



XX Hub

Pre-Construction Services Agreement



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XX Hub

Schedule 1 – Project Particulars

Dated / /20XX

- (1) The Comissioners for Her Majesty's Revenue and Customs**
- (2) XX Construction Ltd**

Pre-Construction Services Agreement

For the delivery of Pre-Construction Services in relation to the fit-out of XX Hub using the JCT Design and Build 2016

PRE CONSTRUCTION SERVICES AGREEMENT

THIS AGREEMENT is made the day of 20XX

BETWEEN:

- (1) **The Comissioners for Her Majesty’s Revenue and Customs** hereinafter called the “Employer”;
- (2) **XX Construction Ltd**, which is a company registered in [England and Wales] under company number XX and whose registered offices is at XXXX, XXXXXXXX, XXXXX, XX XXXXXX of the other part (hereinafter called the “Contractor”).

Collectively referred to as the “Parties”.

BACKGROUND

- (A) The Contractor is a party to the Framework Agreement and the Employer is entitled to enter into Underlying Contracts pursuant to the Framework Agreement.
- (B) The Employer has accepted the First Stage Tender submitted by the Contractor for the provision of the Pre-Construction Services for the Project and the Parties agree the Contractor shall carry out the Pre-Construction Services in accordance with the terms of this Agreement.
- (C) The Employer may wish to appoint the Contractor to carry out the Works and wishes to secure agreement on the terms on which that appointment may be made.

AGREED TERMS

1 INTERPRETATION

- 1.1 In this agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Framework Agreement and the Proposed Contract Documents except that the following words and expressions shall have the following meanings.

Definitions:

- 1.1.1 Additional Services: services performed by the Contractor under this agreement, in connection with the Project or the Works, that are additional to the Pre-Construction Services.
- 1.1.2 BIM Information Manager: the person having responsibility for managing and maintaining the Project’s building information model, as identified.
- 1.1.3 BIM Protocol: the building information model protocol document attached at Schedule 6.
- 1.1.4 CDM Regulations: the Construction (Design and Management) Regulations 2015 (SI 2015/51).
- 1.1.5 Construction Products Regulations: the Construction Products Regulations 2013 (SI 2013/1387), the Construction Products

Regulation (305/2011/EU), the Construction Products Regulations 1991 (SI 1991/1620) and the Construction Products Directive (89/109/EC).

- 1.1.6 Contract: the final contract (if any) to be entered into between the Employer and the Contractor in relation to the Works and the Project in the form of (or based on) the Proposed Contract Documents.
- 1.1.7 Contract Sum: the sum to be agreed by the parties under this agreement and included as the contract sum in the Contract.
- 1.1.8 Deleterious: materials, equipment, products or kits that are generally accepted, or generally suspected, in the construction industry at the relevant time as:
 - (a) posing a threat to the health and safety of any person; or
 - (b) posing a threat to the structural stability, performance or physical integrity of the Works or any part or component of the Works; or
 - (c) reducing, or possibly reducing, the normal life expectancy of the Project or any part or component of the Works; or
 - (d) not being in accordance with any relevant British Standard, relevant code of practice, good building practice or any applicable agrément certificate issued by the British Board of Agrément; or
 - (e) having been supplied or placed on the market in breach of the Construction Products Regulations.
- 1.1.9 Employer's Agent: Turner & Townsend or such other person as may be appointed by the Employer to act as employer's agent in connection with the Contract from time to time.
- 1.1.10 Employer's Requirements: the drawings, Project Cost Plan, details and specifications of materials, goods and workmanship and other related documents that have been prepared or will be prepared by or on behalf of the Employer in relation to the requirements of the Works, as referred to in Schedule 5.
- 1.1.11 First Stage Tender: the Contractor's tender for the Pre-Construction Services contained in Schedule 5;
- 1.1.12 First Stage Tender Documents: the Mini-Competition Information and the First Stage Tender which are contained in Schedule 5;
- 1.1.13 Framework Agreement: the framework agreement entered into between the Contractor and the Employer dated 19/06/2017;
- 1.1.14 Key Personnel: the persons identified in Paragraph 4 of Schedule 1, or as otherwise agreed under Clause 3.3.

