

SHELTER DESIGN GUIDELINES

September 2017



BC HOUSING

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Yukon Shelter (Vancouver)
Lookout Emergency Aid Society

Overview

BC Housing has prepared this guide to assist non-profit societies and development teams with the planning, design, and development processes for upgrading existing shelters, or constructing new emergency shelters. In BC, shelters vary significantly by size, building type, layout, and types of spaces they include – many are created through the conversion of existing buildings. Although these guidelines represent best practices, each new or upgraded shelter may involve some design compromises, reflecting the availability of an appropriate building and/or location.

These guidelines focus on space requirements and layout. Societies and development teams should also use BC Housing’s most current version of *Design Guidelines & Construction Standards*, which provides more detailed building specifications, and is available at the BC Housing website. In considering the design of new or upgraded emergency shelters, integration with sound, comprehensive operating policies and procedures, and appropriate staff training is essential.

In BC, emergency shelters operate under the *Emergency Shelter Program*, which is administered by BC Housing. Emergency shelters and outreach workers are part of a housing continuum that helps people move from homelessness to permanent accommodation and, provide with supports as necessary. In considering the development of a new shelter, or upgrades to an existing one, reference should be made to the most current version of BC Housing’s *Emergency Shelter Program Framework*, which also provides definitions for terms used in the planning and operations of shelters.



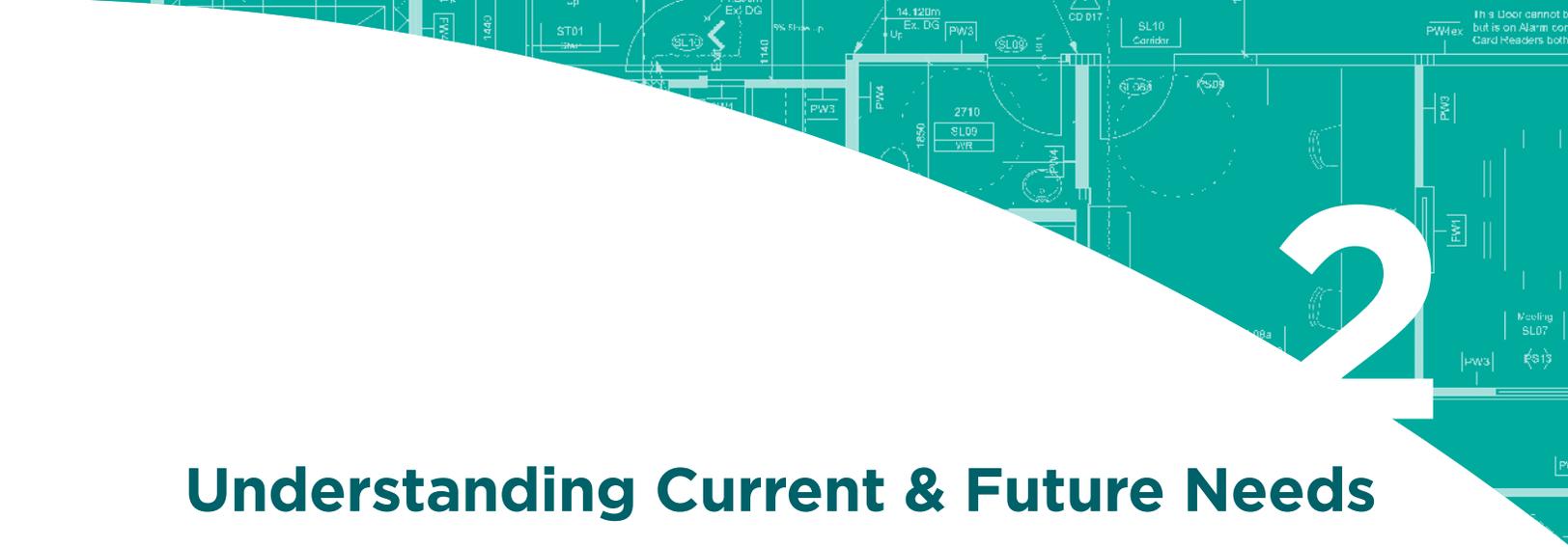
Figure 1: Powell Place, Vancouver. This 52-bed shelter involved a major renovation of an existing shelter.

Gateways to permanent housing, shelters provide supports, and must include the following:

- Emergency accommodation – a safe, secure place to sleep;
- Facilities for hygiene;
- The provision of nutritious food;
- Office and meeting spaces to enable case planning and programming for clients; and
- Where possible, space for primary health provision.

Where a new or upgraded shelter will be the only one in a community, the facility should be designed and operated as a minimal barrier shelter, which accommodates those who:

- Are dealing with addictions and/or mental health issues;
- Require harm reduction supplies, including clean needles, access to safe disposal (sharps containers), condoms, etc.;
- Require access to primary health care;
- Cannot be refused service unless extenuating health/safety issues present;
- Require physical accessibility;
- Require appropriate sized and secure storage facility for their belongings, including a cart, bike, etc; and
- Have a pet.



Understanding Current & Future Needs

2.1 NEEDS ANALYSIS

To support the proposition of a new or renovated shelter, an analysis should be undertaken to determine the client group(s) to be served, and ensure their needs are fully understood. Where possible, the analysis should identify current and future needs, the required scale of the project, and the best location to provide these services.

Projecting shelter bed need is an inexact process. Conducting an analysis does not need to be a large and complex activity, but should draw on core housing need within the community and age group, population trends, existing shelter use information, homeless counts, and discussions with local agencies, including the health authority and municipality. Analyzing the number of subsidized housing units in the community or within the regional district, average rents and rental vacancies should be considered for understanding market conditions. The role outreach workers play within shelters and community, as well as that of any existing or proposed shelters in the community (if applicable), should be taken into account. BC Housing is also a useful source of information for a needs analysis. Refer to *BC Housing Need and Demand Study*.

Where a new or upgraded shelter will be the only one in a community serving all or a single gender client group, the facility should be designed and operated as a minimal barrier shelter.

2.2 FUNCTIONAL PROGRAM

Following the completion of a needs analysis, an architect should be contracted to develop a preliminary functional program that responds to the identified needs, and how the shelter will be operated. Shelters may not always be needed permanently, and so should be designed with flexibility to allow conversion into permanent housing or to meet needs of changing population groups within the shelter, where possible. The functional program will determine site needs, building layout, design order of

magnitude capital and operating budgets, funding requirements, and efficiency of the building design. Operating policies and budgets for the shelter must also be taken into account. In understanding a functional program, the design team should consider the efficiency of common and circulation areas to the shelter sleeping areas based on operational needs.

