

1.0 GENERAL

1.1 Related Work and UBC Guidelines

- .1 Division 09 and related sections therein
- .2 Section 10 14 00 Room Numbering
- .3 Section 10 14 05 Sign Standards and Guidelines and UBC Interior Signage Guidelines
- .4 Section 14 20 00 Elevators for elevator machine room and closet design guidelines
- .5 Section 26 05 02 Installation Methods and Requirements – for electrical bike charging stations in bicycle rooms.
- .6 Section 26 05 00 Electrical – General Requirements for electrical service rooms and closet design guidelines.
- .7 Section 26 51 00 Interior Building Lighting for lighting controls in custodial and interior waste management rooms
- .8 Section 27 05 05 Communication Rooms Design Guidelines.
- .9 Division 27 for Audio Visual Technical Guidelines
- .10 UBC Learning Space Design Guidelines

1.2 Related External Documents

- 1. American Association of College Facilities Management.
- 2. Acoustical Report prepared by the Acoustical Consultant on a project.

1.3 Description

- 1. Section includes special requirements in for various types of rooms/spaces.

1.4 Coordination

- 2. The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.
- 3. In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect and UBCO Facilities Management.
- 4. These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
- 5. The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.

2.0 DESIGN REQUIREMENTS

2.1 Main Entrances

- .1 Hand sanitizing units are to be provided for all main entrances. Units are to be free- standing within 6 feet of entranceway.
 - .1 Required product (PURELL® LTX™ or TFX™ Dispenser Floor Stand SKU:2424DX) or wall mounted (PURELL® FMX-12™ Dispenser Push-Style Dispenser for PURELL® Hand Sanitizer SKU:5120-06).

2.2 Kitchen and Lounges

- .1 Provide space between the countertop and over counter cabinets to mount paper towel dispenser and soap dispenser.

- .2 All kitchens and lounges to have paper towel dispensers installed to conform to the UBC standard:

Kimberley Clarke Professional
Type: 09990
Color: Black/Smoke
Unit Size: 12.63" x 16.13" x 10.2"

This allows for the use of generic paper refills and universal keys so all paper towel dispensers use the same key. The top of the dispenser height is not to exceed 5.5 feet for access to the key on top of the lid.

- .3 All kitchens and lounges to have hand soap dispensers installed to conform to the UBC standard:

Purell FMX 20 (SKU 5234-06)
2000 ml Purell Healthy Soap SKU 5572-02
Color: Graphite/Metallic

This allows for the use of universal keys so all soap dispensers at UBC use the same key.

2.3 Washrooms

- .1 "Airport style" washroom design without the use of doors is preferable and promotes the use of hand dryers over paper towels.
- .2 Hardwired hand dryers are required in washrooms. UBC is in the process of phasing out paper towel use in washrooms.
- .3 Refer to Section 10 28 00 and consult with UBC Facilities Custodial Services for locations where paper towel dispensers are proposed.
- .4 Floor drains are required, see Division 22 Section 22 05 00 Plumbing - General Requirements.
- .5 For plumbing fixtures, see Division 22 Section 22 40 00 Plumbing Fixtures, Section 2.0.

2.4 Showers

- .1 Shower stalls shall be white durable plastic tub/shower surround and substrate shall be cementitious board, mineral fiber board or masonry. Floors to have waterproof membrane and slope to drain. Shower stall to have 100mm curb, except in accessible shower stalls. Where possible make single stalls accessible.
- .2 For floor drain requirements, see Division 22 Section 22 05 00 Plumbing - General Requirements.

2.5 Custodial Rooms

.1 General Requirements:

- .1 Custodial rooms must be designed for ONLY custodial staff use. These spaces CANNOT be shared or be made to do double duty with any other operation in the building, because the already minimal space is then reduced to a dysfunctional level and their security access becomes compromised by other trades.
- .2 Motion detector or similar energy saving on/off light switches shall be installed in all custodial rooms.

- .3 Splash guards must be tiled and extend at least 2 feet above the janitor sink and 1 foot from the edge of the janitor sink laterally. Splash guard must be non-permeable and rust resistant, and colour should match to the extent possible the FRP panels required in 1.13.1.4.
- .4 In custodial rooms or closets only, provide fiberglass reinforced plastic (FRP) panels to a height of 1200mm (48") from finished floor level. FRP panels to be Class C, white or grey in colour. This requirement is in addition to the tiled splash guard at the mop sink as per 1.13.3.
- .5 All custodial rooms shall be designed for detergent mixing stations and require 3/4" hot and cold backflow preventers installed above the mop sink. Refer to Section 22 11 18 for more information.
- .6 Floor Finishes - exposed concrete with non-porous sealer is preferred. If not possible to provide, vinyl or elastomeric flooring would be acceptable.
- .2 **Main Floor Custodial Room in Loading Bay – Space Allocation**
 - .1 400 square feet per major building is required. Room is to be located very close to a loading bay.
 - .2 Dimensions: 20 feet by 20 feet
 - .3 Door width: 48 inches; in-swinging with door stop. Door to be hollow metal body construction to allow for pallet delivery and mitigate damage.
 - .4 Electrical: two – one rated at 15 amps, one rated at 20 amps with 110 volt duplex receptacle outlets. 500 lux maintained lighting levels.
 - .5 Plumbing: Floor drain in centre; floor mounted custodial mop sink c/w 150mm curb with notched front for easy tilting to empty mop bucket, with stainless steel splash guard shield on wall.
 - .6 Shelving: 16 inches deep; adjustable height; two rows at 36 inches, 48 inches on the longest wall.
 - .7 Mop hanger: Continental # 515; steel with rubber cam, grips 7/8" to 1 1/4" diameter handles; three mop hangers to be located 70 inches over the floor mounted custodial sink.
 - .8 Typical supplies and equipment to be stored would consist of: paper supplies, 20 + gallons of chemicals, pails, brooms, mop & bucket, floor pads and scrubbing brushes, safety signs, wet/dry vacuums, extension cords, chalk, small liners, large liners, dust mops, vacuums, buffing machines, burnisher, stripping/finishing supplies, custodial cart, carpet cleaning, autoscrubber, and miscellaneous cleaning items.
- .3 **Standard Custodial Room (Typical for all other floors)**
 - .1 120 square feet required per floor. It will serve the needs of the assigned area for each custodian (approximately 25,000 to 30,000 square feet of building area).
 - .2 Dimensions: 10 feet by 12 feet
 - .3 Door width: 36 inches; in-swinging with door stop.

- .4 Electrical: one – rated 15 amps, 110 volt duplex receptacle outlet.
- .5 Plumbing: Floor drain in centre; floor mounted custodial mop sink c/w 150mm curb with notched front for easy tilting to empty mop bucket, with stainless steel splash guard shield on wall.
- .6 Mop hanger: Continental # 515; steel with rubber cam, grips 7/8 to 1 ¼" diameter handles; three mop hangers to be located 70 inches over the floor mounted custodial sink.
- .7 Shelving: Heavy duty steel shelving; 16 inches deep; adjustable height; two rows at 36 inches, 48 inches; on longest wall.
<https://www.homedepot.ca/en/home/p.48-inch-w-5-level-heavy-duty-steel-shelving-unit-in-black.1000674332.html>
- .8 Typical supplies and equipment to be stored would consist of: paper supplies, wet/dry vacuums, buffing machine, autoscrubber, canister vacuum, pacer 30" vacuum, custodial cart, mop & bucket, up to 20 gallons of chemicals in 1 gallon containers, brooms, wet mops, and cleaning supplies.

2.6 Interior Waste & Recycling Room in Loading Bay – Space Allocation

.1 General Requirements:

- .1 Secure and externally accessible storage room, located near service entry to the building that can accommodate short term storage of waste materials (e.g. garbage, recyclables, and confidential shredding material and special wastes). The minimum dimensions for the storage room are to be 22'-0" x 22'-0". Consult UBC Waste Management and Custodial Services to confirm storage specifications for recycling and waste.
- .2 Waste and recycling room must be designed for ONLY waste management and custodial staff use. These spaces CANNOT be shared or be made to do double duty with any other operation in the building.
- .3 Motion detector or similar energy saving on/off light switches shall be installed in this room.
- .4 Door to waste and recycling room to swing out.
- .5 The floor in the waste room shall be coated with durable industrial grade non-slip coating. (Floor finish to be as per TG Section 09 67 00, item 2.1.1)
- .6 Room to be plumbed with a floor drain and a hose bib.

