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

A place where people can feel comfortable and relaxed

Lots of natural light

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

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, **šxʷqʷeləwən 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

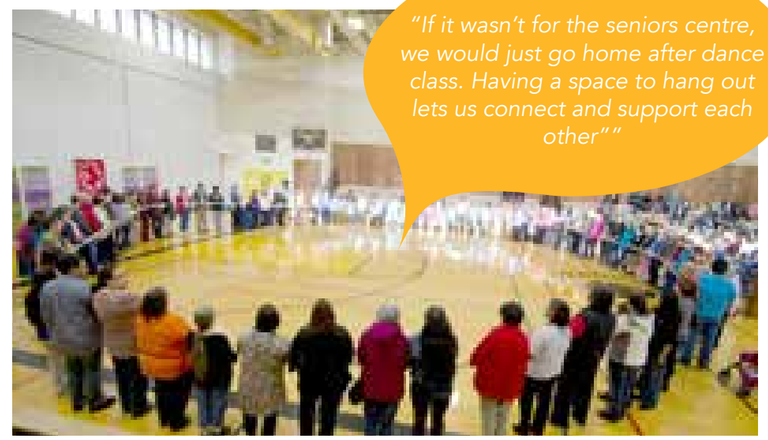
- Spaces for small and large gatherings and ceremonies
- Indoor opportunities to burn medicines
- Space to honour the dead
- Space for music and dance
- Appropriate arts working spaces
- Space for language learning
- Kitchens that can accommodate intergenerational teaching
- Consider a sweat lodge(s)

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

Share stories + language

šxʷqʷeləwən 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

Sharing meals + feeding community

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.

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

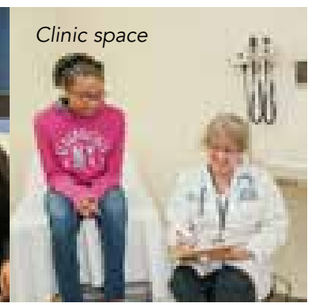
Incubator space
- Space for non-profit organizations to grow
- Limited term of tenancy
- Locate in storefront condition for wide exposure to community + ability to use outside of community centre hours

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

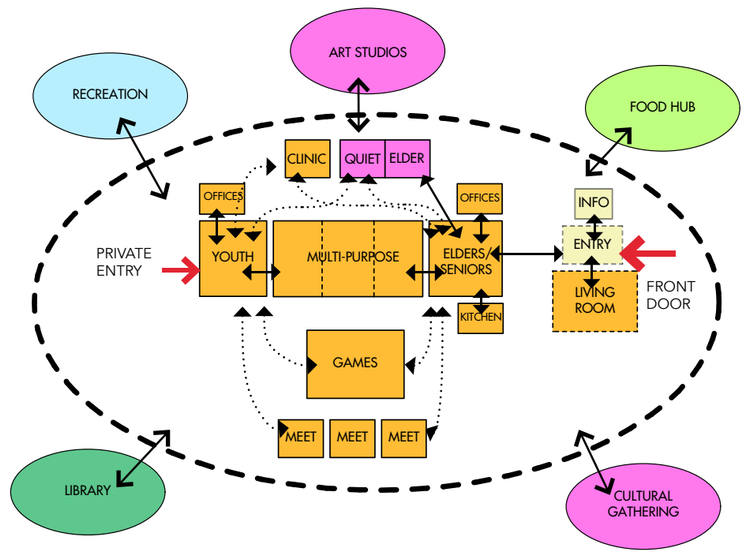
Social Development spaces form the core of the Britannia community services hub. In order to provide robust and well-supported spaces that are flexible and support Britannia's community vision, an Intergenerational Hub is proposed for a renewed Britannia. Multi-purpose rooms are centrally located between 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 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* **šxʷqʷeləwən ct** *Carving Centre and art gallery, Britannia has no dedicated arts and cultural space*

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

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

šxʷqʷeləwən ct Carving Centre

- Maintain and enhance the **šxʷqʷeləwən 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)

