central **Common** gathering and event space
-  a greenspace connection or **Play Way** connecting the site to Grandview Park
-  extending street right of ways into the site as **Pedestrian Promenades**
-  locating **ᓃᓂᓂᓂᓂᓂᓂ ct Carving Centre** as a gateway to site

4.2 CONCEPT OPTIONS COMPARISON

CONCEPT 1 - WILLIAM

Focused on the south side of the site on the gravel fields along William Street to consolidate as much of the community centre facilities as possible for effective operations and services for the community.



UNIQUE FEATURES

- The majority of the facilities are located in Buildings 1 and 2 along William between Cotton and McLean
- Other program elements such as the Library, Art Gallery, Child Care and Social + Cultural Non Profit Hub are located closer to Commercial Drive and frame the Commons.
- VSB Classroom and shops are relocated to the north side of site adjacent to the High School to create space for the Commons.
- Raised Field: One of the all-weather fields is relocated on top of the gyms to be level with the Elementary School it serves.

PROS

- Consolidated footprint
- Visible from Grandview Park
- Cotton Walk and William Street address

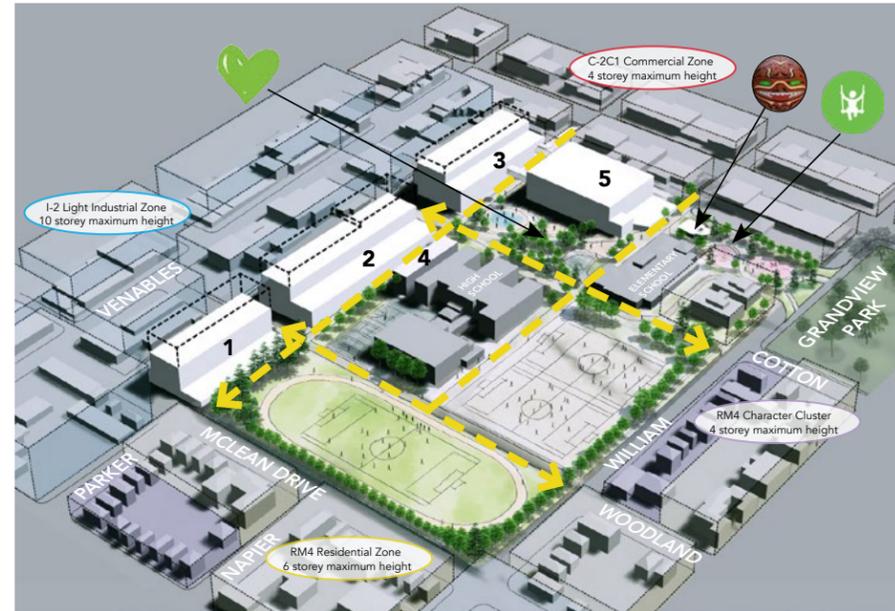
CONS

- Traffic impact and adjacency to residential neighbourhood
- Remote from Commercial Drive energy
- Community connectivity is discontinuous from east to west.
- Spaces and places are split across site
- Requires replacement of all VSB fields
- Open site edge at Venables lane unsupported by uses
- Reduced opportunity for housing
- Difficult phasing

* Note: These concepts are illustrative of general arrangement of space volumes on the site and are not refined design massing and form.

CONCEPT 2 - COMMERCIAL

Focused on the east and north sides of the site, with facilities clustered around the Commons to help support and activate this important community space.



UNIQUE FEATURES

- The majority of the facilities are located in Buildings 3 and 5 along the Commercial Mews
- Other program elements such as the Rink and Social + Cultural Non Profit Hub are located along Parker promenade.
- VSB shops are relocated in Building 3 and the classrooms in Building 4 on the north side of the High School to create space for the Commons.

PROS

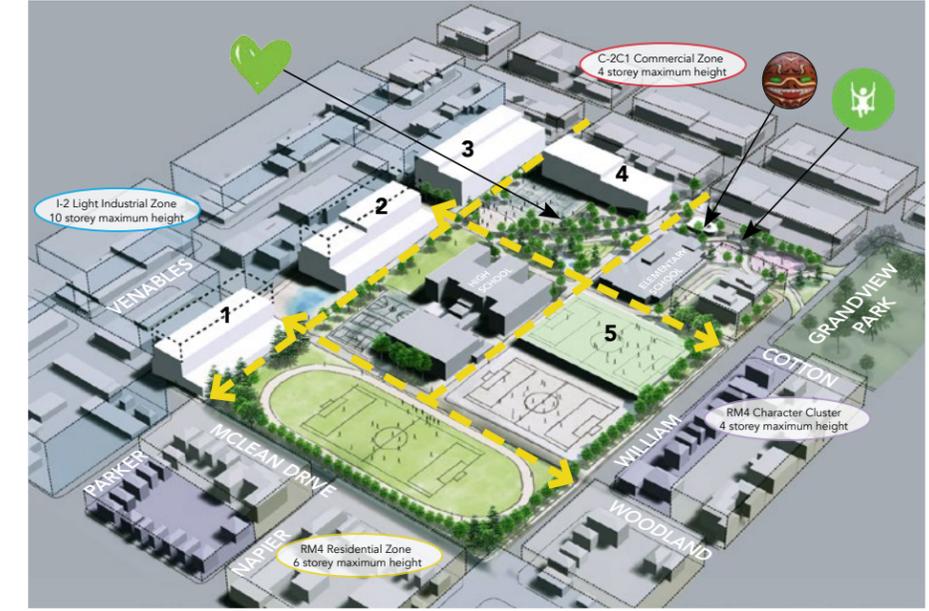
- Key spaces surround central Commons
- Traffic concentrated on Venables lane
- Positive connection to Napier Greenway
- Some improvement to lanes with active public spaces spilling out
- Opportunity for rink as first phase
- Cotton Walk address
- Building on the north minimizes shadowing on the site and helps transition to adjacent allowable industrial heights.

CONS

- Pool location buried - not optimal for facility
- Pool unlikely to proceed in first phase
- Pool and Rink not directly adjacent - not optimal for energy and operations efficiency
- Smaller Common space

CONCEPT 3 - PARKER

Focused on the east side of the site along the Parker Street right-of-way, this option cascades down the length of the site to McLean Drive.



UNIQUE FEATURES

- The majority of the facilities are located in Buildings 2, 3 and 4 along the Parker Promenade
- Expanded Parker Greenway/Promenade
- Roof-top sports field raised to level of Elementary School with VSB classrooms and shops relocated below

PROS

- Greatest increase in public realm / green space
- Wider Parker Greenway activated by key spaces
- Traffic concentrated on Venables lane
- Pool and Rink adjacent - optimal for energy and operations efficiency
- Easiest phasing - Phases 1, 2 & 3 do not interrupt operations or impact VSB spaces
- Significant improvement to lanes with active public spaces spilling out
- Field on top of Shops/Classroom roof provides accessible playfield for elementary school and opens clear sightlines from Grandview Park
- Building on the north minimizes shadowing on the site and helps transition to adjacent allowable industrial heights.
- Opportunity for Aquatics outdoor space

CONS

- Remote location of Rink from other community centre facilities

4.3 COMMUNITY FEEDBACK

COMMUNITY INPUT

Community feedback from the Concept Open House and Survey has formed a key component of the Master Plan. Input collected from over 400 responses to a community survey and at the February 13th Design Concepts open house and B-LAB are summarized below.

FEEDBACK ON THE CONCEPTS:

Three concept options were presented and the community was asked what they liked and disliked about each option. The Master Plan combines the feedback from all concept options.

Key preferences that emerged on the concepts:

- More open space
- Rink, Pool and Fitness located near to each other
- Better connections to the rest of the community (Grandview Park, Commercial Drive) for pedestrians and cyclists
- Simplest phasing and construction, to minimize disruption

COMMON THEMES:

- Non-market Housing:

Due to a lack of affordable housing in Vancouver, the City has mandated that all new City construction look into including non-market housing.

Many people were in favour of non-market housing on site, others were against it. Most people were fine with some non-market housing.

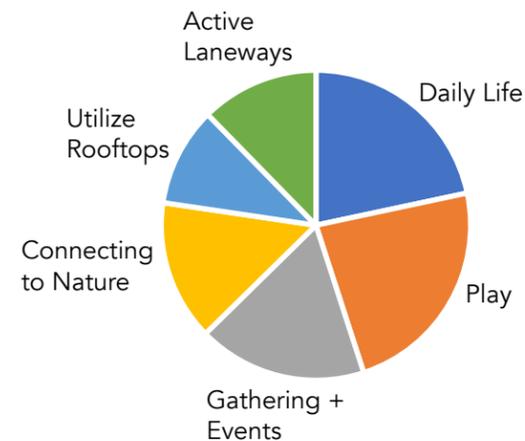
- Seniors and Elders:

Many seniors and Elders expressed that they were pleased with the dedicated Elders/seniors space in the concepts. Some were concerned that it wasn't enough to serve an aging population.

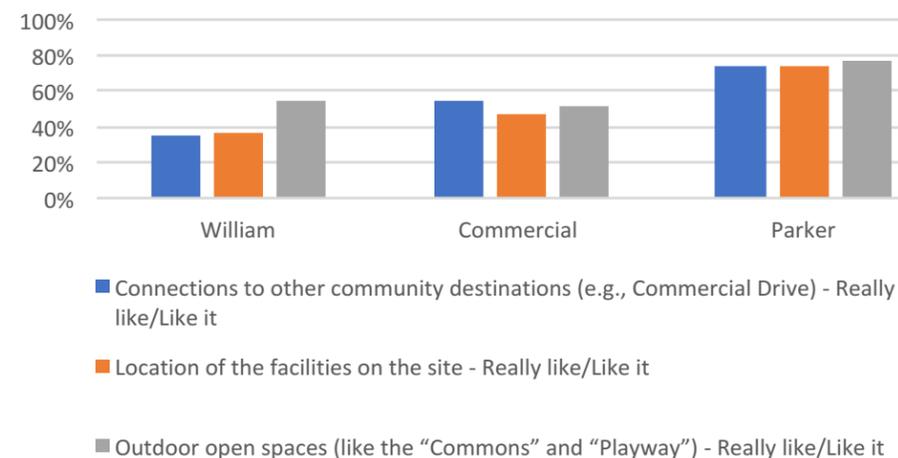
- Indigenous Values and Diversity:

In addition to the need to focus on Indigenous values, many community members also noted the diversity of Indigenous nations and cultures that are present in the Britannia neighbourhood, and the need to reflect and honour this diversity in Britannia's Renewal.

COMMUNITY SPACE PRIORITIES



CONCEPTS COMPARISON



Overall there was a clear preference for the Parker Street Concept for each key criterion, including connections to other community destinations, location of the facilities on the site, and outdoor open spaces.



Community members providing input at a Concept Options Open House



5 MASTER PLAN

5.1 MASTER PLAN OVERVIEW



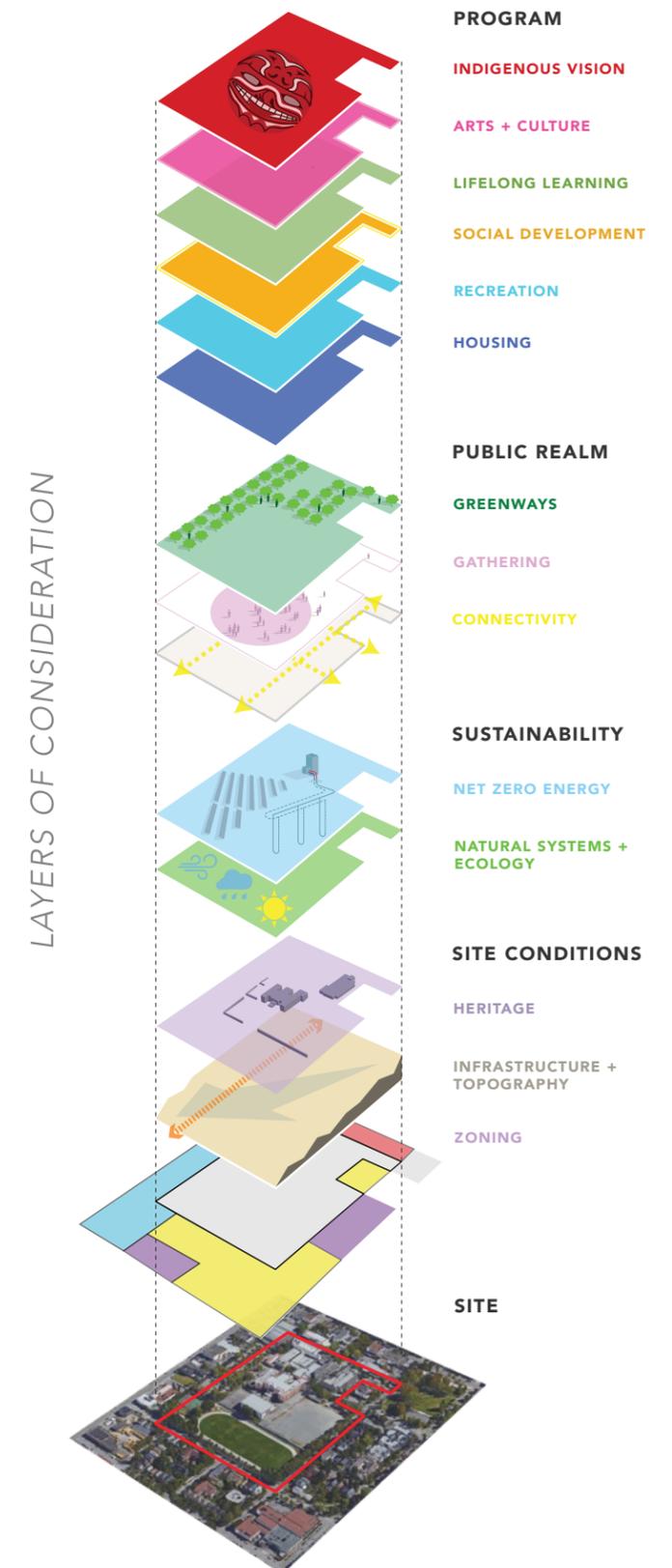
What is a Master Plan?

The Master Plan has evolved from a combination of technical requirements, space needs, policies, good urban design best practices, and incorporates community input from the Visioning and the Concept Options consultations.

The Master Plan includes:

- A Vision to inform both the Master Plan and future design work.
- Indoor and outdoor space needs that outlines the types and sizes of recreation, social development, arts & culture, and library spaces to meet future needs at Britannia.
- Location of all the spaces and places on the site.
- Phasing of the spaces and places to be developed over the multi-year Britannia Renewal project.

The Master Plan will be used as the basis for site rezoning and the realization of Britannia's renewal.



5.2 MASTER PLAN



SITE PLANNING

Key planning elements include:

-  • A central **Common** gathering and event space
-  • A greenspace connection or **Play Way** connecting the site to Grandview Park
-  • Extending street right of ways into the site as fully accessible **Pedestrian Promenades**
-  • Framing and maintaining the **"grand" views** of the city and mountains from key places.
-  • Locating **šxwq̓eləwən ct Carving Centre** as a gateway to site
-  • Adding **significant green space** to the site through greenways and intensive native plants and trees
-  • Incorporating **water play** in central gathering space
-  • Consolidating social and cultural services to **create a sharing and caring place**
-  • Building community and resilience through a **central food hub**
-  • Locating **Childcare** on lower roof tops with large outdoor play decks
-  • Including **affordable non-market housing** above community facilities





BRITANNIA MASTER PLAN

Focused on the east side of the site along the Parker Street right-of-way, the proposed facilities cascade down the length of the site to McLean Drive.

FEATURES

- The majority of the community facilities are located along the Parker Promenade
- 11 % increase in total public realm / green space
- Easily achievable phasing - Phases 1, 2 & 3 do not interrupt operations or impact VSB spaces and allows the majority of the Renewal to be undertaken immediately
- Higher buildings are located on the north minimizing shadowing on the site and transitioning to adjacent allowable Industrial Zone height
- All development above community facilities, including Childcare and housing, is stepped back from the face of community facilities to minimize visual impact
- Field on top of VSB Shops/Classroom roof provides an accessible sports field for Elementary school and opens clear sight lines from Grandview Park
- Significant improvement to Venables Lane and Commercial Mews with active public spaces spilling out
- Vehicular access concentrated on Venables Lane
- Pool and Rink adjacent - optimal for energy and operations efficiency
- Topography utilized to provide level access to a new Sport Park above the Rink
- Non-market, mid-rise housing above up to three community centre buildings provides much-needed affordable housing, while maximizing access to daylight and key view corridors

USES

Note: This diagram illustrates the general arrangement of buildings and spaces on the site. Dashed lines show the envelope within with non-market housing could be developed and are not intended to represent building form or design. Building forms will be developed at future phases with partner and community input.

Building 1

Aquatics
Fitness + Gym C
Childcare
Non-market housing

Building 2

Rink
Rooftop Sport Park
Non-market housing

Building 3

Library
Art Gallery
Childcare
Non-market housing

Building 4

High School Shops
+ Classrooms
All Weather Field above

Building 5

Event Spaces + Food Hub
Social Hub + Art Studios
Meeting Rooms + Gym D
Social + Cultural Non Profit Hub
Street Front School + Urban Farm

** The uses indicated above are listed on a floor by floor basis starting from the ground up

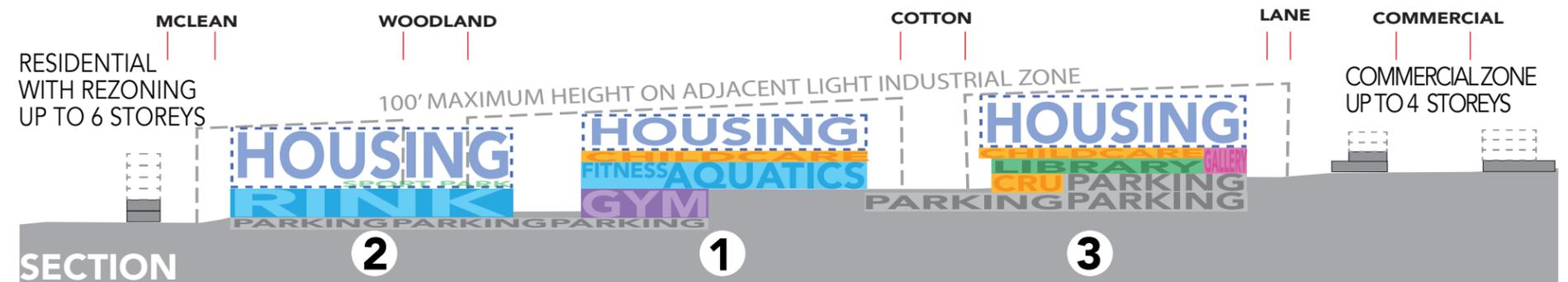
5.3 ORGANIZATION

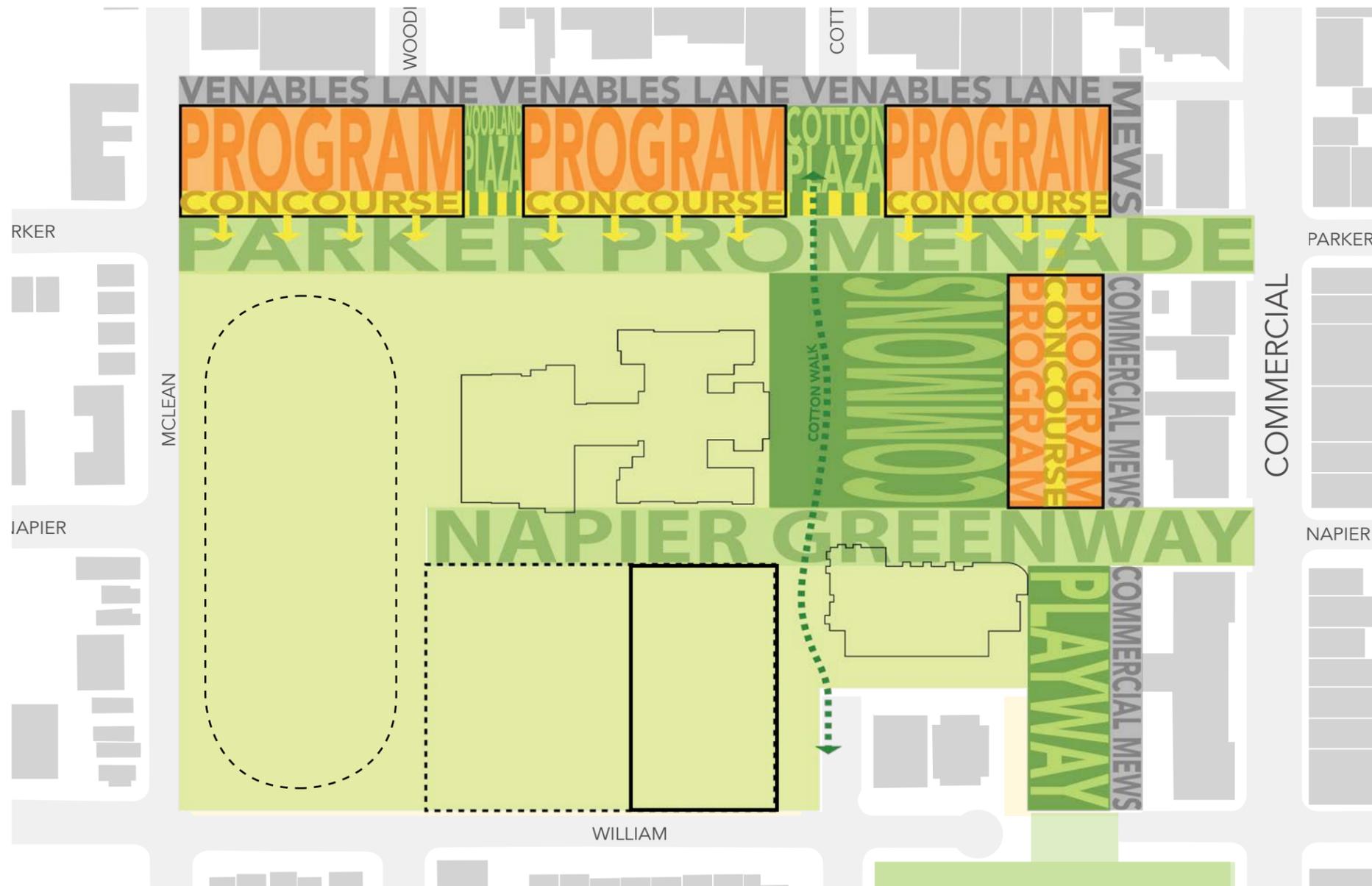
LOCATIONS + ADJACENCIES

The community facilities are located on the site to reinforce community **connectivity and activation**.

The organization of key spaces on the site prioritizes the following:

- **Activate the Common** with community gathering and event spaces.
- Design the **laneways to accommodate increase in traffic and improve safety**
- **Create a news** activated with community spaces - particularly Arts Studios and Gallery.
- **Create a greenway connector** (Parker Promenade) to link all key community centre facilities.
- **Concentrate access to VSB facilities** along the Napier Greenway, consolidating school addresses and enhancing security.
- **Maximize usable open space** by:
 - Raising Field 3 to level of the Elementary School and relocating specialty classrooms and trades shops for the High School below in Building 4.
 - Locating all parking underground.
 - Stacking community facility spaces up on more than one floor where feasible.
- **Create energy and service efficiencies** by linking mechanical services between the rink and pool.
- Where possible, orient long face of buildings to south to **maximize passive design opportunities**.
- **Locate non-market housing above community spaces** in Buildings 1, 2 and 3, in a mid-rise form of development. This will prioritize use of ground plane for public use and provide eyes on the public open spaces after hours.





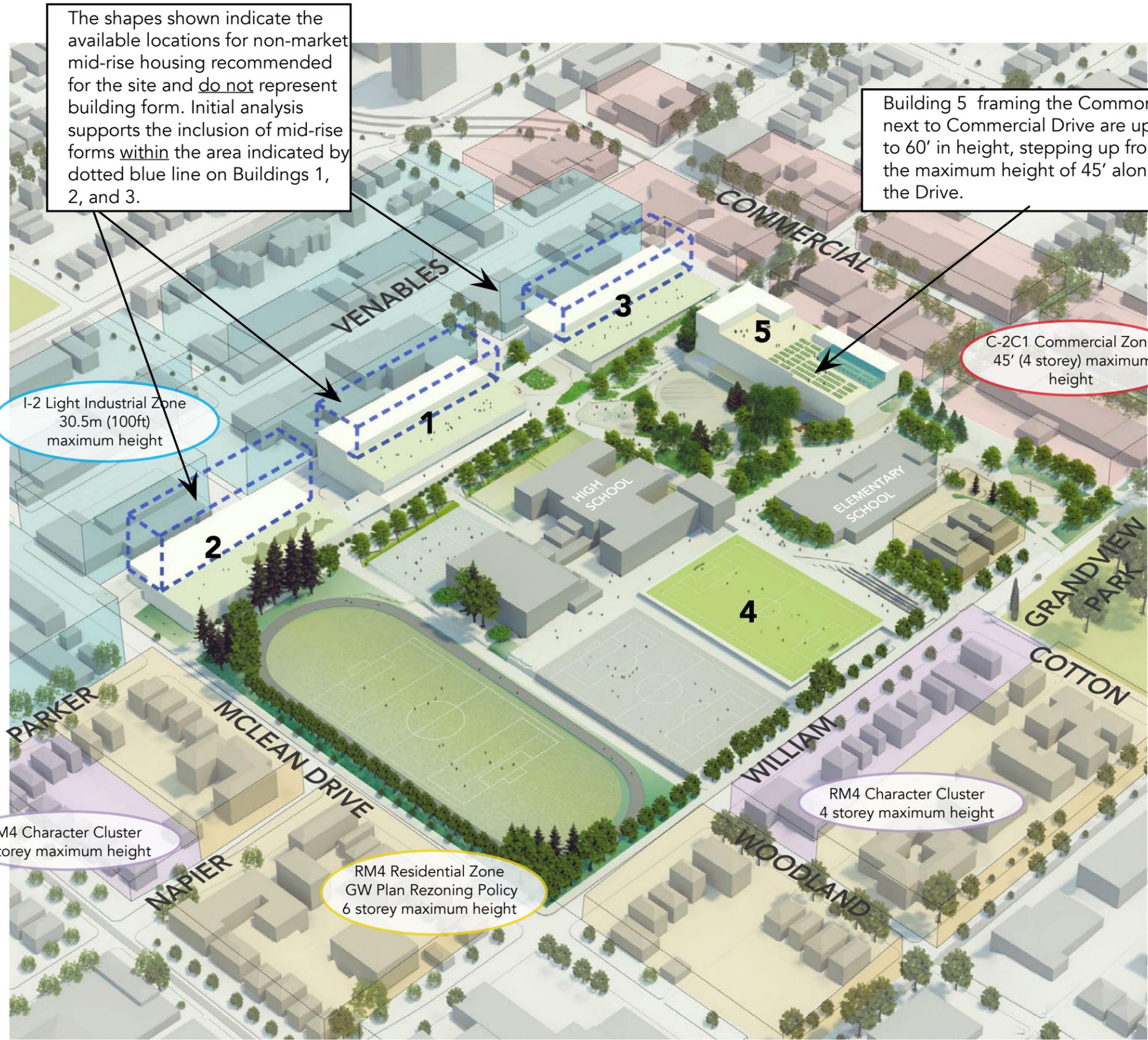
ORGANIZATIONAL STRATEGIES DIAGRAM

ORGANIZATIONAL STRATEGY

The site is proposed to be organized by extending the street ROW's (Cotton, Woodland, Parker and Napier) into the site as pedestrian pathways and adding a large Common to tie programmatic elements together and provide a central gathering space and greenspace for the community. In order to connect the site to the adjacent Grandview Park, a Playway is proposed to provide a continuous linkage of greenspace across the site.

The main BCSC buildings are accessed via the Parker Promenade. Buildings 1,2, and 3 are organized with a public concourse mediating between the larger program spaces (pool, library, rink) and the Parker Promenade. Building 5 housing the Community Centre functions is located between the Common and Commercial Mews. Carefully selected program spaces support the Common and activate the Commercial Mews. The building has an internal Public Concourse which organizes all the social and arts + culture spaces while also providing an interior connection between the Napier Greenway and the Parker Promenade.

5.4 MASSING + BUILDING HEIGHT



MASSING OVERVIEW

Facilities are stacked up to free up open space, frame the significant gathering space of the Common and maximize access to light and views. Massing has been located to fit with the future development context of the neighbourhood. **Height and density on the site is subject to rezoning.**

HEIGHTS

Urban design analysis supports the inclusion of non-market housing above community facilities on the Britannia site. Preliminary analysis supports mid-rise - not slab-form, with building heights calibrated to the adjacent I-2 maximum building heights of 30.5m (100 feet).

The opportunities identified for locating non-market housing on the site are indicated with dotted blue lines - - - on the drawing.

Buildings 1, 2 and 3 lining Parker will be calibrated to fit with the adjacent 100' zoning context, while meeting best practices for urban design including access to daylight and views.

Housing would be included in keeping with the principles outlined in the Non-Market Housing section.



View from the roof of building 5 looking west down Parker Promenade. Dotted outlines indicate a height envelope for non-market housing that corresponds with the adjacent I-2 zoned height allowance. Future mid-rise non-market housing will be calibrated to this height.



Aerial view from Grandview Park looking North across the site



View from Cotton Walk looking out over the raised Elementary School playfield

5.5 PUBLIC REALM

VISION

Britannia’s public realm is envisioned as an attractive and dynamic space that reflects the importance of community, diversity, and ecology. People of all ages will gather here to socialize, create, work out or just hang out. Restorative green spaces will be balanced with active areas that are vibrant with art, culture, sports and play. Creating a safe, vibrant and well used public place is a key priority in the Vision.

KEY THEMES

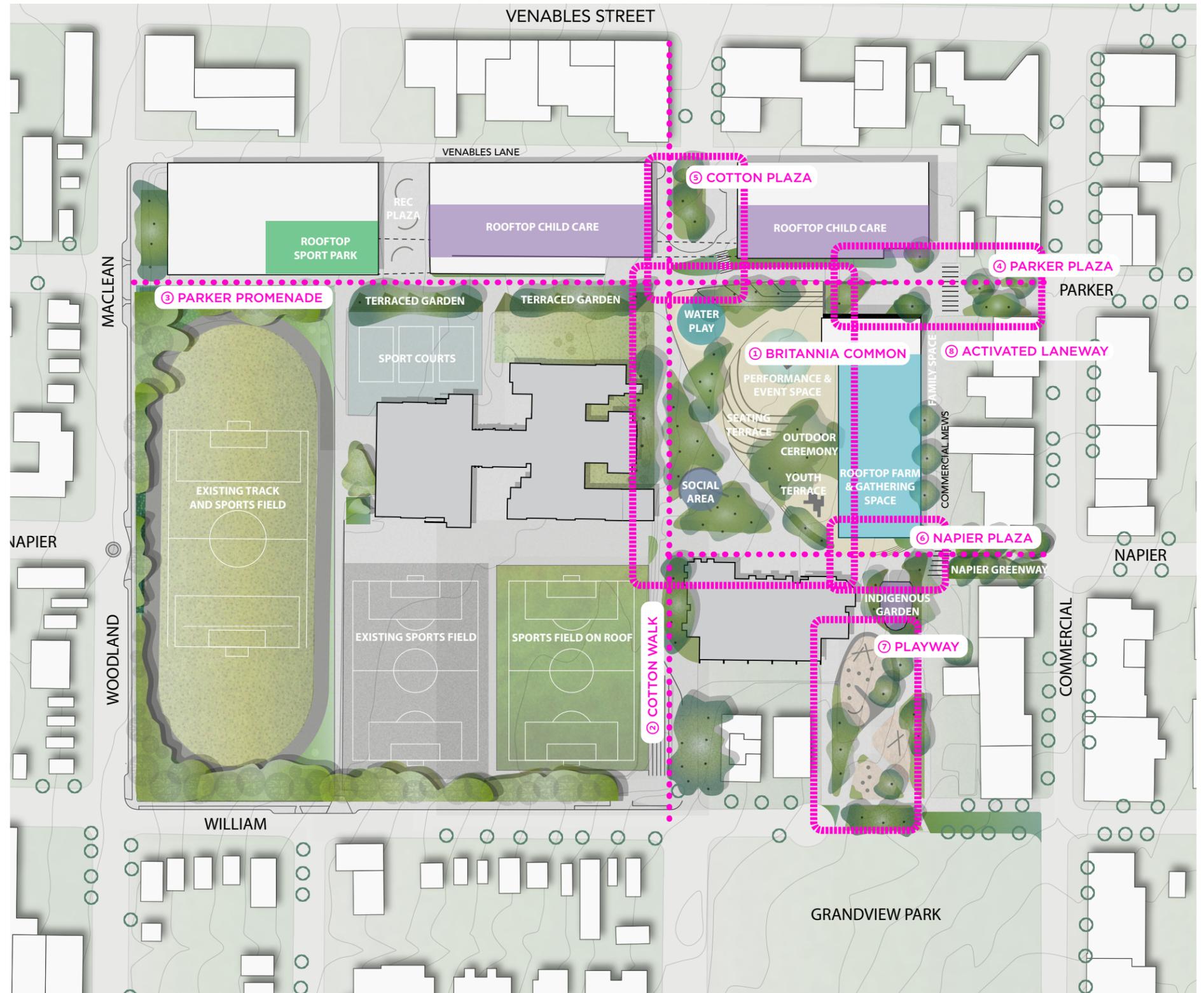
The following key themes for Britannia’s outdoor public realm were generated through the consultation process:

- Social Gathering and Outdoor Programming
- Arts, Culture and Food
- Green space and Ecology
- Outdoor Play and Recreation
- Views, Site Circulation and Safety

KEY PRINCIPLES

The following key principles for Britannia’s outdoor public realm emerged from the consultation process:

- Establish a focal heart that is vibrant with activity
- Cultivate an oasis of green space
- Provide a variety of gathering spaces, both large and small
- Celebrate the pedestrian character of the site
- Foster greater connectivity within and beyond the site
- Highlight long views to the mountains/downtown
- Create fun spaces
- Create multi-generational spaces
- Overlay uses for maximum flexibility



PUBLIC REALM SITE PLAN

PUBLIC REALM COMPONENTS

Vancouver's Grandview Woodlands neighbourhood has some of the lowest amounts of greenspace per resident in the city. The Britannia Renewal project aims to create opportunities to increase greenspace on the site, while also connecting to Vancouver's photogenic edges through long views with a goal to create a vibrant public space in the heart of the Grandview Woodlands neighbourhood. The character and design of the physical environment is important in developing a memory of place, and points of orientation as they move through Britannia. The Master Plan stresses the importance of enhancing physical, visual and cognitive connections to the adjacent public spaces and between components on the Britannia site. The flow of activity will be enhanced by providing a hierarchy of spaces to link site features and orchestrate movement through the site. Primary circulation routes through the site will accommodate various modes of mobility and larger groups of users, while secondary circulation paths will offer opportunities for refuge.

1 BRITANNIA COMMON

The Britannia Common is the primary public space within a renewed Britannia. This generous public space is framed by the historic Britannia Secondary School, the Britannia Elementary School, the Community Centre building and the Library building. The intent of the Common is to create a new type of public space in Vancouver that acts as a destination while also providing a seamless connection to the buildings that define it. The Common is defined by the following key elements:

- A large multipurpose gathering space to host performances, celebrations, community events and informal unprogrammed use throughout the year.
- An outdoor dining area and performance event space with stage framed by seat steps to act as amphitheatre for spectators.
- A central pathway which is graded at maximum 5% connects the Napier Plaza with the Cotton Plaza.
- An integrated water play feature anchors the NW corner of the Common. This is proposed as a dry deck fountain that can be turned off to allow for alternative uses of the space when dry. It is anticipated that the interactive fountain will be a draw throughout the summer, bringing life into the heart of the Common.
- Large beds of indigenous plantings to bring a natural

character to the space.

- An Indigenous ceremonial place adjacent to the indoor space for Indigenous activities. This place will be set within indigenous plantings including Western Red Cedar.

2 COTTON WALK

Cotton Walk is a pedestrian priority walkway that restores the North-South Connection through Britannia that was lost with the expansion of the Secondary School. By providing an extension to the existing street grid, Cotton Walk helps to connect the surrounding community to the Britannia campus and improves clarity of movement within the 18 acre site. The walk cuts across the slope of the site and has moderate grades (2-3%) for accessible access.