2.3 CONSULTATION WITH STAKEHOLDERS

BC Housing is the primary funder for both the capital and operating costs of most shelters in the province. If anticipating funding from BC Housing, sponsoring groups should review BC Housing's *Emergency Shelter Program Framework*, and *Design Guidelines & Construction Standards*, as well as this document and other related requirements. Completed needs analysis, functional programs, and consultation with the local agencies should be done prior to finalizing any plans. The design team should also consult with operations staff in the early design phase to ensure decisions consider the operator's capacity and staffing levels to efficiently run the facility.

Design Principles

3.1 SHELTER USERS ARE DIVERSE

Those who are homeless often have diverse and complex needs. In particular, clients experiencing mental illness and addiction issues provide significant challenges for shelters and their staff. The complex, and often multiple, needs of homeless individuals require design details and operating policies that respond appropriately. Homeless populations include:

- Women, and women fleeing violence;
- Seniors experiencing age-related conditions, such as diabetes, Alzheimer's, and dementia, as well as older adults with mobility impairments;
- Families, such as single mothers with children, single fathers, and couple-led families;
- Youth who are homeless or at risk of homelessness, such as those aging out of provincial care;
- Aboriginal populations, the share of Aboriginal shelter users varies considerably from one region to another;
- Individuals of all ages who are substance users;
- LGBTQ2S individuals, a primary concern in serving this group is the availability of appropriate spaces, such as gender neutral washrooms, etc.;
- Individuals with mental health conditions;
- Couple;
- Working poor;
- Transient populations and new immigrants, such as transient workers from other provinces in Canada, new immigrants to Canada, etc.
- People with varying levels of physical abilities, such as those with physical disabilities, mobility issues, or developmental disabilities.

Some locations may also be influenced by the proximity of situations that generate particular needs, such as communities adjacent to institutions (e.g., jails), or rural areas with seasonal employment.

3.2 SAFETY & THE CLIENT MIX

Safety is important for all shelter users, staff, and visitors. Because there are so many varying needs, sponsors should carefully consider the proposed mix of client groups to be contained within one building. Women with children, women fleeing violence, those who are active in survival sex work, and unattached youth (up to the age of 19) are particularly at risk, and should not be accommodated in the same shelters as single men. For shelters and emergency housing intended for women with children, it is recommended that consideration be given to the development of programs which solely target this population in order to avoid safety issues associated with client mix.

When men, women, and transgendered individuals are to be accommodated in the same shelter, design features should be incorporated to ensure safety throughout the building, including secure and separate sleeping quarters, as well as separate lounge and washroom facilities.

In addition to safety protocols for harm reduction, shelter design needs to provide some separation for people with challenging behaviours, easy access to harm reduction supplies, and safe disposal of sharps/bio hazard containers. These shelters often require appropriate staffing, clear staff sightlines, or video monitoring.

3.3 INCORPORATING SHELTERS WITH TRANSITIONAL OR OTHER HOUSING

It is a common strategy to incorporate shelters into other housing forms builds capacity and options for flow, usually transitional housing. This integration can often make the best use of a site, provide economies of construction and staffing, and offer opportunities for sharing certain facilities and services. This approach also enables residents to build on existing relationships with support staff when they transition from the shelter into transitional housing. The residents get a consistent approach to support services, and the staff get to know the residents better, and are able provide more effective supports.

However, proximity of a shelter can be challenging for some transitional housing residents as they are attempting to move away from the street, and towards permanent housing and independence. Transitional housing that accommodates children should not share entrances or elevators, or other facilities, with a shelter.

3.4 CONVERSION, RENOVATION, OR NEW CONSTRUCTION

The need for a new shelter, or additional capacity for an existing shelter, can often arise quickly, requiring a timely response. Finding a site or building suitable to the scale of need, that is appropriately located, and that will secure community and municipal support for rezoning and other approvals, is often a major challenge. In site planning, opportunities for outdoor space to accommodate bikes, buggies, carts, smoking areas, and delivery access for food are important. Depending on circumstances, appropriate responses may include modifications to an existing shelter, converting a building from an entirely different use, modular housing, or new construction. Modular or pre-fabricated buildings can provide an especially quick response to community need for a shelter. However, for new buildings, especially for those using modular units, it is important to determine site servicing ability.

3.5 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

Site planning and building design should consider CPTED strategies, e.g., territoriality, natural surveillance activity support, and access control, as well as other recognized CPTED principles. For more information, see BC Housing's *Design Guidelines & Construction Standards 2014: Section 4 Crime Prevention Through Environmental Design*.



4

Design Objectives

Certain objectives should guide building layout and choice of materials when designing or upgrading a shelter. The objectives listed below are key when considering a building's functional quality, long-term operational efficiency, and outcomes related to user satisfaction. Refer to the most current version of BC Housing's *Design Guidelines & Construction Standards* for more detailed building specifications.

4.1 MEETING PROGRAM NEEDS

New shelters must provide spaces that align with BC Housing's *Emergency Shelter Program*, specifically including:

- Emergency accommodation – a safe, secure place to sleep;
- Facilities for hygiene;
- The provision of nutritious food;
- Office and meeting spaces to enable case planning and programming for clients;
- Where possible, space for primary health provision; and
- Provision of accommodation with as few barriers as possible to allow more people access to services.

If the proposed shelter is the only shelter in the community, design and operations must meet minimal shelter barrier requirements, as per the *Emergency Shelter Program*.

4.2 DURABILITY, OPERATIONAL NEEDS & OPERATING COSTS

Design decisions should consider cost effective building operations, which can be impacted by the number of beds per floor, ease of supervision, and sightlines for common spaces. Consideration of required staffing levels is also important.

Operational costs are also impacted by the durability of materials used in the building's construction, and their ease of maintenance, as well as the various fixtures, fittings, and furniture. Durable design should consider:



Figure 2: Examples of durable flooring & door hardware, Rock Bay Landing

- Flooring materials that are durable and easy to maintain;
- Wall surfaces that accommodate impacts in critical locations;
- Door and closet hardware that are easily operable by persons with limited strength and dexterity;
- Plumbing and electrical fixtures and accessories that are durable and easily replaceable;
- Bathroom fixtures that are to be easily replaceable and floor drains to avoid flooding;
- Infestation control to maintain the health and hygiene of the clients;
- Furniture selection that is vandal and abuse resistant and bed-bug proof;
- Access for shelter users is to be designed with consolidation of maintenance and ease of operation. For example card readers, electric strikes, or suitable locksets where required, with consideration of maintenance and ease of operation.
- Elevator controls and buttons are to be heavy duty for durability to withstand abuse.

