

BPD_GM01

(For Residential Building First Submission)

Attached are the sample forms for viewing only

All these forms and calculations are to be generated from the Green Mark (GM) e-filing system.

The forms spell out all the elective requirements which the QPs and the other practitioners can choose for their design to meet the environmental sustainability requirement.

QPs are only required to provide salient information pertaining to the items that are relevant to their design and the GM e-filing system will automatically compute the score to be allocated for the items selected.

Documentary evidences need not be submitted together with these forms. However, QPs are advised to maintain such records. BCA may require such evidences to be submitted for auditing purpose.

| SUBMISSION OF GREEN MARK SCORE CALCULATIONS Regulation 7 of the Building Control (Environmental Sustainability) Regulations 2008 (Cap. 29) | |
|--|--|
| Commissioner of Building Control Building & Construction Authority 5 Maxwell Road #02-00 Tower Block, MND Complex Singapore 069110 | INSTRUCTIONS (1) Please refer to the Explanatory Notes attached before completing these forms via Green Mark (GM) e-Filing system. (2) Submit one copy of this form together with Form BPD_GM01_Appendix 1 (for residential building) and/or Form BPD_GM01_Appendix 2 (for non-residential building) with the application for approval of building plans. |
| Section I (To be completed by Qualified Person) | |
| 1. I confirm that I have been appointed under section 8(1)(a) or 11(1)(d)(i) of the Building Control Act (Cap 29) as the qualified person in respect of the building works herein described. Project Reference No. : _____ GM e-Filing No.: _____ Description of building works: _____ _____ | |
| 2. I hereby declare that the building works or parts thereof assessed and the numerical scores assigned to these building works or parts thereof using the scoring methodology specified in the Code for Environmental Sustainability of Buildings are correct. I further declare that the Green Mark score submitted herewith complies with the minimum environmental sustainability standard under the Building Control (Environmental Sustainability) Regulations and the Green Mark score calculations are as stated in Form BPD_GM01_Appendix 1 and/or Form BPD_GM01_Appendix 2. The Green Mark score for the proposed building works is _____ for residential buildings and/or _____ for non-residential buildings respectively. | |
| Name & Address of Professional Firm | Name & Signature of Qualified Person |
| Date: | Tel No.: |
| Section II (To be completed by Appropriate Practitioners) | |
| 3. We hereby declare that the building works or parts thereof assessed and the numerical scores assigned to these building works or parts thereof using the scoring methodology specified in the Code for Environmental Sustainability of Buildings are correct. | |
| Name & Address of Professional Firm | Name & Signature of Practitioner for mechanical works |
| Date: | Tel No.: |
| Name & Address of Professional Firm | Name & Signature of Practitioner for electrical works |
| Date: | Tel No.: |

CALCULATIONS OF GREEN MARK SCORE FOR RESIDENTIAL BUILDINGS
Regulation 7 of the Building Control (Environmental Sustainability) Regulations 2008 (Cap. 29)

SECTION I : SUMMARY

Project Reference No. : _____ GM e-Filing No.: _____

The Gross Floor Area (GFA) for the building works, where applicable :

| Building Works | New GFA in m ² | Existing GFA in m ² (Major Retrofitting) |
|-----------------|---------------------------|---|
| Residential | | Not Applicable |
| Non-Residential | | |
| Total | | |

| Category Items | Max Points Allocated | Points Scored |
|---|----------------------|---------------|
| (I) Energy Related Requirements | | |
| Part 1 : Energy Efficiency | | |
| RB 1-1 Building Envelope – RETV | 15 | |
| RB 1-2 Dwelling Unit Indoor Comfort | 16 | |
| RB 1-3 Natural Ventilation in Common Areas | 2 | |
| RB 1-4 Lighting | 15 | |
| RB 1-5 Ventilation in Carparks | 8 | |
| RB 1-6 Lifts | 2 | |
| RB 1-7 Energy Efficient Features | 7 | |
| Sub-Total for Part 1 - For Items RB 1-1 to 1-7 : | 65 | |
| Sub-Total for Part 1 - For Items RB 1-1 to 1-7 (Max 50 points) : | | |
| RB 1-8 Renewable Energy (Bonus Points) | 20 | |
| Category Score for Part 1 - {Sub-Total for Part 1 (Max 50 points) + Item RB 1-8 (Bonus Points)}; (Min 30 points) : | | |

