

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 35 29.06 – Health and Safety Requirements.
- .3 Section 01 45 00 – Quality Control.
- .4 Section 01 78 00 – Closeout Submittals.
- .5 Section 03 54 10 – Self-Leveling Underlayment.

1.2 REFERENCES

- .1 American Association of Textile Chemists and Colorists (AATCC).
 - .1 AATCC 16E-2014. Colorfastness to Light.
 - .2 AATCC 118-2013. Oil Repellency: Hydrocarbon Resistance Test.
 - .3 AATCC 134-2016. Electrostatic Propensity of Carpets.
 - .4 AATCC 138-2014. Cleaning: Washing of Textile Floor Coverings.
 - .5 AATCC 171-2014. Carpets: Cleaning of; Hot Water Extraction Method.
 - .6 AATCC 174-2016. Antimicrobial Activity Assessment of New Carpets.
 - .7 AATCC 189-2012. Fluorine Content of Carpet Fibers.
- .2 APA – The Engineered Wood Association
 - .1 Form No. L335N – Selection, Installation and Preparation of Plywood Underlayment.
- .3 ASTM International
 - .1 ASTM D1335-12, Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings.
 - .2 ASTM D1667-17, Standard Specification for Flexible Cellular Materials – Poly (Vinyl Chloride) Foam (Closed Cell).
 - .3 ASTM D3574-17, Standard Test Methods for Flexible Cellular Materials – Slab, Bonded, and Molded Urethane Foams.
 - .4 ASTM D3936-17, Standard Test Method for Resistance of Delamination of the Secondary Backing of Pile Yarn Floor Covering.
 - .5 ASTM E648-15e1, Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
 - .6 ASTM E662-17, Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
- .4 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-4.2 No. 22-2013, Textile Test Methods - Colourfastness to Rubbing (Crocking).

- .2 CAN/CGSB-4.2 No.27.6M-1991, Textile Test Methods - Flame Resistance - Methenamine Tablet Test for Textile Floor Coverings.
- .3 CAN/CGSB-4.2 No.77.1-94/ISO 4919:2012, Textile Test Methods - Carpets - Determination of Tuft Withdrawal Force.
- .4 CAN/CGSB-4.129-93, Carpets for Commercial Use.
- .5 Carpet and Rug Institute (CRI)
 - .1 CRI 104 Standard for Installation of Commercial Carpets 2015.
 - .2 CRI Green Label Plus Indoor Air Quality Testing Program.
- .6 National Terrazzo and Mosaic Association, Inc. (NTMA)
- .7 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .8 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2016, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2005 (June 2006), Adhesives and Sealants Applications.
- .9 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102-10, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.
 - .2 CAN/ULC-S102.2-10, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings and Miscellaneous Materials and Assemblies.

1.3 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-Installation Meetings:
 - .1 Convene pre-installation meeting one (1) week prior to beginning on-site installation, with Departmental Representative to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Review heritage fabric protection measures.
 - .4 Review Manufacturer's written installation instructions and warranty requirements.

1.4 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Submit product data sheets for each carpet type, adhesive, carpet protection, cleaning solution, sealant and subfloor patching compound. Indicate physical and performance characteristics, sizes, patterns, colours, limitations, and methods of installation.