Cotton Walk will provide emergency vehicle access and the occasional truck traffic (such as food trucks) to support events within the Common. Cotton Walk is designed to feature panoramic views of downtown across a new raised artificial turf field that sits above the relocated secondary school shops and classrooms. This "green corridor" will include plantings and benches to enable rest stops for seniors and other citizens.

3 PARKER PROMENADE

The Parker Promenade extends from Commercial Drive through to McLean Drive while providing a public realm connection to each of the new facility's entry's. The promenade is integrated with Parker Plaza to provide a presence along Commercial Drive drawing people into the Britannia Site. The promenade connects each new building entry with the significant public spaces along the north side of the site. The Promenade has a consistent 5% grade, flattening out where it is intersected by North/South connections.

A significant hydro duct bank below the Parker right-of-way restricts the ability to build structures or modify the grades in this zone and has been the primary driver for the Parker Promenade. This duct bank follows a continuous 5% grade which is capitalized on to provide an accessible route through the site without the need for railings or landings.

Between Cotton Walk and west end of the High School sport courts, a series of terraced rain-gardens will capture stormwater runoff from the site's main paved areas while also providing an

opportunity for education and public realm enhancement.

4 PARKER PLAZA

The Parker Plaza defines the East end of the Parker Promenade and extends from Commercial Drive to the entrance of the Community Centre Facility and the Library. The Plaza will be the main point of arrival to the Britannia site. A key consideration for the Parker Plaza will be to establish a presence on Commercial Drive to increase the visibility of Britannia to the greater community. This may include signage or other design features within the Parker right-of-way where it meets Commercial Drive. The Parker Plaza will be pedestrian priority with the paving treatment extending across the Commercial Mews in order to connect to the spaces on both sides. The Plaza will include tree planting, planting beds, opportunities for small gatherings and seating.

5 COTTON PLAZA

Cotton Plaza is located at the intersection of the Parker Promenade and Cotton Walk. This is one of the most active places on the Britannia site. The plaza is the primary access to the recreation complex that includes the pool and gymnasium, and the point of access to the concourse which connects to a youth sports park situated on the roof of the Rink. An interactive water feature connects the Plaza with the central Common, and provides a focal point for activity and public life in the summer months. The north edge of the Plaza is defined by the vehicular drop off, and a bike parking area.

6 NAPIER PLAZA

Napier Plaza builds on the success of the existing pedestrianized Napier Greenway which connects the Britannia site with Commercial Drive. The Napier Plaza integrates with the Greenway by extending a pedestrian priority treatment across the laneway creating a renewed place of arrival. The Plaza connects the entries to the Community Centre facility with the Elementary School and the new Playway. The Plaza will feature the ̓x̓q̓eləwən ct Carving Centre in a place of prominence on the site. Although indigenous plants are used throughout the site, these plantings and/or gardens should be a particular focus around the ̓x̓q̓eləwən ct Carving Centre.

7 PLAYWAY

The Playway is an important piece of the public realm connecting Grandview Park and the Britannia Common. The Playway will establish a “green link” through the site and an enhanced play experience building on the success of the newly developed playground on the north side of Grandview Park. Children are a key user group of the Britannia public realm, whether during or after school hours or on weekends. Britannia Elementary students clearly emphasized a desire for play and sports in the public outdoor places, particularly an intermediate playground to offer challenging play opportunities for older students.

Adult play is specifically addressed through the inclusion of playful elements that work at a variety of scales. The possibilities will range from creative and engaging site furnishings, to play and recreation features. Opportunities for spontaneous creative activities will be offered through the provision of intimate spaces for music and performance. The needs of more mature and senior citizens will be considered in the design of these playful spaces, whether as spectators or active participants.



Rooftop playscape

8 ACTIVATED LANEWAY

The laneway between the new Community Centre Facility and the existing businesses on Commercial Drive are re-envisioned as the Commercial Mews. The mews will be activated through the provision of outdoor spaces for the family centre and artist studios as well as three passenger drop off areas and pedestrian walkways. Paving materials and plants will create a visually seamless space that will read as public realm rather than street space.

ROOFTOP OUTDOOR SPACE

The Rink building roof presents the opportunity to create a sports park and lounging area for youth that is directly accessible from Parker Promenade via a bridge alongside the walkway. Youth play will be provided in a concentrated manner through the provision of a sports park on the rooftop of the Rink building.

All rooftop spaces will provide public space aimed at specific user groups and long views across downtown to the North Shore Mountains. Both Gym/Pool building and Library building will offer secured outdoor childcare play spaces with a covered portion as weather protection. The new Community Centre facility will provide food gardening opportunities that include winter gardening and gathering space in a rooftop greenhouse.



Monash University Northern Plaza

People watching, meeting and eating

CONNECTION TO NATURE

Opportunities to connect to nature are provided throughout the site. Priority is given to plant species mostly indigenous to British Columbia, making them sustainable, bio-diverse and a contributor to the creation of a place-specific identity for Britannia. The gardens exist as a learning space where people of all ages can come together to learn in a natural and welcoming environment. More intimate social spaces are nestled into planted areas, giving people the experience of being “lost in nature” within a dense urban area.



Keene State Science Centre

Connecting to nature

MAPPING DAILY AND YEARLY PUBLIC REALM ACTIVITIES

Working in small groups, workshop participants were asked to map out Public Realm activities in a typical 'Day in the Life' and 'Year in the Life' at Britannia. Three diagrams reflect input gathered in May 25 and May 27, 2017 Public Realm workshops.

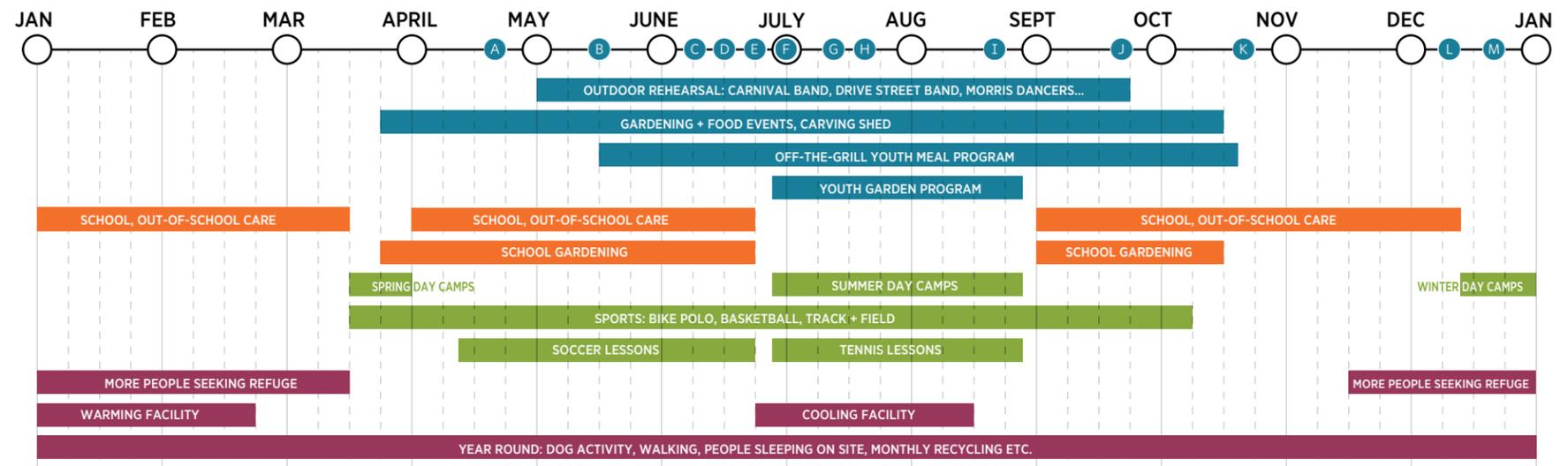
- Day in the Life - Weekday
- Day in the Life – Weekend
- Year in the Life

The Master Plan responds to, reflects and expands on the diverse range of activities that Britannia's public realm currently offers. The specific intent of the renewal concept is to provide quality space for existing activities, while also allowing for activities that presently do not have adequate space to become an integral part of the outdoor public realm

YEAR IN THE LIFE

The diagram on the right illustrates the activities that happen throughout the year at the Britannia as it currently functions. It gives a sense of what public life revolves around during over the course of the year and shows longer term activities.

YEAR IN THE LIFE - BRITANNIA'S OUTDOOR PUBLIC REALM



LEGEND

FOOD + CULTURE
SCHOOL
PLAY + SPORTS
INFORMAL USE

FESTIVAL / EVENT

A VINTAGE BIKE SWAP (APRIL)	H CAR-FREE DAYS (JULY)
B STONE SOUP (MAY)	I CORN FESTIVAL (AUG)
C ITALIAN DAYS (JUNE)	J RECONCILIATION IN ACTION (SEPT)
D NATIONAL ABORIGINAL DAY (JUNE)	K PARADE OF LOST SOULS (OCT)
E SUMMER SOLSTICE COFFEE HOUSE (JUNE)	L CHARISTMAS CRAFT FAIR (DEC)
F CANADA DAY (JULY)	M SOLSTICE (DEC)
G ARTFUL SUNDAYS (JULY / AUG)	



Stone Soup Festival



Car Free Day Commercial Drive

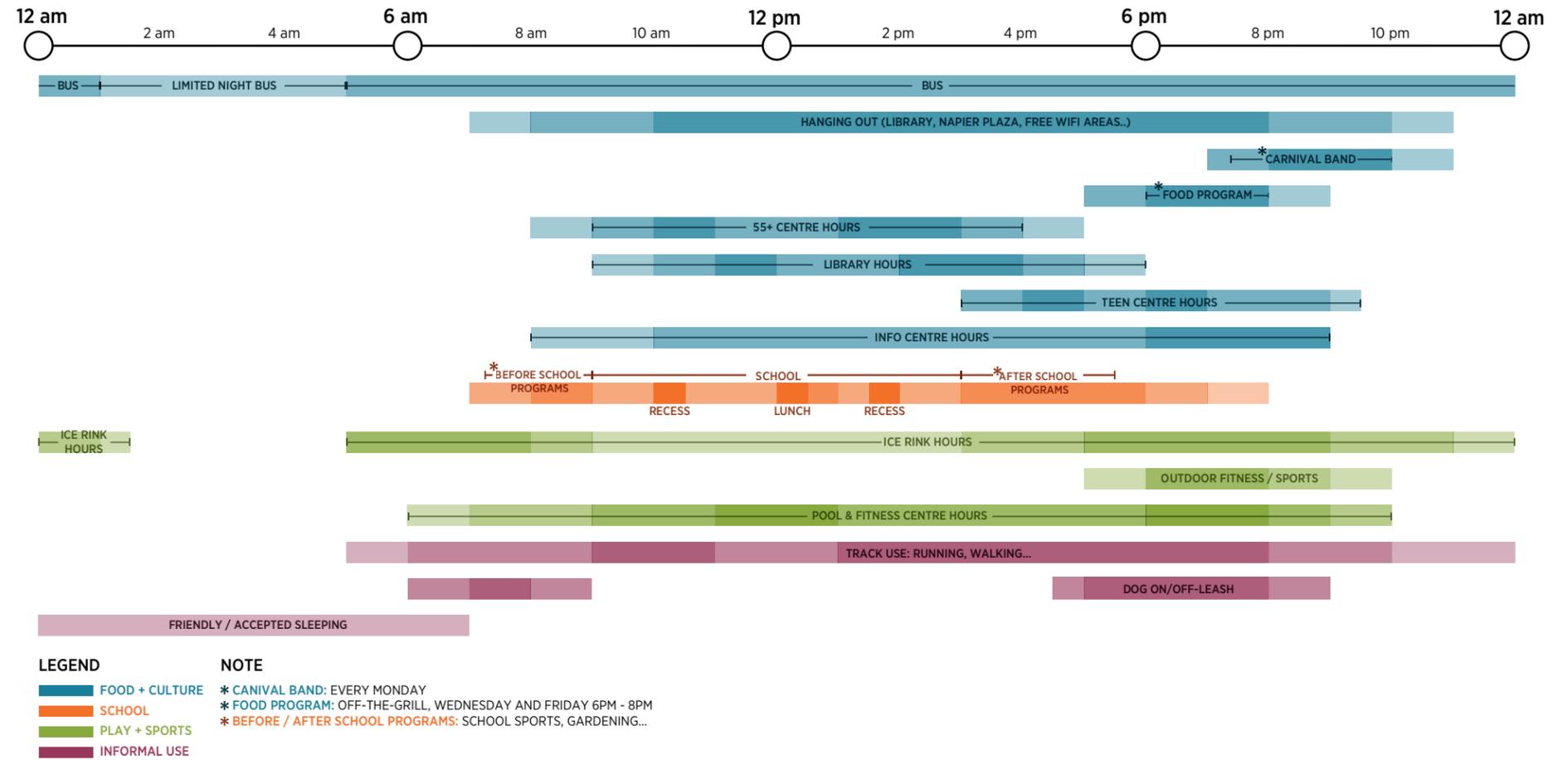


Parade of Lost Souls

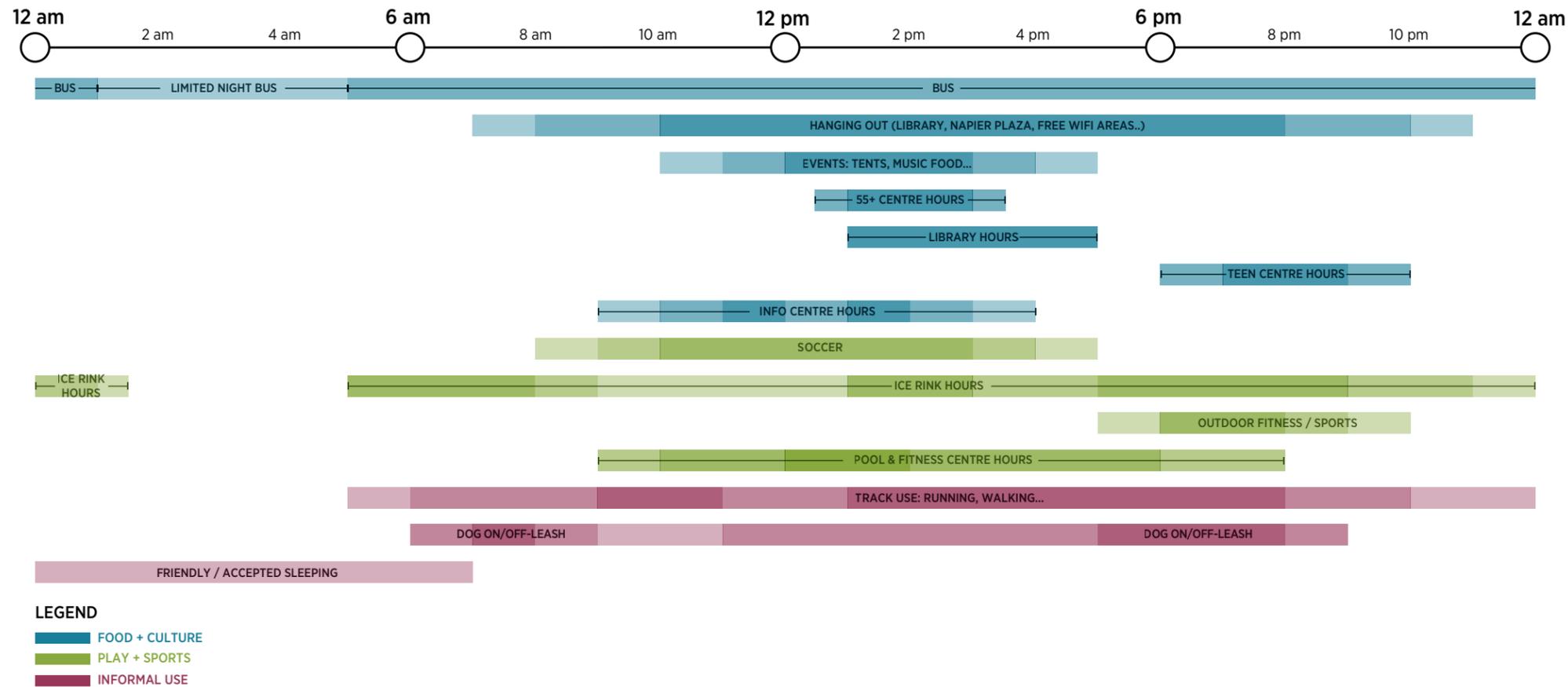
DAY IN THE LIFE - WEEKDAY

This diagram illustrates the activities that happen throughout the day at the Britannia as it currently functions. It gives a sense of what public life revolves around during typical weekday.

DAY IN THE LIFE (WEEKDAY) - BRITANNIA'S OUTDOOR PUBLIC REALM



DAY IN THE LIFE (WEEKEND) - BRITANNIA'S OUTDOOR PUBLIC REALM



DAY IN THE LIFE - WEEKEND

This diagram illustrates the activities that happen throughout the day at the Britannia as it currently functions. It gives a sense of what public life revolves around during a typical weekend day.



5.6 CIRCULATION + ACCESS

CIRCULATION + ACCESS GOALS

The circulation on and to the site has been organized to support **ease of access, pedestrian priority, and community connectivity**.

In developing the site it will be of particular importance to manage loading, drop off, and pedestrian use of laneways to improve safety and user experience.

Key circulation principles have been identified to facilitate these goals and they are as follows:

PEDESTRIAN

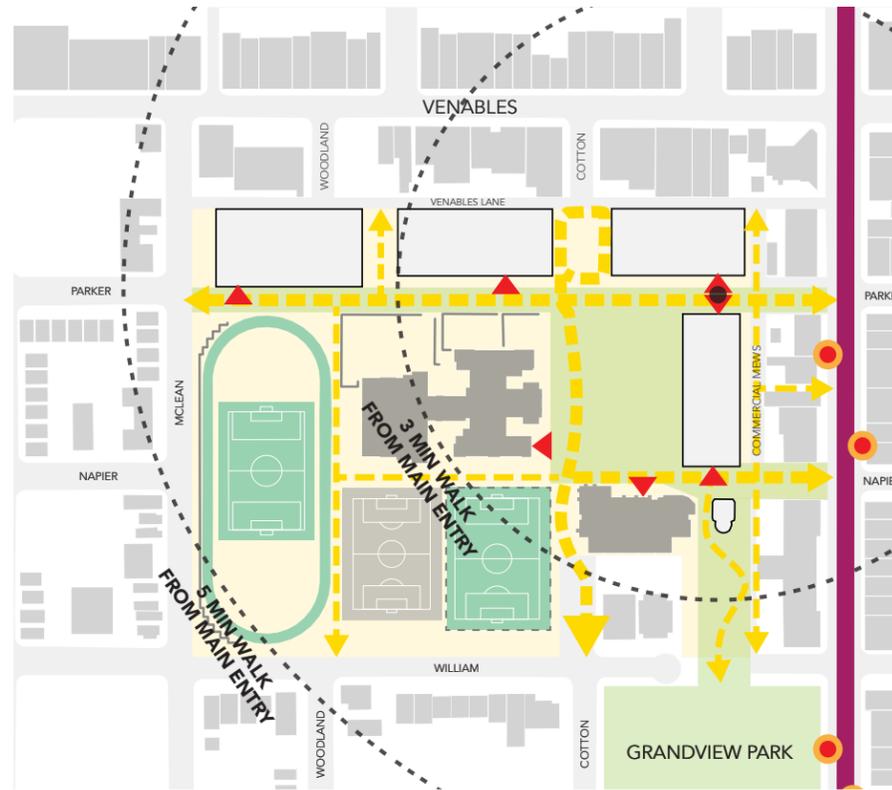
- Locate cultural and community centre facility entries close to transit and Commercial Drive
- All pedestrian circulation routes to have a maximum slope of 5% to facilitate accessibility for all, including those in wheelchairs, on scooters, or pushing strollers or carts.
- All parts of the site are within a 5 minute walk from the main entry to the community services centre facilities.

VEHICULAR

- Limit vehicular circulation to the site from Venables Street along Cotton and Woodland
- Access to underground parking from Venables Lane
- Passenger drop off to be on Cotton Plaza and along Commercial Mews (formerly Commercial Lane)
- Emergency vehicles to access site along Cotton and Woodland

BICYCLE

- The site is framed by bike routes on two sides - an official bike route runs north south along Woodlands and McLean, and an anticipated bike route runs east west along William.



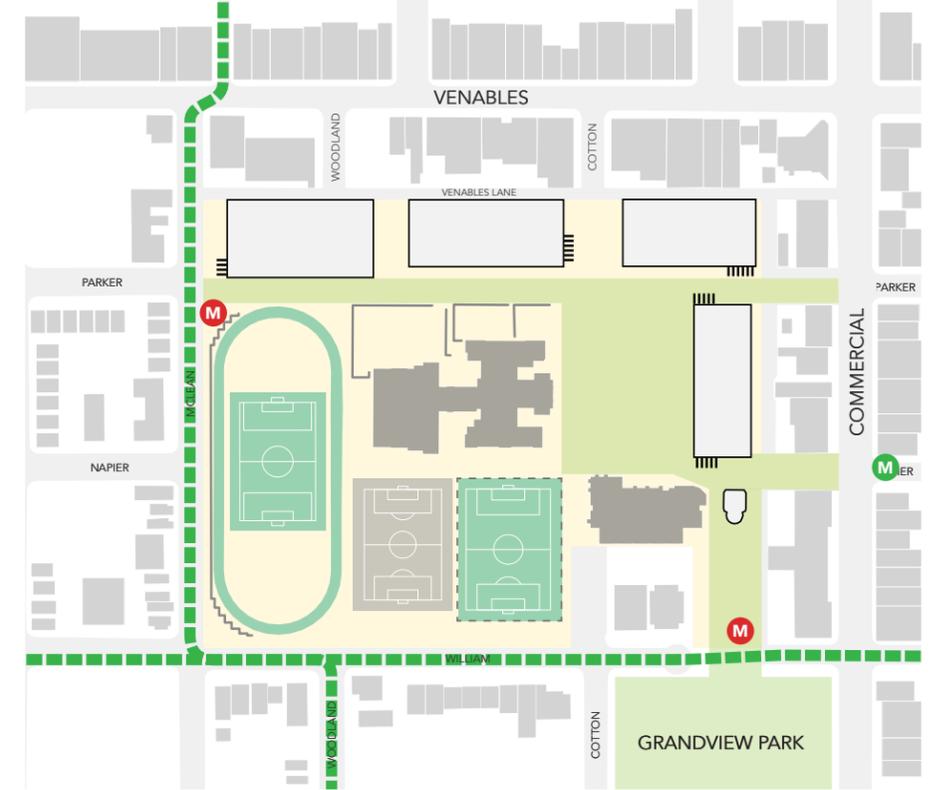
PEDESTRIAN ACCESS + CIRCULATION

The site will be accessed by pedestrian greenways that align with the connecting street right of ways. These pathways will be at a maximum 5% slope to facilitate accessibility for all.

Access to community facilities are concentrated on the Parker Promenade and access to the schools are concentrated on the Napier Greenway. A greenway is proposed for Parker between Commercial Drive and the site to improve connectivity to the site. Other opportunity for improved connection to the Drive is through improvement to the mid-block connector between the Parker and Napier Greenways.

LEGEND

- ◀---▶ Pedestrian Path
- Bus Route
- Bus Stops
- ▶ Building Access



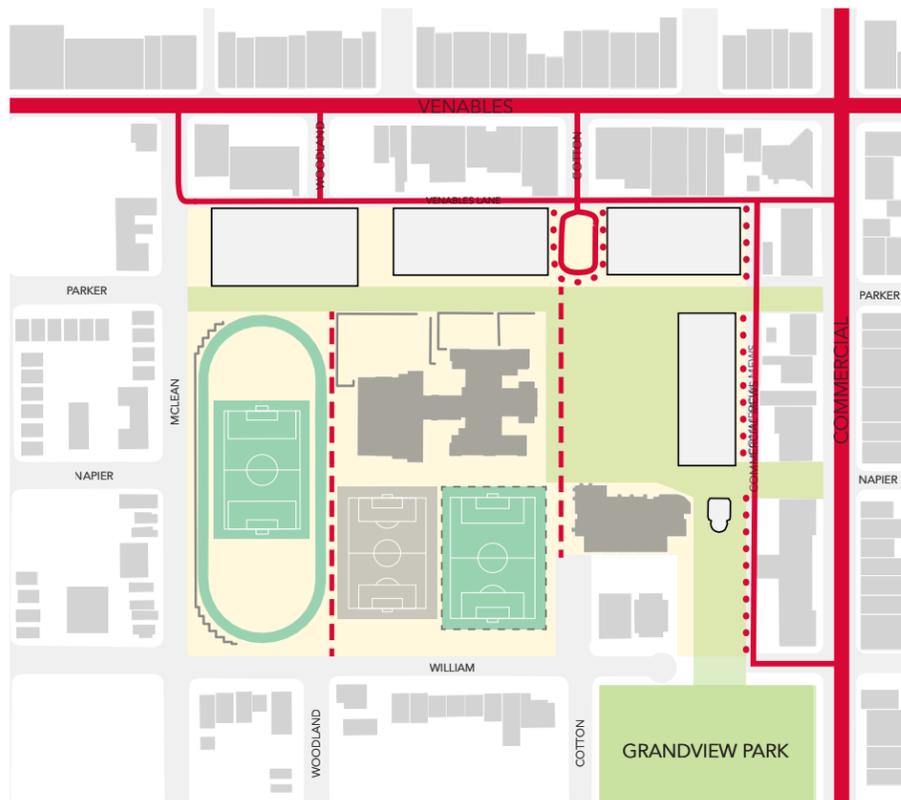
BIKE ROUTES + PARKING

The site is framed by bike routes on two sides - an official bike route runs north south along Woodlands and McLean, and an anticipated bike route runs east west along William Street.

Bike Share stations are to be provided at the entry to the site from Grandview Park and at Parker and Commercial. Covered bike racks to be provided at the entry to each building within site of the doors. Bike lockers and end of trip facilities to be provided for staff.

LEGEND

- Bike Routes
- ||||| Personal Bike Parking
- M Bike Share Existing
- M Bike Share Proposed



VEHICULAR ACCESS + CIRCULATION

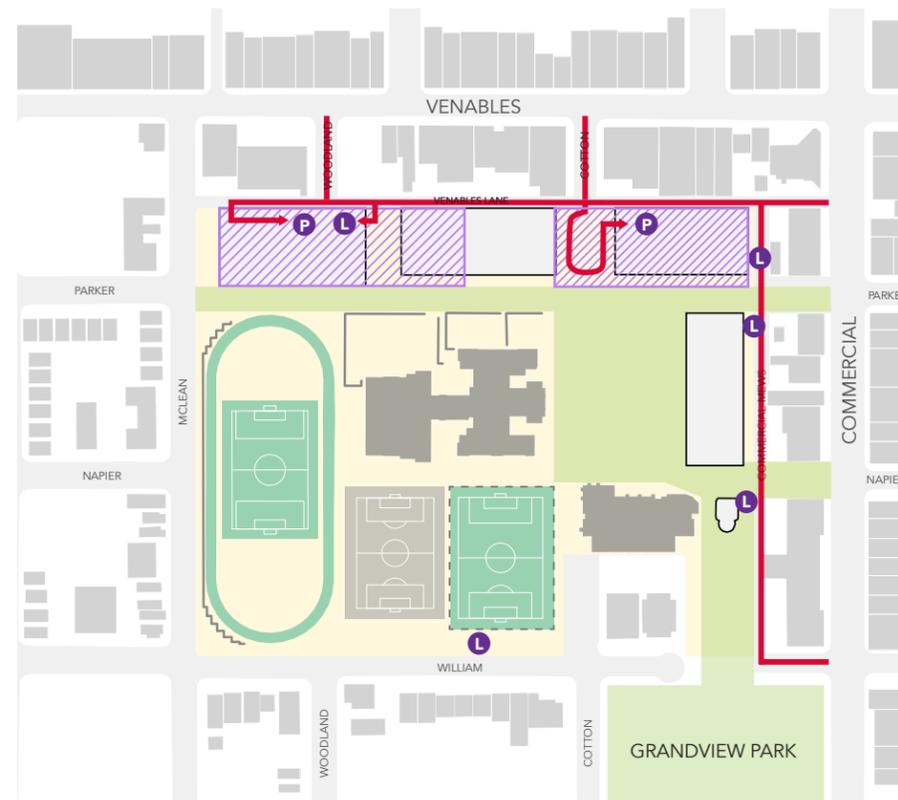
Vehicular access to the site is from Venables Street via Cotton Drive, arriving at a plaza turnaround and drop-off.

The Commercial Mews will provide opportunities for drop off for the Community Centre, Library, and Elementary School.

Emergency vehicle access will be north south through the site along the Cotton ROW and the Woodland ROW.

LEGEND

- Vehicular Access
- - - Emergency Vehicle
- • • Drop Off



PARKING + LOADING

All parking on site is to be located underground, preserving the ground plane for public use. Parking is located under the facilities along the Parker ROW (right of way) and will be accessed via the Venables Lane.

Access to Loading for the Rink and Pool will be off the Venables Lane. Access to Loading for the Library and Community Centre will be off the Commercial Mews and beneath Building 3. Refer to 6.14 Traffic, Parking, and Loading in Detailed Requirements section for further recommendations on these aspects of the Master Plan.

LEGEND

- Underground Parking
- P Parking Entry
- L Loading
- Access Routes

5.7 SUSTAINABILITY + RESILIENCE

SUSTAINABILITY + RESILIENCE GOALS

Through the process of renewal and redevelopment, the new Britannia site will be a leader in regenerative design and resilience.

This ambition reflects the collective community vision that the redevelopment of the Britannia site should not simply reduce its impact on the environment, but restore ecosystem services and provide a net benefit to both local and global ecosystems.

Through the redevelopment of the site, numerous opportunities (illustrated in the combined sustainability measures diagram on the right, and specific diagrams following) arise to:

- Improve the **ecology** of the area through open greenspace and green roofs, natural landscapes, preservation and enhancement of the tree canopy and stormwater management.
- Improve the **building energy efficiency** by designing to Passive House levels of performance wherever possible.
- Explore **community-scale energy infrastructure** to connect to low-carbon, renewable sources of energy, including solar panels, geo-exchange beneath some or all of the playing fields, and waste heat exchange between buildings.
- Improve the neighbourhood's **resilience** to extreme weather events by building social connectivity and designing for "passive survivability" and some form of self-sufficiency with regards to energy generation.
- Build upon Britannia's current programs of social support to create a place of **refuge and support for vulnerable people**.
- Foster diversity, vibrancy, and resilience through inclusion of non-market **housing that supports low-income residents and reflects the diverse character of the community**.

The new buildings on the site will also be designed to be both simple to operate and adaptable over time as the needs of the community change.

STANDARDS/TARGETS FOR BUILDING AND SITE PERFORMANCE

There are a number of policies and plans that the new Britannia site will need to align with, including the City of Vancouver's

Greenest City Action Plan, Zero Emissions Building Plan, Healthy City Strategy, and Climate Adaptation Strategy. The site should set the following broad goals:

- All new buildings (except for the ice rink and pool) will be constructed to a Passive House level of performance
- The site as a whole will achieve a net zero carbon level of performance
- Individual buildings across the site should seek the Fitwel certification standard
- As a piece of social infrastructure, the site and its redevelopment should help to build social connectivity and facilitate opportunities to stay active.

COMMUNITY VISION

The public consultation process made it clear that there is a strong desire to "respect and enhance the natural world". This ambition reflects the collective ideal that the redevelopment of the Britannia site should not simply reduce its impact on the environment, but restore ecosystem services and provide a net benefit to both local and global ecosystems.

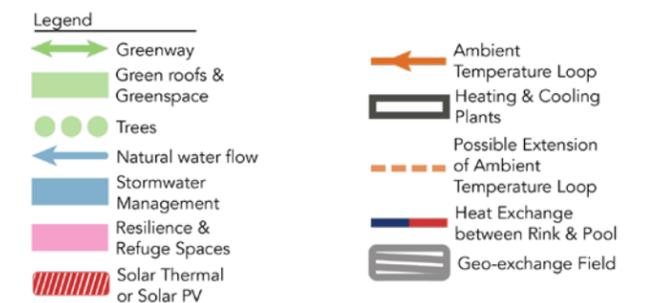
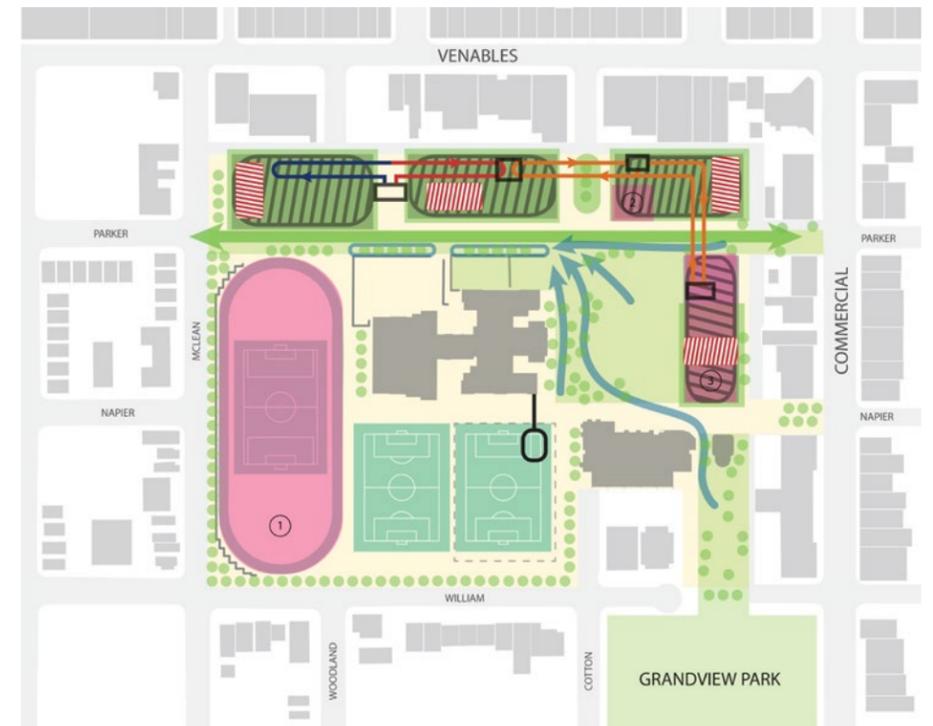
The community expressly showed interest in:

- Indigenous design principles
- Respect and enhance the natural world
- Caring for and protecting the land - leave it better than when you arrived and use only what you need
- Net Positive – Regenerative Design
- Flexibility and adaptability to change
- Resilient facilities that can act as a hub for disaster relief
- Alternative energy
- Greywater system
- Increasing green spaces - re-wild the site - less paving – more plants and natural life
- Harvesting corridors – Indigenous landscape, plants, food and medicines
- Recycling/re-use hub

SITE + PROGRAM OPPORTUNITIES

The Britannia site is a large contiguous land area spanning roughly three city blocks that slope east to west. This large site provides the opportunity to create open green spaces, improve access to natural landscapes, and improve site permeability. The program also offers the opportunity to share energy between building uses and capture waste heat for re-application across the site.

There is also an opportunity to explore approaches to "hard-wiring" wellness into buildings, such that they contribute to building social as well as environmental well-being. This can be achieved through a variety of methods, from the thoughtful choice of materials to the use of passive ventilation strategies.