- 1.1.15 Material: all designs, drawings, models, plans, specifications, design details, photographs, brochures, reports, notes of meetings, CAD materials, calculations, data, databases, schedules, programmes, bills of quantities, budgets and any other materials provided in connection with the Pre-Construction Services, the Project and the Works and all updates, amendments, additions and revisions to them and any works, designs, or inventions incorporated or referred to in them for any purpose relating to the Pre-Construction Services, the Project and the Works.
- 1.1.16 Mini-Competition Information: the mini competition information contained in Schedule 5;
- 1.1.17 Notice to Proceed: a notice to proceed issued by the Employer to the Contractor under Clause 6.1 in the form set out in Schedule 4.
- 1.1.18 PCSA Key Performance Indicators or PCSA KPIs: means the performance measurements and targets set out in Schedule 12.
- 1.1.19 PCSA KPI Target: means the acceptable performance level for a PCSA KPI as set out in relation to each PCSA KPI.
- 1.1.20 PCSA Retention: the amount which may be deducted by the Employer in accordance with paragraph 10 of Schedule 3.
- 1.1.21 PCSA Retention Percentage: 3%.
- 1.1.22 Permitted Uses: the tendering, re-tendering, design, construction, completion, reconstruction, modification, refurbishment, development, maintenance, facilities management, funding, disposal, letting, fitting-out, advertisement, decommissioning, demolition, reinstatement, building information modelling and repair of the Works (and the completed Works), whether or not those Works are carried out by the Contractor.
- 1.1.23 Pre-Construction Fee: the sum set out in Part 1 of Schedule 3 to be paid in accordance with the schedule of payments set out in Part 1 of Schedule 3.
- 1.1.24 Pre-Construction Period: that period of the Project up to and including the date of issue of any Notice to Proceed.
- 1.1.25 Pre-Construction Services: the services required to be performed by the Contractor as set out in Part 1 of Schedule 2.
- 1.1.26 Principal Designer: XX Construction Ltd. or such other person as may be appointed by the Employer to act as principal designer under the CDM Regulations.
- 1.1.27 Professional Consultants: the professional consultants listed in Paragraph 3 of Schedule 1 and any other professional consultants from time to time engaged by the Employer in connection with the Project.

- 1.1.28 Programme: the programme at Schedule 8.
- 1.1.29 Project: the development of the Property for the purposes identified in Paragraph 2 of Schedule 1.
- 1.1.30 Project Cost Plan: the budget for the Project prepared by the Quantity Surveyor and agreed by the Employer.
- 1.1.31 Property: the property identified in Paragraph 1 of Schedule 1.
- 1.1.32 Proposed Contract Documents: the first stage tender documents listed in and attached at Schedule 5 together with any amendments, alterations or variations to them agreed between the parties.
- 1.1.33 Quantity Surveyor: Turner & Townsend or such other person as may be appointed by the Employer to act as quantity surveyor in connection with the Project or the Works from time to time.
- 1.1.34 Relevant Consents: any approval, permission or consent required under Statutory Requirements in order to undertake and complete the Project.
- 1.1.35 Standard of Care: all the reasonable skill, care and diligence to be expected of a qualified and experienced architect (or other appropriate professional designer) undertaking the design of works similar in scope and character to the Works.
- 1.1.36 Standards: any standards, policies and procedures applicable to the Pre-Construction Services as specified by the Employer in the Material;
- 1.1.37 Underlying Contracts: those contracts for the delivery of Fit Out Works called-off under the Framework Agreement;
- 1.1.38 Works: the works and the services required for the design, construction, completion and commissioning of the Project.
- 1.2 Clause, schedule and paragraph headings shall not affect the interpretation of this agreement.
- 1.3 A person includes a natural person, corporate or unincorporated body (whether or not having separate legal personality).
- 1.4 The schedules form part of this agreement and shall have effect as if set out in full in the body of this agreement. Any reference to this agreement includes the schedules.
- 1.5 A reference to a company shall include any company, corporation or other body corporate, wherever and however incorporated or established.
- 1.6 Unless the context otherwise requires, words in the singular shall include the plural and in the plural include the singular.

- 1.7 Unless the context otherwise requires, a reference to one gender shall include a reference to the other genders.
- 1.8 This agreement shall be binding on, and enure to the benefit of, the parties to this agreement and their respective personal representatives, successors and permitted assigns, and references to a party shall include that party's personal representatives, successors and permitted assigns.
- 1.9 A reference to a statute or statutory provision is a reference to it as amended, extended or re-enacted from time to time.
- 1.10 A reference to a statute or statutory provision shall include all subordinate legislation made from time to time under that statute or statutory provision.
- 1.11 Any reference to a party's consent or approval being required is to a consent or approval in writing, which must be obtained before the relevant action is taken or event occurs.
- 1.12 Any obligation on a party not to do something includes an obligation not to agree that thing to be done.
- 1.13 A reference to writing or written includes fax and email, save that the following notices may only be served as an attachment to an email if the original notice is then sent to the recipient by personal delivery or Royal Mail Signed For™ 1st Class:
- 1.13.1 any termination notice under Clause 11;
 - 1.13.2 any notice in respect of suspension (Clause 10); and
 - 1.13.3 any notice of dispute.
- Failure to send any original notice by personal delivery or recorded delivery as set out above shall invalidate the service of the related e-mail transmission.
- 1.14 References to clauses and schedules are to the clauses and schedules of this agreement and references to paragraphs are to paragraphs of the relevant schedule.
- 1.15 A reference to this agreement or to any other agreement or document referred to in this agreement is a reference to this agreement or such other agreement or document as varied or novated (in each case, other than in breach of the provisions of this agreement) from time to time.
- 1.16 Unless this agreement expressly provides otherwise, a reference to the Property or the Project is to the whole and any part of it.
- 1.17 Any words following the terms including, include, in particular, for example or any similar expression shall be construed as illustrative and shall not limit the sense of the words, description, definition, phrase or term preceding those terms.
- 1.18 Terms defined in the Proposed Contract Documents have the same meaning in this agreement as in the Proposed Contract Documents unless the meaning

given in the Proposed Contract Documents is different to, or conflicts with, the meaning given in this agreement, in which case the meaning given in this agreement prevails.