2.7 Electrical Rooms

- .1 The preferred location for Main Electrical Rooms is on North or East exterior building wall (for cooling and to allow for direct ventilation). Main Electrical Rooms, Local Electrical Rooms and Electrical Closets are considered Restricted Access Service Rooms/Closets. These rooms/closets are to be designed for housing electrical distribution equipment, electrical metering equipment, life safety equipment, lighting control equipment only.
- .2 Main Electrical Rooms, Local Electrical Rooms and Electrical Closets are not to be used as conduits (pass through/feed through) for other building systems serving other areas such system include HVAC, communications and security.

- .3 All electrical distribution equipment, electrical metering equipment, life safety control equipment, Transfer Switches, lighting control equipment including panelboards are to be located in Main Electrical Rooms, Local Electrical Rooms and Electrical Closets. Electrical distribution equipment, electrical metering equipment, life safety equipment, lighting control equipment including panelboards shall not be installed in any other room including Communication Rooms, Custodial Rooms, Laboratories, Audio Visual Service Rooms, Classrooms, Lecture Theatres, Offices or Corridors. Mechanical Rooms may contain Motor Control Centres, Variable Speed Drives, Distribution Centres and Panelboards for mechanical loads.
- .4 All Electrical Rooms and Closets shall be designed and located in the building so that direct access is from a common or non-secure area such as a public corridor. Electrical Rooms and Closets shall not be located behind other rooms that might have specialized or secure locks installed; for example, a custodial room, server room, machine shops, etc.
- .5 All Electrical Rooms and Closets shall be designed so that no equipment will be installed above a door or behind an inward opening door swing.
- .6 All Electrical Rooms and Closets shall have 1.2 m horizontal by floor to ceiling vertical, of open wall space to allow for installation of future equipment.
- .7 All Electrical Rooms shall be located and constructed to allow for replacement of installed equipment. All possible challenges must be considered such as structural loading, size of doorways and access corridors and exterior access.
- .8 All Electrical Rooms and Closets housing transformers shall be insulated to prevent sound transmission to adjoining spaces.
- .9 Pressurized/unpressurized piping systems are not permitted to enter electrical rooms. The only exception is sprinkler system branch lines and fan coil lines that serve the electrical room.
- .10 Refer to Section 09 67 00 Fluid-Applied Flooring for floor finish type in the main electrical room. On upper floors of a building where electrical closets are accessed from a public corridor, it will be acceptable to have polished concrete or resilient flooring in electrical closets to match the use of these finishes when used in public corridors.
- .11 User owned electrical equipment that is not part of base building electrical shall not be installed in any electrical room. This includes but is not limited to distributions, transformers and UPS systems.

2.8 Mechanical Rooms

- .1 Refer to Section 09 67 00 Fluid-Applied Flooring for floor finish and cove base type plus height in mechanical rooms.

2.9 Elevator Machine Rooms

- .1 Elevator Machine Rooms shall contain: elevator controllers, elevator power disconnects, elevator cab lighting disconnects, communication demarcation, fire alarm system interface relays and any other equipment directly related to elevator operation. Elevator Machine Rooms are required when a machine is hoistway mounted.

- .2 Systems or equipment not directly related to elevator operation shall not be installed within Elevator Machine Rooms.
- .3 Elevator Machine Rooms shall be constructed so that ceiling mounted lighting, smoke detectors and other equipment can be safely accessed for maintenance and replacement.
- .4 Minimum size of Elevator Machine Rooms shall allow for replacement of controllers from at least 3 non-proprietary manufacturers. At no times shall the Elevator Machine Room be smaller than 1.5 m deep by 2.2 m wide by 2.4 m high.
- .5 Elevator machine rooms and closets shall be designed to have adequate space to safely maintain and replace any and all equipment safely. The ability for a worker to access ceiling mounted equipment from a step-ladder is required. No equipment, other than what is required by applicable codes and standards shall be installed in an elevator Machine Room or Closet. No equipment shall be mounted above 2 m unless required by applicable codes or standards.

2.10 Communications Rooms

- .1 A Communications Room is a service room designed to safely house telecommunications equipment. It is also used to mount and terminate voice, data, RF, and when approved by UBC IT – security cables security cables and their associated terminating and distribution systems.
- .2 Communications room construction shall meet all applicable building, fire, electrical and safety codes and regulations as stated by UBC. No fire separation or resistance rating is required on the walls or ceilings provided the walls are constructed of 16mm Type X GWB on both sides of stud walls. Hub Rooms shall be constructed to meet a 1 hour fire separation. A smoke detector, connected to the fire alarm system, shall be installed in all communications rooms.
- .3 Each campus building will contain a Main Communications Room and possibly many Local Communications Rooms. The Main Communications Room may be used as a floor serving facility in addition to a Local Communications Room serving facility. No other building systems are to be installed in the Main Communications Room.
- .4 Local Communications Rooms or Closets are used as a floor serving facility for mounting and terminating approved communications cabling and hardware only. No other building systems are to be installed in the Local Communications Room.
- .5 Details of communications systems function and installation are handled by Division 27.
- .6 False ceilings are not permitted in communication rooms.
- .7 Communications Rooms and Closets have special requirements addressed in Division 27 of the Technical Guidelines, Section 27 05 05 Communication Rooms Design Guidelines. They shall only contain approved equipment and systems as indicated in Division 27.
- .8 All Communications Rooms shall be designed and located in the building so that direct access is from a common or non-secure area. Communications Rooms are not to be located behind other rooms that might have specialized or secure locks installed; for example, a custodial room.

2.11 AV and Equipment Rooms

- .1 AV rooms to be used as theatre projection rooms have special requirements. The UBC AV group shall be consulted in these situations.

2.12 Biohazard Labs

- .1 Please contact UBC Safety and Risk Services if special facilities are to be designed. For any assistance with coordination, the Facilities Transition Team can be contacted.
- .2 For floor drains, see Division 22 Section 22 05 00 Plumbing - General Requirements.

2.13 Radioisotope Labs

- .1 Please contact UBC Safety and Risk Services if special facilities are to be designed. For any assistance with coordination, the Facilities Transition Team can be contacted.
- .2 For floor drains, see Division 22 Section 22 05 00 Plumbing - General Requirements.

2.14 Animal Care Facilities

- .1 Design and construction to be completed in accordance with the latest CCAC guidelines.

2.15 Central Receiving & Campus Mail Rooms (UBC Okanagan Only)

.1 Central Receiving

.1 CRMS and Residences

- 1. All UBC Okanagan central receiving rooms for Canada Post and/or courier deliveries must be designed to be secure at all times, with access to mail and packages restricted to receiving room staff. This is especially important as these rooms sometimes receive deliveries of research materials classified as dangerous goods.
- 2. Central receiving rooms cannot be made to do double-duty with other campus or residences services.

.2 Campus Mailrooms

.1 General Requirements

- 1. Mailrooms must be designed for CRMS use only. These spaces cannot be shared or made to do double duty with any other operation in the building because the already minimal space is then reduced to a dysfunctional level and their security access is compromised by other users of the space.
- 2. Mailroom can be located within a business workroom, provided that it is a separate room, with a door, used only for mail (no photocopier can be located in mailroom).
- 3. Must be a minimum of one mailroom per floor for every floor containing a business workroom.

.2 Mailrooms for all buildings

- 1. Minimum 49 square feet required per mailroom (minimum 6.5 feet width or length).
- 2. Minimum door width: 30 inches, out-swinging.
- 3. Doors to the mailroom must be openable with SALTO access only.

4. Must have at least one Mailsorter per mailroom (similar to U-line Mail-Sorter Model H-8349: dimensions: 60 x 30 x 72-80 inches).

2.16 Bicycle Rooms

- .1 Coordinate design requirements with Section 26 05 02 , Installation Methods and requirements, 2.0.2.17 for electrical bike charging stations in bike rooms.
- .2 Due to increased fire risk associated with such charging stations, CRP to coordinate any fire-suppression or fire-rating requirements for bike rooms with UBC Safety and Risk Services.

2.17 Classrooms

- .1 Design requirements are to be as per the UBC Learning Space Design Guidelines.
- .2 Refer to Audio Visual Services, UBC IT, for sound, video and control systems guidelines. Provide for adaptability due to technological changes.
- .3 Demonstrate active and passive acoustic strategies.
- .4 Coordinate with the **Acoustical Design Standard for UBC Classrooms** requirements as noted in 2.18 below.

2.18 Acoustical Design Standard for UBC Classrooms

.1 Scope

This standard pertains to the design of acoustical environments in spaces for teaching and learning ('classrooms') at UBC, and to related non-acoustical issues. It is relevant to the design of the geometry of the spaces, their bounding surfaces, their internal surface finishes, their contents, their mechanical, electrical and other systems, and their audio-visual systems. This standard specifies acoustical performance criteria that must be met to ensure high quality acoustical environments.