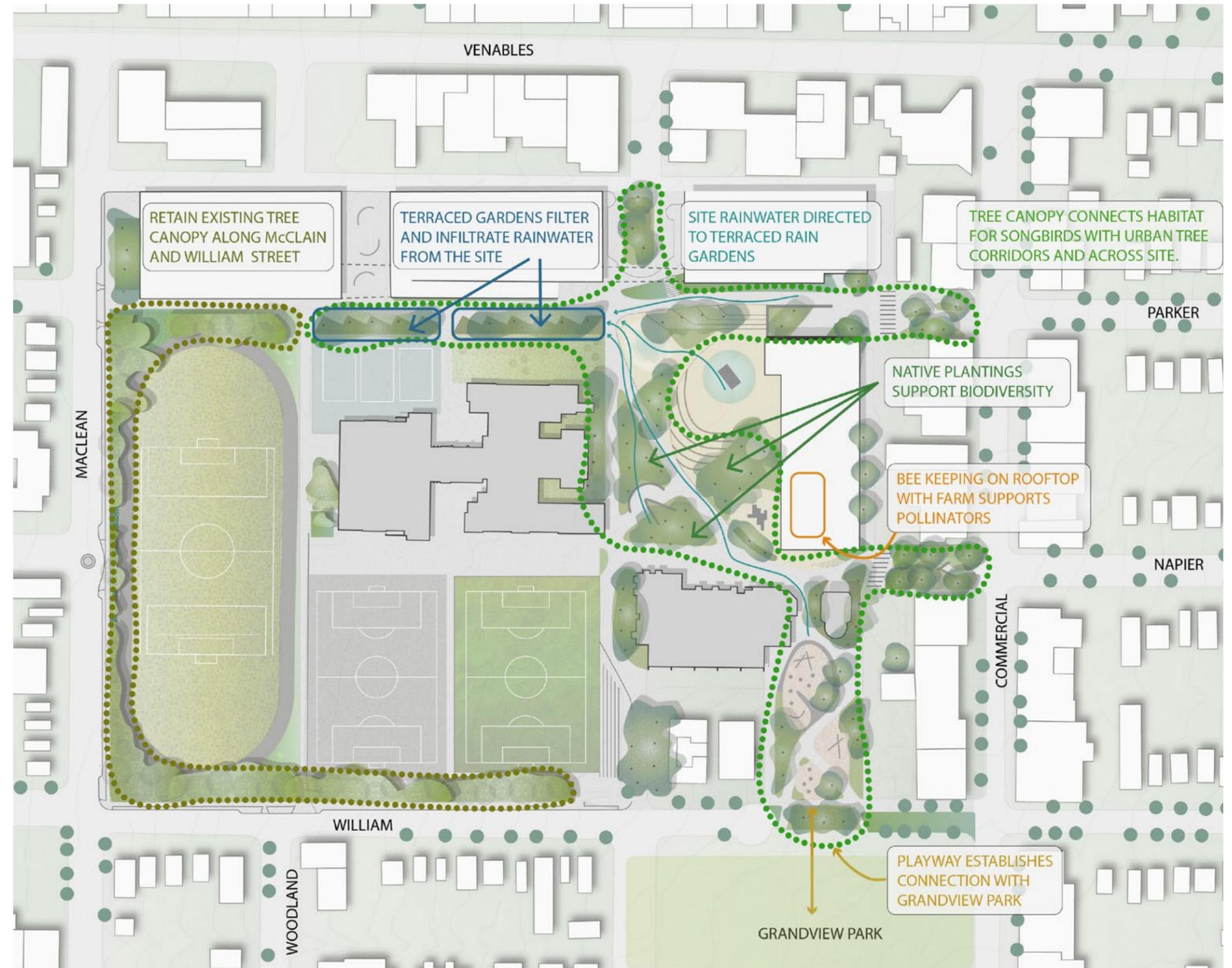


SUSTAINABLE SYSTEMS PLAN

ECOLOGY

The site's ecology includes all the natural elements, including greenspace, trees, and water. The new Britannia site will integrate these natural elements across the entire area, and will be designed to:

- Add open greenspace and new trees wherever possible, particularly along the edges of the site
- Create a greenway along Parker Promenade + extend the Napier Greenway
- Retain and enhance tree canopy to the maximum extent possible
- Provide natural habitat for local plants and animals to preserve and enhance existing biodiversity
- Install educational signage to indicate natural species, pollinator species, and drought-tolerant plants
- Explore the possibility of an on-site "Living Machine" to treat wastewater and heat the greenhouse
- Increase the permeability of the site to reduce stormwater runoff by increasing natural areas and using permeable or porous alternatives to traditional paving
- Plant drought-tolerant landscaping to reduce water usage
- Install green roofs to help capture and reuse greywater, and reduce stormwater runoff
- Remove sediment and contaminants from stormwater by installing bioswales and 'Stormceptors'



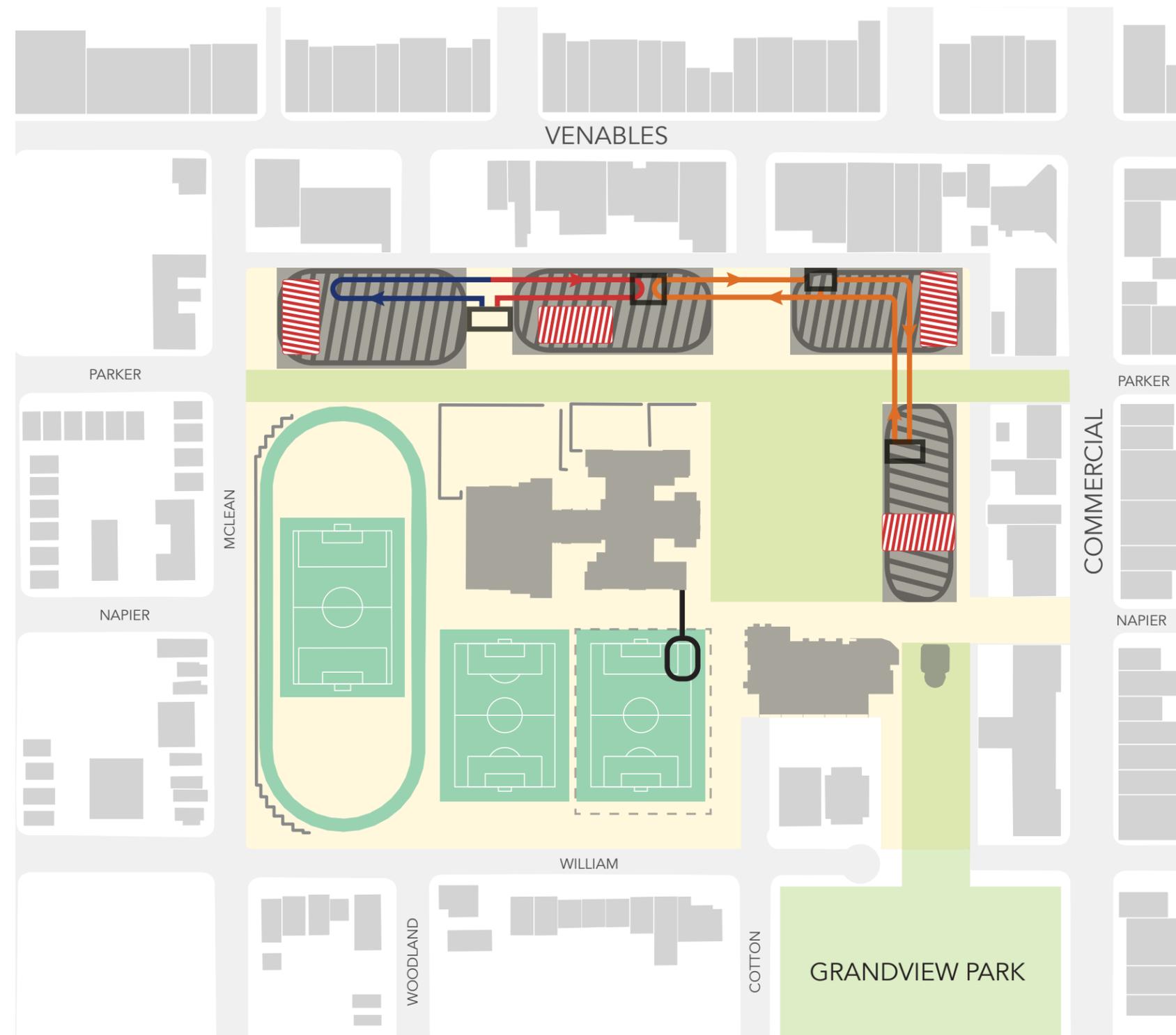
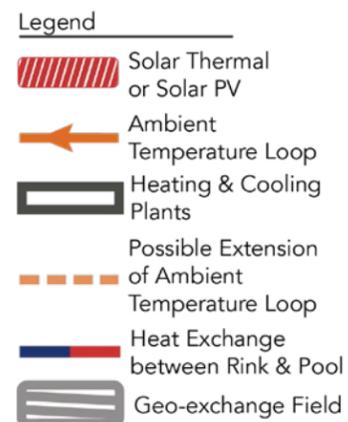
SITE ECOLOGY PLAN

5.7 SUSTAINABILITY + RESILIENCE

ENERGY

The renewed portions of the Britannia development will be designed and constructed to achieve ultra-high levels of energy performance, and a net zero carbon emissions target. These goals will be achieved by exploring the following strategies:

- Minimize energy demand by designing new mixed use buildings to target a Passive House level of performance
- Optimize the energy efficiency of the ice rink and pool
- Share energy between buildings through an Ambient Temperature Loop
- Capture waste heat between buildings for re-use across the site
- Produce on-site renewable energy using solar photo-voltaic (PV) or solar thermal systems
- Use geo-exchange fields as a low-grade source of heating and cooling.



ENERGY STRATEGIES PLAN

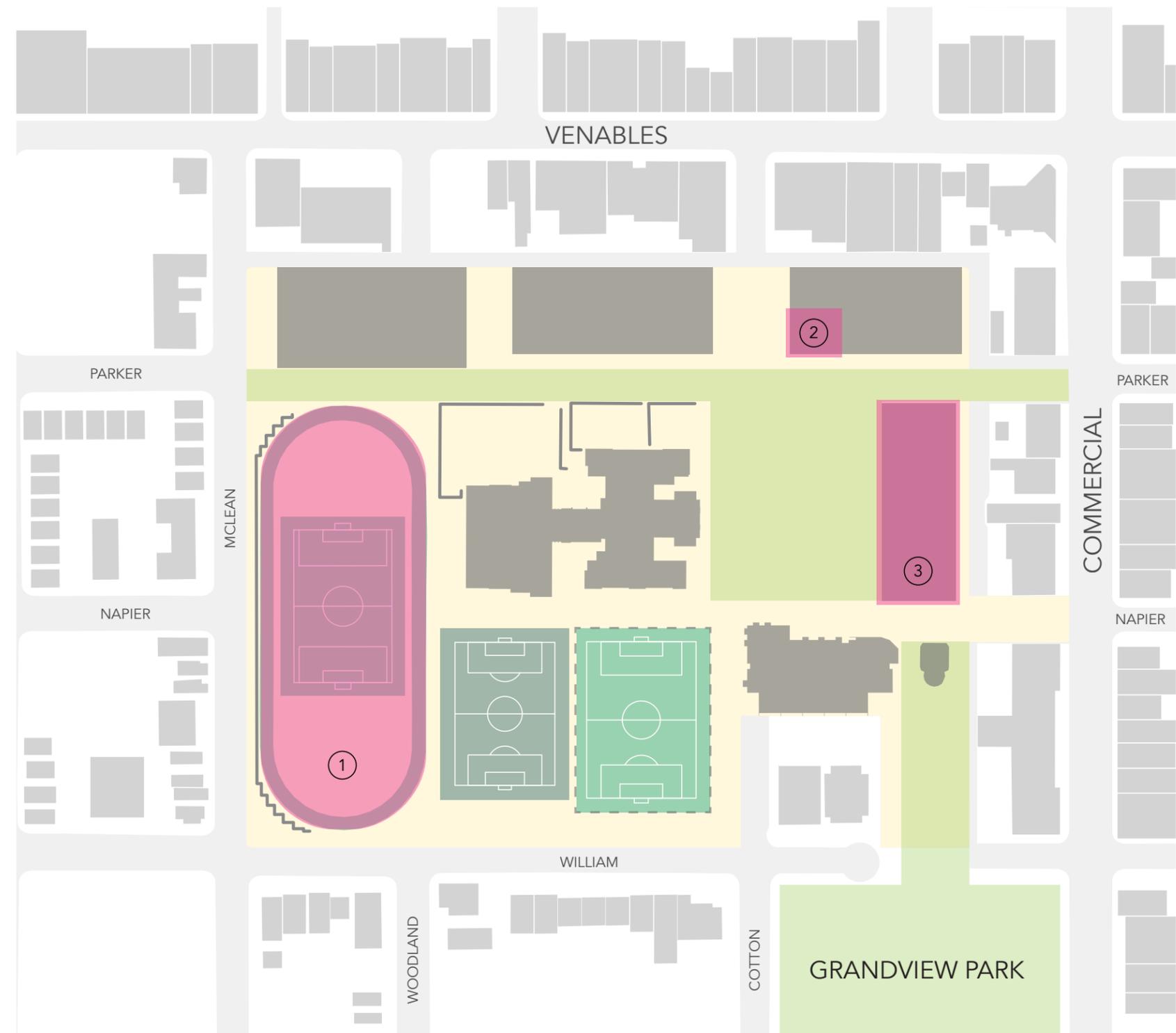
RESILIENCE & REFUGE

The new Britannia site will address several key resilience issues and improve the community's ability to respond to the shocks and stresses that it experiences. This will be achieved through the following design considerations:

- Provide communal educational space where people can strengthen their community connections
- Provide a flexible refuge space which can function as a warming centre, activist space, social enterprise space, or resilience centre
- Design Gyms D + C to be able to function as emergency shelters in the case of community emergency such as a building fire
- Ensure Britannia can be a place where people can gather, both before and after a disaster
- Create and store energy on-site using solar panels and battery storage to ensure some core functions will be able to stay in operation if power supply is interrupted
- Provide space for a cooling centre in the community centre in times of extreme heat
- Provide shaded areas throughout the site
- Ensure public access to drinking water by installing water fountains on the site, so people can stay hydrated in times of extreme heat

EMERGENCY OPERATION

During emergency situations, people often congregate in large public buildings such as Community Centres. While the buildings will not be built to post disaster standards, the Britannia Community Centre is considered to be a high importance building designed to function as a community mustering place and partially function after a non-seismic disaster. This includes an emergency generator able to provide lighting, heating, ventilation, hot water and power to a portion of the site.



RESILIENCE & REFUGE PLAN

Legend
Resilience & Refuge Spaces

5.9 PHASING

PHASING PRIORITY

The following diagrams illustrate a proposed Renewal phasing priority. Development that impacts Vancouver School Board (VSB) spaces could slow down the development process. Projects that affect VSB spaces will need to align with VSB's seismic upgrade program and priorities. Phases 1, 2 & 3 do not interrupt operations or impact VSB spaces and allows the majority of the Renewal to be undertaken on the basis of available funding only.

LEGEND

- Phase with no impact on VSB spaces
- Phase requiring project alignment with Vancouver School Board (VSB) space
- Phase construction or temporary relocation
- New building
- Existing buildings to remain
- Deconstruction of existing building
- Boundary of Phase

PHASE 1



PHASE 2



Building 1
 Aquatics
 Fitness + Gym C
 Childcare
 Non-market housing
 Relocation of carving centre

Deconstruction
 Pool + Fitness Centre

Site Development
 U/G Parking
 Cotton Plaza
 Portion of Parker Promenade

Interim Renovation
 Existing Gym C could be renovated to be interim
 Food Hub + Event Space
 Access to U/G Parking

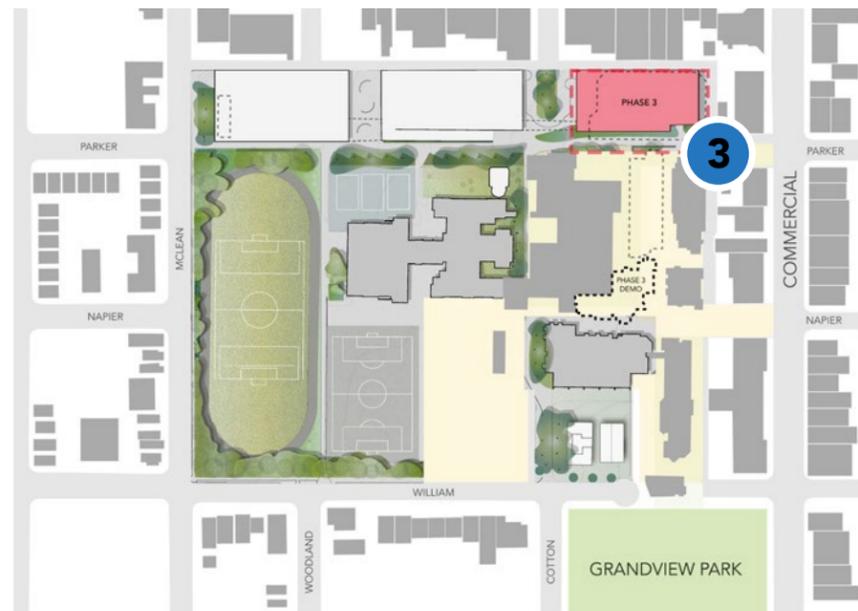
Building 2
 Rink
 Rooftop Sport Park
 Non-market housing

Deconstruction
 Rink
 Portable

Site Development
 U/G Parking
 Recreation Plaza
 Portion of Parker Promenade

Interim Renovation
 Locate at grade parking in demolished Rink footprint
 Relocate VSB Streetfront Portable and Farm to footprint of demolished Pool

PHASE 3



Building 3

Library
Art Galley
Childcare
Non-market housing

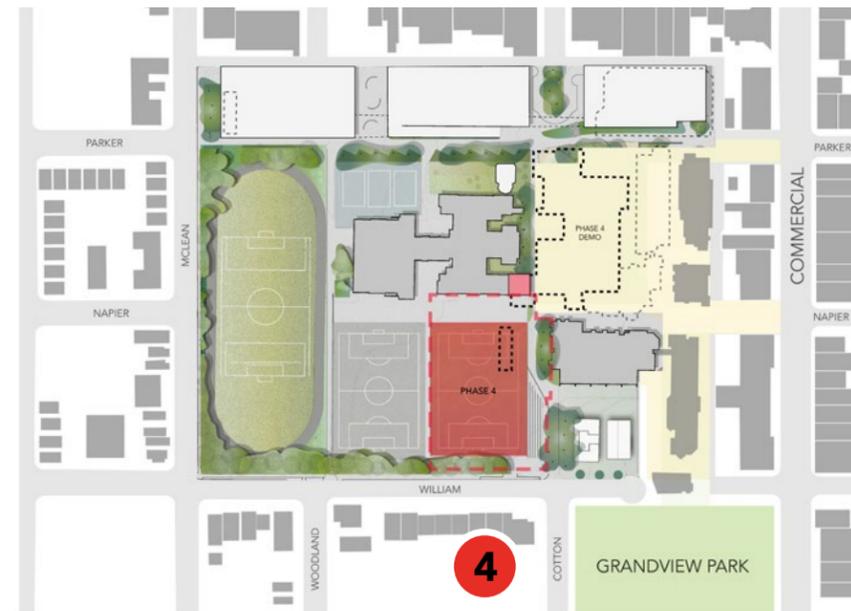
Deconstruction

Library
Preteen centre

Site Development

U/G Parking
Parker Promenade +
Greenway
Portion of Commercial
Mews

PHASE 4



Building 4

High School Shops +
Classrooms
All Weather Field
above

Deconstruction

High School Shops +
Classrooms
VSB portable

Site Development

Portion of Cotton Walk

PHASE 5



Building 5

Event Spaces + Food Hub
Social Hub + Art Studios
Meeting Rooms + Gym D
Social + Cultural Non Profit
Hub
Street Front School + Urban
Farm

Deconstruction

Gyms C + D
Teen Centre
Info Centre
Senior Centre
Childcare
Family place

Site Development

Common
Portion of Cotton Walk
Playway
Commercial Mews



6 DETAILED DESIGN REQUIREMENTS

6.1 OVERVIEW

REFERENCE DOCUMENTS

The Master Plan will meet or exceed the requirements to the following Partner Policies and Initiatives:

1. The Grandview-Woodland Community Plan
2. Approved City-wide Policies and Initiatives:
 - City of Reconciliation Framework
 - Healthy City Strategy
 - Greenest City Action Plan
 - Age Friendly Action Plan
 - Accessible City
 - Creative City Strategy
 - Making Space for Arts and Culture
 - Heritage Action Plan
 - Community Economic Development Strategy
 - Housing and Homelessness Strategy
 - Reducing Barriers for Trans & Gender Variant Community Members
 - Park Board Strategic Framework
 - Parks and Recreation Services Master Plan
 - VanSplash, Vancouver Aquatic Strategy
 - Urban Forest Strategy
 - Vancouver Bird Strategy
3. The policies of each of the Partner's Boards.

Detailed references to specific policies as they affect Space Needs can be found in the following Chapter.

POLICY FRAMING

The Grandview-Woodland Community Plan looks to cluster recreational facilities and programming spaces. As part of the expansion of key community facilities like Britannia, the plan also seeks to develop additional flexible and/or purpose-built space for youth social, cultural, recreational, and other programming.

COMMUNITY VISION

The community places a high value on Britannia's vital role as a multi-use community services hub - a one stop shop for active living, learning, arts and culture, and social development.

Recognizing that the facility can be more than the sum of its parts, it is important to capitalize on synergies between programs, service providers and community members.

It was widely acknowledged throughout the engagement process that the main barrier to improved use of Britannia is lack of space - whether it is meeting space, program space, or ice time.

The design as it evolves should maximize the flexibility of use for all program spaces, including providing ample storage to support maximum public utilization of the facilities.

For further information on Community Vision for each component of the facility spaces and places, refer to the Vision Report.

6.2 GENERAL SPACE QUALITIES

The community vocalized space qualities that would reflect Britannia's character and history including Indigenous presence, diversity of community, generosity, welcoming, collective nature and social activism. Some key space qualities requested are:

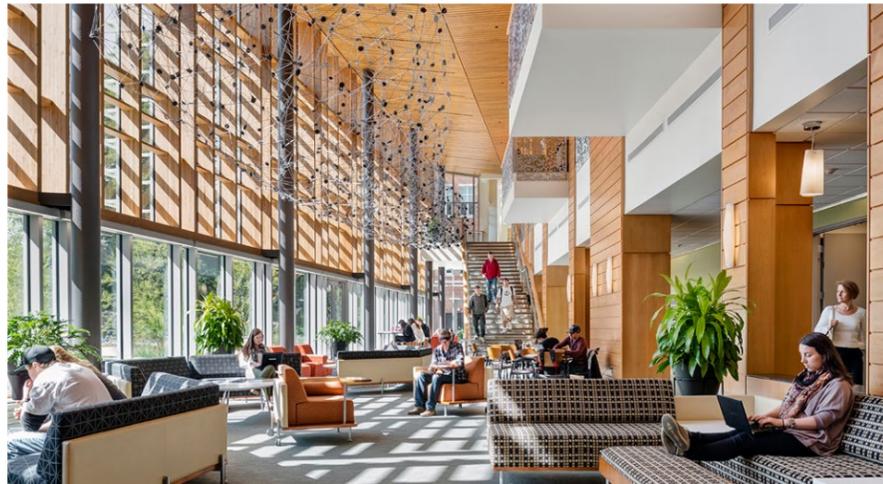
- Maintain village feel and home-like atmosphere
- Incorporate Indigenous design principles into built form
- A place where people feel comfortable and relaxed
- Welcoming
- Lots of natural light
- Connect to nature and the land
- Capture views
- Quiet, calm space
- Showcase activity
- Use natural building materials



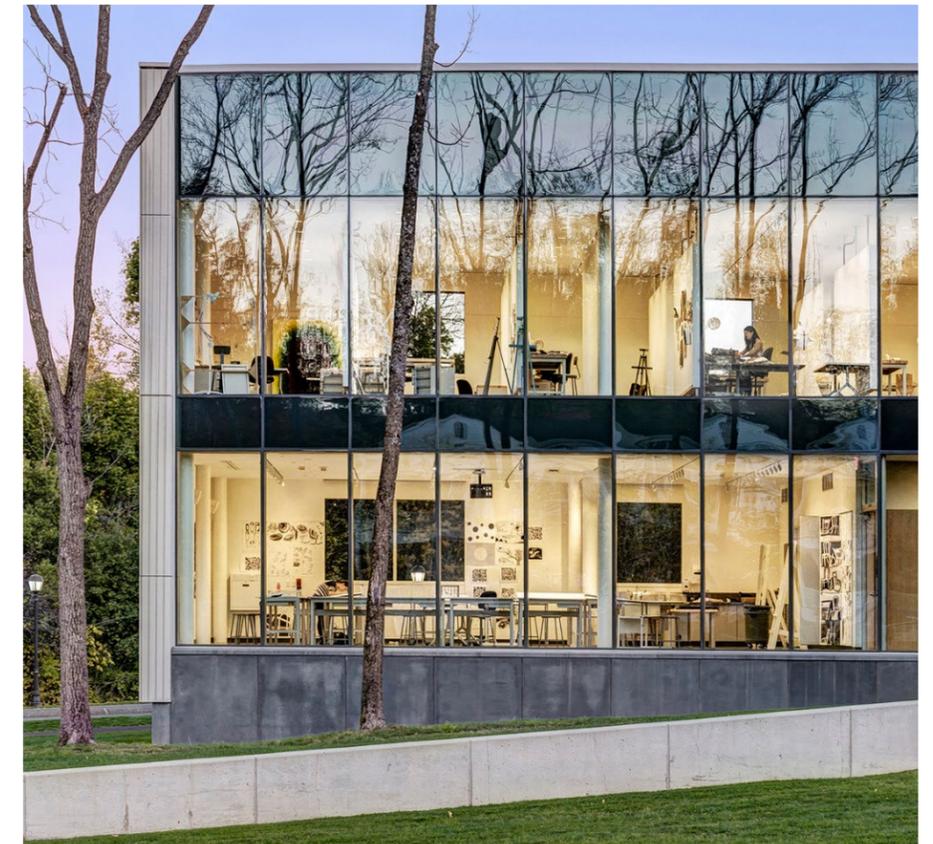
Connect to the nature and land



Lots of natural light



A place where people can feel comfortable and relaxed



Showcase activity



Be a beacon for the community



Sharing ideas

6.3 ACCESSIBILITY

In order to make Britannia more inclusive and accessible - both physically and financially, the following should be incorporated:

Make visible and connect to the community

- Beacon for the community
- Signs on transit system
- Easy to find entry
- Connect to local street network, particularly The Drive
- Connect to Grandview Park

Welcoming

- No one is excluded – welcome all
- Warm open environment
- Easily approachable - not intimidating
- A space that feels like home
- Incorporate Indigenous approach to space

Easy to navigate

- Coherent layout of spaces - easy to understand
- Multiple entrances - potential for different addresses at the different entry points for ease of way finding
- Clear wayfinding

Provide ease of access to all areas of site

- Ease of access, welcoming and inclusive
- Respect diversity, no barrier, and enable privacy
- Accessible for all physically challenged including families with strollers, hearing and sight impaired, and those with mobility challenges
- Address topographic challenges
- Parking close by the entrance

Language

- Consider use of language carefully
- Explore renaming Britannia for post-colonial world
- Incorporate local Indigenous languages
- Welcome in many different languages
- Signage, multi-language, braille

Unbiased access

- Genderless washrooms
- Universal change-rooms
- Breast feeding room

UNIVERSAL CHANGE ROOM



Safe

- Supportive and safe environment for everyone
- Eyes on the street - public realm visible from inside
- Improved exterior lighting
- Ease of visual surveillance without invading privacy
- Signs that welcome LGBTQ2S community
- Ensure privacy

Parking for all

- Scooters, shopping carts, strollers, bikes, and motor vehicles

6.4 INDIGENOUS VISION + ENGAGEMENT

POLICY FRAMING

The City of Reconciliation Framework's long-term goals are:

- Strengthen local First Nations and urban Indigenous relations
- Promote Indigenous peoples arts, culture, awareness, and understanding
- Incorporate First Nations and urban Indigenous perspectives for effective City services

The Grandview-Woodland Community Plan specifies that:

- Elements of Indigenous culture be included in future design of the community centre
- Efforts be made to support reconciliation and enhance social facilities, programs and cultural activities for Indigenous people

OVERVIEW

In acting on and striving for reconciliation and the needs of Indigenous people within the context of Britannia Renewal it is critical that the process of developing and realizing the design and delivering programs undertakes this work with the proper engagement going forward.

Continued engagement will be key to the responsive development of spaces, delivering programs and designing an appropriate and welcoming environment.

This Master Plan also creates opportunities for Indigenous visibility on the land - this includes naming, public art, sharing contemporary stories told from Musqueam, Squamish, and Tsleil-Waututh perspective, and Indigenous expression on the site and in the facilities.

ENGAGEMENT

- It will be important that the realization of this Master Plan follow the protocols of the local Coast Salish Nations including Musqueam, Squamish, and Tsleil-Waututh. Regular consultation and communication should be established throughout the project's development.
- The City is working on Indigenous engagement strategy that will address this.

- Differentiate between Musqueam, Squamish, and Tsleil-Waututh government to government engagement and engagement with urban Indigenous communities.
- Continued dialogue with and incorporation of the local urban Indigenous community and service providers.

ELDERS ADVISORY

- A community generated recommendation the Master Plan is to create an Elders Advisory for both Britannia in its operations and for this project as it evolves. This could be the beginning of an Elders in Residence Program.
- This Advisory body should be consulted to develop the spaces intended to meet the needs of Indigenous community members, especially in creating opportunities for Indigenous community members to practice ceremony, culture, gatherings: funerals, ceremonies (naming, coming of age, feasts) etc.

NAMING

- A large portion of the community consulted to date requested that re-naming the Community Services Centre from "Britannia" to a name that more fully reflects the local First Nations be considered in moving forward with renewal.
- The City is working on updating their commemorative naming policy. A first step for Britannia would be to work at

socializing the idea of a name change and educating their users about the history of colonial naming.

SPACES + PLACES

- The areas / spaces in the Master Plan that are particularly of interest to the Indigenous community are: a Healing Space, quiet consultation room, Elders in residence office, Performance space, Feast area (Food Hub), Indigenous planting and trees, ʔxʷqʷeləwən ct Carving Centre, outdoor ceremony space, intergenerational opportunities, and places to share and care.
- A welcoming, inclusive and culturally sensitive environment is a key priority.

Note: the particular Indigenous spaces and places ideas that we heard can be found woven throughout the other Spaces and Places sections of this document (Food Hub, Social Development, Arts + Culture etc.).



Posters with feedback from an Indigenous Vision Workshop



Utilize indigenous planting

KEY VALUES

Key values and principles that have emerged as part of consultation are as follows:

Centre Musqueam, Squamish, and Tsleil-Waututh language and culture

- Utilize and incorporate local languages, stories, and names throughout the Britannia site and overall design.
- Incorporate local First Nations knowledge and teachings into design

Honour role of Elders

- Prioritize accessibility for Elders through design and adjacencies
- Spaces for Elders to socialize, connect and heal
- Space for intergenerational and inter-cultural interaction and knowledge transfer
- Space where Elders can host youth and vulnerable adults

Land-based Learning

- Space to grow, harvest, and prepare food, medicines and other materials.

Support for vulnerable youth and adults

- Low-barrier, no cost space where all residents can gather, share

food, keep warm and connect with community

- Space for at risk youth who aren't in school or participating in programming (VPL currently serves this role)
- Support individuals who are homeless or at risk of homeless, youth transitioning out of care and out of school, and low-income residents

Ceremony & cultural gatherings

- Spaces for small and large gatherings and ceremonies
- Indoor opportunities to burn medicines
- Space to honour the dead
- Space for music and dance
- Appropriate arts working spaces
- Space for language learning
- Kitchens that can accommodate intergenerational teaching
- Consider a sweat lodge(s)

"Language is an important link to culture, identity, and wellbeing"



Share stories + language



šxwq'eləwən ct Carving Centre



Support cultural learning



"If it wasn't for the seniors centre, we would just go home after dance class. Having a space to hang out lets us connect and support each other"

Support gathering

6.5 SHARED PUBLIC SPACE

SHARED PUBLIC SPACE IS CRITICAL 'SOCIAL GLUE'. Community connections build a healthy city - we enjoy better health when we connect with our neighbours.

POLICY FRAMING

The Grandview-Woodland Community Plan supports the on-going renewal and expansion of Britannia Community Services Centre and the co-location of key facilities using a "hub" model.

SPACE NEEDS

Seen as the "social glue" that hold the overall facility together, the following space needs have been identified:

Main Entry

This is a space of orientation to the Centre as a whole from which one can understand the organization of the facility.

- Easy to find
- Welcoming
- Exciting

Info Centre

- Easy to find and approachable
- Providing concierge services for all aspects of the facility
- One stop shop for registration, information, and admissions
- Adjacent to Main Entry and Community Living Room

Community Living Room

Located at the heart of the Centre, the Community Living Room is to be an inclusive space to be comfortable and welcoming for all without participation in programs - a space to nourish incidental contact. It will be a place to hang out, for casual meeting, waiting, playing board games, chatting, etc. with comfortable chairs and tables that can be reorganized.

- Supported by a small kitchen to enable the community to prepare tea, coffee, and warm food up
- Adjacent to outdoor space to hang out and provide connection to children's outdoor play area
- Incorporate children's play area within the Living Room

Public Concourse

- Clear circulation spine to access all major program areas
- Incorporate places for waiting and viewing into program areas
- Access to all support areas such as washrooms
- Accessible and clear signage and way-finding
- Incorporate areas for stroller and scooter parking

ADJACENCIES

The Info Centre + Community Living Room should be co-located with the Social Development and Arts + Culture program spaces.



Easy to navigate - visual interconnection



Community Living Room - social mixing chamber



Orientation - Central info + welcome point

6.6 FOOD HUB

FOOD IS CENTRAL TO THE DNA OF BRITANNIA. There is a need for a food hub to provide healthy food on site and as a vehicle for sharing.

POLICY FRAMING

A key goal of the City's Healthy City Strategy is to feed ourselves well through a healthy, just, and sustainable food system. The Strategy also seeks to create a system for producing, processing, distributing, and consuming food that is environmentally, socially, and economically sustainable.

The Grandview-Woodland Community Plan looks to provide access to healthy and affordable food through enhancing local, community-based food assets and programs and to specifically ensure the Grandview-Woodland Food Connection Neighbourhood Food Network is well supported and has necessary space. Opportunities to better support culturally-based food-related programs are also encouraged.

COMMUNITY + BCSC CONTEXT

Working with the Grandview-Woodland Food Connection, Britannia works hard to meet this goal, but are challenged due to lack of adequate space to deliver food services.

COMMUNITY VISION

Food is central to the DNA of Britannia. Every group we met with expressed the need for a food hub to provide healthy food on site and as a vehicle for sharing. A Food Hub will provide opportunities for:

Food sharing

- Sharing harvest
- Sharing a meal
- Cultural exchange
- Healthy food on site

"Bring people from different cultures, socio-economics and ages to grow, cook, and eat together"



Food security and resilience

- Growing food
- Cooking food
- Preserving food
- Fostering community connections

Learning

- Cooking classes
- Nutrition education
- Life skills
- Land based learning - Indigenous practices

Advocacy

- Dignified food access
- Work towards raising people out of poverty

SPACE NEEDS

Key ingredients for a successful Food Hub are:

Kitchen

- Large commercial kitchen complete with servery, pantry, cold storage and walk-in freezer
- Suitable for preparing meals for community, cooking classes, community programs

Community Dining Hall

- Shared meals
- Celebrations
- Rentals - banquet facility
- Connection to outdoor gathering space



Urban Agriculture

- Urban Farm to support Britannia food programs with food + herb garden and beehives
- Explore rooftop locations
- Incorporate harvesting corridors in landscape
- A place for ecological learning - get people outside
- Focus on indigenous plants and medicinals throughout

Greenhouse

- Year round food production for community kitchen and food programs
- Indoor winter garden
- Connect to school programs

Outdoor cooking

- BBQ pit, pizza oven
- Support outdoor gathering
- Land based learning such as preparing berries, fish and game

Classroom

- Support education programs related to food and advocacy

Office space

- Staff space for up to five positions including Gardener, Chef, Food Hub Manager, and assistants.

ADJACENCIES

The Food Hub should be co-located with Social Development and Cultural Event spaces. There should be a direct connection to an outdoor dining space and the Common. There should be easy access from Loading and Garbage / Recycling to the kitchen.

The Food Hub and Event/Performance spaces will benefit from interconnection and direct access to the outdoor Gathering/Event space to create an integrated venue for performance, gathering, celebration, events, and sharing food.

Sharing meals + feeding community

6.7 SOCIAL DEVELOPMENT

BRITANNIA IS A HOME AWAY FROM HOME. *Supporting vulnerable individuals, and ensuring diverse and inclusive programming is key to the success of Britannia.*

POLICY FRAMING

The City of Vancouver's Healthy City Strategy is guided by a vision of *A Healthy City for All: a city where together we are creating and continually improving the conditions that enable all of us to enjoy the highest level of health and well-being possible.*

It acknowledges:

The social determinants of health (like our housing, our food and our social connections) have as much influence on health and well-being as biology and genetic endowment.

Community connections build a healthy city – working together makes us resilient and sustainable, we enjoy better health when we connect with our neighbours and are engaged in our communities.

