# Provision of Ventilation Assessment Services for Kindergarten

**Service Specifications**

Notes: (a) Contractor shall note that **all the service specifications are essential requirements**.

(b) Contractor shall provide documentary evidence thereto wherever requested in the Service Specifications to show compliance of their offered ventilation assessment services with all the requirements.

1. **General**
   1. Introduction

The COVID-19 variant is spreading in Hong Kong and may worsen the epidemic situation. Studies abroad show that COVID-19 incidence in school settings is 39% lower in the schools with improved ventilation. To ensure the ventilation situation of schools is satisfactory, schools are required to review the ventilation in the premises and purchase air purifiers to improve the ventilation as necessary.

* 1. Scope of Services
     1. This Service Specifications sets out the criteria for provision of services to schools in accordance with the below guiding principle.

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| **Items** | **Suggested Standard** |
| Fresh Air Supply at occupied space1 | 6 Air Change per Hour in enclosed rooms or 10 L/s/person whichever is greater |
| Distance between fresh air intake and other sources of contamination | 5 m |
| Air Flow Pattern | Maintain the air flow direction from clean zones to dirty zones |
| Toilet Ventilation | 15 Air Change per Hour (Exhaust) |

Note:

1. This fresh air requirement should cover all occupied space, including but not limited to classrooms, function rooms, staff rooms and play area. (The School shall specify other occupied space as appropriate.) The number of persons per room shall follows the permitted accommodation, if any.

* + 1. Reference should also be made to the relevant guidelines (including supplement to guidelines if any) / regulations related to ventilation as set out by the Department of Health, Buildings Department and Fire Services Department.
    2. The contractor shall provide a report on the ventilation assessment findings and the shortcomings of ventilation system based on the guiding principle stated in Clause 1.2.1.

# Ventilation Assessment Services

* 1. Collection of Operation Data
     1. The contractor shall collect information on operation and technical characteristics of the ventilation system of schools. The collection method shall include, but not limited to, site visits, interviews, surveys, and reviews on building layouts, drawings, schematic diagrams, operation and maintenance records.
     2. The operation data of the ventilation system shall include, but not limited to, the following items:
        1. Opening days and hours of ventilation system;
        2. Estimated internal floor areas and number of individual rooms;
        3. Records on all ventilation system installations as far as reasonably practicable;
        4. Equipment list of ventilation system and operation and maintenance status; and
        5. Ventilation performance in accordance with the guiding principle as stated in Clause 1.2.1 under natural ventilation or mechanical ventilation including air-conditioning or any mixed mode of natural and mechanical ventilation.
     3. The contractor shall bear any cost to collect and retrieve operation data from the building management system or similar system(s), with no additional cost to the School.
     4. If some of the building data are not available, the contractor shall conduct measurement at representative instants and intervals in order to reasonably predict the operation data with no additional cost to the School.
  2. Site Inspection
     1. The contractor shall study the collected building data and conduct site inspections as far as practicable according to the guiding principle as stated in Clause 1.2.1.
     2. The site inspection shall include, but not limited to, verification of equipment data, air flow (L/s) measurement, and visual inspection of the ventilation system.
     3. The contractor shall identify any abnormalities of the ventilation system installations and take photo record of any abnormalities found. The contractor shall also examine their effects according to the guiding principle as stated in Clause 1.2.1.
  3. Analysis and Recommendations
     1. With the analysis of site inspection result, the contractor shall be able to advise the School and the School Sponsoring Bodies (SSBs) / School Management Committees (SMCs) of the schools concerned of the followings: -
        + Condition of the existing ventilation system;
        + Fresh air supply status to different student areas in schools;
        + Air change rate of specified area;
        + Dead air zone / area;
        + Distance between fresh air intake and other sources of contamination; and
        + Proposed types and numbers of air purifier and exhaust fans to augment the ventilation for infection control.
     2. For each item mentioned in Clause 2.3.1, the contractor shall provide the root cause and propose a remedial action plan with illustration of drawings and photos, which include a short-term modification/housekeeping proposal and a long-term improvement action plan, if necessary.
  4. Number of Ventilation Assessment Services Provided
     1. The contractor shall conduct at least one full ventilation assessment and a follow-up visit to the school. As the exact number of the on-site visits to school may vary, the contractor shall also bear the cost of all on-site visits with no additional cost to the School.
     2. The contractor shall visit the school and complete the first ventilation assessment (including submission of an assessment report as specified in Section 4) within 1 month upon award of contract. The follow-up visit shall be provided to the school within 1 month after the improvement measures have been put in place to check and advise the school again on the ventilation condition.

# Ventilation Assessment Report

* 1. The contractor shall complete the ventilation assessment report in a specified form in **Appendix 1** with Checklist on Ventilation System for Kindergarten as an appended annex upon the full ventilation assessment, and the Certificate on Ventilation System for Kindergarten in a specified form in **Appendix 2** upon the follow‑up visit, taking into account the guiding principle as stated in Clause 1.2.1 and such report shall be countersigned by the Authorized Signatory.
  2. If the contractor recommends the school to procure the air purifier and/or air disinfection equipment as the remedial measures, the **contractor shall be responsible to vet the model of such equipment(s) proposed by the schools to ensure the specification compliance.**

# Briefing on Ventilation Assessment Report

* 1. Upon completion of the ventilation assessment services for school, the contractor shall conduct a briefing to explain the report to the school. The presentation shall at least cover the following items:

1. introduction of the ventilation assessment;
2. findings and results of the ventilation assessment;
3. short-term proposal; and
4. long-term improvement plans if necessary.
   1. The presentation shall normally include questions and answers.