**Digital
Engineering
Series**



**DE3T1: BIM Execution Plan Pre-contract Template**

BIM Execution Plan Pre-contract Template

CIBSE DE3T1: 2016

The Chartered Institution of Building Services Engineers

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# Foreword

This template is intended for those that generate, complete and review BIM Execution Plans (BEPs). It is based on PAS 1192-2:2013 and provides guidance to users of BEPs as to how information may be sought, generated and reviewed, so as to add value to the employer.

It is not intended to be an exhaustive or definitive document and it will be necessary for users of the guidance given to exercise their own professional judgement when deciding whether to abide by or depart from it.

The concept of the BIM Execution Plan is that it is a response to an Employer’s Information Requirements document (EIR), setting out the proposals for how a project can be delivered digitally.

For the writers of BIM Execution Plans, it is important to understand what your employer, or prospective employer, needs to know and what they will understand from your responses. It is important to give clear and concise answers to the EIR and that these are verified by including examples, certificates and other supporting documentation.

The BEP process is there to make the information exchanges between the design teams, construction teams and their employer predictable and well defined, using formats that are interoperable between the various software platforms used.

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# Introduction

The BIM Execution Plan (BEP) is, in the main, the design and construction teams’ response to the Employer’s Information Requirements. There are other requirements for further information to go into a BEP and these are detailed below.

There are two distinct flavours of BEP; pre-contract and post-contract. This is not a divide between the consultants and the contractors, but between bidding for the project and winning it.

The authoring of the BEP should be a collaborative effort between all team members. The pre-contract BEP may have to be written by the architect or principal contractor only, as commonly they are the ones bidding directly for a project and other design team members may not yet be on board.

The pre-contract BEP should form the basis of the post-contract BEP. The base information requirements of the pre-contract BEP are all in the post-contract one. So this should help to reduce the writing overhead for this task.

The contents of the pre-contract BEP are defined in PAS 1192-2 as follows:

“The contents of the pre-contract BEP shall consist of everything requested in the EIR plus the following information:

1. the project implementation plan (PIP) – see 6.3;
2. project goals for collaboration and information modelling;
3. major project milestones consistent with the project programme; and
4. project information model (PIM) deliverable strategy (for example the CIC Schedule).”

# Scope

This guidance note is intended for those that write BIM Execution Plans, with particular emphasis on the requirements relating to the Building Services aspects.

This has been written in reference to PAS 1192-2:2013 and should be read in conjunction with this freely available document.

This guidance note is not intended to be an exhaustive treatise on BEPs, but a useful guide. Each project will have a unique set of circumstances that need to be addressed and these should be considered at the BEP stage, as far as this is possible or practical.

# Use of this Template

This template is intended for use on any project that requires BIM Level 2. This template is based on the guidance provided by CIBSE and others and is intended to reflect the requirements as set out in the project Employer’s Information Requirements (EIR) document.

Many of the tables have generic data added, these may be added to or removed as the project requires.

The requirement here is for a matrix of names of those authorised to approve various document and model types. Information will be required about who the authoriser is, for whom they work and what their position is within that company.

The next set of columns in the matrix should list out the deliverable types, be they drawings, models, specifications or in some other form.

A check mark can be placed in each box, as appropriate, to denote that this person is authorised by their company quality assurance procedure to sign-off issue of this type of file.

This matrix may be used in the common data environment to give permissions to approve files uploaded there.

# Project information

Employer provided project details and reference information that is available to the project team to assist in preparing their tender information.

| Ref: | Information  | Response  |
| --- | --- | --- |
| 1.1 | **Project Name** |  |
| 1.2 | **Project Reference** |  |
| 1.3 | **Address line 1**  |  |
| 1.4 | **Address line 2** |  |
| 1.5 | **Address line 3** |  |
| 1.6 | **Town** |  |
| 1.7 | **County** |  |
| 1.8 | **Post code** |  |
| 1.9 | **Survey Point** |  |
| 1.10 | **Project Base Point** |  |
| 1.11 | **Attached Information** |  |

Table 1 – Project information

# Information required by the EIR

## Technical

Employer may ask for specific technical requirements or ask the tendering team to propose solutions.