Healthy City Strategy Goals relevant to Britannia:

- Vancouver's children have the best chance of enjoying a healthy childhood
- Vancouverites have equitable access to high-quality social, community and health services
- Vancouverites are connected and engaged in spaces and places that matter to us
- Vancouverites are engaged in active living and have incomparable access to nature

Grandview-Woodland Community Plan looks to support many activities, including expanding facilities and services for youth, ensuring a range of services and a spectrum of care for seniors, supporting newcomer and settlement services, enhancing program space for LGBTQ2S communities, and improving and increasing childcare facilities and services to support families with children.

COMMUNITY + BCSC CONTEXT

The Grandview-Woodland/Strathcona demographics indicate:

- People living alone make up 59% of the community, a large portion of them are seniors
- Children are less ready for school than City average
- Higher poverty rate than City average
- A large portion of the community identifies as Indigenous
- Challenges with safety, social support networks, but higher rate than City for belonging, volunteerism

• Britannia's Elders/seniors have been particularly active and engaged in the visioning for renewal.

• Advocating for better space to replace the 55+ Al Mattison Lounge, this dedicated group is passionate about accessibility, adequate support services, and enough space to support a wide range of programming.

COMMUNITY VISION

Overarching themes for Social Development services are to:

- Use intergenerational approach to programming and space use
- Support vulnerable individuals and groups
- Be an inclusive and safe space universally accessible for all
- Provide a balance between visibility and privacy
- Provide different places to hangout indoors and for outdoor informal activities - adult + child play
- Be socially innovative in programming and spaces

SOCIAL DEVELOPMENT SPACE NEEDS

Derived from both the community engagement and City priorities and policies, the social development programming spaces needs have been identified for Britannia as follows:

Elders in Residence Office

- Office large enough to hold meetings
- Highly visible prominent location
- Locate adjacent to seniors lounge
- To be a calm, quiet space
- Accommodate more than one Elder in residence – this needs further exploration into different roles
- Provide suitable space for both 1 on 1 or family meetings counseling
- Room should support the ability to burn medicine

Early Child Development Spaces

- Family Place to continue operations
- Provide space for licensed Non Profit childcare for ages 0-4 and 5-12 and incorporate physical design that supports

- Reggio Emilio teaching methods
- Child Minding to support family access to programs and facilities

Shared Social Development Spaces

Shared spaces provide a place to interact across generations - focused on activity rather than demographic. These are:

- Activity/games room
- Fireside lounge
- Meeting spaces - small, medium, large
- Multi-purpose program rooms
- Health clinic - close to youth + Elders/seniors spaces

Youth Space

- Dedicated youth space - supportive of loud boisterous activity
- Ability to personalize space
- Access from exterior
- Provide space for one on one meetings

Elders/seniors

- Dedicated multi-purpose Elders/seniors space to support wide range of programming with adjacencies to maximize accessibility & flexibility
- Locate in a prominent main floor location adjacent to youth and family rooms to acknowledge the centrality of Elders role in the community and cultures.
- The design of the space will need special consideration to create an open relaxed environment that can be an oasis for those seeking a safe place - a place to gather, learn, share, and relax.
- Quiet space - acoustically separated and attenuated.
- Accessibility is particularly important - facilitate use by those whose mobility, visually and audibly challenged and locate near building entry.
- Provide parking space for scooters, walkers etc.
- All programming areas for Elders/seniors to be located in close proximity to the Elders/seniors Lounge

Indigenous Ceremonial Space

Any ceremonial spaces will need to be determined and designed in consultation with the recommended Renewal Indigenous

Advisory.

- Provide space for Indigenous ceremonial purposes.
- Consider sweat lodge facilities as an option. This will require in-depth consultation to address significant programming challenges.

Social and Cultural Services Non-profit Offices

- Co-located, shared, multipurpose office and programming space for social, cultural and recreational groups
- To ensure BCSC can continue to provide space for community groups serving Grandview-Woodland
- Include dedicated office space for partner organizations along with shared programming space

Incubator space

- Space for non-profit organizations to grow
- Limited term of tenancy
- Locate in storefront condition for wide exposure to community + ability to use outside of community centre hours

SOCIAL RESILIENCE

The Britannia Renewal will offer the following facilities on site to meet the needs of homeless and marginally housed people:

Welcoming and inclusive environment:

Providing an inclusive non-judgmental place to participate in programs or just hang out is critical to enabling vulnerable people to access the facilities.

Warming Centre:

During inclement weather, Britannia provides shelter space for people living on the street. A suitably built multi-use facility will be provided to meet this need.



Clinic space

Shower Facilities:

Britannia currently provides access to showers free of charge those in need. This service will continue to be offered in the new aquatics facility.

Food Hub:

The new Food Hub will be a place for those in need to receive nourishing meals and food from the community garden. Britannia currently actively feeds the community and the new Food Hub will enhance this key wellness service through food access programs, food skills programs, and education and advocacy.

Library:

Libraries have long served as valuable spaces for the homeless and otherwise vulnerable, offering respite from the outdoors, access to books and internet access, as well as a space to rest or socialize - all free of charge. Britannia VPL Branch is no exception.

Cart Storage:

A key factor in accessing facilities and services is a secure place for transient and homeless to leave their belongings. A secure locker to leave carts will be provided in a location convenient to the Aquatics, Library, Food Hub, and Social facilities.

ADJACENCIES

Social Development spaces form the core of the Britannia community services hub. In order to provide robust and well-supported spaces that are flexible and support Britannia's community vision, an Intergenerational Hub is proposed for a renewed Britannia. Multi-purpose rooms are centrally located between dedicated Youth and Elders/seniors space to enable spill out for large events, workshops etc. A games room and meeting rooms also provide additional program or support space for all



facility users.

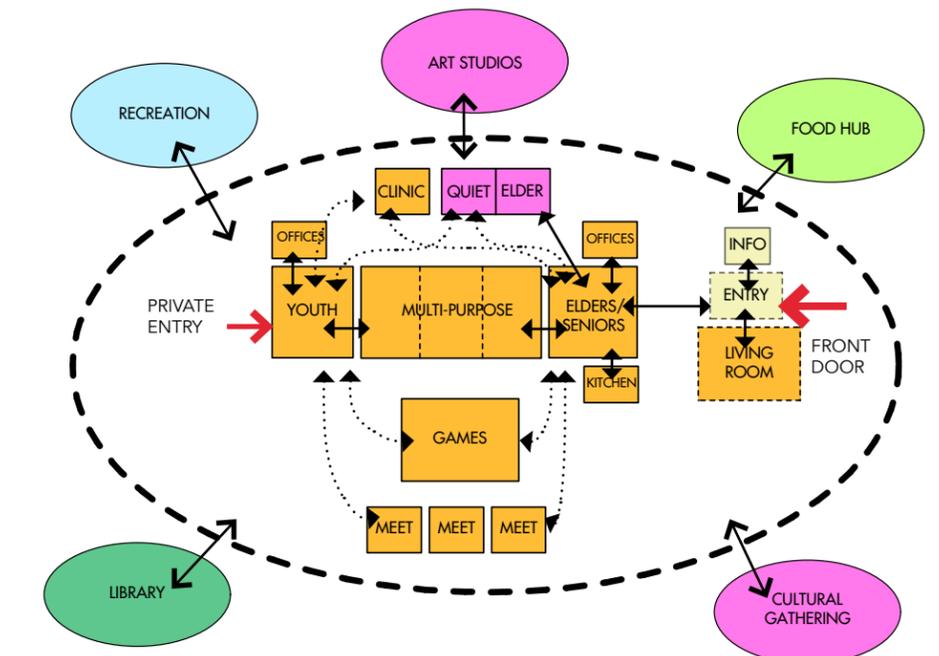
Quiet room and clinic space support both the Elders/seniors and Youth dedicated spaces and an Elders in Residence is directly adjacent to both the Elders/seniors space and the general facility.

Childcare facilities do not require a relationship to grade, they do however require direct access from parking (via elevator) and outdoor play. These facilities can be optimally located on the top floor of the community centre.

The Social spaces including all Multi-purpose and Meeting spaces as well as Seniors, Youth, and Family spaces will benefit from a close relationship with one or both Gymnasiums to facilitate a wide range of programming.

TECHNICAL REQUIREMENTS

- Consider acoustics to allow for loud activities (drumming for example) to occur near by areas that may need quiet such as the Elders/Senior Lounge.
- To maximize flexibility, provide ample storage for each program space for program materials and furniture storage.
- Where program rooms open to each other carefully consider the design of the interconnection to facilitate the ease of opening and closing rooms to each other and acoustic separation.



6.8 ARTS AND CULTURE

Arts and Culture is at the heart of Britannia — ingrained and interwoven in all that Britannia does.

POLICY FRAMING

The City of Vancouver's Creative City Strategy aims to place arts, culture & creativity at the forefront of Vancouver. The Park Board's vision for arts and culture is a city where the arts are an integral part of everyday life.

Key City and Park Board strategies relevant to Britannia include:

- Promote local arts and culture
- Promote Indigenous peoples arts, culture, awareness, and understanding
- Improve arts access for under-served communities
- Increase public participation and community engagement in arts and culture
- Animate the vision and values of urban life through extraordinary public artworks

COMMUNITY + BCSC CONTEXT

The vision for Arts and Culture at Britannia is rooted in:

- Arts + culture is at the heart of Britannia - core to identity ingrained and interwoven
- Artists are integral part of the community + life at Britannia
- The Grandview Woodland neighbourhood has by far the highest percentage of arts and culture workers in the City
- "Access to affordable arts and cultural facilities are increasingly limited"
- Other than the ʔxʷqʷeləwən ct Carving Centre and art gallery, Britannia has no dedicated arts and cultural space



Great rehearsal space



Inclusive/accessible

COMMUNITY VISION

Priorities are to:

- Integrate Indigenous language, culture, and art throughout the facility and the site
- Support local artists and arts organizations
- Provide dedicated arts and cultural spaces (performance, rehearsal, exhibition, and production space) to support and grow local arts and cultural production and expression
- Provide programming that responds to community, is unique and reflects local culture and environment
- Include Indigenous, community-engaged, site-specific, public art throughout facility and site
- Integrate public art, ranging from major commissions to socially engaged projects, in communal spaces of the Centre and in the public realm around it.
- Partnering with cultural agencies in community is critical to success
- Make it affordable
- Connect to nature
- Weave dedicated creative space into every aspect of the facility
- Provide opportunities for all ages, especially intergenerational integration
- Incorporate local community history
- Support role of food in cultural sharing
- Support families – provide child minding during events and programming
- Provide outdoor arts + culture opportunities – space is a crossroads that draws people



Multi-purpose performance, rehearsal, & event space

SPACE NEEDS

Spaces for Indigenous ceremony and gathering

- Spaces that are amenable to Indigenous ceremonial and cultural practices.
- Spaces suitable for rehearsal and performance of traditional and contemporary Indigenous performing arts.
- Space to facilitate larger events such as potlatches and powwows, with adjacencies to kitchen facilities.
- Explore opportunities for culturally inclusive spaces that can serve multiple communities and facilitate cross-cultural sharing and learning.
- Supported with Dressing Room and Storage for Ceremonial Materials

ʔxʷqʷeləwən ct Carving Centre

- Maintain and enhance the ʔxʷqʷeləwən ct Carving Centre
- Locate in a prominent location visible to the public and honouring of its importance, preferably at a gateway to the site (explore co-locating in proximity with other art studios)
- Consider acoustics in hosting events
- Accessible by large truck to offload logs for carving

Visual Arts Studios:

- Purpose-built studios for the following:
 - 2D art studio (e.g. print making, painting, etc., with spaces for open-air drying) + dedicated ceramics studio
 - Multimedia studio for film, animation, photography, recording, etc.
- Independent after hours access for all arts studio spaces (requiring after hours access to washroom)



Connect to outdoors

- Consider locating along laneway to provide activation. A ground floor laneway location will allow for outdoor studio yards for additional making / creating space.
- Ease of loading access important for materials and art work moving
- Storage + lockers for supplies

Exhibition Space:

- Purpose built gallery space for curated exhibitions:
 - Professional level lighting, walls, security, air quality
 - Large enough to allow for 3D works + group shows
 - Locate in highly visible place.
- Provide additional exhibition and showcase opportunities throughout the entire facility

Multi-purpose:

- Need multipurpose space with movable walls
- Storage centralized and accessible

Performance and Rehearsal Space:

- Small scale, intimate and flexible community event, rehearsal, and performance space (e.g. removable stage or retractable seats, fixed projection equipment and screen for movie screening) that is designed to also serve Indigenous community members
- Large studio space suitable for dance, capoeira, large musical groups properly equipped with durable sprung floor, sound, good acoustics, mirrors, bar, etc.
- Direct connections to outdoor gathering and performance space with large openings to permit interconnected program activities between indoor and outdoor spaces



Maker space

- Storage for props, seating, lighting, risers, etc.
- Green Room and Dressing Rooms
- AV Room

Music Rehearsal Space:

- Smaller recording/rehearsal/practice spaces for musicians

Social + Cultural Non Profit Hub

- To ensure BCSC can continue to provide space for community groups serving Grandview-Woodland
- Co-located, shared, multipurpose office and programming space for social, cultural and recreational groups
- Include dedicated office space for partner organizations along with shared programming space

Public Art

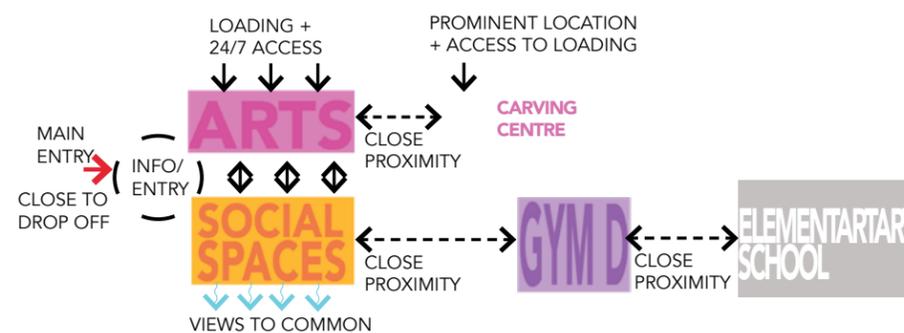
- Integrated throughout facility and site including Indigenous, community-engaged projects, and site-specific works

Spaces to Support Artists:

- Shared production space for artists
- Artists in Residence space - located to support art making rather than public viewing. Allow after hours access. Separate exterior access is not a priority.
- Housing
- Opportunities to sell artwork and craft

Outdoor Event Space Support:

- Scalable from small, medium and large performance spaces
- Access to indoor event space, dressing rooms, washrooms and lots of storage for tables, chairs, tents and other event



Adjacency diagram - Arts and Culture spaces

equipment

- Lighting and sound system to facilitate wide range of performance/event scenarios

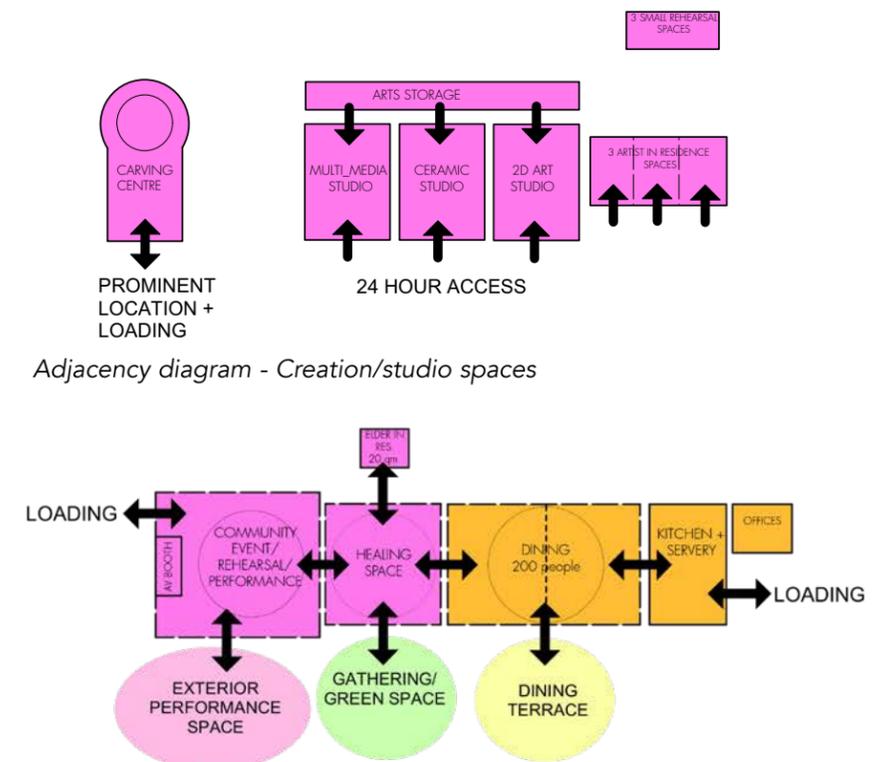
ADJACENCIES

Arts studios need to be easily accessed from Social Spaces and be accessible outside regular community centre hours. Connection to outdoor work area would be desirable. The Artist in Residence spaces should be accessible to the public but do not need to be highly visible.

Interconnectivity between Arts + Culture Event and Ceremony spaces to the Food Hub and Outdoor Gathering is important to facilitate large events.

TECHNICAL REQUIREMENTS

- Refer to Acoustic report
- Incorporate technology
- The Event Space and Ceremony space are to be multi-purpose spaces and therefore are to have AV
- Provide good loading access to all creation spaces



Adjacency diagram - Creation/studio spaces

Adjacency diagram - Cultural/Gathering spaces

6.9 LIFELONG LEARNING

A LIBRARY IS MORE THAN JUST BOOKS... Public libraries are the free, go-to venue for learning, creativity and innovation.

POLICY FRAMING

The vision for the Britannia Branch Library is rooted in the Vancouver Public Library's Strategic Plan Vision 2020:

Mission: A free place to discover, create and share ideas and information

Vision: An informed, engaged and connected city

Vision 2020 is centred around four main principles :

- o Lifelong Learning, Creativity and Innovation
- o Access and Equity
- o Sharing and Collaboration
- o Organizational strength - People and Culture

Values: Some examples:

- o Diversity
- o Access for all
- o Community led planning
- o Innovation and creativity
- o Sustainability
- o Community partnerships
- o Respectful places and Communication

The Grandview-Woodland Community Plan looks to renew and expand the Britannia Library as part of Britannia Renewal, and to ensure a diversity of resources, programs, and spaces are available for residents, including lower-income groups, families, youth, seniors, and culturally diverse groups.

COMMUNITY CONTEXT

The community identified attributes that differentiate Britannia Library from other branches:

- Britannia is a public library branch of the VPL system
- Part of BCSS Board governance
- Collaborations with community partners
- Partners in reconciliation action events
- Integrated with community, school and events

COMMUNITY VISION

Community Meeting Place

- Social connection + education place
- A place for people to gather and share stories
- Comfortable, safe and inclusive space
- Social space for young people
- Training in research methods and scholar databases, media literacy spaces, Salon, philosophers gate

Intergenerational learning

- Provide opportunities for teens and youth to teach Elders/seniors about technology
- Provide opportunities for Elders/seniors to share stories and knowledge

Support Families

- Story times
- Space to support parent + tot programs
- Engage in youth matters, library is often at the front-line with vulnerable youth

More than just books

- Library provides introductions and democratic access to knowledge, services and opportunities across community
- Include technology workshops, recording studio, maker's space, etc
- Place for preserving multi-cultural communities

Space Qualities

- Connected to the outdoors
- Access to abundant natural light and spectacular views
- Ability to be outside and read a book
- Windows/areas to view activities going on
- Small intimate spaces and study spaces

SPACE NEEDS

The following spaces are needed to support the vision for a renewed Britannia Branch Library:

Service Area

- Welcoming and easy to access service point
- Good sight-lines to entire library floor

Adult Area

- Popular picks
- Reading Lounge - comfortable seating
- Readers Tables

Teen Area

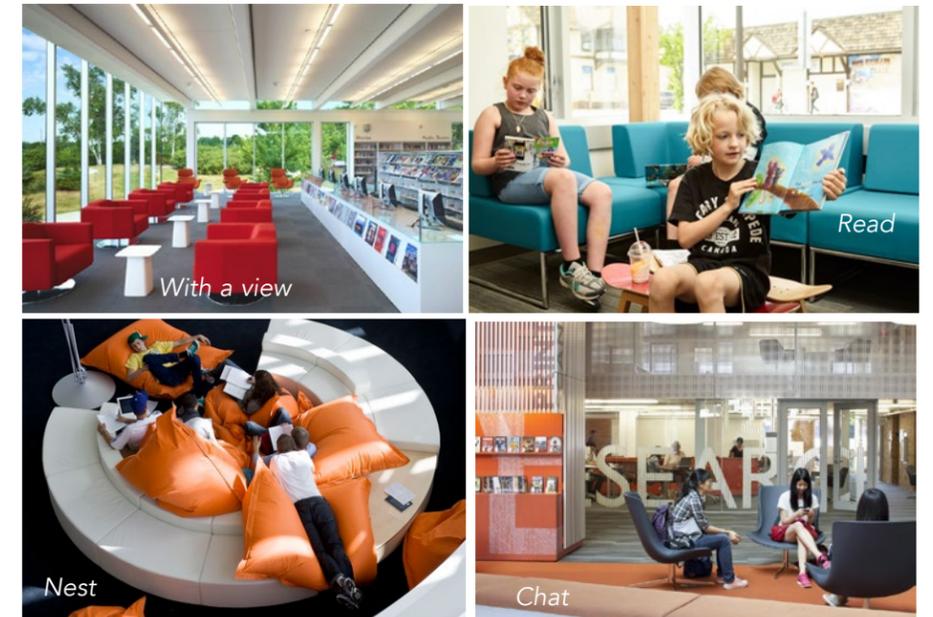
- Dedicated space for youth
- Teen collection
- Gaming

Children's Area

- Early learning and literacy spaces for children, families, and caregivers
- Story Circle
- Stroller and buggy parking

Computers

- Provide enough stations to meet high demand



Relaxing spaces to hang out

Multi-purpose/Meeting Room

- Multi-purpose spaces and meeting rooms
- Access to space after hours for others to use
- Flexible and divisible space suitable for a wide range of program activities.
- Accommodate up to 30 people in seminar format
- Access to general library space

Collections

- New, rich, and diverse collections of books, magazines, DVDs, games newspapers and digital materials in English and other languages
- Portion of shelving to be movable to accommodate gathering on the Library floor

Study Spaces

- Smaller acoustically separate breakout rooms suitable for quiet study, group study or small meetings or club activities
- Bookable
- Private work areas, adjustable study space - students don't have study space at home

Creative Digital Lab

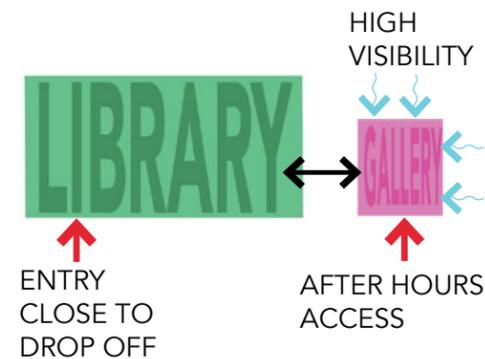
- Capture stories, record or play music, and self publish
- Green screen video production space

LOCATION + ADJACENCY REQUIREMENTS

To be located in a prominent location with ease of access from the street to the Library. Gallery and Library to be co-located with an ability for independent operation.

The following design requirements are key to successful library planning:

- Highly visible and accessible location is critical for exposure to community and to facilitate drop by use.
- Entry and book drop to be located adjacent to vehicular drop off.
- Library space to be provided on a single floor plate to facilitate supervision and minimize staffing.
- Provide clear sight lines through Library floor.
- Library to be collocated with the Art Gallery and be designed to operate independently and at times be integrated.
- Provide dedicated loading for Library deliveries and book transfers.



TECHNICAL REQUIREMENTS

The following design requirements are key to successful library planning:

Incorporate technology

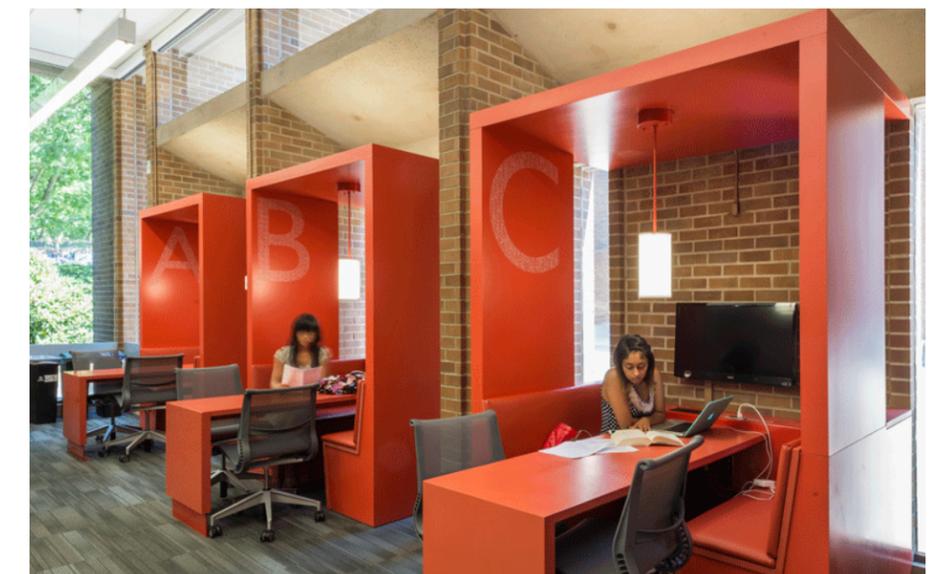
- Provide technology hub within library - instruction for learning technology for diverse age groups and content
- Computers
- Charging stations
- WiFi
- PA system
- Digital screens
- AV for all meeting spaces

Manage acoustics

- Excellent sound separation/attenuation



Adjustable activity spaces



Places for individual + group study

6.10 RECREATION

Britannia is a space for Active Living. Inclusive, accessible recreation services increase physical literacy and create community through sport.

POLICY FRAMING

The Vancouver Park Board's guiding principles aim to create quality functional and flexible facilities that are inclusive and accessible for all citizens. This includes making a priority trans and gender variant inclusion as well as gender neutral spaces and programs. A healthy city advocates for "Sport for Life" (see below), emphasizing physical literacy and building community through sport.



The Grandview-Woodland Community Plan looks to cluster recreational facilities and programming spaces, and, as part of the expansion of key community facilities like Britannia, seek additional flexible and/or purpose-built space for youth social, cultural, recreational, and other programming.

The size and composition of key recreation facilities such as the pool and the rink will be ultimately determined in the context of city wide facilities.

OVERVIEW

Britannia is a space for Active Living. Inclusive, accessible recreation services increase physical literacy and create community through sport.

The Vision for recreation at Britannia was discussed thoroughly in the Britannia Vision Document. The following details space requirements and specific needs for key facets of recreation facilities in a renewed Britannia.

The Aquatics and Fitness component of the Britannia Community Centre will be the heart of the recreation facility. This building will act as the central hub for the recreation activities, contain the change rooms and the main control point, as well provide a focus for user programs.

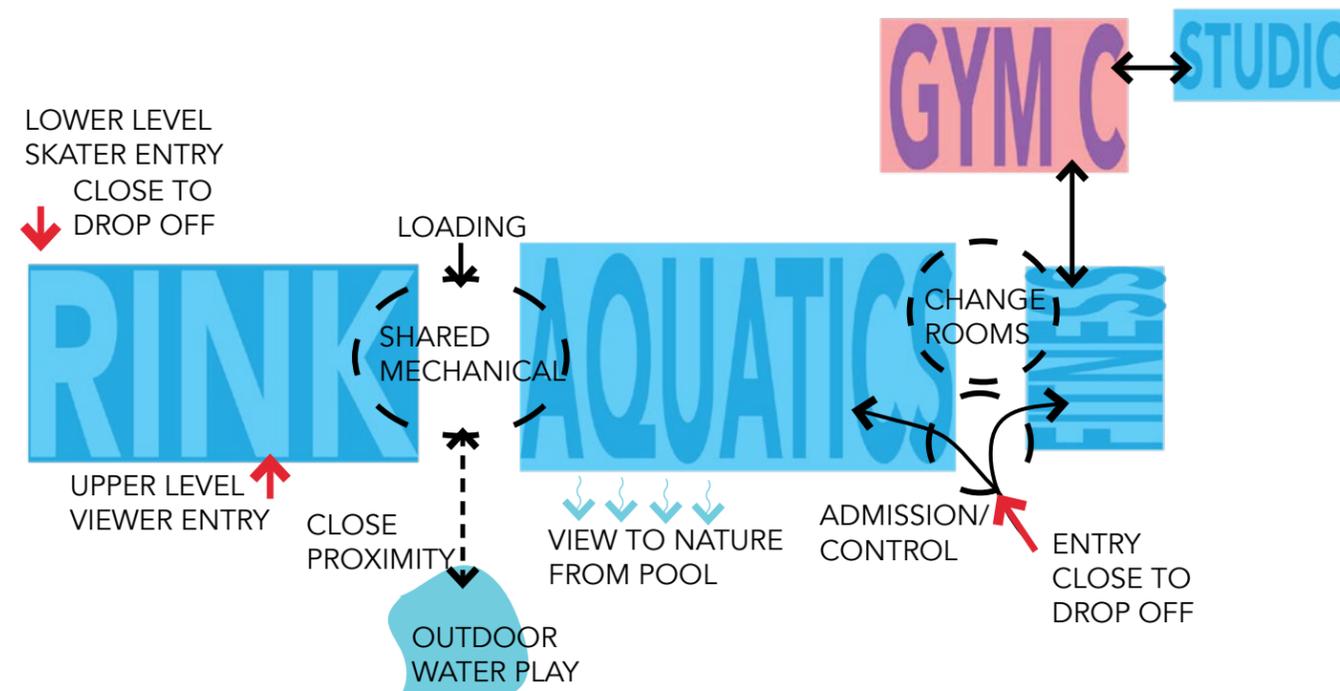
The Britannia Community Centre will be at its core, an inclusive and accessible facility, providing opportunities for activity and recreation for all members of the community. Fundamentally, the program areas should be adjacent to each other, to provide opportunity for transparency and connection between the activities, and ease of access.

Space Needs for specific recreation components are provided in the following pages:

- Change Rooms
- Admissions/Control
- Aquatics
- Fitness
- Gymnasia
- Ice Rink

ADJACENCIES

- Aquatics, Rink and outdoor Water Play facilities will have interlinked Mechanical systems for energy sharing and efficiency.
- Aquatics facilities and Fitness Centre will share Access/Control and Change Room facilities.
- Provide for ease of after hours access to Gym C.
- Provide a close connection to Gym D from the Elementary School. Gym D to be accessible to the community after 5:30 weekdays and all weekend.



Recreation Adjacency diagram

ADMISSIONS & CONTROL

CHANGE ROOMS

ADMISSIONS AND CONTROL SPACE NEEDS

A dedicated admissions/control desk is needed for the Aquatics and Fitness Centre. This desk will provide point of sale for each of these areas, visual surveillance/security, and general info.

As the renewed facility is fairly large and spread out, a separate desk from the Info/Concierge will be required in the vicinity of the Pool and Fitness Centre to accommodate these functions. Additional POS (point of sale) support will be needed for the Rink (Skate Rental). A temporary POS can be set up in the Rink at the spectators entrances during events.

- Recreation facilities and admissions need to be easy to access and convenient
- Warm, welcoming, and friendly service point



PARK BOARD POLICY

The VPB has instituted a Trans and Gender Variant Inclusion Strategy to create universal and gender-neutral washrooms and change rooms alongside gendered spaces. Note that it's not just about washrooms / change rooms, it's about gender neutral spaces, systems, and programs.

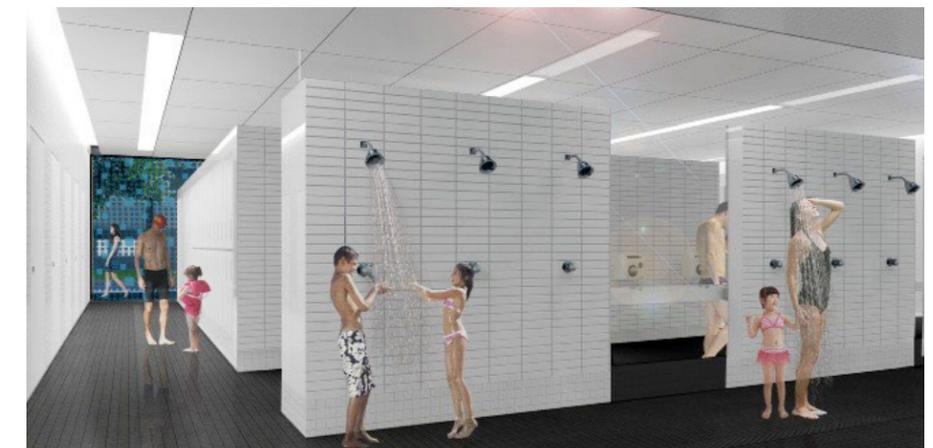
CHANGE ROOM SPACE NEEDS

Incorporate universal change facilities to facilitate inclusion for all individuals and to allow families to stay together.

The change area is to be designed as a gender inclusive and accessible facility, with enclosed change stalls and showers, as well as a large on deck shower for pre and post swim rinsing. The change room can be shared with the fitness facilities to allow for ease of access for all.

A variety of lockers will be provided for valuables storage, including full and half size lockers in the change rooms, and wallet size lockers near the gymnasia for drop in users.

- Large gender-neutral universal change rooms for all
- Accommodate showers on pool deck and in private cubicles
- Need great change rooms
- Provide choice of gendered and non-gendered space
- Options for personal privacy important



6.10 RECREATION - AQUATICS

POLICY FRAMING

The Park Board's Draft VanSplash Aquatics Strategy proposes that Britannia's aquatic facilities be renewed as a "Community Plus Pool" with the selection of the components that will make up the new aquatics facilities determined in consultation with the community. The outdoor feature for this pool may be a "Destination Spray Park/Splash Pad"

Components such as a pool suitable for competitive synchro will likely be accommodated at one of the "Destination Pools" identified through VanSplash.

COMMUNITY CONTEXT

Britannia is home to the Vancouver Masters Synchro Club. With an improved pool facility, Britannia may become home to competitive swim clubs.

The actual components of the pool (ie number of lanes, special features etc.) will be determined in the Rezoning phase of this project. It will involve consultation with the community to determine the features that would be appropriate to meet community aquatics needs.

AQUATIC SPACE NEEDS

The Aquatics component proposed is a designated VanSplash Community Plus pool, and includes both an eight lane, twenty five meter training pool and a large leisure pool. All pool tanks to have ramp entry to provide ease of entry for those with disability.

General

- Multiple pools – leisure, training, and hydrotherapy
- Connect pool area to nature – visually and physically
- Lots of natural light and transparency – also have areas with privacy/screen/waterfalls obstructing views
- Careful consideration needed for balancing personal privacy with being on display
- Quieter, calmer spaces - good for people with sensory issues
- Visual porosity between pool and fitness centre
- The current basis for design for the pool tanks is concrete.

Pool Deck

- Dry viewing to be accessible from the main lobby to allow for patrons to view the pools in a separated, controlled space.
- Relaxation areas - incorporate dwell space on deck - lounge space for relaxing

- Bleachers for synchro and swim competition viewing
- Dryland training capacity pool side – could be combined with movable bleachers
- Storage for personal belongings
- Showers on pool deck

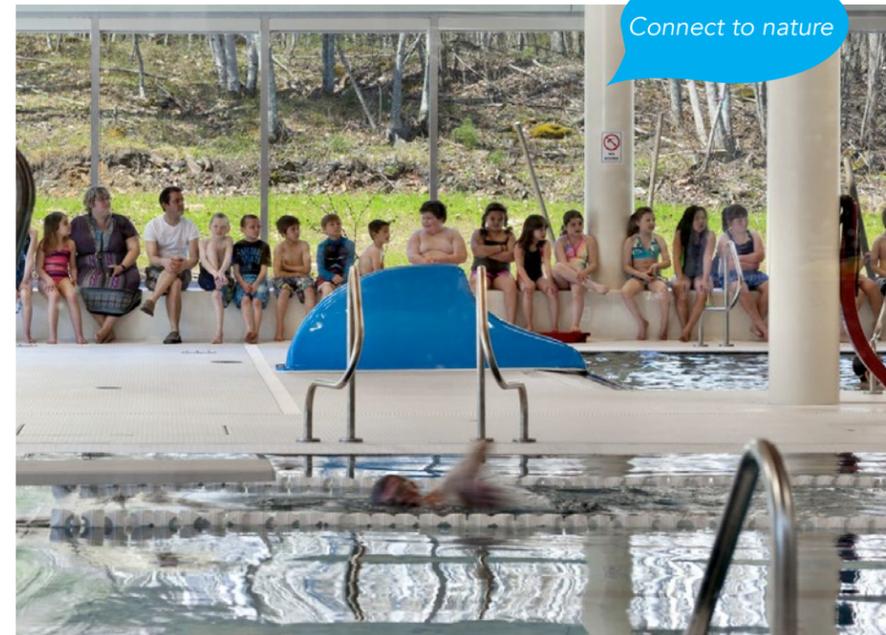
Training Pool

The training pool will be sized for competitions, as well as contain 1m and 3 m diving boards.