| | | |
|--|-----------------------------|----------------------|
| Project Reference No. : _____ GM e-Filing No.: _____ | | |
| Category Items | Max Points Allocated | Points Scored |
| (I) Energy Related Requirements | | |
| Category Score for Part 1 - {Sub-Total for Part 1 (Max 50 points) + Item RB 1-8 (Bonus Points)}; (Min 30 points) : | | |
| (II) Other Green Related Requirements | | |
| Part 2 : Water Efficiency | | |
| RB 2-1 Water Efficient Fittings | 10 | |
| RB 2-2 Water Usage | 1 | |
| RB 2-3 Irrigation System | 2 | |
| Category Score for Part 2 - For Items RB 2-1 to 2-3 | 13 | |
| Part 3 : Environmental Protection | | |
| RB 3-1 Sustainable Construction | 12 | |
| RB 3-2 Greenery | 6 | |
| RB 3-3 Environmental Management Practice | 9 | |
| RB 3-4 Public Transport Accessibility | 2 | |
| Category Score for Part 3 - For Items RB 3-1 to 3-4 | 29 | |
| Part 4 : Indoor Environmental Quality | | |
| RB 4-1 Noise Level | 1 | |
| RB 4-2 Indoor Air Pollutants | 3 | |
| RB 4-3 Waste Disposal | 1 | |
| RB 4-4 Indoor Air Quality for Wet Areas | 1 | |
| Category Score for Part 4 - For Items RB 4-1 to 4-4 : | 6 | |
| Part 5 : Other Green Features | | |
| RB 5-1 Green Features & Innovations | 7 | |
| Category Score for Part 5 - For Item RB 5-1 : | 7 | |
| Sub-Total for Part 2 to Part 5 : | 55 | |
| Sub-Total for Part 2 to Part 5 (Max 50 points; Min 20 points) : | | |
| Green Mark Score - {Sub-Total for Part 1 (Max 50 points) + Item RB 1-8 (Bonus Points) + Sub-Total for Part 2 to Part 5 (Max 50 points)} : | | |

The Green Mark score for the proposed building works is _____ for residential buildings.

| SECTION II : GREEN MARK SCORE CALCULATIONS DETAILS | | | | | | | | | | | | | | | | | | |
|--|---|----------------------|---------------------------------------|--|--|-----------|------------|----------------------|----------------------|----------------------|---|---|--|-----------|------------|----------------------|----------------------|----------------------|
| Project Reference No. : _____ GM e-Filing No.: _____ | | | | | | | | | | | | | | | | | | |
| (I) Energy Related Requirements | | | | | | | | | | | | | | | | | | |
| Part 1 : Energy Efficiency | Max Points Allocated | Points Scored | | | | | | | | | | | | | | | | |
| RB 1-1 Building Envelope – RETV | 15 | | | | | | | | | | | | | | | | | |
| RETV value = <input type="text"/> W/m ² <i>Green Mark Points : Points scored = 75 – (3 x RETV); Max Permissible RETV=25 W/m² ; Max 15 points</i> | | | | | | | | | | | | | | | | | | |
| RB 1-2 Dwelling Unit Indoor Comfort | 16 | | | | | | | | | | | | | | | | | |
| (a) Use of better energy efficient air-conditioners or good natural ventilation design as in item (a)(i) or item (a)(ii) respectively. <ul style="list-style-type: none"> (i) <u>For development with provision of air-conditioners</u> Use of energy efficient air-conditioners certified under the Singapore Energy Labelling Scheme. <input type="text"/> <i>Green Mark Points : 2 Ticks – 2 points; 3 Ticks – 6 points; 4 Ticks 12 points; Max 12 points.</i> OR (ii) <u>For development where air-conditioners are not provided</u> <ul style="list-style-type: none"> * <u>Building Layout Design</u> <input type="text"/> <table border="1"> <thead> <tr> <th rowspan="2">Total no. of units in the development</th> <th colspan="2">Units with windows facing north and south directions</th> </tr> <tr> <th>Total no.</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> </tbody> </table> <i>Green Mark Points : 0.6 points for every 10%; Max 6 points.</i> * <u>Dwelling Unit Design</u> <input type="text"/> <table border="1"> <thead> <tr> <th rowspan="2">Total no. of living rooms and bedrooms in the development</th> <th colspan="2">Living rooms and bedrooms with true cross ventilation</th> </tr> <tr> <th>Total no.</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> </tbody> </table> <i>Green Mark Points : 0.6 points for every 10%; Max 6 points.</i> | | | Total no. of units in the development | Units with windows facing north and south directions | | Total no. | Percentage | <input type="text"/> | <input type="text"/> | <input type="text"/> | Total no. of living rooms and bedrooms in the development | Living rooms and bedrooms with true cross ventilation | | Total no. | Percentage | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Total no. of units in the development | Units with windows facing north and south directions | | | | | | | | | | | | | | | | | |
| | Total no. | Percentage | | | | | | | | | | | | | | | | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | | | | | | | | | | | | | |
| Total no. of living rooms and bedrooms in the development | Living rooms and bedrooms with true cross ventilation | | | | | | | | | | | | | | | | | |
| | Total no. | Percentage | | | | | | | | | | | | | | | | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | | | | | | | | | | | | | |
| (b) Use of ventilation simulation software or wind tunnel testing and recommendations for design (4 points). <input type="text"/> | | | | | | | | | | | | | | | | | | |
| RB 1-3 Natural Ventilation in Common Areas | 2 | | | | | | | | | | | | | | | | | |
| (a) Lift lobbies and corridors (1 point) <input type="text"/> | | | | | | | | | | | | | | | | | | |
| (b) Staircases (1 point) <input type="text"/> | | | | | | | | | | | | | | | | | | |
| RB 1-4 Lighting | 15 | | | | | | | | | | | | | | | | | |
| (a) Artificial lighting in common areas. <input type="text"/> Percentage Improvement in lighting power budget (compared with SS530) = <input type="text"/> % <i>Green Mark Points : 0.3 point for every percentage improvement; Max 12 points.</i> | | | | | | | | | | | | | | | | | | |