.2 Classroom Categories & Acoustical Criteria

- .1 This standard considers six (6) categories of classrooms, as follows:
 - .1 **Type 1:** Theatre/Large Classroom (75 to 500 seats, rectangular / non-rectangular geometry, with a speech-reinforcement system)
 - Reverberation Time (s) in the range 0.75 to 0.85 s
 - Maximum noise level = NC 30
 - .2 **Type 2:** Classrooms (30 to 120 seats, rectangular geometry, no speech-reinforcement system)
 - Reverberation Time (s) in the range 0.45 to 0.60 s;
 - Maximum noise level = NC 30
 - .3 **Type 3:** Seminar Rooms (8 to 40 seats, rectangular geometry, no speech-reinforcement system)
 - Reverberation Time (s) in the range 0.35 to 0.50 s;
 - Maximum noise level = NC 30

- .4 **Type 4:** Informal Learning Space Collaboration/Learn Labs (capacity for 2 to 100, open areas in building designed for quiet study, individual or study work, group study, collaborative work, etc.
 - Reverberation Time (s) in the range 0.45 to 0.60 s;
 - Maximum noise level = NC 35
- .5 **Type 5:** Collaboration/Learn Labs (capacity for 2 to 100, rectangular geometry, no speech-reinforcement system)
 - Reverberation Time (s) in the range 0.45 to 0.60 s;
 - Maximum noise level = NC 35
- .6 **Type 6:** Critical Classrooms (e.g., for distance learning, conferencing and /or media capture).
 - Reverberation Time (s) in the range 0.45 to 0.55 s;
 - Maximum noise level = NC 25.
- .2 Reverberation-time criteria (RT60) refer to the average values of RT60 over the octave band frequency spectrum between 250 Hz and 4000 Hz in the unoccupied condition, which will also be the testing conditions.
- .3 Noise Criteria (NC) levels refer to the unoccupied classroom (i.e., excluding student-activity noise) with mechanical services (e.g., the HVAC system) in typical operation, with normal activity occurring outside the classroom, and the classroom doors and windows closed.
- .4 For all room categories, it is critical that there is adequate sound isolation between the rooms and adjacent spaces. The adjacent spaces may include, but are not limited to, projection booths, other learning spaces, meeting rooms, washrooms, and corridors.
 - .1 All perimeter walls should achieve a Sound Transmission Class (STC) rating of STC 55.
 - .2 Doors should be solid core with acoustic seals to provide the noted STC rating above.
 - .3 Noise isolation to rooms above and below should be a minimum STC rating of 50.
 - .4 Alternative criteria may be acceptable subject to the building type (i.e., administrative spaces); liaise with UBC representative.
- .5 Sound Transmission Class (STC) is a single number method of rating how wall partitions, floors and ceilings reduce sound transmission.
- .6 Classroom equipment (projectors, computers, AV furniture ventilation fans, etc.) should be chosen to meet these criteria.
- .3 **Objectives**
 - .1 This standard presents acoustical performance criteria that will ensure that the acoustical environments in UBC classrooms are of high quality for the majority of instructors and students.

- .2 It ensures that excellent verbal communication is possible between students and teachers. This is achieved by ensuring, at all seats, sufficiently high speech levels and sufficiently low noise levels, as well as appropriate reverberation.
- .3 Spaces with acoustical environments that do not meet these criteria would be expected to present barriers to teaching and learning.
- .4 **Design Constraints**
 - .1 The development of these acoustical standards was based on the following assumptions, and took into account the following constraints, in part imposed by current UBC policy:
 - .1 Classrooms are minimum 70 % occupied when used for teaching and learning;
 - .2 new UBC classrooms will normally have resilient flooring with plastic seating but could have carpets/carpet tile, upholstered seating and/or sound-absorptive wall treatments;
 - .3 many UBC classrooms have ceiling absorption – often form all or part of a suspended acoustical ceiling – to control the classroom reverberation, in-class student-activity noise and impact noise from spaces above the classroom;
 - .4 Given the above, the main source of sound absorption is the occupants of the classroom. Classrooms need to be designed to have optimal acoustic properties with minimum 70% occupancy, resilient flooring, plastic seating and T-bar ceilings.
- .5 **Controlling Classroom Sound**
 - .1 Acoustical design is a complex inter-disciplinary task that must be considered in the design or renovation of all classrooms.
 - .2 An acoustical consultant must be involved at the inception of all projects. The acoustical consultant should work closely with UBC Facilities Planning Learning Spaces, UBC IT Audio Visual, the Project Architect and other Consultants designing building systems.
 - .3 Coordinate with other UBC Technical Guideline sections relating to Acoustics:
 - .1 Section 08 00 10, Openings- General requirements, 1.3.7, for sound attenuation rating requirements.
 - .2 Section 09 00 10 – Finishes- General Requirements, section 1.3 Acoustic Requirements
 - .3 Section 09 00 10 – Finishes – General Requirements, 2.2.11 Flooring Materials and Design Requirements for lecture theatres and areas with fixed seating.
 - .4 Section 09 00 10 – Finishes – General Requirements, 5.1.5 Ceiling Materials to coordinate for noise and sound reduction requirements.
 - .5 Section 09 51 00 Acoustical Ceilings, section 2.0 for ceiling materials requirements.
 - .4 Controlling and optimizing the acoustical conditions in a classroom, or other rooms for speech, involves three fundamental considerations:
 - .1 Promoting high speech levels by:

- .1 Avoid excessive volume due to high and vaulted ceilings.
- .2 Use geometries that direct sound to the back of the room.
- .3 Avoid long and wide rooms.
- .2 Use speech-reinforcement system Control background noise (NC) by:
 - .1 Avoid open-plan design.
 - .2 Control the noise and vibration of mechanical services.
 - .3 Choose quiet equipment for use in the classroom, or enclose them in properly designed enclosures.
 - .4 Impact noise due to student activity.
 - .5 Provide adequate sound isolation; in critical cases, this might require the use of non-openable windows, entrance vestibules and quality door seals.
- .3 Optimizing reverberation (RT60) by:
 - .1 Apply appropriate sound-absorptive materials to the room surfaces.
 - .2 Avoid applying sound absorption to surfaces that can provide strong early reflections. This may be the front of a lecture theatre, or the central portion of a meeting room, for example.

.6 Verification and Commissioning

- .1 During the design process, a representative set of rooms should be modelled to ensure they meet the required acoustic properties outlined above and test results are to be provided to verify rooms meet UBC Acoustic Criteria.
- .2 Commissioning is to be done by an independent third party acoustic commissioner retained by the Owner's Representative to ensure rooms meet the design requirements.
- .3 The list of rooms to be included in the commissioning and verification report shall be selected and approved by UBC Facilities Planning, noting that site conditions may require alternative rooms to be tested.
- .4 Upon completion of construction and mechanical system balancing, commissioner to perform acoustic verification for the selected rooms. Commissioner to carry all costs of acoustic verification and provide verification report upon completion.
- .5 Allow for testing and verification of acoustic parameters by commissioner. Verification report to include the ambient noise level due to HVAC systems, in terms of NC, measured and calculated in accordance with ANSI S12.2 "Room Noise Criteria"; and the reverberation time, in terms of RT60, measured in accordance with ISO 3382 (Part 1, or Part 2, as relevant to the space-type).
- .6 Allow time and material for full participation in the commissioning process in line with the commissioning plan at no additional cost to the project.
- .7 Acoustic commissioning to be coordinated with the Cx Authority and Facilities Transition Team.

*****END OF SECTION*****

1.0 **GENERAL**

1.1 **Related UBC Guidelines**

- .1 [UBC Signage – Interior Signage Guidelines](#)
- .2 [UBC Wayfinding – Exterior Signage Standards and Guidelines](#)
- .3 UBC Protocol for Space Inventory Designation
- .4 Section 10 14 01 Door Identification

1.2 **Coordination Requirements**

- .1 Contact [Infrastructure](#) Development at spaceandfacilities.planning@ubc.ca.

1.3 **Design Requirements and General Policy**

- .1 Campus Planning and Development approves room numbering in accordance with the following guidelines.
- .2 Architectural floor plans issued for tender must be submitted with proposed room numbers in conjunction with the proposed door identification tags following the Door Identification guidelines (Section 10 14 01) to Campus Planning and Development for approval.
- .3 Once room numbers are approved, any further change to room numbers must be re-submitted to Campus Planning and Development for approval.
- .4 Approved room numbers must be incorporated in drawings issued for construction.