- 25 meter with 8 lanes
- Ramp entry
- Deep end diving/synchro space
- Consider adjustable pool bottom to change depth
- Accommodate lessons and public simultaneously
- Diving board
- Rope swing

Leisure Pool

The leisure pool will include a number of water features, to be determined. A dedicated teaching area with graduated depths and warm up lanes is to be considered. Access to the leisure pool will be via a "beach" style entry to aid mobility limitations.



Connect to outdoors - splash pad and beach

Features to be considered are:

- Beach Entry
- Lazy River
- Fun features in pool – rope swing, climbing wall, etc

Hydrotherapy Pool

- A large hot whirlpool, accessible from the pool deck for wellness and socializing with a ramp entry - (not lift) for dignity.

Slide

- Flume style
- Separate from pools

Spa Facilities

- Sauna
- Steam Room

Outdoor space

- Splash Pad/Spray Park - accessible to all
- Hot tub

Multi-purpose Room

A multi-purpose function room will be provided, to be accessible from the pool deck and lobby, for use as an event rental for birthday parties, club meetings etc. This room will have full kitchenette.

Support Rooms

Support will include a Guard Office directly on the pool deck with clear viewing access, Staff Change and Break rooms and offices, Administrative offices for pool staff, a First aid room, deck storage. The Recreation component will require a significant Laundry Room, to be shared between aquatics and fitness.

ADJACENCIES

- The pool will be co-located with the Change Rooms and the Admissions/Control desk.
- The Pool facilities will share mechanical space and systems with the Rink and will provide ease of access to Mechanical operations staff between the Rink and Pool facilities.
- Easy access to the Pool facilities from drop off is a priority as the Pool will generate the most visitors of all programs in the building. Locating the Pool on the main level is recommended.
- Provide opportunity for the Pool to open to a private outdoor area for sunbathing etc.

TECHNICAL REQUIREMENTS

- Vertical sand filters, medium pressure UV, chlorinated water treatment using liquid bleach, and both acid and chlorine to be in separated enclosures with separated ventilation



Fun features - slide, rope swing, climbing wall etc...



Multiple pools connected to outdoors, with lots of natural light and warm natural materials

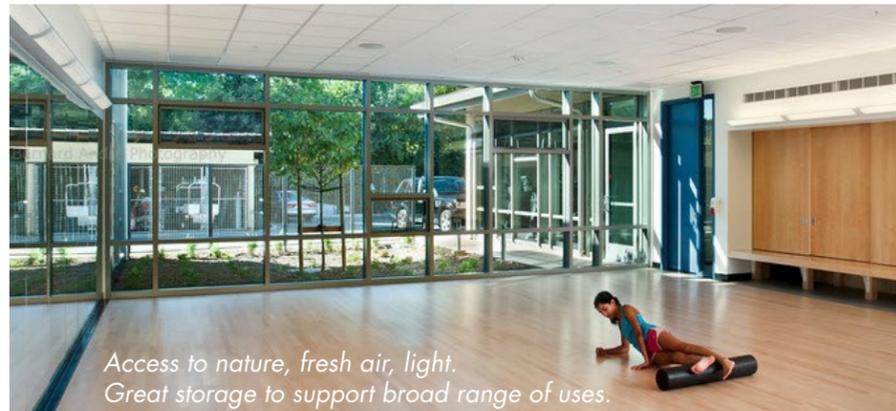
6.10 RECREATION - FITNESS

PARK BOARD DIRECTION

Large dedicated Fitness Centre (8,000 sqft is the new standard) with multi-purpose yoga, indoor cycling, and movement studios.

Trends in Fitness Centres are:

- o Decreased select equipment
- o Decreased free weights
- o Increased lighter lifting
- o Increased stretching



Lots of natural light!



FITNESS SPACE NEEDS

Space qualities

It will be beneficial to locate the fitness facility with immediate visual connection to other activities, such as the gymnasium and pools to reinforce the connection and transparency of the facility.

- Access to outdoors
- Good ventilation (ceiling mounted large low speed fans will provide ventilation support, induce mixing and reduce stratification)
- Overlook to other activities from exercise equipment
- Good acoustics (attenuation and separation) – no music
- Good flooring, floors for dropping plates/dumbbells
- Inclusion of natural world for reconnection, healing and wellness, outdoor walking space
- Understanding link with physical and spiritual health

Fitness Centre

The Fitness facility will include a large strength training and aerobic area, capable of supporting a wide variety of training equipment. The flooring throughout the training area is to be a high performance sport flooring.

- More free weights and fewer machines – more equipment (mats, benches, exercise balls, etc) and space
- Need proper % of strength, cardio and functional training equipment (free weights, TRX, mats, etc)
- Privacy and security is imperative
- Large open stretch and workout space – multipurpose
- Support flexibility of layout – ability to reconfigure
- Access to outdoor area or covered deck for outdoor exercise
- Provide opening windows and lots of natural light
- Fitness area located in close proximity to rink for training with provisions for off-ice conditioning

Multi-purpose Fitness Studios

The Studios should include blinds or visual controlling devices, to allow for an ability to provide privacy for dedicated or gender specific classes. All the studios will have mirrored walls to 6' and a dance barre will be provided for at least one of them. Two large studios with sprung floors will be provided with storage and audio-visual support. A smaller studio for cycle fit classes will be similarly equipped.

- Accommodate wide range of programming including:
 - High intensity activities such as Zumba and Aerobics,
 - Low Intensity activities such as Yoga, and Tai-Chi
 - Indoor cycling
- Studios to be flexible and divisible

Specialized Mat Room

The Combatives Mat Room will provide for a range of martial sport and exercise. A cushioned mat floor with demarcated zones for combatives will be necessary. Space and storage for combatives protective and sparring equipment on the perimeter will be necessary, as well as additional exercise equipment to be determined.

- Boxing
- Martial arts

Support

Support will include a reception area within the Fitness Centre with easy visual access for users, a room for Fitness Assessment and interviews, and an office for the Fitness Manager. A room for equipment repair and storage will be located adjacent the Training area, and near an elevator if necessary, to move equipment within the building.

- Reception area
- Equipment repair and storage
- Drinking fountains and bottle-fill stations located for easy access

6.10 RECREATION - GYMNASIA

COMMUNITY CONTEXT

Currently the Britannia site has 4 gymnasia:

Gym A + B are dedicated High School gyms

Gym D is a dedicated Elementary School gym and

Gym C is a dedicated community-use gym

The VSB school gyms are available for community use after 5:30 at night and on the weekends. The community use gym is heavily programmed. The community was clear that they need more gym space.

There is a gymnastics club at Britannia that is keen to have gymnastics facilities to support their programs. There is a high demand for gymnastics in the community that cannot be met due to lack of facilities.

GYMNASIA SPACE NEEDS

Two new Gymnasia and one Gymnasium Annex for gymnastics are to be provided for the Britannia Community Centre.

Gyms C + D

The gym spaces are seen as more than sports spaces - they are multi-use spaces to accommodate a wide range of activities including community events and meetings, and rentals such as weddings. As such they should be attractive spaces conducive for a wide range of uses in their finishes and lighting.

The largest Gymnasium, Gym C, will be a generous NBA size court divisible with a motorized retractable curtain. Bleachers and storage are to be provided.

Gym D, will be located in the Community Centre building, parallel to Commercial Drive, with easy access from the Elementary School. One NBA size basketball court is to be provided, with retractable backboards for full and half size courts, as well as adequate storage to be directly accessible to the gym.

Both Gyms will have sprung floors. Ceiling mounted, retractable basketball glass backboards will be required, for the full size courts as well as half courts. A variety of game lines and equipment to support activities ranging from volleyball to pickleball, are to be determined. Adequate storage is to be located to be directly accessible from the Gyms.

- Multi-use space to accommodate a wide range of activities
- Larger gym that is dividable

- Good storage to allow flexibility of space
- Designated space for popular programs
- Sprung athletic floor
- Wood finishes to create warm environment to support events beyond sports
- Connection of indoor and outdoor
- Lots of natural light + fresh air
- View looking in to activate and inspire community
- Support tournaments or large gatherings
- Access to change rooms
- Usable for multiple functions
- Good acoustics and sound separation

Gymnastics

The Gymnasium Annex is a dedicated space to support a community gymnastics program. The flooring should be able to support a range of gymnastics equipment and tumbling activities. Storage for an array of gymnastics equipment will be directly adjacent. A high ceiling in this space will be necessary to allow for the range of gymnastic vault, tumbling and trampoline activities.

- Annex to gym for hard to move equipment on requirement to take down and set up
- Bouncy floor for gymnastics

Climbing Wall

Incorporate a climbing wall at an appropriate location within the facility. It will need a high ceiling space (2 stories minimum) and could be located to animate the facility.

"More than just a gym!"



6.10 RECREATION - RINK

PARK BOARD DIRECTION

The Britannia Rink is one of the three year round rinks in the City. The decision not to add a second rink at Britannia has been made on the basis of the best location city-wide for multiple rinks. Due to its constrained site a second rink cannot be accommodated at Britannia.

COMMUNITY CONTEXT

Features unique to Britannia are:

- Employees come up through community
- Community focus
- Learn to skate and free programming
- Canucks autism network partnership
- Inclusive for all DTES residents
- Day time use by 60 to 70 + years old
- Woman's League and drop-in
- Strong connections with youth:
 - "Heroes" elementary school program
 - Youth BASH Hockey
 - After school program
 - Hockey Academy
 - Vancouver Minor Hockey Association

OVERVIEW

The new Britannia Community Centre Arena, located at the south end of the Parker Promenade near McLean Drive will be a cornerstone of the recreation redevelopment. The intent is that this facility be a model for community inclusivity, providing a space for active leisure for anyone, regardless of gender, income, race or ability.

Pedestrian access will be provided at the south end near McLean, as well as at the north end of the building where a new Recreation Plaza will be created. Vehicular and service access will be by a ramp to lower level parking from the Venables Lane.

RINK SPACE NEEDS

Sport flooring is to be provided throughout the ice level public areas to accommodate skates. Two referee rooms, a first aid room and washrooms will be provided.

Ice Surface

The Arena will include a state of the art NHL size ice surface, which will also support Sledge Hockey. This will require the appropriate dasher board system, accessible benches and change rooms.

- Support sledge hockey
- Maintain excellent quality of ice

Seating/viewing

Within the arena, a seating area is to be provided, to accommodate up to 300 spectators, of which 100 seats are to be fixed and 200 to be retractable, to allow for rink-side dry training space.

- Retractable seating to free up floor for teaching space adjacent to ice level

Skate Lobby + Warm Viewing

The Lobby will include a Skate Rental area, with direct access to the ice surface, a generous comfortable seating area for changing, storage lockers and a small concession. Warm viewing may be accommodated at an upper level concourse, accessed from the north entry at grade, and from the south entry via elevator or stair.

Multipurpose room

At least one programmable multipurpose room with a kitchenette will be required, ideally with views to the ice surface, for team events or functions and general community use

Change Rooms

- 6 Change rooms will be provided, of which 4 will be full size, and 2 smaller. All will be gender inclusive and accessible.
- Universal change rooms - allow co-ed team change
 - Cubbies and shelves



- Accessible showers
- Change benches on castors

Gear Storage/Drying

A dedicated area for Hockey School equipment will be needed, with suitable racks for drying and storage.

Storage

A suitable amount of storage will be needed for large equipment, as well as for storage of Sledge hockey sleds and equipment. Consider a compact storage system.

- Public activity equipment
- Program equipment
- Seasonal equipment
- Skates/sleds/sledges

Support

Support space will include the requisite Ice Plant and Mechanical rooms, an Ice Resurfacers Room and melt pit, with access to the exterior for excess snow removal.

Loading, Garbage and Recycling areas, as well as a Workshop and storage will be housed at the ice level, with access to the lane through overhead doors.

Offices will be required for both Maintenance and Programmer staff.

ADJACENCIES

Explore opportunity for connections between the rink and the aquatics / gym facilities.

Easy access from Mechanical + Ice Plant rooms to chemical loading off Venables lane.

Ease of access between drop off and parking to Rink for players with gear.

TECHNICAL REQUIREMENTS

- CO2 direct system
- Heat recovery for under rink slab freeze protection, ice melt pit, DHW and building heating.
- Electric Zamboni
- Dehumidification should be electric fired dessicant wheel



6.11 NON-MARKET HOUSING

COMMUNITY DIRECTION ON HOUSING THROUGH THE GRANDVIEW WOODLAND PLAN

Through the Grandview-Woodland Community Plan, the City of Vancouver Council directs that housing be considered as part of the renewal of the Britannia site.

- The 2016 Grandview-Woodland Community Plan identified affordable housing as a top priority for the neighbourhood.
- The Community Plan seeks to provide opportunities for a wide variety of housing options to serve the needs of the diverse population in Grandview Woodland; including affordable rental housing for key groups such as low-income artists, families, seniors and members of the urban Indigenous community.
- The Grandview-Woodland Community Plan includes the Council motion to “seek ways to mobilize air parcels in the Britannia site to achieve plan objectives for social housing through co-location with other public facilities, provided there is no loss of green space”.
- Policy 7.1.3 - Maintain and increase the amount of mixed income non-market housing in the neighbourhood (e.g. co-ops, seniors housing, urban Indigenous housing)
 - “ ...Britannia Community Centre redevelopment: include the delivery of mixed income non-market rental housing on this City-owned site as part of the redevelopment and replacement of the community centre over the long term.” (p.130)



PRINCIPLES

These non-market housing design principles are intended to provide guidance to future consultants responsible for rezoning and detailed design:

- Affordable non-market housing to **foster a vibrant and resilient community** that reflects the diverse character of the neighbourhood.
- Form of development to **incorporate good urban design practices** including mid-rise form of development to break up massing, provide visual interest, and provide public realm **access to daylight and views**.
- Delivery of non-market housing to consider **impact on affordability** in building over large span structures and cost benefit of consolidated massing.
- Non-market housing to be **located above community facilities**, minimizing ground floor occupancy to entries only.
- **Locate entries facing streets** where possible.
- Design non-market housing entrances to **prioritize the public realm space for civic uses**.
- Non-market housing to be **set back to create opportunities for accessible roofs** for public use and/or childcare spaces.
- **Final heights and densities to be determined at the rezoning stage** based on further technical analysis, community input and related city policies. Initial analysis supports building heights that are calibrated to adjacent I-2 zone maximum height allowance (30.5 metres, or 100 feet).



Note: The images at below are for illustrative purposes only.



Locate non-market housing above community facilities and set back to minimize impact of massing on public spaces



Roof top courtyard housing.



Create opportunities for accessible roofs for public use and/or childcare spaces.

"Housing will bring synergy, more people, more diverse, more eyes on site."



Mid-rise massing

6.12 PUBLIC REALM

PUBLIC REALM SPACE NEEDS + STRATEGIES

Social Gathering and Outdoor Programming

A large plaza for performances and events is provided through the Common as well as smaller social spaces that support conversation and hanging out.

Spaces needed:

- Large gathering / event space
- Medium-size social gathering areas
- Smaller social gathering areas
- Variety of outdoor seating areas, from informal benches to table and chairs
- Social spaces that highlight views

Greenspace and Ecology

Renewal will provide a net increase in greenspace on the Britannia site. The site will also be envisioned as future flexible, allowing for modifications over time, and leaving space on site for community ideas to grow in the future.

Spaces needed:

- Food production gardens and greenhouse
- Stormwater collection for re-use on site
- Green corridors and stormwater swales / gardens
- Naturalized areas / habitat areas
- Future development areas (flexible, open space for community-led future development)



Arts, Culture and Food

The public realm at Britannia will provide seamless support to arts and culture spaces, including rehearsal spaces, outdoor performance areas, graffiti walls, and creative commons areas. Space for food production, preparation and sharing will also be provided throughout the site. Opportunities for Indigenous art, and expressions of Indigenous culture will be reflected in the design of the site.

Spaces needed:

- Scalable large, medium and small performance spaces
- Food gardens (see 'Food Hub' section of this report)
- Indigenous and pollinator gardens
- Covered courtyard / eating areas
- Outdoor program areas (flex spaces for interior activities to "spill outside")
- Outdoor work stations (work tables with water and electrical access)
- Outdoor storage

Outdoor Play and Recreation

Play and outdoor recreation are important parts of public outdoor spaces on the Britannia site.

Spaces needed:

- Outdoor play areas for young children (general public)
- Preschool / daycare outdoor play area (fenced)
- Elementary school outdoor play areas



- Water play / splash pad
- Tennis Courts
- Basketball Courts
- Playful site elements, and features that engage youth

Views, Site Circulation and Safety

Way-finding and connections within the site, as well as strengthening relationships between the site and its surroundings, particularly Commercial Drive are important to a renewed Britannia. Indoor / outdoor connections will be provided by making indoor activities visible from the outside, and having indoor programs spill out into adjacent outdoor spaces.

Spaces / Strategies needed:

- Universal access across site
- Consider the needs of those with limited mobility
- Improve sightlines between interior and exterior spaces
- Improved connections to bike routes
- Vehicle parking
- Bike parking, including bike-share
- Stroller parking
- Storage space
- Service Vehicle Access
- Emergency Vehicle Access
- Drop off / lay-by parking
- Provisions for car-share parking, electric charging stations etc.
- Strengthen connections to surrounding areas, e.g. Commercial Drive



SUSTAINABLE SITE STRATEGIES

The public realm design of Britannia includes a number of sustainable site strategies focused on provision of ecological habitat, biodiversity and sustainable water management. These strategies include the following:

RAINWATER MANAGEMENT

Absorbent Landscapes:

Absorbent landscapes mimic the hydrological function of the site prior to any development. The area around the Common gathering space will be heavily planted with plants representative of the pre-development ecosystem present on the site. These areas will have a deep growing medium rich in organics to capture storm water for plant use. This promotes filtering and slowing storm water to maximize the settling of particulate pollutants.

Rain Gardens:

Terraced bio-retention areas that temporarily collect surface runoff while enabling infiltration into the soils below will be utilized for storm water runoff from larger paved areas such as the Common and Parker Promenade. The rainwater will be directed to areas planted with shrubs, sedges and ground covers that are adapted to wet conditions. If the rain gardens reach their capacity an overflow will be provided to direct water to the underground infiltration gallery.

Infiltration Galleries:

A large infiltration bed should be considered in an appropriate location on site, underneath landforms and planting. It will utilize a subsurface chamber to collect rainwater from the paved areas of the site and to allow the water to infiltrate slowly into underlying soils. Before water is directed to the infiltration bed it should be cleaned of any oil, grease or other fluids collected from the paved surfaces.

OVERALL SITE PLANTING

The proposed planting recalls a temperate rainforest and is composed primarily of plants indigenous to the Vancouver region (Coastal Western Hemlock dry maritime biogeoclimatic zone). The planting is proposed as a matrix composition with a biodiversity of plants to create a sculptural quality to the landscape.

Plants typical of this zone include:

Tree Layer

Acer macrophyllum | Bigleaf Maple
Cornus nuttallii | Western Flowering Dogwood
Fagus grandiflora | Beech
Quercus rubra | Red Oak
Thuja plicata | Western Red Cedar

Shrub Layer

Acer circinatum | Vine Maple
Arbutus menziesii | Arbutus
Gaultheria shallon | Salal
Holodiscus discolor | Ocean Spray
Mahonia nervosa | dull Oregon-grape
Rosa gymnocarpa | Baldhip Rose
Symphoricarpos mollis | Trailing Snowberry
Symphoricarpos occidentalis | Snowberry
Vaccinium membranaceum | Black Huckleberry
Vaccinium ovalifolium | Oval-leaved Blueberry
Vaccinium parvifolium | Red Huckleberry

Herbaceous Layer

Polystichum munitum | Sword Fern
Pteridium aquilinum | Bracken Fern
Trientalis latifolia | Broad-leaved Starflower
Cornus canadensis | Bunchberry

NON-NATIVE ACCENT PLANTING

Focus areas within Britannia, such as the playway and plazas, will include planting that will help integrate the built spaces and forms with the site and contribute to the aesthetics with colours, textures and year-round interest. The majority of the planting in these areas will be well-adapted to climate with some accent planting that will require a higher level of maintenance, as appropriate to key focal points in the public realm.

RAIN GARDEN PLANTING

A series of rain garden terraces are proposed along the Parker Promenade to collect the water from the Commons, Cotton Walk and potentially the roofs of some of the adjacent buildings. The terraces will consist of planted cells defined by a series of weirs that slow down the rainwater allowing infiltration and evapotranspiration of the rainwater. The planting proposed for the terraces includes:

Trees

Acer rubrum | Red Maple

Shrubs

Cornus sericea "Kelsy" | Kelsy Red Twigg Dogwood.
Vaccinium uliginosum | Bog Blueberry

Herbaceous Plants

Carex obnata | Slough Sedge
Iris setosa | Beachhead Iris
Juncus effusus | Common Rush
Sagittaria latifolia | Broadleaf Arrowhead
Scirpus acutus | Tule
Scirpus microcarpus | Panicked Bulrush
Sidalcea hendersonii | Henderson's Checker Mallow
Sparganium angustifolium | Narrowleaf Bur-reed
Typha latifolia | Common Bullrush



Terraced raingardens

PLAY AREAS

OVERALL APPROACH & PHILOSOPHY

All children need outdoor play environments that are imaginative, inspiring, and designed to cultivate their development through play. The unique qualities offered from the outdoor environment facilitate play and support a child's learning. Play environments should be designed to engage children with their natural surroundings, allow them to stimulate their senses, and be sources of surprise and delight.

LEARNING THROUGH PLAY

Play is a means for children to actively engage with their physical environment in a social setting, and this type of engagement supports learning and development. Current neuroscience research supports this notion, with evidence suggesting the importance of play for brain development.

Physical play can enhance children's social competence and problem-solving skills, while fantasy and role play allows children to develop language, communication, and social skills. Playing with malleable materials (e.g. sand, water) promotes inquiry-based learning and fosters inventiveness, while teaching children about the properties of materials, the basic principles of engineering, and observational skills.



TYPES OF PLAYGROUNDS

Landscape-Based

In landscape-based play, the physical landscape itself becomes a play experience. Vegetation, stone, and water are integrated to provide a wide range of play opportunities. Malleable materials including sand, gravel, water and vegetation give children the opportunity to manipulate their environment, while the cycles of the season are reflected through living elements in the landscape.

Integrated play

Integrated play spaces combine the assets of play equipment with the benefits of a landscape-based approach. In this way, designers are able to provide the physical excitement of speed and motion (e.g. slides and swings), while integrating these experiences with a sensory, living landscape. Unique structures may be designed to offer challenge, stimulate spontaneous play, and reveal natural processes.

SEVEN C'S OF OUTDOOR PLAY

The "seven Cs" are guidelines for informing the design of outdoor play environments for young children. They were developed from a five-year multidisciplinary study of outdoor play environments conducted with the Consortium for Health, Intervention, Learning, and Development (CHILD) Project at the University of British Columbia. These guidelines are intended to be used by designers, early childhood educators, teachers, administrators, and parents. The following is an overview of the seven Cs:

Character: The overall feel and design of the outdoor play space affects the way children interact with the site.



Context: Physical and visual connections to the neighbourhood facilitate access; site elements may reflect the larger context (e.g. water, vegetation).

Connectivity: The flow of play activity can be enhanced through a hierarchy of looped pathways, linking play elements and orchestrating movement through the site at different speeds.

Change: Malleable materials (e.g. sand, water) given children the opportunity to physically manipulate their environment; seasonal changes of site elements (e.g. vegetation) animate the site.

Chance: Spontaneous exploration can be encouraged by adding elements of chance and mystery to the site; zones that allow digging, splashing, and building promote imaginative play.

Clarity: A simple, clear layout makes the play space easy to navigate and allows children to focus on their activities.

Challenge: Risk-taking helps develop skills and self-confidence. Providing opportunities for graduated challenge accommodates a range of abilities.

ENGAGING YOUTH IN THE PUBLIC REALM

It is commonly acknowledged that youth are the most challenging group of people to include when designing public spaces. Feedback received from youth at the stakeholder workshops indicated their desire for performance / theatre space, opportunities to volunteer and develop leadership skills, areas to hang out, and places to learn about and study the environment.

The following are some general considerations and recommendations for incorporating youth in Britannia's public realm:

- Allow for self-directed learning opportunities
- Foster leadership opportunities
- Provide multi-functional spaces
- Provide hang-out or slack space that is sheltered, visually permeable, within view of adults (but not too close), and away from play space for young children
- Use the physical characteristics of the landscape to foster a connection between youth and the broader region.

SENIORS ACTIVITIES

One of the goals of the Master Plan is to provide a variety of experiences for all ages, and thus we have considered the needs and interests of the many Elders/seniors living in the neighbourhood around Britannia.

The following design objectives will help improve the experience of Britannia for seniors, and will be incorporated during all phases of Master Plan implementation:

- Spaces will be created to be inclusive of all age groups. The play area will be designed to allow both children and seniors to share the same space.
- Universally-accessible paths will be provided to link a series of destinations within the Britannia site. Walking loops (circuits) of varying lengths will be provided.
- Additional seating will be located at reasonable intervals along paths. Protection from unpleasant conditions (wind, weather) and provision of positive sensory experiences will be provided.

LIGHTING

APPROACH

Lighting should be focused in plazas and along main pedestrian circulation routes. The approach to lighting fixture selection and design will be formulated as part of an overall design philosophy and cohesive palette for site furniture in terms of form, materials and colours.



DETAILS

Preference should be given to energy-efficient (LED) lighting fixtures with full cut-off to minimize glare for public realm users. Lighting fixtures should be dark skies compliant to minimize the amount of light pollution.

Colour of light is also important. Both LED and metal halide fixtures contain large amounts of blue light in their spectrum. Because blue light brightens the night sky more than any other colour of light, it's important to minimize the amount emitted. Exposure to blue light at night can be harmful to human health and endanger wildlife. The International Dark Sky Association (IDA) recommends using lighting that has a colour temperature of no more than 3000 Kelvins.

SITE FURNISHINGS

APPROACH

Site furnishings will include a mix of standard and custom-designed pieces. Furnishings should reflect the creativity of the community and incorporate local art and design. Overall standard furnishings such as seating, trash receptacles, bike racks etc. should be considered as part of a suite of furnishings and express consistency regarding of form, material and colour. Lighting fixtures and way-finding elements should also be taken into consideration.

SEATING

The public realm will include a mix of standard and custom seating options. Custom seating will be required in areas which warrant special consideration like the Common gathering/dining areas (e.g seat steps, terraces). Custom seating may incorporate a concrete seating wall (straight or curved) with or without a wood bench top. Where skate deterrents are required, deterrents that are creatively integrated with the bench will be explored during detailed design.

PICNIC TABLES

Durable and appropriately styled picnic tables will be selected to streamline maintenance and repairs. An accessible version of the picnic tables should be included. All accessible tables should include an accessible path connecting them with the nearest primary pathway.

FENCES

Where new fencing is required for sports courts, black chain link should be used to reduce its visual presence.

WASTE RECEPTACLES

Typical receptacles should provide resistance to wildlife and ease of maintenance. Suitable locations and quantities are to be determined during detailed design. Recycling receptacles for nodal and gathering areas will be considered where appropriate during the detail design phase.

BIKE RACKS

The bike racks are to be integrated throughout the public realm in strategic locations (e.g. near entryways, close to gathering areas) and should be selected for functionality, ease of maintenance and an aesthetic that fits well within the setting.

DRINKING FOUNTAINS

Drinking fountains should be selected for durability, ease of maintenance and universal accessibility. They may be wall mounted, free-standing, and/or potentially incorporated a lockable enclosure for a hose bib that can also supply water for events.

SIGNAGE

Way-finding and regulation signage will be incorporated into the overall detail design approach. The layout and design of signage will be determined during the detailed design phase and will include a review of Vancouver Parks signage standards for any that may be applicable.

ACCESSIBILITY

There are three primary pedestrian circulation routes through Britannia's public realm: Parker Promenade, Napier Greenway, and Cotton Walk. All major routes should not exceed slopes of maximum 5%. A ramp (2.5m) will provide an accessible routes for visitors to the Britannia Common performance and outdoor dining space. A second ramp provides access to the artificial turf field and lower lying secondary school yard. A broad set of stairs overlooking the field will be designed to match the scale of the facility and also provide access and a gathering space for school groups and other spectators.

6.13 ACOUSTICS

GENERAL COMMENTS

At this point in the project, it is difficult to assign acoustic details that cover all aspects of the project as the design is likely to change over time and with it, specific room interfaces, room uses, etc. Having said that, there is still a certain commonality to the overall layout such that initial guidance can be detailed with the understanding that the acoustic criteria and targets will need to be updated as the project progresses.

Initial recommendations include:

- Targets for party wall and floor/ceiling details in the form of a room adjacency matrix for key areas spread throughout the five buildings.
- Room finish targets in terms of reverberation time, RT60, for the mid frequencies.
- Background noise for HVAC systems in terms of Noise Criteria, NC.

Further, the following section outlines targets for specific issues such as:

- Community noise impact
- Upper floor gymnasium
- Multi-use performance spaces
- Rehearsal rooms
- Outdoor performance spaces.

INITIAL DESIGN TARGETS

This section of the report deals with party wall and floor/ceiling targets, room finishes and background noise.

Noise Isolation

We have reviewed the suggested floor plans for Options 1 and 2 and have reduced the possible interfaces between adjacent spaces to the key areas noted in Table 1. This table does not cover all possible interfaces over the 5 buildings but offers a general perspective on the acoustic separations required for key areas and for similar spaces taking into account the location of the rooms within specific buildings (i.e. the spaces are 'grouped' to a certain extent). As noted above, this will need to be refined in subsequent phases of the project.

Adjacency	Gym/fitness	Offices/meeting rooms	Residential Units	Mech./Elect. Room	Childcare	Library/Gallery	Performance Spaces	Media Labs	Classrooms	Shops	IIC to floor below	Floor/ceiling STC
Gym/fitness	50	60		60							70	65
Offices/Meeting Rooms		50	-	60							50	50
Residential Units	60		50			60					60	50
Mech./Elect. Room	60	60	60	-	60	60	65	65	60	50	-	60
Child care				60	50	50					60	50
Library/Art Gallery		50		60	50	50		55			60	50
Performance spaces/Multi-Purpose Rooms		60		65			65	55			65	60
Media Labs		55		60			55	55			65	55
Classrooms				60					50	60	55	50
Shops				55					60	50		50

Table 1: Recommended STC Ratings between Adjacent Spaces

Note:

1. Single stud walls with STC ratings of STC 45 and higher require built-in-place 25 ga. steel stud acoustical walls. STC 55 and higher walls require a double stud wall or CMU (details to be confirmed) construction. In all cases acoustic walls (i.e. walls rated at STC 45 or higher) should be full height to the underside of the deck, insulated and caulked top and bottom. These walls should also be properly sealed at all penetration points.
2. Unless otherwise stated below or noted on the drawings, the demising walls between adjacent occupied non-critical spaces should be minimum STC 45. Details on door requirements will need to follow as the project design progresses.
3. Where gypsum wallboard is specified in acoustically rated walls, this should be minimum 16mm thick Type-X.
4. While Gym and Fitness Rooms to adjacent spaces on the same floor should have minimum STC 60 ratings (and double stud walls) to reduce impact noise (of ball impacts, etc.) as well as airborne noise, the rating should increase to minimum STC 65 if the adjacent space is a multi-purpose or performance space.
5. There must be no performance or critical meeting rooms, etc. located immediately below or above gymnasium or Fitness rooms.

6. The sound rating of the vertical interface between residential housing and the three buildings in which they are located should be minimum STC 60.
7. The Ice Rink and Pool areas have been omitted as sound isolation can be updated in the future as required.

As an aid to future design, we have also included:

- Appendix A: Sample Wall Types
- Appendix B: Fitness Area(s) Design Guidelines

Room Finishes

The discussion on room acoustics that follows assumes that there are no Distance Learning/ Distance Education (i.e. for the Classrooms) or video-conferencing rooms (i.e. meeting rooms). Such rooms, if they are to be included, will require upgraded party wall details, additional room finish and background noise targets.

Table 2 below shows the typical range of mid-frequency reverberation time (RT60) limits for most of the key rooms types. The Reverberation Time (RT60) is a measure of how quickly sound decays in a space. The RT60 is dependent on the room volume and amount of acoustic absorption in the space.

Room Type	Max Mid-Frequency RT ₆₀ (sec)
Instructional Spaces (≤ 250 m ³)*	0.7-0.8
Instructional Spaces (>250 m ³ and ≤ 500 m ³)*	0.7-0.8
Drama Instruction	0.7-0.8
Music Instruction	0.8-0.9
Main Gymnasium*	1.5 - 1.8
Secondary Gymnasium*	1.8 - 2.0
Offices/meeting rooms	0.7-0.8
Pool*	1.8-2.0
Fitness**	1.0-1.1
Ice rink*	1.8-2.0
Child care	0.7-0.8
Library	0.8-1.0
Art Gallery	0.8-1.0
Performance spaces***	0.8-1.0
Media Labs	0.45-0.55
Multi-Purpose rooms	0.8-1.0
Classrooms	0.7-0.8
Shops**	1.0-1.2

* keep in mind that the upper limit for speech intelligibility of a sound system is roughly 2.0 seconds in the mid frequencies. Longer RT60s will require more costly sound systems with less chance for good speech intelligibility including announcements for safety reasons.

** more for overall noise control than speech intelligibility

*** this assumes relatively small rooms where speech intelligibility is the main goal. If a larger theatre is to be included for music, additional criteria will be required.

Background Noise

The background noise requirements for various spaces in the project are summarized in Table 3 below:

Based on the above, we offer the following preliminary

Room	Background Noise Requirement (NC)
Instructional Spaces (≤ 250 m³)	30-35
Instructional Spaces (>250 m³ and ≤ 500 m³)*	30-35
Drama Instruction	25-30
Music Instruction	25-30
Main Gymnasium	35-40
Secondary Gymnasias	35-40
Offices/Meeting Rooms	30-35
Pool	40-45
Fitness	40-45
Ice rink	40-45
Child care	30-35
Library	30-35
Art Gallery	30-35
Performance Spaces	25-30
Media Labs	25-30
Multi-Purpose rooms	30-35
Classrooms	30-35
Shops	40-45

Table 3: Summary of Background Noise Requirements

recommendations for background noise control from HVAC systems. In order to achieve the NC targets noted in Table 3, one will need to:

- Select appropriately quiet equipment
- Allow for duct lining and/or silencers for all air handlers
- Ensure that all equipment is properly vibration isolated.

In terms of the residential portion of the project, per the Zoning

& Development bylaw 3575, the maximum 24-hour a-weighted equivalent (Leq) sound level in portions of residential units are:

Portions of Dwelling Units	Noise Level (dBA)
Bedrooms	35
Living, Dining, Recreation Rooms	40
Kitchen, Bathrooms, Hallways	45

Table 4: 24 Hour Leq Sound Level, Residential Units

It is assumed that the façade will be designed to meet the interior noise limits per the City of Vancouver Guidelines for traffic noise ingress in Table 4 above. The Canada Mortgage and Housing Corporation (CMHC) publication “Road and Rail Noise: Effects on Housing” states that a façade noise exposure level less than 55 dBA would meet the requirements in Table 4 using typical residential building standards.

Additional Key Design Issues

In this section, we offer additional comments on community noise impacts, upper floor gymnasias, multi-use performance spaces, rehearsal rooms and outdoor performance spaces.

Community Noise Impact

This project is subject to The City of Vancouver Noise Control Bylaw No. 6555 requirements as well as specific requirements for exterior noise control for Kitchen exhaust and make-up air fans; as required. It is critical that all mechanical and equipment located in outdoor spaces be reviewed to ensure that the requirements of the City Noise Bylaw are met.

Gymnasium over Key Spaces

Ideally, in all cases, it would be preferred if all gyms were at ground level with no occupied space above or below. However, due to the constraints of the site and the requirements for varied room usage in a number of the buildings that there could be small gymnasias installed over occupied space.