| Project Reference No. : _____ | | GM e-Filing No.: _____ | | | | | | | | | | | | | |
|---|--------------------------|----------------------------------|----------------------|----------------------------------|---------------------|---|--------------------------|------------------------------|---|--------------------------|--|---|--------------------------|--|--|
| (I) Energy Related Requirements | | | | | | | | | | | | | | | |
| Part 1 : Energy Efficiency | | Max Points Allocated | Points Scored | | | | | | | | | | | | |
| RB 1-4 Lighting cont'd | | | | | | | | | | | | | | | |
| (b) Daylighting in the following areas. | | | | | | | | | | | | | | | |
| (i) Lift lobbies and corridors (1 point). | <input type="checkbox"/> | | | | | | | | | | | | | | |
| (ii) Staircases (1 point). | <input type="checkbox"/> | | | | | | | | | | | | | | |
| (iii) Carparks (1 point). | <input type="checkbox"/> | | | | | | | | | | | | | | |
| RB 1-5 Ventilation in Carparks | | 8 | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Mode of Ventilation</th> <th>Max Points (A)</th> <th>Area (m²) (B)</th> </tr> </thead> <tbody> <tr> <td>Natural ventilation</td> <td>8</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Fume extract with CO sensors</td> <td>6</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Mechanical ventilation with CO sensors</td> <td>4</td> <td><input type="checkbox"/></td> </tr> </tbody> </table> <p><i>Green Mark Points : Max 8 points</i></p> | | Mode of Ventilation | Max Points (A) | Area (m ²) (B) | Natural ventilation | 8 | <input type="checkbox"/> | Fume extract with CO sensors | 6 | <input type="checkbox"/> | Mechanical ventilation with CO sensors | 4 | <input type="checkbox"/> | | |
| Mode of Ventilation | Max Points (A) | Area (m ²) (B) | | | | | | | | | | | | | |
| Natural ventilation | 8 | <input type="checkbox"/> | | | | | | | | | | | | | |
| Fume extract with CO sensors | 6 | <input type="checkbox"/> | | | | | | | | | | | | | |
| Mechanical ventilation with CO sensors | 4 | <input type="checkbox"/> | | | | | | | | | | | | | |
| RB 1-6 Lifts | | 2 | | | | | | | | | | | | | |
| (a) AC variable voltage and variable frequency (VVVF) motor drive or equivalent (1 point). | <input type="checkbox"/> | | | | | | | | | | | | | | |
| (b) Sleep mode features or equivalent (1 point). | <input type="checkbox"/> | | | | | | | | | | | | | | |
| RB 1-7 Energy Efficient Features | | 7 | | | | | | | | | | | | | |
| (a) The following energy efficient features are deemed acceptable : | | | | | | | | | | | | | | | |
| (i) Use of heat recovery devices | <input type="checkbox"/> | | | | | | | | | | | | | | |
| - in more than 50% of dwelling units (2 points) | | | | | | | | | | | | | | | |
| - in at least 25% of the dwelling units (1 point) | | | | | | | | | | | | | | | |
| - in club house or other common facilities (0.5 point) | | | | | | | | | | | | | | | |
| (ii) Use of thermal insulation or cool paints on east and west facing external walls with window-to-wall ratio (WWR): | <input type="checkbox"/> | | | | | | | | | | | | | | |
| - less than 0.5 (2 points) | | | | | | | | | | | | | | | |
| - from 0.5 to 0.75 (1 point) | | | | | | | | | | | | | | | |
| - more than 0.75 (0.5 point) | | | | | | | | | | | | | | | |
| (iii) Use of motion sensors for private lift lobbies/ staircases half landing/ common toilets etc. | <input type="checkbox"/> | | | | | | | | | | | | | | |
| - at least 50 nos. motion sensors installed (1 point) | | | | | | | | | | | | | | | |
| - less than 50 nos. motion sensors installed (0.5 point) | | | | | | | | | | | | | | | |

