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# **Contents**

| Int | rodu | ction   | 4  |
|-----|------|---|----|
| 1.  | Orga | anisational Information Requirements (OIR) in General                         | 5  |
|     | 1.1  |   |    |
|     |      | 1.1.1 Organisation Management Functions (Roles and responsibilities)          |    |
|     |      | 1.1.2 Organisation Management Systems   |    |
|     | 1.2  | Quality assurance procedures  |    |
|     |      | 1.2.1 Quality Systems   | 6  |
| 2.  | Orga | anisation Policies  | 7  |
|     | 2.1  | Capital investment and life cycle costing policy                              | 8  |
|     | 2.2  | Health and safety compliance and management policy                            |    |
|     | 2.3  | Security management policy  |    |
|     | 2.4  | Emergency management and contingency planning policy                          |    |
|     | 2.5  | Environmental management policy   |    |
|     | 2.6  | Sustainability policy   |    |
|     | 2.7  | Supply chain management policy  | 10 |
|     | 2.8  | Space utilisation policy  | 10 |
|     | 2.9  | Risk assessment and management policy   |    |
|     | 2.10 | Maintenance and repairs policy  | 11 |
|     | 2.11 | Asset modifications policy  | 11 |
|     | 2.12 | Asset operations policy   | 11 |
|     | 2.13 | Human resources, skills development, training, and competencies policy        | 12 |
|     | 2.14 | Technologies adoption policy; and   | 12 |
|     | 2.15 | Value management policy   | 12 |
| 3.  | Org  | anisation Information Requirements  | 14 |
|     | 3.1  | Capital investment and life cycle costing requirements;                       | 14 |
|     | 3.2  | Health and safety compliance and management requirements;                     |    |
|     | 3.3  | Security management requirements;   |    |
|     | 3.4  | Emergency management and contingency planning requirements;                   |    |
|     | 3.5  | Environmental management requirements;  |    |
|     | 3.6  | Sustainability requirements;  |    |
|     | 3.7  | Supply chain management requirements;   | 16 |
|     | 3.8  | Space utilisation requirements;   | 16 |
|     | 3.9  | Risk assessment and management requirements;                                  | 16 |
|     | 3.10 | Maintenance and repairs requirements;   | 16 |
|     |      | Asset modifications requirements;   |    |
|     | 3.12 | Asset operations requirements;  | 16 |
|     | 3.13 | Human resources, skills development, training, and competencies requirements; | 17 |
|     | 3.14 | Technologies adoption requirements; and                                       | 17 |
|     | 3.15 | Value management requirements.  | 17 |

# Introduction

#### **Organisational Information Requirements**

Organisational Information Requirements (OIR) are aimed predominantly at defining the information required by an organisation to answer or inform high-level strategic objectives rather than asset level or project specific objectives. An OIR can be defined at multiple tiers of an organisation's hierarchy and based upon a wide range of organisational activities. The intention is to allow the cascading of requirements down through organisations and the flow of information up these tiers to inform decision making. The requirements may be needed for multiple decision making, which can include:

- Policy decisions;
- Portfolio planning;
- Regulatory obligations;
- · Strategic asset management; and
- Strategic business operations.

The high-level activities which may need to be considered in formulating OIR can include, but are not limited to:

- · Capital investment and life cycle costing;
- Health and safety compliance and management;
- Security management;
- · Emergency management and contingency planning;
- Environmental management;
- Sustainability;
- Supply chain management;
- Space utilisation;
- · Risk assessment and management;
- Maintenance and repairs;
- Asset modifications;
- Asset operations;
- Human resources, skills development, training, and competencies;
- Technologies adoption; and
- Value management.

To facilitate a digital approach for decision making, the OIR should be developed in a manner to enable a digital approach. This will facilitate data verification and defining support solutions.

#### The Solution

The Organisation Information Requirements should be continuously reviewed, updated, and address any changing requirements as an organisation develops its processes and business thinking.

This document has been produced to enable all delivery team members to understand the Appointing Party / Client Organisations information requirements and work in a consistent manor and ensure that information is delivered and verified against the requirements identified. The project must support the aggregation of this information required by all parties.



# Organisational Information Requirements (OIR) in General

The Organisational Information Requirements (OIR) set out the information that the Appointing Party / Clients Organisation needs for both business and strategic decision making during an Assets delivery, as well as its operation and lifecycle. This section sets out the general information requirements to ensure information is defined in using a consistent approach.

(To be completed by the business's representative.)

### 1.1 General Information

The Organisations information and main contact in relation to these Organisation requirements is identified below:

| Organisation Name           | (Add Organisation Name)                                      |
|-----------------------------|--|
| Organisation Address        | (Add Organisation Address)                                   |
| Organisation Section / Team | (Add Organisation section or team information if applicable) |
| Main Contact                | (Add Contact Name)   |
| Contact phone               | (Add Contact phone number)                                   |
| Contact email               | (Add Contact email address)                                  |

# 1.1.1 Organisation Management Functions (Roles and responsibilities)

The following have contributed to the organisation information requirements (OIR) and may be identified as requirement owners. Further information or clarification may be needed from the following:

| Function (Role / Responsibility) | Name | Company | Contact Details |
|----------------------------------|------|---------|-----------------|
|                                  |      |         |                 |
|                                  |      |         |                 |
|                                  |      |         |                 |
|                                  |      |         |                 |

(Organisation management functions identified should be included within any project information requirements or exchange information requirement created for specific projects.)

#### 1.1.2 Organisation Management Systems

The following are the current / proposed management solutions, asset, operations, and facilities management systems to be used along with the acceptable data formats:

| Software application | Software vendor | Package | Version | File formats for any delivery |
|----------------------|-----------------|---------|---------|-------------------------------|
|                      |                 |         |         |                               |
|                      |                 |         |         |                               |
|                      |                 |         |         |                               |
|                      |                 |         |         |                               |
|                      |                 |         |         |                               |

(Identified Quality processes and quality systems should identify specifying information delivery formats for inclusion within the exchange information requirements).

# 1.2 Quality assurance procedures

#### 1.2.1 Quality Systems

The following processes and quality systems are in place to support the definition and delivery of Asset Information in accordance with these Organisational Information Requirements.

| Quality Procedures    | Documentation document name |
|-----------------------|-----------------------------|
| (ISO 9001 Processes)  |                             |
| (ISO 27001 Processes) |                             |
|                       |                             |
|                       |                             |
|                       |                             |

(Identified Quality processes and quality systems should be included within any project information standards or project information production methods and procedures as relevant).

# 2

# **Organisation Policies**

The Organisation Information Requirements provide an internationally agreed format for Organisations to identify what and how they want information to meet the needs in relation to their built assets for the benefit of their business. Information from Designers and Constructors can not only be used by operators and maintainers but can also aid with other Appointing Party / Clients business needs if understood and can provide support to existing organisation policies.

(This section sets out any identified requirements to aid with

- Policy decisions;
- Portfolio planning;
- Regulatory obligations;
- Strategic asset management; and
- Strategic business operations.)

The Organisation Information requirements identified refer to physical or built assets, but other information requirements may establish other aspects.

The purpose of this Template is to aid Organisations in the definition of their Organisation Information requirements. Section 2 identifies the Organisation policies against which the information requirements will be defined. Section 3 sets out the specific information requirements requested to support the policies identified in Section 2.

#### (NOTE:

There is not specific need for Appointing Party / Clients to issue the OIRs as an identified document for individual projects. Also, the purposes and reasons for requiring information do not have to be passed on to the delivery teams as part of any information requirements. The Asset Information Requirements, Project Information Requirements and Exchange information requirements should be populated from the outcomes of this OIR as identified in Section 3 to ensure that the information requirements are met.)

# 2.1 Capital investment and life cycle costing policy

(The capital investment and life cycle costing requirements should include an organisations policy that set out business goals and requirements.

Examples of these could include:

- Strategic Asset Management Portfolio requirements including financial actuals, full year, and project forecasts to be delivered monthly.
- Lifecycles costing information requirements settings out asset lifecycle, capital costs, maintenance costs, resource requirements, and replacement to establish best value.)

The organisation capital investment and lifecycle costing policy are identified as follows:

#### Capital investment policy

(Reference document or input statement)

Lifecycle costing policy

(Reference document or input statement)

# 2.2 Health and safety compliance and management policy

(The health and safety compliance and management requirements should include a policy detailing the organisations approach to health and safety. This should establish the aims and objectives, as well as defining ownership and responsibility. It should establish the approach to health and safety matter and confirm the organisations approach and commitment, therefore promoting safe working practice

Examples of these could include:

- Good Practice on preventative measure against COVID 19
- Lifting Safety requirements.)

The organisations health and safety compliance and management policy are identified as follows:

#### **Health and safety policy**

(Reference document or input statement)

Health and safety management policy

(Reference document or input statement)

# 2.3 Security management policy

(The security management requirements should include a policy detailing the organisations approach to both physical and information security. This should establish the aims and objectives, as well as defining ownership and responsibility.

Examples of these could include:

- Requirements for all cloud-based solutions to be in accordance with ISO 27000 and stored on a Hong Kong based server.
- All projects to undertake a security triage process prior to commencement.)

The Organisations security management policy is identified as follows:

#### Security management policy

# 2.4 Emergency management and contingency planning policy

(The emergency management and contingency planning policy should set out business needs for information requirements necessary if an immediate risk or threat requires urgent attention. Examples of these could include:

- Evacuation requirements;
- Response to Medical incident;
- Response to Fire; and
- Response to a terrorist event.)

The Organisations emergency management and contingency planning policy are identified as follows:

#### **Emergency management policy**

(Reference document or input statement)

#### **Contingency planning policy**

(Reference document or input statement)

# 2.5 Environmental management policy

(The environmental management policy should set out business needs for information requirements necessary to support the environmental management approach. Examples of these could include:

- Monitor legal duties and statutory obligations
- Minimise waste generated from construction and operations:
- Minimise energy consumption generated from construction and operations:
- Identified measurable target for improving environmental performance; and
- Use of reduction in energy use.)

The Organisations environmental management policy is identified as follows:

#### **Environmental management policy**

(Reference document or input statement)

# 2.6 Sustainability policy

(The sustainability policy should set out business needs for information requirements necessary to support the sustainability approach.

Examples of these could include:

- BEAM Plus compliance requirements
- Monitor legal duties and statutory obligations
- Use of materials from sustainable sources
- Prioritise sustainability initiatives: and
- Participate in circular economy approach.)

The Organisations sustainability policy is identified as follows:

#### Sustainability policy

# 2.7 Supply chain management policy

The supply chain management policy should set out business needs for information requirements necessary for supply chain procurement and management.

Examples of these could include:

- Compliance with legal duties and statutory obligations;
- Modern Slavery policy;
- Ethical working policy;
- Demand Management;
- Acquisition Management;
- Logistics Management;
- Disposal management; and
- Risk management.)

The Organisations supply chain management policy is identified as follows:

#### **Supply Chain management Policy**

(Reference document or input statement)

# 2.8 Space utilisation policy

(The space utilisation policy should set out business needs for information requirements necessary to support the space utilisation approach. This will aid in defining the actual need for the project and the space requirements to be allocated.

Examples of these could include:

- Principles of Space Allocation; and
- Space definitions and uses.)

The Organisations health and safety compliance and management policy is identified as follows:

#### **Capital Investment requirements**

(Reference document or input statement)

#### Lifecycle costing requirements

(Reference document or input statement)

# 2.9 Risk assessment and management policy

(The risk assessment and risk management requirements should include any identified policy documents including ownership, mitigation, and management requirements.

Examples could include

- Risk from fire,
- Security risks and management,
- Personal risks and management.
- Financial risks and management; and
- Risk and management associated with loss.)

The Organisations risk assessment and management policy is identified as follows:

#### Risk assessment requirements

#### Risk management requirements

(Reference document or input statement)

# 2.10 Maintenance and repairs policy

(The maintenance and repair policy should include an organisations maintenance information requirement and set out specific maintenance and repair goals.

Examples could include:

- All new assets are to be delivered with a maintenance plan covering the first 5 years of operational life.
- All new assets are to be delivered with identified warranty covering the first 5 years of operational life.)

The Organisations maintenance and repairs requirements is identified as follows:

#### **Maintenance requirements**

(Reference document or input statement)

#### Repair's requirements

(Reference document or input statement)

# 2.11 Asset modifications policy

(The asset modifications policy should set out the information requirements for all modification works to an asset whether this is like for like replacement, or complete area of work. Separation of project record and asset information should be defined.

Examples for Information update requirements could include:

- Information needs for replacement items:
- Information needs for minor works: and
- Information needs for major works.)

The Organisations asset modification requirements is identified as follows:

#### **Asset modification requirements**

(Reference document or input statement)

# 2.12 Asset operations policy

(The Asset operations policy should set out the requirements for all operations to an asset whether this is use, insurance, cleaning, maintenance, or other identified form of check or works.

Examples could include:

- Information required for insurance purposes
- Cleaning in accordance with manufacturer's requirements;
- Compliance with warranty requirements; and
- Compliance with maintenance regime requirements.)

The Organisations health and safety compliance and management requirements is identified as follows:

#### **Asset Operations Policy**

(Reference document or input statement)

# 2.13 Human resources, skills development, training, and competencies policy

(The Human resources, skills development, training, and competence policy should set out the information requirements and the compliance need for personnel and delivery teams. Examples for Information update requirements could include:

- Modern Slavery policy:
- Ethical working policy;
- Project staff assessment, training, induction, and verification requirements;
- Information Management qualifications such as CIC BIM Manager:
- Resumes for staff undertaking identified project roles; and
- Staff Competence requirements.)

Organisations human resources, skills development, training, and competencies requirements is identified as follows:

| equirements is identified as follows.   |
|---|
| Human Resources Policy                  |
| (Reference document or input statement) |
| Skills Development Policy               |
| (Reference document or input statement) |
| Training Policy                         |
| (Reference document or input statement) |
| Competency Policy                       |
| (Reference document or input statement) |

# 2.14 Technologies adoption policy; and

(The Technology adoption policy should set out the requirements for all technology use and information requirements to meet the business needs. Examples could include:

- Adoption of proven technologies
- Investment criteria for new technologies;
- Adoption of OPEN data standards and schemas; and
- Compliance with legal duties and statutory obligations.)

Organisation's technology adoption policy is identified as follows:

# Technology adoption policy (Reference document or input statement)

# 2.15 Value management policy.

(The value management policy should set out the information requirements required to facilitate better decisions. This will aid in relating how cost is determined in relation to value aiding with the proposed lifecycle approach to be undertaken.

Examples for Information update requirements could include:

- Initial or capital expenditure requirements;
- Procurement, Maintenance resource and replacement costs;
- Environmental cost and impacts; and
- Social costs.)

The Organisations value management requirements is identified as follows:

#### Value management policy



# Organisation Information Requirements

The Organisation has identified the following information requirements to facilitate compliance with each of the organisations policy documents.

Each information requirement should be defined either in a separate document or as a series of input statements identified to meet each requirement set. Where possible requirements should have a Unique ID, an owner, data format and acceptance criteria. They may also include supporting information for clarification.

#### **Example requirement input statement**

| Requirement  | Requirement     |                  |  |  |  |
|--|-----------------|------------------|--|--|--|
| Requirement   Requirement   Criteria   Supporting Information   Criteria   Requirement   Criteria   Criteria |                 |                  |  |  |  |
| What is the num  | ber of occupant | s for the Asset? |  |  |  |
| 2.12.001 Building Area m2 Direct from Calculation of floor Area a model / area schedule  Direct from design criteria.  |                 |                  |  |  |  |

(The purpose of this organisation information requirements (OIR) is to contribute to each project information requirements (PIR) and requirements may be encapsulated into the asset information requirements (AIR). To facilitate this approach the CIC PIR and AIR Templates include provision for the requirements identified in this section.)

(Identifying what, how, where and when this information is required will aid with information delivery and the proposed approach to supporting the information needs to aid decision making.)

# 3.1 Capital investment and life cycle costing requirements;

The Organisation Capital investment and lifecycle costing requirements is identified as follows:

| Capital Investment requirements          |
|--|
| (Reference document or input statements) |
| Lifecycle costing requirements           |
| (Reference document or input statements) |

# 3.2 Health and safety compliance and management requirements;

The Organisations Health and safety compliance and management requirements is identified as follows:

#### Health and safety compliance

(Reference document or input statements)

Health and safety management

(Reference document or input statements)

# 3.3 Security management requirements;

The Organisations security management requirements is identified as follows:

#### **Capital Investment requirements**

(Reference document or input statements)

# 3.4 Emergency management and contingency planning requirements;

The Organisations emergency management and contingency planning requirements are identified as follows:

#### **Emergency management requirements**

(Reference document or input statements)

**Contingency planning requirements** 

(Reference document or input statements)

# 3.5 Environmental management requirements;

The Organisations environmental management requirements is identified as follows:

#### **Environmental management requirements**

(Reference document or input statements)

## 3.6 Sustainability requirements;

The Organisations sustainability requirements is identified as follows:

#### Sustainability requirements

# 3.7 Supply chain management requirements;

The Organisations supply chain management requirements is identified as follows:

#### **Supply Chain management requirements**

(Reference document or input statements)

# 3.8 Space utilisation requirements;

The Organisations health and safety compliance and management requirements is identified as follows:

#### **Capital Investment requirements**

(Reference document or input statements)

Lifecycle costing requirements

(Reference document or input statements)

# 3.9 Risk assessment and management requirements;

The Organisations risk assessment and management requirements is identified as follows:

#### Risk assessment requirements

(Reference document or input statements)

Risk management requirements

(Reference document or input statements)

# 3.10 Maintenance and repairs requirements;

The Organisations maintenance and repairs requirements is identified as follows:

#### **Maintenance requirements**

(Reference document or input statements)

Repair's requirements

(Reference document or input statements)

# 3.11 Asset modifications requirements;

The Organisations asset modification requirements is identified as follows:

#### **Asset modification requirements**

(Reference document or input statements)

# 3.12 Asset operations requirements;

The Organisations health and safety compliance and management requirements is identified as follows:

#### **Asset Operations requirements**

(Reference document or input statements)

# 3.13 Human resources, skills development, training, and competencies requirements;

The Organisations human resources, skills development, training, and competencies requirements is identified as follows:

#### **Human Resources requirements**

(Reference document or input statements)

#### Skills Development requirements

(Reference document or input statements)

#### **Training requirements**

(Reference document or input statements)

#### **Competency requirements**

(Reference document or input statements)

# 3.14 Technologies adoption requirements; and

The Organisations technology adoption requirements is identified as follows:

#### **Technology adoption requirements**

(Reference document or input statements)

# 3.15 Value management requirements.

The Organisations value management requirements is identified as follows:

#### Value management requirements

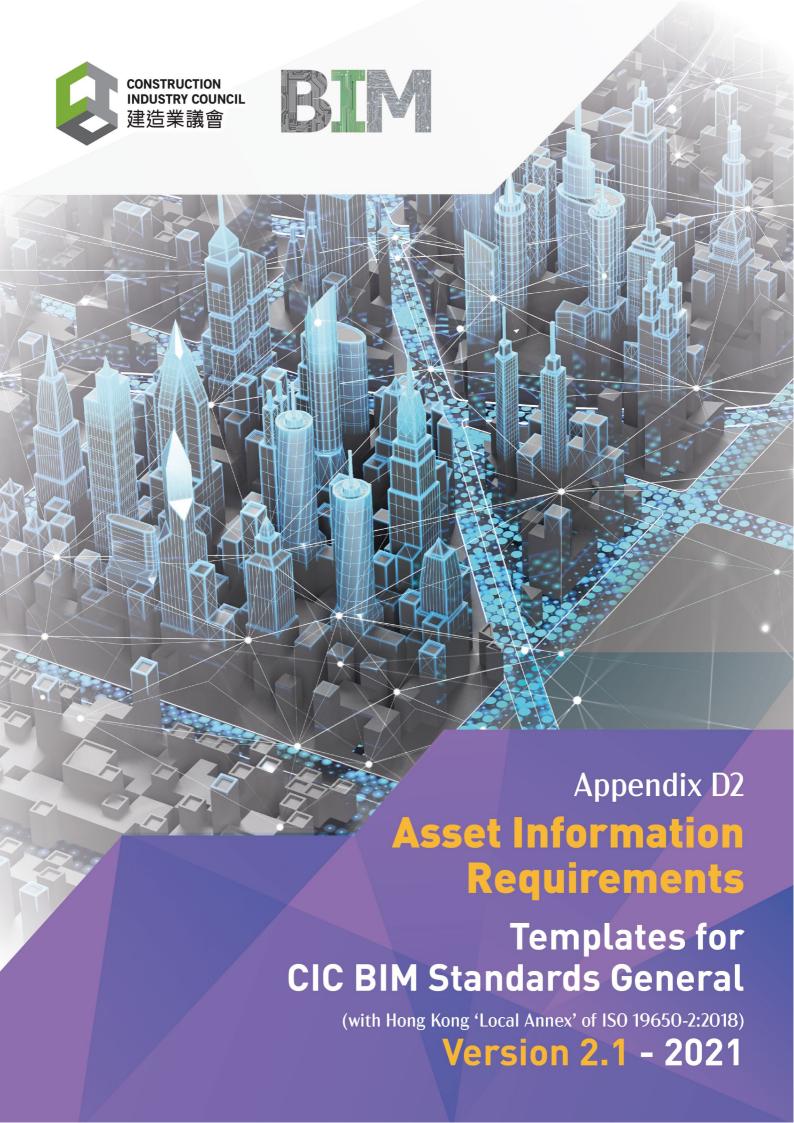
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|               |                   |
|               |                   |