- .3 Submit Manufacturer's installation and storage instructions for each carpet type, adhesive, carpet protection, cleaning solution, sealant and subfloor patching compound. Indicate special procedures and perimeter conditions requiring special attention.
- .4 Submit WHMIS MSDS – Material Safety Data Sheets for carpet adhesive and seam adhesive in accordance with Section 01 35 29.06 – Health and Safety Requirements. Indicate VOC content.
- .5 Submit shop drawings. Indicate locations and lengths of seams for carpeted areas.
 - .1 Provide dimensions for all carpeted areas to be included in Work on shop drawings. Contractor to verify measurements on site prior to beginning of Work.
 - .2 Indicate nap direction, open edges, special patterns, and other details required by Departmental Representative to clarify work.
 - .3 Submit drawings showing columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required as well as direction of carpet pile and pattern. Indicate edge mouldings and edge bindings.
- .6 Provide samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Submit three 600 x 600 mm sample pieces of each type, pattern and colour of carpet specified.
 - .3 Submit 300 mm long sections of transition strips, edge strips, binder bars, and thresholds.
- .7 Certificates: submit product certificates signed by Manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .8 Test and Evaluation Reports:
 - .1 Certified test reports showing compliance with specified performance characteristics and physical properties.
- .9 Sustainable Design Submittals:
 - .1 Construction Waste Management:
 - .1 Submit project Waste Management Plan highlighting recycling and salvage requirements.
 - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50% of construction wastes were recycled or salvaged.
 - .2 Low-Emitting Materials:
 - .1 Submit listing of adhesives and sealants used in building, showing compliance with VOC and chemical component limits or restriction requirements.
 - .2 Submit listing of carpet, carpet backer and adhesive used in building, showing compliance with CRI Green Label Plus Indoor Air Quality Test Program.

- .10 Submit test reports for each Carpet as follows:
 - .1 Submit test reports to demonstrate compliance with all specified standards.
 - .2 Submit certificates to demonstrate compliance with CAN/ULC-S102.2.
 - .3 Submit test reports to confirm compliance with ASTM E648 and E662.
 - .4 Submit test reports to verify that tuft bind meets specified requirements by ASTM D1335.
 - .5 Submit proof that carpet has been tested and passed the CRI Indoor Air Quality Green Label Plus Testing Program.

1.5 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 – Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for installed products for incorporation into manual. Submit maintenance data including maintenance procedures, recommendations for maintenance materials and equipment, and suggested schedule for cleaning.
- .3 Warranty Documentation: submit warranty documents specified.
- .4 Submit schedule using Carpet Type and Carpet Pattern designations. Include schedule based on corridor numbers as indicated in the drawings.

1.6 MOCK-UP

- .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control.
- .2 Construct mock-ups where directed on multiple floors in the building as selected by Departmental Representative to verify the following:
 - .1 Determine appropriate method for removal of adhesive and cleaning of each type of substrate identified as heritage fabric to prepare for installation of carpets.
 - .2 Use samples provided for each carpet type to confirm suitability of pattern and colour with existing interior finishes. Construct mock-up to confirm installation method for each type of carpet in locations as indicated by Departmental Representative.
- .3 Mock-ups to be two square metres in size for each type of flooring or as requested by Departmental Representative.
- .4 Allow for inspection of mock-up by Departmental Representative before proceeding with additional flooring work. When accepted, mock-up will demonstrate minimum standard for this work. Approved mock-up may remain as part of the finished work.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- .1 Provide 5% of each colour, pattern and type of carpeting used in the project. Provide in one continuous full width roll for each broadloom product.

- .2 Extra materials to be provided in one piece and from same production run as installed materials. Package products with protective covering and identify each package of carpet and each container of adhesive with descriptive labels.
- .3 Deliver to Departmental Representative upon completion of work of this section and store where directed.

1.8 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 00 10 – General Instructions and with Manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with Manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials indoors, in dry location and in accordance with Manufacturer's recommendations in clean, well-ventilated area.
 - .2 Store carpet and adhesive between 18°C and 32°C for minimum of 48 hours before installation. Relative humidity should not exceed 65%.
 - .3 Store and protect carpet and adhesive in original containers or wrapping with Manufacturer's seals and labels intact.
 - .4 Store and protect carpeting and accessories in location as directed by Departmental Representative.
 - .5 Prevent damage to materials during handling and storage. Keep materials under cover and free from dampness.
 - .6 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials.
 - .7 Replace defective or damaged materials with new.
- .4 Develop Waste Management Plan related to Work of this Section and in accordance with Section 01 00 10 – General Instructions.
- .5 Waste Management and Disposal: separate waste materials for reuse and recycling in accordance with Section 01 00 10 – General Instructions and as specified in Waste Management Plan. Remove from site and dispose of packaging materials at appropriate recycling facilities.