1.4 **Limitations**

- .1 Room numbers must have a 6-digit maximum. (Refer to guidelines below).
- .2 Room numbers must only consist of alphanumeric characters and must not contain special characters.
- .3 The room identifier consists of a 3-letter building acronym, a blank character, and the 6-digit maximum room number.
- .4 The 3-letter acronym prefix is selected to identify the building and provided to the consultant as necessary by Campus Planning and Development.

1.5 **Intent**

- .1 Life Safety: To identify each space in case of emergency.
- .2 Maintenance: To identify each space for maintenance purposes.
- .3 Wayfinding: To make wayfinding through the building as simple and logical as possible.
- .4 Operational use: To plan for various operations and system applications dependent on room numbers.

1.6 **Room Numbering Allocation**

Room numbers are to be assigned to:

- .1 Every corridor that changes direction from the adjacent corridor.
- .2 Every lobby space that might be considered as a separate space from the adjacent corridor.
- .3 Every room that has a door or that is separate from the adjacent room.
- .4 Exit stairs should be numbered separately.

1.7 **Guidelines**

- .1 First basement floor shall be numbered 000's.
- .2 Additional underground floors shall be numbered B100's, B200's etc.
- .3 Level 1 use 100's etc. (for larger buildings use 1000).

- .4 Level 2 use 200's etc. (for larger buildings use 2000).
- .5 If necessary, the numbering can be changed to 1000's to accommodate a large number of rooms. In that case, the floors would be 1000, 2000 etc. and the first basement level would be 0000, with additional underground floors following the B1000, B2000 series. (For lower basement floors, the interior rooms can now be assigned 6 digits max. i.e. B1000A. (Recent UBC database improvements now allow a 6 digit limitation.)
- .6 The mechanical room (and/or penthouse) shall be designated a level number and room number consistent with the 100's, 200's system.

1.8 Typical for All Floors

- .1 The numbering of each floor should be as consistent as possible with the numbering of all other floors within the same building.
- .2 Lobbies and corridors to take on the 10's, (e.g. 120, 130, 220, 230 etc.).
- .3 Rooms odd numbers on one side (e.g. 131, 133 etc.); even numbers on opposite side (e.g. 132, 134 etc.). *See 1.8.7.1 and 1.8.7.2.
- .4 Washrooms to follow guidelines of a typical room.
- .5 Start numbering with the lowest numbers at the main entrance and continue either clockwise or counterclockwise following the main circulation flow.
 - .1 Where a main entrance separates two or more building wings, give each wing a distinct set of numbers that flows logically from the adjacent wing (e.g. Wing A: rooms 1000-1099; Wing B: rooms 1100-1199).
 - .2 Refine the room numbering system according to how a visitor might logically move through the building in search of a room number.
- .6 When approaching from the entrance,
 - .1 In double loaded corridors, odd numbers should be on the left and even numbers on the right.
 - .2 In single loaded corridors, assign numbers consecutively.
 - .3 It is acceptable to skip numbers to allow for future renovations.
 - .4 For a room or suite, which is accessible only from another room, (a "sub-room"); label the sub-room by adding a letter to the number of the room from which the sub-room is accessed, e.g. 124 & 124A.
- .7 Rooms of particular functions have a letter added to the end of the room number information to identify their purpose, e.g. 001T identifies a vestibule. For rooms with the following functions please add the following appropriate identifier:
 - .1 V Vestibules – e.g. 001T
 - .2 U Custodial – e.g. 012U
 - .3 V Data/Electrical/Mechanical – e.g. 018V
 - .4 W Washrooms – e.g. 010W
 - .5 X Elevators – e.g. 013X
 - .6 Y Stairwells – e.g. 020Y
 - .7 Z Corridors – e.g. 003Z

1.9 Associated Numbering

- .1 Exterior Doors - Label all doors leading into the building with the room number they are entering and a number (e.g. :1, :2, etc.) starting from the main entry door and following clockwise.
- .2 Signs at Elevators, Elevator Call Buttons, Fire Alarm Annunciator Panels and Exit Stairs –

For signs denoting floor numbers assign floor numbers as follows:

- .1 Basement floors are to be shown as "0, B1, and B2 etc."
- .2 Level 1, first or main floor is to be shown as "1".
- .3 Level 2 or second floor is to be shown as 2, and so on.
- .4 Mezzanine level floors are to be shown with the lower floor number and ".5".

*****END OF SECTION*****

1.0 **GENERAL**

1.1 **Related UBC Guidelines**

- .1 UBC Signage – Interior Signage Guidelines
- .2 UBC Wayfinding – Exterior Signage Standards and Guidelines
- .3 UBC Protocol for Space Inventory Designation
- .4 Section 10 14 01 Door Identification

1.2 **Description**

- 1. Section includes special requirements in for room numbering in a building.

1.3 **Coordination**

- 1. The project team is to coordinate with UBC Facilities Facility Information & Inventory Systems (FIIS) at fd.fis@ubc.ca.
- 2. The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.
- 3. In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect and UBCO Facilities Management.
- 4. These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
- 5. The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.

2.0 **DESIGN AND PERFORMANCE REQUIREMENTS**

2.1 **Design Requirements**

- .1 The Facility Information & Inventory Systems (FIIS) unit of UBC Facilities, Customer Service and Informatics approves room numbering in accordance with the following:
 - .1 Architectural floor plans at the design development phase must be submitted with proposed room numbers in conjunction with the proposed door identification tags following the Door Identification guidelines (Section 10 14 01) to the FIIS Unit for approval.
 - .2 Once room numbers are approved, any further change to room numbers must be re-submitted to FIIS for approval.
 - .3 Approved room numbers must be incorporated in drawings issued for construction. Further changes during construction must be reviewed and approved by FIIS.
 - .4 Room numbers must only consist of alphanumeric characters and must not contain any special characters.
 - .5 A maximum of 6 digits for room numbers - refer to guidelines below.

2.2 **Design Intent**

- .1 Life Safety: Identify each space in case of emergency.
- .2 Maintenance: Identify each space for maintenance purposes.
- .3 Wayfinding: Make wayfinding through the building as simple and logical as possible.
- .4 Operational use: Plan for various operations and system applications dependent on room

numbers

2.3 Room Numbering Allocation

Room numbers are to be assigned to:

- .1 Every corridor that changes direction from the adjacent corridor.
- .2 Every lobby space that might be considered as a separate space from the adjacent corridor.
- .3 Every room that has a door or that is separate from the adjacent room.
- .4 Exit stairs should be numbered separately as ST1, ST2, and etc.

2.4 Room Numbering Guidelines

- .1 First basement floor shall be numbered B100's.
- .2 Additional underground floors shall be numbered B200's, B300's etc.
- .3 Level 1 use 100's etc. (for larger buildings use 1000).
- .4 Level 2 use 200's etc. (for larger buildings use 2000).
- .5 If necessary, the numbering can be changed to 1000's to accommodate a large number of rooms. In that case, the floors would be 1000, 2000 etc. and the first basement level would

be B1000, with additional underground floors following the B2000, B3000 series. (For lower basement floors, the interior rooms can now be assigned a maximum of 6 digits, i.e. B1000A. (Recent UBC database improvements now allow a 6 digit limitation.)

- .6 The mechanical room (and/or penthouse) shall be designated a level number and room number consistent with the 100's, 200's system.
- .7 The numbering pattern of each floor should be as consistent as possible with the numbering of other floors within the same building.
- .8 Lobbies and corridors to take on the 10's, (e.g. 120, 130, 220, 230 etc.).
- .9 Odd numbers on one side (e.g. 131, 133 etc.) Even numbers on opposite side (e.g. 132, 134 etc.). *See 1.8.7.1 and 1.8.7.2.
- .10 Washrooms to follow guidelines of a typical room.
- .11 Stairwells to be numbered prefixed with "ST" (e.g. ST1, ST2, ST3, etc.)
- .12 Start numbering with the lowest numbers at the main entrance and continue following the main circulation flow.
 - .1 Where a main entrance separates two or more building wings, give each wing a distinct set of numbers that flows logically from the adjacent wing (e.g. Wing A: rooms 1000-1099; Wing B: rooms 1100-1199).
 - .2 Refine the room numbering system according to how a visitor might logically move through the building in search of a room number.
- .13 When approaching from the entrance,
 - .1 In double loaded corridors, odd numbers should be on the left and even numbers on the right.
 - .2 In single loaded corridors, assign numbers consecutively.
 - .3 It is acceptable to skip numbers to allow for future renovations.
 - .4 Where a large suite of rooms is accessed from the circulation corridor by a single entry door, use a distinct set of consecutive numbers that follow the main entry room number.
 - .5 For a room, which is accessible only from another room, (a "sub-room"); label the sub-room by adding a letter to the number of the room from which the sub-room is accessed, e.g. 124 & 124A.