Great rehearsal space

Inclusive/accessible

Multi-purpose performance, rehearsal, & event space

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

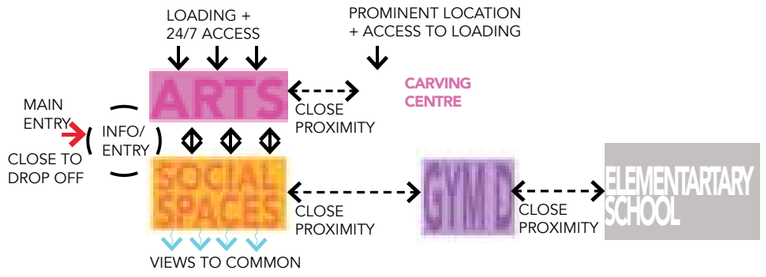
Music Rehearsal Space:
- Smaller recording/rehearsal/practice spaces for musicians

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



Adjacency diagram - Arts and Culture spaces

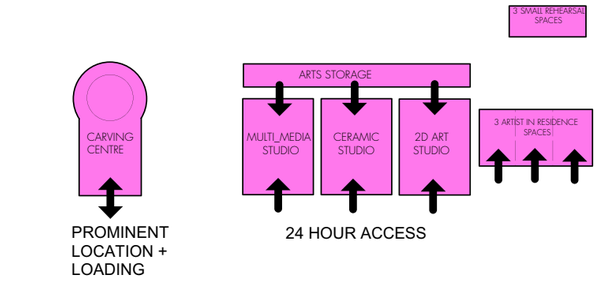
ADJACENCIES

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.

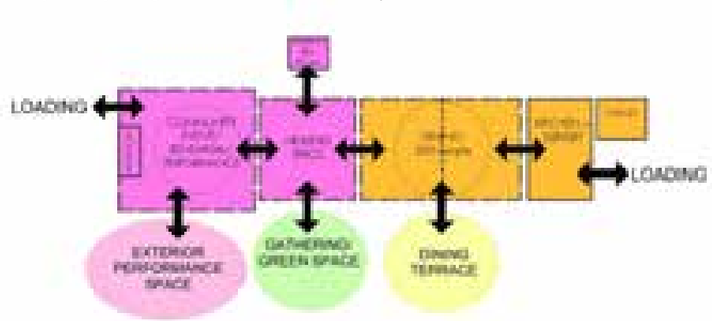
Interconnectivity between Arts + Culture Event and Ceremony spaces to the Food Hub and Outdoor Gathering is important to facilitate large events.

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:

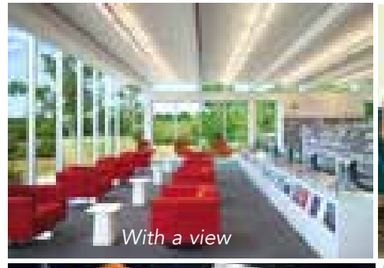
Service Area
- Welcoming and easy to access service point
- Good sight-lines to entire library floor

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

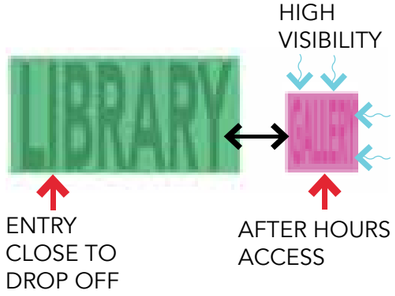
Study Spaces
- Smaller acoustically separate breakout rooms suitable for quiet study, group study or small meetings or club activities
- Bookable
- Private work areas, adjustable study space - students don't have study space at home

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.