1.9 SITE CONDITIONS

- .1 Maintain air temperature and structural base temperature at flooring installation area no lower than 18°C and no higher than 32°C for at least 72 hours before, during, and after completion of work.
- .2 Ensure substrate is within moisture limits and alkalinity limits prescribed by Manufacturer. Prepare moisture and pH testing as required and provide report to Departmental Representative.

- .3 Relative humidity must not exceed 65% for 48 hours before, during and after installation.
- .4 Ventilate area of work as directed by Departmental Representative by use of approved portable supply and exhaust fans with HEPA filters.
- .5 Provide continuous exhaust ventilation during and after carpet application. Run ventilation system 24 hours per day during installation; provide continuous ventilation for 7 days after completion of carpet installation.
- .6 Install carpet after wet or dusty work in space is completed and nominally dry and after work above ceilings is complete.

Part 2 Products

2.1 MATERIALS - GENERAL REQUIREMENTS

- .1 Sealants:
 - .1 Provide products compatible with carpet type in accordance with Manufacturer's recommendations.
 - .2 VOC limit 50 g/L maximum to SCAQMD Rule 1168.
 - .3 Primer and Sealer: in accordance with Manufacturer's recommendations for surface conditions:
 - .1 VOC limit: 100 g/L maximum to SCAQMD Rule 1113.
- .2 The following are applicable to all carpet types:
 - .1 Provide products certified to CRI Green Label Plus Program.
 - .2 Provide products that incorporate permanent soil resistant treatment.
 - .3 Provide products that incorporate permanent stain resistance for life of carpet. Topical treatments are not acceptable.
 - .4 Provide products that meet the requirements of the methenamine pill test for flammability, in accordance with CAN/CGSB-4.129-93/DOC FF 1-70.
 - .5 Provide products that incorporate permanent static control for life of carpet. Topical treatments are not acceptable. Apply cleaning test to AATCC 138 or hot water extraction to AATCC 171 prior to static testing. Do static testing to AATCC 134, to 3500 V maximum.
 - .6 Provide products that incorporate permanent anti-microbial properties meeting AATCC 174.
 - .7 Provide carpets meeting the requirements of ASTM E648 for flammability and ASTM E662 for smoke developed.
 - .8 Dye Lot: minimum 1000 square meters with no visual difference in side and end uniformity.
- .3 **Type 1 Carpet:** Combination of Type 1-A and Type 1-B carpets.
 - .1 Colour and Pattern: as selected by Departmental Representative from manufacturer's range of the following:

- .1 Type 1-A: graphic of two colours developed from available yarn.
- .2 Type 1-B: solid colour designed for colour match of Type 1-A carpet.
- .2 The following are applicable to both Type 1-A and Type 1-B carpets:
 - .1 Design Criteria: to be suitable for free floating carpet application not requiring use of adhesive or mechanical connections to substrate.
 - .2 Product Type: Hybrid Resilient Sheet Flooring.
 - .3 Delamination of Secondary Backing of Pile Floor Coverings: to ASTM D-3936.
 - .4 Face Weight: Minimum 813.6 g/m².
 - .5 Construction: Tufted.
 - .6 Pile Surface Appearance: Level Loop.
 - .7 Pile Fibre: BCF Nylon.
 - .8 Gauge: Minimum 50.4 rows / 10 cm.
 - .9 Stitch Rate: Minimum 47.2 pu / 10 cm.
 - .10 Tuft Density: Minimum 23.8 tufts / cm².
 - .11 Pile Height: 3.4 mm.
 - .12 Kilotex: Minimum 14.0.
 - .13 Density Factor: 278 kg/m².
 - .14 Yarn Dye Method: 50% Solution Dyed, 50% Yarn Dyed.
 - .15 Colourfastness to Light: to AATCC 16E.
 - .16 Precoat: Vinyl.
 - .17 Secondary Backing: Closed Cell Vinyl Cushion.
 - .1 Composition: Thermoplastic Vinyl Composite.
 - .2 Density: as per ASTM D3574.
 - .3 Compression Set (ASTM D-1667): Max 10%.
 - .4 Compression Deflection (ASTM D-1667): Min. 48 MPa @ 25%; Max. 173 MPa @ 25%.
 - .5 Impermeable to moisture and airflow.
 - .6 Provide for a chemically welded seam that is also impermeable to moisture and airflow.
 - .7 To be installed with peel and stick backing.
- .3 **Type 1-A Carpet - Field Pattern:** In general, Type 1-A carpet shall be installed in centre of corridors with Type 1-B at the perimeter. Refer to Pattern Schedule for pattern and colours.
- .4 **Type 1-B Carpet - Border Pattern:** In general, Type 1-B carpet shall be provided at perimeter of corridors to dimensions indicated, with Type 1-A carpet at the centre. Refer to Pattern Schedule for pattern and colours.
- .5 **Type 2 Carpet:** Combination of Type 2-A and Type 2-B carpets.