4.3 EFFICIENCY IN DESIGN & AREA LAYOUT

Design and layout should provide a building that is spatially efficient, with amenity and support service spaces that maximize efficiency of circulation for both shelter users and staff. It is recommended that program spaces be centrally located close to staff sightlines, and grouped for efficiency.

4.4 DESIGN FOR ACCESSIBILITY

All emergency shelters must be accessible to those with mobility impairments. This accessibility may not always involve wheelchair use, but an increasing number of individuals are using walking aids, e.g., walkers. Storage space, additional grab bars, roll-in showers, and resilient, non-slip floors are a few examples of building details that will assist this group. Accessibility requirements should be designed in accordance with the BC Building Code, and reference shall also be made to BC Housing's *Design Guidelines & Construction Standards*.

Design should consider the following, but is not limited to:

- All exterior and interior common areas intended for shelter users (including landscaped open space, outdoor recreation areas, walkways and program spaces) should be universally accessible to persons of all ages and degrees of ability.
- Stairs and ramps must be easily usable by people with reduced mobility and impaired vision.
- The design should consider rough-in wiring in the building entry/lobby for future automatic door opener.
- Accessible washrooms must have resilient, non-slip floors, knee clearance under the sink, ADA-compliant toilets with seats at 430 mm – 480 mm (1'-4" to 1'-7") from the floor, solidly backed grab bars, and clear door openings as specified in BC Building Code.
- Roll-in showers should be provided for wheelchair accessible showering.
- All doors, faucets, and showerheads should have lever handles rather than knobs.
- Light switches, thermostats, other controls, and storage should be mounted at a height accessible for a person in a wheelchair.
- Outdoor seating area is to be durable, low maintenance, and universally designed.



Figure 3: Example of accessible washroom, 3030 Gordon



Figure 4: Example of roll-in shower, 3030 Gordon

- Install low resistance, delayed action closers for all doors on accessible routes, including suite entrance doors in accessible sleeping area.

4.5 SAFETY & SECURITY FOR CLIENTS, STAFF & COMMUNITY

Safety and security are extremely important design factors for shelter staff, visitors, and users. These factors must also be matched by, and integrated with, operational policies. When designing a building to accommodate men, women, couples and transgendered individuals, it is a requirement that women-only sleeping accommodation and washroom facilities are securely separated from the men's accommodation areas. A women-only lounge/meeting room should also be provided.

Some key considerations for safety and security include, but are not limited to:

- Good exterior lighting for entrances and outside spaces;
- Adequate interior lighting for hallways, elevator and staircases;
- Reception area at the main entrance;
- Security mechanisms for staff, including alarms;
- Avoidance of entrapment spaces, and incorporation of surveillance alarms;
- Adequate circulation/gathering areas to avoid spaces that could aggravate tensions;
- For staff supervision, ensure good sightlines for all building spaces that involve outdoor areas, entrance(s), circulation, gathering, or programs;
- Resilient, non-slip floors in critical areas, such as entrances, washrooms, and kitchens;
- Surveillance cameras in selected locations such as hallway, staircase, elevator, entrance and common areas;
- Secure storage and/or lockers for client belongings; and
- Maximum glazing common area doors to improve security where appropriate.



Figure 5: Examples of shelter entrances, left: Powell Place & right: Rock Bay Landing. The latter also provides oversight to the exterior courtyard

4.6 FLEXIBILITY FOR SHORT & LONG-TERM USE

Flexibility is important in emergency shelter design to ensure changing needs (both short and long term) are met to avoid functional inadequacy, and to minimize the costs of change. Designing with flexibility in mind is not an easy task, but is possible:

- Layouts, plumbing, and electrical components should be designed to permit amalgamation of two shelter sleeping rooms into one small apartment; and
- Flexible support spaces should be designed to convert/change to different functions over time, as required.

4.7 NEIGHBOURHOOD INTEGRATION

No matter where they are located, or proposed to be located, shelters are usually controversial. When designing new buildings, or upgrading existing ones, sponsors should anticipate concerns from the neighbourhood, and local authorities having jurisdiction as they go through the rezoning process. While it will be important to demonstrate that the proposed shelter will be designed to be a good neighbour, it will be equally important to commit to operational protocols that will help meet this objective, such as communications protocols, regular meetings with neighbours, and monitoring and maintenance of the public areas immediately adjacent to the shelter.

The following design features should be considered for neighbourhood integration:

- Adequate interior spaces, and operating procedures to avoid sidewalk line-ups for access;
- Adequate on-site parking/storage for buggies/trolleys, and bikes;
- Windows and surveillance cameras that provide staff with sightlines onto the street;
- Off-street areas for smoking, sitting, and pets;
- Exterior design that integrates into the neighbourhood by using residential materials and colours to avoid an institutional appearance; and
- Adequate, but non-intrusive, exterior lighting.



Figure 6: Example off-street area, 3030 Gordon Project

4.8 WARM, WELCOMING SPACES

Shelters are meant for short-term emergency accommodation. However, consideration should still be given to creating a warm, welcoming and safe environment. This concept is important for clients, but also valuable for staff members who work in these spaces on a longer-term basis. Design considerations will vary according to the clients served in the shelter, but may include:

- Colour choices for floors, walls, and furniture for people with visual impairments;
- First Nations art for shelters serving Aboriginal individuals;
- Choices of outdoor and indoor common area furniture types to accommodate accessibility;
- Activity space facilities for training, art work, etc.;
- Women-only programming spaces in mixed-gender shelters to allow privacy;
- For shelters that accommodate women and children, a play/toy area, and space that accommodates strollers for small children;
- Inclusivity for LGBTQ2S through universal bathroom signage and art; and
- Bulletin board for the notices, shelter facility policies, job postings, and to display art work.



Figure 7: Example of gender neutral washroom signage, 3030 Gordon

4.9 DESIGNING FOR MINIMAL BARRIER SHELTERS

Minimal barrier shelters are designed to accommodate all homeless people, including those with challenging behaviours that may be disruptive or difficult for other shelter users and staff. Such shelter users are not expected to abstain from alcohol/drugs. Addictions are viewed as health conditions, and the shelter will have harm reduction practices and procedures in place, including provision of information, safe injection and smoking supplies, and safe options for syringe disposal.

