All guidelines apply to both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.

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1.0 GENERAL

1.1 Concrete Construction – Structural Requirements

.1 Design building structures and their structural components for a 100-year service life.

.2 Structural design shall conform to Part 4 of the BC Building Code.

.3 Ensure that drawings include a summary of the structural systems and provide supplementary information as required.

.4 Ensure that sustainable design principles have been considered for the project. Ensure that LEED requirements selected by UBC have been satisfied. (Phone UBC Sustainability Office – Phone: 604-827-5641).

.5 Increase live loads for specific UBC occupancies.

.6 UBC has a unique snow loading factor that differs from Vancouver’s under 4.1.6.3 of the BC Building Code. [https://technicalguidelines.ubc.ca/technical/structural_design_snow_loads.html](https://technicalguidelines.ubc.ca/technical/structural_design_snow_loads.html)

.7 Design light roofs for a minimum net factored uplift of 1.0 kPa.

.8 Ensure that the design and field review of non-structural components is covered in the contract documents (drawings and/or specifications).

1.2 Materials

.1 Treat exposed concrete elements with beveled edges or tooling, as appropriate.

.2 Slabs-on-grade are to be 150 mm minimum thickness, reinforced and provided with well spaced control joints in an approximately square pattern, spacing less than 4000 mm on centre.

.3 Reinforcing steel, which is part of the seismic load-resisting system, must be weldable conforming to CAN/CSA G30.18W.

.4 Do not use calcium chloride (in any form) in concrete mixes.

.5 Post-tensioned floor systems are strongly discouraged by UBC. Obtain any pre-approval and acceptance from UBC Technical Services, (Phone: 604-822-0852), before considering post-tensioning. (It appears that unofficial drilling into slabs continues even after all warnings and signage has been installed to the contrary).

***END OF SECTION***
1.0 GENERAL

1.1 Related UBC Guidelines

.1 Section 03 00 00 Concrete
.2 Section 07 00 10 Building Envelope – General Requirements
.3 Section 07 40 00 Roofing and Siding Panels
.4 Section 07 62 00 Sheet Metal Flashing and Trim

1.2 Co-ordination Requirements

.1 Building Envelope Consultant.

1.3 Performance Standards

.1 Reinforcing and other steel requiring corrosion protection shall be embedded so that the minimum depth of concrete cover is in all cases greater than 40 mm.

.2 Stainless steel is to be used where reinforcement or other embedded metal has less cover than 40 mm.

.3 The concrete mix and placement and curing procedures are to be designed to provide the required quality of surface appearance and texture.

.4 Concrete structure that penetrates through the building enclosure constitutes a large thermal bridge and requires an energy audit.

1.4 Quality Control and Assurance

.1 Submittals

.1 Construct mock-ups of all assemblies to check contractor’s procedures.

.2 Contractor to submit mix designs and placement procedures for architectural panels.

2.0 MATERIALS

2.1 Performance Requirements

.1 Maintenance

.1 No maintenance for 100 years, except for cleaning.

2.2 Prescriptive Requirements

.1 Materials

.1 Components

.1 Concrete components to be certified compliant to CSA A23.1 for alkali aggregate reactivity.

.2 Finishes

.1 Surfaces of exterior concrete to be treated with opaque paint coatings or a clear silane/siloxane type sealer after final cleaning.

.2 Surfaces of exterior concrete near grade to be treated with a clear anti-graffiti type coating where required by UBC. Anti-graffiti coating systems with a wax top coat are preferred. Contact Transition Team, Infrastructure Development.