- .1 Colour and Pattern: as selected by Departmental Representative from manufacturer's range of the following:
 - .1 Type 2-A: graphic of two colours developed from available yarn.
 - .2 Type 2-B: solid colour designed for colour match of Type 1-A carpet.
- .2 **Type 2-A Carpet – Field Pattern:** In general, Type 2-A carpet shall be installed in centre of rooms with Type 2-B at the perimeter. Refer to Pattern Schedule for pattern and colours.
 - .1 Product Type: Broadloom.
 - .2 Construction: Tufted Cut Pile.
 - .3 Tufted Pile Weight: 1221 g/m².
 - .4 Gauge: 39.4 needles / 10 cm.
 - .5 Stitches: 42.9 stitches / 10 cm.
 - .6 Finished Pile Height: 5.5 mm.
 - .7 Total Finished Weight: 2655 g/m².
 - .8 Density: 5486.
 - .9 Kilotex: 11.0.
 - .10 Pile Fibre: Nylon.
 - .11 Dyeing Method: Skein Dyed.
 - .12 Pattern Repeat: 66.0 mm W x 58.5 mm L.
 - .13 Primary Backing: Woven Polypropylene.
 - .14 Backing Construction: Latex Backing.
 - .15 Width: 3.66 m.
- .3 **Type 2-B Carpet – Border Pattern:** In general, Type 2-B carpet shall be provided at perimeter of room to dimensions indicated. Refer to Pattern Schedule for pattern and colours.
 - .1 Product Type: Broadloom.
 - .2 Construction: Tufted Cut Pile.
 - .3 Tufted Pile Weight: 1085 g/m².
 - .4 Gauge: 39.4 rows / 10 cm.
 - .5 Stitches: 41.7 stitches / 10 cm.
 - .6 Finished Pile Height: 5.5 mm.
 - .7 Total Finished Weight: 2380 g/sq m.
 - .8 Density: 4306.
 - .9 Kilotex: 11.2.
 - .10 Pile Fibre: BCF Nylon.
 - .11 Dyeing Method: Piece Dyed.
 - .12 Backing Construction: Latex Backing.
 - .13 Width: 3.66 m.

