APPENDIX E - DESIGN OBJECTIVES & PRINCIPLES

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Children's and Women's Health Centre of BC

CONTENTS

CHILDREN'S & WOMEN'S HEALTH CENTRE – DESIGN OBJECTIVES AND PRINCIPLES

1.0 INTENT

1.1 General

The design objectives and principles have been developed in concert with the Provincial Health Services Authority (PHSA), Children's and Women's Health Centre (CWHC) and Hughes Condon Marler Architects (HCMA -the Compliance Design Team) and the City of Vancouver. Although the principles herein may continue to guide the development on this site for the next 25 years, the site planning and building massing in the Rezoning document is illustrative only and intended to provide a general guidance. The Master Plan of the CWHC campus, may change over time due to healthcare standards and requirements, funding opportunities, public needs, and City of Vancouver Bylaws or policies.

The design objectives and principles outlined will apply to the current Rezoning submission for Phase 2 development of the Acute Care Centre (ACC) and the intent of this document is to direct the P3 proponent teams and inform them of design expectations from the City and CWHC for the ACC.

1.2 Indicative Design

The Indicative Design is based on Clinical Specifications and consultation with Facility Users. It also reflects the intent of these design principles and visually represents one example of how to spatially achieve the functional program, adjacencies and optimized workflow.

Objectives

1.3 Evidence-Based Design

The design of any new facility for the BC Children's & Women's Health Centre will incorporate Evidence-Based Design (EBD) principles. The goal is to transform healthcare settings into healing environments that contribute to health and improve outcomes through the creative use of EBD. This includes but is not limited to patient care and staff experiences. Improved patient health and staff work environments have come as a result of such designs as access to daylight and views, minimization of travel distances, and efficient patient room configuration and care stations.

1.4 Use of Wood

As contemplated by the *Wood First Act* of British Columbia, the site and building design will incorporate wood and wood products into the Acute Care Centre to the extent that is consistent with the requirements of the Vancouver Building Bylaw and other regulations and schedules. It should be noted that there is extensive evidence-based literature confirming the positive effect on patient outcomes and staff morale of the use of wood in the built environment.

1.5 Sustainability

The Acute Care Centre at CWHC shall target LEED Gold Certification. Additionally, design and construction will use design methods, building materials, operational practices, energy and life cycle considerations that promote environmental quality, social benefits and economic vitality throughout the construction and operating periods and shall include maximizing operational efficiencies and giving priority to the efficient use of resources, protection of health and indoor air quality.

2.0 SITE PLANNING PRINCIPLES

2.1 Site Access and Circulation

For the convenience of patients, visitors and staff, and safe and secure operations with the site, the access routes and parking areas should:

- with minimum width and frequency of driveway crossings, provide clear access points from surrounding streets leading to a direct, intelligible on-site road system
- offer easy and direct access to main facility entrances
- lead to clearly marked and conveniently located surface and underground parking
- provide accessible vehicle and bicycle parking spaces as near as possible to main entrances
- develop well-defined and well-lighted pedestrian routes from parking areas to main entrances and vertical circulation points
- use landscaping, fencing, and other appropriate treatments to screen surface parking areas from adjacent public streets and open spaces without compromising the safety and security of users
- consider the incorporation of sustainable measures such as integrated landscaping, drainage swales, and permeable paving to decrease storm water run-off
- incorporate design details for the accommodation of those with physical limitations both in vehicles and as pedestrians

2.2 Landscaping

CWHC occupies a large, well known and visible site within the City of Vancouver. The property contains extensive open space and mature vegetation which should be enhanced as part of any new development by:

- making all reasonable efforts to preserve existing mature trees and vegetation
- adding new trees to replace those removed, to screen new development, or to enhance outdoor spaces
- protecting existing trees during construction and prohibiting excavation, filling, storage of materials or any other disturbance within 1.0 metre outside the drip-line of such trees

- create distinct outdoor places using clusters of trees, other vegetation, seating, decorative lighting, paving patterns to distinguish use and character
- connect outdoor places to facilities with clearly defined, lighted, accessible pathways

2.3 Building Massing

Consistent with functional and programmatic requirements, utilize building massing to achieve other important objectives:

- break massing into legible parts to reduce building scale and identify key functional components, primary entrances and essential internal organization
- arrange massing to provide clear visual clues to way-finding, entry and organization
- arrange massing to maintain sunlight penetration into the public realm and into semi-private and private open spaces
- develop direct and easily identifiable primary circulation routes between and within building masses to reduce arrival stress and assist visitors with orientation and identification of destinations
- recognize the existence of two institutions, BC Children's Hospital and BC Women's Hospital, within the overall massing with each seeking a separate identity and ability to reinforce its "brand"
- provide clearly separate, distinctly designed major entrances for each institution and for the combined emergency service;
    - the Children's Hospital and the Children's Emergency Entrance
    - the Women's Hospital

2.4 Height

Proposed building heights range from two to eight storeys, all within the maximum overall limit of 45 metres. Building components of various heights should be arranged to:

- reflect the requirements of functional floor plate sizes; notably smaller upper levels for inpatient units and larger continuous base comprising diagnostic and treatment services
- articulate the upper levels around "hinge points" containing vertical circulation elements
- align the hinged elements to respond to surrounding street, building, and arrival axes
- utilize the broader base elements to create suitable scale at the ground plane
- offer a welcoming, dynamic and attractive composition to patients, visitors, neighbours and the City

2.5 Setbacks and Street Edge Conditions

To respect views into the site for neighbours and passersby, and to assist those arriving at the hospital, the building massing should:

- maintain alignment of major vehicular entrances with Hospital main entrances
- clearly identify major entrances with projecting, differentiated elements
- orient future elements of BC Women's Hospital parallel with the new Willow Street entrance to offer an "end-on" profile to the south
- fit building elements into natural site grades to reduce height and scale impact
- reduce in height toward the surrounding streets edges
- respect existing street setback lines
- align new building elements with existing remaining structures to create a pleasing, intelligible composition
- consider the location and extent of existing mature trees to screen and soften new structures

2.6 Site Coverage

New construction on site should be arranged to:

- in the longer term, maintain or reduce existing site coverage
- eliminate inefficiently used and wasted space
- maintain or increase the extent of open, landscaped areas
- reduce hard, impervious road and parking surfaces wherever possible

3.0 BUILDING DESIGN PRINCIPLES

3.1 General

New buildings and changes to public realm elements should be designed to promote a healing environment, and family centred care. Architectural design can participate in achieving this goal by:

- creating building that are highly articulated and transparent to reduce their scale
- utilizing glazing, canopies, shading systems and exposed structural elements to refine facades
- arranging higher massing toward the site centre to create pedestrian-scaled perimeter
- providing transparency at street level to the greatest possible extent
- protecting pedestrians from the elements
- providing clear definition of, and access to, major entrances
- utilizing natural site grades to reduce visual building mass
- developing landscaped areas, including roof decks, for the benefit of patients and staff

3.2 Building Configuration

Floor plate sizes and dimensions, and their arrangement, in contemporary medical centre facilities are largely determined by their programmatic, functional and operational needs. Within this context, the objectives are to provide a dynamic, interesting building that is a welcoming and supportive place for patients, visitors and staff. This may be achieved by:

- arranging the single-patient rooms in articulated, repetitive groupings with substantial exterior glazing

- utilizing family lounges and respite areas to create variety among the groups of patient rooms
- recognizing the need for staff access to daylight both during working and break times
- utilizing vertical circulation elements to define and articulate main building massing
- marking major building entrances with glazing and differentiated massing as cues
- creating direct, easily understood major circulation patterns with views to the site to assist orientation.

3.3 Roof Treatment

The most universal medical centre massing that combines broad diagnostic and treatment areas at the lower levels with smaller inpatient units above results in substantial exposed roof areas. These roof areas present significant opportunity for:

- green roof treatments to enhance sustainability and achievement of required LEED Gold certification
- landscaping to improve the overview from inpatient floors above
- creating of accessible deck spaces offering broad views to the surrounding natural environment
- providing valuable outdoor respite areas for patients, visitors and staff
- reducing storm water run-off to limit dependence on the City storm system
- integrating and screening rooftop mechanical and elevator equipment into the overall building design for the benefit of those on site and the neighbours.