Isolation of airborne and impact noise due to bouncing of balls, etc., generated by typical gym activity is very difficult to control acoustically. As a result, if such interfaces occur, it may be necessary to include:

- Concrete floated floors in the gym
- Isolated GWB ceilings in the gym to spaces above
- Isolated GWB ceilings in spaces below the gyms to occupied low noise spaces

These details will require extreme care and planning. As noted above, we have included Appendix B which outlines some of the design considerations for gyms and fitness areas.

Outdoor Performance Spaces

There are also likely to be outdoor performance spaces and with that, the concern for noise impact on the community. To help control such noise, it will be critical to:

- Locate such areas away from residential buildings
- Use highly directional sound systems to try to contain the noise on site
- Consider depressed stage and seating or earth berms around the performance area
- Locate such areas behind buildings on site

Again, it is critical to consider the noise impacts while laying out the overall design.

Multi-Use Performance Spaces

Tables 1, 2 and 3 provide the basic requirements for sound isolation, room finishes (based on RT60 targets) and background noise. Specific details will need to be worked out keeping all of the design targets in mind.

Rehearsal Spaces

As with the performance spaces, basic acoustic targets are included in Tables 1, 2 and 3.

6.14 SITE SERVICING

TECHNICAL DETAILS ON BUILDING SYSTEM STRATEGIES

Minimize Energy Demand & Maximize Energy Efficiency for All New Buildings

All new buildings on the site will be designed to target and achieve Passive House or similar levels of building energy performance, with the goal of achieving zero emissions in building operations while improving occupant comfort, health and safety.

Buildings will feature the following characteristics:

- High performance opaque building envelopes with minimal thermal bridging, and optimized building form and massing;
- High performance triple pane glazing, with operable windows and/or ventilation apertures to allow for passive ventilation and passive cooling;
- Passive solar heating design, with optimized solar orientation and the use of interior thermal masses for passive heating;
- Solar gain control strategies, such as operable external shading devices or electro-chromic glazing;
- Heat recovery ventilation to re-capture heat from exhaust air and reduce overall building demand for heating energy; and
- Hydronic-based mechanical HVAC systems designed to operate with low-temperature heating water and medium temperature cooling.

Please see Table 1 for high-level estimates of building energy demand by phase.

Harness On-Site, Low-Grade Energy Sources and Integrate Energy Conversion Technology

As part of reaching a zero emissions level of performance, the following technologies and systems will be evaluated for integration into the site:

- Water-to-water heat pumps, air-source heat pumps, and CO2 heat pumps;
- An interconnected mechanical plant for both the ice rink and the pool to maximize heat recovery from ice rink refrigeration and air conditioning for pool heating;
- Low-grade waste heat recovery from building sanitary systems for domestic hot water heating;
- On-site roof-mounted solar thermal collectors to provide additional heating capacity for heating the pool;

- A vertical closed loop geo-exchange field installed underneath individual buildings or in available open site areas to provide a low-grade thermal energy source and sink, as well as seasonal thermal storage; and
- A low-carbon, district energy “ambient temperature loop” interconnecting the individual buildings and their heat pump-based heating and cooling plants with the variety of low-grade energy sources outlined above.

All of these systems will be phased in as the redevelopment of the site occurs. With the construction of each new building, heat pumps and on-site solar technology will be included into the building’s systems, as low-grade heat sources, including geo-exchange and heat recovery from the sewer, will be developed connected to the ambient temperature loop system. The ambient temperature loop system is modular and can progressively expand and interconnect the individual buildings as the site gets redeveloped.

The current phasing plan of constructing the pool facility before the ice rink means that the pool will initially need to have its own heating and cooling plant supplied by the available low-grade energy sources and technologies. Once the ice rink is constructed, its refrigeration plant will be interconnected with the pool heating and cooling plant to enable heat recovery between the two facilities.

Replacing the High School’s Existing Heating System

The existing heating system for the high school is a high temperature heating system. The boiler for this heating system is currently located in the school’s shops building, separate from the main school building. With the relocation of the shops building in Phase 4 of the Britannia Renewal project, a new boiler room or alternative heating system will be required for the high school.

There are 3 options to consider for the reconnection of the school’s heating system:

1. *Water Source Heat Pumps Connected to the Site’s Ambient Loop with a Low Temperature In-Building Heating System*

The first option is to connect water-to-water heat pumps to the site’s ambient loop to provide low temperature

heating water to the new shops building and the existing school (Figure 1). This is a low-carbon option in line with the City of Vancouver’s current Zero Emissions Building Plan. Existing heating terminal units in the school would need to be retrofitted to maintain the same heat output using the lower temperature heating water generated by the heat pumps. This option carries additional retrofit cost, but is able to take advantage of energy recovery with the other buildings on site. Cooling would also be available in the school as an added benefit, with little additional cost.

2. *High-Efficiency Gas-Fired Condensing Boilers with Low Temperature In-Building Heating System*

The second option is to use high-efficiency gas-fired condensing boilers to generate low temperature heating water to the buildings (Figure 2). This option offers higher energy efficiency and lower carbon emissions when compared to the existing school boiler plant and in-building heating system. The existing heating terminal units in the school would require a retrofit to maintain the same heat output using lower temperature heating water generated by the condensing boilers. The site’s carbon emissions could be higher than the ambient loop option, and cooling would not be available. However, this option would still provide the school with the flexibility to convert the heating plant to heat pumps and connect to the ambient loop at the end of the boilers’ service life.

3. *Standard Efficiency Gas-fired Heating Boilers with the Existing High Temperature In-Building Heating System*

The third option is to replace the boiler and relocating the boiler room (Figure 2). Heating water would be supplied at the same (high) temperature using gas-fired heating boilers. No changes would be required at the terminal units. This represents the lowest capital cost and therefore the most economical option, but it would not interact with the ambient loop proposed for the site. Energy recovery between buildings would not be possible, and carbon emissions would be higher than either of the other two options. This option does not align with the City of Vancouver energy targets.

HIGH-LEVEL BUILDING ENERGY DEMAND ESTIMATES BY DEVELOPMENT PHASE

PHASE	SCOPE	GROSS AREA M ²	Benchmark (kWh/m ²)			Britannia	
			Electrical (kWh/m ²)	Fossil-thermal (kWh/m ²)	Total (kWh/m ²)	kWh/m ²	kWh
Phase 1 - Pool, Fitness + Gym	<i>Fitness Centre + Studios</i>	1,547				120	185,640
	<i>Gym C + Gymnastics Annex</i>	2,015				120	241,800
	<i>Aquatics</i>	3,800	245	1130	1375	825	3,135,000
	<i>Childcare</i>	993				120	119,160
	<i>Support + Circulation</i>	750				120	90,000
	Total Building 1 Area	9,105	Total Building 1 Energy (kWh)			3,771,600	
	Site Development (Parker Promenade 1 + Cotton Plaza)	3,450					
	Childcare Roof Top Play Area	745					
Deconstruction of Existing Pool + Fitness	1,336						
Housing - 81 units	7,897	Housing - 81 units			120	947,603	
Phase 2 - Rink	<i>Rink</i>	3,801	167	100	267	160	608,920
	<i>Support + Circulation</i>	500				160	80,100
	Total Building 2 Area	4,301	Total Building 2 Energy (kWh)			689,020	
	U/G Parking - 180 spaces	5,850					
	Roof Top Sport Park	1,500					
	Site Development (Parker Promenade 2 + Rec Plaza)	2,148					
	Deconstruction of Existing Rink	2,764					
	Housing - 89 units	8,640	Housing - 89 units			120	1,036,789
Phase 3 - Library	<i>Library, Art Gallery + Social Dev spaces</i>	2,258				120	270,960
	<i>Childcare</i>	993				120	119,160
	<i>Support + Circulation</i>	460				120	55,200
	Total Building 3 Area	3,711	Total Building 3 Energy (kWh)			445,320	
	U/G Parking - 230 spaces	7,475					
	Site Development (Parker Greenway + Plaza)	1,484					
	Childcare Roof Top Play Area	745					
	Deconstruction of Library + Preteen Centre	952					
Housing - 89 units	8,640	Housing - 89 units			120	1,036,789	
Phase 4 - VSB Classrooms	<i>Building 4 - VSB Classrooms + Shops</i>	4,500	40	150	190	114	513,000
	Total Building 4 Area	4,500	Total Building 4 Energy (kWh)			513,000	
	Site Development (Raised field)	1,708					
	Deconstruction of VSB Shops building	3,637					
Phase 5 - Community Centre	<i>Building 5 - Community Centre</i>	9,162				120	1,099,440
	<i>Support + Circulation</i>	800				120	96,000
	Total Building 5 Area	9,962	Total Building 5 Energy (kWh)			1,195,440	
	VSB Alternate School	250					
	Site Development (Common + Play Way)	14,066					
	Roof Top Farm + Gathering Space	1,200					
	Deconstruction of Gym C, Teen Centre, Info Centre, 55+ Centre, Gym D, Childcare, Family Place	2,814					
TOTALS - Whole Master Plan	CoV Building Scope	27,079					
	VSB Building Scope	4,750					
	U/G Parking - 410 spaces	13,325					
	Rooftop Development	5,898					
	Site Development	13,325					
	Deconstruction	11,503					
	Housing (+/- 260 units)	25,177					

* Assume Passive House standard

** Benchmark values based on CIBSE TM46 Energy Benchmarks, 2008; Assume Britannia's energy performance is 60% less energy than benchmark

*** Benchmark values based on CIBSE ECG78 Energy Use in Sports and Recreation Buildings; Assume Britannia's energy performance is 60% less energy than benchmark

**** Including relocation of whole school mechanical (boiler room)

***** Not including greenhouses

Table 1: High-level Building Energy Demand Estimates by Development Phase

Location of the Vertical Geo-Exchange Field

A geo-exchange field is the technology that has been proposed as a means of providing low-grade thermal energy to buildings. The sizing and phasing of the system will be determined based on the final location of the geo-exchange field.

There are two potential locations for the geo-exchange field:

1. Under the Building Footprints

The first option is to locate the geo-exchange field underneath the footprint of the site's new buildings (Figure 2). This option allows the provision of most, if not all, of the capacity needed to service the buildings owned and operated by the City of Vancouver. Locating the geo-exchange field underneath the site's buildings would also allow for a phased approach to building out the system; as each new building is built, additional capacity can be added and connected to the rest of the system. If it is determined that even further capacity is needed, this could be built underneath Common Plaza.

2. Under the Sports Field

The second option is to locate the geo-exchange system under the site's sports field (Figure 1). The operational challenges involved with sharing services between the buildings located on City of Vancouver land and the schools located on Vancouver School Board (VSB) land makes this a less straightforward option with regard to the system's installation and future governance. However, if the City would like to preserve the option to connect the existing schools to the ambient loop in the future to further reduce the site's carbon emissions, this option is advantageous in that it can provide the necessary capacity for the system. By locating part of the system underneath VSB land, it may also encourage the VSB to connect the schools to the system, reducing the site's emissions even further.

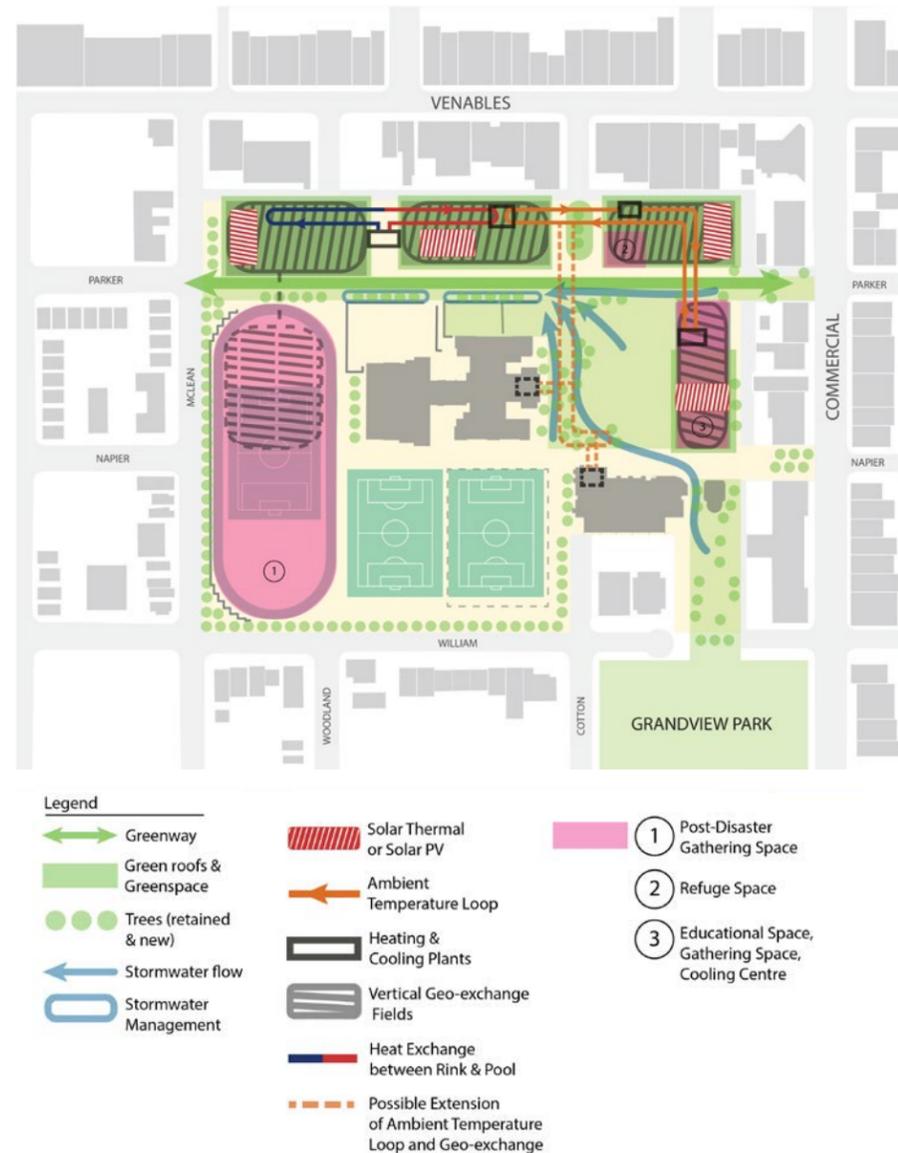


Figure 1: Proposed Sustainability & Resilience Conditions - Lower Carbon Option

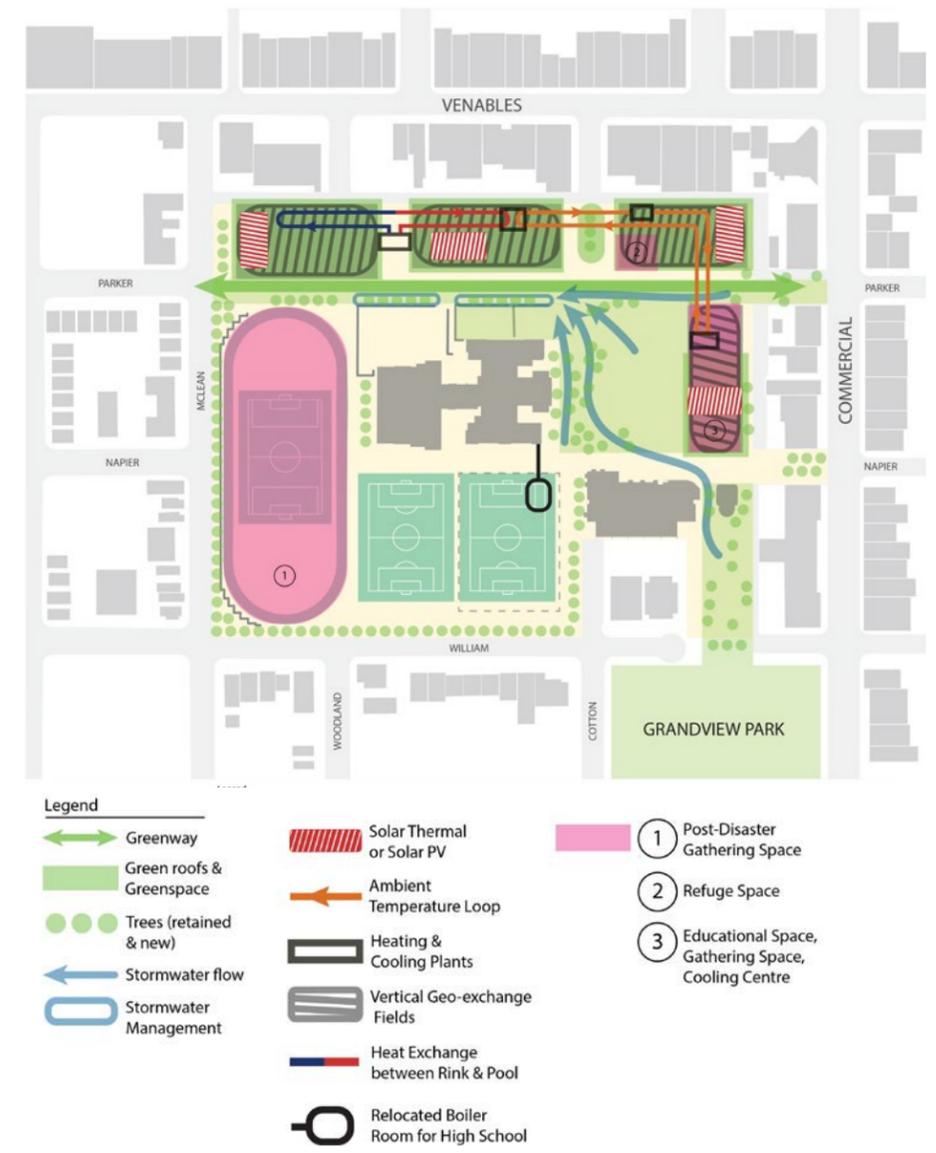


Figure 2: Proposed Sustainability & Resilience Conditions - Lower Cost Option

SITE SERVICING DETAILS

Existing service lines that cross the site or are in close proximity to the site are shown in Figure 4: Existing service lines.

Electricity Servicing

An existing BC Hydro Transmission line currently runs east-west through the proposed development under the Parker Promenade, as indicated in the Master Plan. The BC Hydro transmission cable is within Vancouver Utility ROW M36383 and is a 230kV cable (2L050).

This transmission line cannot be used to distribute power to the new buildings, and it will have to be protected during the construction of the new proposed developments. Nothing can be built or planted within the Right of Way (ROW) containing the 230kV cable without review of BC Hydro, or any other utilities that may be within the City Utility ROW.

During preliminary discussions, BC Hydro noted potential clearance issues between the future proposed buildings and the existing overhead high voltage lines and pole mounted transformers. Please refer to attached diagram for clarification. Potential clearance issues will be coordinated during the design stage of the buildings, to ensure the clearances required by the Canadian Electrical Code (CEC) are met.

The high voltage primary Hydro service in this area is 12kV, with the plan to convert to 25kV in the future. Future buildings will be required to install 25kV rated equipment, and 12/25kV rated transformers. Based on the Master Plan, building occupancy type and square footage, and the anticipated electrical load of the new buildings, BC Hydro also noted that their primary infrastructure will have to be upgraded by adding one or more new automated Vista Switches. The final upgrade of BC Hydro infrastructure will be confirmed at a later date.

Water Servicing Strategy

At present, a water servicing strategy cannot be provided due to uncertainty regarding the property lines. Once property lines on the site are finalized, exact servicing locations will be determined.

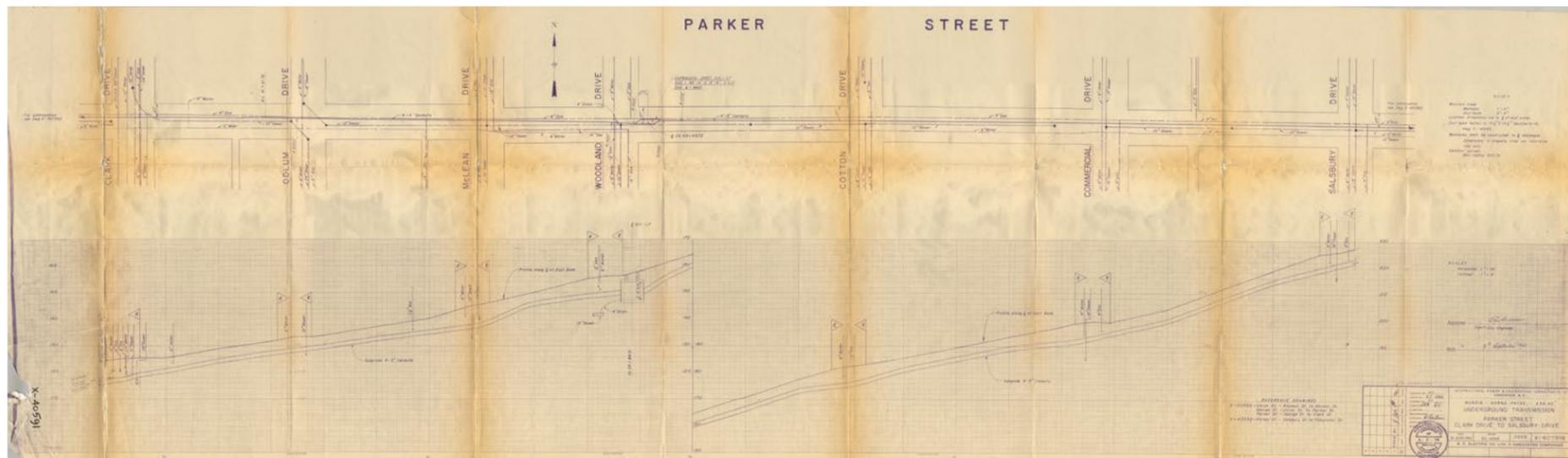


Figure 3: Parker Street BC Hydro R.O.W. as built drawings

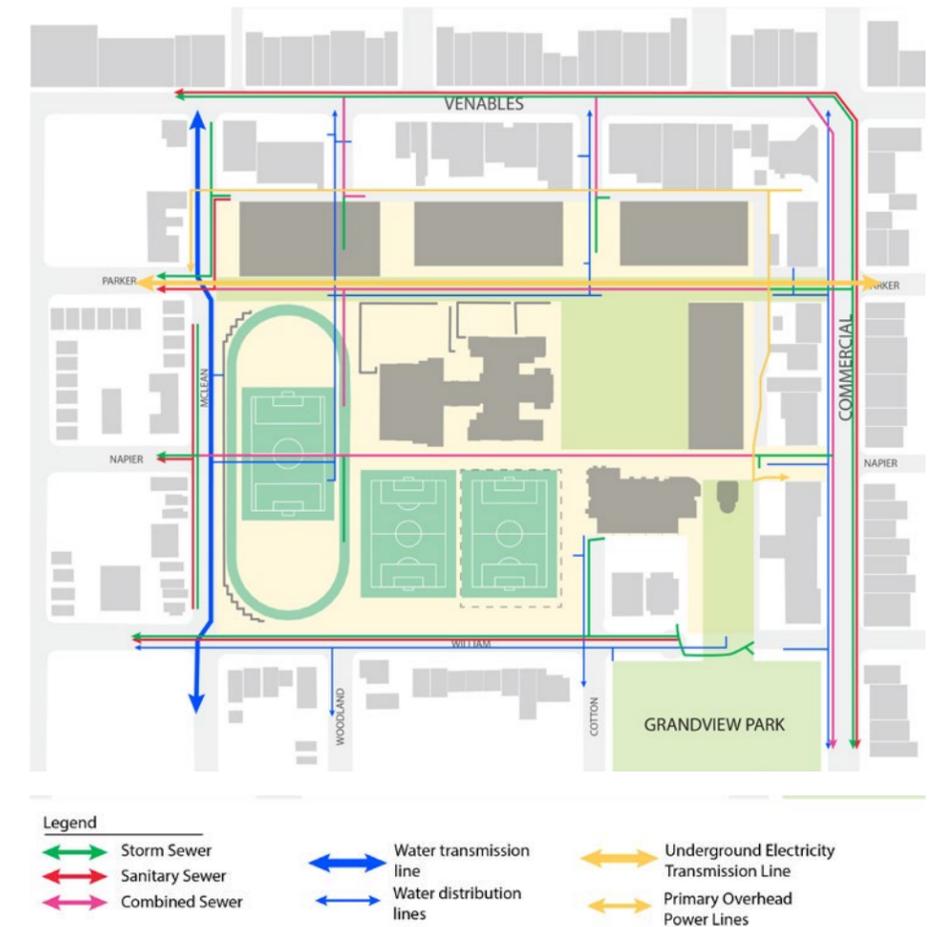


Figure 4: Existing service lines

6.15 TRAFFIC, PARKING + LOADING

The following describes the traffic, parking and loading strategy for the Britannia Renewal Master Plan. A high level Preliminary Transportation Impact Assessment from Bunt & Associates forms a part of this summary and the full report is appended.

Vehicular Access

Access to the site will continue to be from Venables via Cotton or Woodland Drives.

- At the end of Cotton Drive where it meets the site will be a turnaround - Cotton Plaza for passenger drop-off and access to underground parking.
- The Plan proposes to close Parker Street from Commercial Drive to the lane to create another greenway similar to the existing Napier Greenway.
- Lane access will be from Venables along both Woodland and Cotton to the Venables Lane. The Venables Lane connects to both McLean and Commercial Drive at each end.
- It is proposed to convert the Commercial lane to a Mews, widening the space by setting the community facilities back from the property line to create space for a sidewalk, passenger drop-off, loading, and exterior greenspace.
- The Commercial Mews is accessed via the Venables lane and will not have an outlet until the Commercial lane intersects William (due to closure of Parker).
- The building set back along Commercial Mews will also facilitate turning the corner from Venables lane to Commercial Mews

Parking

All parking will be underground, with the exception of 4 parallel handicap spaces adjacent to the Library (Building 3) and Community Centre (Building 5) in the Commercial Mews.

Parking is proposed as follows:

- VSB parking existing 110 spaces to be accommodated under Buildings 1 and 2 (Pool and Rink)
- City of Vancouver parking for community facilities to be 300 underground spaces under Buildings 1, 2 and 3 (Pool, Rink, and Library) which is a proportional increase from the existing 100 surface spaces. The existing community facilities will be increased from 9,848 m² to 27,470 m².

- Housing parking to be accommodated as required in addition to the 410 spaces proposed on site and will occur in Buildings 1, 2, and 3. A range from 200 to 300 non-market housing units is being considered incorporated.

Loading

- Loading for Buildings 1 and 2 will be via the Venables lane to the Rec Plaza
- Loading for Building 3 will be via Cotton Plaza in the underground parking area.
- Loading for Building 4 will be off William. It is anticipated that all VSB High School Loading will occur at Building 4
- Loading for Building 5 will be at grade via the Commercial Mews or from Cotton Walk and the Common for large event loading. There is no capacity due to the Hydro Duct Bank along the Parker ROW to access this building for underground parking or loading.

Passenger Drop-off

Passenger drop-off to the facilities on site will be as follows:

- Elementary School via Commercial Mews or William at Cotton
- High School drop-off will be via William at Cotton or Cotton Plaza
- Building 1 - (Rink player drop-off) via McLean Drive or underground parking. Spectator drop-off can be from Cotton Plaza
- Building 2 - Pool drop-off via Cotton plaza, Childcare drop-off via underground parking.
- Building 3 - Library drop-off via Commercial Mews, Childcare via underground parking.
- Building 5 - Community Centre drop-off will be via Commercial Mews (main level of the building) or Cotton Plaza (accessing the lower level of the building)

COMMERCIAL MEWS

What is a Mews?

"Mews are narrow, intimate streets that balance the access and service functions of a lane with active building frontages, accessory uses, and a street space shared by cars and pedestrians."

The Master Plan proposes upgrading the laneway behind Commercial Drive to a Mews. The proposed Commercial Mews is both an access route which includes loading, servicing, drop off, pedestrian and bike access as well as an active people place.

The buildings fronting on Commercial Mews have been envisioned with multiple entrances, showcase glazing, and creative spaces in order to increase pedestrian activity and safety.

In addition to the existing lane width, a minimum 5.5m building setback from the lane is recommended in order to accommodate a 2.5m lay by loading and drop off area as well as a 3m defined pedestrian circulation area designed with a safety lens to protect and accommodate children, seniors etc.

Additional building setbacks are to be considered where appropriate for circulation, building access, and program spaces such as studio yards and Family Place play area. This is in line with the G-W Plan which requires 3m setback for lane expansion to provide access to light and air and enable activation of the lane.

Specifically the Grandview Woodlands Plan advocates to: *"9.1.9 Explore opportunities as they arise to revitalize laneways by through design and/or programming opportunities."*

Commercial laneways and the rear-yard areas of businesses could present an opportunity for small-scale economic activity. Their primary purpose is to support the servicing needs of businesses (e.g. parking, loading, waste disposal, etc.); however, they have the potential for other community-serving and entrepreneurial activities. For example, these spaces are used, in limited instances, for patios or informal seating areas. They could also be used for small markets, "pop-up" retail, temporary events, additional restaurant space, or even improved secondary entrances to existing businesses."

GREENWAYS

Pedestrian Access to Site - Adding the Parker Greenway

Primary pedestrian uses of the Commercial laneway currently is transportation to and from the site. This means that pedestrian crossings of the linear loading/servicing vehicular activity is required. Currently, the Napier Greenway extends into the laneway to create a clear pedestrian priority corridor across the lane into the main entry area of the site.

The Master Plan proposes an additional Greenway at Parker Street in order to provide pedestrian priority access to the facility entrances along the Parker Promenade.

The two Greenways will help Britannia have a larger presence on Commercial Drive and support pedestrian access and activation.

VENABLES LANE

The Venables Lane takes a different approach to urbanism and use than the Commercial Mews. The Venables Lane is to be vehicular and service primary, with minimal setbacks. This is due to the tight space constraints between the lane property line and the Parker BC Hydro Right of Way.

Pedestrian access to the site from Venables Street occurs via Cotton Drive and a drop off zone at Cotton Plaza and via Woodland Drive through the Recreation Plaza. Access to both underground parking areas is also served off the Venables Lane.



The Napier Greenway is a highly successful people place supporting pedestrian access to the site and providing community meeting and activity space on Commercial Drive.



7 WHAT'S NEXT?

7.1 PROJECT REALIZATION

WHAT'S NEXT?

With the finalizing of the Britannia Renewal Master Plan, the project's next stage is to undertake a comprehensive site wide rezoning.

REZONING

Following the Master Plan, the City of Vancouver will continue to work with Site Partners and the community to develop an application to rezone the Britannia Site. City Council decides on all rezoning applications with public input through the public hearing process.

Rezoning changes how a property can be used or developed. A rezoning process is required prior to building the first phase of the Master Plan.

The current zoning on the site allows for a maximum height of 40', a maximum 0.45 FSR (Floor Space Ratio), and does not include uses in the Master Plan including social spaces (e.g. intergenerational hub, food hub, non-profit office hub), cultural spaces (e.g. galleries, art studios, rehearsal and presentation spaces), or affordable non-market housing.

The rezoning process will establish maximum heights and densities and address form of development considerations for buildings including building setbacks.

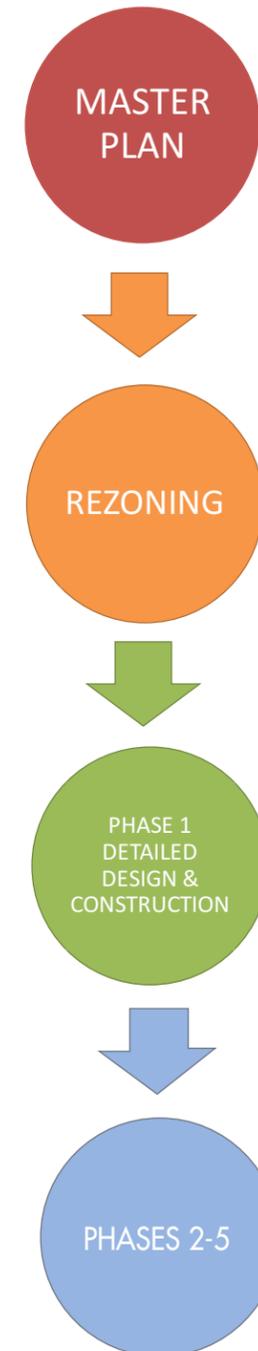
DETAILED DESIGN & CONSTRUCTION

Once the site is rezoned, detailed design work will proceed with site partner and community input on a phased basis to realize the Master Plan building-by-building.

Work will include the following:

- Detailed functional programming with site partners and community to set specific requirements around room uses, sizes, and finishes.
- Detailed design work to meet functional and technical requirements for each phase of work.
- Managing construction and deconstruction contracts.

Phasing will be determined by available funds and for Phases 4 and 5 alignment with VSB priorities.



Britannia

RENEWAL



Britannia Community Centre Renewal Transportation Impact Assessment

Final Report

Prepared for
Urban Arts

Date
June 18, 2018

Project No.
04-18-0167

June 18, 2018
04-18-0167

Jennifer Marshall
Urban Arts Architecture
#300, 111 Water Street
Vancouver, BC
V6B 1A7

Dear Jennifer:

**Re: Britannia Community Centre Renewal,
Transportation Impact Assessment**

Bunt & Associates Engineering Ltd. (Bunt) has completed our Preliminary Transportation Impact Assessment for the proposed Master Plan renewal of the Britannia Community Services Centre developed by Urban Arts. Our Draft Report is provided herewith, it addresses the potential transportation impacts related to the proposed renewal and key issues that have risen from the planning process.

We look forward to our continued work on this exciting project.

Yours truly,
Bunt & Associates



Jason Potter, M.Sc. PTP
Senior Transportation Planner

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Date: June 18, 2018

Project No. 04-18-0167

Status: Final

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EXECUTIVE SUMMARY

Urban Arts Architecture has prepared a Master Plan for the City of Vancouver for the renewal of Britannia Community Services Centre (BCSC), located at 1661 Napier Street in Vancouver. The following summary summarizes our transportation analysis and results.

Existing Condition

The site is currently operational with a range of community amenities and services such as an ice rink, a pool with a fitness centre, two gyms, a library, three Vancouver School Board schools as well as various multi-purpose rooms and social support facilities.

BCSC is currently accessed from various vehicle routes. The main vehicle entry point to its 175 space surface parking lot is accessed from Cotton Drive which is accessed from Venables Street. Other vehicle routes to BCSC include from McLean Drive to the west, Woodland Drive to the north as well as Parker Street, William Street and Venables Lane from Commercial Drive.

Existing condition analysis indicates the surrounding study area intersections currently operate within operational capacity thresholds during weekday PM and Saturday peak hour periods.

During the weekday PM peak hour 53 two-way trips (28 inbound and 25 outbound) were observed exiting or entering Cotton Drive to / from Venables Street and 84 trips (40 inbound and 44 outbound) were observed during the Saturday peak hour. The existing total site vehicle trip generation is estimated to be approximately 155 total two-way trips during the weekday PM peak hour (77 inbound and 78 outbound), and 174 total two way trips during the Saturday peak hour of adjacent street traffic (89 inbound and 97 outbound).

Substantially higher pedestrian volumes were observed on Commercial Drive (at Parker Street) over Venables Street (at Cotton Drive).

Post Renewal Condition

The post-renewal BCSC site trips (based on the 9,848 m² to 27,470 m² change in community facility area, or a 2.8 factor) are 431 two way trips (213 inbound, 218 outbound) in the weekday PM peak hour, and 518 (247 inbound, 271 outbound) in the Saturday mid-day peak hour.

The post-renewal forecasted site trips are based off of the proposed parking supply increase. It is however noted that the proposed 410 parking spaces is likely well over the anticipated parking demand for the proposed Master Plan. This number of vehicle spaces is likely excessive even when adding the anticipated demand for the contemplated 300 residential units.

The renewal's proposed supply of 410 vehicle spaces may be excessive but it does provide a conservative scenario for traffic analysis. Further refinement of the proposed vehicle parking supply will be provided subsequent to this TIA report.

Traffic operations are anticipated to remain within threshold criteria with the additional traffic generated by the proposed renewal, therefore no mitigation is recommended to accommodate the proposed Master Plan.

Our analysis indicates the closure of Parker Street (between Commercial Lane and Commercial Drive) to vehicle traffic will have negligible impact to study area traffic operations.

The proposed Master Plan achieves or exceeds recommended set-backs along Commercial Lane. The Master Plan indicates space to accommodate a 2.5 m short-term parking lane and a minimum of 2.5 m wide sidewalk along its Commercial Lane frontage. This configuration is considered appropriate as it retains existing lane width for through traffic and eastside lane loading activity while providing ample width to address the comfort and safety of pedestrians.

