

6.8 Washrooms

6.8.1 Requirements

All washroom projects at UCalgary are to be fully coordinated by the prime consultant with all disciplines during design and construction documentation and by the general contractor with all sub-trades during construction. The designs must be verified with site conditions. UCalgary is committed to providing environmentally sustainable, healthy, and safe environments for all staffs and students.

These requirements cover the range of washroom types:

- Male (gendered) multi stall or single
- Female (gendered) multi stall or single
- Gender Inclusive
- Universal (dual assist, dual access barrier-free)
- Barrier-Free

1. All washroom designs, including Gender Inclusive Washrooms, must be reviewed and signed-off by CA and Campus Engineering (CE). Any deviation from the standards must be reviewed and approved in writing by CA and CE.
2. All barrier-free and universal washrooms must be designed to meet barrier-free requirements.
3. Appendix A contains layout examples, mounting heights and millwork requirements that consultants should reference when designing UCalgary washroom facilities.
4. Provide high quality and easily maintained washrooms with washable, durable and low to no emitting VOC finishes.
5. Provide ample exhaust and air exchanges as per UCalgary Design Standards, applicable codes and standards.
6. Provide appropriate amount and quality of lighting as per UCalgary Design Standards and applicable Codes. Lighting must be easily accessible for maintenance purposes.
7. All door hardware and stall hardware will be as per UCalgary Design Standards specifications, see Section 5.5 Doors & Hardware, and must be reviewed by CA, PM, and FM (Lock Shop) prior to tender. The Lock Shop must also review the door hardware at the shop drawing stage for sign-off.

6.8.2 Related Sections

1. Section 4.1 Institutional Sustainability
2. Section 5.5 Doors & Hardware
3. Section 5.7 Flooring
4. Section 5.9 Interior Wall Types and Finishes (Under Development)
5. Section 5.12 Interior & Exterior Painting (Under development)
6. Section 5.16 Mechanical Systems
7. Section 5.17 Electrical Systems

6.8.3 Regulations and Codes

All washrooms must comply with the most current edition of the:

1. National Building Code - Alberta Edition
2. National Fire Code - Alberta Edition
3. Alberta Occupational Health and Safety Code
4. Alberta Barrier-Free Design Guide
5. National Plumbing Code
6. ASHRAE Standard 62.1

6.8.4 Accessibility

All washrooms must be designed to comply with the National Building Code - Alberta Edition and the Alberta Barrier-Free Design Guide. As a general rule:

1. All barrier-free stalls must have pull handles on both sides of the stall door.
2. Automatic door openers are preferred on barrier-free washrooms.
3. Locate a sink within a Universal or Barrier-free stall/washroom where possible.
4. Drains and hot water supply lines shall be covered with a vanity skirt to protect from burns. Refer to Appendix A for the preferred solution.
5. Backrest shall be installed with its center line between 215mm and 235mm above toilet rim. All flush valve sensors must be installed at a functional height and not be obstructed by backrest.
6. *Assisted accessible washroom (Universal) is currently under development.*

6.8.5 Design and Construction

UCalgary provides a range of washroom types throughout campus to meet the diverse needs of our population. These include male, female, multi-stall, single stall, universal, family, barrier-free and gender inclusive washrooms. The design approach differs slightly between types as outlined below.

1. Gendered Washrooms

1. Should have an offset entrance with no doors. Partitions to block views into washrooms must be full height. Special attention must be given to placement of mirrors and how they affect sight lines.
2. If located close to quiet areas (student study spaces, office areas), noise and odor control may require door entry for smaller renovated washrooms.
3. Consider acoustic treatment at the entryway of washrooms without doors.
4. Toilet partitions for gendered washrooms are to be ceiling hung, with intermediate floor supports at every third stall with adequate structural support in the ceiling. Architect to coordinate with mechanical and electrical design to ensure this is achievable on site.

2. Gender Inclusive Washrooms

1. Provide two means of egress.
2. Stall doors to have door hardware that includes a lock from inside and an occupancy indicator activated by that lock.
3. Stalls to have either individual drains or minimally undercut doors with sloped floor areas to a shared floor drain.
4. Provide with individual dedicated mechanical services (i.e., sprinkler heads, exhaust grilles, etc.)
5. Toilet partitions should be floor to ceiling with full height doors and no gaps in the assembly at partition intersections.
6. Provide a choice of sink and mirror locations where possible.