Minimal barrier shelters will have the design features identified in this guide, and those of particular importance include:

- Secure and accessible storage space for harm reduction supplies;
- Opportunities for accommodating individuals with disruptive behaviours, e.g., through a proportion of single rooms, and sitting areas outside of sleeping rooms;
- Secure outdoor storage for buggies, and bikes;
- Adequate indoor storage space for shelter users belongings, such as designated bins or lockers for valuables;
- A medical room for visiting medical professionals to serve shelter clients; and
- Opportunities for accommodating individuals have pets.



Figure 8: 3030 Gordon examples, left: outdoor storage, and right: harm reduction supply storage.

Program Area Design Features

Provision for program area spaces will depend on design principles and objectives outlined earlier in these Guidelines, the level of support services to be provided for the shelter residents, project size, location, and budget parameters. For renovation or conversion projects, it is recognized that existing conditions, or user considerations may override the recommendations contained in these Guidelines. If such is the case, approval from BC Housing should be obtained at the schematic or preliminary design stage of the project.

5.1 RECEPTION/ENTRY

- The lobby reception area should be sufficiently scaled to the size of the shelter and the flow of people. There should be adequate space for client intake, including those with mobility impairments, to avoid crowding and lining up on the street. This space should provide seating areas and a drinking water fountain;
- The entrance should have a vestibule, and surveillance cameras monitored 24 /7 by staff. The staff shall the ability to control opening/closing of both sets of entry doors from the front office for the visitors. The design should consider rough-in wiring at the entrance for a future automatic door opener;
- The reception office should be a secure space, with good staff sightlines to the street, the entrance/vestibule, circulation, gathering and program spaces, and elevators, if provided; and
- Where a shelter is combined with transitional housing, consider access control, client flow, and security in the design process. Transitional housing that accommodates children should not share the same entrances with the shelter.



Figure 9: Example of reception area, Rock Bay Landing

5.2 GATHERING PLACE/DAY ACTIVITY ROOM

The gathering place/day activity room allows clients to remain in the shelter during the day. This space may be co-located with the dining room, where there are space restraints, and should not seat less than 50% of the building's bed capacity.

This area may include a TV or recreational games. Furniture should be comfortable, durable, and easily maintained. Manoeuvring space for mobility-impaired individuals should also be a consideration when determining furniture layout.



Figure 10: Example of gathering place, Yukon Shelter

5.3 HEALTH & MEDICAL SUPPORT

A ground floor space for visiting medical professionals should be a minimum of 14 m² (150 sf), and be equipped with an examination bed, lockable cabinet, small desk, washbasin, countertop, and paper towel dispenser. A second access is required to allow unimpeded exit from this room. For minimum barrier shelters, provide spaces for shelter users to access harm reduction supplies.



Figure 11: Example of medical room, 3030 Gordon



Figure 12: Example of medical supply storage, 3030 Gordon

5.4 COUNSELLING & SUPPORT SERVICE

Counselling services are an important part of a shelter's services. The number of counselling or case worker offices, together with administration office spaces, will vary according to the size of the shelter, and its associated programs. Access to a counselling office should not be through an administration office.

COUNSELLING ROOM/CASE WORKER OFFICES

This space should anticipate the increasing age and potential mobility impairment of clients, and at least one space should be sized to handle wheelchairs, scooters, and walkers. Design, via furniture configuration or a second access, should allow staff to exit the room unimpeded. Partition walls between offices, corridors or adjacent spaces should be insulated for sound reduction, and have a sound rating of STC 55. Glazed (tempered or safety glass) doors should be provided to improve security.



Figure 13: Example of case worker office, Powell Place

ADMINISTRATIVE SUPPORT SPACES

Office support areas will vary with shelter size. These spaces should be a minimum 10.5 m² (113 sf) and secure, and have adequate space for desks, lockers, cabinets, staff seating area, files, and office equipment. A telephone, cable, and data outlets should also be provided. The staff washroom should be convenient to the office location.

5.5 FOOD SERVICES

COMMERCIAL KITCHEN

A commercial kitchen may be necessary, depending on shelter size. A commercial kitchen, when provided, shall have appropriate receiving/loading area and serve one full hot meal a day per resident. Other options include a servery for food prepared elsewhere, or a small kitchen. To determine the correct option, size, design, and required equipment for a kitchen relative to the planned size of the shelter and operating budget, a commercial kitchen designer should be engaged early in the process. Kitchens should include a small office/nook, as well as dry goods and cold storage. For easy service and loading dock access, kitchens should ideally be located on the ground floor.

For family shelters, it is also recommended to have a shared space for shelter users to cook their own meals, or participate in life-skills training activities.

COMMON DINING AREA

Shelters should contain seating opportunities with two, four, and six-seat tables, and could include some high tops. Dining room seating should be sized to accommodate the capacity of the shelter in one sitting, but larger shelters may need to have multiple sittings. Provisions should be made for a small countertop area, and a microwave for shelter users to heat up food.



Figure 14: Example of commercial kitchen, Powell Place



Figure 15: Example of dining room, Rock Bay Landing



Figure 16: Example of dining room and kitchen area for shelter users, Powell Place



5.6 HYGIENE

WASHROOM/BATHROOM FACILITIES

Washroom/bathroom design should consider safety, inclusion, and flow of users. Washroom facilities are required to be divided into three types: 1) for clients newly arrived at shelter, 2) for existing shelter residents, and 3) for staff.

Common Washrooms for Newly Arrived Clients

Ground floor washrooms and showers are required for use by clients newly arrived at a shelter, and should be located near staff sightlines and close to the reception area for ease of monitoring. At least two (2) individual washrooms should be gender neutral, and one of these should also be wheelchair accessible and include a shower. The accessible washroom should be designed to the requirements of the BC Building Code, and be equipped with grab bars to facilitate transfers.

Common Washrooms for Shelter Residents

For the washrooms for clients already living in the shelter, there are three main configuration options: 1) private (within a single-bed room), 2) semi-private (within rooms as per the three-bed configuration shown in Figure 24), or 3) shared washrooms. The advantage of private or semi-private washrooms should be weighed against operations and maintenance costs, as well as possible security problems that may arise.

The minimum standards for shared washrooms are:

- One washbasin per four beds;
- One shower stall per four beds. Shower stalls should each have a door;
- One toilet stall per four beds; and
- For women's shelter spaces, include sinks in bedrooms where possible. For shared washrooms, consider providing one or more bathtubs, depending on shelter size.