| | | | |
|---|--|-----------------------------|----------------------|
| Project Reference No. : _____ | | GM e-Filing No.: _____ | |
| (I) Energy Related Requirements | | | |
| Part 1 : Energy Efficiency | | Max Points Allocated | Points Scored |
| RB 1-7 Energy Efficient Features cont'd | | | |
| (iv) | Use of heat elevator - in at least 90% of the dwelling unit's water heater <i>(1 point)</i> | <input type="checkbox"/> | |
| (v) | Use of gas heater - in at least 90% of the dwelling units <i>(1 point)</i> | <input type="checkbox"/> | |
| (vi) | Use of software analysis and simulation to optimise the capacity and sizing of the air-conditioning system of dwelling units to achieve energy savings (as compared with SS530 baseline requirements). - at least 30% of energy savings <i>(1 point)</i> - at least 15% of energy savings <i>(0.5 point)</i> | <input type="checkbox"/> | |
| (vii) | Provision of clothes drying facilities and open spaces - for at least 90% of the dwelling units <i>(1 point)</i> | <input type="checkbox"/> | |
| (viii) | Use of sun pipes for natural lighting - for more than 10 nos. sun pipes installed <i>(1 point)</i> - for at least 5 nos. sun pipes installed <i>(0.5 point)</i> | <input type="checkbox"/> | |
| (ix) | Use of ductless fan for basement ventilation <i>(0.5 point)</i> | <input type="checkbox"/> | |
| (x) | Calculation of Energy Efficiency Index (EEI) - for club house and common facilities <i>(0.5 point)</i> EEI = <input type="text"/> kWh/m ² /year | <input type="checkbox"/> | |
| (b) | Items that are not listed above but with clearance from BCA : | | |
| (i) | _____ | <input type="checkbox"/> | |
| (ii) | _____ | <input type="checkbox"/> | |
| (iii) | _____ | <input type="checkbox"/> | |
| Sub-Total for Part 1 – For items RB 1-1 to 1-7 : | | 65 | |
| Sub-Total for Part 1 – For items RB 1-1 to 1-7 <i>(Max 50 Points) :</i> | | | |
| RB 1-8 Renewable Energy (Bonus Points) | | 20 | |
| (a) | Solar Energy = <input type="text"/> kWp <i>Green Mark Points : 1 point for every 3 kWp of solar energy</i> | <input type="checkbox"/> | |
| (b) | Other Renewable Energy <i>Green Mark Points : 1 point for every 1% of electricity (exclude household usage)</i> | <input type="checkbox"/> | |
| Category Score for Part 1 - {Sub-Total for Part 1 (Max 50 points) + Item RB 1-8 (Bonus Points)}; (Min 30 points) : | | | |

