

BIM Particular Conditions Version 1.0

The BIM Particular Conditions Version 1.0 on the following pages may be attached to the Principal Agreement when incorporating the use of BIM into the project, as part of the scope of services under the Principal Agreement.

Please read the Notes below before using the BIM Particular Conditions.

Notes:

- A. This document is for use in construction projects where Building Information Modelling (BIM) is used and shall be called the BIM Particular Conditions. All parties in such projects shall incorporate the BIM Particular Conditions as a contract document in their respective agreements for services, supply and/or construction for the project.
- B. The BIM Steering Committee (BIMSC) appointed by the Building and Construction Authority (BCA) developed this document. The BIMSC consists of representatives from a wide cross-section of the construction industry. The BIM Particular Conditions was developed by consensus of opinion of the members of the BIMSC.
- C. The BIM Particular Conditions can be used for all methods of procurement. However, this document does not cover all issues in the use of BIM; especially those that may be specific to any particular user. The BIMSC therefore encourages users to review and adapt the BIM Particular Conditions for specific use. Users should obtain appropriate professional/legal advice before making any changes to the BIM Particular Conditions.
- D. Please refer to the Notes to Users at the end of this document for further information.

PARTICULAR CONDITIONS FOR BUILDING INFORMATION MODELLING

1. DEFINITIONS

- 1.1. **BIM** means building information modelling and is the process and technology used to create a Model.
- 1.2. **BIM Guide** means the guide to the use of BIM published by the Building and Construction Authority for the time being in force (the Singapore BIM Guide) or such other guide to the use of BIM as may be expressly provided in the Principal Agreements.
- 1.3. **BIM Particular Conditions** means these particular conditions for BIM.
- 1.4. **BIM Execution Plan** means the plan referred to in Clause 4 of this BIM Particular Conditions.
- 1.5. **BIM Manager** means the person, firm or corporation appointed by the Employer as BIM Manager pursuant to Clause 3 and includes any person, firm or corporation appointed by the Employer to replace an existing BIM Manager.
- 1.6. **Construction Documents** means all drawings, calculations, computer software programmes, samples, patterns, models and other information of a similar nature prepared by the Designer for the Project but not a Model.
- 1.7. **Contribution** means the expression, design, data or information that a party to the Project (a) creates or prepares, and (b) incorporates, distributes, transmits, communicates or otherwise shares with other parties to the Project for use in or in connection with a Model for the Project.
- 1.8. **Designer** refers to the party or parties in the Project who are responsible for the design of the whole or some part of the Project under the relevant Principal Agreement(s).
- 1.9. **Drawings** means (a) those two-dimensional plans, sketches or other drawings that are contract documents in the Principal Agreement and are created separately from, and are not derived from, a Model and (b) those two-dimensional projections derived from a Model supplemented with independent graphics and annotations specified by the parties to be contract documents in the Principal Agreement.
- 1.10. **Employer** means the owner of the Project including any government or statutory body.
- 1.11. **Model** means a digital representation of the physical and functional characteristics of the Project, that is, a three-dimensional representation in electronic format of building elements representing solid objects with true-to-scale spatial relationships and dimensions. A Model may include additional information or data. A Model may be used to describe a **Model Element** (that is, a portion of the Model representing a component, system or assembly within the Project or Project site), a single Model or

multiple Models used in aggregate or in federation. BIM is the process and technology used to create the Model.

- 1.12. **Final Design Model** means a Model of those aspects of the Project that are (a) to be modelled as specified in the BIM Execution Plan and (b) have reached the stage of completion that would customarily be expressed in two-dimensional construction documents. This shall not include analytical evaluations, preliminary designs, studies, or renderings. A Model prepared by a Designer that has not reached the stage of completion specified in this definition is referred to as a Model.
- 1.13. **Model Author** means the party responsible for developing the content of a specific Model Element to the level of detail required for a particular phase of the Project. **Model Authors** are identified in the Model Element Table in the BIM Execution Plan.
- 1.14. **Model User** means any individual or entity authorised to use the Model on the Project, such as for analysis, estimating or scheduling.
- 1.15. **Principal Agreement** in relation to any party in the Project means the agreement for services, supply and/or construction which that party has entered into for the Project.
- 1.16. **Project** means the project in which the parties will be carrying out BIM pursuant to their respective Principal Agreements.

