1.1 **GENERAL**

1.2 **Related SFU Technical Requirements**

1.2.1 *Section 01 77 00 Closeout Procedures*

1.2.2 *Section 09 00 10 Finishes – General Requirements*

1.3 **Description**

1.3.1 Carpet Tile, (preferred), Direct Glue-Down Carpet, and Carpet Accessories.

1.4 **Performance Standards**

1.4.1 British Columbia Building Code.

1.4.2 NFCA National Floor Covering Association Floor Covering.

1.4.3 CAN/CGSB-4.129: Carpet for Commercial Use.

1.4.4 CAN/CGSB-4.155: Flammability of Soft Floor Coverings.

1.4.5 CGSB 4-GP-156: Direct Glue-Down Carpet, Guide to Selection and Installation.

1.4.6 CAN/ULC-S102.2: Standard Method of Test for Surface Burning.

1.4.7 WorkSafeBC Workers Compensation Board, Industrial Health and Safety Regulations.

1.4.8 WHMIS Workplace Hazardous Materials Information System.

1.5 **Quality Control and Assurance**

1.5.1 **Submittals**

1.5.1.1 **Before Start of Work**

1.5.1.1.1 Manufacturer’s product data verifying compliance with specification requirements for carpet types and accessories specified.

1.5.1.1.2 Manufacturer’s full range (large set) of carpet colors and patterns available for carpet types meeting specification requirements for review and selection.

1.5.1.1.3 Two 400 mm (16") square samples of each type and of each color of carpet to be used. For carpet with pattern repeat, submit a minimum of three repeats of the pattern.

1.5.1.1.4 Manufacturer’s product data and material / color range of carpet accessories for review and selection.

1.5.1.1.5 Seaming Plan for all areas clearly indicating materials, patterns / colors, pile direction, joint (seam) locations (i.e. locations of length and cross seams and open edges) and other details including type and finish / color of trims and moldings used, required to clarify the work for review before commencing installation. Cross seams shall be avoided and will only be permitted where made unavoidable by carpet width or roll length. Avoid seams at doors and pivot points.

1.5.1.1.6 Certificate from carpet manufacturer stating that each roll of carpet furnished has been manufactured in accordance with specification requirements along with roll registration numbers.

1.5.1.2 **At Project Completion**

1.5.1.2.1 Manufacturer’s maintenance data and cleaning instructions for each type of carpet installed.

1.5.1.2.2 Two percent (2%) of total carpeted area from same production run of each type,
color and/or pattern of carpet installed, in full roll width x length as required, and sufficient adhesive to install this carpet, in unopened containers.

.3 In addition to the above, turn over to the SFU Facilities all carpet pieces remaining at job completion. No carpet scraps shall be removed from the site without the SFU Facilities written approval.

.2 Quality Assurance
   .1 Conform to NFCA Specification Standards Manual requirements for all products and installation, and all manufacturers' written instructions.

.3 Quality Control
   .1 Conduct hygrometer moisture tests on concrete shall not to exceed 65% per CCI Manual, or stricter manufacturer requirements.
   .2 Test new and suspect concrete floors for alkalinity and neutralize in accordance with NFCA/CCI recommendations. Carpet manufacturer’s representative to review carpet seaming and installation to ensure conformance with guarantee requirements and submit a written report to the Consultant and SFU Facilities.

2.1 MATERIALS

2.2 General Requirements
   .1 Preference is not to have carpet installed in public areas.
   .2 Carpet tiles should be used whenever possible.
   .3 Products with quick lead times should be specified.

