PART A : GETTING A PROJECT STARTED

SETTING THE CAMPUS CONTEXT

Description

Burnaby Campus opened in 1965 with 6 buildings (Academic Quadrangle, Convocation Mall, WAC Bennett Library, Shrum Science Chemistry, University Theatre, Chancellor’s Gymnasium). Currently, about 40% of the buildings are over 30 years old.

The campus is laid out based on a master plan design by architects Arthur Erickson and Geoff Massey. The original buildings were organized on an east-west axis and constructed of exposed cast in place concrete and glass. More recent building exteriors have also included wood accents and metal cladding, but exposed concrete continues to be the dominant architectural vocabulary, forming a harmonious architectural aesthetic across campus.

There are currently over 60 buildings on Burnaby campus and approximately 346,000 SM (2014 space report). The campus site area within the Ring Road is 174 hectares (430 acres) (see Appendix A-1: Burnaby Campus Map or printable map at www.sfu.ca/fs/Campus-Facility-Profiles/Campus-Maps.html).

Building List (2014)

The complete building list, official building names (and acronyms) and building numbers are attached in Appendix A-2.

Street Address

The whole Burnaby campus has one street address:

8888 University Drive

Burnaby, B.C. V5A 1S6

Canada Post Mail is centrally delivered to Central Stores in Facilities Services Building and re-directed by internal campus mail to the various departments on campus.

Legal Description for SFU Burnaby Campus

PID: 028-300-131

Lot 1 District Lots 31, 101, 102, 141, 144, 147, 209, 210 and 211 Group 1

New Westminster Land District Plan BCP 45523

(See Appendix A-3: SFU Legal Map 2011)

Note:
Confirm Legal description with Project Representative for the specific property.

Revised February 24, 2017
Climate Data & Geotechnical Site Information

The Burnaby Mountain campus is in a distinctly more severe climate than the surrounding areas of Burnaby and the Lower Mainland. Greater amounts of snowfall and increased freeze/thaw cycles over the winter season can be expected.

The following information is from the data published in the BC Building Code (2012) but any later version can be adapted and the more stringent requirements should be used.

| Location: Burnaby Mountain, Longitude: 122°55’04.960” W, Latitude: 49°16’42.200” N |
| Elevation: 330 m (Average) |
| January 2.5% design temp. -7 degrees |
| January 1% design temp. -9 degrees C |
| July 2.5% design dry temp. 25 degrees C |
| July 2.5% design wet temp. 17 |
| Degree Days 3100 (Below 18 degrees C) |
| 15 Min. Rain, mm 10 mm |
| One day Rain, 1/50, mm 150 mm |
| Annual Rain 1850 mm |
| Moisture Index (MI) 1.93 |
| Annual Total Precipitation 1950 mm |
| Driving Rain Wind Pressures, 1/5 160 Pa |
| Snowfall: Ground Snow Load Ss = 2.9 kPa |
| Sr = 0.7 kPa |
| Hourly Wind Pressures: Probability 1/10 0.36 kPa |
| Probability 1/50 0.47 kPa |
| Seismic data: Sa (0.2) 0.93 |
| Sa (0.5) 0.63 |
| Sa (1.0) 0.32 |
| Sa (2.0) 0.17 |
| Peak Ground Acceleration (PGA) 0.46 |

(See Appendix C-1: Burnaby SFU Climate Data from Environment Canada, Appendix C-2a: BC Building Code Seismic Slope Regulation & Technical Guidance, and Appendix C-2b: Determining ASHRAE 90.1-2010 Climate Zones)

Geotechnical Site Information:

The soils and bedrock conditions, encountered within the boundaries of the Burnaby Mountain campus of Simon Fraser University can be described in general terms as relatively thin surficial granular materials, over Sandstone or Conglomerate bedrock.
The granular material is generally composed of loose to dense sands, to sand and gravel, to a silty sand and gravel containing coarser cobble and boulder sizes. The thickness of the surficial granular material may range from less than 1 meter, up to and greater than 2 to 3 meters. The silty sand and gravel is generally of glacial origin (hardpan), but may also be the result of weathering of the local bedrock.

In totally undeveloped areas, an organic cover of forest litter or debris, and topsoil may be encountered to depths of 300 to 500 mm. Frequently, however, within developed areas, organic or mineral fills may be encountered to depths of 3 meters and greater.

