PART 1 - GENERAL

1.1 SUMMARY

.1 This section provides requirements for Baseline Indoor Air Quality (IAQ) testing for maximum indoor pollutant concentrations for this facility.

.2 Testing results that meet the credit requirements indicate that the project has implemented a successful construction IAQ management plan; low -emitting materials have been specified; cleanup has been thorough; and the HVAC systems are providing adequate ventilation.

1.2 REFERENCES

.1 Canada Green Building Council, LEED Canada for Green Building Design and Construction 2009:
.1 Reference Guide, June 2010.

.2 United States Environmental Protection Agency (EPA):
.1 Compendium of Methods for the Determination of Air Pollutants in Indoor Air

1.3 SUBMITTALS

.1 Before Baseline IAQ Testing:Before Baseline
.1 Submit credentials of IAQ testing authority.
.2 Submit a test plan to the LEED Consultant for approval, including:
.1 The testing procedures.
.2 Schedule of testing.
.3 Instrumentation to be used.
.4 Sampling methods and procedures to be used.
.5 Proposed testing locations.

.2 Test Reports:
.1 Prepare and submit to the LEED Consultant, test reports showing:
.1 The testing procedures.
.2 Test date(s) and scope
.3 Results and location (with respect to floor area), of each test.

1.3 SUBMITTALS (Cont'd)

.2 Test Reports: (Cont'd)

.1 (Cont'd)

.4 A summary of HVAC operating conditions.

.5 Descriptions of any discrepancies and recommendations for corrective action (as applicable).

.2 In the event that any non-compliant test results occur, the Contractor must provide a written report to the Owner describing the source(s) of the non-compliant condition(s) and the corrective action(s) taken, as well as results of retesting.

1.4 SEQUENCING AND SCHEDULING

.1 The Contractor shall hire an independent contractor, subject to approval by the Departmental Representative, with a minimum of 5 years' experience in performing the types of testing specified herein, to test levels of indoor air contaminants for compliance with specified requirements.

.2 Identify, program and schedule all IAQ testing in advance of the test period.

.3 IAQ testing shall take place after the installation of all interior finishes, including but not limited to millwork, doors, paints, carpets and acoustic tiles.

.1 Testing shall take place after movable furnishing such as workstations and partitions are in place.

.2 Testing shall take place after the installation of all furniture and furnishings.

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 - EXECUTION

3.1 INDOOR AIR QUALITY TESTING

.1 Conduct baseline IAQ testing, after construction ends and prior to occupancy, using testing protocols consistent with the U.S. EPA Compendium of Methods for the Determination of Air Pollutants in Indoor Air.

.2 Projects also following the requirements of specification 01 47 19 - IAQ: During Construction, should replace all filtration media after the final cleaning and complete the air test and balancing of the HVAC system before beginning the baseline IAQ testing.

.3 A space may be excluded from the credit requirements provided:
.1 It is rarely or never occupied.
.2 It can be excluded from ventilation requirements under ASHRAE 62.
.3 It is mechanically or physically separated from any occupied spaces.

.4 Conduct the air sample testing as follows:
.1 All measurements must be conducted prior to occupancy, but during normal occupied hours with the building ventilation system started at the normal daily start time and operated at the minimum outdoor air flow rate for the occupied mode throughout the test.
.2 All interior finishes must be installed, including but not limited to millwork, doors, paint, carpet and acoustic tiles.
.3 The number of sampling locations will depend on the size of the building and number of ventilation systems. Include areas with the least ventilation and greatest presumed source strength. For each portion of the building served by a separated ventilation system, the

3.1 INDOOR AIR QUALITY TESTING (Cont'd)

.4 (Cont'd)

.3 (Cont'd)

number of sampling points must not be less than:

.1 1 per 2,300 square metres (25, 000 square feet) AND

.2 At least one test for each contiguous floor area.

.4 Air samples shall be collected between 0.9 and 1.8 metres (3 and 6 feet) from the floor to represent the breathing zone of occupants.

.1 Air samples shall be collected over a minimum 4-hour period.

.5 Conduct IAQ testing in one outdoor location, at a minimum.

.1 Outdoor location(s) should be in proximity to outdoor air intakes to accurately represent outdoor air entering the building.

3.2 TARGETED POLLUTANTS AND MAXIMUM CONCENTRATIONS

.1 Testing shall focus on levels of the following contaminants, with maximum concentrations as listed:

.1 Formaldehyde: < 27 Parts per billion.

.2 Total VOC's (Volatile Organic Compounds): < 500 µg/m3.

.3 Particulate Matter (PM10): < 50 µg/m3.

.4 Carbon Monoxide:

.1 9 parts per million indoors; AND

.2 No greater than 2 parts per million above outdoor levels.

.2 Where carpets and fabrics with styrene butadiene rubber (SBR) latex backing material are installed as part of the base building systems, maximum concentrations as listed:

.1 4-Phenylclohexene (4-PCH): < 500 µg/m3.

3.3 WHERE MAXIMUM CONCENTRATIONS ARE EXCEEDED

.1 All locations must pass IAQ testing before occupancy.

.2 Conduct an additional flush-out with outdoor air and after any other necessary corrective action(s) are taken and retest the

3.3 WHERE MAXIMUM CONCENTRATIONS ARE EXCEEDED (Cont'd)

.2 (Cont'd) noncompliant concentrations. Repeat until all requirements are met.

.3 The locations of failed tests must be flushed for a minimum of 24 hours before being retested.

END