| Ref: | Information required | Question | Req’d | Response or Document Reference |
| --- | --- | --- | --- | --- |
| 2.1.1 | **Software Platforms** | 2.1.1 – Modelling | Choose an item. |  |
| 2.1.2 – Clash Rendition | Choose an item. |  |
| 2.1.2 | **Data Exchange Format** | 2.2.1 – Documents | Choose an item. |  |
| 2.2.2 – Models | Choose an item. |  |
| 2.2.3 – Data | Choose an item. |  |
| 2.1.3 | **Training** | 2.3.1 – CDE | Choose an item. |  |
| 2.3.2 – Model Viewer | Choose an item. |  |
| 2.3.3 – Data Viewer | Choose an item. |  |

Table 2.1 – Technical

## Levels of definition

Employer may ask for specific levels of definition for constructed aspects at each project stage, or ask for the tendering team to propose levels. The list of constructed aspects (systems) below is illustrative and should be customised to suit project requirements.

| System | Owner  | Stage 1 | Stage 2 | Stage 3 | Stage 4 | Stage 5 | Stage 6 | Stage 7 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| LoD | LoI | LoD | LoI | LoD | LoI | LoD | LoI | LoD | LoI | LoD | LoI | LoD | LoI |
| Rooms | **Architect** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Walls External | **Architect** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Walls Internal | **Architect** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Floors | **Architect** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Roofs | **Architect** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Columns | **Structures** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Beams | **Structures** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Slabs | **Structures** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ventilation | **Services** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cooling | **Services** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Heating | **Services** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Main Plant | **Services** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Rainwater Drainage | **Services** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Waste Drainage | **Services** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Electrical Distribution | **Services** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lighting | **Services** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fire Alarms | **Services** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Roads, paths and paving | **Landscape** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| External planting | **Landscape** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Irrigation systems | **Landscape** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fencing and railings | **Landscape** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Street furniture | **Landscape** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Water features | **Landscape** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table 2.2 – Levels of definition

## Standards

Employer to define which standards are to be employed or ask the tendering team to provide proposed standards to which they will work.

| Ref: | Process | Standard | Req’d | Additional Information |
| --- | --- | --- | --- | --- |
| 2.3.1 | **Capital phase** | PAS 1192-2:2013BS 1192-4:2007+A1:2016 | Choose an item. |  |
| 2.3.2 | **Operational phase** | PAS 1192-3:2013 | Choose an item. |  |
| 2.3.3 | **COBie** | BS 1192-4:2014 | Choose an item. |  |
| 2.3.4 | **Security** | PAS 1192-5:2015 | Choose an item. |  |
| 2.3.5 | **Briefing for design and construction** | BS 8536-1:2015 | Choose an item. |  |
| 2.3.6 | **CIC BIM Protocol** |  | Choose an item. |  |
| 2.3.7 | **Digital Plan of Work** |  | Choose an item. |  |
| 2.3.8 | **Government Soft Landings** |  | Choose an item. |  |

Table 2.3 – Standards

## Roles and responsibilities

Employer to provide, or ask to be provided, details of the roles and responsibilities for the project. Roles shown are indicative and may be added to or removed.

| Ref: | Role | Team | Req’d | Responsibilities |
| --- | --- | --- | --- | --- |
| 5.1 | **Client’s Technical Adviser** |  | Choose an item. |  |
| 5.2 | **Project Delivery Manager** |  | Choose an item. |  |
| 5.3 | **Information Manager** |  | Choose an item. |  |
| 5.4 | **Lead Designer** |  | Choose an item. |  |
| 5.5 | **Task Team Manager - Services** |  | Choose an item. |  |
| 5.6 | **Task Team Manager - Structures** |  | Choose an item. |  |
| 5.7 | **Task Team Manager - Fire** |  | Choose an item. |  |
| 5.8 | **Other** |  | Choose an item. |  |

Table 2.4 – Roles and responsibilities

## Planning the work and data segregation

### Model management

Employer to provide detail model size and outline content. This can be proposed by the tendering team if required.

| Ref: | Topic | Requirement | Req’d | Notes |
| --- | --- | --- | --- | --- |
| 2.5.1.1 | **Model Split** |  | Choose an item. |  |
| 2.5.1.2 | **Model Size** |  | Choose an item. |  |
| 2.5.1.3 | **Model Zones** |  | Choose an item. |  |
| 2.5.1.4 | **Systems** |  | Choose an item. |  |
| 2.5.1.5 | **Attribute Data** |  | Choose an item. |  |