To protect against external parking, the Master Plan may consider adding parking time restrictions to parking spaces in main parking lot. Other speciality parking spaces should also be considered such as high vehicle occupancy spaces, or family / parents with children spaces.

A more substantive parking demand analysis should be undertaken to better understand the anticipated vehicle parking demand of the BCSC Master Plan.

1. INTRODUCTION

1.1 Study Purpose & Objectives

Commissioned by the City of Vancouver, Urban Arts Architecture evolved a Master Planning exercise for the renewal of Britannia Community Services Centre (BCSC). The address of the 18 acre site is 1661 Napier Street, Vancouver BC.

The Master Plan is a result of a comprehensive public engagement process. Bunt & Associates (Bunt) was retained to examine the transportation implications of the proposed renewal. Specifically, this study:

- Reviews the existing study area and existing BCSC weekday PM and Saturday mid-day peak hour traffic operations;
- Evaluates the transportation impacts of the proposed renewal on the adjacent road network including the proposed access alteration of converting Parker Street between the site and Commercial Drive into a pedestrian plaza with no vehicle access;
- Reviews school drop-off / pick-up activity around the BCSC site as well as its interaction with commercial loading activity in Commercial Lane.

The location of BCSC is illustrated in **Exhibit 1.1**.

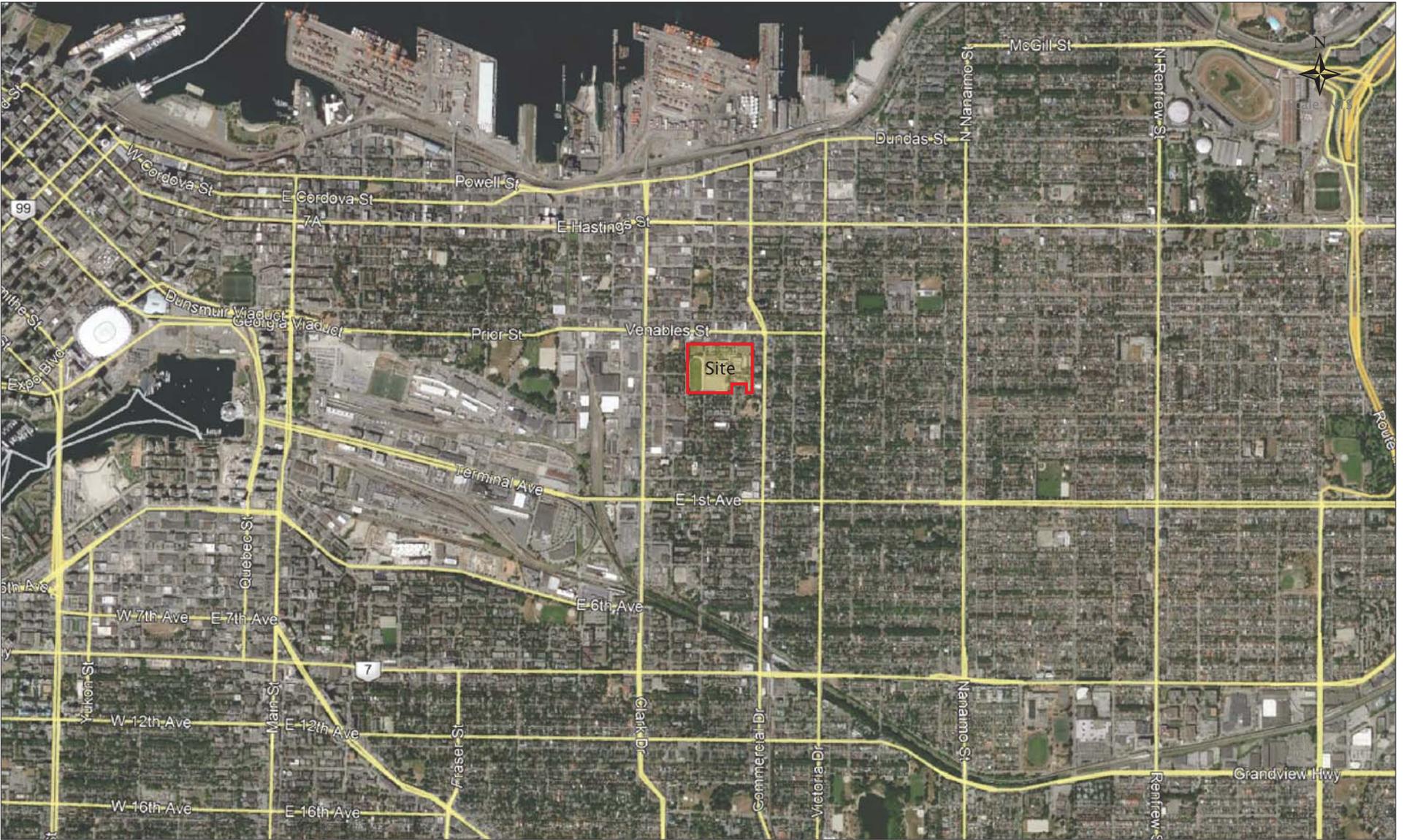


Exhibit 1.1 Site Location

Britannia Community Services Centre Renewal
04-18-0167 May 2018



2. EXISTING CONDITIONS

2.1 Current Britannia Programs and Facilities

BCSC currently (2018) offers many facilities and programs. **Table 2.1** lists a wide range of available facilities.

Table 2.1: Current BCSC Facilities & Programs

CURRENT BRITANNIA FACILITIES
<ul style="list-style-type: none"> • 25 meter indoor swimming pool; • Leisure pool; • Hot tub, steam room & dry sauna; • Fitness centre; • Library; • Gym and combative mat room; • One 85' x 200' ice arena; • Community facilities/ meeting rooms (9,848 m²); • Britannia Preschool • Britannia Out of School Care • Eastside Family Place + Canucks Family Education Centre; • Britannia Elementary School plus gym (165 students); • Britannia Secondary School plus two gyms and an auditorium (750 students); • Streetfront Alternative School (22 students). • Outdoor playing fields, running oval basketball courts and five tennis courts.

The locations of facilities listed above are illustrated in **Exhibit 2.1**.

2.1.1 Hours of Operation

The pool and ice rink are open 6:30 AM to 9:55 PM Monday to Friday, 9 AM to 7:55 PM on Saturdays and 10 AM to 7:55 PM on Sundays.

Regular class times at the three on-site schools begin at 9:00 AM and end at 3:00 to 3:02 PM, Monday to Friday.

BCSC regular hours for other community programs and facilities are as follows:

- Monday 8:30 AM to 9 PM
- Tuesday 8:30 AM to 9 PM
- Wednesday 8:30 AM to 9 PM
- Thursday 8:30 AM to 9 PM
- Friday 8:30 AM to 7 PM
- Saturday 9:00 AM to 5 PM
- Sunday 10:00 AM to 4 PM

2.1.2 Vehicle Parking

The existing BCSC site is serviced with a main surface parking lot with 174 parking spaces. This parking lot is accessed from Cotton Drive. These parking spaces are unregulated.

In addition, approximately 30 additional parking spaces are located in two small surface parking pools adjacent to the Secondary School. These parking lots are accessed from the main parking lot.

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Scale: NTS

recreation

- 1 Amphitheatre
- 2 Basketball Courts
- 3 Covered Play Area
- 4 Fitness Centre
- 5 Gravel Sports Field
- 6 Gym A
- 7 Gym B
- 8 Gym C
- 9 Gym D
- 10 Ice Rink
- 11 Ice Rink Activity Room (top flr)
- 12 Ice Rink Mezzanine (top flr)
- 13 Playground
- 14 Pool
- 15 Racquetball Court + Mat Room
- 16 Tennis Courts
- 17 Tennis Courts (lighted)
- 18 Track + Sports Field

secondary school

- 29 Britannia Secondary
- 30 Main Office/Entrance
- 31 Auditorium
- 32 Portables
- 33 South Entrance
- 34 Cafeteria
- 35 Canucks Family Education Centre (room 110)
- 36 Community Education

library + learning

- 37 VPL Britannia Branch (main flr)
- 38 Learning Resource Centre (basement)
- 39 Hastings Education Centre (top flr)
- 40 Art Gallery

resources + services

- 19 Al Mattison 55+ Centre
- 20 Child Care Centre
- 21 Eastside Family Place (ground flr)
- 22 Canucks Family Education Centre (top flr)
- 23 Family Activity Room
- 24 Info Centre
- 25 Pre-Teen Centre
- 26 Teen Centre

elementary school

- 27 Britannia Elementary
- 28 Outdoor Play Area

Fence	Wayfinding
Streets + Vehicle Access	Wheelchair Access
Bicycle Route	Stairs
Elevator	Residential + Commercial
Entrance	Gravel
Fields + Green Space	School Garden

**Exhibit 2.1
Existing BCSC Facilities**

Britannia Community Services Centre Renewal
04-18-0167
May 2018



2.2 Existing Transportation Network

2.2.1 Road Network

The site is located west of Commercial Drive and south of Venables Street in Vancouver. The study area, the adjacent road network and its laning configuration are illustrated in **Exhibit 2.2**.

Venables Street and **Commercial Drive** both have two travel lanes in each direction however parking is permitted in the curb side lanes of both roads. On Venables Street, north of BCSC, north edge and sporadic south edge curb side parking is permitted from 9 AM to 6 PM (Monday to Saturday).

On Commercial Drive curbside parking is permitted on both the east and west curb lanes with the exception of 7 AM to 9:30 AM Monday to Friday. Parking is permitted on Commercial Drive's curb lanes where there are also bus stops and loading zones, essentially resulting in one travel lane in each direction.

The main access to BCSC is from Cotton Drive which connects to Venables Street.

Directly north of the site is a laneway that runs east / west parallel to Venables Street. This east / west lane is referred to herein as **Venables Lane**. Venables Lane connects to Commercial Drive at its east terminus and to McLean Drive / Mosaic Bikeway at its west terminus.

In addition, there is a north / south laneway located west of Commercial Drive which is referred to herein as **Commercial Lane**. Commercial Lane's south end begins at William Street; it has a vehicular connection with Parker Street, then terminates at its north end with a t-intersection at Venables Lane. There is a pedestrian only link from Commercial Drive to Commercial Lane at Napier Street.

Both Venables Lane and Commercial Lane have approximate 20 foot (6 to 7 meter) widths with two-way vehicle travel. In addition both lanes provide rear commercial loading access to businesses that front Commercial Drive and Venables Street.

Bunt's Synchro model analysis discussed in Section 2.4 and Section 4 assumes curb side parking along both Venables Street and Commercial Drive.

2.2.2 Transit Network

The site is well serviced with transit. Route 20 travels along Commercial Drive connecting the site to SkyTrain and to downtown Vancouver. Route 22 travels along Clarke Drive (250m to west of site) also providing connections to SkyTrain and to downtown Vancouver. In addition to SkyTrain these transit routes also provide connections to the West Coast Express and the Sea Bus.

The surrounding transit network is presented in **Exhibit 2.3**.

2.2.3 Cycling & Pedestrian Networks

The site is located adjacent to Vancouver's Commercial Drive area. It is well connected to both walking and cycling networks.

The location is within a walking distance of nearly all typical amenities and services. The location receives a 98 out of 100 Walk Score, placing it in Walk Score's walker's paradise category. Walk Score is an on-line tool (www.walkscore.com) that assesses the walkability of a location based on distances to a wide variety of amenities and services. BCSC is also near a residential area allowing students of the schools to walk or ride a bicycle to school.

Venables Street and Commercial Drive both have sidewalks with marked pedestrian crossings at major intersections.

Also, McLean Drive and William Street are classified as local street bikeways in Vancouver's cycling network. McLean Drive is part of the Mosaic Bikeway, which runs north-south from Adanac Street at the corner of Woodland Park to John Hendry Park via McLean Drive, Woodland Drive, and E 14th Avenue.

2.3 Data Collection

2.3.1 Traffic Data Collection Program

Traffic counts were conducted by Bunt on Saturday April 28 and Wednesday May 2, 2018. Bunt collected vehicle and pedestrian traffic volumes at the Cotton Drive and Venables Street intersection and the Parker Street and Commercial Drive intersection. These volumes were used to confirm and augment City of Vancouver datasets. Base volumes on Commercial Drive and Venables Street are based on City of Vancouver's 2013 1500 block Venables Street volumes and 1100 block Commercial Drive volumes. The weekday PM peak hour of adjacent street traffic was determined to be from 5:00 PM to 6:00 PM and on the Saturday it was from 1:00 PM to 2:00 PM.

Minor roadway connections to Venables Lane and Commercial Lane were observed and spot counts were conducted during the weekday PM and Saturday peak hour periods. Pedestrian volumes along Venables Street (south sidewalk) and Commercial Drive (west sidewalk) were also collected at Cotton Drive and at Parker Street.

Supplemental Commercial Lane traffic volumes were collected, and an assessment of through traffic versus pick-up / drop-off vehicles was conducted on May 24, 2018.

In addition, Bunt collected pick-up and drop-off activity as well as commercial loading activity in Commercial Lane during Wednesday May 16th 8:30 AM to 9:30 AM and 2:30 PM to 3:25 PM (these times coincide with the Elementary and Secondary schools start and finish times).

Study area Weekday PM and Saturday peak hour traffic volumes are presented in **Exhibit 2.4**.

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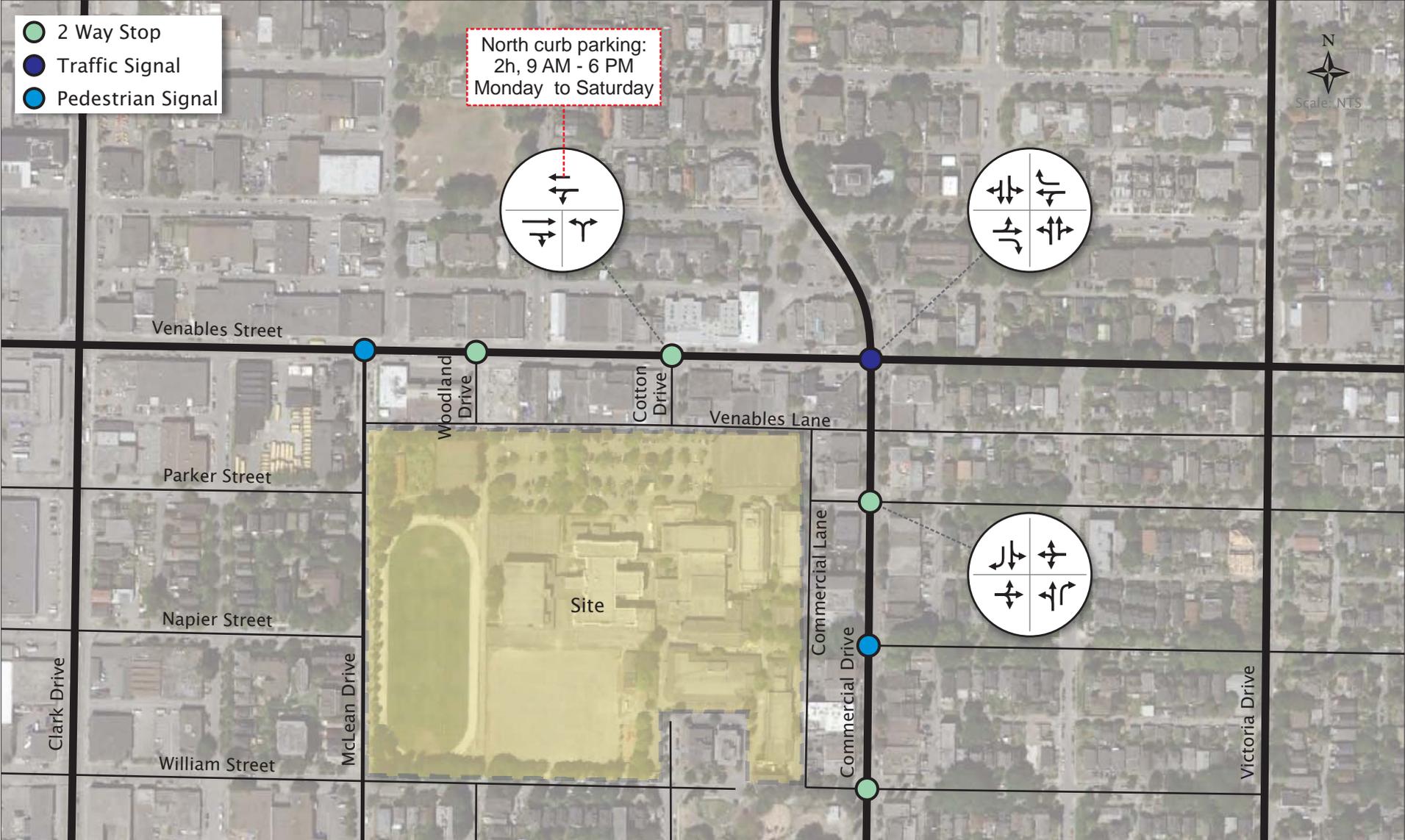


Exhibit 2.2 Existing Laning & Traffic Control (Study Area)

Britannia Community Services Centre Renewal
04-18-0167 May 2018



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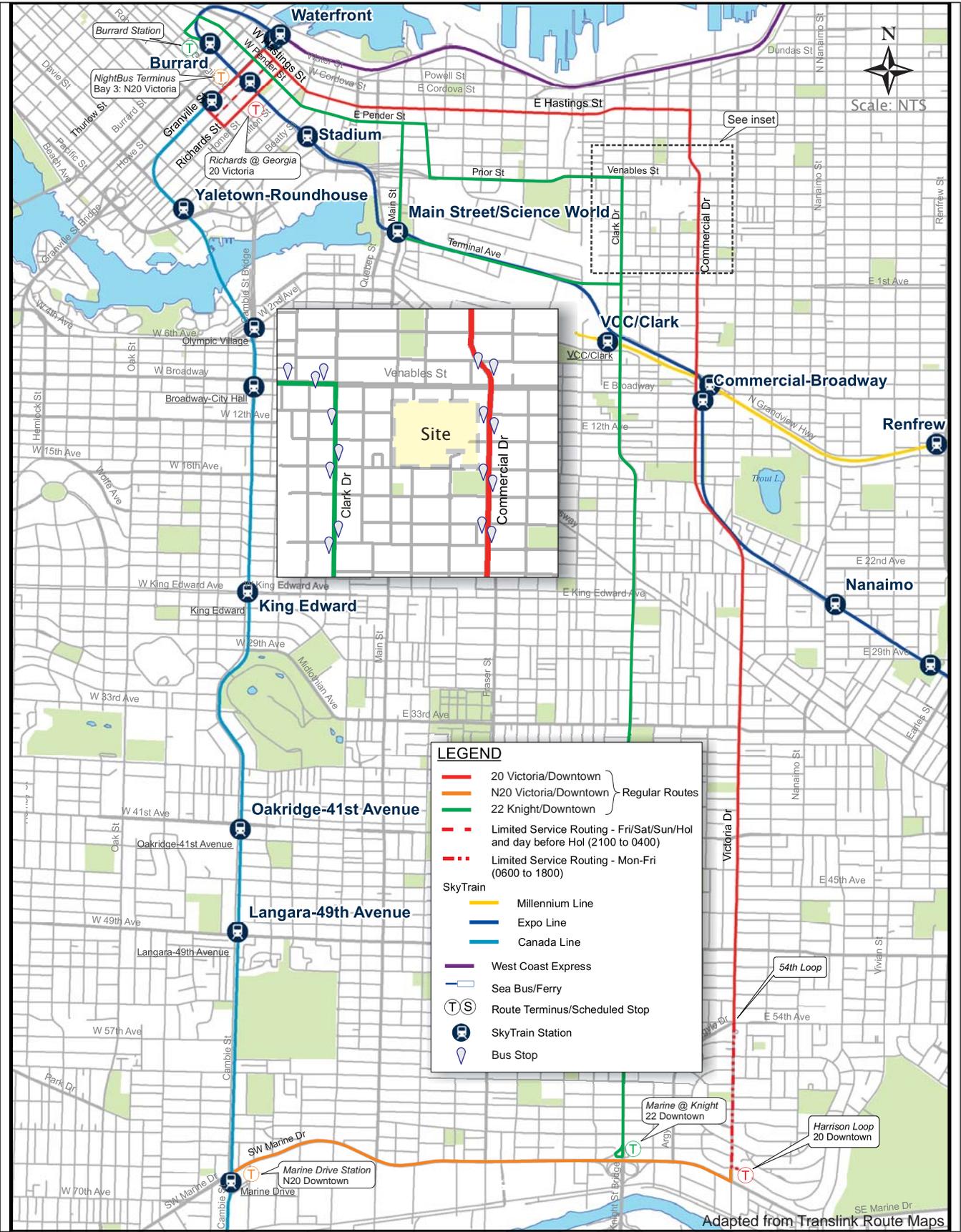


Exhibit 2.3 Transit Routes & Stops

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04-18-0167
May 2018



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Exhibit 2.4 Existing Peak Hour Vehicle Traffic Volumes

Britannia Community Services Centre Renewal
04-18-0167
May 2018



2.3.2 Existing BCSC Site Vehicle Trips

There are various vehicle routes to the BCSC. Bunt observed volumes at the main Cotton Drive access (north edge of the site) as well as the Parker Street access (east side of the site). Spot counts were conducted at other minor access points to estimate an existing total site vehicle trip generation rate. Based on observations, site trips were calculated assuming 20% of McLean Drive trips are traveling to or from BCSC and 50% of the vehicle trips at Parker Street and William Street volumes are traveling to or from BCSC.

Cotton Drive (North)

During the weekday PM peak hour 53 two-way trips (28 inbound and 25 outbound) were observed exiting or entering Cotton Drive to / from Venables Street and 84 trips (40 inbound and 44 outbound) were observed during the Saturday peak hour.

Parker Street (East)

During the weekday PM peak hour 60 two-way trips (29 inbound and 31 outbound) were observed exiting or entering Parker Street to/ from Commercial Drive. Approximately half of these vehicles used this section of Parker Street as a drop-off or turn around spot rather than continuing onto Commercial Lane.

Total Site Trips

In addition to the observed vehicle volumes at Cotton Drive (north of site) and Parker Street (east of site) vehicles were also observed entering the site from other access points such as McLean Drive, Woodland Drive, and William Street. These volumes were estimated using five minute spot counts. Spot counts at these minor accessed points were observed in some cases to be less than five vehicles per peak hour therefore hourly turn movement volumes at these minor site accesses to the adjacent laneways were set at a minimal value of five vehicles per hour in our trip generation estimates and Synchro model.

The resulting existing total site vehicle trip generation is estimated to be approximately 155 total two-way trips during the weekday PM peak hour (77 inbound and 78 outbound), and 186 total two way trips during the Saturday peak hour of adjacent street traffic (89 inbound and 97 outbound).

2.3.3 Existing School Pick-up / Drop-off and Commercial Loading Activity

Bunt conducted a site visit to observe school pick-up / drop-off activity at various BCSC locations on Thursday May 17, 2018. The observed locations and observation notes are provided in **Exhibit 2.5**.

Key finding of the school pick-up / drop-off and commercial loading activity are:

- Substantial school drop-off and pick-up activity was observed south of the site with motorists using the publically available spaces along Cotton Drive (south of the site) and William Street (south and west of the site). Motorists were observed using these parking areas then walking their children to school or meeting them at the adjacent playground.

- Overall, the two school's pick-up and drop-off activity appeared dispersed. No traffic operational impacts or traffic blockages were observed.
- The Commercial Lane appeared to be the most congested area as it is used for accessing the elementary school as well as the secondary school. To compound the activity in this location a high number of pedestrians were also observed in the lane as well as commercial loading activity.

Supplemental observations of Commercial Lane during the afternoon of May 24, 2018 indicated:

- Approximately 25 northbound vehicles per peak hour (3PM to 4PM) were observed on Commercial Lane adjacent to Napier Street and 25 southbound vehicles. Most of this was during the first fifteen minutes due to school pick-up activity.
- Of these vehicles traveling along Commercial Lane it was estimated that 80% stopped to pick-up or drop-off a passenger or park at the rear of the Commercial Street fronting businesses on the east side of the Lane. The remaining 20% were through vehicles that traveled through the lane without stopping. This results in a very small number of vehicles using the lane as a through fare (between William Street and Venables Lane).

2.3.4 Existing Pedestrian Activity Observations

Substantially higher pedestrian volumes were observed on Commercial Drive (at Parker Street) over Venables Street (at Cotton Drive).

During the Saturday peak hour period approximately 20 pedestrians were observed crossing the south leg of the Venables Street and Cotton Drive intersection's south leg versus approximately 162 pedestrians crossing the west leg of the Parker Street and Commercial Drive intersection. This lends support for focused vehicle access off of Venables Street as less interaction with pedestrian movements can be anticipated.

Venables Lane and Commercial Lane do not have pedestrian amenities such as sidewalks or pedestrian refuge areas.

During our site visits the Commercial Lane was observed to have a significant amount of pedestrian activity, these pedestrians must mix with two-way vehicle travel as well as commercial loading activity for the adjacent businesses along Commercial Drive.

2.3.5 Existing On-Site Parking Activity Observations

As previously noted, the existing site's main parking pool is a 174 space parking lot. The primary access to the parking lot is from Cotton Drive. The parking lot also connects through Venables Lane which provides a connection to Commercial Lane and other minor north / south roads to the west.

During our traffic counts the main parking lot was observed to be approximately 85% full. During our weekday AM school drop-off observations the parking lot was approximately 50% full.

It was noted that the parking lot may be used by vehicles not destined for this site (parking at BCSC then walking elsewhere).

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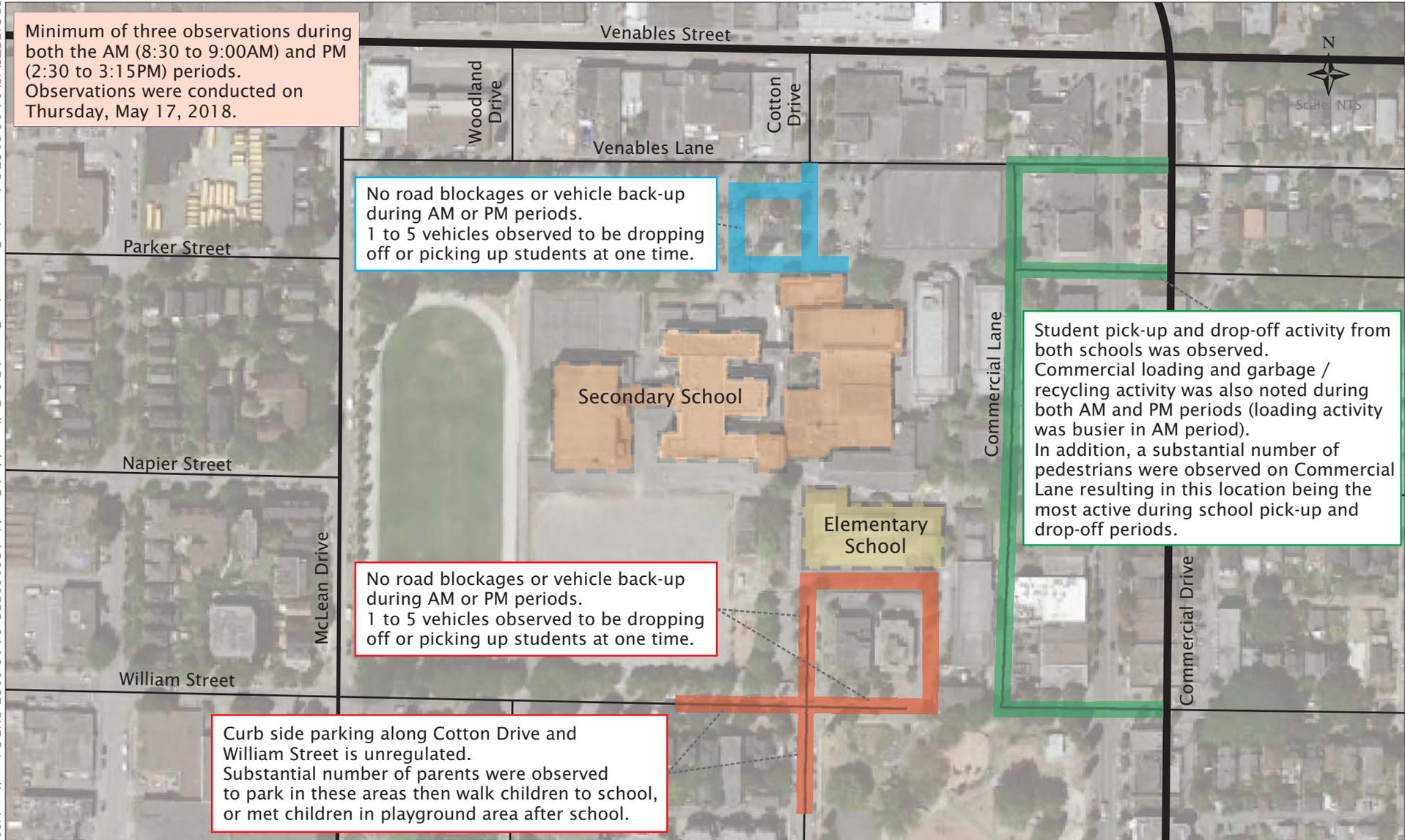


Exhibit 2.5 Existing School Pick-up / Drop-off and Commercial Loading Activity

2.4 Existing Traffic Operations

2.4.1 Performance Thresholds

The existing operations of study area intersections and access points were assessed using the methods outlined in the 2000 Highway Capacity Manual (HCM), using the Synchro 9 analysis software. The traffic operations were assessed using the performance measures of Level of Service (LOS) and volume-to-capacity (V/C) ratio.

The LOS rating is based on average vehicle delay and ranges from “A” to “F” based on the quality of operation at the intersection. LOS “A” represents optimal, minimal delay conditions while a LOS “F” represents an over-capacity condition with considerable congestion and/or delay. Delay is calculated in seconds and is based on the average intersection delay per vehicle.

Table 2.2 below summarizes the LOS thresholds for the five Levels of Service, for both signalized and unsignalized intersections.

Table 2.2: Intersection Level of Service Thresholds

LEVEL OF SERVICE	AVERAGE CONTROL DELAY PER VEHICLE (SECONDS)	
	SIGNALIZED	UNSIGNALIZED
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Source: Highway Capacity Manual

The volume to capacity (V/C) ratio of an intersection represents ratio between the demand volume and the available capacity. A V/C ratio less than 0.85 indicates that there is sufficient capacity to accommodate demands and generally represents reasonable traffic conditions in suburban settings. A V/C value between 0.85 and 0.95 indicates an intersection is approaching practical capacity; a V/C ratio over 0.95 indicates that traffic demands are close to exceeding the available capacity, resulting in saturated conditions. A V/C ratio over 1.0 indicates a very congested intersection where drivers may have to wait through several signal cycles. In downtown and town centre contexts, during peak demand periods, V/C ratios over 0.90 and even 1.0 are common.

The performance thresholds that were used to trigger consideration of roadway or traffic control improvements to support roadway or traffic control improvements employed in this study are listed below:

Signalized Intersections:

- Overall intersection Level of Service = LOS D or better;
- Overall intersection V/C ratio = 0.85 or less;

- Individual movement Level of Service = LOS E or better; and,
- Individual movement V/C ratio = 0.90 or less.

Unsignalized Intersections:

- Individual movement Level of Service = LOS E or better, unless the volume is very low in which case LOS F is acceptable.

In interpreting of the analysis results, note that the HCM methodology reports performance differently for various types of intersection traffic control. In this report, the performance reporting convention is as follows:

- For signalized intersections: HCM 2000 output for overall LOS and V/C as well as individual movement LOS and V/C is reported; and,
- For unsignalized two-way stop controlled intersections: HCM 2000 LOS and V/C output is reported just for individual lanes as the HCM methodology does not report overall performance.

The performance reporting conventions noted above have been consistently applied throughout this document.

2.4.2 Operational Analysis Assumptions

Of note, the signal timing plans for the existing and future analyses were estimated using 60 second cycle lengths. All other Synchro defaults were used.

2.4.3 Existing Operational Analysis Results

As shown in **Exhibits 2.6** and **2.7** all intersections currently operate within described operational thresholds in both the weekday PM and Saturday peak hour periods.



Exhibit 2.6 Existing Weekday PM Peak Hour Operations



Exhibit 2.7 Existing Saturday Peak Hour Operations

3. PROPOSED RENEWAL

Urban Arts' proposed Master Plan BCSC renewal is summarized in **Table 3.1** in terms of proposed alterations or additions to existing facilities. The proposed renewal site plan is shown in **Exhibit 3.1**.

Table 3.1: Proposed BCSC Renewal Alterations

FACILITIES	ALTERATION
25 meter indoor pool plus aquatic facilities	20% increase in visitors anticipated due to new, larger facility
Fitness Centre	Four time increase in size
Library	Approximately same size, amenities added. 20% increase in visitors due to new facility
Gym	Approximate double gym area
One ice rink (500 seats)	Same size
Community facilities 9,848 m ²	Increase to 27,470 m ²
Preschool Care	Same size
Out of School Care	Same size
Eastside Family Place + Canuck Family Education	Same size
Elementary School - 165 students	Same size
Secondary School - 750 students	Same size
Streetfront School - 22 students	Same size
Outdoor playing fields, running oval, basketball courts, and five tennis courts	Same size
Social Housing (currently none on-site)	Maximum of 300 residential units
Non-Profit Office hub (currently not on-site)	Part of Community Facility space
Daycare (currently none on-site)	Part of Community Facility space

As shown in Table 3.1 the key alterations are the growth of community facilities (9,848 m² to 27,470 m²).

Future vehicle trip growth was calculated using the factor of 2.8, which is the proposed increase in community facility area and the proportional increase of on-site parking (to the proposed 410 parking spaces). This method (using a multiplier of 2.8 over existing volumes) of forecasting vehicle trip generation for the Master Plan is considered to be conservative because major BCSC vehicle trip generators other than the community facilities, such as the schools and ice rink are not growing near this applied rate or no change in capacity is anticipated at all.

In addition, the community facilities area increase is not anticipated to result in a proportional increase in community facility visitors but rather will offer an improved user experience. The community facilities user demographic is also anticipated to draw from a more local population, which is more likely to walk or cycle to the site, rather than being a wider regional draw such as a new pool where a higher vehicle mode split can be anticipated.

Bunt estimates the proposed Master Plan with inclusion of 300 residential units may be in the range of 250 to 410 total vehicle spaces depending on factors such as the tenure and size of the residential units

and the breadth of Transportation Demand Management initiatives that target all BCSC facilities and user groups, including residents.

The traffic generation of the site will be impacted by the final to-be determined on-site parking supply.

In this report's analysis we have established our site generation forecasts based on the proposed on-site parking space supply of 410 vehicle spaces.

3.1 Vehicle Parking

Vehicle parking demand rates for the residential units are anticipated to be in the range of 0.3 to 0.5 vehicle spaces per unit which would equate to 90 to 150 parking spaces. A more accurate assessment of resident parking demand is unknown at this time as it is dependent upon resident unit type, unit size and TDM initiatives.

A more substantive parking demand analysis should be undertaken to better understand the anticipated vehicle parking demand of the renewed BCSC Master Plan.

All parking spaces are to be provided within an underground parking facility. The parkade is proposed to be located under the new BCSC Venables Lane fronting buildings and hence would be accessed similarly as the current BCSC parking spaces.

To protect against non site destined parking, the Master Plan may consider adding parking time restrictions to parking spaces in main parking lot. Other speciality spaces should also be considered such as high vehicle occupancy spaces, or family / parents with children spaces. The Master Plan will provide short term parking spaces exclusive for daycare drop-off and pick-up activity.

3.2 Access

The only alteration to BCSC vehicle access is the closure of vehicle access on Parker Street (between Commercial Drive and Commercial Lane). The impacts of this proposed change are examined in Section 4.

Pedestrian access to the renewed site is illustrated in **Exhibit 3.2**. The Master Plan adds both external pedestrian routes with the proposed conversion of Parker Street away from vehicle access and also increases internal pedestrian routes the site.