3. All Washrooms

1. Spatial Considerations:
 - i. Locate new washrooms close to major student gathering areas, classrooms/lecture halls, stairs and/or entrances. Do not locate washrooms adjacent to quiet study areas.
 - ii. Where there is a multi-stall washroom with doors, an entry vestibule is required to address privacy, sound, and odor control issues. This does not apply to single fixture washrooms.
2. Walls and Partitions:
 - i. Perimeter walls around washrooms are to be full height, to the underside of the structural deck.
 - ii. Walls should be either block or moisture resistant gypsum. Tile backing should be moisture resistant tile backer or cement board.
 - iii. Cleanout should be above flood rim and not high enough to require a ladder. Cleanout should be 1 for every 2 urinals when possible. In the case of renovations, cleanout locations will be reviewed and approved by CA and CE once walls are opened and before the plumbing is laid out. Architectural elevations will be revised as required to capture final cleanout locations.
3. Floors:
 - i. All washroom floors must slope to drain.
4. Ceilings:
 - i. Ceilings should be moisture resistant gypsum board.
 - ii. Access hatches will be installed in the ceilings as required to provide access to services (e.g. valves) above the ceiling. Isolation valves for washroom groups to be located in public spaces for easy access (e.g. corridors, etc.), alternate locations to be approved by CE and/or FM. Ensure devices are grouped to minimize quantities of hatches. Hatches will be sized according to

the service being accessed, with an effort made for hatches to be a consistent size (optimal for maintenance) and aligned wherever possible.

5. Fixtures

- i. Toilets must be wall hung for ease of floor cleaning. Ensure appropriate bracing and blocking as per the toilet specifications.
- ii. The actual locations of all toilet, urinal and sink cleanouts will be clearly indicated on the architectural plans and elevations, coordinated by the prime consultant with the mechanical consultant and reviewed with FM prior to start of work.
- iii. Sinks should be under-mounted in counters. Refer to sketch Appendix A. Stainless steel sinks are preferred.
- iv. Washroom sink will have faucets specified in Section 5.16 Mechanical Systems. Provide aerators for faucets with satisfactory flow.
- v. Wherever possible space sinks at 1800 mm on center.
- vi. Ablution stations require review and approval from CA on a case-by-case basis.

6. Hardware:

- i. Stall door hinges preferred to be piano hinges or one and a half pair (3) of hinges. Stall latches to be heavy duty slide type. Stall doors to be equipped with privacy strips.
- ii. Stainless steel coat hook with bumper to be installed on the back of each stall door.
- iii. All washrooms with doors to have fold down door stops and 250 mm stainless steel kick plate.
- iv. Stainless steel corner guards required at all entrances.

7. Miscellaneous

- i. Transfer grilles should be acoustically rated.
- ii. Each washroom must be provided with a dedicated set of domestic water supply and return isolation valves to allow for isolation of individual washroom without disruption of adjacent washroom service.

6.8.6 Finishes

The following finishes have been developed and coordinated with all UCalgary stakeholders to create washrooms which are durable and easy to maintain.

1. Walls and Partitions

- i. All wet areas, toilets, urinals and immediately adjacent to sinks to be full height large format porcelain or ceramic tile. Porcelain is preferred, but ceramic may be considered if there are budget constraints. Wall base should be 150 mm coved porcelain tile.

- ii. Entrances to washrooms must have a minimum tile height of 1700 mm AFF. CA will review the design to confirm the required extent of porcelain or ceramic tile versus painted drywall for each project.
 - iii. Toilet partitions should be anti-graffiti metal type. Solid phenolic is acceptable in high humidity areas.
 - iv. No high contrast grout.
2. Ceilings
- i. To be smooth painted.
 - ii. All hatches to be powder coated to match ceiling/wall. No other type of hatch will be allowed.
3. Floors
- i. Floor materials should be mid to dark in color (not black) and where grout is required, grout should be dark in color. A subtle pattern of striation or mottled appearance is preferred for its soil hiding properties. Floor tile to be anti-slip porcelain where possible.
 - ii. Resilient flooring should be smooth, non-porous, anti-slip, welded sheet goods that are stain and microbial resistant for washroom use. The sheets shall be covered along walls to provide a continuous base. Floor openings shall be sealed and watertight.
4. Doors and Millwork
- i. Washroom entry doors will be solid core wood doors.
 - ii. Countertops in washrooms should be a solid surface. No integral counter/sinks allowed. Solid surface countertops should be minimum 30 mm thick, on 19 mm marine grade plywood substrate. Ensure appropriate bracing and blocking to support countertop.
5. Miscellaneous
- i. All site applied finishes, adhesives and sealants must be tested and determined to be compliant in accordance with Section 5.9 Interior Wall Types and Finishes.