# **Contents**

| 1.1.1 General Information       6         1.1.1 Asset Information Management Functions       6         1.1.2 Asset Information Management Systems       7         1.2 Quality Assurance Procedures       7         1.2.1 Quality Systems       7         1.2.2 Responsibility       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information Requirements       12         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       13         3. COBie Contactos       14         3. COBie Contactos       15         3. COBie Contactos       16         3. COBie Contactos       16         3. Cobie Contactos       1   | 1.1.1 Asset Information Management Functions.       6         1.1.2 Asset Information Management Systems       7         1.2 Quality Assurance Procedures.       7         1.2.1 Quality Systems.       7         1.2.2 Responsibility.       8         2. Asset Information Requirements.       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management.       9         2.3 Systems breakdown Information.       9         2.4 Nomenclature.       10         2.5 BIM Object.       10         2.5.1 Library requirements.       10         2.5.2 Object Library Types.       11         2.5.3 Symbology requirements.       11         2.6 Classification.       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements.       12         2.10 Key Compliance Requirements.       12         3.1 Constructions Operations Building information exchange requirements format       14         3.1 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements.       15         3.4 COBie Contacts       16         3.5 Facility       17     < | Int | roduc      | ction  | 4  |
|---|--|-----|------------|--|----|
| 1.1.1 Asset Information Management Functions       6         1.1.2 Asset Information Management Systems       7         1.2 Quality Assurance Procedures       7         1.2.1 Quality Systems       7         1.2.2 Responsibility       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information Requirements       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3.1 COBie Schema Requirements       15         3.3.1 COBie Schema Requirements       16   | 1.1.1 Asset Information Management Functions.       6         1.1.2 Asset Information Management Systems       7         1.2.1 Quality Assurance Procedures.       7         1.2.2 Responsibility.       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 II Library requirements       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information Requirements       11         2.9 Schedule of Information Requirements       12         3.1 CoBle       13         3.2 COBle       13         3.3 COBle       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 CoBie Deliverable requirements       15         3.3 COBle Deliverable requirements       15         3.4 COBie Contacts       16         3.5 Facility       17                                    | 1.  | <b>AIR</b> | Overview                                       | 6  |
| 1.1.1 Asset Information Management Functions       6         1.1.2 Asset Information Management Systems       7         1.2 Quality Assurance Procedures       7         1.2.1 Quality Systems       7         1.2.2 Responsibility       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information Requirements       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16      <   | 1.1.1 Asset Information Management Functions.       6         1.1.2 Asset Information Management Systems       7         1.2.1 Quality Assurance Procedures.       7         1.2.2 Responsibility.       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 II Library requirements       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information Requirements       11         2.9 Schedule of Information Requirements       12         3.1 CoBle       13         3.2 COBle       13         3.3 COBle       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 CoBie Deliverable requirements       15         3.3 COBle Deliverable requirements       15         3.4 COBie Contacts       16         3.5 Facility       17                                    |     | 1.1        | General Information                            | 6  |
| 1.1.2 Asset Information Management Systems       7         1.2.1 Quality Assurance Procedures       7         1.2.1 Quality Systems       7         1.2.2 Responsibility       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Information       11         2.9 Schedule of Information Requirements       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 LOBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Filor <td>1.12 Asset Information Management Systems       7         1.2.1 Quality Assurance Procedures.       7         1.2.1 Quality Systems       7         1.2.2 Responsibility.       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information Requirements       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Cobie Contacts       15         3.3 COBie Deliverable requirements       15         3.3 COBie Schema Requirements       15         3.4 COBie Schema Requirements       15         3.5 Facility       17</td> <td></td> <td></td> <td></td> <td></td> | 1.12 Asset Information Management Systems       7         1.2.1 Quality Assurance Procedures.       7         1.2.1 Quality Systems       7         1.2.2 Responsibility.       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information Requirements       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Cobie Contacts       15         3.3 COBie Deliverable requirements       15         3.3 COBie Schema Requirements       15         3.4 COBie Schema Requirements       15         3.5 Facility       17                                       |     |            |  |    |
| 1.2.1 Quality Systems       7         1.2.2 Responsibility.       8         2. Asset Information Requirements       9         2.1 AIR delivery formats.       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.5. Schedule of Asset       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3.1 Constructions Operations Building information exchange requirements format       14         3.1 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.10 Asset Component       21 <td>1.2.1 Quality Systems       7         1.2.2 Responsibility       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown Information       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.5 Schedule of Asset       11         2.7 Schedule of Information       11         2.8 Accuracy of Information Requirements       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 COBie Deliverable requirements       15         3.3 COBie Deliverable requirements       15         3.4 COBie Schema Requirements       15         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.10 Asset Omponent       21</td> <td></td> <td></td> <td></td> <td></td>   | 1.2.1 Quality Systems       7         1.2.2 Responsibility       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown Information       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.5 Schedule of Asset       11         2.7 Schedule of Information       11         2.8 Accuracy of Information Requirements       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 COBie Deliverable requirements       15         3.3 COBie Deliverable requirements       15         3.4 COBie Schema Requirements       15         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.10 Asset Omponent       21  |     |            |  |    |
| 2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3.1 COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3 COBie Deliverable requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       18         3.10 Asset Component       21         3.11  | 1.2.2 Responsibility       8         2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       13         3. Cobsiductions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.10 Asset Component       21         3.11 As   |     | 1.2        | Quality Assurance Procedures                   | 7  |
| 2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.4 COBie Schema Requirements       15         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.14 Resource<  | 2. Asset Information Requirements       9         2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3.1 Constructions Operations Building information exchange requirements format       14         3.2 COBie       14         3.3 COBie Deliverable requirements       15         3.3 COBie Deliverable requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23   |     |            |  |    |
| 2.1       AIR delivery formats       9         2.2       Model breakdown structure for Asset Management       9         2.3       Systems breakdown Information       9         2.4       Nomenclature       10         2.5       BIM Object       10         2.5.1       Library requirements       10         2.5.2       Object Library Types       11         2.5.3       Symbology requirements       11         2.6       Classification       11         2.7       Schedule of Asset       11         2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       1 COBie Deliverable requirements       15         3.4       COBie Deliverable requirements       15         3.5       Facility       17         3.6       Floor  | 2.1 AIR delivery formats       9         2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       13         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare   |     |            |  |    |
| 2.2       Model breakdown Information       9         2.3       Systems breakdown Information       9         2.4       Nomenclature       10         2.5       BIM Object       10         2.5.1       Library requirements       10         2.5.2       Object Library Types       11         2.5.3       Symbology requirements       11         2.5       Symbology requirements       11         2.7       Schedule of Asset       11         2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3       COBie Schema Requirements       15         3.4       COBie Schema Requirements       15         3.5       Facility       17         3.6       Floor       18         3.7       Space       18  | 2.2 Model breakdown structure for Asset Management       9         2.3 Systems breakdown Information       9         2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3.1 Cost       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 COBie Deliverable requirements       15         3.3 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.14 Resource       24         3.15 Job       25         3.16 Document       27  | 2.  | Asse       | et Information Requirements                    | 9  |
| 2.3       Systems breakdown Information       9         2.4       Nomenclature       10         2.5       BIM Object       10         2.5.1       Library requirements       10         2.5.2       Object Library Types       11         2.5       Symbology requirements       11         2.6       Classification       11         2.7       Schedule of Asset       11         2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3.1       COBie Contacts       15         3.4       COBic Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.10       Asset Type  | 2.3       Systems breakdown Information       9         2.4       Nomenclature       10         2.5       BIM Object       10         2.5.1       Library requirements       10         2.5.2       Object Library Types       11         2.5       3 Wiphology requirements       11         2.6       Classification       11         2.7       Schedule of Asset       11         2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3       COBie Contacts       15         3.4       COBie Contacts       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7  |     | 2.1        | AIR delivery formats                           | 9  |
| 2.4       Nomenclature.       10         2.5       BIM Object       10         2.5.1       Library requirements       10         2.5.2       Object Library Types       11         2.5.3       Symbology requirements       11         2.6       Classification       11         2.7       Schedule of Asset       11         2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie.       14         3.1       Constructions Operations Building information exchange requirements format       14         3.1       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3       COBie Contacts       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21  | 2.4 Nomenclature       10         2.5 BIM Object       10         2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3.1 Constructions Operations Building information exchange requirements format       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3.1 COBie Deliverable requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource  |     | 2.2        | Model breakdown structure for Asset Management | 9  |
| 2.5       BIM Object       10         2.5.1       Library requirements       10         2.5.2       Object Library Types       11         2.5.3       Symbology requirements       11         2.6       Classification       11         2.7       Schedule of Asset       11         2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Assembly       23         3.13       Spare       24   | 2.5       BIM Object       10         2.5.1       Library requirements       10         2.5.2       Object Library Types       11         2.5.3       Symbology requirements       11         2.6       Classification       11         2.7       Schedule of Asset       11         2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       12         3.1       Constructions Operations Building information exchange requirements format       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3       1 COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Assembly       23   |     | 2.3        | Systems breakdown Information                  | 9  |
| 2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3.1 Constructions Operations Building information exchange requirements format       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.4 COBie Contacts       15         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       18         3.9 Asset Type       20         3.10 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29 <td>2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3.1 Constructions Operations Building information exchange requirements format       14         3.1 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements.       15         3.3 COBie Contacts       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.15 Job       25         3.16 Document       24         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29</td> <td></td> <td>2.4</td> <td></td> <td></td>   | 2.5.1 Library requirements       10         2.5.2 Object Library Types       11         2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3.1 Constructions Operations Building information exchange requirements format       14         3.1 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements.       15         3.3 COBie Contacts       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.15 Job       25         3.16 Document       24         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29   |     | 2.4        |  |    |
| 2.5.2 Object Library Types       .11         2.5.3 Symbology requirements       .11         2.6 Classification       .11         2.7 Schedule of Asset       .11         2.8 Accuracy of Information       .11         2.9 Schedule of Information Requirements       .12         2.10 Key Compliance Requirements       .13         3. COBie       .14         3.1 Constructions Operations Building information exchange requirements format       .14         3.2 Constructions Operations Building information exchange requirements       .15         3.3 COBie Deliverable requirements       .15         3.3.1 COBie Schema Requirements       .15         3.4 COBie Contacts       .15         3.5 Facility       .17         3.6 Floor       .18         3.7 Space       .18         3.8 Zone       .19         3.9 Asset Type       .20         3.10 Asset System       .20         3.11 Asset System       .23         3.12 Assembly       .23         3.13 Spare       .24         3.14 Resource       .24         3.15 Job       .25         3.16 Document       .27         3.17 Attribute       .28         3.18 Issue   | 2.5.2 Object Library Types       .11         2.5.3 Symbology requirements       .11         2.6 Classification       .11         2.7 Schedule of Asset       .11         2.8 Accuracy of Information       .11         2.9 Schedule of Information Requirements       .12         2.10 Key Compliance Requirements       .13         3. COBie       .14         3.1 Constructions Operations Building information exchange requirements format       .14         3.2 Constructions Operations Building information exchange requirements       .15         3.3 COBie Deliverable requirements       .15         3.3 COBie Deliverable requirements       .15         3.4 COBie Contacts       .15         3.5 Facility       .17         3.6 Floor       .18         3.7 Space       .18         3.8 Zone       .18         3.9 Asset Type       .20         3.10 Asset Component       .21         3.11 Asset System       .23         3.12 Assembly       .23         3.14 Resource       .24         3.15 Job       .25         3.16 Document       .27         3.17 Attribute       .28         3.19 Delivery of COBie       .29   |     | 2.5        |  |    |
| 2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       12         3.1 Constructions Operations Building information exchange requirements format       14         3.1 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       15         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       18         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 2.5.3 Symbology requirements       11         2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.4 COBie Schema Requirements       15         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       18         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.19 Delivery of COBie       29          3.19 Delivery of COBie       29   |     |            |  |    |
| 2.6 Classification       11         2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 2.6       Classification       11         2.7       Schedule of Asset       11         2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements format       15         3.2       CoBie Deliverable requirements       15         3.3       COBie Deliverable requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13   |     |            | 2.5.2 Object Library Types                     | 11 |
| 2.7 Schedule of Asset       11         2.8 Accuracy of Information       11         2.9 Schedule of Information Requirements       12         2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3 LOBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 2.7       Schedule of Asset       11         2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements format       15         3.3       COBie Deliverable requirements       15         3.3       1 COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset System       21         3.12       Asset Dystem       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.19 <td></td> <td></td> <td></td> <td></td>  |     |            |  |    |
| 2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3       1 COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18   | 2.8       Accuracy of Information       11         2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3.1       COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.19  |     |            |  |    |
| 2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3.1       COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29   | 2.9       Schedule of Information Requirements       12         2.10       Key Compliance Requirements       13         3.       COBie       14         3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.1       COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29         3.19       Delivery of COBie </td <td></td> <td></td> <td></td> <td></td>  |     |            |  |    |
| 2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 2.10 Key Compliance Requirements       13         3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29  |     | -          |  |    |
| 3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 3. COBie       14         3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29  |     |            |  |    |
| 3.1       Constructions Operations Building information exchange requirements format       14         3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3.1       COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29   | 3.1 Constructions Operations Building information exchange requirements format       14         3.2 Constructions Operations Building information exchange requirements       15         3.3 COBie Deliverable requirements       15         3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29  |     |            |  |    |
| 3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3.1       COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29   | 3.2       Constructions Operations Building information exchange requirements       15         3.3       COBie Deliverable requirements       15         3.3.1       COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29         3.19       Delivery of COBie       29  | 3.  |            |  |    |
| 3.3       COBie Deliverable requirements       15         3.3.1       COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29  | 3.3       COBie Deliverable requirements       15         3.3.1       COBie Schema Requirements       15         3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29         3.19       Delivery of COBie       29   |     |            |  |    |
| 3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29  | 3.3.1 COBie Schema Requirements       15         3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29   |     |            |  |    |
| 3.4 COBie Contacts       16         3.5 Facility       17         3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 3.4       COBie Contacts       16         3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29         3.19       Delivery of COBie       29  |     | 3.3        |  |    |
| 3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29   | 3.5       Facility       17         3.6       Floor       18         3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29         3.19       Delivery of COBie       29  |     |            |  |    |
| 3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 3.6 Floor       18         3.7 Space       18         3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29  |     |            |  |    |
| 3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29  | 3.7       Space       18         3.8       Zone       19         3.9       Asset Type       20         3.10       Asset Component       21         3.11       Asset System       23         3.12       Assembly       23         3.13       Spare       24         3.14       Resource       24         3.15       Job       25         3.16       Document       27         3.17       Attribute       28         3.18       Issue       29         3.19       Delivery of COBie       29   |     |            |  |    |
| 3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 3.8 Zone       19         3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29  |     |            |  |    |
| 3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 3.9 Asset Type       20         3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29  |     |            | ·  |    |
| 3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 3.10 Asset Component       21         3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29  |     |            |  |    |
| 3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 3.11 Asset System       23         3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29  |     |            |  |    |
| 3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29  | 3.12 Assembly       23         3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29   |     |            | ·  |    |
| 3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 3.13 Spare       24         3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29  |     |            |  |    |
| 3.14 Resource       24         3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29   | 3.14 Resource.       24         3.15 Job.       25         3.16 Document.       27         3.17 Attribute.       28         3.18 Issue       29         3.19 Delivery of COBie.       29   |     |            |  |    |
| 3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29  | 3.15 Job       25         3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29   |     |            |  |    |
| 3.16 Document       27         3.17 Attribute       28         3.18 Issue       29  | 3.16 Document       27         3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29   |     |            |  |    |
| 3.17 Attribute       28         3.18 Issue       29   | 3.17 Attribute       28         3.18 Issue       29         3.19 Delivery of COBie       29  |     |            |  |    |
| 3.18 Issue  | 3.18 Issue       29         3.19 Delivery of COBie       29  |     |            |  |    |
|   | 3.19 Delivery of COBie29   |     |            |  |    |
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# Introduction

#### **Asset Information Requirements**

Asset Information Requirements (AIR) should provide the basis for the commercial, managerial, and technical aspects of producing and managing asset information and should include the standards, methods, and procedures to be implemented by the Delivery Team. The AIR should provide the detailed specification for the delivery of the Asset Information Model (AIM) and take on board the considerations identified under Section 2.16 on AIM.

The AIR should include the detailed asset information deliverables required to answer the asset related OIR. The AIR should also be expressed in a manner to allow inclusion in asset management appointments to support better organisational decisions. The AIR should facilitate the cascading of requirements across multiple appointments and the amalgamation of data deliverables to provide a consolidated response to the OIR.

The AIR needs to specify precise information for each asset, whether that be an entire building, a zone, space, or individual object (component), such as a door or piece of furniture. As a minimum the AIRs should include regulatory requirements, health and safety information, security, operations and maintenance (O&M) aspects, as well as provide a unique identifier for each asset type. The use of identified classifications systems and schema associated with assets will facilitate the cascading of requirements.

An individual product category Asset Information Requirement is best delivered as a data template and is equally applicable to products as well as spaces, zones, or an entire building. The development of standardised data dictionaries to hold and manage data requirements facilitates enhanced information management, e.g., by allowing standardised document delivery through reporting in open industry formats such as OpenOffice, but also digital formats such as JSON and XML via open application programming interfaces (APIs). This in turn can facilitate automated verification of deliverables against requirements.

Delivery of the AIR against each project milestone should be established within the level of information need. The format of delivery of the AIR should also be clearly defined and established in the EIR. Model information can be provided by open data format options, such as the Construction Operations Building Information Exchange (COBie) and IFC 2X3 TC1 using the Basic FM Handover View. Manufacturers and suppliers can also provide standardised product data sheets based upon industry templates which could in turn be accessible via URLs, QR codes, Bar codes or RFID tags.

#### The Scope

The Asset Information Requirements (AIR) will include the following elements:

- Detailed Specification for delivery of Asset Information Model
- AIR Deliverables
- COBie
- Data Template requirements

The purposes of these documents are to clearly define the Appointing Party / Clients information requirements regarding all Assets that are owned and managed by the Appointing Party / Client and associated information in order that the Appointing Party / Client can procure a lifecycle data approach to information management.

#### **The Solution**

The solution to the requirement is to continuously review, update and address any changing requirements through the course of the project.

This document has been produced to enable all delivery team members to work in a consistent manner and ensure that information is delivered and verified against the requirements identified. The project must support the aggregation of this information required all parties.

#### **Schedule of Requirements and Supporting document**

This document, the Asset Information Requirements shall be read in accordance with the following schedule of documents which make up the Appointing Party / Clients information requirements and brief:

| Document Name   | Revision | Status |
|---|----------|--------|
| Organisational information requirements               |          |        |
| Asset information requirements                        |          |        |
| Project information requirements                      |          |        |
| Security information requirements                     |          |        |
| Exchange information requirements                     |          |        |
| Project information standards                         |          |        |
| Project information production methods and procedures |          |        |



### **AIR Overview**

The asset information requirements are a subset of the Appointing Party / Clients information requirements which in turn are a subset of the Appointing Party / Clients brief. The purpose of Asset Information requirements is to identify the requirements for Asset Data using an approach that can be verified and aid in reducing the waste identified in creating mountains of irrelevant, ambiguous and unreliable information in a format that is difficult to use or find information.

The Asset information requirements set out the technical aspects of the information to be provided at handover from the construction team to support operations and maintenance activities in a manner that can be verified.

#### 1.1 General Information

This section sets out the people, technology and processes required for the asset information requirements. These AIRs should be read in conjunction with the following Exchange Information Requirements (EIR):

| Name                           | Document   |
|--------------------------------|--|
| Appointing Party / Clients EIR | CIC BIM Exchange Information Requirements (EIR) Template |

(To be completed by the business's representative.)

#### 1.1.1 Asset Information Management Functions

This project Asset Information Management functions identifies the roles and responsibilities relating to this project. These will be undertaken by the following:

| Function                                      | Name | Company | Contact Details |
|---|------|---------|-----------------|
| Appointing Party /<br>Client Delivery Manager |      |         |                 |
| Appointing Party / Client Information Manager |      |         |                 |
| Asset Manager                                 |      |         |                 |
| Operations Manager                            |      |         |                 |
| Asset Security Manager                        |      |         |                 |

### 1.1.2 Asset Information Management Systems

The following technologies are the current / proposed asset, operations, and facilities management systems to be used, along with the acceptable data formats:

| Software application | Software Use                            | Software vendor | Package /<br>Version | File formats for delivery |
|----------------------|---|-----------------|----------------------|---------------------------|
| XYZ                  | Facilities<br>management<br>Operational |                 |                      | COBie                     |
| ABC                  | Asset<br>Maintenance                    |                 |                      |                           |
| 123                  | Room bookings                           |                 |                      |                           |
|                      |   |                 |                      |                           |
|                      |   |                 |                      |                           |

# **1.2** Quality Assurance Procedures

### 1.2.1 Quality Systems

The following processes and quality systems are in place to support the definition and delivery of Asset Information. This document must be delivered in accordance with the requirements of the following:

| Quality Procedures                     | Documentation document name |
|--|-----------------------------|
| Asset Information verification process |                             |
| COBie validation procedure             |                             |
| Handover Procedure                     |                             |
| Asset Coding and numbering             |                             |
|  |                             |

# 1.2.2 Responsibility

The following identified responsibility have been identified to provide asset data and information for the project as follows:

| Identified responsibilities (using RACI) R = Responsible A = Accountable C = Consulted I = Informed | Lead Designer | Designer | Main<br>Contractor | Sub-Contractor<br>/ Installer | Manufacturer |
|---|---------------|----------|--------------------|-------------------------------|--------------|
| Design and performance criteria for each work package   | R             |          |                    | _                             |              |
| Coordinated design model  |               | R        |                    |                               |              |
| Coordinated construction model  |               |          | R                  |                               |              |
| As Built model delivery   |               |          | R                  |                               |              |
| Provide digital O&M   |               |          | R                  |                               |              |
| Provide product data  |               |          |                    |                               | R            |
| Provide warranty information, maintenance and operational requirements and spares                   |               |          |                    | R                             |              |
| COBie data  |               |          |                    |                               |              |

# 2

# **Asset Information Requirements**

The delivery of Asset information requirements is fundamental to providing the lifecycle approach of information from Designers and Constructors for use by operators and maintainers. This section sets out the detailed requirements for delivery of information for the project.

# 2.1 AIR delivery formats

The delivery of asset information will be provided in the following formats:

|                  | I           | J               |
|------------------|-------------|-----------------|
| Information Type | Format      | Version / build |
| Models           | .rvt        | R2022           |
| Drawings         | .dwg / .pdf | R2022, PDF 2.0  |
| Schedule         | .xlsx       | Excel 2019      |
| Product Data     | .json       | JavaScript      |
|                  |             |                 |

# 2.2 Model breakdown structure for Asset Management

To maintain and manage the asset the information must be broken down using the following work breakdown structure and federation strategy to facilitate effective maintenance and operations:

| Req. | Element                    | Model(s)                        | Discipline(s)            |
|------|----------------------------|---------------------------------|--------------------------|
| ×    | Structure, Shell, and Core | Substructure, structure, façade | Structure / Architecture |
|      | Fixture and fittings       |                                 |                          |
|      | Loose fittings             |                                 |                          |
|      | Drainage                   |                                 |                          |
|      | HVAC                       |                                 |                          |
|      |                            |                                 |                          |

# 2.3 Systems breakdown Information

To maintain and manage the asset each System and associated circuit must be identifiable and labelled using the following criteria:

| Req. | System name                    | System ID | Circuit IDs | Nomenclature |
|------|--------------------------------|-----------|-------------|--------------|
|      | HVAC Supply                    |           |             |              |
|      | HVAC Return                    |           |             |              |
|      | HVAC Intake                    |           |             |              |
|      | Drainage Soil,<br>below ground |           |             |              |

| Req. | System name                                | System ID | Circuit IDs | Nomenclature |
|------|--|-----------|-------------|--------------|
|      | Drainage Surface<br>Water, below<br>ground |           |             |              |

## 2.4 Nomenclature

The following Nomenclature must be adopted to facilitate the interoperability of information between project and asset management. The Nomenclature covers file unique identifiers, BIM objects and Asset Coding requirements. Full details of these should be set out within the Project Information Standards. The items identified are as follows:

| Item              | Nomenclature                                  | Example                               |
|-------------------|---|---------------------------------------|
| File Unique ID    | (Hong Kong 'Local Annex' of ISO 19650-2:2018) | (BIMS2020-CIC-ZZ-01-AR_AA-<br>M3-001) |
| BIM object naming |   |                                       |
| Asset Unique ID   |   |                                       |
| Systems           |   |                                       |
| Facility          |   |                                       |
| Levels            |   |                                       |
| Zones             |   |                                       |
| Spaces            |   |                                       |
| Rooms             |   |                                       |
| Windows           |   |                                       |
| Doors             |   |                                       |
|                   |   |                                       |

# 2.5 BIM Object

To facilitate consistent delivery for Asset Management BIM Object should be generated considering the following requirements:

| Requirements        | Reference  |
|---------------------|--|
| BIM Object Standard | CIC Production of BIM Object Guide - General Requirements (August 2019) or later version |
|                     |  |
|                     |  |

#### 2.5.1 Library requirements

To facilitate the delivery of structured information to meet Asset requirements existing BIM Objects may be used from the following Library source:

| Requirements       | Reference                                |
|--------------------|--|
| BIM Object Source  | (BIM Objects   Resources   BIM (cic.hk)) |
| BIM Object Library |  |
|                    |  |

#### 2.5.2 Object Library Types

It should be noted that unique object types must be created within the BIM model to reflect the type information requirements for Asset Management. Each manufactured product must be identified by a different BIM object Type and NOT by the application of properties at instance level. Clarity regarding whether information is to be provided based upon instance or type-based properties must be established at the initial stage.

#### 2.5.3 Symbology requirements

The use of the following symbology standards shall be adopted in all BIM / CAD information. Each project shall include a KEY drawing confirming all symbology used not indicated below:

| Object                | Reference      |
|-----------------------|----------------|
| Architectural Symbols | BS 8541-2:2011 |
| Electrical Symbols    |                |
| Mechanical Symbols    |                |
|                       |                |

### 2.6 Classification

All elements shall be classified in accordance with the OmniClass classification and shall follow as indicated below:

| Objects       | Table    | Description                       |
|---------------|----------|-----------------------------------|
| Entities      | Table 11 | Construction Entities by Function |
| Spaces        | Table 14 | Space by Form                     |
| Works Results | Table 22 | Results                           |
| Products      | Table 23 | Products                          |
|               |          |                                   |

# 2.7 Schedule of Asset

To clearly identify information requirements associated with each asset type the Appointing Party / Client shall provide a schedule of assets along with an associated product data template as identified below:

| Asset          | Classification | Product Data Template (Asset Template with list of properties or attributes) |
|----------------|----------------|--|
| Actuator       | 23-27 33 00    | BIM-AM MEP Asset Template  |
| Air Blower     | 23-33 31 13 11 | BIM-AM MEP Asset Template  |
| Air Compressor | 23-27 21 00    | BIM-AM MEP Asset Template  |
|                |                |  |

# 2.8 Accuracy of Information

To ensure effective asset management, it is expected that all model graphical information supplied is drawn graphically and dimensionally correct to a scale of 1:1. The permitted tolerances for survey and as built information shall be as follows:

| Item               | Tolerance          |
|--------------------|--------------------|
| Building structure | +/- 5mm in 1000mm  |
| External items     | +/- 10mm in 1000mm |
|                    |                    |

Upon completion of any works an accurate as built model will be provided four weeks prior to handover of the works.

### 2.9 Schedule of Information Requirements

According to ISO 19650, AIR set out three aspects of asset information:

- Managerial: Defines the information standards and production methods and procedures to be used by the delivery team.
- Commercial: Defines the information standards and production methods and procedures to be used by the delivery team.
- Technical: Details the information specifications to meet the organisational information requirements relevant to the asset.

# (Type of Information, Examples of Information Managerial

- Type of asset
- Photograph
- Identification numbers (specification number, product number, serial number)
- Location
- Floor area
- Warranties and guarantee periods
- Access planning and work schedules
- Maintenance and inspection schedules
- Outstanding tasks
- Record of planned and unplanned maintenance
- Standards, processes, and procedures
- Hazardous contents or waste
- End of life processes
- Emergency plans

#### Commercial

- Description
- Function
- Details of supplier
- Lead time
- Condition
- Key performance indicators
- Performance targets or standards
- Non-conformance criteria and actions to be taken
- Criticality to the organisation
- Details of spares

#### Technical

- Engineering data
- Design parameters

- Interdependencies
- · Commissioning dates and data
- Operational data
- Finishes
- Services requirements
- Outputs

#### Financial and

- Original cost
- Operating cost
- Planned maintenance cost
- Historical maintenance cost
- Replacement value
- Downtime impact

#### Legal

- Ownership
- Maintenance demarcation
- Work instructions
- Contractual information
- Risk assessments and control measures)

Additional requirements for asset information are identified in the following locations:

| Requirement          | Location               |
|----------------------|------------------------|
| Point cloud data     | cloud hosting location |
| Photogrammetry       | cloud hosting location |
| Product Data library | cloud hosting location |
| Legal requirements   | cloud hosting location |
| Cost data            | cloud hosting location |

# **2.10** Key Compliance Requirements

The following table sets out the key compliance requirements for delivery of all Asset Information from the identified project as follows:

| Requirement                   | Delivery Format |
|-------------------------------|-----------------|
| BIM Model validation criteria | .rvt / .nwd     |
| Document validation criteria  | .pdf            |
| COBie validation criteria     | .xls            |
|                               |                 |

# 3

### **COBie**

The delivery of Constructions Operations Building information exchange (COBie) is an internationally agreed format for the delivery of Asset information from Designers and Constructors for use by operators and maintainers. This section sets out the detailed requirements for delivery of COBie for the project

(The content of the COBie section can be delivered in different formats and this section identifies the appropriate approach that can be made. Alternatively information could be provided through Asset Information Lists or through other open formats such as Industry Foundation Classes.)

The following statements set out the requirements, context and intended use for information received, processed and to APPOINTING PARTY / CLIENT NAME, to support the delivery of its strategic objectives:

- To enable a Health and Safety approach with access to Health and Safety plus associated Risk management information using a digital approach
- To facilitate the ability to access correct and current information within the Project information Model
- To have the ability to verify the digital Operations and Maintenance information prior to project handover in accordance with the Asset information requirements (AIR)
- To be able to identify all construction and manufacturers warranties, including warranty periods and maintenance requirements for all maintainable assets
- To be able to identify the end of viable or economic life of any assets or asset systems along with replacement costs
- To have access to appropriates spares and asset replacement requirements for building assets or components
- To reduce remedial costs associated with handover and early operation relating to construction / installation / testing / assembly / commissioning and training defects
- To remove the need for supplementary surveys to validate project information or fill gaps with information provided at handover:
- To have data in an open and interoperable format to utilise the data in range of databases (COBie BS1192:4)
- To reduce the manual processing of building information / data at handover.
- To be able to access consistent gross internal / useable area data for all buildings.
- To help reduce the cost of maintaining specific assets / asset systems through earlier analysis with FM

# 3.1 Constructions Operations Building information exchange requirements format

The delivery of COBie information will be provided in the following format:

| COBie Format | Version |
|--------------|---------|
| COBie XML    |         |
| .XLS         |         |
| COBieLite    |         |

# 3.2 Constructions Operations Building information exchange requirements

The following Table sets out the COBie structure and identifies what information delivery are a project requirement and at what stage:

| Required | COBie Tab<br>Name | Project Stage(s) | Detailed requirements (reference) |
|----------|-------------------|------------------|-----------------------------------|
|          | Facility          |                  |                                   |
|          | Contact           |                  |                                   |
|          | Floor             |                  |                                   |
|          | Space             |                  |                                   |
|          | Zone              |                  |                                   |
|          | Asset Type        |                  |                                   |
|          | Asset Component   |                  |                                   |
|          | Asset System      |                  |                                   |
|          | Assembly          |                  |                                   |
|          | Spare             |                  |                                   |
|          | Resources         |                  |                                   |
|          | Job               |                  |                                   |
|          | Document          |                  |                                   |
|          | Attribute         |                  |                                   |
|          | Issue             |                  |                                   |
|          | Other             | _                |                                   |

# 3.3 COBie Deliverable requirements

To facilitate an effective information exchange, the delivery team will provide the following COBie information as identified 4 weeks prior to handover of the built asset.