Figure 17: Example of individual washroom, 3030 Gordon



Figure 18: Example of a shower stall, 3030 Gordon



Figure 19: Example of toilet stalls, 3030 Gordon

Washroom(s) for Staff

Provision should be made for a separate ground floor staff washroom(s), including a shower close to reception or administrative support spaces. The staff washroom should be designed with non-slip flooring, a floor drain, toilet, sink, vanity, shower, and common washroom accessories, such as a toilet paper holder, soap dispenser, and towel dispenser.

Overall Washroom Design

Designing washrooms for existing shelter residents (Type 2) depends on the specific need and intended function of the shelter. Facilities can be designed as either multi-stall common washrooms, gender-neutral individual washrooms, or a combination of both. Designation of individual gender-neutral washrooms may increase flexibility, and reduce waiting time and flow of users through the facilities. Provision of shower rooms separate from toilet rooms could also be considered.

Washroom design for newly arrived clients and existing shelter residents (Type 1 and 2) should follow the requirements below, and be adjusted as appropriate for those receiving services within a facility:

- Washrooms need to have inclusive signage for transgender and gender diverse individuals that include function-based icons instead of gender figures;
- To allow for privacy, stall doors should have minimal gaps on the sides. Toilet doors need to have a space between the bottom of the door and the floor to allow staff to see if a user is in distress;
- It is recommended that the main door to a multi-stall washroom be provided with glazing to provide staff sightline in case of emergency. It is also recommended that locks be avoided in these doors to ensure access at all times. Design that allow for door-less entrance while providing privacy should be considered where possible.
- Stall door in common washroom or door in individual washroom locks should be secure, and have a safety mechanism that allows staff or emergency responders to open from the outside. If approved by the municipalities and authority having jurisdiction, washroom stall doors should open outward to allow easy access for emergency responders. Also, allow for an emergency panic button where necessary;
- Ceiling and wall tiles or panelling, as well as ventilation covers, should be securely affixed to eliminate spaces for concealing or discarding syringes, or other items;
- Washrooms should include resilient, non-slip sheet flooring with flash cove and floor drains;

- Provide general washroom accessories, including paper towels, soap, toilet tissue and dispensers, clothes hooks, safety mirrors, towel grab bars, high velocity electric handdryers and, in women’s washrooms, feminine napkin disposal bins. Sharps containers need to be securely affixed to walls;
- Sufficient mechanical ventilation and exhaust should be provided for odour control;
- Provide tamper proof toilet tanks (tanks with bolt down lids) or tankless toilet to eliminate spaces for discarding syringes;
- Where possible, shutoff valves should be located outside of the bathrooms or in accessible location; and
- Floor drains should be installed in all washrooms.

LAUNDRY FACILITIES

Shelters should typically provide two laundry rooms – a commercial laundry to wash bed linens, towels, and donated clothing items for shelter provider, and a smaller laundry for shelter users’ personal use. Both laundries should be located on the ground floor, well ventilated to avoid moisture problems, and close to exterior walls to minimize the length of dryer duct runs. Other provisions to include are non-slip flooring with cove base, floor drains, glazed (safety or tempered glass) access doors to avoid entrapment, and disabled access.

Shelter Provider Laundry

Washers and dryers should be commercial grade, Energy Star rated, and front-loading on raised platforms. A stainless steel laundry sink, shelves, and significant countertop space (minimum 2.4 m or 7.8 ft) should be provided for folding clean laundry. One commercial washer and dryer for up to 15 beds is recommended, and two of each for 16 to 40 beds.

Shelter Users Laundry

A wheelchair accessible common laundry room should be provided at a ground floor location, preferably close to a gathering space, with clear staff sightlines. The space should include a small commercial grade washer and dryer, a counter for folding clean laundry, a small seating area, and an accessible height sink with open knee space underneath. Doorways, millwork heights,



Figure 20: Example of shelter provider laundry, Rock Bay Landing

location of outlets and type of laundry equipment must be suitable for use those with mobility or visual impairments. The shelter provider can determine if the laundry equipment should be coin operated, card access, etc.

5.7 INDOOR STORAGE

Types of shelter storage should mainly consist of the following:

CLIENT STORAGE

Many individuals who are chronically homeless, or who are “coming indoors” for the first time in a long time may well have many belongings. Adequate and secure storage space in the ground floor area is a requirement for a minimal barrier service provision, including space for carts, buggies, pet carriers, and bikes. The availability of this space can mean a better chance of engaging individuals to come indoors, and work towards accessing appropriate housing. This space may be created within the building, but may also be provided in outdoor areas.

A separate pet kennel is not usually recommended due to the risk of spreading of infections among pets, and because of limited operational services. Consultation with local authorities is required for having any outside storage areas for pets.

STAFF STORAGE

Provide a conveniently located area for staff to store furniture, mattresses, maintenance materials, equipment, and other miscellaneous items.

CLOTHING STORAGE & DISTRIBUTION

Many operators provide clean, donated clothing for shelter clients, and space for storage and distribution is best provided on the ground floor. Fittings should include clothing hangers, and shelving for folded goods. A countertop and small change room, as well as a separate space for receiving and sorting clothing (preferably with vehicle parking access) are desirable. In larger shelters, this space can be provided within a basement, and may be associated with underground parking.



Figure 21: Example of donated clothing storage space, Rock Bay Landing

5.8 ACTIVITY SPACE/TEMPORARY BED

SPACES

Where space permits, the following rooms should be included in the shelter design, and sized appropriately:

COMPUTER AREA/LIBRARY ROOM

This space would allow shelter users to charge personal electronic devices, and/or use a shared computer for employment searches and training purposes.

MULTI-PURPOSE ROOM

The facility may provide for a multi-purpose room, which can be used for meetings, training classroom, social services programs, activities/art space, or temporary bed spaces in extreme weather. This area may also be used as a family meeting space for parents and children in a mixed gender shelter, or as a quiet area for people to relieve stress caused by the noise and crowded conditions associated with shelter operations – this is particularly important for elderly persons, people with mental health illnesses, and parents with young children.

Design, via furniture configuration or a second access, should allow staff to exit the room unimpeded.