The surficial granular material is underlain by Sandstone and/or Conglomerate bedrock. The bedrock surface may be moderately to highly weathered to depths of up to 2 to 3 meters, with the Sandstone generally showing greater depths of weathering than the Conglomerate. Depending on the specific location, ground water may be encountered within a given excavation. However, seepage is generally encountered at the soil rock interface and can usually be controlled by conventional pumping.

Excavation of the highly to moderately weathered rock can usually be achieved with the use of conventional, large capacity, track mounted excavators. Deeper excavations within the less weathered or fresh rock would required less conventional rock breaking equipment or blasting. Both the Surficial silty sand and gravel and the weathered zones of bedrock are highly susceptible to disturbance if exposed to water ponding and construction traffic.

Same Geotechnical reports are available at Facilities Services that maybe helpful in design, cross-referencing and preliminary scope development.

REGULATORY BODIES (DEVELOPMENT AND BUILDING PERMITS)

The University Act and the Government of British Columbia

SFU is constituted under the Universities Act as an independent agency of the crown and operates under the authority of its own Board of Governors. Operating budgets and capital funds are provided by the Province of British Columbia. The Ministries responsible for the University are the Ministry of Advanced Education and Labour Development and the Ministry of Finance.

The City of Burnaby

Planning of Burnaby Campus follows the City of Burnaby’s Official Community Plan (OCP) and the City of Burnaby’s Preliminary Planning Approval (PPA) process (in a simplified version) is followed, including public meeting(s) held on the campus for the campus community on planning changes.

The BC Building Code (latest edition) and Fire Code is applied on projects, including the requirements for Schedules from Registered Professionals as part of the permitting
process. Building Permits and all Trade Permits are required from the City of Burnaby. Contractors are responsible for obtaining all permits and approvals prior to the commencement of the work. The Contractor(s) shall provide a copy of the permit to the Facilities Services Representative prior to commencement of the work. Such permits include, but are not limited to:

- City of Burnaby Building Permit (all work other than purely cosmetic or non-structural/ non code-related work)
- Health Department (where applicable)
- Sprinkler permit (where applicable)
- Plumbing permit
- Electrical permit

Evidence of applicable permits and approvals must be posted at the site, prior to the commencement of the work.

Refer also to requirements in City of Burnaby Building Department web site for latest bulletins.

The City of Burnaby and SFU enjoy a cooperative working relationship. Nevertheless it is difficult, over time, to ensure continuity of message and intent as regulations, practices and policies on both sides change.

For continuity of message, clarity of intent and ensuring implementation of the long term vision, Facilities Services MUST accompany ALL consultants presenting documents or clarifying requirements with the City of Burnaby. Depending on the Project, it is typically preferred if all communication with Burnaby goes through Facilities.

All meetings with Burnaby must be documented and minutes distributed to all parties in attendance. Previous commitments or undertakings (on SFU’s part) should be first reviewed with SFU’s Project representative.

The City of Burnaby Building Inspector conducts field reviews for New Buildings and Major Improvements in existing buildings.

**SFU Departments**

Facilities Services Development Manager / Project representative has the responsibility for determining and retaining the Registered Professional(s) (i.e., architect, structural/ mechanical/ electrical engineer, commissioning authority, and/or other professionals) required for the design and execution of the Project.

Apart from Facilities Services, a number of University Departments are often consulted for detailed requirements and approvals during the Design Development and Construction process, including: Information Technology Services (which includes data and communications and CaRS), Campus Security, and Environmental Health and Safety. Other agencies such as the Registrar’s Office and Student Services, and the Disability Resource Centre, etc. may also be consulted as project applicable.
SFU Policies

SFU Policies that relate to projects are listed below. Refer to SFU web site for details and for latest updates. [www.sfu.ca/policies.html](http://www.sfu.ca/policies.html)

- AD1-3 Traffic and Parking Regulations
- AD1-4 Control of Keys and Access Cards
- AD 1-9 Furniture
- AD-13-1 Annual Capital Allowance Projects
- AD13-2 Minor Capital Project Requests (total cost over $1500)
- AD13-3 Work Orders (total cost under $1500)
- GP 16 Non-Smoking Policy
- GP 18 Human Rights Policy
- GP 22 Fire Safety
- GP 32 Environmental Management Policy
- GP38 Sustainability Policy

PROJECT DEVELOPMENT AND MANAGEMENT

Development and Project Management

All capital construction projects on Burnaby Campus are planned, budgeted and managed through Facilities Services, Development. Maintenance and energy projects are generally managed through the operations group.

