PART 1 - GENERAL

1.1 REFERENCES

.1 American Society for Testing and Materials International (ASTM)
.1 ASTM C 423-17, Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
.2 ASTM E 1264-14, Standard Classification for Acoustical Ceiling Products.
.3 ASTM E 1477-98a(2013), Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.

.2 Canadian General Standards Board (CGSB)
.1 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet, for Use in Building Construction and Amendment No. 1 1988.
.2 CAN/CGSB-92.1-M89, Sound Absorptive Prefabricated Acoustical Units.

.3 Canada Green Building Council (CaGBC):
.1 LEED Canada 2009 for Design and Construction-2010, LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.

.4 Canadian Standards Association (CSA International)
.1 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.

.5 Department of Justice Canada (Jus)
.1 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
.2 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.

.6 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
.1 Material Safety Data Sheets (MSDS).

.7 Underwriter's Laboratories of Canada (ULC)
.1 CAN/ULC-S102-2011, Surface Burning Characteristics of Building Materials and Assemblies.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data: submit WHMIS MSDS in accordance with Section 01 33 00 - Submittal Procedures.

.3 Sustainable Design Submittals:
.1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.

1.3 QUALITY ASSURANCE

.1 Health and Safety:
.1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

.2 Sustainable Requirements:
.1 Construction requirements: in accordance with Section 01 35 21 - LEED Requirements.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements 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 off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
.2 Store and protect specified materials from nicks, scratches, and blemishes.
.3 Replace defective or damaged materials with new.

.4 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.

.5 Packaging Waste Management: remove for reuse or return of pallets, crates, padding,

1.4 DELIVERY, STORAGE AND HANDLING (Cont'd)

.5 Packaging Waste Management: (Cont'd) banding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.

1.5 ENVIRONMENTAL REQUIREMENTS

.1 Permit wet work to dry before beginning to install.

.2 Maintain uniform minimum temperature of 15 degrees C and humidity of 20-40% before and during installation.

.3 Store materials in work area 48 hours prior to installation.

.4 Store and manage hazardous materials in accordance with Section 01 35 21 - LEED Requirements.

1.6 EXTRA MATERIALS

.1 Provide extra materials of acoustic units in accordance with Section 01 78 00 - Closeout Submittals.

.2 Provide acoustical units amounting to 2% of gross ceiling area for each pattern and type required for project.

.3 Ensure extra materials are from same production run as installed materials.

.4 Clearly identify each type of acoustic unit, including colour and texture.

.5 Deliver to Departmental Representative, upon completion of the work of this section.

PART 2 - PRODUCTS

2.1 SUSTAINABLE REQUIREMENTS

.1 Materials and products in accordance with Section 01 35 21 - LEED Requirements.

2.2 MATERIALS

.1 Acoustic units for suspended ceiling system: to ASTM E 1264, for ACT 1 and ACT 2.
.1 Type III.
.2 Pattern as selected by Departmental Representative.
.3 Textures as selected by Departmental Representative.
.4 Flame spread rating of 25 or less in accordance with CAN/ULC-S102.
.5 Smoke developed 50 or less in accordance with CAN/ULC-S102.
.6 Noise Reduction Coefficient (NRC) designation of 0.70 minimum.
.7 Ceiling Attenuation Class (CAC) rating 30, in accordance with ASTM E 1264
.8 Light Reflectance (LR) range of 0.85 to ASTM E 1477.
.9 Edge type tegular.
.10 Colour white.
.11 Size: ACT1: 610 mm x 610 mm x 19 mm. ACT2: 610 mm x 1220 mm x 19 mm. ACT3: 610mm x 610 mm x 22 mm.
.12 Shape flat.
.13 Recycled content: minimum 70% pre or post-consumer content.
.14 Rapidly renewable content: minimum 2.5%.
.15 30 year limited system warranty: no visible sag, mould/mildew protected.

.2 ACT3: as per ACT1 and ACT2 except for:
.1 High NRC tile, 0.15 rating.

.3 Adhesive: low VOC type recommended by acoustic unit manufacturer.

.4 Polyethylene: to CAN/CGSB-51.34, 0.15 mm thick.

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Do not install acoustical panels and tiles until work above ceiling has been inspected by Departmental Representative.

3.2 INSTALLATION

.1 Install acoustical panels and tiles in ceiling suspension system.

3.3 APPLICATION

.1 Install acoustical units. Refer to reflected ceiling plan.

.2 Scribe acoustic units to fit adjacent work. Butt joints tight, terminate edges with moulding.

3.4 INTERFACE WITH OTHER WORK

.1 Co-ordinate with Section 09 53 00.01 - Acoustical Suspension.

.2 Co-ordinate ceiling work to accommodate components of other sections, such as light fixtures, diffusers, speakers, sprinkler heads, to be built into acoustical ceiling components.

3.5 SCHEDULE

.1 ACT1: 610 MM X 610 MM X 19 MM acoustic tile.

.2 ACT2: 610 MM X 1220 MM X 19 MM acoustic tile.

.3 ACT3: 610 MM X 610 MM X 22 MM acoustic tile.

END