2 DURATION AND EFFECT OF THIS AGREEMENT

- 2.1 The Parties' obligations under this agreement start on the date of this agreement or, if earlier, the date on which the Contractor commenced performance of the Pre-Construction Services until the earlier of:
 - 2.1.1 the execution and completion of the Contract; or
 - 2.1.2 the Contractor or Employer issuing a notice of termination of this agreement under Clause 11.
- 2.2 Before execution and completion of the Contract, the rights and obligations of the Parties in relation to the Works shall be governed by the provisions of this agreement supplemented by the Proposed Contract Documents. If there is any conflict or difference between this agreement and the Proposed Contract Documents, this agreement prevails.
- 2.3 On the execution and completion of the Contract, the Parties' respective rights and liabilities in respect of all matters with which this agreement is concerned (including any design performed or any work carried out or order placed under Clause 4.3) shall be subsumed into and be subject to the Contract.
- 2.4 The following documents shall be deemed to form and be read and construed as part of this Agreement:
 - 2.4.1 These terms and conditions of this Agreement;
 - 2.4.2 Schedules 1 - 12.
- 2.5 Should there be any ambiguity or conflict in or between the documents comprising this Agreement, the priority of the documents is in accordance with the following sequence:
 - 2.5.1 The terms and conditions of the Framework Agreement
 - 2.5.2 These terms and conditions of this agreement;
 - 2.5.3 The Proposed Contract Documents;
 - 2.5.4 First Stage Tender Documents; and
 - 2.5.5 Any other Schedule forming part of this Agreement and the order of precedence of such documents shall be decided by the Employer.
- 2.6 Subject to Clause 2.5 above, the Parties agree that they will comply with the terms of the Framework Agreement.

3 PRE-CONSTRUCTION PERIOD

- 3.1 The Contractor warrants and undertakes that it shall:
 - 3.1.1 comply with this agreement and the Proposed Contract Documents;
 - 3.1.2 carry out and fulfil, in all respects, the duties of a principal contractor [and Principal Designer] under the CDM Regulations;
 - 3.1.3 ensure that the Key Personnel maintain a material involvement in the Pre-Construction Services;
 - 3.1.4 allocate personnel of sufficient numbers and qualifications to perform the Pre-Construction Services, deploying as a minimum the personnel and resources listed in Part 2 of Schedule 2;
 - 3.1.5 perform all of its obligations under this agreement in a timely manner and shall provide the Pre-Construction Services in accordance with the Programme (including, but not limited to, the agreed cashflow forecast within that Programme), the outputs and due dates identified in the Specification or as agreed by the Parties and meet or exceed the Minimum Standards of Reliability and Standards; and
 - 3.1.6 not specify for use anything Deleterious at the time of specification.
- 3.2 The Contractor warrants and undertakes that it shall exercise the Standard of Care:
 - 3.2.1 when performing the Pre-Construction Services; and
 - 3.2.2 to comply with the BIM Protocol.
- 3.3 So far as is reasonably possible, the Contractor shall not change the identity of the Key Personnel without the Employer's prior consent.
- 3.4 Nothing in this agreement shall prevent or restrict the Employer from entering into negotiations or contracting with any other contractor at any time in relation to the Project.
- 3.5 The Employer shall within a reasonable time:
 - 3.5.1 comply with any reasonable request from the Contractor for information in the Employer's possession or control, which is relevant to the Contractor's obligations under this agreement (including the Pre-Construction Services) and which has not previously been provided to the Contractor; and
 - 3.5.2 give instructions or approvals and make decisions (or procure that the Employer's Agent or the Professional Consultants give instructions or approvals and make decisions) as reasonably requested by the Contractor, to allow the Contractor to comply

with its obligations under this agreement (including performing the Pre-Construction Services).

- 3.6 The Contractor shall act as the BIM information manager for the Project, as more fully set out in the Employers Information Required (EIR).
- 3.7 The Contractor shall at all times meet the Standards during the term of this agreement and the term of any subsequent Contract between the Parties in connection with the Works and the Project.