#### 3.3.1 COBie Schema Requirements

The following colour schemes are used to identify the source and delivery requirements using COBie as identified:

| COBie Colour Coding                 |
|-------------------------------------|
| Required                            |
| Reference Sheet or Pick List        |
| Required if linked with Application |
| Required if specified               |

## 3.4 COBie Contacts

The following table identifies the COBie Contact information required to be delivered

| Req.        | Attribute          | Origin / Description   | Example                   |
|-------------|--------------------|--|---------------------------|
|             | Email              | Suppliers Contact Email  | (abc@mail.com)            |
| $\boxtimes$ | CreatedBy          | Supplier who created Record  | (abc@mail.com)            |
| $\boxtimes$ | CreatedOn          | Date record was created  | (2020-01-<br>15T14:30:00) |
| $\boxtimes$ | Category           | OmniClass Code   |                           |
|             | Company            | Suppliers Company Name   | (Company                  |
| $\boxtimes$ | Phone              | Suppliers Company Phone Number   | (+852 0000 0000)          |
|             | ExternalSystem     | The External System for the Contact from which the data came.  |                           |
|             | ExternalObject     | The External Object of the System for the Contact from which the data came.  |                           |
|             | ExternalIdentifier | The External Identifier of the System for the Contact from which the data came                                       |                           |
|             | Department         | The department the contact belongs to with the Company.  |                           |
|             | OrganisationCode   | The Code shorthand used by the Appointing Party / Client to recognise the company as per CIC BIM Standards (General) |                           |
|             | GivenName          | The Contact Given name, First name, Christian name.  | (Given Name)              |
|             | FamilyName         | The Family Name, Surname of the Contact.   | (Family Name)             |
| ×           | Street             | The street name. This should include building number and any estate, or locality that helps identify the address.    |                           |
| $\boxtimes$ | PostalBox          | The postal box of contact address.   |                           |
| $\boxtimes$ | Town               | The Town of the address of the contact.  | (Town Name)               |
| $\boxtimes$ | StateRegion        | The State, Region, County of the contact address.  |                           |
| $\boxtimes$ | PostalCode         | The postal code of contact address as used by the national postal service of the country.                            | (Zip / Post Code)         |
| $\boxtimes$ | Country            | The country name to the standard of ISO 3166-1<br>English short name case sensitive.                                 |                           |
|             |                    | <u> </u>   |                           |

The following documents are required and to be defined in the Cobie.Document table.

#### **Document Types**

Accommodation Schedule

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName

# 3.5 Facility

The following table identifies the COBie Facility information required to be delivered:

| Req.        | Attribute                  | Origin / Description  | Example                   |
|-------------|----------------------------|---|---------------------------|
| $\boxtimes$ | Name                       | A Unique Code for the project to be consistent with all other Cobie files for the project.        | 127                       |
| $\boxtimes$ | CreatedBy                  | Cobie.Contact.Email of the author of the record   | (abc@mail.com)            |
| $\boxtimes$ | CreatedOn                  | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss                   | (2020-01-<br>15T14:30:00) |
| $\boxtimes$ | Category                   | The facility will be assigned with a classification category                                      |                           |
| $\boxtimes$ | ProjectName                | Project Code following CIC BIM Standard (General)   | ABC                       |
| $\boxtimes$ | SiteName                   | Site Code following CIC BIM Standard (General)  | (SC)                      |
| $\boxtimes$ | LinearUnits                | The linear units to be used throughout the facility.  | (millimetres)             |
| $\boxtimes$ | AreaUnits                  | The area units to be used throughout the facility.  | (Metres squared)          |
| $\boxtimes$ | VolumeUnits                | The volume units to be used throughout the facility.  | (Metres cubed)            |
| $\boxtimes$ | CurrencyUnit               | Project specific units  | (Hong Kong Dollar)        |
| $\boxtimes$ | AreaMeasurement            | The area measurement units to be used throughout the facility.                                    | Authoring default         |
|             | ExternalSystem             | The External System for the Facility from which the data came.                                    |                           |
|             | ExternalProjectObject      | The External Object of the System for the Project from which the data came.                       |                           |
|             | ExternalProjectIdentifier  | The External Identifier of the System for the<br>Project from which the data came                 |                           |
|             | ExternalSiteObject         | The External Object of the System for the Site from which the data came.                          |                           |
|             | ExternalSiteIdentifier     | The External Identifier of the System for the Site from which the data came                       |                           |
|             | ExternalFacilityObject     | The External Object of the System for the Facility from which the data came.                      |                           |
|             | ExternalFacilityIdentifier | The External Identifier of the System for the Facility from which the data came                   |                           |
|             | Description                | A description of the facility its purpose and ethos.  | Ancillary Building        |
|             | ProjectDescription         | The project description if this is different from the main description.                           | (Project XXX)             |
|             | SiteDescription            | The site description.   |                           |
|             | Phase                      | The current phase of the project. The phases should be from a recognised industry categorisation. | (Stage 5)                 |

The following documents are required and to be defined in the Cobie.Document table.

#### **Document Types**

Accommodation Schedule

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName

# 3.6 Floor

Identify the following COBie Facility information required to be delivered:

| Req.        | Attribute     | Origin / Description   | Example                   |
|-------------|---------------|--|---------------------------|
| ×           | Name          | Floor Name   | (1F)                      |
| ×           | CreatedBy     | Supplier who created Record  | (abc@mail.com)            |
| ×           | CreatedOn     | Date record was created  | (2020-01-<br>15T14:30:00) |
| $\boxtimes$ | Category      | Floor, Roof or Slab following BS1192:4 guidance  | (Floor)                   |
|             | ExtSystem     | The External System for the Floor from which the data came.  |                           |
|             | ExtObject     | The External Object of the System for the Floor from which the data came.  |                           |
|             | ExtIdentifier | The External Identifier of the System for the Floor from which the data came   |                           |
| ×           | Description   | A description of the floor, site, roof.  | (First Floor)             |
| ×           | Elevation     | The level of the floor from the base datum as a<br>numeric value in the unit type as defined in the<br>Cobie.Facility.LinearUnits for the project. | (1000)                    |
| numeric va  |               | The height of the floor from the previous floor as a numeric value in the unit type defined in the Cobie.Facility.LinearUnits for the project.     |                           |

The following documents are required and to be defined in the Cobie.Document table.

#### **Document Types**

Floor Schedule

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName

# 3.7 Space

Identify the following COBie Space information required to be delivered

| Req. | Attribute   | Origin / Description  | Example                   |
|------|-------------|---|---------------------------|
| ×    | Name        | Space Nomenclature (format) Floor levelnn   | 1013                      |
| ×    | CreatedBy   | Cobie.Contact.Email of the author of the record   | (abc@mail.com)            |
| ×    |             | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss                       | (2020-01-<br>15T14:30:00) |
| ×    |             | The space will be assigned a classification category from OmniClass using Spaces by function or form: |                           |
| ×    | FloorName   | Reference to Floor Name field the space is located on   | (GF)                      |
| ×    | Description | A description of the space, room, or area.  | (Main office)             |
|      | •           | The External System for the Space from which the data came.   |                           |
|      |             | The External Object of the System for the Space from which the data came.                             |                           |
|      |             | The External Identifier of the System for the Space from which the data came                          |                           |

| Req. | Attribute | Origin / Description  | Example |
|------|-----------|---|---------|
| ×    | RoomTag   | Room Tag Nomenclature (format) Cobie.Space.Name   | (1013)  |
| ×    |           | The usable height as a numeric value in the unit type as defined in the Cobie.Facility.LinearUnits for the project (Use '0' for unusable rooms).            | (3000)  |
|      |           | The gross measured area as a numeric value in the unit type defined in the Cobie.Facility.AreaUnits for the project.  | (245)   |
| ×    |           | The net measured area, (subtract all columns and boxing areas) as a numeric value in the unit type defined in the Cobie.Facility.AreaUnits for the project. | (240)   |

Room Data Sheets, Room Photos

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName

#### 3.8 Zone

Identify the following COBie Zone information required to be delivered:

| Req.        | Attribute   | Origin / Description   | Example                   |
|-------------|-------------|--|---------------------------|
| $\boxtimes$ | Name        | Default Zone the Name of the Zone type   | (Circulation)             |
| $\boxtimes$ | CreatedBy   | Cobie.Contact.Email of the author of the record  | (abc@mail.com)            |
| $\boxtimes$ | -           | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss            | (2020-01-<br>15T14:30:00) |
| $\boxtimes$ |             | The zone will be assigned with this classification category: OmniClass Spaces by Function. | (13-25 00 00)             |
| $\boxtimes$ |             | Comma separated list of Space Names from<br>Cobie.Space.Name                               | (1010,1011,1012)          |
| $\boxtimes$ | 1           | The External System for the Zone from which the data came.                                 |                           |
|             | 1           | The External Object of the System for the Zone from which the data came.                   |                           |
|             |             | The External Identifier of the System for the Zone from which the data came                |                           |
| $\boxtimes$ | Description | Full written description of purpose of zone  | (Main Circulation)        |

The following documents are required and to be defined in the Cobie.Document table.

#### **Document Types**

zone strategy

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName

## 3.9 Asset Type

Identify the following COBie Facility information required for delivery

| Req.        | Attribute              | Origin / Description  | Example                   |
|-------------|------------------------|---|---------------------------|
|             | Name                   | Nomenclature (format) XXXXXX_nn   | 210223                    |
| ×           | CreatedBy              | Cobie.Contact.Email of the author of the record   | (abc@mail.com)            |
| X           | CreatedOn              | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss                                   | (2020-01-<br>15T14:30:00) |
| X           | Category               | The product will be assigned a classification category from OmniClass Table 21                                    | (21-02 10 80)             |
| $\boxtimes$ | Description            | A description of the product (Manufacturer's summary of the product)  | (Spiral Stairs deluxe)    |
|             | AssetType              | Is the product fixed or movable?  | (Fixed)                   |
| X           | Manufacturer           | The manufacturer of the product and provided as the Cobie.Contact.Email of the manufacturer record.               | (Stair Man)               |
| $\boxtimes$ | ModelNumber            | The manufacturers grouping or range name for the product.   | (Spiral Special)          |
| $\boxtimes$ | WarrantyGuarantorParts | The Cobie.Contact.Email of the organisation responsible for supplying any parts under the warranty                | (abc@mail.com)            |
| $\boxtimes$ | WarrantyDurationParts  | The unit of time expressed as a number for which the parts are under warranty                                     | (5)                       |
| ×           | WarrantyGuarantorLabor | The Cobie.Contact of the organisation responsible for replacing or fixing the parts under the warranty            | (abc@mail.com)            |
| X           | WarrantyDurationLabor  | The unit of time expressed as a number for which the labour will be supplied under the warranty.                  | (1)                       |
| $\boxtimes$ | WarrantyDurationUnit   | The unit type the warranty duration of parts and labour are expressed.  | (years)                   |
| $\boxtimes$ | ExtSystem              | The External System for the Asset Type from which the data came.  |                           |
| X           | ExtObject              | The External Object of the System for the Asset Type from which the data came.                                    |                           |
| $\boxtimes$ | ExtIdentifier          | The External Identifier of the System for the Asset Type from which the data came                                 |                           |
| ×           | ReplacementCost        | Cost to replace / purchase price  | (90)                      |
| ×           | ExpectedLife           | The expected life of the product as implemented in the project expressed as a number of the type of duration unit | (25)                      |
| X           | DurationUnit           | The expected life duration unit type expressed as a unit of time or operating cycle                               | (Years)                   |
| ×           | WarrantyDescription    | A Description of the warranty terms for the product   | (Onsite warranty)         |
| ×           | NominalLength          | Nominal Length size value that defined the extents of the product   | (5000)                    |

| Req.        | Attribute                 | Origin / Description  | Example                      |
|-------------|---------------------------|---|------------------------------|
| $\boxtimes$ | NominalWidth              | Nominal Width size value that defined the extents of the product  | (2100)                       |
| $\boxtimes$ | NominalHeight             | Nominal Height size value that defined the extents of the product   | (6000)                       |
| ×           | ModelReference            | The manufacturers grouping or range name for the product.   |                              |
| $\boxtimes$ | Shape                     | An adjective or short description of the product shape.   |                              |
| $\boxtimes$ | Size                      | A descriptive size provided by the manufacturer   |                              |
| $\boxtimes$ | Color                     | The primary colour or colours of the product  | (white)                      |
| $\boxtimes$ | Finish                    | The primary finish or finishes of the product   | (matt)                       |
| $\boxtimes$ | Grade                     | The Grade quality of the product  |                              |
| ×           | Material                  | The main materials the product is constructed from.   | (metal)                      |
| ×           | Constituents              | If the product is in more than one part, then the parts should be lists. e.g.: a split Air conditioner will be indoor unit (evaporator), outdoor unit (Condenser) and remote control. | Main stair                   |
| ×           | Features                  | Any features of the product that are not already included in the product description.   |                              |
| ×           | AccessibilityPerformance  | Any certification or accreditation that product has in relation to accessibility.   | visual impairment<br>adapted |
| $\boxtimes$ | CodePerformance           | Any certification or accreditation that product has in relation to accessibility.   |                              |
| $\boxtimes$ | SustainabilityPerformance | Any certification or accreditation that product has in relation to quality codes.   |                              |
|             | Length                    | The length of the product from the manufacturer in the units defined in Cobie.Facility.LinearUnits  |                              |
|             | Area                      | The area of the product from the manufacturer in the units defined in Cobie.Facility.AreaUnits  |                              |

#### **Document Types**

Product Data Sheet, COSH Sheet

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName or schedule of product data templates

## 3.10 Asset Component

Identify the following COBie Asset Component information required for delivery

| Req.        | Attribute | Origin / Description                   | Example    |
|-------------|-----------|--|------------|
| $\boxtimes$ | Name      | Nomenclature (format) Cobie.Type.Name_ | 6162672872 |
|             |           | unique mark                            |            |

| Req. | Attribute         | Origin / Description  | Example                          |
|------|-------------------|---|----------------------------------|
| ×    | CreatedBy         | Cobie.Contact.Email of the author of the record   | (abc@mail.com)                   |
| ×    | CreatedOn         | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss   | (2020-01-<br>15T14:30:00)        |
| ×    | TypeName          | Nomenclature (format) TYPE_nn   | (Door_I4P_1100x2<br>110_C)       |
| X    | Space             | The name of the Space the instance of the product occupied which must exist in Cobie.Space.Name. Where the product occupied multiple spaces, these are to be listed with the "," comma separator. | 1011, 1012                       |
| ×    | Description       | Description of the Asset Instance is different for the Asset Type   | Fire Door                        |
| ×    | ExtSystem         | The External System for the Asset from which the data came.   |                                  |
| ×    | ExtObject         | The External Object of the System for the Asset from which the data came.   |                                  |
| ×    | ExtIdentifier     | The External Identifier of the System for the Asset from which the data came  |                                  |
| ☒    | SerialNumber      | If the product is designed and supplied for the project with unique serial numbers to identify it to the manufacturer.  | 4256                             |
| X    | InstallationDate  | The date the product instance is installed Format UTC YYYY-MM-DD  | 41640                            |
| ×    | WarrantyStartDate | The date the product warranty starts. If Warranty in Cobie.Type is required, then this should be checked. Format UTC YYYY-MM-DD   |                                  |
| ×    | TagNumber         | AIR Tag Number (format) Wnnnn The Tag Number for the instance of the asset must be unique and should be the same as that detailed in drawings and schedules                                       |                                  |
| X    | BarCode           | If the product instances are being bar coded for the building owner during or post installation.  | 8343                             |
| ×    | AssetIdentifier   | The Asset Identifier provided by the Building Owner to be recorded by the installer.  | 000004_SA/127/G<br>/FI/DE/008343 |
| ×    | Length            | The length of the product installed in the units defined in Cobie.Facility.LinearUnits  | 1010                             |
| X    | Area              | The area of the product installed in the units defined in Cobie.Facility.AreaUnits  | 1.1                              |

#### **Document Types**

Test Certificate, Asset Register, Product Photo

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName or schedule of product data templates

## 3.11 Asset System

Identify the following COBie Asset System information required for delivery

| Req.        | Attribute      | Origin / Description   | Example                      |
|-------------|----------------|--|------------------------------|
| $\boxtimes$ | Name           | Unique Name of the System  | 141312331                    |
| $\boxtimes$ | CreatedBy      | Cobie.Contact.Email of the author of the record                                    | (abc@mail.com)               |
| $\boxtimes$ | CreatedOn      | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss    | (2020-01-<br>15T14:30:00)    |
| ×           | Category       | CobieSystemCategory The system will be assigned with this classification category. | Electrical                   |
| $\boxtimes$ | ComponentNames | List of Asset Instances (Components) comma separated that belong to the system.    | 6162672872,<br>3131231332    |
| $\boxtimes$ | ExtSystem      | The External System for the System from which the data came.                       |                              |
| $\boxtimes$ | ExtObject      | The External Object of the System for the System from which the data came.         |                              |
| $\boxtimes$ | ExtIdentifier  | The External Identifier of the System for the System from which the data came      |                              |
|             | Description    | A description of the system.   | Internal/General<br>Lighting |

The following documents are required and to be defined in the Cobie.Document table.

#### **Document Types**

System Register, Test Certificates

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName or schedule of product data templates

## 3.12 Assembly

Identify the following COBie Facility information required for delivery

| Req. | Attribute     | Origin / Description                                  | Example                   |
|------|---------------|---|---------------------------|
| X    | Name          | Unique numerical assembly number                      | 321321313                 |
| ×    | CreatedBy     | Supplier who created Record                           | (abc@mail.com)            |
| ×    | CreatedOn     | Date record was created                               | (2020-01-<br>15T14:30:00) |
| ×    | AssemblyType  | The type of relationship between the assembled assets | Layer                     |
| X    | SheetName     | Related table of the assembled assets                 | Туре                      |
| ×    | ParentName    | Reference to related table - Name                     | 1232131421                |
| ×    | ChildNames    | Reference to related table - Name                     | 1422441242                |
| ×    | ExtSystem     | Blank or n/a only                                     |                           |
| ×    | ExtObject     | Blank or n/a only                                     |                           |
| ×    | ExtIdentifier | Blank or n/a only                                     |                           |

| $\boxtimes$ | Description | Plain text description of the purpose of the | Floor build up |  |
|-------------|-------------|--|----------------|--|
|             |             | assembly                                     |                |  |

#### **Document Types**

Test Certificates, Product Data, Product Photo

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName or schedule of product data templates

## **3.13** Spare

Identify the following COBie Facility information required for delivery

| Req.        | Attribute     | Origin / Description  | Example                   |
|-------------|---------------|---|---------------------------|
| ⊠           | Name          | A unique key name for each spare record suggests Cobie.Type.Name_nn                 | (12345678)                |
| $\boxtimes$ | CreatedBy     | Cobie.Contact.Email of the author of the record                                     | (abc@mail.com)            |
| ⊠           | CreatedOn     | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss     | (2020-01-<br>15T14:30:00) |
| ×           | Category      | Type of spare   |                           |
| ×           | TypeName      | Cobie.Type.Name for which the spare is part of.                                     |                           |
| ×           | Suppliers     | The supplier of the spare which exists in the as a Cobie.Contact.Email record.      |                           |
|             | ExtSystem     | The External System for the Space from which the data came.                         |                           |
|             | ExtObject     | The External Object of the System for the Space from which the data came.           |                           |
|             | ExtIdentifier | The External Identifier of the System for the Space from which the data came        |                           |
| ⊠           | Description   | Description of the spare  | (Projection bulbs)        |
| ⊠           | SetNumber     | If the item is part of a set the reference of that set (similar to the Part Number) | (587-1)                   |
| ×           | PartNumber    | Manufacturer's part number  | (587)                     |

The following documents are required and to be defined in the Cobie.Document table.

#### **Document Types**

Spares Policy, Product Photo

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName or schedule of product data templates

#### 3.14 Resource

Identify the following COBie Resource information required for delivery

| Req.        | Attribute | Origin / Description         | Example      |
|-------------|-----------|------------------------------|--------------|
| $\boxtimes$ | Name      | Unique name for the resource | (White Board |
|             |           |                              | USB)         |

| Req.        | Attribute     | Origin / Description  | Example                                     |
|-------------|---------------|---|---|
| $\boxtimes$ | CreatedBy     | Cobie.Contact.Email of the author of the record                                 | (abc@mail.com)                              |
| X           | CreatedOn     | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss | (2020-01-<br>15T14:30:00)                   |
| ×           | Category      | Type of resource, person, tools, materials                                      |   |
| ×           | ExtSystem     | The External System for the Resource from which the data came.                  |   |
| X           | ExtObject     | The External Object of the System for the Resource from which the data came.    |   |
| X           | ExtIdentifier | The External Identifier of the System for the Resource from which the data came | (Projection bulbs)                          |
| X           | Description   | Description of the resource   | (Manufacturer's<br>upgrade memory<br>stick) |

#### **Document Types**

**Test Certificates** 

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName or schedule of product data templates

## 3.15 Job

Any maintenance required by the manufacturer or the installation contractor to ensure product reliability and performance to be detailed in the Cobie.Job with task, frequency, resources, and anticipated time for the task. Identify the following COBie Job information required for delivery.

| Req.        | Attribute    | Origin / Description   | Example                   |
|-------------|--------------|--|---------------------------|
| $\boxtimes$ | Name         | Unique name for the Record   | (White Board<br>USB)      |
| ×           | CreatedBy    | Cobie.Contact.Email of the author of the record  | (abc@mail.com)            |
| ×           | CreatedOn    | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss                          | (2020-01-<br>15T14:30:00) |
| ×           | Category     | See recommended option   |                           |
| ×           | Status       | The status of the task. Not Yet Started, Started, Completed  |                           |
| ×           | TypeName     | Cobie.Type.Name  |                           |
| X           | Description  | Description of the Task  |                           |
| ×           | Duration     | The duration of the task expressed as a number   |                           |
| ×           | DurationUnit | The unit type of the duration from the recommend list of time, frequency units                           |                           |
| ×           | Start        | The date/time the first time this task is to be implemented or has been implemented. YYYY-MM-DDThh:mm:ss |                           |

| Req. | Attribute     | Origin / Description  | Example |
|------|---------------|---|---------|
| ×    | TaskStartUnit | The task start unit year, month, week   |         |
| ×    | Frequency     | The frequency this task is to be performed expressed as a number                      |         |
| ×    | FrequencyUnit | The unit type of the duration from the recommend list of time, frequency units        |         |
| ×    | ExtSystem     | The External System for the Job from which the data came.                             |         |
| ×    | ExtObject     | The External Object of the System for the Job from which the data came.               |         |
| ×    | ExtIdentifier | The External Identifier of the System for the Job from which the data came            |         |
| ⊠    | TaskNumber    | If this task is part of a sequence of tasks, then express this as numerical ordering. |         |
| ×    | Priors        | The task TaskNumber that precedes this task   | ()      |
| ×    | ResourceNames | A comma separated list of the resources, COBie.Resource.Name                          | ()      |

#### **Document Types**

**Test Certificates** 

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName or schedule of product data templates

## 3.16 Document

Identify the following COBie Document information required for delivery

| Req.        | Attribute     | Origin / Description  | Example                   |
|-------------|---------------|---|---------------------------|
| $\boxtimes$ | Name          | Unique Name for the Document  | (White Board<br>USB)      |
| ×           | CreatedBy     | Cobie.Contact.Email of the author of the record                                 | (abc@mail.com)            |
| ×           | CreatedOn     | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss | (2020-01-<br>15T14:30:00) |
| $\boxtimes$ | Category      | Document Type as defined in the definition                                      |                           |
| ×           | ApprovalBy    | Cobie.Contact.Email of the approver of the document                             |                           |
| ×           | Stage         | See Stages below  |                           |
| ×           | SheetName     | Reference Sheet Name  |                           |
| ×           | RowName       | Reference object Name from the Reference Sheet                                  |                           |
|             | Directory     | The relative path of the folder for the document                                |                           |
| ×           | File          | File Name of the document   |                           |
| ×           | ExtSystem     | The External System for the Space from which the data came.                     |                           |
| ×           | ExtObject     | The External Object of the System for the Space from which the data came.       |                           |
| ×           | ExtIdentifier | The External Identifier of the System for the Space from which the data came    |                           |
| ×           | Description   | Description on the contents of the document                                     |                           |
| X           | Reference     | Name of the document from which this is a part if applicable                    |                           |

The following documents are required and to be defined in the Cobie.Document table. Document Types:

- Preconstruction Submittals
- Shop Drawings
- Product Data
- Product Photographs
- Samples
- Design Data
- Test Reports
- Test Certificates
- Certificates
- Manufacturer Instructions
- Manufacturer Field Reports
- Operation and Maintenance
- Closeout Submittals
- Contract Drawings
- Design Review Comment
- Specifications
- Request for Information
- Appointing Party / Client Requirements
- Contract Specifications
- Contract Drawings

- Requests for Information
- Contract Modifications
- Punch List Items

Additional attributes required as defined by any attached Template where attributes have been selected from:

TemplateName or schedule of product data templates

## 3.17 Attribute

Identify the following COBie Attribute information required for delivery:

| Req. | Attribute     | Origin / Description   | Example                   |
|------|---------------|--|---------------------------|
|      | Name          | Attribute Name refer to each section as to the Attribute Names   | (Weight)                  |
| ×    | CreatedBy     | Cobie.Contact.Email of the author of the record  | (abc@mail.com)            |
| X    | CreatedOn     | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss  | (2020-01-<br>15T14:30:00) |
| ×    | Category      | See List of Attribute Categories per Sheets  | (Submitted)               |
| ×    | SheetName     | Reference Sheet Name   | (Type)                    |
| ×    | RowName       | Reference object Name from Reference<br>Sheet  |                           |
| ×    | Value         | Attribute value  | (35.000)                  |
| ×    | Unit          | Unit notation of the attribute value.  | (kg)                      |
| ×    | ExtSystem     | The External System for the Attribute from which the data came.  |                           |
| X    | ExtObject     | The External Object of the System for the Attribute from which the data came. This should represent the Property Set grouping for the Attribute. |                           |
| ×    | ExtIdentifier | The External Identifier of the System for the Attribute from which the data came.  | (n/a)                     |
| ×    | Description   | Description of the Attribute (Installed Weight)  |                           |
| ×    | AllowedValues | Permitted Values if relevant are only required in manually edited Cobie Workbooks (n/a)  |                           |

The following documents are required and to be defined in the Cobie.Document table.