| Project Reference No. : _____ | | GM e-Filing No.: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------------|-----------------------------|----------------------|--|--|------|-----------|-----------|-------------------------|--|--|--|----------------------|--|--|--|---------------------------------------|--|--|--|-----------------------------|--|--|--|--------------------------|--|--|--|--|--|
| (II) Other Green Requirements | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Part 2 : Water Efficiency | | Max Points Allocated | Points Scored | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RB 2-1 Water Efficient Fittings | | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Use of water fittings that are certified under the Water Efficiency Labelling Scheme (WELS). At least 90% based on fitting type.</p> <table border="1"> <thead> <tr> <th rowspan="2">Types of water fittings</th> <th colspan="3">Rating Based WELS</th> </tr> <tr> <th>Good</th> <th>Very Good</th> <th>Excellent</th> </tr> </thead> <tbody> <tr> <td>(a) Basin taps & mixers</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(b) Flushing cistern</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(c) Shower taps, mixers & showerheads</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(d) Sink/ Bib taps & mixers</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(e) Other water fittings</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><i>Green Mark Points : 0.5 point for Good; 1 point for Very Good; 2.0 points for Excellent; Max 10 points.</i></p> | | Types of water fittings | Rating Based WELS | | | Good | Very Good | Excellent | (a) Basin taps & mixers | | | | (b) Flushing cistern | | | | (c) Shower taps, mixers & showerheads | | | | (d) Sink/ Bib taps & mixers | | | | (e) Other water fittings | | | | | |
| Types of water fittings | Rating Based WELS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Good | Very Good | Excellent | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (a) Basin taps & mixers | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (b) Flushing cistern | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (c) Shower taps, mixers & showerheads | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (d) Sink/ Bib taps & mixers | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (e) Other water fittings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RB 2-2 Water Usage | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Provision of sub-meters to monitor major water usage system such as irrigation, swimming pools and other water features | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RB 2-3 Irrigation System | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (a) Use of non potable water including rainwater for landscape irrigation (1 point). | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (b) Use of water efficient irrigation system for at least 50% of the landscape areas (1 point). | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Category Score for Part 2 - For Items RB 2-1 to 2-3 : | | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Part 3 : Environmental Protection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RB 3-1 Sustainable Construction | | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (a) More efficient concrete usage for building components % reduction in the prescribed Concrete Usage Index (CUI) limit for residential buildings = <input type="checkbox"/> % <i>Green Mark Points : 0.1 point for every percentage in reduction; Max 4 points.</i> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (b) At least 50% of the existing structural elements or building envelopes (by areas) are conserved during redevelopment. (2 points) | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (c) (i) Environmental friendly products that are certified under The Singapore Green Labelling Scheme (SGLS). <i>Green Mark Points : 1 point for high impact, 0.5 point for low impact, capped at 3 points.</i> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (c) (ii) Products with at least 30% recycled content by weight or volume (applicable to only non-structural elements). <i>Green Mark Points : 1 point for high impact, 0.5 point for low impact, capped at 3 points.</i> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | |
|--|---|-----------------------------|-----------------------|-------------|--|------------|-----------------------|-----------------------|-----------------------|-------------|-------------------------|----------|----------|----------|----------|--|--|--|
| Project Reference No. : _____ | | GM e-Filing No.: _____ | | | | | | | | | | | | | | | | |
| (II) Other Green Requirements | | | | | | | | | | | | | | | | | | |
| Part 3 : Environmental Protection | | Max Points Allocated | Points Scored | | | | | | | | | | | | | | | |
| RB 3-2 Greenery | | 6 | | | | | | | | | | | | | | | | |
| <p>(a) Greenery Provision <input style="width: 50px; height: 15px;" type="text"/></p> <p style="margin-left: 20px;">GnP value = <input style="width: 80px; height: 15px;" type="text"/></p> <table border="1" style="margin-left: 20px; width: 100%; border-collapse: collapse;"> <tr> <td colspan="5" style="text-align: center;"><i>Green Mark Points : Max 4 points</i></td> </tr> <tr> <td style="text-align: center;"><i>GnP</i></td> <td style="text-align: center;"><i>2.0 to <3.0</i></td> <td style="text-align: center;"><i>3.0 to <3.5</i></td> <td style="text-align: center;"><i>3.5 to <4.0</i></td> <td style="text-align: center;"><i>≥4.0</i></td> </tr> <tr> <td style="text-align: center;"><i>Points Allocated</i></td> <td style="text-align: center;"><i>1</i></td> <td style="text-align: center;"><i>2</i></td> <td style="text-align: center;"><i>3</i></td> <td style="text-align: center;"><i>4</i></td> </tr> </table> | <i>Green Mark Points : Max 4 points</i> | | | | | <i>GnP</i> | <i>2.0 to <3.0</i> | <i>3.0 to <3.5</i> | <i>3.5 to <4.0</i> | <i>≥4.0</i> | <i>Points Allocated</i> | <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | | | |
| <i>Green Mark Points : Max 4 points</i> | | | | | | | | | | | | | | | | | | |
| <i>GnP</i> | <i>2.0 to <3.0</i> | <i>3.0 to <3.5</i> | <i>3.5 to <4.0</i> | <i>≥4.0</i> | | | | | | | | | | | | | | |
| <i>Points Allocated</i> | <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | | | | | | | | | | | | | | |
| <p>(b) Restoration of trees on site, conserving or relocating of existing trees on site (1 point). <input style="width: 50px; height: 15px;" type="text"/></p> | | | | | | | | | | | | | | | | | | |
| <p>(c) Use of compost recycled from horticulture waste (1 point). <input style="width: 50px; height: 15px;" type="text"/></p> | | | | | | | | | | | | | | | | | | |
| RB 3-3 Environmental Management Practice | | 9 | | | | | | | | | | | | | | | | |
| <p>(a) Implement effective environmental management programmes (1 point). <input style="width: 50px; height: 15px;" type="text"/></p> | | | | | | | | | | | | | | | | | | |
| <p>(b) Building quality assessed <input style="width: 50px; height: 15px;" type="text"/></p> <p style="margin-left: 20px;">(i) Construction Quality Assessment System (CONQUAS) (1 point) <input style="width: 50px; height: 15px;" type="text"/></p> <p style="margin-left: 20px;">(ii) Quality Mark Scheme (1 point) <input style="width: 50px; height: 15px;" type="text"/></p> | | | | | | | | | | | | | | | | | | |
| <p>(c) Firms ISO 14000 certified (0.25 point for each firm) <input style="width: 50px; height: 15px;" type="text"/></p> <p style="margin-left: 20px;">(i) Developer <input style="width: 50px; height: 15px;" type="text"/></p> <p style="margin-left: 20px;">(ii) Main builder <input style="width: 50px; height: 15px;" type="text"/></p> <p style="margin-left: 20px;">(iii) M&E consultant <input style="width: 50px; height: 15px;" type="text"/></p> <p style="margin-left: 20px;">(iv) Architect <input style="width: 50px; height: 15px;" type="text"/></p> | | | | | | | | | | | | | | | | | | |
| <p>(d) Project team comprises : <input style="width: 50px; height: 15px;" type="text"/></p> <p style="margin-left: 20px;">(i) One Certified Green Mark Manager (GMM) (1 point) <input style="width: 50px; height: 15px;" type="text"/></p> <p style="margin-left: 20px;">(ii) One Certified Green Mark Professional (GMP) (2 points) <input style="width: 50px; height: 15px;" type="text"/></p> | | | | | | | | | | | | | | | | | | |
| <p>(e) Provision of building users' guide (1 point). <input style="width: 50px; height: 15px;" type="text"/></p> | | | | | | | | | | | | | | | | | | |
| <p>(f) Provision of facilities or recycling bins for collection and storage of different recyclable waste such as paper, glass, plastic, etc. (1 point). <input style="width: 50px; height: 15px;" type="text"/></p> | | | | | | | | | | | | | | | | | | |