4 ADDITIONAL SERVICES, WORKS AND ORDERS

- 4.1 In placing orders, executing work, delegating or sub-contracting the Pre-Construction Services or the Works, or carrying out any other function under this agreement, the Contractor shall comply with the Employer's instructions and the procedures and obligations referred to in the Pre-Construction Services and the Proposed Contract Documents.
- 4.2 The Employer may instruct the Contractor to carry out Additional Services. The Contractor shall perform those Additional Services. As a condition precedent to the Contractor's entitlement to any additional payment in connection with those Additional Services, the Contractor shall notify the Employer if it will require additional payment for those services within ten Business Days of receipt of the Employer's notice. That notice shall state the total sum the Contractor requires to perform those Additional Services. On receiving such a notice from the Contractor, the Employer may cancel its instruction, at no cost to the Employer (who shall not pay the Contractor for those Additional Services), and the Contractor shall not perform those Additional Services.
- 4.3 The Contractor may (with the prior consent of the Employer) and shall (if so instructed by the Employer or the Employer's Agent) place a specific order or perform a specific item of work comprising part of the Works (including any design of the Works) before the issue of any Notice to Proceed provided that, unless the Employer expressly so directs, the Contractor shall not place an order or commence any item of work until the sum forming part of the Contract Sum in respect of that order or item has been agreed in writing between the Employer and the Contractor.
- 4.4 Any order or item of work referred to in Clause 4.3 shall be carried out in accordance with the Proposed Contract Documents.
- 4.5 Where the Contractor wishes to sub-contract any of the Pre-Construction Services, it must obtain the prior written consent of the Employer Organisation. The decision of the Employer to consent or not shall be at its entire discretion, acting in its interest only.
- 4.6 Without affecting the Contractor's obligations under the Proposed Contract Documents, the Contractor shall:
 - 4.6.1 be responsible for the acts and activities of its Sub-Contractors, and its liability to the Employer shall not in any way be reduced, qualified, released or diminished by the Employer's approval of any list, design, document, material, programme, sub-contract, supply agreement, order, sub-contractor or supplier;

- 4.6.2 ensure that any Sub-Contractor appointed during the Pre-Construction Period in relation to any element of the design of the Works shall provide a collateral warranty or shall grant third party rights as provided for, and in favour of the parties identified in, the Proposed Contract Documents;
 - 4.6.3 ensure that any Sub-Contract entered into in relation to the Works during the Pre-Construction Period contains a clause that permits its termination if the Employer does not issue a Notice to Proceed;
 - 4.6.4 itself, and shall procure that any Sub-Contractor appointed by it in relation to the Works during the Pre-Construction Period shall, on any termination of this agreement by the Employer, consent to and (if requested by the Employer or the Contractor) effect the novation of their respective Sub-Contract and any other similar document to the Employer or any person that the Employer nominates; and
 - 4.6.5 give the Employer a copy of any Sub-Contract, and any other similar document within three Business Days of the Employer's request to do so.
- 4.7 The Contractor shall where required participate in joint initiatives with other contractors and third parties to establish a common and harmonised supply chain. The common and harmonised supply chain may be designed to secure:
- 4.7.1 a clear methodology for surveys, design (as applicable), manufacture, supplies, installation, delivery and other activities including achieving sustainability;
 - 4.7.2 best value, improved prices, warranties and other added value;
 - 4.7.3 integrated briefs and a consistent approach to ordering;
 - 4.7.4 structures of joint performance reviews agreed KPIs and targets;
 - 4.7.5 long-term commitments in the achievement of agreed KPI targets;
 - 4.7.6 the operation of full processes and procedures for continuous improvement for the Works;
 - 4.7.7 terms and conditions reasonably acceptable to the Contractor and other third parties including without limitation any suppliers;
 - 4.7.8 reduced number of material components used and move towards standardisation to reduce subsequent maintenance
 - 4.7.9 the application of any discount that the Contractor may receive in relation to any project or Works carried out in its Lot, to all works carried out by the Contractor in another Lot; and
 - 4.7.10 the delivery of efficiency savings.

In order to further the objectives in this Clause 4.7 the Contractor shall provide and share such reasonably necessary information regarding its own supply chain (subject always to the duty of confidentiality).

5 PRE-CONSTRUCTION FEE AND PAYMENT

- 5.1 The Employer shall pay the Contractor the Pre-Construction Fee in accordance with the procedure set out in Schedule 3.
- 5.2 If the Contractor has notified the Employer that it will require additional payment for Additional Services under Clause 4.2 and the Employer has not cancelled its instruction to carry out those Additional Services under Clause 4.2, the Employer shall pay the Contractor the sum set out in the Contractor's notice or such other sum agreed between the parties for those Additional Services. If the parties do not agree a sum, the Employer shall pay the Contractor a fair and reasonable sum taking into account any rates and prices agreed between the parties for any Additional Services and any rates and prices used to calculate the Pre-Construction Fee. The Contractor shall be entitled to claim payment, by reference to the proportion of Additional Services carried out in accordance with this PCSA, from the next payment date following commencement of those Additional Services for payment of an instalment of the Pre-Construction Fee, as referred to in Part 1 of Schedule 3.
- 5.3 Subject to the provisions of Schedule 3 paragraph 10, the Employer shall pay the Contractor for any order or item of work referred to in Clause 4.3 under the payment provisions of the Proposed Contract Documents.
- 5.4 If the Employer issues a Notice to Proceed under Clause 6.1:
 - 5.4.1 the Employer's obligations to pay the Contractor under this agreement (including its obligations under Clause 5.1 to Clause 5.3 inclusive) shall be replaced by an obligation to pay the Contractor the sums due under the Proposed Contract Documents and all payments under this agreement (including the Pre-Construction Fee) shall be included within and treated as paid on account of the Contract Sum under the Proposed Contract Documents; and
 - 5.4.2 when the Contract has been executed and completed the Employer shall make no further payments under this agreement and all payments made under this agreement (including the Pre-Construction Fee) shall be included within and treated as paid on account of the Contract Sum under the Contract.
- 5.5 If the Employer does not pay a sum due under this agreement on or before the final date for payment the Employer shall pay interest on that sum to the Contractor as if that sum was due under the Proposed Contract Documents..