Shelter Sleeping Accommodation

Sleeping accommodation is the central service of a shelter. Many of the shelters proposed for upgrading currently accommodate clients through bunk beds in multiple rooms. This has, in part, arisen out of necessity, as shelters have sought to increase accommodation to meet demand within existing buildings. However, large rooms containing bunk beds are not recommended for new shelters. Sleeping accommodations should be provided through multiple rooms with single, rather than bunk, beds. This strategy provides the following advantages:

- Mobility-impaired individuals have easier access to beds, and in between beds;
- Potential for conflict is reduced by the provision of more space;
- Accommodation is more dignified because it recognizes the value of the individuals, and avoids the perception of warehousing.



Figure 22: Example of women's 3-bed room with sink & lockers, Rock Bay Landing

6.1 MULTI-BED CONFIGURATIONS

The preferred format for sleeping accommodations in new shelters is single beds in small rooms. Large shelters, with multiple single bedrooms, will require extensive corridor space, necessitating the need to consider multi-bed sleeping accommodation where available space is limited. The number of beds per room will, in part, be determined by shelter size, community need, and the diversity of the clients in the shelter. To accommodate clients, such as families or couples, single rooms should be provided.

The recommended maximum number of beds per room is four, efficiently accommodating individuals without overcrowding (see Figure 25).

The four-bed format can also be reconfigured as a three-bed layout that includes a shower and toilet, with a separate sink in the location of the fourth bed. The three and four-bed configurations offer the design opportunity for two rooms to be combined into a small apartment in the future. Shelters may also include one and two-bed configurations – one-bed spaces can accommodate individuals with couples, single parents with children, individuals with disruptive sleeping patterns, or other behavioral issues. The minimum required floor area for each bed space is 4.6 m² (50 sf).



Figure 23: Example of women's 2-bed room with sink & lockers, Powell Place

Minimum recommended floor areas are:

- Single bed - Minimum 3.0 m x 3.9 m (9.8 ft x 12.8 ft), with or without washroom
- Single bed - Minimum 3.9 m x 4.0 m (12.8 ft x 13 ft), with disabled access, with or without washroom
- Two-bed - Minimum 2.8 m x 4.3 m (9.2 ft x 14.1 ft), without washroom
- Three-bed - Minimum 3.5 m x 5.3 m (11.5 ft x 17.4 ft), with washroom
- Four-bed - Minimum 3.5 m x 5.3 m (11.5 ft x 17.4 ft), with no washroom

Other recommended features to include:

- A locker and small side table, as well as a durable wall mounted light fixture, should be provided for each bed in multi-room configurations;
- Wall, floor, and ceiling assemblies between bedrooms should target an STC rating of 50;
- Provide awning or casement type opening windows;
- For storage in the rooms, provide additional closet area or shelves if required.

6.2 DORMITORY ROOM CONFIGURATIONS

In upgraded shelters, where space is limited and a dormitory configuration is selected, the recommendation is a maximum of eight single beds per room, with a minimum of 4.6 m² (50 sf) per bed.

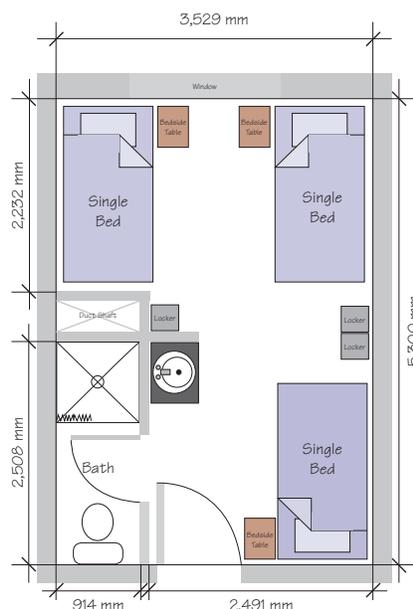


Figure 24: Typical 3-bed women's sleeping space (18.7 m²), Rock Bay Landing (based on original drawings from Jensen Group Architects)

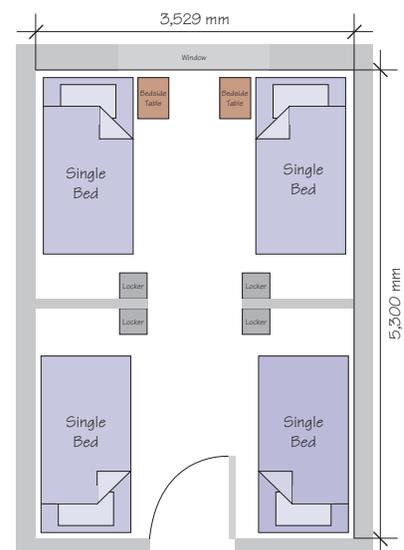


Figure 25: Typical 4-bed men's sleeping space (18.7 m²), Rock Bay Landing (based on original drawings from Jensen Group Architects)

6.3 CONFIGURATIONS FOR GENDER

When a shelter provides accommodation for a mix of genders, the proportion of beds for each can be difficult, given that numbers can vary significantly. Sleeping areas must be separate and secure. Designing sleeping accommodations to be flexible and easily varied for different gender proportions can be done, but is difficult. To create this opportunity, issues of security, fire exiting, and washroom access must be considered.

6.4 FLEXIBLE TEMPORARY BED SPACES

Where possible, shelters should consider providing flexible space for extreme weather conditions, and the provision of an overflow area for sleeping mats. The square footage of the space will depend on shelter size, but the space should include storage cupboards for sleeping mats. A multi-purpose room, the main dining room, or a women-only meeting room may offer opportunities for this type of temporary space.



Ancillary & Utility Services

7.1 JANITORIAL ROOMS

A janitorial room should be provided on the ground floor, and include a precast, slip-resistant floor, floor-mounted mop sink, and wall-mounted faucet, with provision for a hose end. In larger shelters with multiple floors, additional janitorial rooms should be provided on the upper floors (e.g., one every third floor), as required for efficient access, and should be located close to elevators.

In addition to a floor drain, each room should have appropriate fixtures and fittings for cleaning equipment storage, including commercial grade shelving. Sufficient mechanical ventilation is required in these areas.

7.2 MECHANICAL/ELECTRICAL ROOMS

Mechanical and electrical rooms should be located as close as possible to the entry point for utilities to allow for efficient distribution, including space and access for servicing. Where these service rooms are located adjacent to shelter sleeping areas, additional noise and vibration measures must be incorporated to ensure these systems do not disrupt residents. Refer to BC Housing's *Design and Construction Standards*.

7.3 RECEIVING/LOADING DOCK

Easy access for transporting food supplies from the street to the kitchen should be provided. The size of the receiving/loading area should be relative to a shelter's overall size.