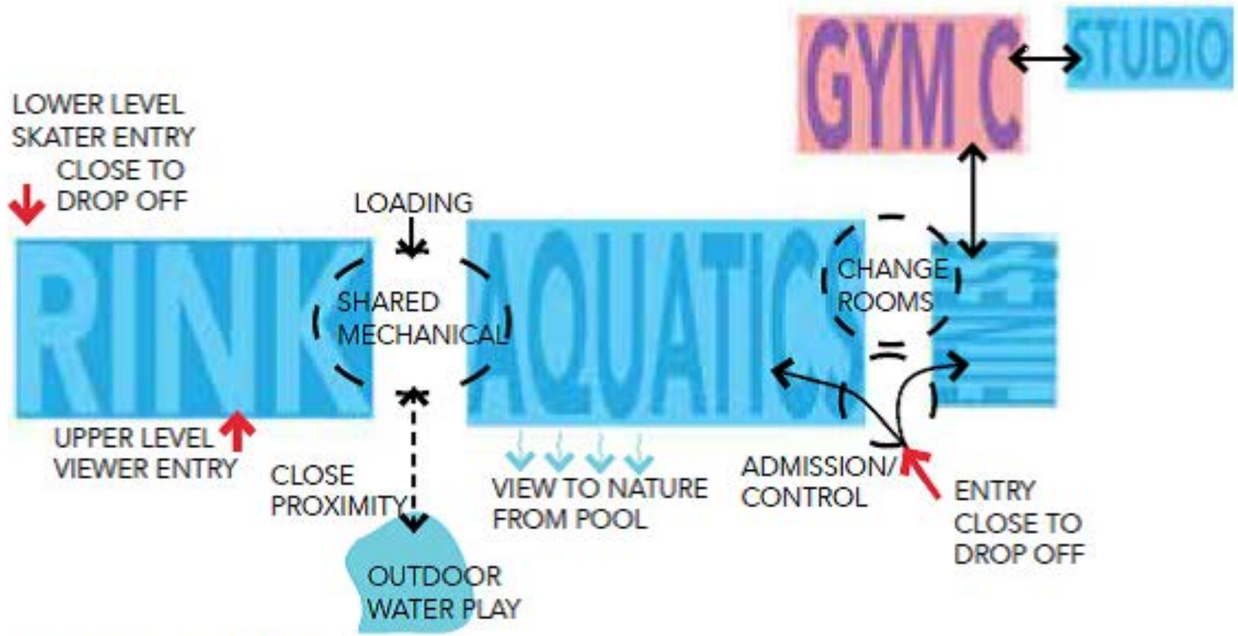
The Britannia Community Centre will be at its core, an inclusive and accessible facility, providing opportunities for activity and recreation for all members of the community. Fundamentally, the program areas should be adjacent to each other, to provide opportunity for transparency and connection between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

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

CHANGE ROOMS

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

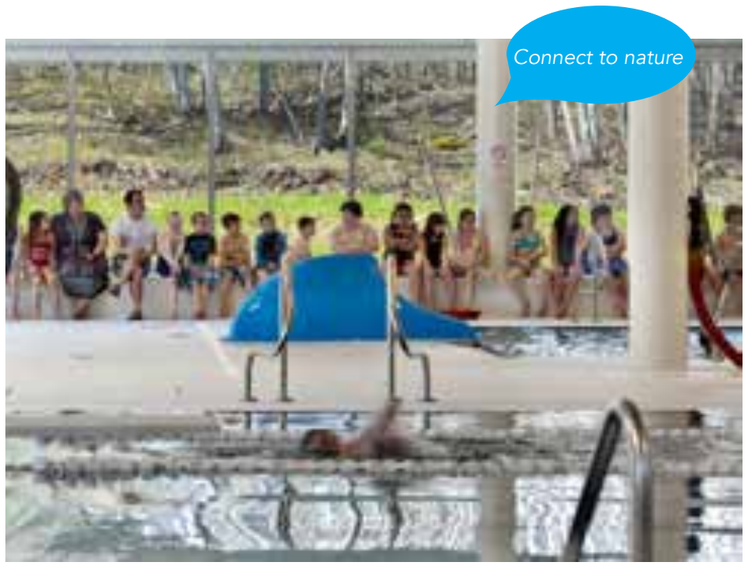
Training Pool

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:

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

Access to nature, fresh air, light.
Great storage to support broad range of uses.