6 NOTICE TO PROCEED AND CONTRACT

- 6.1 The Employer shall have absolute discretion, acting in its own interests, whether or not to proceed with the Works, with or without the Contractor.
- 6.2 Provided that the Contractor has delivered the Contractor's Proposals and Contract Sum Analysis, the Employer may, by issuing a Notice to Proceed, at

its sole option and discretion appoint the Contractor to perform the Works and the Contractor agrees to accept that appointment on the basis set out in this agreement. On receipt of the Notice to Proceed, the Contractor shall:

- 6.2.1 execute (or procure the execution of) the Proposed Contract Documents and return the executed Proposed Contract Documents to the Employer (without amendment other than the correction of errors in a manner agreed between the parties);
 - 6.2.2 commence, carry out and complete the Works in accordance with the Proposed Contract Documents and, when executed and completed, the Contract; and
 - 6.2.3 comply in all respects with the Proposed Contract Documents and, when executed and completed, the Contract.
- 6.3 If the Employer issues a Notice to Proceed, the Contract will be on the terms of the Proposed Contract Documents, incorporating the particulars set out in Paragraph 5 of Schedule 1 (subject to any changes to those particulars agreed by the parties) and incorporating the Contract Sum agreed between the parties, as referred to in the Pre-Construction Services.

7 COPYRIGHT

- 7.1 The Contractor grants to the Employer, with immediate effect, an irrevocable, non-exclusive, non-terminable, royalty-free licence to copy and make full use of any Material prepared by or on behalf of the Contractor for any purpose relating to the Works and the Project including any of the Permitted Uses.
- 7.2 This licence allows the Employer to use the Material in connection with any extension of the Works or the Project, but not to reproduce the designs contained in the Material in any such extension.
- 7.3 This licence carries the right to grant sub-licences and is transferable to third parties without the Contractor's consent.
- 7.4 The Contractor shall have no liability for use of the Material for any purpose other than that for which it was prepared and/or provided.
- 7.5 The Employer may, at any time (whether before or after completion of the Pre-Construction Services, or after termination of this agreement), request one or more copies of some or all of the Material from the Contractor. On the Employer's payment of the Contractor's reasonable charges for providing those copies, the Contractor shall provide those copies to the Employer.

8 COLLATERAL WARRANTY

- 8.1 Within 14 days of a request from the Employer, the Contractor shall execute and deliver a collateral warranty in favour of any Funder in accordance with the Proposed Contract Documents, amended to refer to this agreement in place of the building contract.
- 8.2 Where the Contractor fails to provide any collateral warranty under clause 8.1, the Employer may withhold payment in accordance with clause 15.3.

9 LIMIT OF EMPLOYER'S LIABILITIES

- 9.1 Unless the Employer has issued a Notice to Proceed, the Employer's liability, however that liability arises (including a liability arising by breach of contract, arising by tort, including the tort of negligence, or arising by breach of statutory duty), shall be limited to the following:
- 9.1.1 a fair and reasonable proportion of the Pre-Construction Fee, which shall be commensurate with the Pre-Construction Services performed by the Contractor to the date of issue of any notice of termination of this agreement, but which shall not in any event exceed the Contractor's cumulative entitlement to the Pre-Construction Fee at the date of issue of any notice of termination, as set out in Part 1 of Schedule 3;
 - 9.1.2 a fair and reasonable proportion of any payment due under Clause 5.2 for any Additional Services;
 - 9.1.3 the value of work actually executed and orders actually placed under Clause 4.3, calculated in accordance with the Proposed Contract Documents (as referred to in Clause 5.3); and
 - 9.1.4 any interest due under Clause 5.5.
- 9.2 The parties acknowledge and agree that unless the Employer has issued a Notice to Proceed the Employer shall be under no obligation to the Contractor other than as set out in this agreement (including being under no obligation with respect to any tender, further contract or other appointment to carry out part or all of the Project or the Works) and the Contractor shall have no claim against the Employer for:
- 9.2.1 loss of profit, loss of contract, loss of business, loss of chance or other similar loss; or
 - 9.2.2 any indirect or consequential loss.
- 9.3 Nothing in this Clause 9 or elsewhere in this agreement shall exclude or limit either party's liability for death or personal injury caused by that party's negligence.