2.3 Performance Requirements
   .1 Minimum Performance
      .1 Soil and stain protection shall be an integral life long stain proofing, i.e., inherent in or bonded to nylon fiber. Topical treatments are not acceptable.
      .2 Stain resistance (STR) shall be a minimum level of 8 in high traffic areas and 6 in low traffic areas based on AATCC 138 test for 5 washings to simulate removal of topical treatments by hot water extraction followed by AATCC 175 test.
      .3 Soil resistance (SR) with an average of 3 fluorine analyses to CRI TM-102, of a single composite sample shall be a minimum of 500 ppm fluorine by weight and a minimum of 400 ppm fluorine by weight after 2 AATCC 171 (Hot Water Extraction) cleanings.
      .4 Static control shall be a permanent anti-static filament, and without chemical treatment, with maximum static generation below 3.0 kV after hot water extraction under standard conditions of 21° C and 20% relative humidity.
      .5 Anti-microbial protection shall be permanent (not topical) treatment to prevent bacteria, fungi and bacteria growth lasting life of carpet.
      .6 Indoor air quality shall be to minimum Canadian Carpet Institute Indoor Air...
Quality standards, with maximum 0.5 mg/cm²/hr total VOC emission in accordance with ASTM D5116-90.

.7 Flammability CAN/ULC-S102.2 shall be Flame Spread Rating of 300; Smoke Developed Classification of 500.

.8 Radiant panel test shall be class I (0.45 watts/m² or greater).

.9 Pill test shall pass.

.2 Environmental

.1 Carpet to be 14001 certified or equal, for recycled content or recyclables.

.2 Source

.1 ISO 9002 quality audit certified.

.3 Performance

.1 Indoor Air Quality

.1 All carpet is to comply with the requirements of The Carpet and Rug Institute's Indoor Air Quality Program, as described in "Carpet Testing Program Procedures - Overview" and "The Carpet and Rug Institute Indoor Air Quality Carpet Testing Program."

.4 Disposal

.1 Recycle-Ability of Carpet

.1 Carpet face must be 100% recyclable.

.2 Submit manufacturer's recycling program with for each product.

.3 Provide percentage of recycled content contained in each product by color and recycle-ability of each product.

2.4 Prescriptive Requirements

.1 Carpet coloration shall be mottled, multi-colored, feathered look; preferably dark colour with lighter accent colours or mid to dark colours. Luster shall be dull.

.2 Carpet coloration must hide dirt and demonstrate to minimal maintenance and cleaning.

.3 Components

.1 General

.1 Carpet tiles are preferred for their ease of installation, their ease of changeability, and their comparable price to broadloom.

.2 Carpet provided shall be first quality commercial grade carpet for heavy traffic usage as manufactured by a nationally recognized manufacturer.

.2 Yarn

.1 100% first quality, type 6/6 or 6 bulk continuous filament (BCF) nylon.

.3 Carpet construction shall meet the following minimum requirements:

.1 Construction shall be level loop or textured level loop.

.2 Dye Method:

.1 Solution dyed or other method providing permanent stain resistance (i.e., inherent in or bonded to nylon fiber) with low luster colour(s).

.3 Piles shall be a minimum of 3.

.4 Pile height shall be 5.0 mm (0.197") maximum; 4.0 mm (0.144") minimum.

.5 Tuft Bind shall be a minimum 12 pounds, wet or dry.
.6 Gauge shall be minimum 39.4 col/10 cm (1/10") or better (a looser gauge may be allowed if Kilotex rating is sufficiently high).

.7 Stitch count shall be a minimum 40 / 10 cm (10 per inch).

.8 Yarn face weight shall be a minimum 950 gm/m2 (28 oz/sq.yd), or better (a lesser weight may be allowed with a Type 2 or 3 backing system).

.9 Pile density factor (ASTM D418) shall be a minimum 12 Kilotex/cm2.

.4 Adhesives

.1 Premium grade, low VOC (solvent-free), waterproof type for direct glue down carpet application as recommended by carpet manufacturer for backing system and substrate / grade level and usage conditions, complete with guarantee against adhesive bond failure. Spread rates stipulated by the manufacturer to be strictly adhered to.

3.1 OTHER

.1 Turn-Over Procedures

.1 Contractor to ensure that glued carpets are protected against damage from rolling loads for 48 hours after installation and protected by covering with plywood or hardboard where rolling traffic will occur (i.e. moving of equipment, etc.).

.2 Contractor to ensure that carpet is protected from traffic damage with suitable covering (un-dyed untreated paper) until floor has been turned over and accepted by SFU Facilities. Typically also provide two large sections of surplus carpet cuttings and place at entry doors so that they can be used as doormats by other trade personnel entering the carpeted area.

***END OF SECTION***