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 gymnasia 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

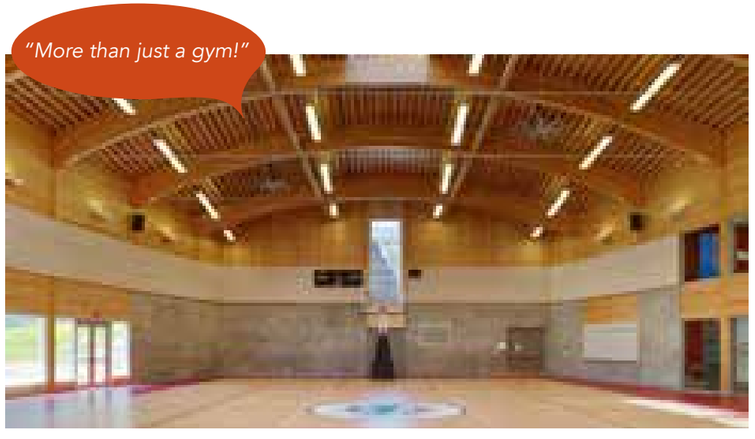
Gymnastics

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.



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 Resurfacer 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).

Thinking outside the box.

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.

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

UBC Farm Children's Garden (Allison Hamelin)

- 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 macrophyllurn | 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 occidentali | 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 servira “Kelsyii” | Kelsyii Red Twigged Dogwood.
Vaccinium uliginosum | Bog Blueberry

Herbaceous Plants
Carex obnuta | Slough Sedge
Iris setosa | Beachhead Iris
Juncus effusus | Common Rush
Sagittaria latifolia | Broadleaf Arrowhead
Scirpus acutus | Tule
Scirpus microcarpus | Panicled 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 gymnasia
- 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./E;ect. 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 of 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 gymnasia 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	0.70.8
Music Instruction	0.8-0.9
Main Gymnasium*	1.5 – 1.8
Secondary Gymnasia*	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 Gymnasia	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 gymnasia, 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 gymnasia 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

			Benchmark (kWh/m2)			Britannia	
PHASE	**SCOPE**	**GROSS AREA M²**	**Electrical (kWh/m2)**	**Fossil-thermal (kWh/m2)**	**Total (kWh/m2)**	**kWh/m2**	**kWh**
Phase 1 - Pool, Fitness + Gym	*Fitness Centre + Studios*	*1,547*				120	185,640
	Gym C + Gymnastics Annex	*2,015*				120	241,800
	Aquatics	*3,800*	245	1130	1375	825	3,135,000
	Childcare	*993*				120	119,160
	Support + Circulation	*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	*Rink*	*3,801*	167	100	267	160	608,920
	Support + Circulation	*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	*Library, Art Gallery + Social Dev spaces*	*2,258*				120	270,960
	Childcare	*993*				120	119,160
	Support + Circulation	*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	*Building 4 - VSB Classrooms + Shops*	*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	*Building 5 - Community Centre*	*9,162*				120	1,099,440
	Support + Circulation	*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.