Table 2.5.1 – Model management

### Volumes, zones and areas

If the project is to be coarsely divided into volumes, zones and/or areas, the employer should provide any known detail here. The tendering teams may be asked to provide this, if the employer does not have this information.

| Ref: | Volume | Requirement | Req’d | Notes |
| --- | --- | --- | --- | --- |
| 2.5.2.1 | **Volume 1** |  | Choose an item. |  |
| 2.5.2.2 | **Volume 2** |  | Choose an item. |  |
| 2.5.2.3 | **Volume 3** |  | Choose an item. |  |
| 2.5.2.4 | **Volume 4** |  | Choose an item. |  |
| 2.5.2.5 | **Volume 5** |  | Choose an item. |  |

Table 2.5.2 – Volumes, zones and areas

### Naming conventions

If the employer has a known standard for file naming, that conforms to BS 1192:2007 and PAS 1192-2, then this may be demonstrated here as a project requirement. If there is no employer standard, then the tendering team may propose one. Some fields are optional and the field lengths variable, the employer, or tendering team, may define this here.

| Ref: | Field | Field Length | Req’d | Allowable Values |
| --- | --- | --- | --- | --- |
| 2.5.3.1.1 | **Project** | Choose an item. | Choose an item. |  |
| 2.5.3.1.2 | **Originator** | Choose an item. | Choose an item. |  |
| 2.5.3.1.3 | **Zones and assets** | Choose an item. | Choose an item. |  |
| 2.5.3.1.4 | **Levels and locations** | Choose an item. | Choose an item. |  |
| 2.5.3.1.5 | **Type** | Choose an item. | Choose an item. |  |
| 2.5.3.1.6 | **Role** | Choose an item. | Choose an item. |  |
| 2.5.3.1.7 | **Classification** | Choose an item. | Choose an item. |  |
| 2.5.3.1.8 | **Number** | Choose an item. | Choose an item. |  |
| 2.5.3.1.9 | **Suitability** | Choose an item. | Choose an item. |  |
| 2.5.3.1.10 | **Revision** | Choose an item. | Choose an item. |  |

Table 2.5.3.1 – File naming conventions

| Ref: | Field | Field Length | Req’d | Allowable Values |
| --- | --- | --- | --- | --- |
| 2.5.3.2.1 | **Role** | Choose an item. | Choose an item. |  |
| 2.5.3.2.2 | **Classification** | Choose an item. | Choose an item. |  |
| 2.5.3.2.3 | **Presentation** | Choose an item. | Choose an item. | D, H, M, P, T |
| 2.5.3.2.4 | **Description** | As Required | Choose an item. |  |

Table 2.5.3.2 – Layer naming conventions

### Publishing processes

Provide details of required publication process, in line with common data environment procedures.

## Security

Provide details of client security requirements for the project, including details of electronic security of the common data environment and any file uploaded there.

## Coordination and clash detection

### Process overview

Provide flow diagram of clash detection process, example diagram shown below:



Figure 2.7.1 – Process overview

|  |  |
| --- | --- |
| Term | Definition |
| Arch | Architectural model clash rendition |
| Struc | Structural model clash rendition |
| MEP | Building services model clash rendition |
| Fed Mod | Federated model |
| Clash Check | Use designated software to check for clashes |
| Resolve | Resolve clashes as team |
| Report | Create and keep report of clashes and their resolutions |
| BCF | Export clashes that require rework to BIM Collaboration Format |

### Clash resolution process

Provide detail of the proposed clash resolution process. Some points to consider are shown in the table below:

|  |  |
| --- | --- |
| Point | Considerations |
| Type of Clash | Actual clash, Allowable clash, Not a clash |
| Resolution | Visual impact, Engineering impact, Cost impact |
| Visual impact | Fit with architecture |
| Engineering impact | Best solution, installation, maintenance |
| Cost impact | Design, Procure, Install, Run, Maintain |

### Technical query workflow

Provide details of the proposed workflow for the handling of technical queries.

### Tolerance strategy

Provide details of the proposed strategy for construction, installation and manufacturing tolerances.

## Collaboration process

Provide details of the collaboration processes under the following headings:

### Form of sharing

Provide details of the proposed format of model exchange files.

### Extent of model

Provide details of the extent of the models to be exchanged. Reference may be made to Section 2.2 – Levels of Definition.

### Frequency of information exchange

Provide details of the timings for exchanging models. This may be a frequency, measured in weeks, or a schedule of dates for the information exchanges.