See Appendix A-4: Consultant Disbursements Form.

Consultants

CAPITAL PROJECTS

Capital Projects were traditionally differentiated as major capital, Renewal and Renovation projects based on project budget (typically $1.5 M). However, requirements for Renewal & Renovation and/or major projects may apply to either/or both.

RENEWAL AND RENOVATION PROJECTS

Renewal and Renovation Projects Contracts typically (but not necessarily) have a
Construction Value of up to $1.5 M and are funded by a variety of sources, such as through departmental funding, through annual capital budget allowances or provincial funded smaller projects.

Department funded projects (Renovation & Minor projects): To expedite Project delivery, minimize Consultant costs (that are charged back to the Client Department) and to ensure institutional standards are maintained, the Departmental Renovations and Minor Projects Services section may design, tender, award and oversee projects and construction contracts with its internal staff of Architects, designers and engineers.

See Appendix A-5: Project Initiating Form.

See Appendix A-6: Departmental Renovations and Minor Project Checklist.

Departmental Renovation and Minor Projects typically use a Short Form Consultants Contract as well as a Short Form Construction Contract, SFU’s insurance and disbursement requirements.

MAJOR CAPITAL PROJECTS

Major Capital Projects generally have a value of greater than $1.5M and are directly funded by the province or through federal programs or through private donors or partnerships.

Typically a Programmer is hired 6 months before a major capital Project commences to assist the User Group document their Requirements and to describe these requirements in a Building Program, defining functional needs and size. This Program then allows a Quantity Surveyor (Cost Consultant) hired independently from the Design Team, to establish the Project Budget for the planned new Facility.

Major Projects (major renovations and new buildings) will typically have a full complement of consultants to design, tender and oversee the construction. Generally, the consultants are led by a prime consultant architect but may also include overseeing and coordination of other Consultants retained by the Owner.

See Appendix A-7: Major Project Checklist.

Major capital projects funded by the Provincial Government are required to be certified LEED Gold (or equivalent rating system). To achieve this, the project team must integrate LEED rating criteria as early as possible in the design process to prepare a target scorecard, and to monitor the design to ensure these goals are met.

PROCURING CONSULTANT SERVICES FOR MAJOR PROJECTS

SFU follows AIT and TILMA requirements for open public tendering. For Consultant work over $50,000, SFU posts an RFP for Consulting Services on BC Bid.
CONSULTANT AGREEMENTS

Typically, the Prime Consultant Agreement is executed under RAIC Document Six (2006) or most current version, with SFU Supplementary Conditions. The SFU Short Form Consultant Contract may also be used in smaller projects.

Although the project team is generally retained by the Prime Consultant/Architect, SFU may retain Geotechnical consultants, Owner’s commissioning authority and other specialty consultants such as signage and furniture.

Contractors

Major Projects uses a variety of Construction Contracts and Project Delivery mechanisms. Most commonly, an Expression of Interest (EOI) or a Request for Proposal (RFP) is issued on BC Bid for Stipulated Sum or for Construction Management at Risk (CM at Risk) services. In CM at Risk contracts, the bid terms fix the Contractors overhead and profit and Division 1 costs. SFU may choose to convert this to a Stipulated Sum Contract after the sub-trades are tendered and awarded.

SFU typically requires a 10% Bid Bond as well as a 50% Labour and Materials Bond and a 50% Performance Bond on the General Contractor.

The standard form of contract is CCDC2 (2008) with SFU Supplemental General Conditions for CCDC2 2008. These Supplemental General Conditions outline SFU’s specific conditions including insurance, liability and dispute resolution.

Pre-approved Contractors

Facilities Services and Procurement Services are working to develop a list of pre-approved contractors. Once in place, the intention is that the list will be reviewed and updated on an annual basis. Contact Facilities Services for more information.

Considerations for Contractors interested in applying for Pre-qualification:

- For Renewal and Renovation work, the Contractor must demonstrate its capacity and experience work in Institutional Projects / Occupied Buildings of similar size.