2. GENERAL PRINCIPLES

- 2.1. The parties to a Project shall incorporate the BIM Particular Conditions into all agreements for services, supply and/or construction where at least one party shall be required to be involved in carrying out BIM. This BIM Particular Conditions shall be passed downstream to subconsultants, suppliers and subcontractors, as applicable.
- 2.2. The BIM Particular Conditions does not change any contractual relationships or shifts any risks of the parties in a Project as provided in the Principal Agreements. In particular:
 - 2.2.1. Nothing in this BIM Particular Conditions shall relieve a Designer from its obligation, nor diminish the role of the Designer, as the person responsible for and in charge of the design of the Project or any part of the Project.
 - 2.2.2. Where under applicable law or in contract, the Employer warrants to any party the adequacy and/or sufficiency of design, nothing in this BIM Particular Conditions shall diminish the extent to which the Employer warrants to any party the adequacy and/or sufficiency of design.
 - 2.2.3. Participation of a contractor or its subcontractors and suppliers in carrying out BIM shall not constitute performance of design services unless in the Project, the contractor or its subcontractors and suppliers had assumed design responsibility under their respective Principal Agreements.

- 2.2.4. In the event of any inconsistency between a Model and any Drawings, the Drawings shall prevail.
- 2.3. In the event of any inconsistency between the BIM Particular Conditions and the applicable Principal Agreement, the BIM Particular Conditions shall prevail.
- 2.4. As regards the Models produced in BIM:
 - 2.4.1. A Final Design Model is not intended to provide the level of detail needed in order to extract precise materials or object quantities, unless the parties agree in the BIM Execution Plan otherwise.
 - 2.4.2. The dimensional tolerances provided in the Principal Agreement shall apply to the dimensions in a Model, unless the parties agree in the BIM Execution Plan otherwise.
 - 2.4.3. If there is a conflict between a Final Design Model and any other Model, the Final Design Model shall prevail.
 - 2.4.4. If any party to the Project becomes aware of a discrepancy between a Model and either another Model or any contract document in the Principal Agreement, that party shall immediately notify all the other parties to the Principal Agreement and the BIM Manager.

3. BIM MANAGEMENT

- 3.1. The Employer shall appoint one or more BIM Managers for the Project. All compensation and related costs for the BIM Manager shall be paid by the Employer unless otherwise agreed between the parties to the Project. The Employer may appoint any one or more of the parties in a Project as BIM Manager in addition to the duties and obligations of that party under the Principal Agreement.
- 3.2. The role and responsibility of the BIM Manager shall be as provided in the BIM Guide unless expressly agreed otherwise in the BIM Execution Plan.

4. BIM EXECUTION PLAN

- 4.1. As soon as practicable and from time to time as required, the BIM Manager shall call all parties to the Project involved in the execution of BIM to meet, confer and use their best efforts to agree upon the terms of or modifications to a BIM Execution Plan.
- 4.2. The BIM Execution Plan and the Model shall be developed in accordance with the BIM Guide.
- 4.3. As soon as practicable and from time to time as required, the BIM Manager shall call all parties to the Project involved in the execution of BIM to identify and agree on the Final Design Model.
- 4.4. The BIM Manager shall schedule and chair all meetings. In the event of any disagreement on the terms or modifications to the BIM Execution Plan, the BIM

Manager's decision shall be final and conclusive. In the event that more than one BIM Manager has been appointed in accordance with Clause 3, then the decision shall be the joint decision of the BIM Managers.

- 4.5. If under the BIM Execution Plan for the time being in force, any party is required to perform or carry out any work which is beyond its scope of work under the Principal Agreement; such work shall be treated as additional works or variations under the Principal Agreement.