10 SUSPENSION

- 10.1 The Employer may, at any time, suspend performance of part or all of the Pre-Construction Services, any Additional Services and any order or item of work referred to in Clause 4.3 by giving notice to the Contractor. Subject to Clause 11.2, the Contractor shall resume performance of that part or all of the Pre-Construction Services, any Additional Services and any order or item of work referred to in Clause 4.3 as soon as reasonably practicable after receiving a notice from the Employer to do so.
- 10.2 If the Employer does not pay a sum due under this agreement on or before the final date for payment the Contractor may suspend the performance of any or all of its obligations under this agreement as if the Employer had not paid a sum due under the Proposed Contract Documents, by giving notice as required by the Proposed Contract Documents.

- 10.3 In the event of a suspension under Clause 10.1, subject to Clause 9, the Employer shall pay the Contractor any sums due under Clause 5 and such payment shall be the Contractor's sole compensation for suspension of the Pre-Construction Services, any Additional Services and any order or item of work referred to in Clause 4.3.
- 10.4 In the event of a suspension under Clause 10.2, subject to Clause 9, the Employer shall pay the Contractor any sums due under Clause 5 and any other sum due and not otherwise provided for in this agreement, which is required to be paid under section 112 of the Housing Grants, Construction and Regeneration Act 1996, and such payment shall be the Contractor's sole compensation for suspension of the Pre-Construction Services, any Additional Services and any order or item of work referred to in Clause 4.3.
- 10.5 The Contractor shall not do anything which:
- 10.5.1 may place the Employer in breach of any Health and Safety requirement;
 - 10.5.2 may cause the Employer to suffer significant economic loss;
 - 10.5.3 may cause the Employer to suffer damage to its reputation;
 - 10.5.4 may cause the Employer to be in breach of or to suffer delays in meeting its statutory duties

which may occur as a result of the Contractor's or its supply chain's poor performance; delays; non performance; failure to meet services levels or key performance indicators; bad working practices; or Insolvency Event or any other failure to comply with this agreement, Laws or good working practice.

- 10.6 If the Employer, acting reasonably, considers that (1) there is or is likely to be: (a) a breach of Clause 10.5 by the Contractor or its Sub-Contractors; (b) any risk to any person; (c) an accident or other event which in the opinion of the Employer necessitates urgent remedial action; or (2) the Contractor's circumstances or past performance under the Framework Agreement leads to the reasonable conclusion that the Contractor no longer meets the Standards and Minimum Standards relating to financial standing, capacity and reliability, the Employer:
- 10.6.1 shall be entitled to suspend the performance of Pre-Construction Services or any part thereof. The Contractor shall not resume provision of the Pre-Construction Services until the Employer is satisfied at its absolute discretion, acting in its own interest, that the failure or non-compliance has been or will be rectified. Any such suspension shall not absolve the Contractor from meeting other obligations under any on-going Underlying Contract; and/or
 - 10.6.2 may inform the Contractor in writing what action it requires the Contractor to take to remedy that breach or abate that risk and may also state any timescales within which such steps are to be taken; and/or

- 10.6.3 may itself take such steps or remedial action (or pay or employ others to do the same) as may in the reasonable opinion of the Employer be necessary to remedy that breach or abate that risk, provided that it shall tell the Contractor of the action required as soon as it is reasonably practicable to do so. If such steps or remedial action are necessary because of the default of the Contractor then the extra costs incurred by the Employer together with any administration charge will be immediately payable by the Contractor and recovered as a debt or in such other way as the Employer deems fit.
- 10.7 The powers of the Employer pursuant to clause 10.6 are in addition to its ability to obtain any other remedy for any breach or non-observance of this agreement by the Contractor. The Employer shall be entitled to recover from the Contractor all reasonable extra costs and expenses incurred by the Employer as a result of the Contractor's breach or other non-observance of this agreement.

11 TERMINATION

- 11.1 The Employer may terminate this agreement at any time by giving the Contractor notice to that effect and such termination shall be effective from the date of issue of that notice.
- 11.2 The Contractor may terminate this agreement if:
- 11.2.1 the Employer is Insolvent; or
 - 11.2.2 a suspension of all of the Pre-Construction Services under Clause 10.1 continues for a continuous period of six months and the Employer does not instruct the Contractor to resume those Pre-Construction Services within twenty Business Days of receiving a notice from the Contractor requiring it to do so,
- by giving notice to the Employer to that effect and such termination shall be effective from the date of issue of that notice.
- 11.3 If this agreement is terminated, the parties shall co-operate to bring the Pre-Construction Services, any Additional Services and any order or item of work referred to in Clause 4.3 to an orderly conclusion and to allow the parties to comply with their remaining obligations under this agreement.
- 11.4 If this agreement is terminated, subject to Clause 9, the Employer shall pay the Contractor any sums due under Clause 5, and that payment shall be the Contractor's sole compensation for termination, save that in no circumstances shall the Contractor be entitled to recover any loss of profit or other direct or indirect losses in respect of any Pre-Construction Services that have not been performed.

12 INSURANCE

- 12.1 The Contractor shall maintain:
- 12.1.1 Contractor's all risks insurance;

- 12.1.2 professional indemnity insurance;
 - 12.1.3 employer's liability insurance; and
 - 12.1.4 public liability insurance,
- as required by the Proposed Contract Documents.

