

URGENT 1

MOTION

1. Temporary Modular Housing Design Guidelines

THAT the attached document approved by Council on September 19, 2017, entitled "Temporary Modular Housing Design Guidelines" be adopted by Council for use by applicants and staff in the relevant districts.

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TEMPORARY MODULAR HOUSING DESIGN GUIDELINES

Adopted by Council on September 20, 2017

Application and Intent

These design guidelines establish urban design principles for temporary modular housing, which may be located on sites in many different zones throughout the city. Temporary modular housing developments are demountable structures that are located on a site for a limited time period, and used as social housing. As these buildings may, in some cases, be relocated to multiple sites over time, they should be sufficiently durable for re-use.

The Director Planning has the authority to approve temporary modular housing development in accordance with the Zoning and Development By-law. These developments should take into consideration the regulations and applicable policies of the zoning, as well as the surrounding pattern of development, to ensure an appropriate neighbourhood fit. In mixed use zones, the provision of commercial/retail uses will be determined according to the context, site and suitability of each proposal. Developments must also be of a high-calibre, innovative design to contribute to the local context and public realm.

1 Conditional Approval Use

Temporary modular housing is a conditional approval use, defined as: “demountable structures, not permanently affixed to land, containing three or more residential units and accessory uses, but does not include a multiple conversion dwelling, community care facility or group residence” (per Section 2). Additionally, temporary modular housing must be used as Social Housing (per Section 11.3.1).

A temporary modular housing development may contain different types of residential units: sleeping units, housekeeping units or dwelling units. These residential units are described in Section 10.21.

2 Site Planning

- a) **Building Siting:** Developments should typically respect the predominant front yard and streetscape pattern, where one exists. Building massing and location should be carefully considered to mitigate overlook and shadowing for neighbouring properties.



TMH development should respect predominant street patterns (Y-Cube Temporary Housing, UK) Photo: TBD

- b) **Common outdoor space:** Building massing and location should provide for adequate common outdoor space for the residents. Where possible, outdoor amenity space should be located away from major streets, be screened by landscaping and/or well-designed fencing, and have optimal solar exposure. Refer to Section 8 for further requirements.
- c) **Tree Retention:** Buildings should be carefully sited to maximize retention of mature trees. Where there are significant trees on site, an arborist report may be required.
- d) **Grade Alteration:** In general, temporary modular housing should involve minimal alteration of existing grades. Some types of “low-impact” foundations can result in an elevated main floor. Nonetheless, the main floor elevation should be set as close to grade as possible, in order to minimize exterior ramps and railings. To achieve this, shallow excavation and/or re-grading should be considered.



Buildings should be sited close to grade to minimize ramps and railings (Urban Post-disaster Housing, US) Photo: TBD

3 External Design

- a) **Innovation:** Temporary modular housing developments should be model projects that demonstrate that cost and construction efficiencies can be achieved without compromising architectural and urban design. Innovative design solutions should prioritize high-quality, livable buildings and a strong interface with the public realm, without adding undue costs to the project. Successful projects may take advantage of the inherent aspects of modular construction to achieve not only construction efficiencies, but a unique visual expression.

- b) **Architectural expression and detailing:**
 - i. Building elevations should be designed to have a strong visual impact and a clear, consistent design language. Monotonous or overly “flat” street frontages should be avoided. Variation in the size or placement of window openings, the use of projecting balconies or Juliet guardrails, and changes in material, colour and/or plane, should be explored.



Balconies add depth and visual interest to a modular façade (Zuidezeeweg Modular Student Housing, SZ) Photo: TBD

- ii. Substantial roof overhangs are strongly recommended, to respond to our unique climatic region.
- iii. Window and door trims should be provided, where the exterior cladding system allows. Alternatively, trimless “punched” windows, if they are carefully detailed to provide depth and visual interest, and may be appropriate in a modernist architectural expression.
- iv. Exterior colours should be used strategically to animate the building elevations, as well as to provide visual “coding” and wayfinding.



Roof overhangs, window patterns and bold colour accents animate façade (Nizozemsko Student Housing, NL) Photo:TBD



Bold colours, window detail and balconies animate façade (Lewisham Family Housing, London) Photo:TBD

- c) **Front Entry:** The front entry should face the street and have a prominent architectural expression. It should include a large area of transparent glazing and appropriate exterior lighting. A weather protection canopy should be provided, minimum 2.4m (8ft) deep. Fabric awnings are not recommended.