### Details of model review workshops

Provide details of model review workshops. This should include either the frequency of the workshops or a schedule of dates and an outline agenda for the workshops with a list of roles of those who should attend.

Reference may be made to the clash review process and how this is to fit into the model review.

## Health and Safety/ CDM

Provide details of the BIM related approach to health and safety and construction design management processes. Also, include a schedule of deliverables against the work stages, an example is shown below:

| Deliverable | Owner  | Stage 1 | Stage 2 | Stage 3 | Stage 4 | Stage 5 | Stage 6 | Stage 7 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Issue | Issue | Issue | Issue | Issue | Issue | Issue |
|  |  | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |
|  |  | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |
|  |  | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |

Table 2.9 – Health and safety/ CDM

## Systems performance

Provide details of any information technology constraints or limitations, as required by the client. Reference may be made to Section 2.1 – Technical.

## Compliance plan

Provide details of quality assurance procedures relevant to the project and any software used for compliance purposes.

The period of aftercare for the model, maintaining its currency, should also be stated.

## Delivery strategy for asset information

Provide details of the process for delivering information to the asset information model (AIM). The AIM will be using the software platform; *<add software platform>*.

## Data drops and project deliverables

Provide details of the project deliverables and at which stage they are to be expected. This can form the basis of the Master Information Delivery Plan (MIDP) and the Task Information Delivery Plans (TIDP). A partially completed table is shown below by way of example.

| Stage | Drop | Deliverable | Native | IFC | PDF | COBie | Other | By |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Stage 0 |  | **EIR** |[x] [ ] [x] [ ] [ ]  Employer |
|  |  | **BEP** |[x] [ ] [x] [ ] [ ]   |
| Stage 1 | **1** | **BEP** |[x] [ ] [x] [ ] [ ]  Design Team |
|  |  | **Brief** |[ ] [ ] [x] [ ] [ ]   |
| Stage 2 | **2** | **Model** |[x] [x] [ ] [ ] [ ]  Design Team |
|  |  |  |  |  |  |  |  |  |
| Stage 3 |  |  |[ ] [ ] [ ] [ ] [ ]   |
|  |  |  |[ ] [ ] [ ] [ ] [ ]   |
| Stage 4 |  |  |[ ] [ ] [ ] [ ] [ ]   |
|  |  |  |[ ] [ ] [ ] [ ] [ ]   |
| Stage 5 |  |  |[ ] [ ] [ ] [ ] [ ]   |
|  |  |  |[ ] [ ] [ ] [ ] [ ]   |
| Stage 6 |  |  |[ ] [ ] [ ] [ ] [ ]   |
|  |  |  |[ ] [ ] [ ] [ ] [ ]   |
| Stage 7 |  |  |[ ] [ ] [ ] [ ] [ ]   |
|  |  |  |[ ] [ ] [ ] [ ] [ ]   |

Table 2.13 – Data drops and project deliverables

## Client’s strategic purposes

Details of the purposes to which information submitted and required by this EIR are shown in the table below. Refer to BS 1192-4 and BS ISO 55000 for more information.

| Reference | Purpose |
| --- | --- |
| P01 | Register of assets |
| P02 | Support for business questions |
| P03 | Support for compliance and regulatory responsibilities |
| P04 | Management of capacity and utilization |
| P05 | Management of security and surveillance |
| P06 | Support for repurposing |
| P07 | Predicted and actual impacts |
| P08 | Operations |
| P09 | Maintenance and repair |
| P10 | Replacement |
| P11 | Decommissioning and disposal |
| P12 |  |

Table 2.14 – Client’s strategic purposes

## BIM competence assessment

### Level 2 BIM Competence

Provide details of individual, corporate and supply chain competency in BIM. The tables in this section should only be completed if the information required is not covered elsewhere for example in a Pre-Qualification Questionnaire (PQQ).