2.5 Associated Numbering

- .1 Exterior Doors - Label all doors leading into the building (but not the interior doors) with letters (A, B, etc.) starting from the main entry door and following clockwise.
- .2 Signs at Elevators, Elevator Call Buttons, Fire Alarm Annunciator Panels and Exit Stairs – For signs denoting floor numbers assign floor numbers as follows:
 - .1 Basement floors are to be shown as "B1, B2, and B3 etc."
 - .2 Level 1, first or main floor is to be shown as "1".
 - .3 Level 2 or second floor is to be shown as 2, and etc.

END OF SECTION

1.0 **GENERAL**

1.1 **Related UBC Guidelines**

- .1 Section 08 00 10 Openings – General Requirements
- .2 Section 10 14 00 Room Numbering
- .3 [UBC Signage – Interior Signage Guidelines](#)
- .4 [UBC Wayfinding – Exterior Signage Standards and Guidelines](#)

1.2 **Coordination Requirements**

- .1 Contact Infrastructure Development at spaceandfacilities.planning@ubc.ca.

1.3 **Design Requirements and General Policy**

- .1 Campus Planning and Development approves interior and exterior door identification in accordance to the guidelines below.
- .2 Architectural floor plans issued for tender must be submitted with proposed door numbers in conjunction with proposed room numbers following room numbering guidelines (Section 10 14 00) to Campus Planning and Development for approval.
- .3 Once door numbers are approved, any further changes to the design affecting room numbers must be re-submitted to Campus Planning and Development for approval.
- .4 Approved door IDs must be incorporated in drawings issued for construction & door hardware schedule.

1.4 **Limitations**

- .1 Door IDs must be uniquely identified.
- .2 Door IDs must consist of alphanumeric characters and must allow for special characters for separation of values

1.5 **Intent**

- .1 Secure Access: Granting and revoking access to the building occupants, students, faculty, staff and other select groups within the UBC community.
- .2 Locksmith use: Identifying associated hardware components and build for maintenance purposes.
- .3 Operational use: Planning for various operations and system applications dependent on door numbers.

1.6 **Door Identification Allocation**

Door IDs tags are assigned to:

- .1 Every door that has a lockable/latching hardware.
- .2 Every door that is securing a room/s or mechanical airways or shaft/s.

1.7 Guidelines

.1 Interior Door Identification

- .1 The door IDs are assigned based on the room being secured.
- .2 Door IDs are assigned using the room number followed by a colon (:) and the door tag starting at 1. *For example: Room 100 will have a door ID 100:1*
- .3 For rooms with multiple doors, door IDs are assigned in sequence for room, starting from the main entrance and continuing clockwise, e.g., 201:1, 201:2, and etc.
- .4 Doors leading into stairwells are tagged according to the stair number.
- .5 Airway/Shaft door IDs are associated with the room number of the corridor. Doors leading into corridors will take priority in door sequences, e.g., 1000:1, 1001:2. Airway/shaft doors then following, e.g., 1000:3, 1000:4,...etc.

.2 Exterior Door Identification

- .1 Label all doors leading into the building with letters (A, B,...etc.) starting from the main entry door and following clockwise. Except for letter I and O.
- .2 Exterior entrances using double doors will be grouped as one letter but separated by numeric number, e.g., A1, A2,...etc.
- .3 Exterior doors that does not lead to the main portion of the building will follow the interior door ID guideline.

1.8 Associated Numbering

- .1 Room numbers – shall refer to Section 10 14 00.

END OF SECTION

1.0 GENERAL

1.1 Related UBC Guidelines

- .1 Section 08 00 10 Openings – General Requirements
- .2 Section 10 14 00 Room Numbering
- .3 Section 10 14 05 Signage Standards and Guidelines

1.2 Description

- 1. Section includes special requirements in for door numbering in a building.

1.3 Coordination

- 1. The project team is to coordinate with UBCV Facilities Facility Information & Inventory Systems (FIIS) at id.fis@ubc.ca.
- 2. The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.
- 3. In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect and UBCO Facilities Management.
- 4. These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
- 5. The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.

2.0 DESIGN REQUIREMENTS

2.1 Design Requirements

- .1 The Facilities Information & Inventory Systems (FIIS) unit of [Customer Service and Infomatics, UBCV Facilities](#) approves interior and exterior door identification in accordance with the following:
 - .1 [At the design development phase](#), architectural floor plans must be submitted with proposed door numbers in conjunction with proposed room numbers following room numbering guidelines ([in coordination with](#) Section 10 14 00) to the FIIS Unit for approval.
 - .2 Once door numbers are approved, any further changes to the design affecting room numbers must be re-submitted to FIIS for approval.
 - .3 Approved door IDs must be incorporated in drawings issued for construction & door hardware schedule. [Further changes during construction must be reviewed and approved by FIIS](#).
 - .4 Door IDs must be uniquely identified.
 - .5 Door IDs must consist of alphanumeric characters and must allow for special characters for separation of values

2.2 Design Intent

- .1 Secure Access: Granting and revoking access to the building occupants, students, faculty, staff and other select groups within the UBC community.

- .2 Locksmith Shop: Identifying associated hardware components and build for maintenance purposes.
- .3 Operational use: Planning for various operations and system applications dependent on door numbers.

2.3 Door Identification Allocation

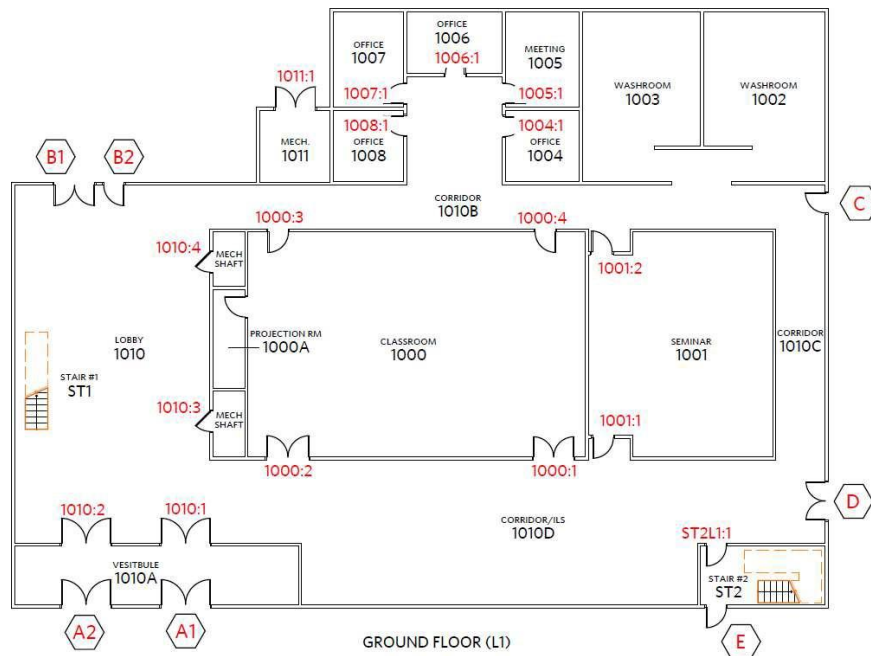
Door IDs tags are assigned to:

- .1 Every door that has lockable/latching hardware.
- .2 Every door that secures a room/s, mechanical airways or shaft/s, electrical or custodial closets.

2.4 Door Numbering Guidelines

- .1 Interior Door Identification
 - .1 The door IDs are assigned based on the room being secured.
 - .2 Door IDs are assigned using the room number followed by a colon (:) and the door tag starting at 1. *For example: Room 100 will have a door ID 100:1*
 - .3 For rooms with multiple doors, door IDs are assigned in sequence for room, starting from the main entrance and continuing clockwise, e.g., 201:1, 201:2, and etc.
 - .4 Doors leading into stairwells are tagged according to the stair number and floor.
 - Stair 2 level 1 (ST2L1:1)
 - Stair 2 level B1 (ST2B1:1)
 - .5 Airway/Shaft door IDs are associated with the room number of the corridor. Doors leading into corridors will take priority in door sequences, e.g., 1000:1, 1001:2. Airway/shaft doors then follow, e.g., 1000:3, 1000:4, etc.
- .2 Exterior Door Identification
 - .1 Label all doors leading into the building with letters (A, B, etc.) starting from the main entry door and following clockwise. Except for letter I and O.
 - .2 Exterior entrances using double doors will be grouped as one letter but separated by numeric number, e.g., A1, A2, etc.
 - .3 Exterior doors that does not lead to the main portion of the building will follow the interior door ID guideline.