- d) **Building Separation:** Separation between buildings, whether on a single frontage or at a corner, should be at least 3.7m (12.1ft). For courtyard schemes, one primary access of at least 3.7m (12.1ft) should be provided from the street.
- e) **Courtyard:** If a courtyard is provided, it should:
 - i. be free of major obstructions, such as exit stairs. Externalized stairs should not climb more than 1.5m (5ft), so that they do not unduly obstruct the common space.
 - ii. be a minimum of 7.3m (24ft) clear width, measured from the building face, for the first two storeys; and
 - iii. increase to a minimum of 9.8m (32ft) clear width above the third storey.
- f) **Exterior Cladding Materials:** Exterior materials should be durable and high-quality. Approvable materials include: wood horizontal siding or shingle; Hardie panel, shingle, or horizontal siding (smooth finish); brick veneer; metal panel. Corrugated or pressed metal should be restricted to limited areas. Vinyl, and “faux” finishes that imitate natural materials, are not approvable.



*Courtyard provides common outdoor space, bike parking (Spacebox Student Housing, NL)
Photo: TBD*

4 Engineering Considerations

- a) **Parking and Loading:** The standard parking and loading requirements for multiple dwellings do not apply to temporary modular housing; instead, the needs of a proposed development will be evaluated on a case-by-case basis. At minimum, one standard space and one accessible space should be provided. Loading requirements will be assessed on a case-by-case basis, with Engineering Services and Planning staff.
- b) **Bikes:** While standard bike parking requirements may be relaxed for temporary modular housing, it is anticipated that, for some residents, bicycles may be a primary mode of transit. Ample, secure bike parking for staff and residents should be anticipated in the site planning process, and discussed with Planning and Engineering Services staff in early design stages.
- c) **Garbage and Recycling:** Garbage and recycling should be stowed either in a secured enclosure at the lane, or in a room/enclosure in the principle building. The garbage enclosure should be well-secured; have a neat and orderly appearance; have good lighting and sightlines; and be easily accessed by staff from within the property.
- d) **PMT:** Requirements for an on-site pad-mounted transformer should be established early in the site planning process, in discussion with Engineering Services staff and BC Hydro.

5 Internal Design

- a) **Lobby and circulation:** In general, primary building circulation should be internalized in the building. An interior reception lobby must be provided. Exit stairs may be unheated, but should be, at minimum, screened and weather protected. Open air corridors may be considered, providing that they are not located on an exterior building elevation (ie. street or lane), and are included in floor space calculations.
- b) **Common Amenity Room:** For projects containing small individual units, a high-quality common space is crucial to livability.
 - i. For developments with less than 25 units, the amenity space should be minimum 37sm (398 sf);
 - i. For larger developments, the amenity space should be minimum 1.4sm (15 sf) per unit;
 - ii. For developments with more than 90 units, consider providing two amenity spaces, to accommodate a wider range of activities;
 - iii. Additionally, the common amenity space should have:
 - a. Access from a common corridor or main lobby;
 - b. Substantial windows and good access to natural light and ventilation;
 - c. A kitchenette for basic food preparation (large counter, upper and lower cabinets, shared fridge(s), microwave, sink);
 - d. A lounge area;
 - iv. A common meeting room (in larger developments);
 - v. Contiguous outdoor space (See '8. Common Outdoor Space');
- c) **Laundry:** Laundry facilities should be provided per the Housing Design and Technical Guidelines (<http://vancouver.ca/files/cov/housing-design-and-technical-guidelines.pdf>)
- d) **Accessibility:** A minimum of 10% of temporary modular units should be designed to be fully accessible. It is encouraged to make all at-grade units accessible, where feasible.

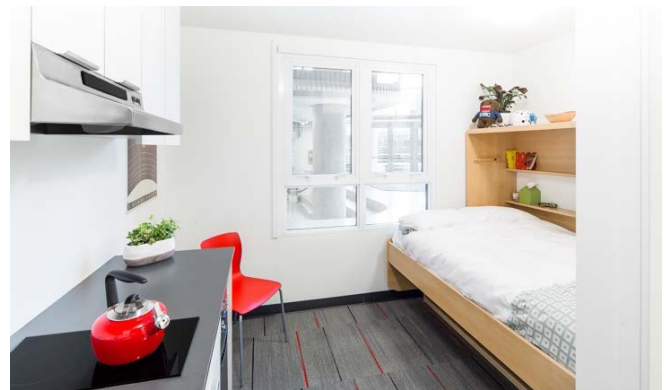
6 Unit Design

- a) **Unit Size:** Minimum unit size depends on the type of “residential unit” and unit layout:
 - i. Sleeping Units and Housekeeping Units are regulated under Section 1.19 and 10.20, respectively.
 - ii. Dwelling units: The standard minimum size of a dwelling unit is 37m² (398sf). For temporary modular housing, the Director of Planning may relax dwelling unit size to not less than 23.2m² (250sf), if a high standard of livability of the unit is demonstrated.
 - iii. One- and 2-bedroom units should be a minimum 32.5m² (350sf) and 46.5m² (500sf), respectively. Internalized bedrooms (ie. without an exterior window) will not be approved.
 - iv. Unit plans with furniture layouts should be provided, to demonstrate functional living spaces.