#### **Document Types**

**Test Certificates** 

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName or schedule of product data templates

## 3.18 Issue

Identify the following COBie Facility information required for delivery

| Req. | Attribute                         | Origin / Description  | Example                   |
|------|-----------------------------------|---|---------------------------|
|      | Name                              | Name Attribute Name refer to each section as to the Attribute Names   |                           |
|      | CreatedBy                         | Cobie.Contact.Email of the author of the record   | (abc@mail.com)            |
|      | CreatedOn                         | UTC Date Time format when the record was created or changed YYYY-MM-DDThh:mm:ss   | (2020-01-<br>15T14:30:00) |
|      | Туре                              | See List of Attribute Categories per Sheets   | (Submitted)               |
|      | Risk                              | Identified Risk associated to the issue   | (High)                    |
|      | Chance                            | Chance of Issue occurring   | (Has Occurred)            |
|      | Impact                            | Possible Impact of Issue  | (High)                    |
|      | SheetName1                        | Reference Sheet 1 Name  | (Document)                |
|      | RowName1                          | Reference object 1 Name from Reference Sheet  | (Safety Policy)           |
|      | SheetName2 Reference Sheet 2 Name |   | (Component)               |
|      | RowName2                          | Reference object 2 Name from Reference Sheet  | (n/a)                     |
|      | Description                       | Description of the Issue  | (Board:12345)             |
|      | Owner                             | Cobie.Contact.Email of the owner of the Issue   | (abc@mail.com)            |
|      | Mitigation                        | Mitigation associated to the Issue  | (Warnings to Operatives)  |
|      | ExtSystem                         | The External System for the Issue from which the data came.   | (Revit)                   |
|      | ExtObject                         | The External Object of the Issue for the Attribute from which the data came. This should represent the Property Set grouping for the Attribute. | (Pset_Risk)               |
|      | ExtIdentifier                     | The External Identifier of the Issue for the Attribute from which the data came.  | (n/a)                     |

The following documents are required and to be defined in the Cobie.Document table.

#### **Document Types**

**Test Certificates** 

Additional attributes required as defined by any attached Template where attributes have been selected from: TemplateName or schedule of product data templates

## 3.19 Delivery of COBie

The delivery of COBie data will follow use the following methodology across the project to aid in consistent data delivery:

(Client may wish to indicate their preferred methodology or leave to the delivery team.)

| Software                    | Document   |
|-----------------------------|--|
| Autodesk Revit              | BIM interoperability tool will be used from all Revit models |
| Industry Foundation Classes | Solibri will be used to generate COBie from IFC files        |
|                             |  |

## 3.20 Further COBie Information

Further information regarding the use and application of COBie can be found from:

BuildingSMART Resources for COBie Certified professionals: <a href="https://cobie.buildingsmart.org/resources/downloads/">https://cobie.buildingsmart.org/resources/downloads/</a>

<u>BS 1192-4:2014</u> - Collaborative production of information. Fulfilling employer's information exchange requirements using COBie. Code of practice.

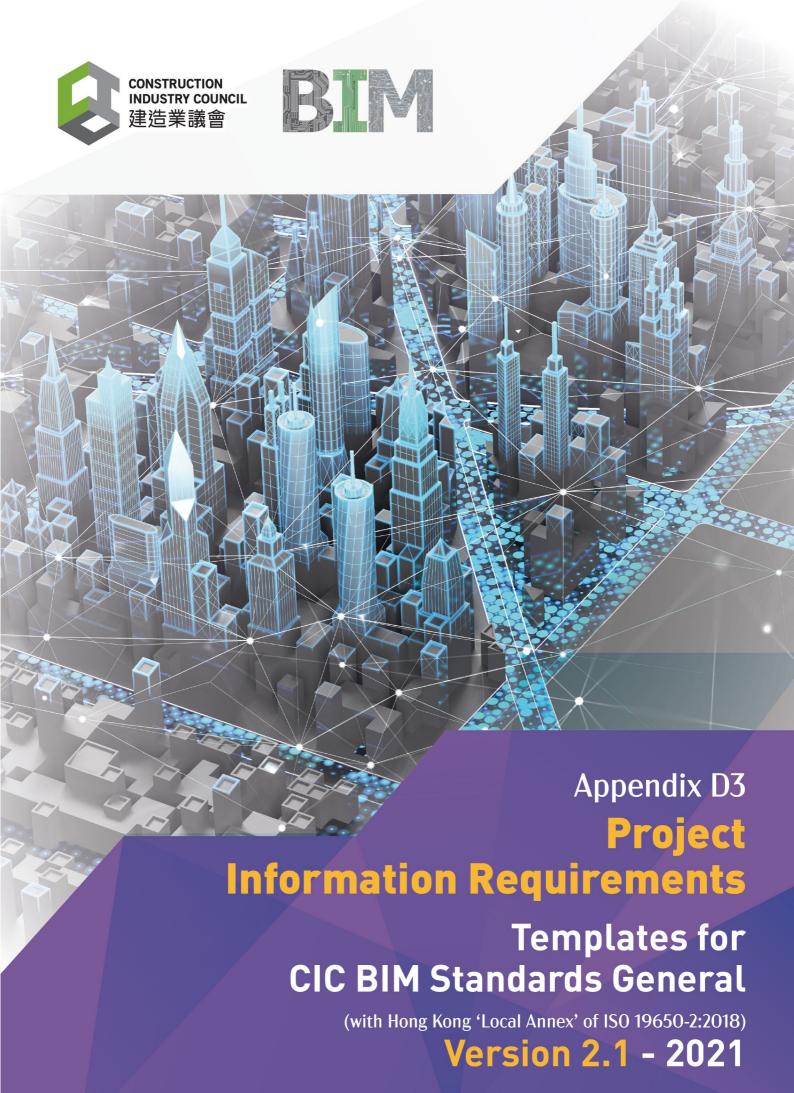
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## **Contents**

| Int | rodu | ction  | 4   |
|-----|------|--|-----|
| 1.  | Proj | ect Information Requirements   | 5   |
|     | 1.1  | General Information  | 5   |
|     |      | 1.1.1 Appointing Party / Client Project Information Management Functions     | 5   |
|     |      | 1.1.2 Project Information Management Systems                                 |     |
|     | 1.2  | Quality assurance procedures   | 6   |
|     |      | 1.2.1 Quality Systems  | 6   |
| 2.  | Proj | ect Requirements   | 7   |
|     | 2.1  | The Project Scope  | 8   |
|     | 2.2  | BIM Uses   | 8   |
|     | 2.3  | Project Plan of works  | 8   |
|     | 2.4  | Procurement route and process  | 8   |
|     | 2.5  | Milestones and decision points   | 8   |
|     | 2.6  | Appointing Party / Client's decision and response requirements               | 8   |
| 3.  | Info | rmation Requirements   | 9   |
|     | 3.1  | Capital investment and life cycle costing requirements                       | 9   |
|     | 3.2  | Health and safety compliance and management requirements                     | .10 |
|     | 3.3  | Security management requirements   | .10 |
|     | 3.4  | Emergency management and contingency planning requirements                   | .10 |
|     | 3.5  | Environmental management requirements  |     |
|     | 3.6  | Sustainability requirements  | .10 |
|     | 3.7  | Supply chain management requirements   | .11 |
|     | 3.8  | Space utilisation requirements   |     |
|     | 3.9  | Risk assessment and management requirements                                  |     |
|     |      | Maintenance and repairs requirements   |     |
|     |      | Asset modifications requirements   |     |
|     |      | Asset operations requirements.   |     |
|     |      | Human resources, skills development, training, and competencies requirements |     |
|     |      | Technologies adoption requirements; and                                      |     |
|     | 3.15 | Value management requirements.   | .12 |

## Introduction

#### **Project Information Requirements**

Project Information Requirements (PIR) should explain the information needed to either answer or inform high-level strategic objectives that the Appointing Party / Client may have in relation to the design and delivery of each project. The PIR should take on board the life cycle requirements of projects, including the project management and asset management processes.

In formulating the PIR, the Appointing Party / Client should consider the following:

- The project scope;
- BIM Uses:
- Project Plan of work;
- Procurement route and process;
- Appointing Party's / Client's milestones and decision points; and
- The Appointing Party's / Client's decision and response requirements.

The PIR should be project- and stage-specific and prepared against each of the Appointing Party's / Client's key decision points. The PIR can also include within its contents:

- Organisational key performance indicators;
- Strategic briefing requirements;
- Business case needs (e.g., Project Return on Investment (ROI));
- Project specific tasks required by the Appointing Party / Client; and
- · Identified Project Stakeholders.

The PIR can exist as a separate document or can be included with the Appointing Party's / Client's briefing documentation or Exchange Information Requirements (EIR). The PIR cascade should be noted, i.e., a Lead Appointed Party's PIR should be produced taking on board their requirements and either enhancing or replacing the Appointing Party / Client within the Lead Consultant's / Lead Contractor's PIR.

#### The Scope

The PIR will include the following elements:

#### The Solution

The requirement is to continuously review, update and address any changing requirements through the course of the project.

This document has been produced to enable all delivery team members to work in a consistent manor and ensure that information is delivered and verified against the requirements identified. The project must support the aggregation of this information required all parties.



# **Project Information Requirements**

The Project Information Requirements should be read in conjunction with the project Exchange Information Requirements and the Asset Information Requirements.

#### 1.1 General Information

To be completed by the business's representative.

## 1.1.1 Appointing Party / Client Project Information Management Functions

This project functions (roles and responsibilities) identified on this project will be undertaken by:

| Function                                      | Name | Company | Contact Details |
|---|------|---------|-----------------|
| Appointing Party / Client Delivery manager    |      |         |                 |
| Appointing Party / Client Information Manager |      |         |                 |
| Security Information<br>Manager               |      |         |                 |
|   |      |         |                 |
|   |      |         |                 |

#### 1.1.2 Project Information Management Systems

The following are the current / proposed Appointing Party / Client project management systems to be used along with the acceptable data formats:

| Software application        | Software vendor | Package | Version | File formats for delivery                   |
|-----------------------------|-----------------|---------|---------|---|
| Project management solution |                 |         |         |   |
| Common Data<br>Environment  |                 |         |         | .pdf / .dwg / .rvt / .xlsx<br>/ .nwc / .ifc |
|                             |                 |         |         |   |
|                             |                 |         |         |   |

## 1.2 Quality assurance procedures

#### 1.2.1 Quality Systems

The following processes and quality systems are in place to support the definition and delivery of project Information in accordance with these Project Information Requirements.

| Quality Procedures | Documentation document name |
|--------------------|-----------------------------|
|                    |                             |
|                    |                             |
|                    |                             |
|                    |                             |
|                    |                             |

(Identified Quality processes and quality systems identified should be included within any project information standards or project information production methods and procedures as relevant).

# 2

## **Project Requirements**

The delivery of information to aid Appointing Party / Client decision making is a fundamental requirement of these Project Information Requirements and provides an internationally agreed format for the delivery of project information from Designers and Constructors for use by Appointing Party / Clients and their representatives. This section sets out the detailed requirements for delivery of information for the project.

In formulating the PIR, the Appointing Party / Client should consider the following:

- The project scope;
- BIM Uses;
- Project Plan of work;
- Procurement route and process;
- Appointing Party's / Client's milestones and decision points; and
- The Appointing Party's / Client's decision and response requirements.

The PIR should be project- and stage-specific and prepared against each of the Appointing Party's / Client's key decision points. The PIR can also include within its contents:

- Organisational key performance indicators;
- Strategic briefing requirements;
- Business case needs (e.g., Project Return on Investment (ROI));
- Project specific tasks required by the Appointing Party / Client; and
- Identified Project Stakeholders.

Each information requirement should be defined either in a separate document or as a series of input statements identified to meet each requirement set. Where possible requirements should have a Unique ID, an owner, data format and acceptance criteria. They may also include supporting information for clarification.

#### **Example requirement input statement**

| Requirement     |                      |                            |   |   |
|-----------------|----------------------|----------------------------|---|---|
| Requirement ID  | Requirement<br>Owner | Requirement<br>Data Format | Acceptance<br>Criteria                  | Supporting Information  |
| What is the bui | lding floor area     | a for occupanc             | y calculation p                         | ourposes?   |
| 2.12.001        | Building<br>Officer  | Area m2                    | Direct from<br>model / area<br>schedule | Area to be calculated as net usable floor area, not including circulation space (stairs and corridors) toilets, plant rooms etc |

### 2.1 The Project Scope

The Project scope requirements is identified as follows:

#### **Project Scope**

(Reference document or input statement)

#### 2.2 BIM Uses

The proposed project BIM uses should be identified in Section 4 of the Exchange Information Requirements as identified below:

#### **BIM Uses**

(Reference document or input statement)

### 2.3 Project Plan of works

To proposed Project Plan of Works to be used are identified as:

#### **Project Plan of works**

(Reference document or input statement)

## 2.4 Procurement route and process

The proposed project Procurement route and process are identified as:

#### **Procurement route and process**

(Reference document or input statement)

### 2.5 Milestones and decision points

The Appointing Party / Clients milestones and decision points are identified as:

#### Milestone and decision points

(Reference document or input statement)

## 2.6 Appointing Party / Client's decision and response requirements

The Appointing Party / Clients decision and response requirements are identified as:

#### Appointing Party / Clients' decision and response requirements

(Reference document or input statement)



## **Information Requirements**

The following information requirements are identified from the OIRs as information required to asset the Appointing Party / Client Organisation in making better decisions. The structure of these is based upon the identified OIR structure defined within the CIC BIM Standard General and included within Section 3 of the CIC OIR Template. The structure of this may be changed to meet an organisations information need.

The Organisation has identified the following information requirements to facilitate compliance with each of the organisations policy documents.

Each information requirement should be defined either in a separate document or as a series of input statements identified to meet each requirement set. Where possible requirements should have a Unique ID, an owner, data format and acceptance criteria. They may also include supporting information for clarification.

#### **Example requirement input statement**

| Requirement   |                      |                            |   |   |
|---|----------------------|----------------------------|---|---|
| Requirement<br>ID   | Requirement<br>Owner | Requirement<br>Data Format | Acceptance<br>Criteria                  | Supporting Information  |
| What is the building floor area for occupancy calculation purposes? |                      |                            |   |   |
| 2.12.001  | Building<br>Officer  | Area m2                    | Direct from<br>model / area<br>schedule | Area to be calculated as net usable floor area, not including circulation space (stairs and corridors) toilets, plant rooms etc |

(Identifying what, how, where and when this information is required will aid with information delivery and the proposed approach to supporting the information needs to aid decision making.)

Against each information requirement a delivery date should be identified either as a relative date or specific date.

### 3.1 Capital investment and life cycle costing requirements

The Organisation Capital investment and lifecycle costing requirements is identified as follows:

| Capital Investment requirements          |  |  |
|--|--|--|
| (Reference document or input statements) |  |  |
| Lifecycle costing requirements           |  |  |
| (Reference document or input statements) |  |  |

## 3.2 Health and safety compliance and management requirements

The Organisations Health and safety compliance and management requirements is identified as follows:

#### Health and safety compliance

(Reference document or input statements)

Health and safety management

(Reference document or input statements)

## 3.3 Security management requirements

The Organisations security management requirements is identified as follows:

#### **Capital Investment requirements**

(Reference document or input statements)

## 3.4 Emergency management and contingency planning requirements

The Organisations emergency management and contingency planning requirements are identified as follows:

#### **Emergency management requirements**

(Reference document or input statements)

Contingency planning requirements

(Reference document or input statements)

### 3.5 Environmental management requirements

The Organisations environmental management requirements is identified as follows:

#### **Environmental management requirements**

(Reference document or input statements)

### 3.6 Sustainability requirements

The Organisations sustainability requirements is identified as follows:

#### Sustainability requirements

(Reference document or input statements)

## 3.7 Supply chain management requirements

The Organisations supply chain management requirements is identified as follows:

#### **Supply Chain management requirements**

(Reference document or input statements)

#### 3.8 Space utilisation requirements

The Organisations health and safety compliance and management requirements is identified as follows:

#### **Capital Investment requirements**

(Reference document or input statements)

Lifecycle costing requirements

(Reference document or input statements)

## 3.9 Risk assessment and management requirements

The Organisations risk assessment and management requirements is identified as follows:

#### Risk assessment requirements

(Reference document or input statements)

Risk management requirements

(Reference document or input statements)

## 3.10 Maintenance and repairs requirements

The Organisations maintenance and repairs requirements is identified as follows:

#### Maintenance requirements

(Reference document or input statements)

Repair's requirements

(Reference document or input statements)

## 3.11 Asset modifications requirements

The Organisations asset modification requirements is identified as follows:

#### **Asset modification requirements**

(Reference document or input statements)

## 3.12 Asset operations requirements

The Organisations health and safety compliance and management requirements is identified as follows:

#### **Asset Operations requirements**

(Reference document or input statements)

## 3.13 Human resources, skills development, training, and competencies requirements

The Organisations human resources, skills development, training, and competencies requirements is identified as follows:

| 1  |  |
|--|--|
| Human Resources requirements             |  |
| (Reference document or input statements) |  |
| Skills Development requirements          |  |
| (Reference document or input statements) |  |
| Training requirements                    |  |
| (Reference document or input statements) |  |
| Competency requirements                  |  |
| (Reference document or input statements) |  |

## 3.14 Technologies adoption requirements; and

The Organisations technology adoption requirements is identified as follows:

#### **Technology adoption requirements**

(Reference document or input statements)

## 3.15 Value management requirements.

The Organisations value management requirements is identified as follows:

#### Value management requirements

(Reference document or input statements)

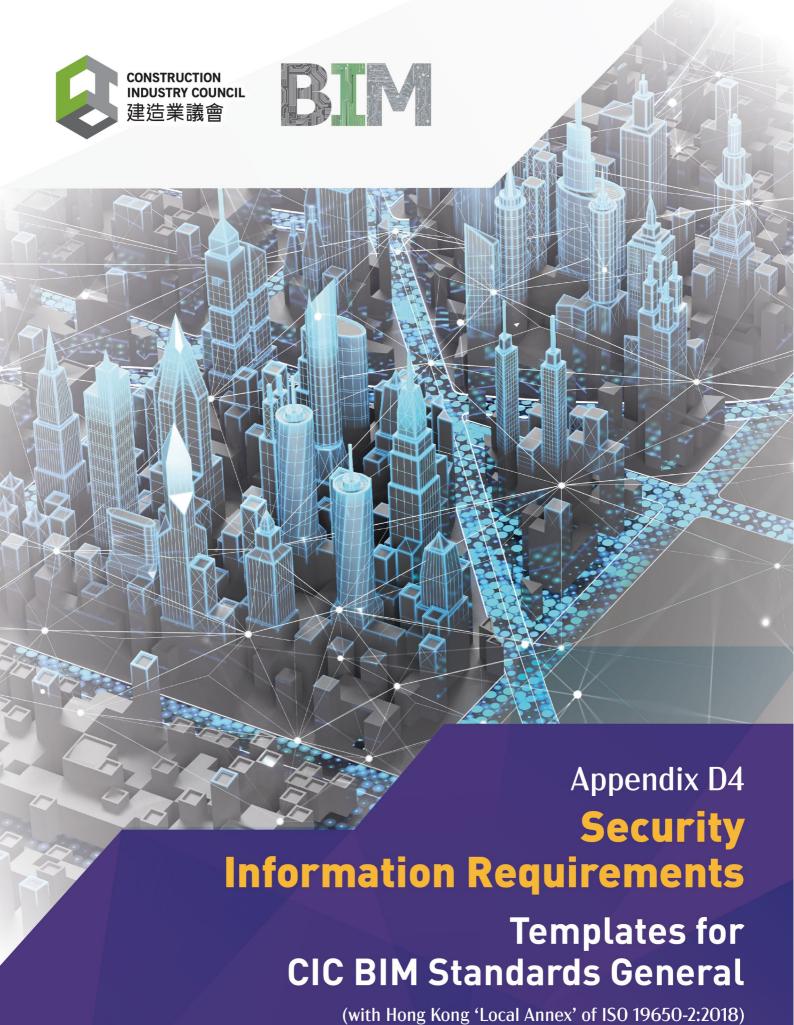
#### **Construction Industry Council**

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|---------------|-------------------|
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|               |                   |
|               |                   |

## **Contents**

| Int | rodu | ction  | 4  |
|-----|------|--|----|
| 1.  | Sec  | urity Information Requirements Overview                  | 6  |
|     |      | General Information                                      |    |
|     | 1.2  | Security Information Management Functions                | 6  |
|     |      | 1.2.1 Management Functions                               | 6  |
|     |      | 1.2.2 Security Access Clearance                          |    |
|     |      | 1.2.3 Management Authorisations                          | 7  |
|     |      | 1.2.4 Security Information Management Systems            | 7  |
|     | 1.3  | Security policies and procedures                         | 8  |
|     |      | 1.3.1 Security reference documentation                   | 8  |
| 2.  | Sec  | urity Requirements                                       | 9  |
|     | 2.1  | Sensitivity Assessment process                           | 9  |
|     | 2.2  | Security risks   |    |
|     | 2.3  | Security federation requirements.                        | 9  |
|     | 2.4  | Nomenclature and Obfuscation                             |    |
|     | 2.5  | BIM Object Security Information                          |    |
| 3.  | Sec  | urity  | 11 |
|     | 3.1  | Security Risks   |    |
|     | 3.2  | Security Mitigation Measures                             |    |
|     | 3.3  | Tolerated Security risks                                 |    |
|     | 3.4  | Policies and procedures for security mitigation measures |    |
|     | 3.5  | Security Information sharing agreements                  |    |

## Introduction

#### **Security Information Requirements**

ISO 19650-5:2020 provides the basis for identifying the Security Information Requirements (SIR) in terms of what is a sensitive asset, product, or service, using the following criteria:

- Is part of the critical national infrastructure;
- Is a national security, defence, law enforcement or diplomatic function;
- Is a commercial site related to significant volumes of currency, valuable materials, pharmaceuticals, chemicals, petrochemicals, or gases;
- Is used or can be used to host events of security significance; and/or
- Constitutes a landmark, nationally significant site, or crowded place.

The Appointing Party / Client shall apply the security triage process as outlined in ISO 19650-5:2020 to establish whether a security-minded approach is required to the project, asset, or service. The outcome of the triage process should be documented within the information requirements and where required the appropriate actions and functions shall be put in place. As illustrated in Figure 9, the triage process should identify whether the following action need to be undertaken depending upon the results:

- 1. Initiate the security-minded approach;
- 2. Develop a security strategy;
- 3. Develop a security management plan;
- 4. Develop a security breach/incident management plan; and
- 5. Work with appointed parties to implement any or all the above.

The Appointing Party / Client shall also develop a security strategy which shall include the outcome of the security triage process and follow the requirements of ISO 19650-5:2020. Security Management Plan

Where a Security Management Plan is required it should set out the SIR for sharing and/or publishing of:

- New information;
- Modified information; or
- Existing information.

The Plan shall include whether these items relate to individual documents or the Information Model as a whole.

#### The Scope

The Asset Information Requirements (AIR) will include the following elements:

- Detailed Specification for delivery of Asset Information Model
- AIR Deliverables
- COBie
- Data Template requirements

The purposes of these documents are to clearly define the Appointing Party / Clients information requirements regarding Asset information in order that the Appointing Party / Client can procure a lifecycle data approach to information.

#### **The Solution**

The requirement is to continuously review, update and address any changing requirements through the course of the project.

This document has been produced in accordance with the CIC BIM Standards (General) to enable all delivery team members to work in a consistent manor and ensure that information is delivered and verified against the requirements identified. The project must support the aggregation of this information required all parties.

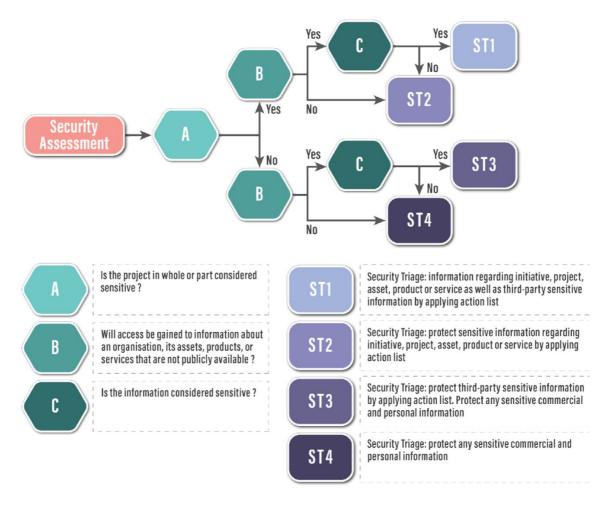


Figure 9 The Security Triage Process (CIC BIM Standards – General)



# Security Information Requirements Overview

The Security Information Requirements are a subset of the Appointing Party / Clients brief which set out the security requirements associated with information delivery for the duration of the project as well as the lifecycle of the asset.

The initial security requirements will be based upon the security triage process undertaken by the Appointing Party / Client. As a minimum the Security information requirements should identify that this triage process has been undertaken and the any required actions from the triage process.

#### 1.1 General Information

This section sets out the people, technology and processes required for the security information requirements. These SIRs should be read in conjunction with the following Exchange Information Requirements (EIR):

| Name                           | Document   |  |  |
|--------------------------------|--|--|--|
| Appointing Party / Clients EIR | CIC BIM Exchange Information Requirements (EIR) Template |  |  |

(Following to be completed by the business's representative.)

## 1.2 Security Information Management Functions

To be completed by the business's representative.