- .6 **Type 3 Carpet:** Pattern and colours as indicated in Pattern Schedule. Wall to wall corridor carpet and stair runner in locations as indicated in Drawings.
- .1 Product Type: Broadloom.
 - .2 Construction: Multi-Level Pattern Cut/Loop.
 - .3 Pile Fibre: Nylon.
 - .4 Dyeing Method: 100% Solution Dyed.
 - .5 Gauge: 39.37 / 10 cm.
 - .6 Stitches: 55.12 / 10 cm.
 - .7 Tufted Pile Height: 3.18 mm – 9.53 mm.
 - .8 Tufted Yarn Weight: 1, 491.85 g/m².
 - .9 Finished Pile Thickness: 6.40 mm.
 - .10 Width: 3.66 m.
 - .11 Density: 6286.
 - .12 Kilotex: 11.70.
 - .13 Installation Pattern Repeat: 22.23 mm W x 22.23 mm L.
 - .14 Primary Backing: Woven Synthetic.
 - .15 Secondary Backing: Polymer Backing.
 - .16 Traffic Class: TARR.
 - .17 Minimum Pre-Consumer Recycled Content: 13%.
 - .18 Pattern Repeat: 22.23 mm W x 22.23 mm L
 - .19 Primary Backing: Woven Polypropylene, 120 g/m².
 - .20 Secondary Backing: Woven Polypropylene, 90 g/m².
 - .21 Lamination: Fire retardant latex not less than 950 g/m²; and sufficient to produce the tuft bind specified.
 - .22 Flame Resistance: CGSB 4-GP-129.
 - .23 Colour Fastness: Minimum L5.
- .7 **Type 4 Carpet:** Pattern and colours as indicated in Pattern Schedule. Temporary weather carpet to be installed as a runner in locations as indicated in Drawings.
- .1 Face Fiber: 100% ASOTA®.
 - .2 Dye Method: Solution dyed polypropylene fibers.
 - .3 Face Weight: 1750 g/m².
 - .4 Backing: Natural-synthetic composite rubber to match Eco-DI-back® or equivalent.
 - .5 Total Weight: 3200 g/m².
 - .6 Width: 2.00 m.
 - .7 Length: 21 m.
 - .8 Total Thickness: 12.5 mm.

- .9 Meets the requirements of the methenamine pill test for flammability, in accordance with CAN/CGSB-4.129-93/DOC FF 1-70.
- .10 Meets ISO 9002 Certification for quality management systems.
- .11 Green Label Plus Certified.

2.2 ACCESSORIES

- .1 Materials: There is an existing hierarchy present in the materiality of the interior architectural components and finishes of the building such as in the thresholds and transition strips. All materials and colours must be selected to ensure compatibility with the existing hierarchy.
- .2 Base: existing wall bases to remain in situ.
- .3 Carpet Grippers: type in accordance with carpet Manufacturer's written instructions.
- .4 Seaming Tape: type in accordance with carpet Manufacturer's written instructions for purpose intended.
- .5 Seaming Sealer Adhesive: type in accordance with carpet Manufacturer's written instructions for purpose intended.
- .6 Binder bars: brass finish to match existing hardware and of type recommended by Manufacturer.
- .7 Stair Nosing: type in accordance with carpet Manufacturer's recommendations. Nosing to be of type using no permanent fasteners such as screws and to be of brass finish, with non-slip inserts of colour to match stair carpet, and minimum drop on riser as required for stair nosing profile.
- .8 Protective Transition Strips / Edge Strips:
 - .1 All carpet terminations or transitions to other types of flooring must have a capped edge molding or protective covering at the carpet edge.
 - .2 Carpet transition strips / reducer strips: ensure sufficient coverage of carpet edge in accordance with Manufacturer's recommendations. Width of visible covering not to exceed 3 cm in width, to be of thermoplastic rubber, with depth to match floor or carpet thickness as needed. Colour to match and blend with adjacent carpets to approval of Departmental Representative. Profiles and locations as indicated in Drawings.
 - .3 Tile Edging / Divider Strips: As required, 3 mm thick, brass, with depth to match tile thickness. Profile and locations indicated in Drawings.
 - .4 Binder Bars: As required for use as divider between dissimilar carpets. Shall be bronze alloy 385, of minimum size and of type as recommended by Manufacturer and to approval of Departmental Representative.
- .9 Adhesive:
 - .1 Multi-purpose adhesive type: in accordance with carpet Manufacturer's written instructions for direct glue down installation.