6.8.7 Washroom Fittings and Accessories

All washroom accessories are to be reviewed and approved by UCalgary Project Manager prior to the finalization of construction documents. Obtain the most recent list of preferred vendors from Ucalgary Project Manager at the start of design.

1. At project start-up, confirm the list of preferred washroom accessories and update accordingly.
2. Location of all accessories are to be indicated on the drawings and blocking to be provided in the walls as required. UCalgary standard mounting heights and locations will be used for accessories. Mechanical fasteners into tiles should be avoided.
3. Project should include budget for floor standing stainless steel bins. Please note

combination units of paper towel dispenser and waste receptacles are not acceptable.

4. Provide a location for a waste bin within the washroom close to the entry.
5. Hand dryers are not a standard accessory in UCalgary's washrooms. In high traffic or select locations, provide electrical rough-in with pull string, stubbed to accessible ceiling for future hand dryer behind paper towel dispenser. Label shall be provided to the pull string for future hand dryers at accessible locations.
6. Soap dispensers to be mounted on porcelain / ceramic tile or on mirrors with double sided tape, preference is that soap dispensers are not mounted on mirrors.
7. Install recessed Baby Changing Station when possible, in washrooms. Refer to Appendix A for Baby Changing Station elevations. Place a waste bin beside or close to Baby Changing Station.
8. Install a retractable belt barrier at the entrance of larger washrooms with no doors.

6.8.8 Plumbing Fixtures

Plumbing fixtures in all washrooms must comply with UCalgary standards as noted in Section 5.16 Mechanical Systems for performance requirements and preferred models. Key requirements for washrooms to include:

1. Lavatories will be stainless steel, circular or oval undermounted sinks. Preferred size 450 mm dia. X 150 mm deep.
2. Floor drains are required in each stall in Gender Inclusive Washrooms.
3. When existing trap primer location cannot be determined or is not present a new electronic trap primer shall be provided in an adjacent mechanical space or behind an access panel located behind the washroom entry door. Locations within washrooms to be coordinated with Campus Architecture.
4. When not otherwise provided with vanity skirt, domestic water lines and sanitary p-traps to be installed with durable protective anti-scald and abrasion safety guards.
5. For fixture selection refer to Section 5.16 Mechanical Systems. In the case a fixture is discontinued, substitute fixtures are to be approved in writing from CE.

6.8.9 Lighting

Lighting systems in all washrooms must be designed to comply with UCalgary standards as noted in Section 5.17 Electrical Systems. Key requirements for washrooms include:

1. All fixtures and devices must be shown on electrical and architectural drawings to ensure full coordination.
2. Lighting design should avoid ledges where dust settles or where access is limited for bulb changes (i.e. cove lighting). Surface mounted or recessed strip lighting is preferred.
3. Provide emergency lighting in all washrooms.
4. Provide appropriate quantity and quality of lighting. Linear lighting / wall sconce /

backlit lighting are suggested at mirror locations, so illumination could fall in front of face. Pot lights should be used for general lighting only and NOT at mirror locations. Specialty washroom lighting to be reviewed by CA and CE.

5. Lighting above shower shall be cUL listed suitable for that application.
6. Occupancy sensor (dual technology) shall be used for lighting control. Time delay of sensor shall be 20 min. minimum after washroom is vacated. Exercise care when designing locations of occupancy sensor above the stalls to ensure that they are well covered. Where more than one sensor is installed, activation of any one sensor in the washroom shall turn on all lighting. Refer to the proposed layout in Appendix drawings A3.2 and A5.2.
7. Where stall partitions are full height or less than 300 mm from ceiling, each stall shall be provided with an occupancy sensor or use integral sensor in fixture.

6.8.10 Power Requirements

1. Hands-free toilet or urinal shall be fed from low voltage wiring (in EMT or as BX cable wrapped tidily above ceiling) connected to the power supply unit. Power supply shall be installed close to and within reach of an access panel, fully labeled.
2. Provide a housekeeping GFCI duplex outlet in each washroom at low level for general maintenance use. No receptacles are required above vanity counter (except residential premises). This outlet shall be shown in the drawing package and coordinated between the architectural and electrical drawings.

6.8.11 Fire Alarm Devices

A visual signal device shall be provided for all washroom in addition to audible signal device per code requirement (except for a single washroom) where Fire Alarm system supports.

6.8.12 Appendix A: Washroom Standard Drawings



Revision History

Revision Date	Version	Description
Aug 2023	1.1	Baseline version
August 10, 2023	1.0	Added Revision History table to end of document and reset to Version 1.0.