#### 1.2.1 Management Functions

This identified security management functions / responsibilities undertaken on this project will be undertaken by the following contacts:

| Function /<br>Responsibility                     | Name | Title / Role | Contact Details |
|--|------|--------------|-----------------|
| Appointing Party /<br>Client Delivery<br>manager |      |              |                 |
| Security Manager                                 |      |              |                 |
|  |      |              |                 |
|  |      |              |                 |
|  |      |              |                 |

#### 1.2.2 Security Access Clearance

The project will identify the following project information access clearance identified security management functions will have the following project security authority:

| Security Clearance | Identified Document demarcation |
|--------------------|---------------------------------|
| Unclassified       |                                 |
| Public             |                                 |
| Official           |                                 |
| Secret             |                                 |
| Top Secret         |                                 |

#### 1.2.3 Management Authorisations

This identified security management functions will have the following project security authority:

| Function /<br>Responsibility                  | Name | Authority |
|---|------|-----------|
| Appointing Party /<br>Client Delivery manager |      |           |
| Security Manager                              |      |           |
|   |      |           |
|   |      |           |
|   |      |           |

#### 1.2.4 Security Information Management Systems

The following are the current / proposed security management systems to be used along with the acceptable data formats:

| Software application  | Software vendor | Package | Version | File formats for delivery |
|-----------------------|-----------------|---------|---------|---------------------------|
| Facilities management |                 |         |         |                           |
| Room bookings         |                 |         |         |                           |
|                       |                 |         |         |                           |
|                       |                 |         |         |                           |
|                       |                 |         |         |                           |
|                       |                 |         |         |                           |

## 1.3 Security policies and procedures

## 1.3.1 Security reference documentation

The following documents identified the security

| Security Management Plans            | Referenced document |
|--------------------------------------|---------------------|
| Security management Policy           |                     |
| Cyber security policy                |                     |
| Cyber Resilience Policy              |                     |
| CDE security functional requirements |                     |
|                                      |                     |

# 2

## **Security Requirements**

The delivery of Constructions Operations Building information exchange (COBie) is an internationally agreed format for the delivery of Asset information from Designers and Constructors for use by operators and maintainers. This section sets out the detailed requirements for delivery of COBie for the project.

## 2.1 Sensitivity Assessment process

There are multiple security risks that need to be considered in relation to the project and consideration should be given to the following:

Understanding range of risks

Identifying Organisational sensitivities

Establishing any third-party sensitivities

Recording the outcome of the sensitivity assessment

Reviewing the sensitivity assessment

Determining whether a security minded approach is required; and

Outcome of the Security triage process.

## 2.2 Security risks

There are multiple security risks that need to be considered in relation to the project and consideration should be given to:

- Potential Security Issues
- Range of threats that may seek to make use of vulnerabilities
- Range of traditional and evolving techniques of hostile reconnaissance
- Potential for components, individual Assets or products open to make use of vulnerabilities
- Potential for malicious acts caused by a range of external or internal threats; and
- Reputational risk rising from the issues above.

## 2.3 Security federation requirements.

Depending upon the results of the triage process the models may need to be federated using identified security zones or specific systems dependent upon identified security risk. The following table sets of the security federation requirements;

| Zone or System name | Identifier | Security rating |
|---------------------|------------|-----------------|
| CCTV                | CTV        | Secret          |
|                     |            |                 |
|                     |            |                 |
|                     |            |                 |

#### 2.4 Nomenclature and Obfuscation

For identified security risks obfuscation can be used as a technique for separating documentation from the associated data key. The following items are considered at specific risk and therefore obfuscation risks shall be included in all documentation:

| Zone or System name | Identifier | Security rating |
|---------------------|------------|-----------------|
| CCTV                | CTV        | Secret          |
|                     |            |                 |
|                     |            |                 |
|                     |            |                 |

## 2.5 BIM Object Security Information

To deliver a secure model information security restriction, need to be put in place regarding the following object types:

| Object Type | Security rating | Restriction   |
|-------------|-----------------|---|
| CCTV        | Secret          | Generic locations and routing only shall be indicated |
|             |                 |   |
|             |                 |   |
|             |                 |   |

# 3 Security

The delivery of Constructions Operations Building information exchange (COBie) is an internationally agreed format for the delivery of Asset information from Designers and Constructors for use by operators and maintainers. This section sets out the detailed requirements for delivery of COBie for the project

(The content of the COBie section can be delivered in different formats and this section identifies the appropriate approached that can be made.)

#### 3.1 Security Risks

The Table identifies specific security risk information which provided in the following format:

| Security Risk            | Risk Level     | Risk Owner         |  |
|--------------------------|----------------|--------------------|--|
| (Presentation materials) | (Confidential) | (Security Manager) |  |
|                          |                |                    |  |
|                          |                |                    |  |

#### 3.2 Security Mitigation Measures

The following Table sets out the security mitigation measures that shall be incorporated:

| Security Risk | Risk Owner | Mitigation Measure |
|---------------|------------|--------------------|
|               |            |                    |
|               |            |                    |
|               |            |                    |
|               |            |                    |

#### 3.3 Tolerated Security risks

The identified tolerated security risk has been identified as follows:

| Security Risk | Risk Owner | Description |
|---------------|------------|-------------|
|               |            |             |
|               |            |             |
|               |            |             |
|               |            |             |

## 3.4 Policies and procedures for security mitigation measures

The identified policy and procedures documents for security mitigation measures are identified as:

| Procedure | Security Level | Document / Description |
|-----------|----------------|------------------------|
|           |                |                        |
|           |                |                        |
|           |                |                        |
|           |                |                        |

#### 3.5 Security Information sharing agreements

An information sharing agreement available to all parties should be put in place prior to the sharing of any sensitive information that can be used to cause harm as identified in the Security management plan.

| Agreement | Parties | Date |
|-----------|---------|------|
|           |         |      |
|           |         |      |
|           |         |      |

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## **Contents**

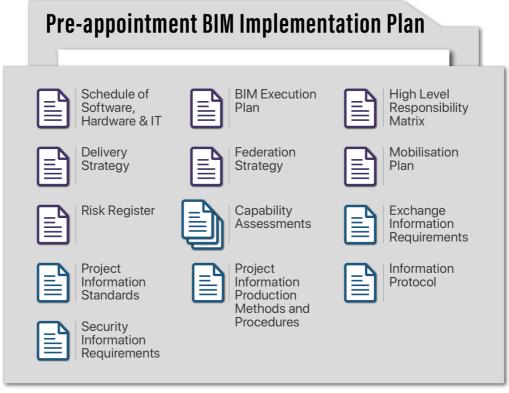
| Int | ntroduction  | 4  |
|-----|--|----|
|     | Purpose  | 4  |
| 1.  | . Pre-Appointment BIM Implementation Plan                  | 5  |
|     | 1.1 The Requirement  |    |
|     | 1.1.1 The Information Requirements                         |    |
|     | 1.1.2 The Solution   |    |
| 2.  | . Information requirements Responses                       | 6  |
|     | 2.1 The Requirement  |    |
|     | 2.2 Organisational Information Requirements                |    |
|     | 2.3 Asset Information Requirements                         |    |
|     | 2.4 Project Information Requirements                       |    |
|     | 2.5 Project Milestones                                     | 7  |
|     | 2.6 Levels of Information Need                             | 7  |
|     | 2.7 Acceptance Criteria                                    |    |
|     | 2.8 Exchange Information Requirements                      | 7  |
|     | 2.9 Project Information Standards                          |    |
|     | 2.10 Project Information Production Methods and Procedures |    |
|     | 2.11 Project Reference Information                         |    |
|     | 2.12 Project Shared Resources                              |    |
|     | 2.13 Project Information Protocol                          |    |
|     | 2.14 Additional Information Requirements                   |    |
| 3.  |  |    |
|     | 3.1 Pre-Appointment BIM Execution Plan documentation       | 10 |
| 4.  | . Supporting Documentation                                 | 11 |
|     | 4.1 Capability Assessments                                 | 11 |
|     | 4.2 Capability Assessment Summary                          | 11 |
|     | 4.3 High Level Responsibility Matrix                       | 11 |
|     | 4.4 Risk Register  | 11 |
|     | 4.5 Mobilisation Plan                                      | 11 |
| 5.  | . Other Information  | 12 |
|     | 5.1 Lead Consultant Information Requirements               | 12 |

#### Introduction

#### **Purpose**

The Appointing Party / Client shall "start with the end in mind" by providing or specifying the BIM Requirements, as identified in Table 1 Schedule of required Resources and Content defined under ISO 19650-1. These are basically the questions for the Lead Consultant / Lead Contractor as the Delivery Team Lead to understand what, when and how the Appointing Party / Client requires information to facilitate their decision-making requirements. The Pre-Appointment BIM Implementation Plan (BIM IP) will be the Delivery Team's initial answers to these questions providing a response to the Appointing Party's / Client's BIM Requirements.

The Pre-Appointment BIM IP is a collection of the response documents such as the BIM Execution Plan, Mobilisation Plan, Capability Assessments, Risk Register, etc... that formulate the submission to the Appointing Party / Client for bidding on the project.



CIC BIM Standards – General Figure 14. Pre-Appointment BIM Implementation Plan (BIM IP) Contents

Therefore, each of the elements of the BIM Requirements provided will need to be taken on board and the contents of the Pre-appointment BIM IP should include responses.

The BIM Requirements and Pre-appointment BIM IP responses will then form the basis for the appointment or contract between the parties. A contract or appointment could be for design, construction or operation stages of the project life cycle requiring both BIM Requirements and a BIM Implementation Plan



# Pre-Appointment BIM Implementation Plan

#### 1.1 The Requirement

The Pre-Appointment BIM Implementation plan provides the response to the Clients information Requirements and sets out the proposed approach and methodology to be adopted by the delivery team to deliver both the physical asset and the information requirements.

The Pre-Appointment implementation plan should be thought of as a folder which collects the series of documentation which make up the response to the information requirements. Depending upon the size and complexity of the project, the information response can be structured in many ways.

(On small to medium size projects the information may be predominantly produced inside the BIM Execution Plan. On larger projects with detailed Client's documentation each element may exist as a document. The implementation plan should provide clarity how the response is structured by the delivery team for a specific project).

#### 1.1.1 The Information Requirements

The Pre-Appointment implementation plan will include the responses to the Information requirements as chapter 2 and the delivery teams' response which will include:

- Schedule of ICT (Software, Hardware, and IT Infrastructure)
- Delivery Strategy
- Risk Register
- Proiect Information Standards
- Project Information Security Requirements
- BIM Execution Plan
- Federation Strategy
- Capability Assessment
- Project Information Production Methods and Procedures
- High Level Responsibility Matrix
- Mobilisation Plan
- Exchange Information Requirements
- Project Information Protocol

The purposes of these information requirements are to identify what the Clients wants, how and when. Chapter one identifies who is provide a response to the Clients information requirements in order that the Client can assessed the proposed response approach from the delivery team.

#### 1.1.2 The Solution

This document has been produced to enable all project team members to understand the proposed approach to information management and ensure that information is delivered and verified against the requirements identified. The project must support the aggregation of this information required to all parties.

# Information requirements Responses

The Pre-Appointment BIM Implementation plan provides the response to the Clients information Requirements and sets out the proposed approach and methodology to be adopted by the delivery team to deliver both the physical asset and the information requirements.

#### 2.1 The Requirement

The Pre-Appointment implementation plan will include the responses to the following Information requirements and the initial chapter identifies where these responses are found.:

- Organisational information requirements;
- Asset information requirements;
- Project information requirements;
- Security information requirements;
- Project milestones;
- Exchange information requirements;
- Levels of information need;
- Acceptance criteria;
- Project information standards;
- Project information production methods and procedures;
- Project reference information;
- Project shared resources; and
- Project Information protocol.

## 2.2 Organisational Information Requirements

The general project information is as follows:

The Organisational information requirements document provided is:

(Provide document name)

The response to the Organisational information requirements is provided in:

(Provide document name and appropriate section information)

### 2.3 Asset Information Requirements

The following documents make up the information requirements against which define the basis for this implementation plan:

#### The Asset information requirements document provided is:

(Provide document name)

The response to the Asset information requirements is provided in:

(Provide document name and appropriate section information)

#### 2.4 Project Information Requirements

The general project information is as follows:

The Project information requirements document provided is:

(Provide document name)

The response to the Project information requirements is provided in:

(Provide document name and appropriate section information)

#### 2.5 Project Milestones

The general project information is as follows:

The Project milestones document provided is:

(Provide document name)

The response to the Project milestone requirements is provided in:

(Provide document name and appropriate section information)

#### 2.6 Levels of Information Need

The following Organisations are identified as representatives of the Client on this project:

The Level of information need document provided is:

(Provide document name)

The response to the Level of information need document is provided in:

(Provide document name and appropriate section information)

#### 2.7 Acceptance Criteria

This project functions undertaken on this project will be undertaken by:

The Acceptance criteria document provided is:

(Provide document name)

The response to the Acceptance criteria document is provided in:

(Provide document name and appropriate section information)

## 2.8 Exchange Information Requirements

This following identified project functions undertaken on this project will be undertaken by:

The Exchange information requirements document provided is:

(Provide document name)

The response to the Exchange information requirements is provided in:

(Provide document name and appropriate section information)

#### 2.9 Project Information Standards

The project information standard is as follows:

The project information standard document provided is:

(Provide document name)

The response to the project information standard is provided in:

(Provide document name and appropriate section information)

## **2.10** Project Information Production Methods and Procedures

The project information production methods and procedures documentation provided is as follows:

The project information production methods and procedures document provided is:

(Provide document name)

The response to the project information production methods and procedures is provided in:

(Provide document name and appropriate section information)

### 2.11 Project Reference Information

The project reference information is as follows:

The project reference information provided is:

(Provide document name)

The response to the project reference information is provided in:

(Provide document name and appropriate section information)

#### 2.12 Project Shared Resources

The Project shared resources and response is as follows:

The Project shared resources provided is:

(Provide document name)

The response to the Project shared resources is provided in:

(Provide document name and appropriate section information)

#### 2.13 Project Information Protocol

The Project information protocol and response is as follows:

The Project information protocol document provided is:

(Provide document name)

The response to the Project information protocol is provided in:

(Provide document name and appropriate section information)

## 2.14 Additional Information Requirements

Details of additional information requirements provided (if any) and the response is as follows:

Additional information requirements document provided is:

(Provide document name)

The response to the additional information requirements is provided in:

(Provide document name and appropriate section information)



# **Pre-Appointment BIM Execution Plan**

(This template has been prepared on behalf of the CIC to enable projects to deliver their Building Information Modelling requirements in accordance with the CIC BIM Standards (General).)

This document is a response to the Clients Information Requirements and should be read in conjunction with the documentation identified in Chapter 2 as defining the information requirements.

(This document should be completed by the delivery team as part of a collaborative submission and reviewed with all key project stakeholders.)

The document requires the completion of the Clients Information requirements which are to be developed and completed with the assistance of the Design Team, Facilities Management and Operations team as well as other key stakeholders with an interest in or are possible beneficiaries of the BIM implementation plan.

#### 3.1 Pre-Appointment BIM Execution Plan documentation

The main document providing the response to the information requirements is the Pre-Appointment BIM Execution Plan.

#### The Pre-Appointment BIM Execution Plan Templates used is:

CIC Pre-Appointment BIM Execution Plan Template

The Completed Pre-Appointment BIM Execution Plan is:

(Provide Document reference or insert here as appropriate)



## **Supporting Documentation**

### 4.1 Capability Assessments

(Insert capability assessments or reference)

The project capability assessments are:

(Provide document name if applicable:)

### 4.2 Capability Assessment Summary

(Insert capability assessment summary reference)

The capability assessment summary is:

(Provide document name if applicable:)

### 4.3 High Level Responsibility Matrix

(Insert high level responsibility matrix or reference)

The project responsibility matrix is:

(Provide document name if applicable:)

### 4.4 Risk Register

(Insert Delivery Team Risk Register)

The project risk register is:

(Provide document name if applicable:)

#### 4.5 Mobilisation Plan

(Insert Mobilisation Plan)

The project mobilisation plan is:

(Provide document name if applicable:)



## **Other Information**

(This section provides an opportunity to provide additional information requirements or other supporting documentation proposed by the delivery team in relation to their proposals.)

## **5.1** Lead Consultant Information Requirements

(Insert Lead Consultant Information Requirements)

The Lead Consultant Information Requirements are:

(Provide document name if applicable:)

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|---------------|-------------------|
| November 2021 | First Publication |
|               |                   |
|               |                   |

## **Contents**

| Int | rodu       | ction  | 4    |
|-----|------------|--|------|
| 1.  | Proj       | ect Information  | 5    |
|     | 1.1        | Project Information  | 5    |
|     | 1.2        | ·  |      |
| 2.  | Proi       | ect Information Functions  | 7    |
|     | 2.1        | Appointing Party/ Client Management Functions  |      |
|     | 2.2        | Project Information Management Functions   |      |
|     | 2.3        | Per Task Team Information Management Roles   | 8    |
|     | 2.4        | Information responsibilities and authorities   |      |
|     | 2.5        | Authorisations for Security, extranet, and document distribution                                     | .11  |
| 3.  | BIM        | Use, goals, and deliverables   | 12   |
|     | 3.1        | Schedule of BIM uses   | .12  |
|     | 3.2        | Proposed Organisation structure and delivery team composition  | .14  |
| 4.  | Cap        | ability and capacity assessment  | 15   |
|     | 4.1        | Delivery team capability and capacity assessment   | .15  |
|     |            | 4.1.1 Capability Assessment Template   |      |
|     |            | 4.1.2 Completed BIM Capability Assessments   |      |
|     |            | BIM Capability Assessment summary  |      |
| _   | 4.2        | Proposed Name and resumes of individuals to undertake information management functions               |      |
| 5.  | Info       | rmation Strategies   |      |
|     | 5.1        | Delivery Team Information requirements   |      |
|     | 5.2        | Proposed EIR Strategy  |      |
|     |            | 5.2.1 Training Requirements  |      |
|     |            | 5.2.3 Task Information Delivery Plan (TIDP)  |      |
|     |            | 5.2.4 Master Information Delivery Plan (MIDP)  | . 18 |
|     | 5.3        | Proposed Project Information Standards   |      |
|     | 5.4        | Responsibility Matrix  | .19  |
|     | 5.5        | Proposed Federation Strategy   |      |
|     | 5.6        | Proposed Project information production methods and procedures                                       |      |
|     |            | 5.6.1 Project Information production methods and procedures  | .19  |
|     |            | 5.6.2 Common Data Environment (CDE)  |      |
|     | <b>5</b> 7 | 5.6.3 Quality Assurance  |      |
|     | 5.7<br>5.8 | Goals for collaborative production   |      |
|     | 5.9        | Proposed Mobilisation Plan   |      |
|     |            | Proposed Schedule of software (including versions). Hardware, CDF, IT infrastructure and Data Backup |      |

#### Introduction

#### **Pre-Appointment BIM Execution Plan**

(This template has been prepared on behalf of the CIC to enable projects to deliver their Building Information Modelling requirements in accordance with the CIC BIM Standards (General).)

This document is a response to the Appointing Party / Clients Information Requirements and should be read in conjunction with the documentation identified in Chapter 2 as defining the information requirements.

(This document should be completed by the delivery team as part of a collaborative submission and reviewed with all key project stakeholders.)

The document requires the completion of the Appointing Party / Clients Information requirements which are to be developed and completed with the assistance of the Design Team, Facilities Management and Operations team as well as other key stakeholders with an interest in or are possible beneficiaries of the BIM implementation plan.

As identified within the CIC BIM Standards (General), the initial Pre-appointment BEP is part of the Draft BIM IP and provided to the Appointing Party / Client to assess the approach and capability of the Delivery Team. The Pre-appointment BEP contents shall include:

- Project Information (Project particulars);
- Proposed Information Management Functions (commonly known as Roles);
- BIM Goals, Uses & Deliverables;
- Proposed organisation structure and Delivery Team composition;
- Proposed names and resumes of individuals to undertake information management functions;
- Delivery Team Capability and Capacity Assessment;
- Proposed Information Delivery Strategy;
- Proposed EIR Strategy;
- Proposed Project Information Standards (formerly / commonly known as standards on BIM Procedures);
- LOD Responsibility Matrix;
- Proposed Federation Strategy;
- Proposed Project information production
- methods and procedures;
- Goals for collaborative production;
- Proposed Delivery Team Risk Register;
- Proposed Mobilisation Plan; and
- Proposed Schedule of software (including versions), Hardware, CDE and IT infrastructure.



## **Project Information**

### 1.1 Project Information

The general project information is as follows:

| Project Name   | (Add project Name)  |
|--|---|
| Project Address  | (Add Project Address)   |
| Project Number<br>(Appointing Party /<br>Clients Project<br>Number or reference) | (Add Appointing Party / Clients Project Number)                             |
| Appointing Party / Client Name   | (Add Appointing Party / Client Name)  |
| Appointing Party / Client Address  | (Add Appointing Party / Client Address)                                     |
| Start Date   | (Add Project Start Date)  |
| Project Work stage(s)  | (Add Project Work Stage(s))   |
| Contract Form  | (Add Appointment / Contract form)   |
| Project Description  | (Provide description of the project)  |
| Project Brief  | (Provide text or identify the document setting out the project brief)       |
| Project Deliverables   | Provide text or identify the document setting out the project deliverables) |
| BIM Protocol   | (Identify the document setting out the BIM Protocol)                        |

## 1.2 Other delivery team documentation

This pre-appointment BIM Execution Plan is one of a number of documents which make up the response to the information requirement as part of the Draft BIM Implementation Plan, as identified within the CIC BIM Standards (General). The other documents are identified in the following table:

| Name | Delivery Team Document Title etc | Rev | Status |
|------|----------------------------------|-----|--------|
|      |                                  |     |        |
|      |                                  |     |        |
|      |                                  |     |        |

# 2

## **Project Information Functions**

The section details those individuals taking on board the roles and responsibilities identified for the project to meet the information management functions identified. Each delivery team should identify those undertaking these requirements.

#### 2.1 Appointing Party/ Client Management Functions

This project functions undertaken on this project will be undertaken by:

| Project Function                                   | Name          | Organisation               | Contact Details (Email) | Telephone/<br>Mobile |
|--|---------------|----------------------------|-------------------------|----------------------|
| (Appointing Party / Client<br>Delivery Manager)    | (Insert name) | (Insert organisation name) | (Insert email address)  |                      |
| (Appointing Party / Client<br>Information Manager) |               |                            |                         |                      |
| (Asset Information<br>Manager)                     |               |                            |                         |                      |
| Security Information<br>Manager                    |               |                            |                         |                      |
|  |               |                            |                         |                      |

## **2.2** Project Information Management Functions

This following identified project functions undertaken on this project will be undertaken by:

| Function                       | Name          | Company                    | Contact Details (Email) | Telephone/<br>Mobile |
|--------------------------------|---------------|----------------------------|-------------------------|----------------------|
| (Lead Designer)                | (Insert name) | (Insert organisation name) | (Insert email address)  |                      |
| (Delivery Manager)             |               |                            |                         |                      |
| (Information Manager)          |               |                            |                         |                      |
| (Asset Information<br>Manager) |               |                            |                         |                      |
| (Security Information Manager) |               |                            |                         |                      |
|                                |               |                            |                         |                      |

#### 2.3 Per Task Team Information Management Roles

Each Task Team associated to the project will provide the names, titles and contact details of those undertaking the identified information management functions of Task Team Manager, Task Information Manager, and Interface Manager:

| Task<br>Team | Function                 | Name          | Title          | Contact Details (Email) | Telephone/<br>Mobile |
|--------------|--------------------------|---------------|----------------|-------------------------|----------------------|
| (Team 1)     | (Task Team<br>Manager)   | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 1)     | (Information<br>Manager) | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 1)     | (Interface<br>Manager)   | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 2)     | (Task Team<br>Manager)   | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 2)     | (Information<br>Manager) | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 2)     | (Interface<br>Manager)   | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 3)     | (Task Team<br>Manager)   | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 3)     | (Information<br>Manager) | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 3)     | (Interface<br>Manager)   | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 4)     | (Task Team<br>Manager)   | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 4)     | (Information<br>Manager) | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 4)     | (Interface<br>Manager)   | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 5)     | (Task Team<br>Manager)   | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 5)     | (Information<br>Manager) | (Insert name) | (Insert title) | (Insert email address)  |                      |
| (Team 5)     | (Interface<br>Manager)   | (Insert name) | (Insert title) | (Insert email address)  |                      |

Individual Contact information should be made available via the project contact sheet document identified below:

| Project contact sheet document: |  |
|---------------------------------|--|
| (Insert Document name)          |  |

## 2.4 Information responsibilities and authorities

The responsibilities and authorities for the key Project and Task functions are identified as follows:

| Project Management   |  |         |
|--|--|---------|
| Project Delivery Manager   |  |         |
| Responsibility   | Authority  | Name(s) |
| (Ensure information delivery is in accordance with the MIDP.) (Enable information exchange through the CDE.) (Review and accept information into the Information Model.) (Ensure project delivery milestone are met.)                          | (Enforce delivery of information against the project BIM Execution Plan and information requirements.) (Accept / reject information exchanges within the CDE.) |         |
| Lead Consultant  |  |         |
| Responsibility   | Authority  | Name(s) |
| (Ensure delivery of a spatially correct model coordination.) (Ensure coordinated delivery of all design information.) (Resolve coordination issues raised by Task Teams and instruct relevant task teams to make necessary changes to models.) | (Review and Accept design models through design review process.) (Approve design changes and instruct task teams.)   |         |
| Project Information Manager  |  |         |
| Responsibility   | Authority  | Name(s) |
| (Ensure information deliverables have appropriate status codes and revisions applied.)   | (Confirm compliance with information delivery requirements.)   |         |

| Task Information Manageme  | ent   |         |
|--|---|---------|
| Task Delivery Manager  |   |         |
| Responsibility   | Authority   | Name(s) |
| (Development of TIDP) (Ensure information delivery is in accordance with the TIDP.) (Enable information exchange through the CDE.) (Review and accept information into the Information Model.) (Ensure task delivery milestone are met.) | (Enforce delivery of information against the project BIM Execution Plan and information requirements.) (Approve information exchanges within the CDE.) (Ensure technical competency of information deliverables.) |         |
| Task Information Manager   |   |         |
| Responsibility   | Authority   | Name(s) |
| (Ensure appropriate status codes and revisions for information exchanges.) (Ensure compliance with project information standards and project information production method and procedures.)  | (Review information exchanges.) (Confirm compliance with information requirements.)   |         |
| Task Interface Manager   | 1   | 1       |
| Responsibility   | Authority   | Name(s) |
| (Ensure spatial coordination.)<br>(Liaise and raise coordination<br>issues.)   | (Propose resolutions to coordination issues.)   |         |
| Information Authors  | 1   | 1       |
| Responsibility   | Authority   | Name(s) |
| (Ensure spatial coordination within allocated volumes.) (Produce task deliverables.)   | (Ownership of information produced.)  |         |

Refer to Section 4 for Resumes of individuals to undertake Information Management functions.