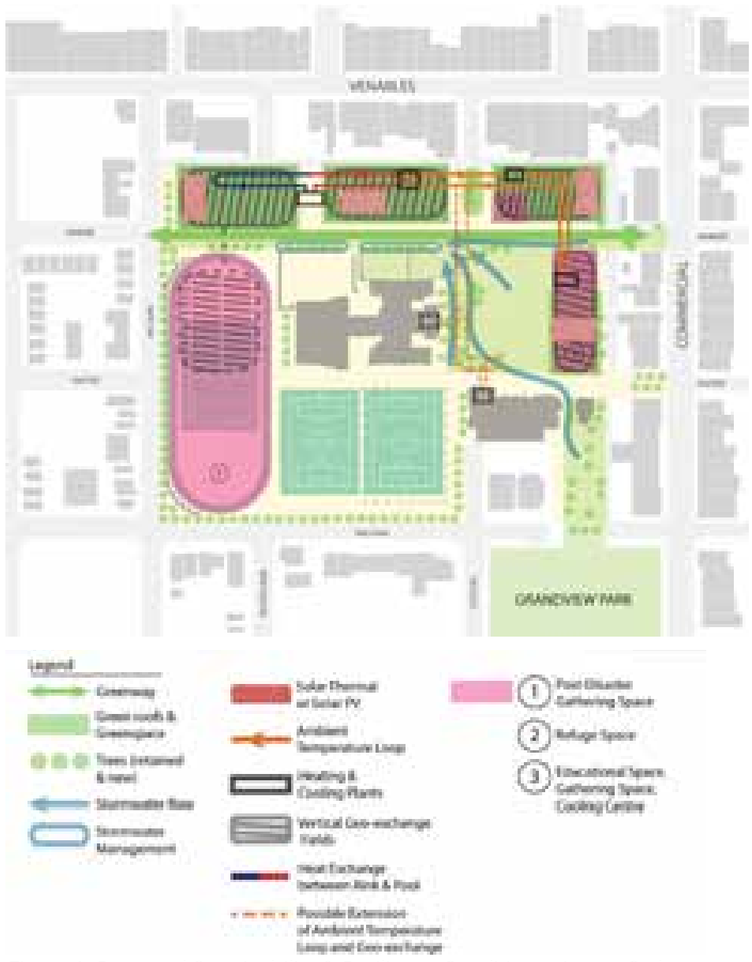


Figure 1: Proposed Sustainability & Resilience Conditions - Lower Carbon Option

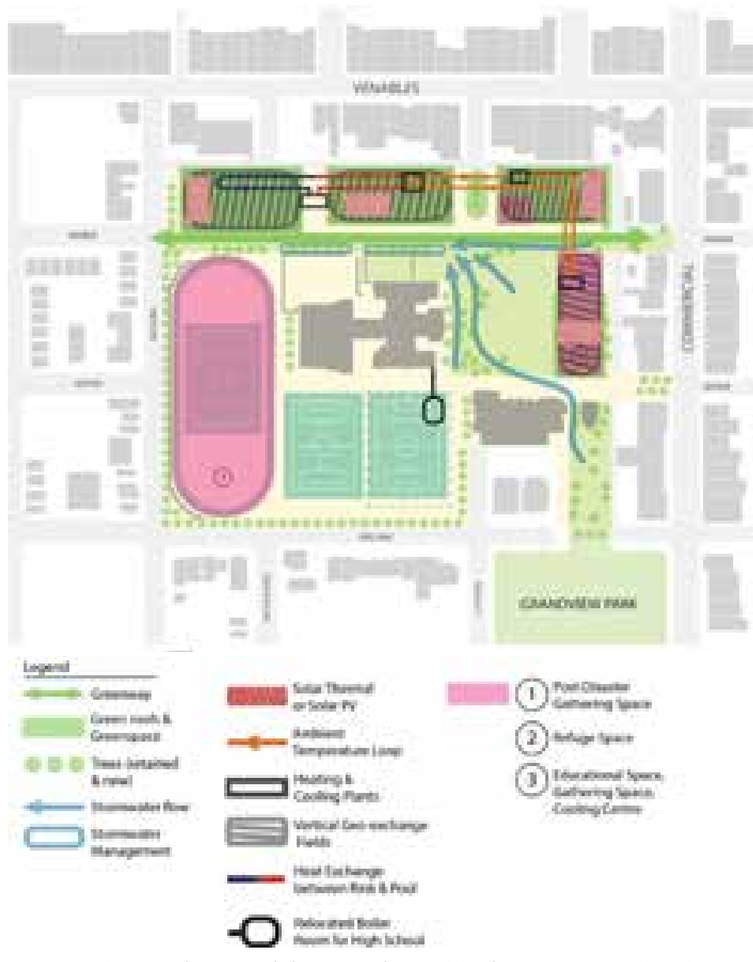


Figure 2: Proposed Sustainability & Resilience Conditions - Lower Cost Option

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.