5. RISK ALLOCATION

- 5.1. Each Model Author's Contribution is intended to be shared with subsequent Model Authors and Model Users throughout the course of the Project.
- 5.2. In contributing content to the Model, the Model Author does not convey any ownership right in the content provided or in the software used to generate the content. Unless otherwise granted in a separate licence, any subsequent Model Author's and Model User's right to use, modify, or further transmit the Model is specifically limited to the design and construction of the Project, and nothing contained in this BIM Particular Conditions conveys any other right to use the Model for another purpose.
- 5.3. It is understood that while the content of a specific Model Element may include data that exceeds the required level of detail specified in the BIM Execution Plan, Model Users and subsequent Model Authors may rely on the accuracy and completeness of a Model Element consistent only with the content required for the level of detail identified in the BIM Execution Plan.
- 5.4. Any use of, or reliance on, a Model Element inconsistent with the level of detail indicated in the BIM Execution Plan by subsequent Model Authors or Model Users shall be at their own sole risk and without liability to the Model Author. Subsequent Model Authors and Model Users shall indemnify and defend the Model Author from and against all claims arising from or related to the subsequent Model Author's or Model User's unauthorised modification to, or use of, the Model Author's content.
- 5.5. To the extent that any or all Final Design Models are included as contract documents, parties may rely upon the accuracy of information in those Final Design Models (including dimensional accuracy) unless otherwise specified in the BIM Execution Plan.
- 5.6. The standard of care applicable to each party regarding any Contribution shall be in accordance with the Principal Agreement or if none is specified, in accordance to applicable law.
- 5.7. Each party shall use its best efforts to minimize the risk of claims and liability arising from the use of or access to its Model or the Final Design Model. Such efforts shall include promptly reporting to the relevant party and the BIM Manager any errors, inconsistencies or omissions it discovers in its Model or the Final Design Model. However, this section shall not relieve any party of liability for any of its Contribution.

- 5.8. No party involved in creating a Model shall be responsible for costs, expenses, liabilities, or damages which may result from use of its Model beyond the uses stated in the BIM Execution Plan.

6. INTELLECTUAL PROPERTY RIGHTS

- 6.1. Each party warrants to the other parties to the Principal Agreement that either (a) that party is the owner of all copyrights in all of that party's Contributions, or (b) that party is licensed or otherwise authorised by the holders of copyrights of expression contained in the Contribution to make such Contribution under the terms of this BIM Particular Conditions. Each party agrees to indemnify and hold such other parties harmless against claims of third parties arising out of or relating to, claims or demands relating to infringement or alleged infringement of expression contained in that party's Contribution. Nothing in this BIM Particular Conditions is intended to limit, transfer, or otherwise affect any of the intellectual property rights that a party may have with respect to any Contribution, except for licences or permissions expressly granted by this BIM Particular Conditions or the Principal Agreement.
- 6.2. Subject to the provisions of Clause 6.1, each party grants to the other party or parties to the Principal Agreement for the sole purpose of the other party or parties carrying out their respective duties and obligations relating to the Project:
- 6.2.1. A limited, non-exclusive licence to produce, distribute, display, or otherwise use that party's Contribution for purposes of this Project only.
- 6.2.2. A limited, non-exclusive sub-licence to reproduce, distribute, display, or otherwise use, for the purposes of this Project only, the Contributions of those other parties to the Project who have granted that party an identical licence or sub-licence;
- 6.2.3. The right to grant an identical sublicence to any other party to the Project with which the licensee has a contract in which this BIM Particular Conditions is incorporated by reference; and
- 6.2.4. A limited, non-exclusive licence to reproduce, distribute, display, or otherwise use any Model containing such Contributions, or any other Model with which the Model containing such Contributions is federated or otherwise related.

The limited licence granted in this Clause shall include any archival purposes permitted in this BIM Particular Conditions or in the Principal Agreement.

- 6.3. If a party to a Principal Agreement is the holder of copyrights in the Contribution of another party to the Project or is the grantee of an exclusive licence with respect to such Contribution, then such holder or exclusive licensee hereby grants to the other party or parties to the Principal Agreement the right to grant to other parties to the Project with which that other party has or those parties have a contract in which this BIM Particular Conditions is incorporated, a limited licence in the terms set forth in Clause 6.2.