- b) **Livability:** A high standard of livability should be achieved for all temporary modular units. Each unit should:
- i. Be no more than 2ft below grade;
 - ii. Have at least one exterior window in the principle living space of a minimum 1.7m² (18sf), with an unobstructed view for a minimum 7.3m (24ft), and at least one exterior window in any bedroom, with an unobstructed view for a minimum 3.7m (12ft). Lesser distances may be considered in cases where a particular site hardship is demonstrated, and a reasonable standard of livability in the impacted unit is maintained.
 - iii. Have a strong relationship to the outdoors, in the form of a balcony, patio, Juliet balcony, and/or large operable windows (large enough to accommodate two adults side-by-side). Private outdoor spaces are not required for studios, but are encouraged where feasible. Private outdoor spaces must be provided for one and two bedroom units.

- c) **Living/Sleeping Space:** As units will be constrained in size, thoughtful design is required to ensure that the main living space effectively accommodates multiple functions (cooking, eating, socializing, work/study and sleeping):

- i. The main living space may use fold-down kitchen tables and other space-efficient, built-in furniture to assist in day and night uses of the space;
- ii. In studios, the sleeping area may be located in a recess, but must remain contiguous to the main living area and not be enclosed by partitions.



Built-in and fold-down furniture assist in flexible day/night use of spaces (UBC Nano Suite, CA) Photo: TBD

- d) **Bathroom:** A complete bathroom must be provided which is equipped with a wash-basin, toilet, and a shower and/or bath. Additionally:
- i. Consideration should be given to the overall unit layout, with regard to privacy, sight lines and the direction of the door swing.
 - ii. Bathrooms must be physically separated from the remainder of the room by walls and a door to ensure privacy.
- e) **Storage:** The standard bulk storage requirements for multiple dwellings do not apply to temporary modular housing; instead, the needs of a proposed development will be assessed on a case-by-case basis. Each unit, however, should be provided with at least one built-in coat closet. Each bedroom should have an additional built-in closet. Open and closed shelving units in the main living space are strongly encouraged. Bi-fold doors on closets should be avoided, due to maintenance issues.

f) **Food Storage and Preparation:**

- i. For sleeping units, cooking facilities are not permitted. However, some limited food storage and preparation facilities should be provided, including: a counter (max. 1.8m, 6ft long) with lower and upper cabinets, a sink, and an under-counter fridge.
- ii. Dwelling units should include a kitchen that is properly ventilated and includes a sink, ample counter space for food preparation, upper and lower cabinets, a stove and oven, and a modestly-sized refrigerator with freezer. (Housekeeping units may have a stovetop with no oven.) The kitchen and dining areas should be large enough for two adults to stand and sit side-by-side.
- iii. For one and two-bedroom units, the kitchen and dining area may be increased to accommodate the anticipated number of residents.

g) **Mechanical equipment:** In-suite mechanical equipment should not obstruct the required living and amenity spaces within the unit. For example, if a hot water heater occupies the coat closet, a second closet must be provided. Space occupied by mechanical equipment will be excluded from the calculation of unit size.

7 **Noise**

Good sound separation between units is a key aspect of livability. The placement of balconies, windows and their operable vents should be considered to minimize noise. Where casement windows are used, vents should open in opposite direction to each other to lessen sound transfer between units.

8 **Common Outdoor Space**

Access to outdoor space and fresh air are important to health and well-being. Usable shared outdoor space should be provided, in the form of courtyards or roof decks. Size will vary according to the number of units, but generally ranges from 130m² (1400sf) to 280m² (3000sf).

The common outdoor space should accommodate a variety of outdoor activities. Consider opportunities for socializing (smoking shelter, picnic tables), relaxing (benches), recreation (basketball hoop, urban agriculture) and children's play (if family housing is provided). It should have good solar exposure, reasonable sound protection from major streets, clear sightlines for staff, and appropriate lighting.

9 **Landscape**

a) **Public realm/Front yard:** Front yards should present substantial landscaping as a streetscape amenity. The landscape should complement the architecture and consist of colorful, friendly, layered plant material, oriented to the street, and selected for year-round structure and interest. Plant material should be fast-growing and hardy, and appropriate for the temporary nature of the development.

- b) **Common Outdoor Space:** Common outdoor spaces should provide landscape buffering from and to adjacent properties, within CEPTED guidelines. The landscape should be chosen to prevent overlook onto private adjacent spaces, while enhancing the quality of space for the development.
- c) **Lane:** Lane interface should provide a green edge where possible, and effective lighting for safety.
- d) **Side yard:** Side yards should consist of planting beds whenever possible, to provide buffering to adjacent properties. If pedestrian access is required, a “green” stepping stone path with ground cover in between is encouraged. Solid paving is discouraged, except where needed for fire access.