- Due to its negotiated Non Affiliation Clause with the trade Unions forming the Poly Party, Minor Capital Projects under $150,000 will only use fully certified, qualified, union contractors and subcontractors. This requirement applies to all trades that are reasonably available from union shops.

- Contractors must be able to qualify for Bonding if required by the contract.

- All contractors must comply with all SFU Policies and SFU Construction rules and regulations and fully cooperate with Facilities Services, Campus Security and Environmental Health and Safety regulations.
GETTING BASE DRAWINGS AND INFORMATION

The following information is managed by Facilities Records and is available on request to Consultants working on projects. To request hard copy drawings or electronic files, please complete a [Printing Request Form](#) and contact Records Services.

See [Appendix D-2: Printing Request Form](#).

[Note: All CAD files provided by SFU are provided for information and reference only, based on the best available data available at the time of transfer. Field verify the information as required prior to commencement of any work.]

<table>
<thead>
<tr>
<th>Available Drawing Information</th>
<th>Details/Description</th>
<th>Examples Information Listings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus Maps and Site Plans</td>
<td>Provide all campus information for the locations of buildings, department and infrastructure services. PDF, Illustrator &amp; AutoCAD formats are available</td>
<td>Campus Map/ Directory Signage Map/ Emergency Phone Map/Wheelchair Access &amp; Elevator Map/ Construction Map/ Recycling Bin Location Map/ Open Space Map</td>
</tr>
<tr>
<td>SFU Legal Map</td>
<td>Provide the legal description of SFU Burnaby lot. PDF and AutoCAD formats are available.</td>
<td>SFU Burnaby Legal Map</td>
</tr>
<tr>
<td>Floor Plans / Key Plans</td>
<td>Architectural key plans are available for each building. Key plans are related to a space inventory database in Archibus and include room numbers, building numbers and floor level. Each floor plan &amp; key plans are available in AutoCAD and PDF format.</td>
<td>All buildings</td>
</tr>
<tr>
<td>As-built/ Consultant Record drawings</td>
<td>Provide as Built and construction drawings of major &amp; minor building projects and renovations. All hardcopy &amp; electronic drawings are organized by building number and division code. Available in PDF or TIF and AutoCAD format.</td>
<td>All buildings</td>
</tr>
<tr>
<td>Other Record drawings</td>
<td>Provide as-built and construction drawings of renovations. Hard copies are kept in flat files in Records area, digital files may be available in CAD and PDF. Minor project records are retained based on File Plan Retention Schedules</td>
<td>In-house Technologists and consultants drawings for renovations of buildings post-construction</td>
</tr>
<tr>
<td><strong>Supplementary Campus Site Drawings</strong></td>
<td>Provide supplementary drawings &amp; images based on the site map. PDF &amp; AutoCAD are available</td>
<td>Building map / Landscape / Land Survey / Topographic maps / Aerial photos</td>
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<tr>
<td><strong>Utilities Maps</strong></td>
<td>Provide all campus underground services based on the site map. The utility maps are available in PDF &amp; CAD format</td>
<td>Central Heating/ Compressed Air/ Gas/ Electrical/ Fire Hydrant/ Sanitary Sewer/ Storm Drain/ Water Distribution Utility data is currently being converted to a GIS database and some GIS data may be available</td>
</tr>
<tr>
<td><strong>Reports</strong></td>
<td>Provide specialized information on physical assets: Geotechnical information, facilities conditions, etc. Reports are stored in the central document management system (Docushare) as PDFs</td>
<td>Geotechnical reports/ Condition assessment reports/ specialized remediation reports, etc.</td>
</tr>
<tr>
<td><strong>Project Specifications</strong></td>
<td>Provide building specs info provided by consultants. Available in PDF on Docushare for some older buildings (scanned) and for all newer buildings. Hard copies may be available</td>
<td>Building specs and schedules</td>
</tr>
</tbody>
</table>

**RECORDS MANAGEMENT SERVICES:**

A searchable Access database of SFU drawings by building name/number is available and can be accessed at the self-serve station in the Records area.

Copying & plotting services of documents & drawings are free to SFU members and consultants. However, for large volume printing, the printing costs incurred by external printers will be charged back to the requester.

For further request & information services from Records Department, please contact Irinel Filip at irinel_filip@sfu.ca or Sook Suh at ssuh@sfu.ca.