(For Clarity the Client should also identify within their information requirements those undertaken Client based information management roles).

## 2.5 Authorisations for Security, extranet, and document distribution

The following individuals are authorised to undertake the identified functions:

| Company Name | Authorised Person | Authority (Upload,<br>Download, Change<br>Access / Distribution,<br>Archive) | Accepted |
|--------------|-------------------|--|----------|
|              |                   |  |          |
|              |                   |  |          |



## BIM Use, goals, and deliverables

#### 3.1 Schedule of BIM uses

The following schedule indicates both the Appointing Party / Clients and the delivery teams BIM use, goals and deliverables to ensure transparency regarding what is and what is not being produced:

|      |  |                              | other<br>Uses<br>(List 6 | te list and describe the typical mode<br>deliverables provides against each<br>provided by the organisation<br>example deliverables Information T<br>ings, 3D models, schedules etc) | of the identified BIM       |
|------|--|------------------------------|--------------------------|--|-----------------------------|
| Ref. | BIM Use  | Appointing<br>Party / Client | Delivery Team<br>Y/N     | Identify typical organisation services and deliverables created and provided against each BIM use.   | Information Types delivered |
| 1    | Design<br>Authoring                              |                              |                          |  |                             |
| 2    | Design Reviews                                   |                              |                          |  |                             |
| 3    | Drawing<br>Generation<br>(Drawing<br>Production) |                              |                          |  |                             |
| 4    | Existing<br>Conditions<br>Modelling              |                              |                          |  |                             |
| 5    | Sustainability<br>Evaluation                     |                              |                          |  |                             |
| 6    | Site Analysis                                    |                              |                          |  |                             |
| 7    | Space<br>Programming                             |                              |                          |  |                             |
| 8    | Cost Estimation                                  |                              |                          |  |                             |
| 9    | Spatial<br>Coordination                          |                              |                          |  |                             |
| 10   | Engineering<br>Analysis                          |                              |                          |  |                             |
| 11   | Facility Energy<br>Analysis                      |                              |                          |  |                             |
| 12   | Building Code<br>Checking and<br>Validation      |                              |                          |  |                             |
| 13   | Phase Planning (4D Modelling)                    |                              |                          |  |                             |
| 14   | Digital<br>Fabrication                           |                              |                          |  |                             |

|      |                                       |                              | Please list and describe the typical model, documentation and other deliverables provides against each of the identified BIM Uses provided by the organisation (List example deliverables Information Types such as 2D drawings, 3D models, schedules etc) |  |                             |  |
|------|---------------------------------------|------------------------------|--|--|-----------------------------|--|
| Ref. | BIM Use                               | Appointing<br>Party / Client | Delivery Team<br>Y/N   | Identify typical organisation services and deliverables created and provided against each BIM use. | Information Types delivered |  |
| 15   | Site Utilisation<br>Planning          |                              |  |  |                             |  |
| 16   | 3D Control and Planning               |                              |  |  |                             |  |
| 17   | 3D Construction Coordination          |                              |  |  |                             |  |
| 18   | Construction System Design            |                              |  |  |                             |  |
| 19   | Construction<br>Quality<br>Management |                              |  |  |                             |  |
| 20   | As-Built<br>Modelling                 |                              |  |  |                             |  |
| 21   | Maintenance<br>Scheduling             |                              |  |  |                             |  |
| 22   | Project Systems<br>Analysis           |                              |  |  |                             |  |
| 23   | Space<br>Management<br>and Tracking   |                              |  |  |                             |  |
| 24   | Asset<br>Management                   |                              |  |  |                             |  |
| 25   | Sales and<br>Marketing                |                              |  | _  |                             |  |
| 26   | Heritage<br>Information<br>Modelling  |                              |  |  |                             |  |

## 3.2 Proposed Organisation structure and delivery team composition

The following Organisations are identified as representatives of the Appointing Party / Client on this project:

| Function   | Role<br>Code | Organisation Name | Originator<br>Code | Contact |
|--|--------------|-------------------|--------------------|---------|
| (Appointing<br>Party / Client)                               |              |                   |                    |         |
| (Appointing<br>Party / Clients<br>Agent)                     |              |                   |                    |         |
| (Appointing<br>Party / Clients<br>Information<br>Management) |              |                   |                    |         |
| (Other)  |              |                   |                    |         |

The following Organisations are identified as the delivery team on this project:

| Function                 | Role<br>Code | Organisation Name | Originator<br>Code | Contact |
|--------------------------|--------------|-------------------|--------------------|---------|
| (Architect)              |              |                   |                    |         |
| (Structural<br>Engineer) |              |                   |                    |         |
| (Mechanical<br>Engineer) |              |                   |                    |         |
| (Electrical<br>Engineer) |              |                   |                    |         |
|                          |              |                   |                    |         |
|                          |              |                   |                    |         |



# Capability and capacity assessment

The following capability and capacity assessments have been used to identify the proposed solutions and approaches to the information requirements as set out.

#### 4.1 Delivery team capability and capacity assessment

#### 4.1.1 Capability Assessment Template

The following Capability Assessment Template covering BIM, ICT and project experience has been provided for use by the delivery team members:

| Capability Assessment Template:          |  |
|--|--|
| (CIC BIM Capability Assessment Template) |  |

#### 4.1.2 Completed BIM Capability Assessments

Each of the following Task teams have completed a Capability Assessment covering their ICT and BIM capability requirements using the following templates:

| Organisation | Task Team | Capability Assessment | Check |
|--------------|-----------|-----------------------|-------|
| Company 1    |           |                       |       |
| Company 2    |           |                       |       |
| Company 3    |           |                       |       |
| Company 4    |           |                       |       |
| Company 5    |           |                       |       |
| Company 6    |           |                       |       |

#### **BIM Capability Assessment summary**

The results of the above have been captured in the BIM Capability Assessment summary which sets out the delivery teams BIM capability. The results from this have contributed to the proposed approach and the supporting document is identified as:

| Capability Assessment Summary:                               |  |  |  |  |
|--|--|--|--|--|
| (Complete CIC BIM Capability Assessment Summary Spreadsheet) |  |  |  |  |
| The Capability Assessment Summary identified the following:  |  |  |  |  |
| (Provide appropriate section information if applicable)      |  |  |  |  |

## 4.2 Proposed Name and resumes of individuals to undertake information management functions

Please provide supplier resource proposed for the project including the key personnel within the organisation relating to BIM /ICT, including Project Leader/ Management / Director, CAD/BIM Director / Manager, IT Director/ Manager.

| Company | Role                          | Resource<br>Numbers | Levels of Competence    | Years of<br>Experienc | Names of individuals | Resume<br>Y / N |
|---------|-------------------------------|---------------------|-------------------------|-----------------------|----------------------|-----------------|
| Name 1  | Architect                     | 2                   | RIBA, HK BIM<br>Manager | 8                     |                      |                 |
|         | Architectural<br>Technologist | 4                   |                         |                       |                      |                 |
|         |                               |                     |                         |                       |                      |                 |
|         |                               |                     |                         |                       |                      |                 |
|         |                               |                     |                         |                       |                      |                 |



## **Information Strategies**

### **5.1** Delivery Team Information requirements

The following documents make up the delivery teams' response to information requirement in addition to those identified in 1.2 Information requirements provided to task team members which defines the basis for this implementation plan:

| Name                                 | Delivery Team Document Title etc                                     | Rev | Status |
|--------------------------------------|--|-----|--------|
| Organisation Information Requirement | (Identify any delivery team Organisational information requirements) |     |        |
| Asset Information Requirement        | (Identify any delivery team Asset information requirements)          |     |        |
| Project Information Requirements     | (Identify any delivery team Project information requirements)        |     |        |
| Security Information Requirements    | (Identify any delivery team Security information requirements)       |     |        |
| Exchange Information Requirements    | (Identify any delivery team Exchange information requirements)       |     |        |
| Level of Information Need            | (Identify any delivery team Level of information need requirements)  |     |        |
| Information Protocol                 | (Identify any delivery team project information protocol)            |     |        |

### **5.2** Proposed EIR Strategy

This document is a direct response to the Exchange Information Requirements (EIR) and should respond to the following sections of the EIR as defined within the CIC BIM Exchange information Requirements (EIR) Template:

| EIR Requirements and Objectives    | Delivery Mechanism      | Responsibility    |
|------------------------------------|-------------------------|-------------------|
| BIM Personnel                      | BEP Section 2           | (Name / Function) |
| Common Data Environment (CDE)      | BEP Section 5.2         | (Name / Function) |
| BIM Contractual Documents          | BIM Implementation Plan | (Name / Function) |
| BIM Uses                           | BEP Section 3           | (Name / Function) |
| Quality Assurance                  | BEP Section 5.2 & 5.6   | (Name / Function) |
| Handover of Project Deliverables   | BEP Section 5.2         | (Name / Function) |
| BIM Models Management              | BEP Section 5.2         | (Name / Function) |
| BIM Objects                        | BEP Section 5.2         | (Name / Function) |
| Training                           | BEP Section 5.2.1       | (Name / Function) |
| Hardware and Software Requirements | BEP Section 5.10        | (Name / Function) |
| BIM Standards and Guidelines       | BEP Section 5.3 & 5.6   | (Name / Function) |

#### 5.2.1 Training Requirements

Based upon the requirements set out within the EIR:

| Training Organisation Requirement Providing Training |  | Description | Completed |
|--|--|-------------|-----------|
|  |  |             |           |
|  |  |             |           |
|  |  |             |           |
|  |  |             |           |
|  |  |             |           |

#### **5.2.2** Proposed Information Delivery Strategy

The Client expects the BIM Process to support the Information Delivery Strategy aligned to the project work stages.

Schedule of work stages and overview of key information deliverables against each stage.

Confirmation of how information shall be stored and shared.

Approach to design authoring and model verification.

#### **5.2.3** Task Information Delivery Plan (TIDP)

Prior to appointment each task team shall prepare a task information delivery plan (TIDP) identifying their information deliverables and this shall not be limited to just models and drawings. When completed all Teams shall publish their TIDPs to the Shared functional state of the CDE. TIDPs when coordinated with the Master Information Delivery Plan shall reflect the milestone dates and project programme. The proposed TIDP Template to be used on the project is:

The project Task Information Delivery Plan Template is:

(Provide document name if applicable:)

#### **5.2.4** Master Information Delivery Plan (MIDP)

Prior to appointment the master information delivery plan will be developed by the Lead Consultant considering the requirements of each Task Teams TIDP. The coordinated MIDP must be developed, communicated, and agreed with the delivery team using an appropriate planning tool prior to being published. The MIDP will list all information deliverables for the identified project stage and any changes or amendments shall be managed using change management controls. The proposed approach to producing the MIDP is:

#### The project Master Information Delivery Plan will be produced using:

(Provide software / document name if applicable:)

#### **5.3** Proposed Project Information Standards

The proposed project information standard and response to the Appointing Party / Clients requirements is as follows:

#### The project information standard document provided is:

(Provide response or document name)

The response to the project information standard is provided in:

(Provide document name and appropriate section information if applicable)

#### **5.4** Responsibility Matrix

The proposed project Responsibility Matrix and response to the Appointing Party / Clients requirements is as follows:

#### The project Responsibility Matrix document provided is:

(Provide response or document name)

The response to the project Responsibility Matrix is provided in:

(Provide document name and appropriate section information if applicable)

## **5.5** Proposed Federation Strategy

The proposed project federation strategy and response to the Appointing Party / Clients requirements is as follows:

#### The project federation strategy document provided is:

(Provide response or document name)

The response to the federation strategy is provided in:

(Provide document name and appropriate section information if applicable)

## **5.6** Proposed Project information production methods and procedures

#### 5.6.1 Project Information production methods and procedures

The project information production methods and procedures documentation response to the Appointing Party / Clients requirements is as follows:

The project information production methods and procedures document provided is:

(Provide response or document name)

The response to the project information production methods and procedures is provided in:

(Provide document name and appropriate section information if applicable)

#### **5.6.2** Common Data Environment (CDE)

The proposed approach and Common Data Environment (CDE) solution as well as methods and procedures document provided is:

(Provide response or document name)

The response to the Common Data Environment (CDE) requirements is provided in:

(Provide document name and appropriate section information if applicable)

#### 5.6.3 Quality Assurance

The proposed Quality Assurance approach is identified in the following document:

(Provide response or document name)

The response to the Quality Assurance requirements is provided in:

(Provide document name and appropriate section information if applicable)

#### **5.7** Goals for collaborative production

The proposed goals for collaborative production and response are as follows:

The project goals for collaborative production provided is:

(Provide response or document name)

The response to the Goals for collaborative production is provided in:

(Provide document name and appropriate section information if applicable)

#### **5.8** Proposed Delivery Team Risk Register

The proposed project information standard and response is as follows:

The project information standard document provided is:

(Provide document name)

The response to the project information standard is provided in:

(Provide document name and appropriate section information if applicable)

### **5.9** Proposed Mobilisation Plan

The proposed project information standard and response is as follows:

The project information standard document provided is:

(Provide document name)

The response to the project information standard is provided in:

(Provide document name and appropriate section information if applicable)

# **5.10** Proposed Schedule of software (including versions), Hardware, CDE, IT infrastructure and Data Backup

The proposed project information standard and response is as follows:

The project schedule of software, hardware, CDE, IT Infrastructure and data backup provided is:

(Provide document name)

Further information relating to this includes:

(Provide appropriate section information if applicable)

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### **Contents**

| Int | rodu | ction  |  | 5  |
|-----|------|--------|--|----|
| 1.  | Org  | anisat | ion Overview   | 6  |
|     | 1.1  | Gener  | al Information   | 6  |
|     |      | 1.1.1  | Business's Contact Information   | 6  |
|     |      |        | Organisation information / Quality systems   |    |
|     | 1.2  |        | isation Resources  |    |
|     |      | 1.2.1  | Individual's Contact Information   | 7  |
|     |      |        | ICT Security responsible person's contact information                                    |    |
|     |      | 1.2.3  | Human Resources responsible person's contact information                                 | 8  |
|     |      | 1.2.4  | Key Organisation Contacts  CIC BIM Certified Individuals                                 | o  |
| 2   | RIM  |        | bility Questions   |    |
| ۷.  | 2.1  |        | uctory Questions   |    |
|     | ۷.۱  |        | General approach to information management standards                                     |    |
|     |      |        | BIM Gateway Questions  |    |
|     |      | 2.1.3  | General Approach to Information Security   | 9  |
|     |      | 2.1.4  | General approach to modelling  | 10 |
|     |      |        | General modelling processes undertaken   |    |
|     |      |        | BIM Use Experience   |    |
|     | 2.2  |        | nation Management Overview   |    |
|     |      | 2.2.1  | Collaborative Working  Definition of Model requirements and resulting information Models | 11 |
|     |      |        | Goals, objectives, and model uses  |    |
|     |      |        | Information Delivery Cycle   |    |
|     |      |        | Project and asset information management functions                                       |    |
|     |      | 2.2.6  | Information based collaborative working  | 14 |
|     |      |        | Information delivery planning  |    |
|     |      |        | BEP templates  |    |
|     | 2.3  |        | The Delivery Team's BEPging the collaborative production of information                  |    |
|     | 2.3  |        | Model Progression  |    |
|     |      |        | Level of Information Need  |    |
|     |      |        | Information Quality: Information and Delivery Formats                                    |    |
|     |      | 2.3.4  | Information Quality: Structure and Classification of information                         | 17 |
|     |      |        | Information Quality: Properties  |    |
|     | 2.4  |        | non Data Environment (CDE) strategy  |    |
|     |      | 2.4.1  | Approach to using the CDE  | 19 |
|     |      |        | CDE Solution and workflow  |    |
| 3.  |      |        | on Technology  |    |
|     | 3.1  |        | s for Information Technology   |    |
|     |      |        | ICT Policy and Management  |    |
|     |      |        | ICT Schedule   |    |
|     |      |        | The Organisation's operating systems   |    |
|     |      | 3.1.5  | IT Software Applications Schedule  | 22 |
|     |      | 3.1.6  | Information Deliverables   | 22 |
|     |      |        | Security Systems   |    |
|     | 3.2  | •      | ization's Personnel Experience   |    |
|     |      |        | Personnel Industry Education   |    |
|     |      |        | Organisation experience management Skills and Knowledge management                       |    |
|     |      |        | Training Plan  |    |
|     | 3.3  |        | ervices and Model Use Capabilities   |    |
|     | 0.0  |        | BIM Uses   |    |
|     |      |        | Personnel Industry / Education   |    |
| 4.  | Proi |        | rperience  |    |
|     | 4.1  |        | Study 1  |    |
|     | 4.2  |        | Study 2  |    |
|     | 43   |        | study 3  | 29 |

| 30 |
|----|
| 33 |
| 35 |
| 36 |
| 37 |
| 39 |
|    |

### Introduction

#### **BIM Capability Assessment**

As identified within the CIC BIM Standards (General) and in accordance with the ISO 19650 series, Lead Consultants or Contractors are required to assess the capability of their delivery team from the aggregated assessments of each task team and to provide a summary. To assist this process CIC have provided this BIM Capability assessment template along with the accompanying supply chain summary template as a mechanism for industry to carry out this assessment in a standardised fashion.

The purpose of establishing the delivery team's capability and capacity is to allow the Appointing Party / Client, or others on their behalf, to review the risks associated with the appointment of the delivery team and understanding the possible consequences attached to the appointment. Typical consequences identified could be the need for additional education or training as a requirement of the appointment.

#### The Scope

The scope of the review of the delivery team's capability and capacity are to consider as a minimum to cover:

- Commitment to comply with the concepts and principles in the CIC BIM Standards (General);
- Ability to work collaboratively;
- Experience in container-based collaborative working;
- Access for agreed (required and proposed) information technology;
- Experience of personnel in the (required and proposed) information technology;
- Availability of suitably equipped experienced personnel to deliver project tasks; and
- Requirements for training, education, and support throughout the project.

The assessment of capacity in this context is the potential company capacity and not a specific project capacity is determined at ISO 19650-2:2019 Tender and Appointment stages.

#### The Solution

The requirement to establish the delivery team's capability and capacity can be resolved either as part of the tender process or preferably in advance of it. The methods for addressing it in advance are either:

- As part of a pregualification process; or
- Business system certification.

This document has been produced to enable task teams to record their assessment information consistently and it is suggested that this assessment should be validated by a third party, as well as support the aggregation of this information required by the appointing party, or the lead appointed party.



# **Organisation Overview**

### 1.1 General Information

To be completed by the business's representative.

#### 1.1.1 Business's Contact Information

| Company name:  | < <legalname>&gt;</legalname>  |
|--|--|
| Company address:   | < <streetaddress>&gt; &lt;<town city="">&gt; &lt;<region county="">&gt; &lt;<country>&gt; &lt;<postalcode>&gt;</postalcode></country></region></town></streetaddress>                                |
| Telephone no:  | << Telephone>>   |
| Email address:   | < <email@example.com>&gt;</email@example.com>  |
| Website URL:   | < <www.example.com>&gt;</www.example.com>  |
| Company registration number:   | < <company number="" registration="">&gt;</company>  |
| Parent Company:  | < <parentorganization>&gt;</parentorganization>  |
| Company Description:   | < <description>&gt;</description>  |
| Type of Company  | Choose an item.  |
| Company Disciplines:   | Choose Discipline.   |
| Business Sectors:  | Choose Sector.   |
| Number of Employees  | < <enter number="">&gt;</enter>  |
| Number of Offices  | << Enter number>>  |
| Office Locations   | < <streetaddress>&gt;, Town/City, &lt;<region county="">&gt;, &lt;<country>&gt;, &lt;<postalcode>&gt; Add more locations by clicking the plus button</postalcode></country></region></streetaddress> |
| Organisation overview A brief overview of the team or department within the business that is providing services relating to BIM. | Please provide an Organisation background  |
| Primary Project Function<br>(Lead Consultant / Contractor or<br>Task Team)   | < <role>&gt;</role>  |
| Organisation overview A brief overview of the team or department within the business that is providing services relating to BIM. |  |

#### 1.1.2 Organisation information / Quality systems

| <b>Business Certifications</b> | ISO standard           | Certification<br>Check | Copy provided<br>Check |
|--------------------------------|------------------------|------------------------|------------------------|
| Information Management         | PAS 1192               |                        |                        |
|                                | ISO 19650              |                        |                        |
| Quality Management System      | ISO 9001               |                        |                        |
|                                | ISO 14001              |                        |                        |
| ICT Security                   | ISO 27001              |                        |                        |
|                                | Cyber Essentials*      |                        |                        |
|                                | Cyber Essentials Plus* |                        |                        |

#### Note

- If the organisation provides ISO 27001 certification, then Sections X, Y and Z of this document do not need to be completed.
- If the organisation provides Cyber Essentials certification, then Sections X, Y and Z of this document do not need to be completed.

### 1.2 Organisation Resources

#### 1.2.1 Individual's Contact Information

Organisations' representative contact information

| Representative name: * | Family Name Given Name Name (Chi)   |  |  |
|------------------------|---|--|--|
| Position in Company:   | JobTitle  |  |  |
| Address:               | < <streetaddress>&gt; &lt;<country>&gt; &lt;<postalcode>&gt;</postalcode></country></streetaddress> |  |  |
| Telephone no: *        | Contact Telephone Number  |  |  |
| Mobile no: *           | Mobile no: * Contact Telephone Number   |  |  |
| Email: *               | Name@example.com  |  |  |

#### 1.2.2 ICT Security responsible person's contact information

| ICT Security responsible person* | Family Name Given Name Name (Chi) |
|----------------------------------|-----------------------------------|
| Telephone no.*                   | Contact Telephone Number          |
| Mobile no.*                      | Contact Telephone Number          |
| Email: *                         | Name@example.com                  |

#### 1.2.3 Human Resources responsible person's contact information

| HR responsible person* | Family Name Given Name Name (Chi) |
|------------------------|-----------------------------------|
| Telephone no.*         | Contact Telephone Number          |
| Mobile no.*            | Contact Telephone Number          |
| Email: *               | Name@example.com                  |

<sup>\*</sup> Please note that these fields could be deemed to be personal under GDPR

#### 1.2.4 Key Organisation Contacts

Please provide details of the key personnel within the organisation relating to BIM /ICT, including Project Leader/ Management / Director, CAD/BIM Director / Manager, IT Director/ Manager etc.

| Organisational<br>Title | Organisational<br>Role | Surname*       | Given<br>Name* | Name<br>(Chi)* | Telephone* | Email* |
|-------------------------|------------------------|----------------|----------------|----------------|------------|--------|
| Job Title               | Role                   | Family<br>Name | Given<br>Name  | Name<br>(Chi)  | Phone      | Email  |
| Job Title               | Role                   | Family<br>Name | Given<br>Name  | Name<br>(Chi)  | Phone      | Email  |
| Job Title               | Role                   | Family<br>Name | Given<br>Name  | Name<br>(Chi)  | Phone      | Email  |
| Job Title               | Role                   | Family<br>Name | Given<br>Name  | Name<br>(Chi)  | Phone      | Email  |
| Job Title               | Role                   | Family<br>Name | Given<br>Name  | Name<br>(Chi)  | Phone      | Email  |
| Job Title               | Role                   | Family<br>Name | Given<br>Name  | Name<br>(Chi)  | Phone      | Email  |

<sup>\*</sup> Please note that these fields could be deemed to be personal under GDPR

#### 1.2.5 CIC BIM Certified Individuals

Please provide details of the individual within the organisation who are CIC Certified BIM Managers or CIC Certified BIM Coordinators.

| Surname* | Given Name* | Name (Chi) | Reg No  | Start Date | End Data |
|----------|-------------|------------|---------|------------|----------|
| Surname  | Given Name  | Name (Chi) | Reg No. | Start Date | End Date |
| Surname  | Given Name  | Name (Chi) | Reg No. | Start Date | End Date |
| Surname  | Given Name  | Name (Chi) | Reg No. | Start Date | End Date |
| Surname  | Given Name  | Name (Chi) | Reg No. | Start Date | End Date |
| Surname  | Given Name  | Name (Chi) | Reg No. | Start Date | End Date |
| Surname  | Given Name  | Name (Chi) | Reg No. | Start Date | End Date |

# 2

### **BIM Capability Questions**

Section 2 provides an opportunity for organisations to explain their general approach to the use and adoption of BIM on projects.

### 2.1 Introductory Questions

#### 2.1.1 General approach to information management standards

| Ref. | Component  | Check |
|------|--|-------|
| G1   | What is your general approach to information management standards relating to CAD/BIM? Please provide details of information formats you deliver, the quality standards involved and the associated workflows and personnel. |       |
|      | Evidence / Expand (if applicable)  |       |

#### 2.1.2 BIM Gateway Questions

Please provide information regarding the organisations approach to sharing information:

| Ref. | Component   | Check |
|------|---|-------|
| G2.1 | Is the organisation willing to exchange native (editable) files? If not, please provide an explanation.   |       |
|      | Evidence / Expand (if applicable)   |       |
| G2.2 | Does the organisation work to any Information standards (CAD / BIM documentation), and if so, what standards are they?  |       |
|      | Evidence / Expand (if applicable)   |       |
| G2.3 | Is the organisation prepared to follow Appointing Party / Client identified standards, methods, and procedures that conflict with their own? If not, please provide an explanation. |       |
|      | Evidence / Expand (if applicable)   |       |
| G2.4 | What measures are in place to ensure compliance with the Information standards, please describe any methods?  |       |
|      | Evidence / Expand (if applicable)   |       |
| G2.5 | Does the organisation understand the level of information need requirements and how to comply with these?   |       |
|      | Evidence / Expand (if applicable)   |       |

#### 2.1.3 General Approach to Information Security

| Ref. | Component  | Check |
|------|--|-------|
| G3   | What is your general approach to information security and a security-minded approach |       |
|      | Evidence / Expand (if applicable)  |       |
|      |  |       |

| Ref. | Component   | Check |
|------|---|-------|
|      | Does the Organisation have an understanding, capability, competence, and experience of delivering a security-minded approach?                         |       |
|      | Evidence / Expand (if applicable)   |       |
|      | If the organisation has and can deliver a security-minded approach, list examples and details of where they have previously met similar requirements? |       |
|      | Evidence / Expand (if applicable)   |       |

### 2.1.4 General approach to modelling

| Ref. | Component  | Check |
|------|--|-------|
| G4   | What is your general approach to drawing and model generation, issuing of information, compliance, and quality management? |       |
|      | Evidence / Expand (if applicable)  |       |

#### 2.1.5 General modelling processes undertaken

| Ref. | Component  | Check |
|------|--|-------|
| G4.1 | Simple 2D (single line elements usually)   |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Advanced 2D (with predefined objects and blocks with properties)                                     |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Simple 3D (geometry only)  |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Advanced object-based modelling (geometry plus properties)   |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Are models all created full size (1 : 1) with accurate dimensions?                                   |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Are CAD /BIM authoring tools used to carry out spatial coordination, and if so, how?                 |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation link, attach, and embed data properties within 2D / 3D models, and if so, how? |       |
|      | Evidence / Expand (if applicable)  |       |

### 2.1.6 BIM Use Experience

| Ref. | Component   | Check |
|------|---|-------|
| G4   | Please list and describe what BIM Services are provided against each of the identified BIM Uses listed using Appendix B |       |
|      | Evidence / Expand (if applicable)   |       |

### 2.2 Information Management Overview

This section is to allow the organisation to demonstrate its approach and capability in working to the concepts and principles of the CIC BIM Standards (General) and collaborative working. The answers should demonstrate the organisations commitment to work collaboratively.