Sample floorplan



2.5 Associated Numbering

- .1 Room numbers – coordinate with Section 10 14 00.

END OF SECTION

1.0 **GENERAL**

1.0 Related Work and UBC Guidelines

- .1 Section 10 14 00 Room Numbering
- .2 Section 10 14 01 Door Identification
- .3 UBC Interior Signage Guidelines
- .4 UBC Exterior Signage Guidelines
- .5 UBC Learning Space Design Guidelines
- .6 UBC Inclusive Washroom Guidelines

1.1 Description

- 1. Section includes guidance on signage and wayfinding requirements for buildings.

1.2 Coordination

- 1. The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.
- 2. In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect or UBCO Facilities Management.
- 3. These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
- 4. The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.

2.0 **DESIGN REQUIREMENTS**

2.1 Interior Signage and Wayfinding – UBC Interior Signage Guidelines

- .1 The interior signage guidelines can be found at
https://www2.infrastructuredevelopment.ubc.ca/docs/UBC_INT_SIGNAGE_GUIDELINE.pdf
- .2 Modifications to or creation of existing interior signage:
 - .1 UBC Vancouver Campus - please submit a service request to:
<https://facilities.ubc.ca/services/>
 - .2 UBC Okanagan Campus, contact Facility Management at
facilities.ok@ubc.ca
- .3 New interior signage or to obtain interior signage approvals: please contact:
 - .1 UBC Vancouver Campus:
Technical Review Team Architect
 - .2 UBC Okanagan Campus:
Campus Planning and Development (CP+D):
<https://operations.ok.ubc.ca/submit-request/>

2.2 Exterior Signage and Wayfinding – UBC Exterior Signage Standards and Guidelines

- .1 The exterior signage guidelines can be found at
http://assets.brand.ubc.ca/downloads/ubc_%20signage_standards_and_guidelines_2019.pdf

For additional information regarding external signage, please contact Carmen Rida at carmen.rida@ubc.ca or 604-822-0464.

*****END OF SECTION*****

1.0 **GENERAL**

1.1 **Related Work and UBC Guidelines**

- .1 [Section 12 20 00 Window Coverings and Blinds](#)
- .2 [UBC Vancouver Solid Waste Infrastructure Guidelines](#)
- .3 [UBC Resilience-Based Design Guide for Nonstructural Systems](#)

1.2 **Description**

- 1. Section includes products and installations above and beyond base building components.

1.3 **Coordination**

- 1. The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.
- 2. In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect or UBCO Facilities Management.
- 3. These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
- 4. The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.
- 5. Coordinate seismic restraint of equipment with project structural engineer.
- 6. Coordinate washroom and wall/door protection specialties with UBCV Facilities Technical Review Team Architect. For UBCO projects, coordinate with UBCO Facilities Management.

1.4 **Quality Control and Assurance**

- .1 Quality Assurance
 - .1 Seismic restraint work including anchoring devices to be designed and certified by a Professional Engineer registered in the Province of BC, and at completion, to Letter of Assurance. Costs to be included in Contract.
- .2 Submittals in O&M manual:
 - .1 Shop drawings: required for all seismically restrained engineered studwork, bracing, and suspension systems, including where such systems act as support for work requiring seismic restraints (i.e. laboratory and other cabinets, fume hoods, vending machines, etc.). Shop drawings to be signed and sealed by a professional engineer registered in the Province of BC.
 - .2 Manufacturer's data including product and colour specifications.
 - .3 Maintenance instructions.

2.0 **DESIGN REQUIREMENTS**

2.1 **General Requirements**

- .1 Provide materials and systems [suitable for](#) occupancy [and use](#), durability, and reuse during renovations.
- .2 For renovation projects re-use existing equipment [where possible](#) and specify equipment that can be re- used. [For re-use of equipment, coordinate with the UBCV technical Review Team Architect or UBCO Facilities Management.](#)
- .3 For renovation projects [where](#) existing equipment and materials [are](#) to be turned over to UBC for re-use or parts – [coordinate with](#) UBC Project Manager who in turn will consult with the

UBCV Technical Review Team Architect or UBCO Facilities Management.

2.2 Entrance Mats

- .1 Mat wells shall not be used, only walk-off mats shall be used.
- .2 Institutional grade entry mats are required in all entries to reduce cleaning, and to provide sufficient non-slip flooring at entrances.
- .3 Any exterior or interior vestibule doors that swing over walk off mats must have sufficient clearance underneath to accommodate the mats without having to make special provisions in the mats such as cutaways.
- .4 All main entrances must contain 8 to 12 feet of interior matting from entrance doors. Matting must include one outdoor scraper style mat with one indoor scraper/wiper style mat.
- .5 All mats to have cart-edging.

- .6 Outdoor scraper style mat to be similar in construction to the 3M™ Nomad™ 9100 Terra Entrance Matting and to extend 6 to 8 feet from the entrance. Width to cover width of doorway.
- .7 Indoor scraper/wiper mat to meet same specifications as Source Floor & Specialties Inc Grizzly FX Matting, dryer-scraper mat. Dimensions to be as per 2.4 depending on anticipated building traffic and space restrictions. Width to cover width of doorway entirely.

2.3 Interior Guardrails for Elevated Service Walkways

- .1 In the design of elevated service walkways, the use of 1500 mm (5'-0") high guards is preferred rather than the BCBC minimum guard height of 1068 mm (3'-6").

2.4 Wall Protection

- .1 Corner guards shall be provided in high traffic corridors, and generally in areas subject to abuse. In corridors, wall protection to be at least 3'-0" from finished floor.
- .2 Corner guards shall be 18 gauge stainless steel, no. 4 brushed finish and a minimum height of 40" from finished floor to a width of 4" each side.
- .3 Provision of crash rails/wall bumpers to be coordinated with the user group/s needs. Acrovyn wall protection products or equivalent are acceptable.

2.5 Door Protection

- .1 Kickplates to be at least one foot high from base of all high traffic doors.
- .2 All doors leading to and from bike storage areas to include metal kick plates that are half door high. Smaller kick plates do not work for these doors. Usually it is noted that bicyclists trying to keep the door open with their bicycles resulting in damage to the doors.

2.6 Retractable Stanchions

- .1 Open entrances to multi-stall gendered or gender-neutral washrooms to have a retractable stanchion added at the entrances.
- .2 Mounting hardware: 3 inch x 4 inch metal plate mounted at each side of entrance, no jagged edges or catching surfaces for users as they enter.

2.7 Demountable Partitions

- .1 Consider the use of demountable partitions when frequent changes (such as office areas) are expected.
- .2 Selection of such systems to be based on long-term availability of components and finishes.
- .3 The design of demountable partitions should be complimented by equally flexible design of mechanical and electrical systems.
- .4 Carefully establish and coordinate electrical and communications requirements and components with UBC IT Services.
- .5 Include engineering and anchoring of all structural bracing. Coordinate with ceiling system installation where full-height partitions are used.

2.8 Interior Recycling Waste Stations

- .1 Interior space shall be allocated on floor plans for multi-stream recycling stations in accordance with Recycling Infrastructure Guidelines for UBC Buildings.
- .2 Consult with UBCV Technical Review team Architect to confirm locations and selection of appropriate equipment.

*****END OF SECTION*****

1.0 GENERAL

1.1 Related UBC Guidelines

- .1 For floor drains, see Section 22 05 00 Plumbing - General Requirements
- .2 [Recycling Infrastructure Guidelines for UBC Buildings](#)
- .3 [UBC Resilience-Based Design Guide for Nonstructural Systems](#)

1.2 Co-ordination Requirements

- .1 Coordinate seismic restraint of equipment with Structural Engineer.
- .2 Coordinate washroom and wall/door protection specialties with UBCV Facilities Technical Review Team Architect plus Facilities Custodial Services. For UBCO projects, coordinate with UBCO Facilities Management.

1.3 General Requirements

- .1 Provide materials and systems beneficial to use and occupancy, durability, and reuse during renovations.
- .2 For renovation projects re-use existing equipment and specify equipment that can be re-used.
- .3 For renovation projects existing equipment and materials to be turned over to UBC for re-use or parts - consult UBC Project Manager.
- .4 Submittals in O&M manual:
 - .1 Where applicable, provide shop drawings and also signed and sealed by a professional engineer registered in the Province of BC.
 - .2 Manufacturer's data including product and colour specifications.
 - .3 Maintenance instructions.
 - .4 For blinds, refer to Section 12 20 00 – Window Coverings and Blinds.
- .5 Quality Assurance
 - .1 Where seismic restraints are required, coordinate with the UBC Resilience-based Design Guide for Nonstructural Components. Seismic restraint work including anchoring devices to be designed and certified by a Professional Engineer registered in the Province of BC, and at completion, to Letter of Assurance. Costs to be included in Contract.