- .2 Latex adhesive: in accordance with carpet Manufacturer's written instructions for direct glue down installation.
- .3 Silicone adhesive: in accordance with Manufacturer's written instructions for nosing installation.
- .4 On site application VOC limit: 0 g/L.
- .10 Carpet protection: non-staining heavy duty kraft paper.
 - .1 Avoid self-adhering plastic films as these may leave residues resulting in rapid soiling after removal.
- .11 Filler: in accordance with Manufacturer's written instructions for plywood subfloor preparation.
- .12 Primer: in accordance with Manufacturer's written instructions.
- .13 Subfloor patching compound: liquid latex additive Portland cement base patching compound.
- .14 Installation tools: cushion back cutter, knee kicker, power stretcher, mini stretcher, crab stretchers, deadman and stay nails as necessary to complete installation.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Comply with Manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates are acceptable for sheet carpet installation in accordance with Manufacturer's written instructions.
 - .1 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .2 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.
- .2 Ensure that items and building components susceptible to damage in areas of Work have been removed or covered with appropriate protection prior to beginning of Work. Removal of any items or building components shall be by Departmental Representative's approval and in accordance with Section 01 00 10 – General Instructions.
- .3 Prior to installation of carpets and during full exposure of substrates in areas of Work, condition and extents of all subflooring are to be digitally recorded through photography by Departmental Representative.

- .4 Confirm existing and new locations where transition strips, binder bars or thresholds may need to be replaced or installed.

3.3 PREPARATION

- .1 Test sub floor for moisture content in accordance with Manufacturer's instructions using the Vaprecision vapour emission test. Perform moisture condition test in each major area. A minimum of 1 test per 93 m², prior to installation is required. Moisture condition shall not exceed 1.6 kg per 93 m² per 24 hour day in accordance with Manufacturer's recommendations. Provide test results for each space to Departmental Representative.
- .2 Do not proceed with work until results of moisture condition tests are acceptable.
- .3 Sheet Carpet Preparation:
 - .1 Pre-condition carpeting: following Manufacturer's written instructions.
- .4 Baseboards:
 - .1 All existing baseboards to remain in situ except where indicated in Drawings. Obtain approval by Departmental Representative prior to removal.
 - .2 Baseboards as indicated are to be carefully removed without harming adjacent materials and are to be reinstalled following carpet installation to match original placement.
- .5 Marble Thresholds: all existing marble thresholds at doorways to remain in situ.
- .6 Transition Strips: assess condition of existing transitions shown in Drawings and indicate existing and new locations where transition strips, binder bars or thresholds need to be replaced or installed. Confirm number and locations of new transitions with Departmental Representative prior to beginning of Work.
- .7 Demolition / Removal:
 - .1 Remove and divert each type of carpet for recycling and reclamation in accordance with the appropriate Manufacturer's reclamation program instructions and with Waste Reduction Workplan. Co-ordinate with Departmental Representative.
 - .2 Vacuum used carpet before removal.
 - .3 Sort only clean, dry carpet sheets for reclamation. Clean is defined as carpet free from demolition debris, asbestos contamination, garbage, knife blades and tack strips.
 - .4 Remove used carpet tiles and stack neatly onto pallets in accordance with Manufacturer's instructions for reclamation.
 - .5 Cut broadloom carpet into strips and form into individual rolls. Stack and palletize according to Manufacturer's instructions for reclamation.
 - .6 Carpet undercushion: provide recycling of carpet padding where locally available or as designated by carpet reclamation program.

3.4 SUBFLOOR TREATMENT

.1 Concrete:

- .1 Inspect concrete floors to determine special care required to make it suitable foundation for carpet.
- .2 Remove sub-floor ridges and bumps by scraping and grinding.
- .3 Clean floor prior to filling and leveling cracks 3 mm wide or protrusions over 0.8 mm with appropriate and compatible patching compound.
- .4 Fill low spots, cracks, joints, holes and other defects to achieve floor level to a tolerance of 1:500. Trowel and float to leave smooth, flat hard surface. Prohibit traffic until filler cured and dry. Do not exceed Manufacturer's recommendations for patch thickness.
- .5 Where tolerance cannot be achieved with spot application of patching compound, apply layer of Self-Leveling Underlayment as specified in Section 03 54 10. Comply with Manufacturer's written recommendations for maximum patch thickness.
- .6 Prime large patch areas with compatible primer.
- .7 Ensure concrete substrates are cured, clean and dry.
- .8 Ensure concrete substrates are free of paint, dirt, grease, oil, curing or parting agents, and other contaminants, including sealers, that interfere with the bonding of adhesive.
- .9 Where powdery or porous concrete surface is encountered, apply primer compatible with adhesive to provide a suitable surface for glue-down installation.
- .10 Clean and prepare all joints in floors to receive new joint sealants. Prepare joints in accordance with Manufacturer's written instructions. Apply coating of primer to all joints. Mix and apply sealants in accordance with Manufacturer's written instructions.
- .11 Prepare floor surfaces in accordance with CRI 104 – Standard for Installation of Commercial Carpet.
- .12 Vacuum clean all floor surfaces. Wet mop as recommended by Manufacturer to obtain clean, dust-free surfaces.