3.4 Windows and Skylights

The demonstrated and significant improvement in patient outcomes and staff well-being provided by access to daylight and views to outside should be acknowledged through:

- the arrangement of circulation routes and occupied spaces to maximize opportunities for windows
- the careful selection of window size and placement consistent with the space use
- the provision of skylights, with appropriate glare protection, where windows are not possible or suitable
- the utilization of internal courtyards to increase exterior wall exposure
- the variation of glazing type, pattern and frequency to reduce building scale and massing.

3.5 Entrances

Identifiable entrances are vital to the success of a hospital campus. To ensure that patients and visitors can easily identify and access the entrances without distress, the building massing and architectural design should:

- reinforce identification of the major entrances from afar

- develop vertical façade elements at major entrances to act as "markers" for these important points
- incorporate strong colours, and clear legible signage, to support and differentiate major entrances
- main major entrances on axis with major site entry points from surrounding streets
- utilize large glazed expanses at major entrances to reinforce public access and permeability
- provide visible effective canopies to strengthen entrance identity and provide weather protection
- reduce visibility of secondary entrances and fire exits to limit and control access for enhanced patient and staff security.

3.6 Materials and Finishes

The design should incorporate materials that will create a distinct character appropriate to a hospital for children and women. Accordingly the material palette should:

- avoid a clinical and repetitive aesthetic and instead be friendly and open, using materials that exude warmth and harmony
- promote variation and articulation of the exterior through varied uses of materials
- discourage extensive unbroken exterior wall areas and the excessive use of concrete
- encourage the incorporation of textures and warm, natural, and familiar materials
- animate the exterior with playful elements in the use of materials & colours to add visual interest to the patients, visitors and staff
- reinforce the recognition of primary entries, encourage material changes at major height transitions in the massing and clearly express the functional distinction between the inpatient units on the upper floors and the Hospital support services on the lower "podium" floors
- create changes and transitions to express the building hierarchy, prime circulation connections and to articulate stairs and elevators
- recognize that the lower "podium" levels will be more solid in character with a higher proportion of wall to window area, while the upper floors will be expressed in lighter materials and a greater extent of glazing
- emphasize the glazed and visually transparent major entrances with surrounding solid elements.

3.7 Projecting Exterior Elements

Projecting exterior elements such as sun shading devices, balconies, overhangs and canopies should be used to:

- further break down the overall building massing and recognize the pedestrian scale along the building perimeter

- provide significant weather protection at entrances and along building frontages that provide circulation paths between buildings on the site
- reinforce the identity of key major entrances to the building
- differentiate Children's from Women's Hospitals; and distinguish inpatient units from diagnostic and treatment areas.

3.8 Wayfinding

A good wayfinding system is critical to major healthcare facilities and is often key to a user's hospital experience. Every aspect of design on the site and of the buildings must be utilized to assist in patient wayfinding by:

- clarifying site organization and simplifying access routes
- providing direct sight lines to major building entrances from primary site access points
- offering adequate distance between decision-making points along travel routes
- creating highly visible and distinct entry points for the Children's and Women's Hospital components
- utilizing landmarks such as landscape, lighting and colour to identify location and key points along the major travel routes
- creating memorable and differentiated site landscape areas and landmarks to assist with orientation
- regularly reinforcing orientation with views to outside; floor number, colours and themes; and maps at vertical circulation points
- incorporating canopies and other projecting elements, material changes, and massing to direct users to major entrances and within the building
- creating significant recognizable major circulation routes such as the proposed atrium within the building

3.9 Safety and Security

CWHC have adopted the Fraser Health Security Management Plan. However, the following design principles are a further guide to enhance security for the hospital campus:

- differentiate public and private spaces through changes in paving, vegetation or grading; or through design features of low walls, bollards, or planters rather than solid fences or walls
- develop people gathering spaces with appropriate seating, and gardens with potential water features
- develop designs that allow individuals to observe their surroundings through their activities throughout the day
- develop circulation routes to have unobstructed views of surrounding areas
- excessive vegetation that obstructed visibility from windows and doors should be avoided

- below grade parking structures should be designed to have good line of vision, throughout the parking area and hidden dark corners and spaces should be avoided
- parking structures should be painted white
- appropriate lighting levels throughout the campus to prevent crime and accidents should be provided
- careful design consideration of refuse, recycling, utility areas should be out of sight lines from the surrounding residential neighbourhood