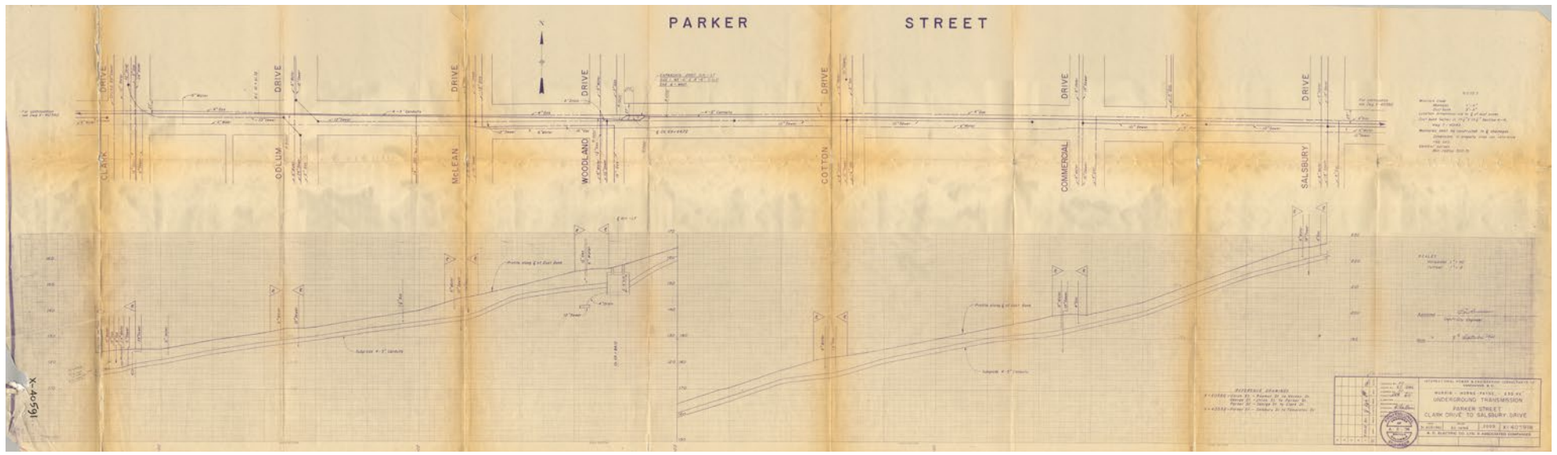


Figure 3: Parker Street BC Hydro R.O.W. as built drawings

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 m^2 to 27,470 m^2.
- 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 consider 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-of 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.

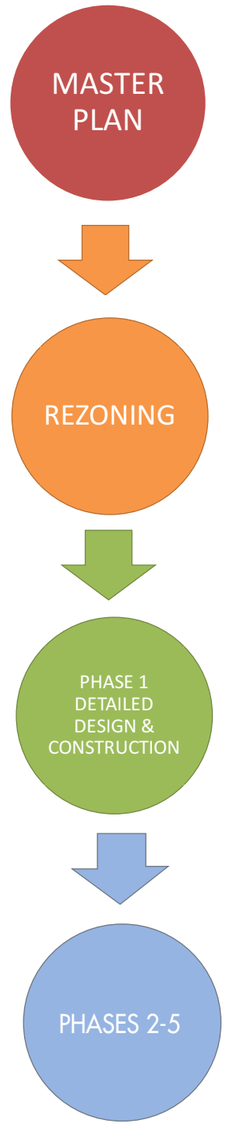
DETAILED DESIGN & CONSTRUCTION

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

Urbarts Architecture Urban Design

Diamond Schmitt Architects

space2place

epi

INTEGRAL GROUP