- 6.4. The Employer's entitlement to use any Final Design Model after completion of the Project shall be governed by the Principal Agreement(s) between the Employer and the Designer(s).
- 6.5. Unless otherwise limited herein or by express licence-limiting terms in the Principal Agreement, the non-exclusive licence granted in this BIM Particular Conditions shall remain in effect as permitted by law. In addition, after final completion of the Project, the non-exclusive licence shall be limited to keeping an archival copy of Project-related Contributions.
- 6.6. In the absence of express language to the contrary in the Principal Agreement or in this BIM Particular Conditions, nothing in this BIM Particular Conditions, and no act by any party in the Project in furtherance of this BIM Particular Conditions, shall be deemed or construed to deprive or dispossess any party in the Project of copyrights or licence rights held by that party in its respective underlying Contribution to any Model. Other parties, persons or entities that provide Contributions to a Model shall not be deemed to be co-authors in the Contributions of other parties to the Project.

Notes to Users:

1. Clause 1.2 defines the BIM Guide as either the Singapore BIM Guide published by BCA or such other guide as may be expressly provided in the Principal Agreements. If the user intends to use any other guide for a project, then it is absolutely critical that this be stated in the Principal Agreements (see next paragraph for a suggestion on how this can be done).
2. For the BIM Particular Conditions to apply in a project, the parties must ensure that the BIM Particular Conditions is incorporated as a contract document in the Principal Agreements. This can be done in a variety of ways. Suggestions for the more common local standard forms of contract are set out below.

a. REDAS Design and Build Conditions of Contract

To insert as one of the documents in Appendix 4:

Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force.

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to insert as one of the documents in Appendix 4:

Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force. For the purpose of Clause 1.2 of the BIM Particular Conditions, the BIM Guide shall be [name of the guide].

b. SCAL Conditions of Sub-Contract

To amend Clause 4 by adding a new Clause 4(j) as follows:

(j) *Schedule 10: Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force.*

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to amend Clause 4 by adding a new Clause 4(j) as follows:

(j) *Schedule 10: Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force. For the purpose of Clause 1.2 of the BIM Particular Conditions, the BIM Guide shall be [name of the guide].*

c. SCAL Standard Agreement for Appointment of Consultants

To insert as one of the documents in Appendix C:

The Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force shall apply for use of building information modelling.

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to insert as one of the documents in Part 1 of the Schedule:

The Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force shall apply for use of building information modelling. For the purpose of Clause 1.2 of the BIM Particular Conditions, the BIM Guide shall be [name of the guide].

d. SIA Contract

To amend Article 6 of the Articles of Contract by adding a new Article 6(g) as follows:

(g) *Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force.*

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to amend Article 6 by adding a new Article Clause 6(g) as follows:

(g) *Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force. For the purpose of Clause 1.2 of the BIM Particular Conditions, the BIM Guide shall be [name of the guide].*

e. SIA Sub-Contract

To insert as one of the documents in Part I of the Schedule:

Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force.

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to insert as one of the documents in Part I of the Schedule:

Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force. For the purpose of Clause 1.2 of the BIM Particular Conditions, the BIM Guide shall be [name of the guide].

f. SIA Conditions of Appointment (for Architect)

To amend the Conditions of Appointment by adding a new Clause 1.1(11) as follows:

(11) Building Information Modelling

The Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force shall apply for use of building information modelling.

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to amend the Conditions of Appointment by adding a new Clause 1.1(11) as follows:

(11) Building Information Modelling

The Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force shall apply for use of building information modelling. For the purpose of Clause 1.2 of the BIM Particular Conditions, the BIM Guide shall be [name of the guide].

g. Association of Consulting Engineers Singapore Agreement

To insert at Clause 1.1.1(i) of the Specific Provisions:

Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force.

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to insert at Clause 1.1.1(i) of the Specific Provisions:

Particular Conditions For Building Information Modelling (“BIM Particular Conditions”) published by the Building and Construction Authority for the time being in force. For the purpose of Clause 1.2 of the BIM Particular Conditions, the BIM Guide shall be [name of the guide].