7.4 GARBAGE & RECYCLING

A contained, easily accessible exterior area is needed for regular garbage and recycling pick-up. Ideally, constructed with a high impact concrete floor and walls, and a floor drain, this space should have adequate room to house a garbage skip, recycling bins, hose bib, and a hose with a hand sprayer. If required, mechanical ventilation could be included for odour control.

7.5 HEAT TREATMENT ROOM

The provision of a heat treatment room will be project specific. Shelters will need to provide a heat treatment (or bed bug treatment) room within their facilities, or in an outside area to prevent and manage bed bug infestations for shelter users' belongings or furnishings. See BC Housing's *Design Guidelines and Construction Standards, Section 5* for further specifications for this type of space.



Figure 26: Example of "bed bug" room, 3030 Gordon

Outdoor Spaces

Outdoor shelter space provides the opportunity for a range of important functions, and avoids impacting public sidewalks. Interior courtyards, or areas screened by the building or wall/fencing, should be considered. Outdoor spaces can include:

8.1 SMOKING AREAS

Smoking remains common among shelter users, so a smoking area is important. This area must comply with provincial legislation, or local authorities having jurisdiction, that prohibits smoking within three metres (9.8 ft) of windows and doorways. Where there is a conflict, the more stringent legislation will apply.



Figure 27: Example of outdoor courtyard, Our Place

8.2 STORAGE

Many shelter users require a secure outdoor space for parking of shopping carts and bikes.



Figure 28: Example of outdoor space, 3030 Gordon

8.3 AMENITY SPACE

Consider a weather-protected area – an awning, gazebo, or similar – for outdoor seating, and a sorting space. Within staff sightlines, this area should be universally accessible from the main building, and provide seating that is universally designed.

Where required by the operator, a common garden area can be provided for shelter residents to have the experience of planting and producing food, as well as for therapeutic effects.



Figure 29: Example of outdoor garden area, 3030 Gordon

8.4 ADEQUATE PARKING FOR STAFF & VISITORS

Municipalities usually recognize parking needs for shelters will be limited, depending on the building's location and staffing levels. In accordance with municipal requirements, parking for staff and visitors will need to be provided. The area should be secure, well lit, and subject to security camera surveillance.



9

Finishes, Materials & Building Systems

9.1 MATERIALS & FINISHINGS

Material selection and finishes should reflect client type, durability, ease of maintenance, and local availability. Material choices reduce the opportunity for vandalism or abuse. Refer to BC Housing's *Design Guidelines and Construction Standards, Section 5* for detailed requirements of interior and exterior finishes. A few highlights include:

- **Flooring.** Use resilient sheet flooring with flash cove base throughout. For bathrooms, laundry, and common kitchen areas, slip-resistant sheet flooring with flash cove base is recommended. Low maintenance, no-wax, and non-glare finishes are required.
- **Doors.** For renovation and conversion projects, the configuration of existing doors, and opener sizes, should be reviewed to ensure they meet current Building Code requirements. All exterior doors and interior common area doors should have clear openings of 900 mm (3'-0") with level or roll-over thresholds for accessibility, and lever handles for ease of operation.
- **Glazing.** Maximize glazing (using safety glass) for doors into public areas, laundry rooms, fire separations, and exit stairs, as permitted by the Building Code, to enhance security.
- **Windows.** Utilize awning or casement windows, and consider security when determining size, location, and style. For renovation projects, review the configuration of existing windows, opener sizes, and sill heights to ensure they meet current Building Code requirements. When design permits, provide windows in stairways and corridors to introduce natural lighting.
- **Hardware.** For all doors, windows and millwork, hardware should be easily operable by those with limited strength and dexterity. The design team should consult with the operator and maintenance personnel before choosing these products.

- **Drywall & Paint.** Abuse-resistant drywall should be considered for areas of potentially high damage. Walls and ceilings in common and sleeping areas should be finished with painted gypsum board. Suspended ceiling tiles should be avoided.
- **Infestation Control.** To prevent insects and bed bugs from getting behind baseboards and walls, provide a continuous bead of sealant along:
 - The joint between the finished floor and the bottom of the wall sheathing; and
 - The top edge and underside of the baseboard.

For existing buildings, diatomaceous earth can also be used as a natural pesticide behind baseboards and walls.

- **Millwork.** It is recommended that commercial kitchen, bathroom, and common laundry cabinetry be located on legs so wet floors do not degrade the product.
- **Furniture.** Common area furniture, shelter beds, and furniture in sleeping areas should be made from durable, bed-bug proof, vandal-resistant materials, and secured by sturdy anchor points, if required.

9.2 BUILDING SYSTEMS

SECURITY SYSTEM

Building security system design should correspond with operational capacity and staffing levels. Security measures may include access control, camera surveillance systems, security alarms, emergency call buttons, etc., and be based on a risk assessment of a facility, and an operator's requirements. When planning these systems, it is advisable to engage security experts to assess the types of technology available, and possible locations for installation in consultation with operational staff.

A few things to consider are:

- In general, avoid entrapment spaces (e.g., in elevators, stairwells, and long hallways);
- Elevators, stairwells, and hallways should be well lit and subject to camera surveillance;
- At a minimum provide cameras at main entry points into the building, including all exit and entry doors, all common hallways, staircase, elevator, exterior parking area, common rooms, and any exterior storage areas (but not in the sleeping areas or washrooms);
- Provide delayed egress/alarmed fire exit doors;
- Shelter users should only have access to their own floors, rooms, and designated common areas that include tamper-proof electric strikes, card readers, or suitable