#### 2.2.1 Collaborative Working

| What does the organisation understand by the term 'Collaborative working'? How does it implement it throughout the organisation and projects? |
|---|
| Policy Description.   |
| Supporting Document Name (If there is a supporting document, please attach it for reference)  |

Supporting Document Name (If there is a supporting document, please attach it for reference)
Supporting Document Filename

| Ref. | Component   | Check |
|------|---|-------|
|      | Does the organisation manage its capability for collaborative working, both internally and externally, if it does, how?             |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation manage the ability of its personnel to work collaboratively, both internally and externally, if it does, how? |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation have a documented 'BIM Implementation Strategy' or other such plan or policy for the implementation of BIM?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation sponsor this BIM implementation strategy and if it does, how?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation use collaborative working proportionately to the size of the works, if it does, how?                          |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation incorporate its planning for information delivery in the overall information management process, if so, how?  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation incorporate its delivery of information in the overall information management process, if so, how?            |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation promote increased mutual understanding and trust for genuinely collaborative working, if it does, how?        |       |
|      | Evidence / Expand (if applicable)   |       |

# 2.2.2 Definition of Model requirements and resulting information Models

| How does the organisation ensure that it receives sufficient information requirements to carry out its services? | Check |
|--|-------|
| Answer   |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer                |       |

| Ref. | Component  | Check |
|------|--|-------|
|      | If the organisation also appoints others (i.e., is also an appointing party) does it supplement the EIR it receives with its own needs for Information Exchange? |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Please identify what documents or solutions are provided to disseminate the organisations information requirements?  |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation understand its outputs for the Project Information Model (PIM)?  |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation understand its outputs for the Asset information model (AIM)?  |       |
|      | Evidence / Expand (if applicable)  |       |

### 2.2.3 Goals, objectives, and model uses

| What model uses does the Organisation generally deliver to achieve the typical objectives and goals, or purposes, defined for their projects. | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer   |       |

| Ref. | Component   | Check |
|------|---|-------|
| G4   | Please list and describe the typical model, documentation and other deliverables provides against each of the identified BIM Uses provided by the organisation using Appendix B |       |
|      | Evidence / Expand (if applicable)   |       |

### 2.2.4 Information Delivery Cycle

| How does the organisation progressively plan the delivery of information in strategic terms?      | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer |       |

| Ref. | Component  | Check |
|------|--|-------|
|      | What risk management methods and procedures does the organisation have in place, and does it have a risk register template?  |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation integrate its Quality Management System with its BIM processes and procedures (e.g., ISO 9001), if it does, how?   |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation have in place a risk register management process, and does it have a risk register template, if it does, please reference below?   |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation ensure that the information it receives at the beginning of a project is suitable for its needs? If it does, how?  |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the Organisation include in their internal documentation, Information Management Procedures for the relevant Information Management stages?  (i.e., Tender response, Appointment, Mobilization, Collaborative Production of |       |
|      | Information, Information Delivery and Project Close-out stages).  Evidence / Expand (if applicable)  |       |

### 2.2.5 Project and asset information management functions

| How does the organisation manage its typical project and task information management functions?   | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer |       |

| Ref. | Component  | Check |
|------|--|-------|
|      | Does the organisation ensure that the information management functions it is to undertake are incorporated into their appointments, if it does, how?   |       |
|      | Evidence / Expand (if applicable)  |       |
|      | When the functions assigned to the organisation through the Information Management Function Assignment Matrix, are the activities assigned to people within the organisation, if it does, how? |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation segregate information management functions from design responsibilities, job titles or other professional titles, if it does, how?                                       |       |

| Ref. | Component  | Check |
|------|--|-------|
|      | Evidence / Expand (if applicable)  |       |
|      | Are there any additional functions or activities above those usually carried out by a task team undertaken by the organisation, please list below? |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation coordinate their work with other task teams, including those in other delivery teams, if it does, how?                       |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation manage its information management functions proportionately to the size of the works, if it does, how?                       |       |
|      | Evidence / Expand (if applicable)  |       |

### 2.2.6 Information based collaborative working

| Does the organisation have organisational information standards, methods and procedures documents as are relevant to their role on projects? | Check |
|--|-------|
| Answer   |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer  |       |

|      | o these organisational standards, methods and procedures contain the llowing? |                                   | score |
|------|---|-----------------------------------|-------|
| Ref. | Component   | Evidence / Expand (if applicable) | Check |
|      | File naming conventions   | Evidence / Expand (if applicable) |       |
|      | Status and revision Codes   | Evidence / Expand (if applicable) |       |
|      | Units and precision (including agreed tolerances)                             | Evidence / Expand (if applicable) |       |
|      | Annotation, dimensions, abbreviations, and symbols                            | Evidence / Expand (if applicable) |       |
|      | Properties data   | Evidence / Expand (if applicable) |       |
|      | Layer naming convention   | Evidence / Expand (if applicable) |       |
|      | Drawing sheet, Model splash page, Calculation and Report sheet templates etc. | Evidence / Expand (if applicable) |       |
|      | Object Naming   | Evidence / Expand (if applicable) |       |
|      | Project Origin and orientation  | Evidence / Expand (if applicable) |       |
|      | Federation Strategies (Volumes, Zones)  | Evidence / Expand (if applicable) |       |
|      | Spatial Coordination  | Evidence / Expand (if applicable) |       |
|      | Information Exchange  | Evidence / Expand (if applicable) |       |
|      | Common Data Environment   | Evidence / Expand (if applicable) |       |

### 2.2.7 Information delivery planning

| Does the organisation have processes for developing their BIM Execution Plan or other alternative ways of planning their information delivery, and does it have templates for doing so? | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer   |       |

### 2.2.8 BEP templates

| Do the organisation's BEP templates contain a section and associated guidance notes for the following? |  |       |                                   |
|--|--|-------|-----------------------------------|
| Ref.   | Section  | Check | Evidence / Expand (if applicable) |
|  | Names and CVs/Resumes of personnel undertaking Information Management  |       | Evidence / Expand (if applicable) |
|  | The Delivery Team's information delivery Strategy  |       | Evidence / Expand (if applicable) |
|  | Approach to meeting the EIR  |       | Evidence / Expand (if applicable) |
|  | Goals/Objectives for Collaborative working   |       | Evidence / Expand (if applicable) |
|  | Organisational Structure, including relationships between the task teams   |       | Evidence / Expand (if applicable) |
|  | Federation Strategy  |       | Evidence / Expand (if applicable) |
|  | High-level and Detailed Responsibility Matrices  |       | Evidence / Expand (if applicable) |
|  | Proposed changes to the PIS to facilitate the effective capture, generation, security, and delivery of information |       | Evidence / Expand (if applicable) |
|  | Proposed changes to the PIPMP to facilitate the effective exchange, distribution, and delivery of information      |       | Evidence / Expand (if applicable) |
|  | Schedule of software   |       | Evidence / Expand (if applicable) |

### 2.2.9 The Delivery Team's BEP

| What does the Organisation do to manage and collaborate in preparing the Delivery Team's BIM Execution Plan? |  |       |
|--|--|-------|
| Ref.   | Component  | Check |
|  | Does the organisation assist the Lead Appointing Party to prepare the Delivery Team's Information Delivery Strategy?       |       |
|  | Evidence / Expand (if applicable)  |       |
|  | Does the organisation maintain a Task Information Delivery Plan (TIDP) template, including guidance on how to populate it? |       |
|  | Evidence / Expand (if applicable)  |       |

|      | What does the Organisation do to manage and collaborate in preparing the Delivery Team's BIM Execution Plan?               |       |  |
|------|--|-------|--|
| Ref. | Component  | Check |  |
|      | Does the organisation have a documented process for recording which employees are working on projects?                     |       |  |
|      | Evidence / Expand (if applicable)  |       |  |
|      | Does the organisation incorporate Task Information Delivery Plans when resourcing?   |       |  |
|      | Evidence / Expand (if applicable)  |       |  |
|      | What experience does the organisation have in developing, or inputting into, a federation strategy for information models? |       |  |
|      | Evidence / Expand (if applicable)  |       |  |
|      | How does the organisation manage federation strategy proportionately to the complexity of the project?                     |       |  |
|      | Evidence / Expand (if applicable)  |       |  |
|      | What experience does the organisation have working with, or input into, a Detailed Responsibility Matrix?                  |       |  |
|      | Evidence / Expand (if applicable)  |       |  |

### 2.3 Managing the collaborative production of information

### 2.3.1 Model Progression

| How does the Organisation's model progression manage the levels of information required?          | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer |       |

#### 2.3.2 Level of Information Need

| Ref. | Component   | Check |
|------|---|-------|
|      | To what Level of Information Need definition / specification does the organisation work?  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the Organisation use a different level of information need specification for each deliverable's purpose, if it does, how?  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the Organisation ensure it provides the minimum information to meet the information requirements, if it does, how?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation ensure that the information from imported objects to the organisation modelling outputs does not create excessive information, if it does, how? |       |
|      | Evidence / Expand (if applicable)   | ·     |

### 2.3.3 Information Quality: Information and Delivery Formats

| Please indicate in the table in Appendix A, the information that the Organisation produces typically for projects as well as the software used and list the types and formats of information that it is prepared to share electronically with other project team members. |  |
|---|--|
| Completed schedule in Appendix A  |  |

# 2.3.4 Information Quality: Structure and Classification of information

| Ref. | Component  | Check |
|------|--|-------|
|      | Does the Organisation structure the information model, relating to the purposes/model uses, if it does, how?   |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation structure its graphical, non-graphical, geometric, non-geometric and documentation information appropriately, if it does, how? |       |
|      | Evidence / Expand (if applicable)  |       |

| Ref. | Component   | Check |
|------|---|-------|
|      | Does the organisation integrate these structures of the information models, if so, how?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation structure its information outputs to IFC, if so to which specification?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation structure its information following the COBie schema (if so to which specification), or other industry identified schema and specification?         |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the Organisation use appropriate classification system/s to structure its information related to its purpose/model use, if it does, how?                             |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the Organisation use the appropriate Work Breakdown structure/s (WBS) to structure its information, if it does, what are they?                                       |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the Organisation use the appropriate Container Breakdown structure/s (CBS) to structure its information, if it does, what is it?                                     |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation ensure that the WBS and CBS do not duplicate information contained in metadata from the file/ folder (Container) naming structure, if it does, how? |       |
|      | Evidence / Expand (if applicable)   |       |

### 2.3.5 Information Quality: Properties

| How does the Organisation define property names for metadata?                             | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference) |       |
| Answer  |       |

| Ref. | Component  | Check |
|------|--|-------|
|      | Does the organisation use standard templates for parametric objects?                                       |       |
|      | Evidence / Expand (if applicable)  |       |
|      | If the organisation uses a standard template for parametric objects, what standards does it use?           |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the Organisation use Product Data Templates (PDT) for objects, if so, what specification does it use? |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation have any automatic checking procedures, if it does, what are they?                   |       |
|      | Evidence / Expand (if applicable)  |       |

### 2.4 Common Data Environment (CDE) strategy

### 2.4.1 Approach to using the CDE

| What is the Organisation's model progression strategy, including testing and configuring the CDE, information coordination? | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer                           |       |

| Ref. | Component   | Check |
|------|---|-------|
|      | Does the organisation test the CDE's operation, the project information   |       |
|      | standards and the project information production methods and procedures, before undertaking production of project information, if it does, how? |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation develop its CDE solution for its WIP status information,  |       |
|      | with the typical model progression it undertakes on projects, if it does, how?  |       |
|      | Evidence / Expand (if applicable)   | 1     |
|      | Does the organisation use BIM objects and systems relate to model progression if it does, how?  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation have documented processes for avoiding geometric clashes, if it does, what are they?                                      |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation have documented processes for avoiding other clashes, if it does, what are they?  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation use generic information when modelling, and what information does this contain, if it does, how?                          |       |
|      | Evidence / Expand (if applicable)   |       |

#### 2.4.2 CDE Solution and workflow

| How does the Organisation operate the concept of the CDE in principle terms? Please provide information regarding the use of the Common Data Environment relating to, CDE workflows (standards, methods, and procedures) and CDE solutions used? |  |
|--|--|
| Answer   |  |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  |  |
| Answer   |  |

| Ref. | Component   | Check |
|------|---|-------|
|      | Does the organisation capture the revision and versions of models, information, and documentation, if so, how?  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation capture the suitability of graphical models, non-graphical information, and documentation, if so, how?  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation capture the classification of graphical models, non-graphical information, and documentation, if so, how?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | List the project collaboration or Web-Enabled Document Management Tools has the Organisation used, and note which are their preferred tools? (Please provide any technical or commercial reasons to support the choice) |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation own a CDE solution, e.g., cloud Extranet, EDMS solution (please note vendor and system) and does it provide documented procedures on its use?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the Organisation manage their WIP internally, if offline, from the project CDE solution? Please give details.  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | If the organisation owns a CDE solution, does it provide documented procedures on its use for WIP information, if it does, what are they?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation have a documented check, review, approve process, if so, what is it?  |       |
|      | Evidence / Expand (if applicable)   | 1     |
|      | Does the organisation have a procedure to exchange information to the Shared state of the CDE if offline, if so, what is it?  |       |
|      | Evidence / Expand (if applicable)   | 1     |
|      | Does the organisation integrate with the review/authorize transition if it does, how?   |       |
|      | Evidence / Expand (if applicable)   | 1     |
|      | Does the organisation exchange information to the Published state of the CDE, if offline, if it does, how?  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation have a documented archive process, if so, what is it?   |       |
|      | Evidence / Expand (if applicable)   | 1     |
|      | Does the organisation integrate its solutions and workflows into the project CDE and its distributed solutions, if it does, how?  |       |
|      | Evidence / Expand (if applicable)   |       |



### **Information Technology**

This section of the assessment covers technical information. It is to establish the availability of IT within the Task Team, including, the IT Schedule (Hardware, Software, and IT infrastructure), specification of hardware and the capacity and utilisation management of IT infrastructure; and the Service Level Agreements.

### 3.1 Access for Information Technology

Provide information relating to the following Information Technology systems:

#### **3.1.1** ICT Policy and Management

| Does the organisation have a documented IT policy and or IT management plan that covers all aspects of its IT management? |  |
|---|--|
| Answer  |  |
| Supporting Document Name (If there is a policy statement, please attach it for reference)                                 |  |
| Answer  |  |

| Ref. | Component   | Check |
|------|---|-------|
|      | Does the organisation use external IT support services, if so, what are they?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation have a documented hardware replacement/specification procedure, if so, what is it?  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation have a documented software license strategy, if so, what is it?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the Organisation have a procedure for IT Strategies, Hardware, and Software to be customised to meet project requirements, if so, what is it?                          |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the Organisation manage the IT infrastructure to ensure uninterrupted service during project delivery, if it does, how?  |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Does the organisation have disaster recovery systems, refresh, archiving and backup procedures, if so, what are they?   |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Can the Organisation provide evidence of successful disaster recovery for data that is over five years old within the last six months, if it does, please provide evidence? |       |
|      | Evidence / Expand (if applicable)   |       |
|      | Can the Organisation define the ICT infrastructure that is in place to deliver in a digital environment? If so, please provide a schematic diagram?                         |       |
|      | Evidence / Expand (if applicable)   |       |

#### 3.1.2 ICT Schedule

|   | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference) |       |
| Answer  |       |

#### 3.1.3 ICT infrastructure

| Please indicate in the table in Appendix C, the information listed, for the Organisation's IT Infrastructure. | Check |
|---|-------|
| Completed schedule in Appendix C  |       |

#### 3.1.4 The Organisation's operating systems

| Please indicate in the table in Appendix D, the information listed, for the Organisation's operating systems. | Check |
|---|-------|
| Completed schedule in Appendix D  |       |

#### 3.1.5 IT Software Applications Schedule

| Please indicate in the table in Appendix F, the information listed, for the Organisation's capabilities to transport, transfer and receive data. Include any not listed for which the Organisation is likely to need to transfer data to other team members. | Check |
|--|-------|
| Completed schedule in Appendix F   |       |

#### 3.1.6 Information Deliverables

| What are the Organisation's policies or procedures for the transfer of digital information, and what do they cover? | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)                           |       |
| Answer  |       |

| Ref. | Component   | Check |
|------|---|-------|
|      | Does the Organisation have policies regarding email usage on projects to ensure that all communications via email are controlled to reduce risk? If there is a policy, please describe how this operates. |       |
|      | Evidence / Expand (if applicable)   |       |
|      | When using email on projects, is there is a facility to ensure that urgent emails are rerouted when project personnel are on holiday, for example? If so, please describe.                                |       |
|      | Evidence / Expand (if applicable)   |       |

| Ref. | Component  | Check |
|------|--|-------|
|      | Are there any limitations placed on the Organisation's ability to exchange electronic information by its Professional Indemnity insurers; for example, a requirement to send parallel paper copies of electronic documents, if so, please provide details. |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the Organisation have policies for limiting internet usage? If there is a policy document, please attach for reference.   |       |
|      | Evidence / Expand (if applicable)  |       |

### 3.1.7 Security Systems

| Please summarise the Organisation's Corporate ICT Security policy (Please attach a copy)  | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference) |       |
| Answer  | ı     |

| Ref. | Component  | Check |
|------|--|-------|
|      | Does the Organisation have <i>file encryption software</i> , if so, what is it and what Federal Information Processing Standard (FIPS) security level does it achieve? |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the Organisation have an Anti-virus system that continuously monitors all its incoming and outgoing traffic, if so, what is it?                                   |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the Organisation have <i>Spyware Protection</i> and other covert activity logging systems, if so, what system is it?  |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the Organisation have a firewall system, and what limitations does the firewall place on incoming and outgoing electronic communications? Describe briefly.       |       |
|      | Evidence / Expand (if applicable)  |       |

### 3.2 Organization's Personnel Experience

This section of the assessment covers the relevant capability of the Organisation's personnel in managing information to typical information delivery strategies and producing information to standards methods and procedures using the identified tools.

#### 3.2.1 Personnel Industry Education

| How does the organisation manage its personnel's competence?                                      | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer |       |

| Ref. | Component  | Check |
|------|--|-------|
|      | Does the business have documented records of individual's industry-related qualifications, if so, please explain?                            |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the business have documented records of all individual's professional qualifications if so, please explain?                             |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the business have documented records of individual's Chartership (Professions regulated by a professional body)? if so, please explain? |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the business have documented records of individual's BIM qualifications if so, please explain?  |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the business have documented records of individual's Information Management qualifications if so, please explain?                       |       |
|      | Evidence / Expand (if applicable)  |       |

#### 3.2.2 Organisation experience management

| How does the organisation manage its personnel's individual and team-related experience?          | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer |       |

#### 3.2.3 Skills and Knowledge management

| How does the Organisation manage the individual and group competencies to fulfil the business's Information Management functions? | Check |
|---|-------|
| Answer  |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)   |       |
| Answer  |       |

#### 3.2.4 Training Plan

| Does the organisation have a training plan that enables the individual and group competencies to fulfil the business's Information Management functions? |  |  |  |  |  |
|--|--|--|--|--|--|
| Answer   |  |  |  |  |  |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  |  |  |  |  |  |
| Answer   |  |  |  |  |  |

| Ref. | Component  | Check |
|------|--|-------|
|      | Does the organisation determine the competencies required for their business activities, if so, how?   |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the Organisation determine the employees' competencies, including the skills, knowledge and experience needed for the required competencies, if so, how?                                    |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Are achieving the relevant BIM capabilities for individuals included within personal development reviews (PDR)?  |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation have documented records of personal development reviews (PDR) or plans?  |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the business provide training, including assessment, covering its procedures and Organisational objectives, if so, please expand?   |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation have documented records of individual's software tool training, Information Management training and BIM modelling training including certifications, if so, please expand? |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation arrange internal CPD seminars to updates and refreshers for their personnel for new procedures and to refresh current procedures, if so, please expand?                    |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation arrange external CPD seminars for updates and refreshers for their personnel relating to new technologies, concepts, and principles for BIM, if so please expand?          |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation carry out specific training relating to the capabilities for projects and individual's development plan objectives, if so, please expand?                                  |       |
|      | Evidence / Expand (if applicable)  |       |
|      | Does the organisation ensure their employees complete Organisational, IT and BIM specific Inductions, if so, please expand?  |       |
|      | Evidence / Expand (if applicable)  |       |

#### 3.3 BIM Services and Model Use Capabilities

This section of the assessment covers the proposed BIM Services and Model Use capabilities identified again the CIC Exchange information requirements as set out within Appendix B

### **3.3.1** BIM Uses

| Assessment of the typical model, documentation and other deliverables provided as identified in Appendix B against each of the identified BIM Uses provided by the organisation. |  |  |  |  |
|--|--|--|--|--|
| Answer   |  |  |  |  |
| Appendix B   |  |  |  |  |
| Answer   |  |  |  |  |

### 3.3.2 Personnel Industry / Education

| How does the Organisation record and manage the capabilities required to deliver the services and the associated model uses it offers? | Check |
|--|-------|
| Answer   |       |
| Supporting Document Name (If there is a policy statement, please attach it for reference)  Answer                                      |       |



### **Project Experience**

Please provide details of a minimum of three recent projects using BIM undertaken for reference purposes to demonstrate the capabilities available as identified within this capability assessment.

### 4.1 Case Study 1

Provide details of case study 1

| Project 1                              | Project Case Study |
|--|--------------------|
| Project Title                          | Project Name       |
| Sector                                 | Choose Sector.     |
| Customer/employer                      | Employer           |
| Reference Contact                      | Reference          |
| Supply Chain Lead<br>Design            | Lead Design.       |
| Supply Chain Lead<br>Constructor       | Lead Constructor   |
| Contract type                          | Contract Type      |
| Project value                          | currency#,000,000  |
| Project Stage(s)                       | Project Stage(s)   |
| Contract duration                      | #0 unit            |
| Scope of                               | Describe scope     |
| information                            |                    |
| management roles                       |                    |
| and services                           |                    |
| Benefits realised by                   | Describe benefits  |
| information                            |                    |
| management                             |                    |
| Lessons learned regarding this project |                    |

# 4.2 Case Study 2

Provide details of case study 2

| Project 2            | Project Case Study            |
|----------------------|-------------------------------|
| Project Title        | Project Name                  |
| Sector               | Choose Sector.                |
| Customer/employer    | Employer                      |
| Reference Contact    | Reference                     |
| Supply Chain Lead    | Supply Chain Lead Design      |
| Design               |                               |
| Supply Chain Lead    | Supply Chain Lead Constructor |
| Constructor          |                               |
| Contract type        | Contract Type                 |
| Project value        | £#,000,000                    |
| Project Stage(s)     | Project Stage(s)              |
| Contract duration    | #0 unit                       |
| Scope of             | Describe scope                |
| information          |                               |
| management roles     |                               |
| and services         |                               |
| Benefits realised by | Describe benefits             |
| information          |                               |
| management           |                               |
| Lessons learned      |                               |
| regarding this       |                               |
| project              |                               |
|                      |                               |

# 4.3 Case study 3

Provide details of case study 3

| Project 3                                   | Project Case Study            |
|---|-------------------------------|
| Project Title                               | Project Name                  |
| Sector                                      | Choose Sector.                |
| Customer/employer                           | Employer                      |
| Reference Contact                           | Reference                     |
| Supply Chain Lead<br>Design                 | Supply Chain Lead Design      |
| Supply Chain Lead<br>Constructor            | Supply Chain Lead Constructor |
| Contract type                               | Contract Type                 |
| Project value                               | \$#,000,000                   |
| Project Stage(s)                            | Project Stage(s)              |
| Contract duration                           | #0 unit                       |
| Scope of                                    |                               |
| information                                 |                               |
| management roles                            |                               |
| and services                                |                               |
| BIM Uses                                    |                               |
| undertaken                                  |                               |
|   |                               |
| Benefits realised by information management |                               |