| | | |
|---|-----------------------------|----------------------|
| Project Reference No. : _____ GM e-Filing No.: _____ | | |
| (II) Other Green Requirements | | |
| Part 3 : Environmental Protection | Max Points Allocated | Points Scored |
| RB 3-4 Public Transport Accessibility | 2 | |
| (a) Good access to nearest MRT/LRT stations or bus stops (1 point). <input type="checkbox"/> | | |
| (b) Adequate bicycles parking lots (1 point). <input type="checkbox"/> | | |
| Category Score for Part 3 - For Items RB 3-1 to 3-4 : | 29 | |
| Part 4 : Indoor Environmental Quality | | |
| RB 4-1 Noise Level | 1 | |
| Building design to achieve ambient internal noise level as specified 55dB (6am – 10pm) LeqA 45dB (10pm – 6am) LeqA | | |
| RB 4-2 Indoor Air Pollutants | 3 | |
| (a) Use of low volatile organic compounds (VOC) paints certified under The Singapore Green Labelling Scheme (2 points). <input type="checkbox"/> | | |
| (b) Use of adhesive certified under The Singapore Green Labelling Scheme for composite wood products (1 point). <input type="checkbox"/> | | |
| RB 4-3 Waste Disposal | 1 | |
| Locating refuse chutes at open ventilation areas such as service balconies or common corridors. | | |
| RB 4-4 Indoor Air Quality in Wet Areas | 1 | |
| Provision of adequate natural ventilation and daylighting in wet areas such as kitchens, bathrooms and toilets. | | |
| Category Score for Part 4 - For Items RB 4-1 to 4-4 : | 6 | |
| Part 5 : Other Green Features | | |
| RB 5-1 Green Features and Innovations | 7 | |
| (a) The following green features are deemed acceptable : Water Efficiency | | |
| (i) Use of self cleaning façade system <input type="checkbox"/> - for more than 75% of the external walls (2 points) - for more than 50% of the external walls (1 point) - for at least 25% of the external walls (0.5 point) | | |
| (ii) Use of integrated basin/cistern pedestal system <input type="checkbox"/> - for more than 50% of the dwelling unit's flushing cisterns (2 points) - for more than 25% of the dwelling unit's flushing cisterns (1 point) - for at least 10% of the dwelling unit's flushing cisterns (0.5 point) | | |