2.0 ENTRANCE MATS (previously in Section 09 00 10)

- 2.1 Mat wells shall not be used, only walk-off mats shall be used.
- 2.2 Institutional grade entry mats are required in all entries to reduce cleaning, and to provide sufficient non-slip flooring at entrances.
- 2.3 Any exterior or interior vestibule doors that swing over walk off mats must have sufficient clearance underneath to accommodate the mats without having to make special provisions in the mats such as cutaways.
- 2.4 All main entrances must contain 8 to 12 feet of interior matting from entrance doors. Matting must include one outdoor scraper style mat with one indoor scraper/wiper style mat.
 - .1 All mats to have cart-edging.

- .2 Outdoor scraper style mat to be similar in construction to the 3M™ Nomad™ 9100 Terra Entrance Matting and to extend 6 to 8 feet from the entrance. Width to cover width of doorway.
- .3 Indoor scraper/wiper mat to meet same specifications as Source Floor & Specialties Inc. Grizzly FX Matting, dryer-scraper mat. Dimensions to be as per 2.4 depending on anticipated building traffic and space restrictions. Width to cover width of doorway entirely.

3.0 INTERIOR GUARDRAILS - Elevated Service Walkways

- 3.1 In the design of elevated service walkways, the use of 1500 mm (5'-0") high guards is preferred rather than the BCBC minimum guard height of 1068 mm (3'-6").

4.0 WALL PROTECTION AND CORNER GUARDS

- 4.1 Shall be provided in high traffic corridors, and generally in areas subject to abuse. In corridors, consider wall protection to 3'-0" from finished floor.
- 4.2 Corner guards shall be 18 gauge stainless steel, no. 4 brushed finish and a minimum height of 40" from finished floor to a width of 4" each side.

5.0 DOORS & WASHROOM ENTRANCES

- 5.1 There should be a provision for kickplates at least one foot high from base of all high traffic doors.
- 5.2 All doors leading to and from bike storage areas to include metal kick plates that are half door high. Smaller kick plates do not work for these doors. Usually it is noted that bicyclists trying to keep the door open with their bicycles resulting in damage to the doors.
- 5.3 Open entrances to multi-stall gendered or gender neutral washrooms to have a retractable stanchion added at the entrances. Preferred mounting hardware, 3 inch x 4 inch metal plate mounted at each side of entrance, no jagged edges or catching surfaces for users as they enter.

6.0 DEMOUNTABLE PARTITIONS

- 6.1 Consider the use of demountable partitions when frequent changes (such as office areas) are expected.
- 6.2 Selection of such systems to also be based on long-term availability of components and finishes.
- 6.3 Carefully establish and coordinate electrical and communications requirements and components with UBC IT Services.
- 6.4 Include also the engineering and anchoring of all lateral bracing, which is to be independent of, or coordinated with, metal suspension systems for ceilings.

7.0 WASHROOM MILLWORK

- 7.1 Washroom millwork shall be in accordance with Section 06 40 00 Architectural Woodwork.

8.0 RECYCLING AND WASTE MANAGEMENT RECEPTACLES & WASTE STATIONS

8.1 Recycling and Waste Receptacles

- .1 Multi-stream recycling stations shall be provided in accordance with the [Recycling Infrastructure Guidelines for UBC Buildings](#). Consult with *Facilities* Custodial Services to confirm locations and selection of appropriate equipment.

8.2 Space for Recycling and Waste Stations

- .1 Interior space shall be allocated on floor plans for multi-stream recycling stations in accordance with [Recycling Infrastructure Guidelines for UBC Buildings](#). Consult with Facilities Custodial Services to confirm locations and selection of appropriate equipment.

*****END OF SECTION*****

1.0 **GENERAL**

1.1 **Related Work & UBC Guidelines**

- .1 Section 05 50 00 Metal Fabrications (Engineered Metal Suspension Systems)
- .2 Section 10 28 00 Toilet, Bath and Laundry Accessories
- .3 [UBC Inclusive Washroom Guidelines](#)
- .4 [UBC Resilience-Based Design Guide for Nonstructural Systems](#)

1.2 **Related External Documents**

- .1 Latest version of the BC Building Code.
- .2 CSA-B651-12 - Accessible Design for the Built Environment.
- .3 Combustibility testing of partitions must be compliant with latest version of the ASTM-E84 standards and National Fire Protection Agency (NFPA) standards.

1.3 **Description**

- .1 [Section includes](#) toilet, change room and shower partitions, urinal screens.

1.4 **Coordination**

- .1 The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.
- .2 In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect or UBCO Facilities Management.
- .3 These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
- .4 The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.
- .5 Coordinate seismic restraint of equipment with project structural engineer.
- .6 Coordinate washroom and wall/door protection specialties with UBCV Facilities Technical Review Team Architect. For UBCO projects, coordinate with UBCO Facilities Management.

1.5 **Submittals**

- .1 O&M manual submittals:
 - .1 Final reviewed shop Drawings shall include complete backing/support requirements and engineering data.
 - .2 List of hardware and fittings provided.
 - .3 Colour specification.
 - .4 Maintenance data shall include graffiti removal techniques.
- .2 Warranty:10-year manufacturer's warranty.

2.0 **DESIGN AND PERFORMANCE REQUIREMENTS**

2.1 **Design Requirements**

- .1 Toilet Count
Where classrooms and lecture theatres exist, the number of toilets and sinks in proposed women's washrooms is required to be increased by one third over the number required by the current version of the BC Building Code. This is due to greater demand between scheduled classes.
- .2 Seismic restraint for partitions shall be designed by a professional structural engineer registered in the Province of BC.
- .3 Washroom compartments may be floor or wall-mounted partitions. Ensure adequate

- mounting for full-height partitions where used.
- .4 For renovation projects, re-use partition panels whenever possible.

2.2 Performance Requirements – Not Used

3.0 MATERIALS

3.1 Product Selection

- .1 Partition systems to be Solid Phenolic partition systems with a Class A flame spread rating.

3.2 Hardware

- .1 Locking hardware to be as per the latest version of BCBC. Each compartment to be complete with the following hardware:
 - .1 Combination coat hook/door bumper for single toilet compartments.
 - .2 Door bumper as required for outward-opening accessible compartments.
 - .3 Hook for accessible stalls to be mounted on front wall and not on door so as not to be a hazard to persons with low vision. Hooks for accessible stalls to be installed at accessible height per BC building Code. The preference is for two hooks installed at different heights for flexibility.
 - .4 Combination stop/ latch - with emergency lift feature.

- .2 Non-removable self-closing hinges - with emergency lift feature. Hinges to function per requirements of the BC Building Code for accessible compartments.
- .3 Door pulls [to be provided](#) for accessible compartments.

3.3 Partition-Mounted Accessories

- .1 [Accessories to be](#) as per Section 10 28 00 Toilet, Bath and Laundry accessories.
- .2 Partition panels should be capable of accepting surface-mounted accessories such as grab bars, toilet paper dispensers and sanitary napkin dispensers and bins.
- .3 Where grab bars are mounted directly on partitions, panels and connections shall be designed by a professional structural engineer registered in the Province of BC, per loading requirements in the BC Building Code.

3.4 Fabrication

- .1 Edges are to be beveled and/or rounded.

3.5 Finishes

- .1 All toilet partitions shall have durable, institutional grade finishes that require minimal maintenance while being resistant to graffiti and cleaning chemicals..

END OF SECTION

1.0 **GENERAL**

1.1 **Related Work and UBC Guidelines**

- .1 Section 06 10 00 Rough Carpentry – backing for toilet and shower accessories.
- .2 Section 10 21 13 Toilet Compartments
- .3 Section 22 40 00 Plumbing Fixtures – plumbing fixtures and use of motion sensor-activated fixtures
- .4 UBC Inclusive Washroom Guidelines
- .5 UBC Solid Waste Infrastructure Guidelines

1.2 **Description**

- .1 Section includes toilet and shower accessories.

1.3 **Coordination**

- .1 The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.
- .2 In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect and UBCO Facilities Management.
- .3 These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
- .4 The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.