# **Appendix A Schedule of Deliverables**

| Information production |                        |                     |                                  | Information sharing and reuse     |                    |                      |                    |                                       |  |  |  |                      |  |
|------------------------|------------------------|---------------------|----------------------------------|-----------------------------------|--------------------|----------------------|--------------------|---------------------------------------|--|--|--|----------------------|--|
| Information type       | Project<br>Deliverable | issued<br>digitally | Software used from<br>Appendix D | Delivery (Non editable<br>format) |                    |                      |                    | Preferred digital distribution format |  |  |  | Will permit<br>reuse | Limitations on reuse by other team members |
|                        | Y/N                    | Y/N                 | Software Used                    | File Format                       | Version /<br>Build | Exchange File Format | Version /<br>Build | Y/N                                   |  |  |  |                      |  |
| Animation file         |                        |                     |                                  |                                   |                    |                      |                    |                                       |  |  |  |                      |  |
| Bill of quantities     |                        |                     |                                  |                                   |                    |                      |                    |                                       |  |  |  |                      |  |
| Calculation            |                        |                     |                                  |                                   |                    |                      |                    |                                       |  |  |  |                      |  |
| Combined model         |                        |                     |                                  |                                   |                    |                      |                    |                                       |  |  |  |                      |  |
| Correspondence         |                        |                     |                                  |                                   |                    |                      |                    |                                       |  |  |  |                      |  |
| Cost Plan              |                        |                     |                                  |                                   |                    |                      |                    |                                       |  |  |  |                      |  |
| Clash Rendition        |                        |                     |                                  |                                   |                    |                      |                    |                                       |  |  |  |                      |  |
| Database               |                        |                     |                                  |                                   |                    |                      |                    |                                       |  |  |  |                      |  |
| Drawing<br>Rendition   |                        |                     |                                  |                                   |                    |                      |                    |                                       |  |  |  |                      |  |
| File Note              |                        |                     |                                  |                                   |                    |                      |                    |                                       |  |  |  |                      |  |

| Information production      |                        |                     |                                  | Information sharing and reuse |                      |                                       |                    |                      |  |
|-----------------------------|------------------------|---------------------|----------------------------------|-------------------------------|----------------------|---------------------------------------|--------------------|----------------------|--|
| Information type            | Project<br>Deliverable | issued<br>digitally | Software used from<br>Appendix D |                               | Non editable<br>mat) | Preferred digital distribution format |                    | Will permit<br>reuse | Limitations on reuse by other team members |
|                             | Y/N                    | Y/N                 | Software Used                    | File Format                   | Version /<br>Build   | Exchange File<br>Format               | Version /<br>Build | Y /N                 |  |
| Health & Safety             |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| Information exchange file   |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| 2D Model                    |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| 3D Model                    |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| Minutes/ Action notes       |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| Model Renditions            |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| Method<br>Statements        |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| Presentation                |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| Programmes                  |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| Room Data<br>Sheets         |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| Requests for<br>Information |                        |                     |                                  |                               |                      |                                       |                    |                      |  |
| Reports                     |                        |                     |                                  |                               |                      |                                       |                    |                      |  |

| Information prod         | uction                 | Information distribution |   |             |                    |                      |                    |                       | Information sharing and reuse         |  |  |
|--------------------------|------------------------|--------------------------|---|-------------|--------------------|----------------------|--------------------|-----------------------|---------------------------------------|--|--|
| Information type         | Project<br>Deliverable | issued<br>digitally      | Software used from Delivery (Non editable Appendix D format)  Preferred digital distribution format |             |                    |                      |                    |                       | Preferred digital distribution format |  | Limitations on reuse by other team members |
|                          | Y/N                    | Y/N                      | Software Used   | File Format | Version /<br>Build | Exchange File Format | Version /<br>Build | Will permit<br>Freuse |                                       |  |  |
| Schedule of accomodation |                        |                          |   |             |                    |                      |                    |                       |                                       |  |  |
| Schedule                 |                        |                          |   |             |                    |                      |                    |                       |                                       |  |  |
| Snagging List            |                        |                          |   |             |                    |                      |                    |                       |                                       |  |  |
| Specification            |                        |                          |   |             |                    |                      |                    |                       |                                       |  |  |
| Survey                   |                        |                          |   |             |                    |                      |                    |                       |                                       |  |  |
| Visualisation            |                        |                          |   |             |                    |                      |                    |                       |                                       |  |  |
| Other                    |                        |                          |   |             |                    |                      |                    |                       |                                       |  |  |
| Other                    | $\boxtimes$            |                          |   |             |                    |                      |                    |                       |                                       |  |  |

## Appendix B BIM Uses, deliverables and format provided

| organ | isation  | al model, documentation and other deliverables provides against each of the i wings, 3D models, schedules etc | dentified BIM Uses provided by the |
|-------|--|---|------------------------------------|
| Ref.  | BIM Use  | Information Types delivered. (In accordance with Appendix A)  |                                    |
| 1     | Design Authoring                                 |   |                                    |
| 2     | Design Reviews                                   |   |                                    |
| 3     | Drawing<br>Generation<br>(Drawing<br>Production) |   |                                    |
| 4     | Existing<br>Conditions<br>Modelling              |   |                                    |
| 5     | Sustainability<br>Evaluation                     |   |                                    |
| 6     | Site Analysis                                    |   |                                    |
| 7     | Space<br>Programming                             |   |                                    |
| 8     | Cost Estimation                                  |   |                                    |
| 9     | Spatial<br>Coordination                          |   |                                    |
| 10    | Engineering<br>Analysis                          |   |                                    |
| 11    | Facility Energy<br>Analysis                      |   |                                    |
| 12    | Building Code<br>Checking and<br>Validation      |   |                                    |

| Please   | e list and describe the  | typica | al model, documentation and other deliverables provides against each of the ide                    | entified BIM Uses provided by the                                  |  |  |  |  |  |  |
|----------|--|--------|--|--|--|--|--|--|--|--|
| _        | isation  |        |  |  |  |  |  |  |  |  |
| List exa | List example deliverables ush as 2D drawings, 3D models, schedules etc |        |  |  |  |  |  |  |  |  |
| Ref.     | BIM Use  | Y/N    | Identify typical organisation services and deliverables created and provided against each BIM use. | Information Types delivered.<br>(In accordance with<br>Appendix A) |  |  |  |  |  |  |
| 13       | Phase Planning<br>(4D Modelling)                                       |        |  |  |  |  |  |  |  |  |
| 14       | Digital Fabrication  |        |  |  |  |  |  |  |  |  |
| 15       | Site Utilisation Planning  |        |  |  |  |  |  |  |  |  |
| 16       | 3D Control and<br>Planning   |        |  |  |  |  |  |  |  |  |
| 17       | 3D Construction<br>Coordination  |        |  |  |  |  |  |  |  |  |
| 18       | Construction System Design   |        |  |  |  |  |  |  |  |  |
| 19       | Construction<br>Quality<br>Management                                  |        |  |  |  |  |  |  |  |  |
| 20       | As-Built Modelling   |        |  |  |  |  |  |  |  |  |
| 21       | Maintenance<br>Scheduling  |        |  |  |  |  |  |  |  |  |
| 22       | Project Systems<br>Analysis  |        |  |  |  |  |  |  |  |  |
| 23       | Space<br>Management and<br>Tracking                                    |        |  |  |  |  |  |  |  |  |
| 24       | Asset<br>Management  |        |  |  |  |  |  |  |  |  |
| 25       | Sales and<br>Marketing   |        |  |  |  |  |  |  |  |  |
| 26       | Heritage<br>Information<br>Modelling                                   |        |  |  |  |  |  |  |  |  |

# **Appendix C ICT Schedule – IT Infrastructure**

| Infrastructure item   | Description | Service level agreements Organisation's provider |
|---|-------------|--|
| Local Area Network  |             |  |
| Wide Area network   |             |  |
| Internet Connection Type and speed for the main office. advise number of users accessing the connection                 |             |  |
| Internet Connection Type and speed for regional office (if applicable). Advise number of users accessing the connection |             |  |
| Internet Connection type and speed for local offices (if applicable). Advise number of users accessing the connection   |             |  |
| Video Conference / Web meeting  |             |  |
| Guest Computer Hosting Facilities Including wireless internet access  |             |  |
| Extranet / Collaboration tools  |             |  |
| FTP File Transfer Protocol  |             |  |
| Wide Format printing / Scanning<br>A2 or above  |             |  |
| Narrow Format printing / Scanning<br>A4/A3  |             |  |
| Presentation facilities   |             |  |

# **Appendix D ICT Schedule – Operating Systems Schedule**

| Operating system application   | Software vendor | Package  | Version  | Build | Maintenance<br>agreement (Y/N) |
|--------------------------------|-----------------|----------|----------|-------|--------------------------------|
| Workstations Operating Systems | Vendor          | Package. | Version. | Build |                                |
| Laptop Operating Systems       | Vendor          | Package. | Version. | Build |                                |
| Tablet Operating Systems       | Vendor          | Package. | Version. | Build |                                |
| Mobile Operating Systems       | Vendor          | Package. | Version. | Build |                                |

## **Appendix E ICT Schedule - Software Applications Schedule**

| Software application | Software vendor | Package | Version | Build | Maintenance agreement (Y/N) |
|----------------------|-----------------|---------|---------|-------|-----------------------------|
| Word Processing*     |                 |         |         |       |                             |
| Spreadsheet*         |                 |         |         |       |                             |
| PDF Reader*          |                 |         |         |       |                             |
| PDF Writer           |                 |         |         |       |                             |
| Graphics             |                 |         |         |       |                             |
| Design Software*     |                 |         |         |       |                             |
| Presentation         |                 |         |         |       |                             |
| CAD Viewer*          |                 |         |         |       |                             |
| Analysis Software    |                 |         |         |       |                             |
| Process Mapping      |                 |         |         |       |                             |
| Document Management  |                 |         |         |       |                             |
| WIP management       |                 |         |         |       |                             |
| Video Editing        |                 |         |         |       |                             |
| Desktop Publishing   |                 |         |         |       |                             |
| Database             |                 |         |         |       |                             |

| Software application | Software vendor | Package | Version | Build | Maintenance agreement (Y/N) |
|----------------------|-----------------|---------|---------|-------|-----------------------------|
|                      |                 |         |         |       |                             |
|                      |                 |         |         |       |                             |
|                      |                 |         |         |       |                             |
|                      |                 |         |         |       |                             |
|                      |                 |         |         |       |                             |
|                      |                 |         |         |       |                             |

Add more applications as necessary in the blank rows.

\* Required applications

# **Appendix F** Information Transport Capabilities Schedule

| Transport<br>media | Write or send | Read<br>or<br>receive | Transport media | description |       | Maximum file size and other limitations |
|--------------------|---------------|-----------------------|-----------------|-------------|-------|---|
|                    | Y/N           | Y/N                   | Vendor          | Package     | Build |   |
| Email              |               |                       |                 |             |       |   |
| FTP                |               |                       |                 |             |       |   |
|                    |               |                       |                 |             |       |   |
|                    |               |                       |                 |             |       |   |
|                    |               |                       |                 |             |       |   |
|                    |               |                       |                 |             |       |   |
|                    |               |                       |                 |             |       |   |
|                    |               |                       |                 |             |       |   |
|                    |               |                       |                 |             |       |   |

Add more applications as necessary in the blank rows

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#### **BIM Capability Summary**

#### **Project Details**

Project Name Project Number Client

| Company Name | Primary Project Function |
|--------------|--------------------------|
| Company 1    | Architect                |
| Company 2    | Structural Engineer      |
| Company 3    | Mechanical Engineer      |
| Company 4    | Landscape                |
| Company 5    | Interior Designer        |
| Company 6    | Civil Engineer           |

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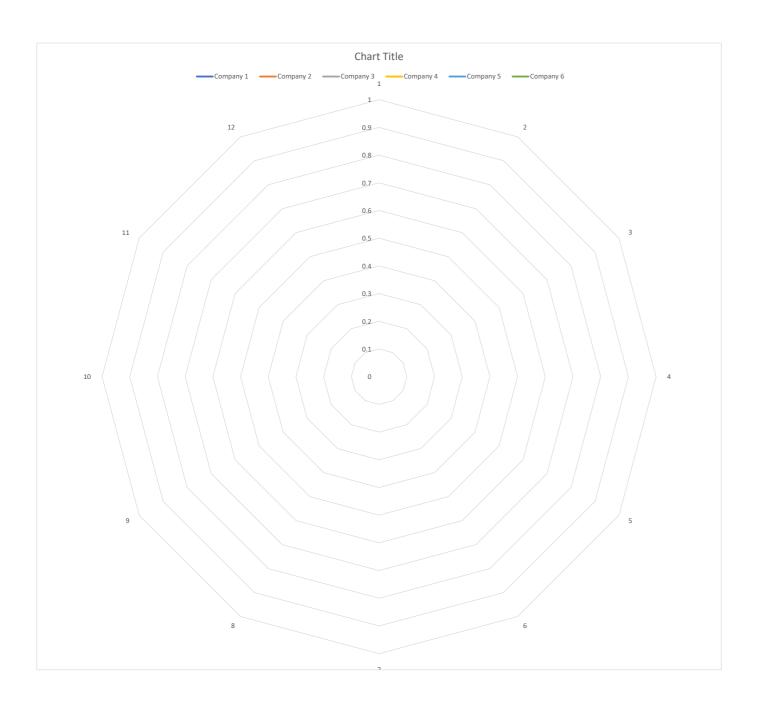
|       |  | BIM C     | Capability Asses | BIM Capability Assessment Summary  Score result for each Tack Team to be recorded here  Description  Delivery Team |           |           |           |  |  |  |  |  |  |  |  |  |
|-------|--|-----------|------------------|--|-----------|-----------|-----------|--|--|--|--|--|--|--|--|--|
|       | Description  |           |                  | Deliver  |           |           |           |  |  |  |  |  |  |  |  |  |
| ID    | Assessment Type  | Company 1 | Company 2        | Company 3  | Company 4 | Company 5 | Company 6 |  |  |  |  |  |  |  |  |  |
| 1     | Organisation Overview                                    | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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| 1.10  | General Information                                      | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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| 1.1.1 | Business's Contact Information                           | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
|       |  |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
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| 0.0.2 | Organisation information / Quality systems               | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 1.20  | Organisation Resources                                   | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 1.20  |  | Ŭ         | Ü                | ·  | · ·       | Ü         | Ü         |  |  |  |  |  |  |  |  |  |
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|       |  |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
| 1.2.1 | Individual's Contact Information                         | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
|       |  |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
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| 1 2 2 | ICT Security responsible person's contact information    | 0         | 0                | 0  |           | 0         |           |  |  |  |  |  |  |  |  |  |
| 1.2.2 |  | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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|       | Human Resources responsible person's contact             |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
| 1.2.3 | information  | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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| 1.2.4 | Key Organisation Contacts                                | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
|       |  |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
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| 125   | CIC BIM Certified Individuals                            | _         |                  |  |           | •         |           |  |  |  |  |  |  |  |  |  |
| 1.2.5 | BIM Capability Questions                                 | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
|       |  |           | 1                |  |           |           |           |  |  |  |  |  |  |  |  |  |
| 2.10  | Introductory Questions                                   | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
|       |  |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
|       | General approach to information management               |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
| 2.1.1 | standards  | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.1.1 | Startage   | ·         |                  |  |           |           | ·         |  |  |  |  |  |  |  |  |  |
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| 2.1.2 | BIM Gateway Questions                                    | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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| 2.1.3 | General Approach to Information Security                 | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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| 2.1.4 | General approach to modelling                            | 0         |                  | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.1.4 | deficial approach to modelling                           | 0         | 0                | U  | U         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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| 2.1.5 | General modelling processes undertaken                   | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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| -     | BIM Use Experience                                       | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.20  | Information Management Overview                          | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.2.1 | Collaborative Working                                    | 0         |                  | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.2.2 | Definition of Model requirements and resulting           | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.2.3 | Goals, objectives and model uses                         | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.2.4 | Information Delivery Cycle                               | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
|       |  |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
|       | Project and asset information management                 |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
| 2.2.5 | functions  | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.2.6 | Information based collaborative working                  | 0         | 0                |  | 0         |           | 0         |  |  |  |  |  |  |  |  |  |
| 2.2.7 | Information delivery planning                            | 0         |                  | 0  |           | 0         |           |  |  |  |  |  |  |  |  |  |
| 2.2.8 | BEP templates  | 0         |                  | 0  |           | 0         |           |  |  |  |  |  |  |  |  |  |
| 2.2.9 | The Delivery Team's BEP                                  | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.30  | Managing Collaborative production                        | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.3.1 | Model Progression  | 0         |                  |  |           | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.3.2 | Level of Information Need                                | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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|       | Information Couling Inf                                  |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
| 222   | Information Quality: Information and Delivery<br>Formats |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
| 2.3.3 | Torniacs   | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
|       |  |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
|       | Information Quality: Structure and Classification        |           |                  |  |           |           |           |  |  |  |  |  |  |  |  |  |
| 2.3.4 | of information   | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.3.5 | Information Quality: Properties                          | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 2.40  | Common Data Environment Strategy                         | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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| 2.4.1 | Approach to using the CDE                                | 0         |                  |  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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| 2.4.2 | CDE Solution and workflow                                | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 5     | Information Technology                                   | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
| 3.10  | Access for Information Technology                        | 0         | 0                | 0  | 0         | 0         | 0         |  |  |  |  |  |  |  |  |  |
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#### BIM Competency scoring criteria

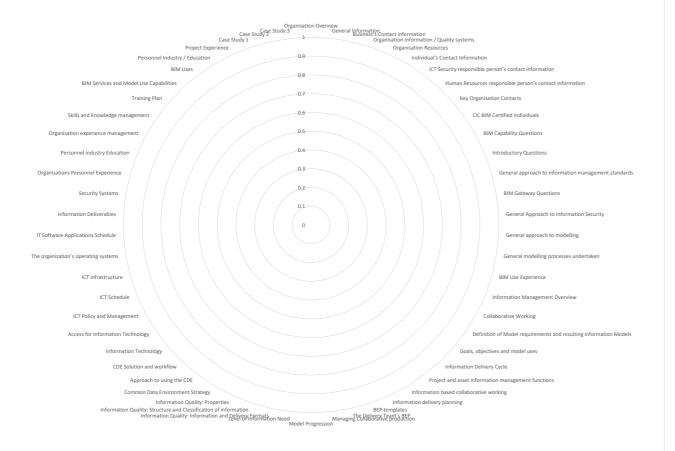
|                                  | Assessment Rating Criteria                 |                                    |  |  |   |  |   |   |   |   |
|----------------------------------|--|------------------------------------|--|--|---|--|---|---|---|---|
| Score 0                          | Score 1                                    | Score 2                            | Score 3                                | Score 4                                | Score 5                                       | Score 6  | Score 7   | Score 8   | Score 9   | Score 10  |
| No Information                   | Initial Information                        | Some Information                   | basic information                      | basic information                      | Documentation Complete                        | Adequate response with some supporting evidence                        | Good response with some supporting evidence                         | Good Response with full supporting evidence                               | Response Excellent and Evidence Complete                              | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification                           |
| No Information                   | Initial Information                        | Some Information                   | basic information                      | basic information                      | Documentation Complete                        | Adequate response with some supporting evidence                        | Good response with some supporting evidence                         | Good Response with full supporting evidence                               | Response Excellent and Evidence Complete                              | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification                           |
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|                                  | Initial Information                        | Some Information                   | basic information                      | basic information                      | Documentation Complete                        | Adequate response with some supporting evidence                        | Good response with some supporting evidence                         | Good Response with full supporting evidence                               | Response Excellent and Evidence Complete                              | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification                           |
| No Information                   | Initial Information                        | Some Information                   | basic information                      | basic information                      | Documentation Complete                        | Adequate response with some supporting evidence                        | Good response with some supporting evidence                         | Good Response with full supporting evidence                               | Response Excellent and Evidence Complete                              | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification                           |
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| 312   | ICT Schedule                            | 0 | 0 | 0 | 0 | 0 | 0 |
|-------|---|---|---|---|---|---|---|
|       | ICT infrastructure                      | 0 | 0 | 0 | 0 | 0 | 0 |
|       | The organization's operating systems    | 0 | 0 | 0 | 0 | 0 | 0 |
|       | IT Software Applications Schedule       | 0 | 0 | 0 | 0 | 0 | 0 |
|       | Information Deliverables                | 0 | 0 | 0 | 0 | 0 | 0 |
|       |   | 0 |   | 0 |   |   | 0 |
|       | Security Systems                        | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.20  | Organisations Personnel Experience      | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.2.1 | Personnel Industry Education            | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.2.2 | Organisation experience management      | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.2.3 | Skills and Knowledge management         | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.2.4 | Training Plan                           | 0 | 0 | 0 | 0 | 0 | 0 |
|       | BIM Services and Model Use Capabilities | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.3.1 | BIM Uses                                | 0 | 0 | 0 | 0 | 0 | 0 |
|       | Personnel Industry / Education          | 0 | 0 | 0 | 0 | 0 | 0 |
| 4     | Project Experience                      | 0 | 0 | 0 | 0 | 0 | 0 |
| 4.10  | Case Study 1                            | 0 | 0 | 0 | 0 | 0 | 0 |
| 4.20  | Case Study 2                            | 0 | 0 | 0 | 0 | 0 | 0 |
|       | Case Study 3                            |   |   |   |   |   |   |

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| No Information | Initial Information   | Some Information    | basic information      | basic information      | Documentation Complete | some supporting evidence                           | supporting evidence                            | supporting evidence                         | Evidence Complete                           | 3rd Party Certification   |
| No Information | Initial Information   | Some Information    | basic information      | basic information      | Documentation Complete | Adequate response with some supporting evidence    | Good response with some supporting evidence    | Good Response with full supporting evidence | Response Excellent and Evidence Complete    | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |
| No Information | Initial Information   | Some Information    | basic information      | basic information      | Documentation Complete | Adequate response with some supporting evidence    | Good response with some supporting evidence    | Good Response with full supporting evidence | Response Excellent and Evidence Complete    | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |
|                |                       |                     |                        |                        |                        |  |  |   |   |   |
| No Information | Initial Information   | Some Information    | basic information      | basic information      | Documentation Complete | Adequate response with some supporting evidence    | Good response with some supporting evidence    | Good Response with full supporting evidence | Response Excellent and<br>Evidence Complete | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |
| No Information | Initial Information   | Some Information    | basic information      | basic information      | Documentation Complete | Adequate response with some supporting evidence    | Good response with some supporting evidence    | Good Response with full supporting evidence | Response Excellent and Evidence Complete    | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |
| No Information | Initial Information   | Some Information    | basic information      | basic information      | Documentation Complete | Adequate response with some supporting evidence    | Good response with some supporting evidence    | Good Response with full supporting evidence | Response Excellent and Evidence Complete    | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |
| No Information | Initial Information   | Some Information    | basic information      | basic information      | Documentation Complete | Adequate response with some supporting evidence    | Good response with some supporting evidence    | Good Response with full supporting evidence | Response Excellent and Evidence Complete    | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |
|                |                       |                     |                        |                        |                        |  |  |   |   |   |
| No Information | Initial Information   | Some Information    | basic information      | basic information      | Documentation Complete | Adequate response with some supporting evidence    | Good response with some supporting evidence    | Good Response with full supporting evidence | Response Excellent and Evidence Complete    | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |
| No Information | Initial Information   | Some Information    | basic information      | basic information      | Documentation Complete | Adequate response with some supporting evidence    | Good response with some supporting evidence    | Good Response with full supporting evidence | Response Excellent and Evidence Complete    | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |
|                |                       | Ī                   |                        |                        |                        |  |  |   | i.  |   |
| None           | Documentation Started | Documented complete | Implementation started | Implementation started | Implementation started | Response good                                      | Implementation Complete                        |   | Response Excellent and Evidence Complete    | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |
| None           | Documentation Started | Documented complete | Implementation started | Implementation started | Implementation started | Response good                                      | Implementation Complete                        |   | Response Excellent and<br>Evidence Complete | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |
| None           | Documentation Started | Documented complete | Implementation started | Implementation started | Implementation started | Response good                                      | Implementation Complete                        |   | Response Excellent and<br>Evidence Complete | Response Excellent and<br>Evidence Complete with<br>3rd Party Certification |







|                           |                 |         |               |                 | ς             | chedule of S    | Software Us   | ۵               |               |                 |               |                 |               |                 |
|---------------------------|-----------------|---------|---------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
|                           | Delive          | ry Team | Company 1     |                 | Company 2     | l               | Company 3     |                 | Company 4     | I               | Company 5     | I               | Company 6     |                 |
| Information Types         | Software agreed |         | Software Used | Version / Build |
| Animation file            |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Bill of quantities        |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Calculation               |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Combined model            |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Correspondence            |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Cost plan                 |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Clash rendition           |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Database                  |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Drawing rendition         |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| File note                 |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Health and safety         |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Information exchange file |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| 2D model                  |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| 3D model                  |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Minutes / action notes    |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Model renditions          |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Method statement          |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Presentation              |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Programme                 |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Room data sheet           |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Request for information   |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Report                    |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Schedule of accommodation |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Schedule                  |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Snagging list             |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Specification             |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Survey                    |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |
| Visualisation             |                 |         |               |                 |               |                 |               |                 |               |                 |               |                 |               |                 |

|   | Dun's        |                 | C1         |                 | C          | chedule of I    |            | T               | C          | 1               | C          | T               | C          | 1               |
|---|--------------|-----------------|------------|-----------------|------------|-----------------|------------|-----------------|------------|-----------------|------------|-----------------|------------|-----------------|
|   |              | ct Agreed       | Company 1  |                 | Company 2  |                 | Company 3  |                 | Company 4  |                 | Company 5  |                 | Company 6  |                 |
| Information Types   | Requirements | Version / Build | Capability | Version / Build |
| Local Area Network  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Wide Area network   |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Internet Connection   |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Type and speed for the main office. advise number of users accessing the connection |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Internet Connection   |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Type and speed for regional office (if  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| applicable). Advise number of users<br>accessing the connection                     |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Internet Connection   |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| type and speed for local offices (if  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| applicable). Advise number of users accessing the connection                        |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Video Conference / Web  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| meeting   |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Guest Computer Hosting  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Facilities  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Including wireless internet access  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Extranet / Collaboration tools  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| FTP File Transfer Protocol  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Wide Format printing /  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Scanning A2 or above  |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
|   |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |
| Narrow Format printing /<br>Scanning A4/A3<br>Presentation facilities               |              |                 |            |                 |            |                 |            |                 |            |                 |            |                 |            |                 |



(with Hong Kong 'Local Annex' of ISO 19650-2:2018)

**Version 2.1 - 2021** 

| Proj | ect I | <b>Mem</b> l | ber | Résu | ımé |
|------|-------|--------------|-----|------|-----|
|------|-------|--------------|-----|------|-----|

| Organisation:     |       |
|-------------------|-------|
| Location / Office |       |
| Surname Name:     |       |
| Given Name        | Image |
| Name (Chi)        |       |
| Title:            |       |
| Project Function: |       |

### Professional membership held:

| Date | Professional membership | Evidence |
|------|-------------------------|----------|
|      |                         |          |
|      |                         |          |
|      |                         |          |

### BIM Certification held:

| Date | BIM Certification | Evidence |
|------|-------------------|----------|
|      |                   |          |
|      |                   |          |
|      |                   |          |

### Qualifications held:

| Date | Qualification | Evidence |
|------|---------------|----------|
|      |               |          |
|      |               |          |
|      |               |          |

### Education:

| Date | Description | Outcome |
|------|-------------|---------|
|      |             |         |
|      |             |         |
|      |             |         |

## Key Experience

Software Training and ability:

| Vendor | Package | Version | Training | Qualification /<br>Level |
|--------|---------|---------|----------|--------------------------|
|        |         |         |          |                          |
|        |         |         |          |                          |
|        |         |         |          |                          |
|        |         |         |          |                          |

## Relevant Project Experience

| Project 1 Name       | Project Role / Function |
|----------------------|-------------------------|
|                      |                         |
| Detailed Description |                         |
| -                    |                         |
| Project 2 Name       | Project Role / Function |
|                      |                         |
| Detailed Description |                         |
|                      |                         |
| Project 3 Name       | Project Role / Function |
|                      |                         |
| Detailed Description |                         |
|                      |                         |

| Other Roles / | Relevant | experience |
|---------------|----------|------------|
|---------------|----------|------------|

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