.2 Plywood:

- .1 Inspect plywood floors to determine special care required to make it suitable foundation for carpet.
- .2 Ensure that plywood is of flooring grade (APA approved) and is installed in accordance with Manufacturer's instructions.
- .3 Patch and repair any irregularities, imperfections and joints for smooth, even and structurally sound surface.
- .4 Subfloor surface shall be level within a tolerance of 3 mm in 2400 mm radius.
- .5 Fill all edge gaps, splits, damaged areas and rough spots in the plywood with a hard, non-shrinking, quick-setting filler.

- .6 Ensure that moisture content of plywood substrate is within limits as prescribed by the Manufacturer.
- .7 Prepare floor surfaces in accordance with CRI 104 – Standard for Installation of Commercial Carpet.
- .8 Vacuum all floors to obtain clean, dust-free surfaces.
- .3 Marble Mosaic Tiling and Terrazzo:
 - .1 Protect heritage material in accordance with Section 01 00 10 – General Instructions.
 - .2 Departmental Representative to conduct inspection and review of condition of existing mosaic tiling and terrazzo prior to installation of carpets and during full exposure of all potential locations of mosaic tiling or terrazzo as indicated in Drawings and within scope of Work. Determine special care required to make suitable foundation for carpet.
 - .3 Carefully remove existing adhesive from mosaic tiling and terrazzo and clean using appropriate methods determined by mock-up to avoid damage or staining.
 - .1 Comply with specified provisions and recommendations of the National Terrazzo and Mosaic Association, Inc. (NTMA Standards).
 - .4 Vacuum all floors and wet mop as recommended by Manufacturer to obtain clean, dust-free surfaces suitable for carpet installation.

3.5 INSTALLATION

- .1 Provide a high ventilation rate, with maximum outside air, during installation and for 48 to 72 hours after installation. Where possible, provide additional fans to vent directly to the outside. Maintain extra ventilation for as long as practical and to approval of Departmental Representative. Do not let contaminated air recirculate through a district or whole building air distribution system.
- .2 Pre-condition carpeting following Manufacturer's written instructions. Unpack carpet to off gas for minimum of 72 hours. Provide letter of compliance to Departmental Representative.
- .3 Install in accordance with Manufacturer's written instructions, and CRI 104 - Standard for Installation of Commercial Carpet. Co-ordinate with Section 01 00 10 – General Instructions.
- .4 Install carpeting using minimum number of pieces.
- .5 Inspect finished installation for smooth wearing surface free from conspicuous seams, burring and other faults.
- .6 Use material from same dye lot.
 - .1 Ensure colour, pattern and texture match within visual areas.
 - .2 Maintain constant pile direction.
- .7 Seal seams and cross-joints using adhesive in accordance with Manufacturer's instructions. Seam edges must be sealed.

- .8 Fit neatly around architectural, mechanical, electrical and telephone outlets, and furniture fitments, around perimeter of rooms into recesses, and around projections.
- .9 Install carpeting to underfloor duct system and to access covers. Provide cutouts to hatches and floor receptacles as indicated in Drawings.
- .10 Install carpeting in pan type floor access covers (assume 10 locations).
- .11 Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings as indicated in drawings.
- .12 Install carpet smooth and free from bubbles, puckers, and other defects.
- .13 Use knee kicker, crab stretcher, power stretcher and air powered stretcher as necessary to ensure perfect alignment of all patterned carpets in both directions.