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Exhibit 3.1
Renewal Site Plan

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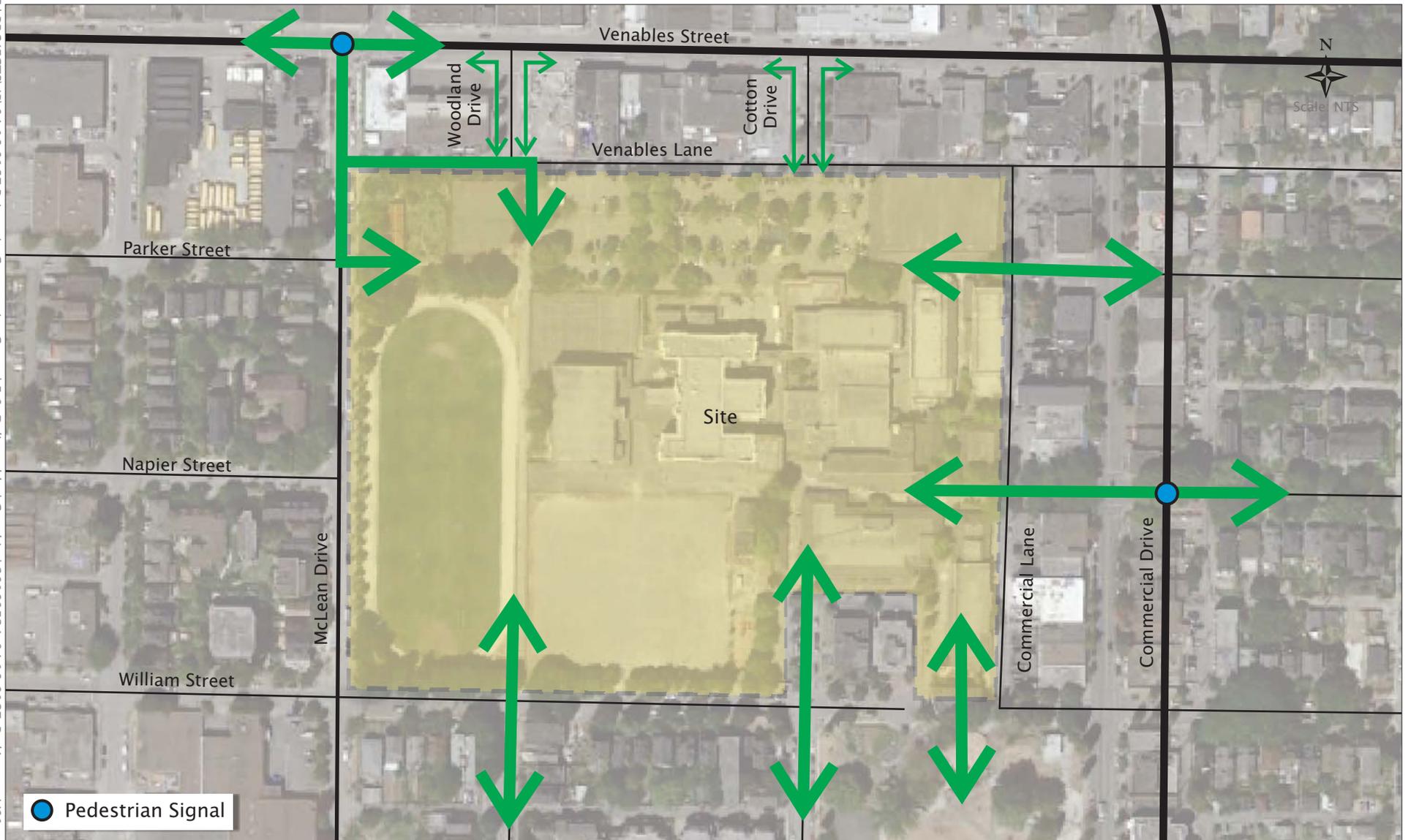


Exhibit 3.2 Proposed Pedestrian Connections

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From 2006 to 2013 Venables Street traffic volumes have decreased by approximately 15%. As such a 0% growth rate was applied to Venables Street traffic.

The resulting 2030 Background weekday PM and Saturday traffic operations are shown in **Exhibits 4.1** and **4.2** respectively.

These background operations can be compared with total (with development) operations to determine the net impact of the proposed BCSC renewal.



Exhibit 4.1 Background 2030 Weekday PM Peak Hour Operations



Exhibit 4.2 Background 2030 Saturday Peak Hour Operations

4.1.2 Site Traffic

Trip Generation

As an assumption for the purpose of this analysis, the anticipated traffic increase to the site is tied to the proposed parking increase from the existing 175 parking spaces to the proposed 410 parking spaces. The 175 parking spaces to 410 parking spaces change was based on the proposed increase of community facility space (from 9,848 m² to 27,470 m²). This approach for determining the future parking supply is however considered to be very conservative as many BCSC entities are not growing at a similar rate and in fact some entities such as the schools are not anticipated to grow at all. While the new pool will likely generate more visitors, visitation is not anticipated to growth threefold.

The post-renewal BCSC site trips (based on the 9,848 m² to 27,470 m² change in community facility area, or a 2.8 factor) are 431 two way trips (213 inbound, 218 outbound) in the weekday PM peak hour, and 518 (247 inbound, 271 outbound) in the Saturday mid-day peak hour.

A detailed parking demand analysis will follow which may result in a lower recommended parking supply and corresponding lower trip generation estimates. To counter this potential factor, the renewal program may also in the future include up to 300 residential housing units.

Trip Distribution & Assignment

Trips generated by the proposed renewal were assigned to the study area using present distributions. The distributed site generated vehicle trips are illustrated in **Exhibit 4.3**. These volumes assume the same access and road configuration as the existing condition. The Master Plan however indicates the closure of Parker Street (east of BCSC); the impact of closing Parker Street (between BCSC and Commercial Drive) is discussed in Section 4.1.3.

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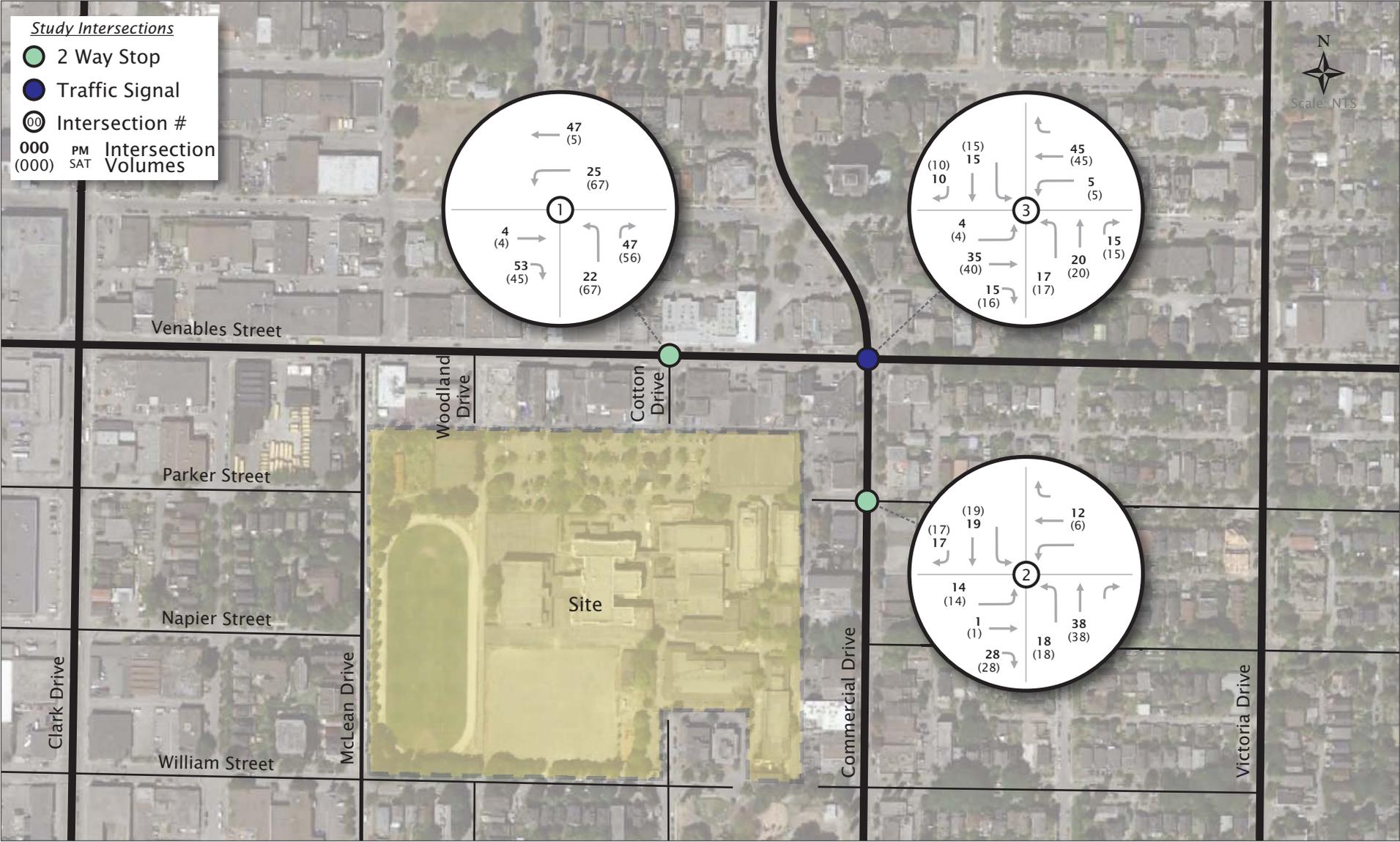


Exhibit 4.3 Renewal Site Traffic Volumes

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4.1.3 Future Total Traffic Operations

Future total traffic operations examine the background future volumes with the addition of the proposed renewal's site trips. **Exhibits 4.4 and 4.5** illustrate the forecasted Total Weekday PM and Saturday peak hour traffic operations for the 2030 horizon year, respectively. The Total 2030 scenario can be compared with the Background 2030 operations (i.e. without the proposed renewal) to understand the net impact of the proposed renewal.

Exhibits 4.4 and 4.5 also present the future 2030 total traffic operations with Parker Street open as is the current condition and with Parker Street closed (between Commercial Drive and BCSC) as is proposed in the Master Plan.

The traffic model with Parker Street closed to vehicle traffic scenario assumes the reassignment of Parker Street volumes at approximately:

- 30% to the Venables Street & Cotton Drive access;
- 30% to William Street; and,
- 40% to the retained connection from Commercial Drive to the Venables Lane which is located north of the Parker Street alignment. Operations at this lane are not discussed in previous traffic model scenarios due to its observed low volumes.

As illustrated in Exhibits 4.4 and 4.5, all intersections in the Total 2030 scenarios operate within described operational thresholds in both the weekday PM and Saturday peak hour periods.

Exhibit 4.4 and 4.5 illustrate that the proposed closure of Parker Street (between Commercial Drive and BCSC) does not have significant impact to area traffic operations.

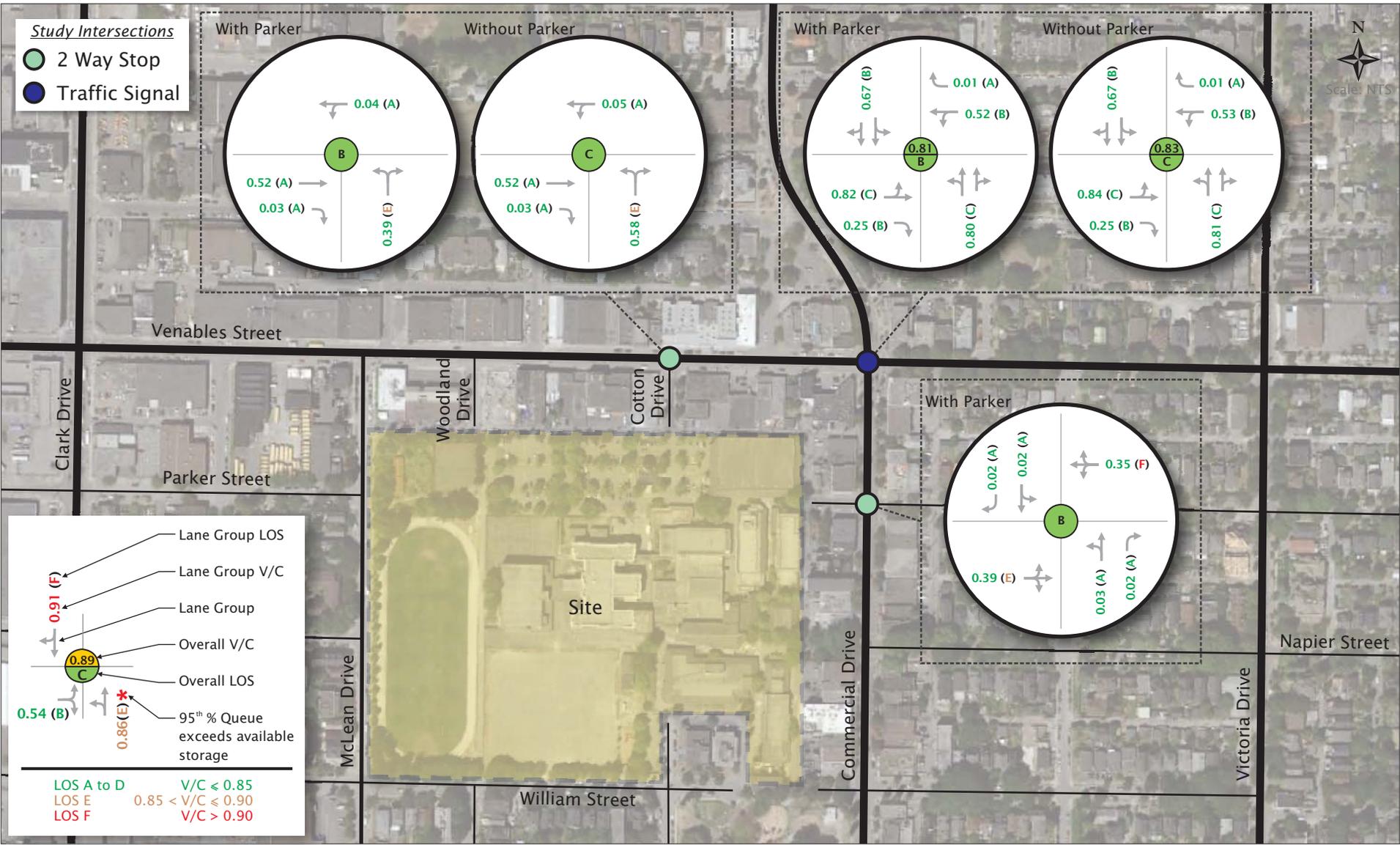


Exhibit 4.4 Total 2030 Weekday PM Peak Hour Operations

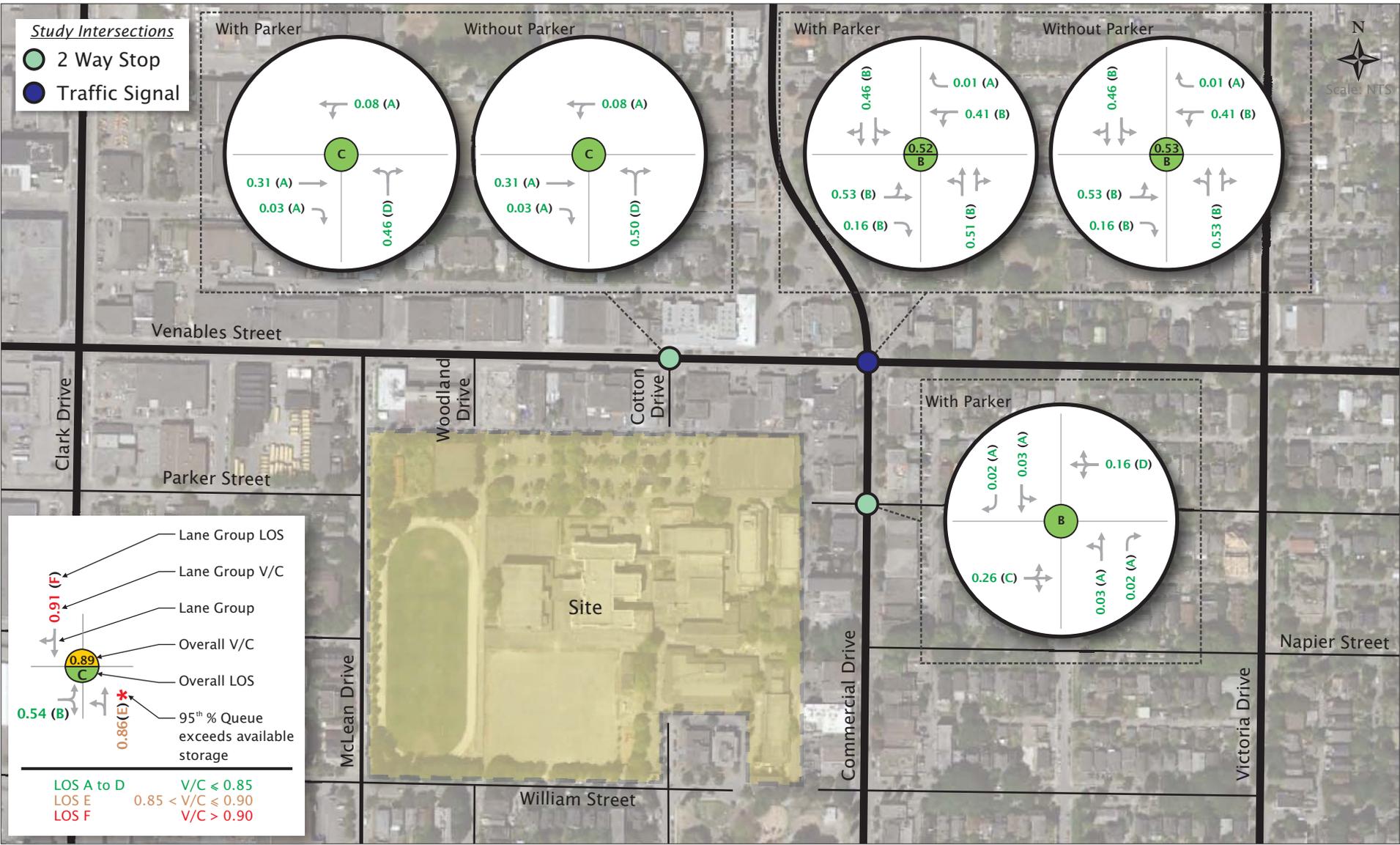


Exhibit 4.5 Total 2030 Saturday Peak Hour Operations



4.1.4 Summary of Traffic Impacts & Recommended Mitigations

No traffic operational issues are anticipated from the proposed Master Plan BCSC renewal.

The Master Plan's proposed Parker Street closure is anticipated to have negligible traffic impacts and is therefore supported due to its pedestrian realm improvements. Specifically, the closure of Parker Street is supported due to the following considerations:

- Venables Lane will retain a northern site Commercial Drive connection;
- Cotton Drive and Venables Street intersection has capacity for future build out, with reassigned Parker trips;
- Higher pedestrian volumes on Commercial Drive crossing the Commercial Drive & Parker Street intersection's west leg over the Venables Street & Cotton Drive intersection's south leg; and,
- Proximity to new community centre entry locations.

The traffic increase was tied to proposed parking increase where parking may be oversupplied, Bunt recommends Urban Arts explore options to reduce on-site vehicle parking supplies including the adoption of a robust Transportation Demand Management (TDM) plan.

Consideration may be given to converting the time periods of Venables Street's north curb adjacent to Cotton Drive from its current 9 AM to 6 PM two hour parking regulation to 9:30 AM to 5 PM. Although the eastbound traffic is not shown to have significant delays, allowing westbound vehicles on Venables Street to pass a vehicle waiting to turn left onto Cotton Drive across substantial eastbound Venables Street traffic will assist westbound vehicles on Venables Street.

5. SITE PLAN DESIGN REVIEW

5.1 Site Access Design

The site access design mirrors the site's present access with the exception of converting Parker Street east of Commercial Drive into a no vehicle access pedestrian plaza. As discussed in Section 4, Bunt's analysis indicates the removal of vehicle access on Parker Street will not have significant impact to traffic operations.

5.2 Student Pick-up Drop-off

The Master Plan includes formalized pick-up / drop-off spaces along Commercial Lane.

5.3 Loading

Commercial Lane & Venables Lane intersection will be designed to accommodate applicable loading vehicles.

The Master Plan will improve the pedestrian realm along Commercial Lane with the addition of a sidewalk or pedestrian area that is segregated from vehicles and loading activity.

The proposed Master Plan achieves or exceeds recommended set-backs along Commercial Lane. The Master Plan indicates space to accommodate a 2.5 m short-term parking lane and a minimum of 2.5 m wide sidewalk along its Commercial Lane frontage. This proposed width allows for various cross section opportunities that can increase pedestrian safety while retaining lane width for through traffic and eastside lane loading activity.

5.4 Parking Supply

The current vehicle parking supply is equivalent to the community facilities square meter area increase of 9,848 m² to 27,470 m².

This growth is likely excessive when applied to the full BCSC site due to the following factors:

- Existing parking appears to also be used by external vehicles;
- Various BCSC components are not growing by the same factor (280%) such as the ice rink, the pool and the three schools;
- The community facilities are anticipated to draw from a more local demographic compared to the other uses such as the ice rink and the pool. The more local user demographic is anticipated to have a lower vehicle mode split.

A more substantive parking demand analysis should be undertaken to better understand the anticipated vehicle parking demand of the renewed BCSC Master Plan.

6. CONCLUSIONS & RECOMMENDATIONS

6.1 Conclusions

During the weekday PM peak hour 53 two-way trips (28 inbound and 25 outbound) were observed exiting or entering Cotton Drive to/ from Venables Street and 84 trips (40 inbound and 44 outbound) were observed during the Saturday peak hour.

Substantially higher pedestrian volumes were observed on Commercial Drive (at Parker Street) over Venables Street (at Cotton Drive).

The resulting existing total site vehicle trip generation is estimated to be approximately 155 total two-way trips during the weekday PM peak hour (77 inbound and 78 outbound), and 186 total two way trips during the Saturday peak hour of adjacent street traffic (89 inbound and 97 outbound).

The post-renewal BCSC site trips (based on the 9,848 m² to 27,470 m² change in community facility area, or a 2.8 factor) are 431 two way trips (213 inbound, 218 outbound) in the weekday PM peak hour, and 518 (247 inbound, 271 outbound) in the Saturday mid-day peak hour.

No traffic operational issues are anticipated from the proposed Master Plan BCSC renewal.

The Master Plan's proposed Parker Street closure is anticipated to have negligible traffic impacts and is therefore supported due to its pedestrian realm improvements. Specifically, Bunt supports the Master Plan's closure of Parker Street (between Commercial Drive and Commercial Lane) due to the following considerations:

- Venables Lane will retain a northern site Commercial Drive connection;
- The Cotton Drive and Venables Street intersection has capacity for future build out, with reassigned Parker trips; and,
- Higher pedestrian volumes crossing Commercial Drive & Parker Street intersection's west leg over Venables Street & Cotton Drive intersection's south leg.

Key findings of the school pick-up / drop-off and commercial loading activity are:

- Substantial school drop-off and pick-up activity was observed south of the site with motorists using the publically available spaces along Cotton Drive (south of the site) and William Street (west of the site). Motorists were observed using these parking areas then walking their children to school or meeting them at the adjacent playground;
- Overall, the two school's pick-up and drop-off activity appeared dispersed. No traffic operational impacts or traffic blockages were observed; and,
- Commercial Lane appeared to be the most congested area as it is used for accessing the elementary school as well as the secondary school. To compound the activity in this location a high number of pedestrians were also observed in the lane as well as commercial loading activity.

The Commercial Lane & Venables Lane intersection will be designed to accommodate applicable loading vehicles.

The Master Plan will improve the pedestrian realm along Commercial Lane with the addition of a sidewalk or pedestrian area that is segregated from vehicles and loading activity.

The proposed parking supply, which was determined by using the growth factor of the community facilities is likely excessive due to the following factors:

- Existing parking appears to also be used by external vehicles;
- Various BCSC components are not growing by the same factor (280%) such as the ice rink, the pool and the three schools; and,
- The community facilities are anticipated to draw from a more local demographic compared to the other uses such as the ice rink and the pool. The more local user demographic is anticipated to have a lower vehicle mode split.

The proposed Master Plan achieves or exceeds recommended set-backs along Commercial Lane. The Master Plan indicates space to accommodate a 2.5 m short-term parking lane and a minimum of 2.5 m wide sidewalk along its Commercial Lane frontage. This configuration is considered appropriate as it retains existing lane width for through traffic and eastside lane loading activity.

6.2 Recommendations

Consideration may be given to converting the time periods of Venables Street's north curb adjacent to Cotton Drive from its current 9 AM to 6 PM two hour parking regulation to 9:30 AM to 5 PM. Although the eastbound traffic is not shown to have significant delays, allowing westbound vehicles on Venables Street to pass a vehicle waiting to turn left onto Cotton Drive across substantial eastbound Venables Street traffic will assist westbound vehicles on Venables Street.

To protect against external parking, the Master Plan may consider adding parking time restrictions to parking spaces in main parking lot. Other speciality spaces should also be considered such as high vehicle occupancy spaces, or family / parents with children spaces.

A more substantive parking demand analysis should be undertaken to better understand the anticipated vehicle parking demand of the renewed BCSC Master Plan. Bunt recommends Urban Arts Architecture explore options to reduce on-site vehicle parking supplies including the adoption of a robust Transportation Demand Management (TDM) plan.

APPENDIX A

Traffic Forecast Volumes

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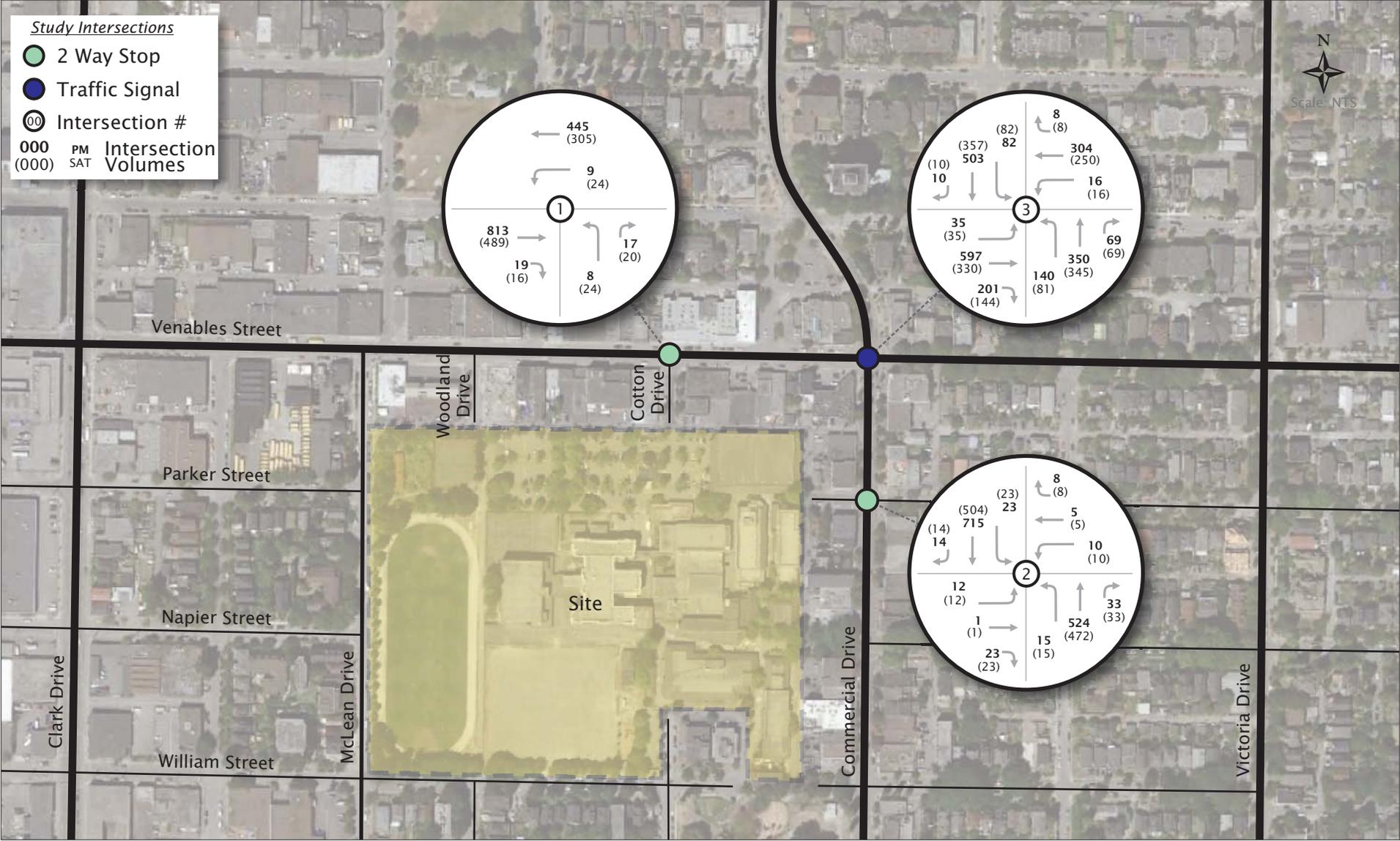


Exhibit A.1 Background 2030 Traffic Forecasts

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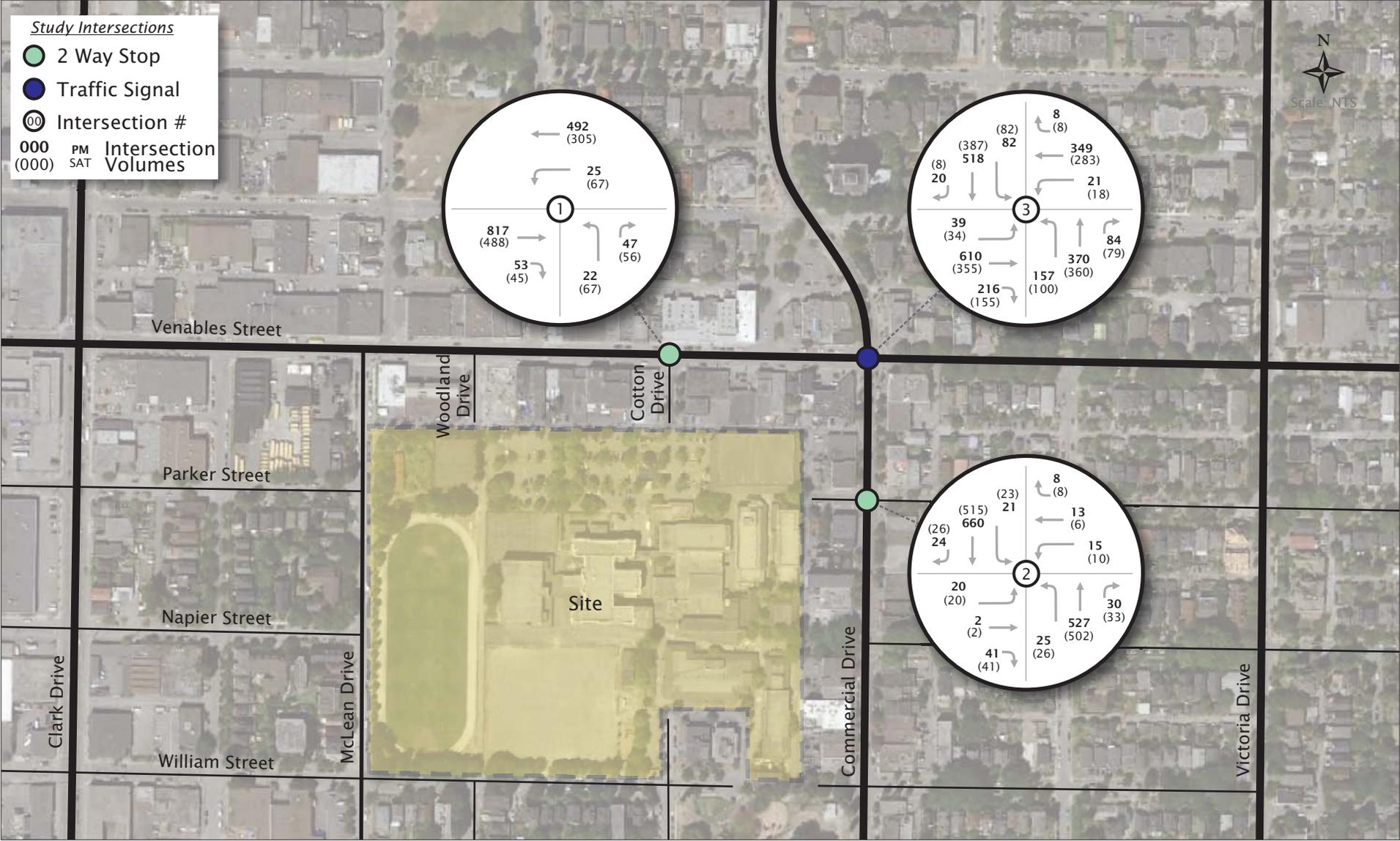


Exhibit A.2 Total 2030 Traffic Forecasts With Parker

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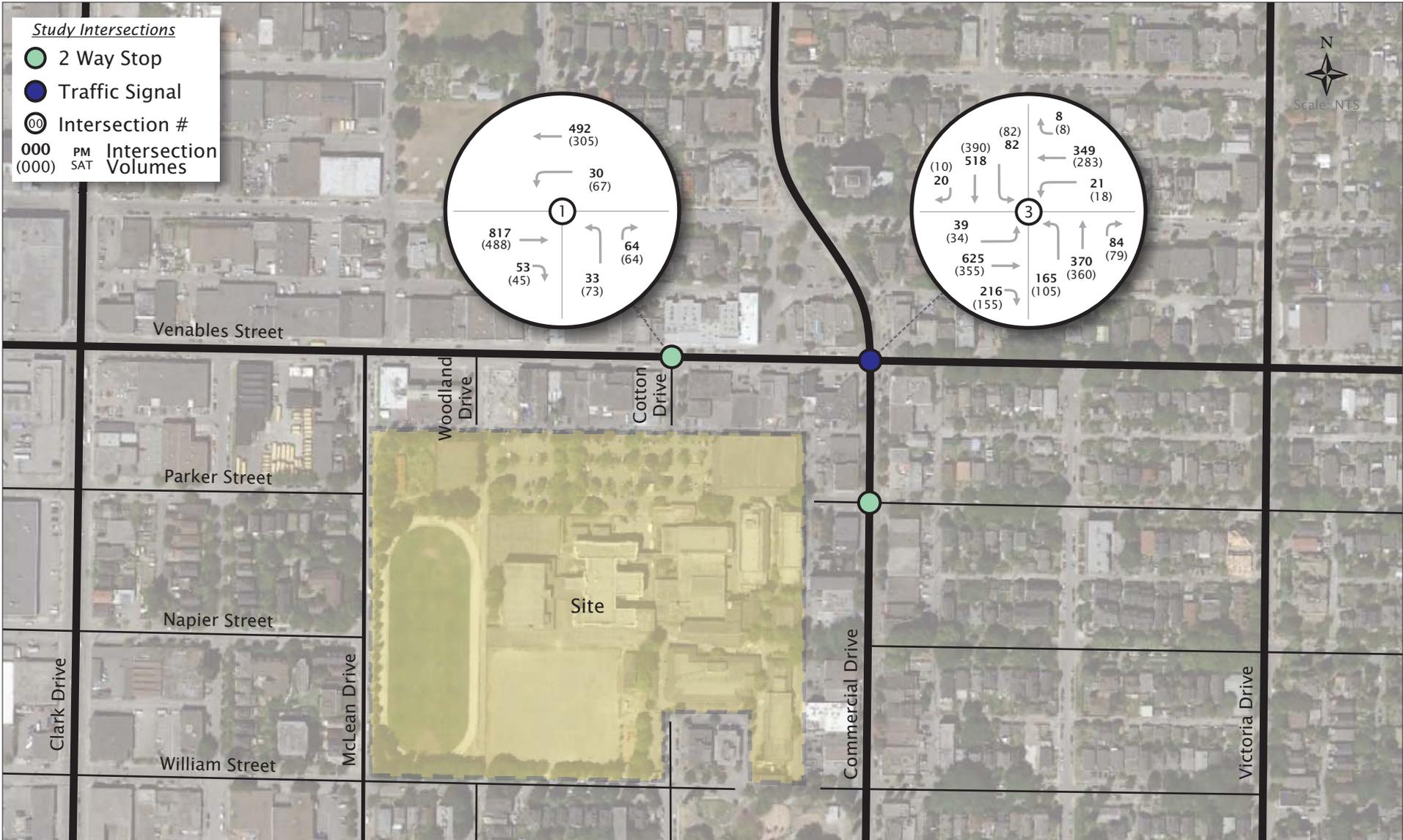


Exhibit A.3 Total 2030 Traffic Forecasts Without Parker

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