| | | | |
|---|---|-----------------------------|----------------------|
| Project Reference No. : _____ | | GM e-Filing No.: _____ | |
| (II) Other Green Requirements | | | |
| Part 5 : Other Green Features | | Max Points Allocated | Points Scored |
| RB 5-1 Green Features and Innovations cont'd | | | |
| (iii) | Use of grey water recycling system - for all blocks (2 points) - for at least 1 block (1 point) | <input type="checkbox"/> | |
| (iv) | Use of membrane filtration system to recycle water during construction (0.5 point) | <input type="checkbox"/> | |
| <u>Environmental Protection</u> | | | |
| (i) | Use of precast toilets - for more than 75% of the toilets (2 points) - for more than 50% of the toilets (1 point) - for at least 25% of the toilets (0.5 point) | <input type="checkbox"/> | |
| (ii) | Provision of green roof and roof top garden - for more than 50% of the roof areas (1 point) - for at least 25% of the roof areas (0.5 point) | <input type="checkbox"/> | |
| (iii) | Provision of vertical greening - for more than 50% of the external wall areas (1 point) - for at least 25% of the external wall areas (0.5 point) | <input type="checkbox"/> | |
| (iv) | Provision of double refuse chutes to separate recyclable from non-recyclable waste (1 point). | <input type="checkbox"/> | |
| (v) | Use of non-chemical termite treatment system such as termite baiting system, anti-termite mesh, etc (0.5 point). | <input type="checkbox"/> | |
| (vi) | Use of at least 5 nos. of compost bins to recycle organic waste (0.5 point). | <input type="checkbox"/> | |
| (vii) | Use of non-chemical water treatment for swimming pools (0.5 point). | <input type="checkbox"/> | |
| (viii) | Use of approved recycled products to replace at least 10% of the fine and/or coarse aggregate used for concrete production of structural application in at least 50% of all structural elements of the superstructures - 0.5 point for each approved recycled product used (Up to 1 point). | <input type="checkbox"/> | |
| | - replacement of fine and coarse aggregate (1 point) | <input type="checkbox"/> | |
| | - replacement of fine aggregate (0.5 point) | <input type="checkbox"/> | |
| | - replacement of coarse aggregate (0.5 point) | <input type="checkbox"/> | |

