

## Part 1 Energy Efficiency

### NRB 1-4 Natural Ventilation / Mechanical Ventilation

Actual Assessment Submission ☐Site Verification Submission ☐

| Criteria                                       | Credit Available | Credit Claimed |
|--|------------------|----------------|
| (a) Natural Ventilation                        |                  |                |
| (i) Building layout with the cross ventilation | 10               |                |
| (ii) Ventilation simulation modelling          | 10               |                |
| OR   |                  |                |
| (b) Mechanical Ventilation                     | 15               |                |

#### Strategies:

#### Declaration:

I hereby declare that the information provided for this submission is truthful and accurate to be best of my knowledge at the time of submission:

Date of Submission:

|                                |      |             |         |           |
|--------------------------------|------|-------------|---------|-----------|
| <b>PROJECT NAME</b>            |      |             |         |           |
| <b>SUBMITTING PROFESSIONAL</b> | NAME | DESIGNATION | COMPANY | SIGNATURE |
| <b>CLIENT</b>                  | NAME | DESIGNATION | COMPANY | SIGNATURE |

**Documentary Evidences:**

*Order of documents to be submitted accordingly and clearly labeled.*

| Actual Assessment   |  | Submitter                | Assessor                 |
|---|--|--------------------------|--------------------------|
| <i>1-4(a)(i) Building layout with the cross ventilation</i> |  |                          |                          |
| 1.  | Architectural plan layouts showing the units / rooms of all blocks with highlights of those with north and south window openings.  | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.  | Calculation showing the percentage of units or rooms with window openings facing north and south directions in the prescribed formats as shown in Table 1-4(a).                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| <i>1-4(a)(ii) Ventilation simulation modelling</i>          |  |                          |                          |
| 1.  | Ventilation simulation modelling result and analysis or wind tunnel testing to identify the most effective building design and layout which achieve average wind velocity at least 0.6m/s or more. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.  | A summary of the recommendation from the ventilation simulation report.  | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.  | Architectural plan layout highlights the implementation base on the recommendation from the report.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <i>1-4(b) Mechanical Ventilation</i>                        |  |                          |                          |
| 1.  | Plan layout demarcate the area with mechanical ventilation system.   | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.  | The overall design and drawings for mechanical ventilation system to make up the required outdoor air quantity into the building at desire fan power limit.  | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.  | Detailed calculations showing the fan power improvement.   | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.  | Product catalogue of the fan power used.   | <input type="checkbox"/> | <input type="checkbox"/> |

| Site Verification   |  | Submitter                | Assessor                 |
|---|--|--------------------------|--------------------------|
| <i>1-4(a)(i) Building layout with the cross ventilation</i> |  |                          |                          |
| 1.  | As-built architectural plan layouts showing the units / rooms of all blocks with highlights of those with north and south window openings.   | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.  | Calculation showing the percentage of units or rooms with window openings facing north and south directions in the prescribed formats as shown in Table 1-4(a).                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.  | Describe any deviations or changes to the AA submission.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <i>1-4(a)(ii) Ventilation simulation modelling</i>          |  |                          |                          |
| 1.  | Ventilation simulation modelling result and analysis or wind tunnel testing to identify the most effective building design and layout which achieve average wind velocity at least 0.6m/s or more. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.  | A summary of the recommendation from the ventilation simulation report.  | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.  | As built architectural plan layout highlights the implementation base on the recommendation from the report.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <i>1-4(b) Mechanical Ventilation</i>                        |  |                          |                          |
| 1.  | The overall design and drawings for mechanical ventilation system to make up the required outdoor air quantity into the building at desire fan power limit.  | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.  | Detailed calculations showing the fan power improvement.   | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.  | Product catalogue of the fan power used and its purchase and delivery order.   | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.  | Photographic evidences.  | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.  | Describe any deviations or changes to the AA submission.   | <input type="checkbox"/> | <input type="checkbox"/> |