3.6 FREE FLOATING CARPET INSTALLATION

- .1 Free floating carpet installation for carpets: Type 1-A and Type 1-B.
- .2 Install carpeting in accordance with Manufacturer's written instructions, ensuring protection of heritage substrate underneath.
- .3 Install carpet types 1-A and 1-B to match pattern as indicated in Drawings using typical border width of 380 mm.
- .4 Carpet edges to be sealed and fit up against thresholds and walls.

3.7 DIRECT GLUE-DOWN INSTALLATION

- .1 Direct glue-down installation for carpets: Type 2-A, Type 2-B, Type 3.
- .2 Apply adhesive and install carpeting in accordance with Manufacturer's written instructions, by direct glue-down method.
- .3 Install carpet types 2-A and 2-B to match pattern as indicated in Drawings using typical border width of 380 mm.
- .4 Install carpet type 3 wall to wall in corridors as indicated in Drawings.
- .5 Carpet edges to be sealed and fit up against thresholds and walls.

3.8 STAIR CARPET RUNNER

- .1 Carpet runner installation for carpet: Type 3.
- .2 Install carpet runner using approved adhesive and equipment in accordance with Manufacturer's written instructions. Use seaming cement for all butt joints and vertical surfaces.
- .3 Fit carpet to stairs and wrap around nosing detail using French Cap method where applicable.
- .4 Ensure that carpet runner is centred along width of stairs.
- .5 Seal edge of carpet where carpet butts up against dissimilar carpet.

- .6 Install appropriate edging strips at all doorways or where carpet abuts other flooring types (such as concrete) in accordance with Manufacturer's instructions.
- .7 Install nosing strips at edge of all stair treads in accordance with Manufacturer's instructions.

3.9 WEATHER CARPET INSTALLATION

- .1 Weather carpet installation for carpet: Type 4.
- .2 Confirm locations for installation with Departmental Representative prior to beginning of Work. This may vary depending on the season at the time of the project.
- .3 Install weather carpet in accordance with Manufacturer's written instructions.

3.10 CARPET TACK STRIPS AND BINDER BARS

- .1 Carpet grippers: install carpet grippers at junctions of walls and vertical surfaces where necessary. Secure gripper to prevent movement.
- .2 Binder bars: install binder bars at exposed carpet edges and centre under doors in door openings.

3.11 CARPET TRANSITION STRIPS

- .1 Install suitable transition strips according to Manufacturer's instructions.
- .2 Install at doorways and where carpet abuts other flooring types for locations as determined by previous assessment of existing transitions. Locations will depend on number of missing transitions and existing transitions found by Contractor to be in poor condition.
- .3 New transition strips shall not be nailed or glued to heritage flooring (encaustic tile, marble, and terrazzo). Where necessary, make attachments to concealed concrete.

3.12 SEAMS

- .1 Seal edges of cutouts to carpet Manufacturer's recommendations.
- .2 Ensure visibility of carpet seams and joints are acceptable to industry standards.

3.13 SITE QUALITY CONTROL

- .1 Site Tests and Inspections:
 - .1 Co-ordinate site test with Section 01 00 10 – General Instructions.
 - .2 Obtain reports within 3 days of review and submit immediately to Departmental Representative.

3.14 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 00 10 – General Instructions.
 - .1 Leave Work area clean at end of each day.
 - .2 Vacuum carpets clean immediately after completion of installation.

- .3 Remove excess adhesive from floor and wall surfaces without damage.
- .4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 00 10 – General Instructions.
- .2 Waste Management: separate waste materials for recycling in accordance with Section 01 00 10 – General Instructions.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.15 PROTECTION

- .1 Prohibit traffic on carpet for period of 24 hours minimum after installation and until adhesive is completely cured.
- .2 Install carpet protection to satisfaction of Departmental Representative.
- .3 Repair damage to adjacent materials caused by carpeting installation.

3.16 ATTACHMENTS

- .1 None.

END OF SECTION