| Ref: | Information required | Question | Tick | Response or Document Reference |
| --- | --- | --- | --- | --- |
| 2.15.1.1 | **Exemption** | The questions in this module need not be completed if your organization holds a third party certificate of compliance with PAS 1192:2:2013 from an organisation with a related UKAS accreditation, or equivalent. |[ ]   |
| 2.15.1.2 | **Common Data Environment capability** | Demonstrate that your organization understands the concept of a “Common Data Environment” and is able to exchange information in an efficient and collaborative manner. If you have delivered a project in this way, you may use this to demonstrate your capability. |  |  |
| 2.15.1.3 | **Policy, systems and procedures to achieve “Level 2 BIM”** | Provide evidence that you or your organization has a policy authorized by the Chief Executive or equivalent and regularly reviewed. |[ ]   |
| 2.15.1.4 | **Developing and delivering, or working to, a BIM Execution Plan** | Demonstrate that your organization understands the requirements of PAS 1192:2:2013, in particular with respect to a BEP. If you have delivered a project in this way, you may present an example BEP. |[ ]   |
| 2.15.1.5 | **Training employees in BIM related skills** | Demonstrate that your organization has in place training arrangements to ensure that its staff/ workforce have sufficient skills and understanding to implement and deliver projects in accordance with the policy and procedures established to achieve “Level 2 BIM”. |[ ]   |

Table 2.15.1 – Level 2 BIM competence

### BIM capability and experience

| Ref: | Information required | Question | Tick | Response or Document Reference |
| --- | --- | --- | --- | --- |
| 2.15.2.1 | **BIM experience** | Provide details of organisational and personnel experience. |[ ]   |
| 2.15.2.2 | **BIM capabilities** | Provide details of your BIM capabilities. |  |  |
| 2.15.2.3 | **Outsourced roles** | Provide details of outsourced roles. |[ ]   |

Table 2.15.2 – BIM capability and experience

### Evidence of BIM execution planning

| Ref: | Information required | Question | Tick | Response or Document Reference |
| --- | --- | --- | --- | --- |
| 2.15.3.1 | **BIM Execution Plans** | Provide copies of, or outline your ability to write, BIM Execution Plans. |[ ]   |
| 2.15.3.2 | **Lessons learnt** | Provide details of lessons learnt from writing, or preparing to write, BIM Execution Plans. |  |  |

Table 2.15.3 – Evidence of BIM execution planning

### Workload and resourcing

| Ref: | Team Member | Level | % Utilisation | Number |
| --- | --- | --- | --- | --- |
| 2.15.4.1 | **Architect** | Project Director |[ ]   |
| 2.15.4.2 | **Architect** | Project Architect |  |  |
| 2.15.4.3 | **Architect** | Architect |  |  |
| 2.15.4.4 | **Architect** | Technologist/BIM Manager |  |  |
| 2.15.4.5 | **Architect** | Architect pt2 |  |  |
| 2.15.4.6 | **Architect** | Technician |  |  |
| 2.15.4.7 | **Architect** | Outsource |  |  |
| 2.15.4.8 | **Building Services** | Project Director |  |  |
| 2.15.4.9 | **Building Services** | Lead Mechanical Engineer |  |  |
| 2.15.4.10 | **Building Services** | Lead Electrical Engineer |  |  |
| 2.15.4.11 | **Building Services** | Lead Public Health Engineer |  |  |
| 2.15.4.12 | **Building Services** | BIM Manager |  |  |
| 2.15.4.13 | **Building Services** | Mechanical Engineer |  |  |
| 2.15.4.14 | **Building Services** | Electrical Engineer |  |  |
| 2.15.4.15 | **Building Services** | Public Health Engineer |  |  |
| 2.15.4.16 | **Building Services** | Technician |  |  |
| 2.15.4.17 | **Building Services** | Outsource |  |  |
| 2.15.4.18 | **Structures** | Project Director |  |  |
| 2.15.4.19 | **Structures** | Lead Engineer |  |  |
| 2.15.4.20 | **Structures** | BIM Manager |  |  |
| 2.15.4.21 | **Structures** | Engineer |  |  |
| 2.15.4.22 | **Structures** | Technician |  |  |
| 2.15.4.23 | **Structures** | Outsource |  |  |
| 2.15.4.24 | **Landscape** | Project Director |  |  |
| 2.15.4.25 | **Landscape** | Project Landscape Architect |  |  |
| 2.15.4.26 | **Landscape** | BIM Manager |  |  |
| 2.15.4.27 | **Landscape** | Landscape Architect |  |  |
| 2.15.4.28 | **Landscape** | Technician |  |  |
| 2.15.4.29 | **Landscape** | Outsource |  |  |

Table 2.15.4 – Workload and resourcing

### Principal supply chain

| Ref: | Team Member | Partner | Partner Role | Expected Outputs |
| --- | --- | --- | --- | --- |
| 2.15.5.1 | **Architect** |  |  |  |
| 2.15.5.2 | **Building Services** |  |  |  |
| 2.15.5.3 | **Structures** |  |  |  |
| 2.15.5.4 | **Landscape** |  |  |  |