12.2 Before it carries out any of the Works at the Property, the Contractor shall provide the Employer with written evidence that it maintains:

- 12.2.1 any insurance required by the Proposed Contract Documents under Insurance Option A; and
- 12.2.2 any insurance required by the Proposed Contract Documents in connection with clause 6.5 of the JCT [Design and Build Contract/Standard Building Contract Without Quantities], 2016 edition.

13 NOTICES

13.1 Any notice required under this agreement shall be sent in accordance with the requirements for notices in the Proposed Contract Documents.

14 ASSIGNMENT

- 14.1 The Employer may assign or otherwise transfer the benefit of this agreement to any person.
- 14.2 Without prejudice to Clause 14.1, the Employer may charge, or assign by way of security, the benefit of this Contract to any Funder (and the Funder may reassign the benefit of this Contract to the Employer on redemption of that security).
- 14.3 The Employer shall notify the Contractor of any assignment within ten Business Days. If the Employer fails to do this, the assignment shall still be valid.
- 14.4 The Contractor shall not contend that any person to whom the benefit of this agreement is assigned under this Clause 14 may not recover any sum under this agreement because that person is an assignee and not a named party to this agreement.
- 14.5 The Contractor shall not assign or charge the benefit of this agreement or any right arising under it without the Employer's prior consent, which the Employer may withhold at its absolute discretion.

15 GUARANTEES

15.1 Without prejudice to any rights, powers and remedies it may have under the Framework Agreement or any Underlying Contract, the Employer may at any time ask the Contractor to validly execute and deliver to the Employer a parent company guarantee or a performance bond, or provide a collateral warranty to an appropriate beneficiary nominated by the Employer if:

- 15.1.1 the award of an Underlying Contract to the Contractor is conditional upon the execution and delivery of such parent company guarantee, performance bond or collateral warranty as specified in the Mini-Competition Information; or
 - 15.1.2 during the Framework Term or the term of an Underlying Contract, whichever is later, the Employer considers (at its discretion and acting in its interests only) that actual or potential risks associated with a project or with the Contractor's financial standing or its professional and technical ability require that such bond, guarantee or warranty be provided.
- 15.2 Where a parent company guarantee, performance bond or collateral warranty is required, they shall be provided in the Tempalte Call Off Form issued by the Employer.
- 15.3 Where the Employer exercises its right under Clause 16.1, the Contractor shall satisfy, or procure the satisfaction of such within 10 Business Days. In the event that the requirement under Clause 15.1 is not satisfied within 10 Business Days after the last day for delivery specified by the Employer, unless the requirement for a bond, guarantee or collateral warranty is waived by the Employer in writing, the Employer shall not be liable to make any further payment to the Contractor under such contract the Contractor has procured such execution and delivery.

16 DISPUTES

- 16.1 Notwithstanding any other provision of this agreement either party may refer a dispute arising under this agreement to adjudication at any time under Part I of the Scheme for Construction Contracts (England and Wales) Regulations 1998 (SI 1998/649).
- 16.2 The adjudicator shall be appointed by: The Royal Institution of Chartered Surveyors.

17 LIABILITY PERIOD

- 17.1 The Employer may not commence any legal action against the Contractor under this agreement after 12 years from the date of practical completion of all of the Works under the Contract OR termination of this agreement under Clause 11.

18 THIRD PARTY RIGHTS EXCLUSION

- 18.1 A person who is not a party to this agreement shall not have any rights under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this agreement. This does not affect any right or remedy of a third party which exists, or is available, apart from that Act.
- 18.2 The rights of the parties to terminate, rescind or agree any variation, waiver or settlement under this agreement are not subject to the consent of any other person.

19 ENTIRE AGREEMENT

- 19.1 This agreement constitutes the entire agreement between the parties and supersedes and extinguishes all previous agreements, promises, assurances, warranties, representations and understandings between them, whether written or oral, relating to its subject matter.
- 19.2 Each party acknowledges that in entering into this agreement it does not rely on, and shall have no remedies in respect of, any representation or warranty (whether made innocently or negligently) that is not set out in this agreement.
- 19.3 Each party agrees that it shall have no claim for innocent or negligent misrepresentation or negligent misstatement based on any statement in this agreement.
- 19.4 Nothing in this Clause 19 or elsewhere in this agreement shall limit or exclude either party's liability for fraud or fraudulent misrepresentation.

20 PCSA KEY PERFORMANCE INDICATORS

- 20.1 The Contractor shall at all times during the Pre-Construction Period comply with the PCSA Key Performance Indicators and achieve the PCSA KPI Target set out in Schedule 12 of this agreement.

21 GOVERNING LAW

- 21.1 This agreement and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the law of England and Wales.

22 JURISDICTION

- 22.1 Each party irrevocably agrees that the courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim arising out of or in connection with this agreement or its subject matter or formation (including non-contractual disputes or claims).

This document has been executed as a deed and is delivered and takes effect on the date stated at the beginning of it.