| | | | |
|---|--|-----------------------------|----------------------|
| Project Reference No. : _____ | | GM e-Filing No.: _____ | |
| (II) Other Green Requirements | | | |
| Part 5 – Other Green Features | | Max Points Allocated | Points Scored |
| RB 5-1 Green Features and Innovations cont'd | | | |
| <p><u>Indoor Air Quality</u></p> <p>(i) Use of Titanium Dioxide solutions to remove odour of the toilets <input type="checkbox"/></p> <p>- for more than 50% of the toilets (2 points)</p> <p>- for more than 25% of the toilets (1 point)</p> <p>- for at least 10% of the toilets (0.5 point)</p> <p>(ii) Use of pneumatic waste collection system.(1 point) <input type="checkbox"/></p> <p><u>Others</u></p> <p>(i) Provision of landscape drainage and infiltration trenches (run-off & ground water) <input type="checkbox"/></p> <p>- for at least 25% of the landscape areas (1 point)</p> <p>- for less than 25% of the landscape areas (0.5 point)</p> <p>(ii) Provision of system to recycle runoff from vertical green wall and sky garden <input type="checkbox"/></p> <p>- for at least 25% of the green areas (1 point)</p> <p>- for less than 25% of the green areas (0.5 point)</p> <p>(iii) Use of siphonic rainwater discharge system at roof (0.5 point) <input type="checkbox"/></p> <p>(iv) Provision of eco pond (0.5 point). <input type="checkbox"/></p> <p>(b) Items that are not listed above but with clearance from BCA :</p> <p>(i) _____ <input type="checkbox"/></p> <p>(ii) _____ <input type="checkbox"/></p> <p>(iii) _____ <input type="checkbox"/></p> | | | |
| Category Score for Part 5 - For Item RB 5-1: | | 7 | |
| Sub-Total for Part 2 to Part 5 : | | 55 | |
| Sub-Total for Part 2 to Part 5 (Max 50 points; Min 20 points) : | | | |
| Green Mark Score - {Sub-Total for Part 1 (Max 50 points) + Item RB 1-8 (Bonus Points) + Sub-Total for Part 2 to Part 5 (Max 50 points)} : | | | |

Explanatory Notes :

Forms BPD_GM01, BPD_GM01_Appendix 1 and BPD_GM01_Appendix 2

- 1) For building works that are subject to the Building Control (Environmental Sustainability) Regulation 2008, the Form BPD_GM01 must be completed, accompanied with 1 set of Form BPD_GM01_Appendix 1 and/or 1 set of Form BPD_GM01_Appendix 2 where applicable. These forms are to be generated using the **Green Mark (GM) e-Filing System** accessible from BCA website and submitted together with the application for building plan approval.
- 2) For building works that involve mixed-use building which comprises both residential and non-residential buildings, the Green Mark score calculation as in Form BPD_GM01_Appendix 1 and Appendix 2 will have to be submitted together with the Form BPD_GM01 unless the following condition apply :
 - Where any part of the building works that related to a non-residential building or residential building involve a gross floor area (GFA) of less than 2000m² and that of the other part of these building works, only the Green Mark score calculation of the larger part of these building works (Form BPD_GM01_Appendix 1 OR Appendix 2) are required to be submitted together with the Form BPD_GM01.
 - For example, if the gross floor area (GFA) of the non-residential buildings is less than 2000m² and that of the residential buildings, only the Green Mark score calculation for the residential buildings that is Form BPD_GM01_Appendix 1 will need to be submitted together with Form BPD_GM01 for building plan approval as illustrated in Table 2-1 below.

Table 2-1 – Applicable Criteria for Mixed-Use Buildings with New GFA ≥ 2000m²

| Project Type | Total New GFA Residential (m ²) | Total New GFA Non-Residential (m ²) | Form BPD_GM01_Appendix 1 | Form BPD_GM01_Appendix 2 |
|--------------------|---|---|--------------------------|--------------------------|
| Mixed-use building | ≥ 2000 | ≥ 2000 | 1 set | 1 set |
| | ≥ 2000 | < 2000 | 1 set | Not applicable |
| | < 2000 | ≥ 2000 | Not applicable | 1 set |
| | < 2000 | < GFA for Residential | 1 set | Not applicable |
| | < GFA for Non-Residential | < 2000 | Not applicable | 1 set |