Table 2.15.5 – Principal supply chain

### Supply chain assessment process

| Ref: | Team Member | Assessment Process |
| --- | --- | --- |
| 2.15.6.1 | **Architect** |  |
| 2.15.6.2 | **Building Services** |  |
| 2.15.6.3 | **Structures** |  |
| 2.15.6.4 | **Landscape** |  |

Table 2.15.6 – Supply chain assessment process

# Project Implementation Plan (PIP)

Bidders to provide references of supply chain assessment forms:

* Supply chain capability summary form
* Supplier building information management assessment form(s)
* Supplier IT assessment form(s)
* Supplier resource assessment form(s)

| Ref: | Supply Chain Member | Form References |
| --- | --- | --- |
| 3.1 |  |  |
| 3.2 |  |  |
| 3.3 |  |  |
| 3.4 |  |  |

Table 3 – Supply chain capability summary

# Project goals for collaboration and information

## Collaboration Process

Each bidding company to name preferred solution for collaboration and state whether it is Network, Database of File based, along with any other useful comments for the employer to consider.

| Table 4.1 – Collaboration process |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ref: | Company | Solution | Network | Database | File Based | Comments |
| 4.1.1 |  |  |[ ] [ ] [ ] [ ]
| 4.1.2 |  |  |[ ] [ ] [ ] [ ]
| 4.1.3 |  |  |[ ] [ ] [ ] [ ]
| 4.1.4 |  |  |[ ] [ ] [ ] [ ]

Table 4.1 ­– Collaboration process

## Clash rendition viewer

Bidder to name clash rendition software and initial version to be used:

| Table 4.2 – Clash rendition viewer |
| --- |
| Viewer Software | Version |
|  |  |

Table 4.2 – Clash rendition viewer

## CDE authorisations

Each bidding company to identify named individuals and their required access rights to the Common Data Environment.

| Table 4.3 – CDE Authorisations |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ref: | Company | Name/Position | Read | Write | Edit | Delete |
| 20.1 |  |  |[ ] [ ] [ ] [ ]
| 20.2 |  |  |[ ] [ ] [ ] [ ]
| 20.3 |  |  |[ ] [ ] [ ] [ ]
| 20.4 |  |  |[ ] [ ] [ ] [ ]

Table 4.3 – CDE Authorisations

# Major project milestones

Bidder to show approximate stage dates to achieve overall client program to deliver these works.

| 3 – Major Project Milestones |
| --- |
| Stage No. | Stage Name | Start Date | End Date |
| 0 | **Strategic Definition** |  |  |
| 1 | **Preparation and Brief** |  |  |
| 2 | **Concept Design** |  |  |
| 3 | **Developed Design** |  |  |
| 4 | **Technical Design** |  |  |
| 5 | **Construction** |  |  |
| 6 | **Handover and Close Out** |  |  |
| 7 | **In Use** |  |  |

Table 5 – Major project milestones

# Project Information Model (PIM) delivery strategy

For the PIM strategy, refer to:

* Section 2.13 – Data drops and project deliverables;
* Section 2.7.4 – Tolerance strategy; and
* Section 2.2 – Levels of definition.

# Appendix 1 – Further Reading

* Other guides in this series
	+ <http://www.cibse.org/knowledge/cibse-publications/cibse-digital-engineering-series>
* BS 1192:2007+A2:2016
	+ <http://shop.bsigroup.com/forms/PASs/BS-1192-2007/>
* PAS 1192-2:2013
	+ <http://shop.bsigroup.com/navigate-by/pas/pas-1192-22013/>
* PAS 1192-3:2014
	+ <http://shop.bsigroup.com/forms/pass/pas-1192-3/>
* BS 1192-4:2014
	+ <http://shop.bsigroup.com/forms/PASs/BS-1192-4-2014/>
* PAS 1192-5
	+ <http://shop.bsigroup.com/forms/PASs/PAS-1192-5/>
* Construction Industry Council
	+ <http://cic.org.uk/publications/>
* Government Soft Landings
	+ [www.bimtaskgroup.org/gsl/](http://www.bimtaskgroup.org/gsl/)
* Employer’s Information Requirements - Core Content and Guidance Notes
	+ <http://www.bimtaskgroup.org/bim-eirs/>