1.4 **Submittals**

- .1 Submittals in O&M manual:
 - .1 Final reviewed shop drawings, complete with specified finishes and maintenance requirements.
- .2 Handover/ Turn-Over Procedures
 - .1 Final cleaning inspection to be conducted by a Facilities Custodial Services Representative prior to occupancy.
 - .2 Cleaning and floor finishing work to be performed to Facilities Custodial Services Standards.

2.0 **DESIGN AND PERFORMANCE REQUIREMENTS**

2.1 **Design Requirements**

- .1 Double toilet roll dispensers are to be used in all washroom types. Although a single toilet roll dispenser type has been provided, a single roll toilet dispenser can be used only where absolutely required. Installation of single toilet roll dispensers will require a variance request. A variance will be granted only if acceptable to Facilities Custodial Services.
- .2 In new construction or major renovations, provide the required electrical wiring for hand dryers and terminate the wiring in a suitable location in a junction box recessed in the wall with a stainless steel decorative cover plate (close to the sinks). For hand dryer type, see paragraph 3.1.8..
- .3 Ensure sufficient backing for secure mounting of accessories is provided.

2.2 **Performance Requirements – Not Used**

3.0 MATERIALS

3.1 Product Selection

- .1 Double Toilet Roll Dispensers
 - .1 Kimberley Clarke Professional, 09551 Twin Toilet Tissue Dispenser
 - .2 Colour: Black/Smoke
 - .3 Unit Size: 20.43" x 13.12" x 5.8" (51.9 cm x 33.3 cm x 14.7 cm)
- .2 Single Toilet Roll Dispensers
 - .1 San Jamar, R2090TBK Oceans 9" Single Roll Jumbo Toilet Tissue Dispenser
 - .2 Colour: Black Pearl
 - .3 Single toilet tissue dispensers are to be used only if acceptable to Facilities Custodial Services. Consult with the UBCV Technical Review Team Architect for such installations first.
- .3 Soap Dispensers
 - .1 Veritiv Supply, Purell FMX 20 (SKU 5234-06)
 - .2 Colour: Graphite/Metallic.
 - .3 Dispenser type: 2000ml
 - .4 Dispensing system using a refillable dispenser with front button operated valve.
 - .5 Product refill 2000ml Purell Healthy Soap SKU 5572-02
 - .6 Install at a location in reach of seated position in front of lavatory.
- .4 Sanitary Napkin Dispensers
 - .1 Frost Products Limited, Double Combo, Frost ref. # 608-3 in stainless steel.
 - .2 Mechanism shall be 25 cent.
 - .3 Product must be on FREE vend system only. Require coinless units only.
 - .4 Note: In accessible washrooms, accessible toilet compartments and compartments for persons with limited mobility, install within reach of toilet seat and located so as to maintain toilet compartment and grab bar clearances required by the BC Building Code.
- .5 Sanitary Napkin Disposal Bins
 - .1 Frost Products Ltd., # 622.
 - .2 Colour: Brushed stainless steel.
 - .3 Note: In accessible washrooms, accessible toilet compartments and compartments for persons with limited mobility, install within reach of toilet seat and located so as to maintain toilet compartment and grab bar clearances required by the BC Building Code.
- .6 Grab Bars
 - .1 Installed as per latest edition of BCBC requirements with tamper-proof fasteners and non-slip surface.
- .7 Garbage Containers (Large)
 - .1 Rubbermaid Marshall Classic Container # 8170-88.
 - .2 Colour: Black.
 - .3 Unit size: 18' x 42" high, 23lb./10.4Kg.
 - .4 This garbage bin type to be purchased for washrooms with paper towel dispensers or baby change tables only.
 - .5 Wall-mounted and millwork-installed garbage containers are not allowed.
 - .6 Garbage container must not interfere with clear floor areas required by the latest edition of the BC Building Code, including clear floor areas around doors.
- .8 Hand Dryers
 - .1 Dyson Airblade HU02 or Dyson Airblade 9kj.

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- .2 Either type of hand dryer must be supplied with wall mounted backplate in brushed stainless steel when mounted on drywall surfaces.
 - .3 Only hand dryers are to be installed in new buildings, major renewals and renovations.
 - .4 Hand dryers to mounted as close as possible to accessible lavatories to limit the distance that people in wheelchairs have to move to access them. Mount hand dryers at accessible heights per BC Building Code.
 - .5 Installation of paper towel dispensers in addition to hand dryers will require a variance request. A variance will be granted only if acceptable to Facilities Custodial Services.
- .9 Toilet Seat Lids used as Back Rests:
- .1 Toilet seats in regular toilet stalls should not have a lid attachment.
 - .2 For accessible washrooms, accessible toilet compartments and compartments for people with limited mobility, toilet seat lids are to be used as back rests.
 - .3 Toilet seat lids when used as back rests should not interfere with the flushing mechanism.

4.0 LESSONS LEARNED AND COMMON MISSES ON UBC PROJECTS

Items in this section are lessons learned or misses from past projects. These may also include code or industry best practices. If not applicable to a project, a variance is not required.

- .1 Use of single versus double toilet roll dispensers:
 - .1 As mentioned frequently to project teams, the double roll dispenser works well for UBC particularly for accessible washrooms as there is a backup when one roll runs out. It would be far worse to let a user run out of toilet paper, and it is always best to have the option of using another roll.
 - .2 The use of a double roll dispenser also ends up being a more sustainable option compared to the single roll dispenser. Due to the cleaning cycles implemented in buildings, even if there is some paper/tissue remaining, rolls in single dispensers need to be changed out and replaced resulting in much more waste.
 - .3 It is not possible to ask user groups to take on monitoring of washrooms that have single toilet roll dispensers to ensure toilet rolls are available for use at all times.
- .2 Toilet back rest in accessible washroom:
 - .1 UBC Facilities ask that the toilet seat lid be used as a backrest instead of using the small backrest panel over the flush valve if possible. This change of providing toilet seat lids is for accessible washrooms only. The TG's note that that toilet seat lids should not be provided, but an exception will be made only for accessible/universal washrooms.
 - .2 Coordination will be needed with the flush valve specified to ensure that one does not push on the manual or auto flush button, causing the toilet to flush unintentionally and repeatedly. (Also happens if you lean back where there is a toilet seat lid). This would be extremely annoying and unhygienic for anyone trying to use the toilet with no lower body strength.

END OF SECTION

1.0 **GENERAL**

1.0 **Related Work and UBC Guidelines**

- .1 Section 06 10 00 Rough Carpentry – backing for toilet and shower accessories.

1.1 **Co-ordination Requirements**

- .1 The University Branch of the Vancouver Fire Department – [Vancouver Fire and Rescue Services](#) - to confirm current requirements for each individual project.

1.2 **Description**

- .1 Fire Extinguishers, Cabinets, Accessories and their installation.

1.3 **Coordination**

- .1 The University Branch of the Vancouver Fire Department – [Vancouver Fire and Rescue Services](#).- to confirm current requirements for each individual project.

1.4 **Performance Standards**

- .1 BC Fire Code, NFPA #10.

1.5 **Submittals**

- .1 Proposals shall be submitted to the Fire Protection Manager, Vancouver Fire [and Rescue Services](#), phone number: 604-665-6068.
- .2 Shop Drawings and Maintenance Instructions are to be submitted to the UBC Branch of the Vancouver Fire Department – [Vancouver Fire and Rescue Services](#).

2.0 **DESIGN AND PERFORMANCE REQUIREMENTS**

2.1 **Design Requirements**

- .1 Fire extinguishers to be installed in locations, recesses, or cabinets so that they do not project more than 100 mm horizontally into exit passageways, public corridors, corridors used by the public or corridors serving classrooms or patient's sleeping rooms, and in a manner not to create a hazard for visually impaired persons traveling.
- .2 Where fire extinguishers are installed in cabinets they are to be provided with a sign acceptable to the Vancouver Fire Department.
- .3 Where fire extinguishers are installed on walls they are to be installed on UBC Standard backing boards. The backing boards are available in standard sizes and finishes from Building Operations Stores, at a cost to be confirmed with Building Operations.

2.2 **Performance Requirements – Not Used**

3.0 **MATERIALS**

3.1 **Product Selection**

- .1 **Acceptable Fire Extinguisher Types**
 - .1 All new extinguishers to be made available to the UBC Branch of the Vancouver Fire Department for bar coding and applying a UBC Security number onto the extinguisher.
- .2 Dry Chemical - Ansul Cartridge operated only - ABC or BC rating (typical).

- .3 CO2 - as per B.C. Fire Code Regulations. (For specific installations only, see Vancouver Fire Department.)

*****END OF SECTION*****