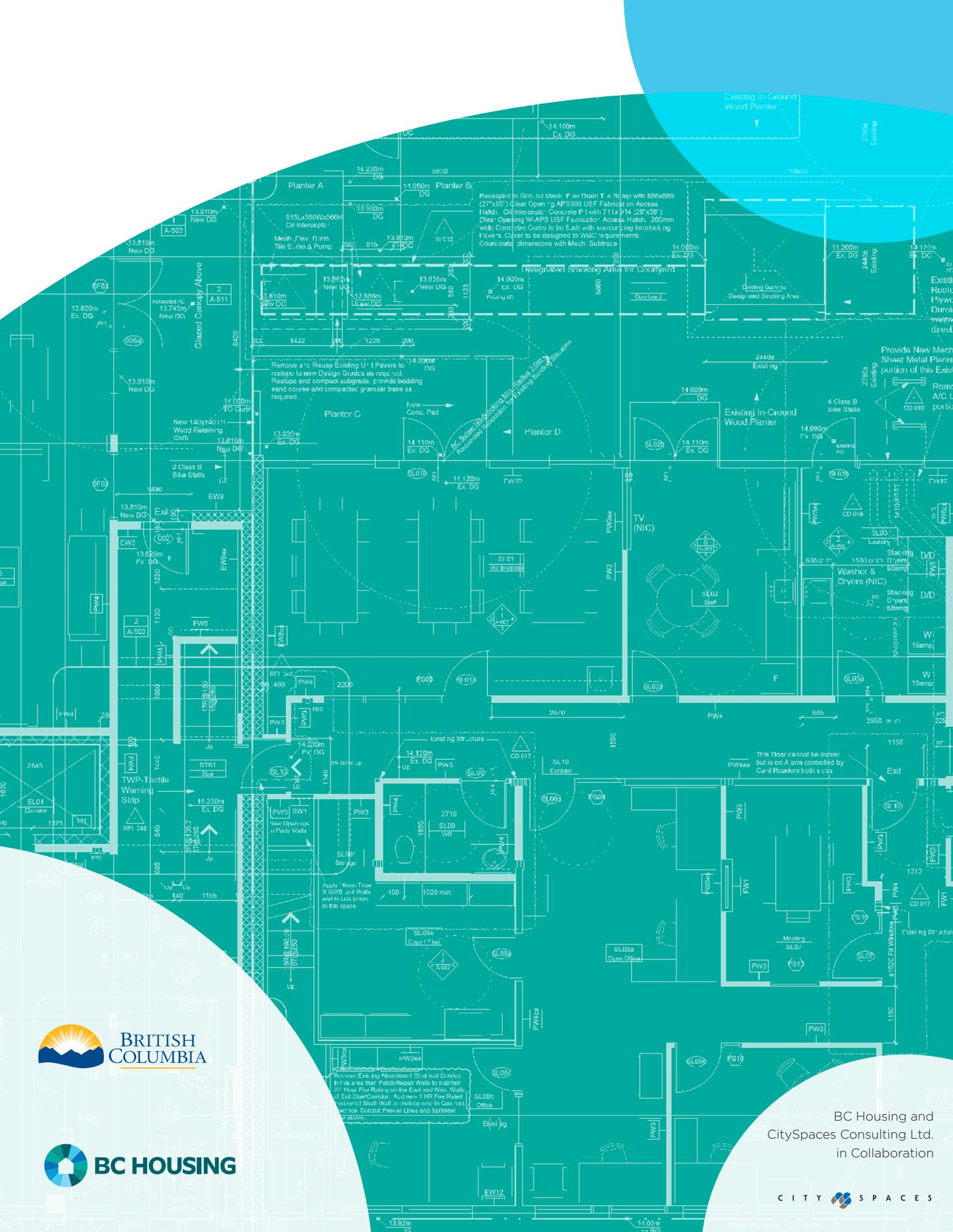
locksets where required (e.g., in co-ed shelters, women-only areas are accessible only by women);

- In order to respond to emergencies, installation of intercoms or emergency call buttons in sleeping rooms, medical rooms, and washrooms can be considered.

MECHANICAL & ELECTRICAL SYSTEMS

- In addition to considering a building's energy requirements, mechanical and electrical system design should optimize reductions in greenhouse gas emissions, and the total life-cycle costs of the building and consider passive design strategies as outlined in Section 3 - Energy and Environmental Design, BC Housing Design Guidelines and Construction Standards;
- A central boiler and storage tank system is the preferred option for multi-unit projects due to maintenance accessibility and serviceability;
- Hot water temperature must not exceed 49°C (120°F) at points of use by residents. Hot water storage tank shall not be below 60°C (140°F) to control the propagation of Legionella bacteria. Provide hot water distribution to common kitchen areas and for janitor sinks at 60°C (140°F);
- All showers shall be provided with thermostatic mixing valves and all other faucets shall be provided with temperature limit stops. The shower valves and faucets shall be set to maximum hot water temperature of 49°C (120°F);
- Indoor air quality is especially important for shelters, and must be considered when designing mechanical and ventilation systems;
- Adjustable lighting levels will enhance efficiency. Light fixtures in multi-bed configurations should be adjustable, and controlled by shelter users;
- A sprinkler protection system is required for all shelters. For renovation and conversion projects, installation of a sprinkler system can impact other fire detection and alarm systems, so a system review should be completed prior to undertaking any sprinkler installation;
- A fire detection, alarm system, and fire plan should be prepared, as required by the BC Building Code and local authorities having jurisdiction. Fire alarms, with flashing strobe lights for residents with hearing impairments, are also required;
- Choice of plumbing fixtures, shower heads, water closets, light fixtures, and sprinkler heads should consider ease of maintenance, supplier availability, and consistency of the application within the facility.

- In areas susceptible to damage, all equipment and wiring devices (including light fixtures, pull stations, exit lights, etc.) should be protected by wire guards or polycarbonate boxes. These locations include storage, janitorial, mechanical, electrical, and similar places.
- Depending on the type of clients and the size of the facility, new shelter design may consider incorporating an emergency back-up generator.



Existing In-Ground Wood Planter

Recessed In-Ground Mech. Floor Drain Tile Slip with 556x869 (27"x85") Clear Opening APS300 USF Fabric on Access Hatch, Oil Interceptor: Concrete P 1 with 711A P14 (28"x38") Clear Opening W-APS USF Fabric on Access Hatch, 200mm wide Concrete Curbs to be flush with surrounding Interlocking Pavers. Cover to be designed to WBC requirements. Coordinate dimensions with Mech. Substrate

Designated Smoking Area for Courtyard

Remove and Reuse Existing UP-1 Pavers to reslope to new Design Grades as noted. Reslope and compact subgrade, provide bedding sand course and compact granular base as required.

DC Binnet (See Schedule 1) to be 3.0m. Reuse Existing Binnet for Existing Building Structure

Provide New Mech. Sheet Metal Plenum portion of this Existing A/C Unit. Remove Existing A/C Unit portion.

Remove Existing Abandoned 1.5hr Fire Rated Wall. In this area there Patch/Repair Walls to maintain 3hr Fire Rating on the East and West Walls of Exit Stair/Corridor. Add new 1 HR Fire Rated Vertical Glass Wall to enclosure in Corridor. Provide Conduit, Feeder Lines and Sprinkler Connections as shown.



BC Housing and CitySpaces Consulting Ltd. in Collaboration