IN WITNESS whereof the Commissioning Organisation and the Provider have caused this Agreement to be signed with the intention that it shall have effect as a Deed.

Signed for and on behalf of the Provider

.....

Director

.....

Witness

Name of Witness:

Address of Witness:

Occupation of Witness:

Signed for and on behalf of the Commissioning Organisation (executed in accordance with Commissioning Organisation’s Constitution)

.....

Authorised Signatory

.....

Authorised Signatory

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Schedule 2 – Pre-Construction Services



Schedule 1

PROJECT PARTICULARS

1 THE PROPERTY

[PROPERTY ADDRESS]

2 THE PROJECT

[THE WORKS]

3 PROFESSIONAL CONSULTANTS

3.1 Turner & Townsend Project Management Ltd, Employer's Agent.

3.2 [CONTRACTOR], Principal Designer.

3.3 Turner & Townsend Cost Management Ltd, Quantity Surveyor.

3.4 AECOM, Lead Consultant.

~~3.5 [PROFESSIONAL CONSULTANT], [ROLE].~~

4 KEY PERSONNEL

4.1 [PM], Employer' Agent.

4.2 [QS], Quantity Surveyor.

4.3 [CONTRACTOR], Principal Designer.

4.4 [DESIGNER], AECOM.

5 CONTRACT PARTICULARS

5.1 Date for Completion: XX/XX/XXXX

5.2 ~~[DATE OR DATES FOR SECTIONAL COMPLETION]~~ - N/A

5.3 Liquidated damages for delay: £XX per week or pro rata for part thereof for Week 0-2 OR £XX per week or pro rata for part thereof for Week 3 onwards

5.4 Rectification Period: 12 months from the date of practical completion of the Works

5.5 Insurance of the Works - Insurance Option A

5.6 PCSA Retention Percentage 3%:

Schedule 2

PRE-CONSTRUCTION SERVICES, PERSONNEL AND RESOURCES

Part 1.

Pre-Construction Services

See attached Schedule 20 - Pre - Construction Services

Part 2.

Personnel and resources

The parties have attached and initialled a schedule of personnel and resources required].

OR

Resource or personnel required	Number required
XX, Key Account Director	Please see resource organogram within XX tender.
XX, Construction Manager	Please see resource organogram within XX tender.
XX, Commercial Manager	Please see resource organogram within XX tender.
XX, Senior Project Manager	Please see resource organogram within XX tender.
XX, Senior Building Services Manager	Please see resource organogram within XX tender.
XX, Senior Design Manager	Please see resource organogram within XX tender.

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Schedule 3 – Payments

Schedule 3

PAYMENTS

Part 1.

Pre-Construction Fee

The Pre-Construction Fee shall be the fixed sum of £XX (£XX Design fees, £XX Pre-construction staff and £XX Overhead & Profit) subject to any amendment required by Clause 5.

Part 2.

Payment terms of this agreement

1 THIS AGREEMENT AND THE PROPOSED CONTRACT DOCUMENTS

- 1.1 The payment terms in this Part 2 of Schedule 3 apply to payments under this agreement, except where a payment under this agreement is required to be made under the Proposed Contract Documents, in which case subject to paragraph 10 of this Schedule 3 the Proposed Contract Documents apply.
- 1.2 The due date for payment of instalments of the Pre-Construction Fee shall be the day, on a monthly basis, 7 (seven) days after the date of receipt by the Employer (or his representative nominated for that purpose) of the Contractor's valid invoice for sums to which the Contractor has become entitled. The Contractor's invoice shall be deemed to be an Interim Application (as defined below) for the purposes of the Construction Act.
- 1.3 In relation to payment of the Pre-Construction Fee, the Contractor shall send an invoice to the Employer or a person nominated by the Employer for that purpose, which Interim Application shall:
 - 1.3.1 be submitted not later than 1 (one) month after the commencement of the Pre-Construction Services and thereafter on a monthly basis;
 - 1.3.2 state the sum that the Contractor considers will become due on the Due Date in respect of the payment for the period and the basis on which that sum is calculated; and
 - 1.3.3 include all supporting documentation reasonably required for the computation of any amount due.
- 1.4 The Contractor warrants that the sum claimed in any Interim Application is properly due and payable and calculated in accordance with clause 1.5 of this agreement.
- 1.5 The sums due as an interim payment shall be the value of Pre-Construction Services carried out at the due date for payment less the following deductions:
 - 1.5.1 any amount which may be deducted and retained by the Employer under paragraph 10 of this Schedule 3 (PCSA Retention); and

1.5.2 the amounts paid in previous interim payments.

2 VAT

The Employer shall pay the Contractor any Value Added Tax (VAT) properly chargeable on a sum due under this agreement. Any sum expressed as payable under this agreement is exclusive of VAT unless stated otherwise.

3 FINAL DATE FOR PAYMENT

The final date for payment shall be 28 days from the due date for payment.

4 PAYMENT NOTICE

Not later than five days after the due date for payment, the Employer shall give a notice to the Contractor specifying the sum it proposes paying, to what that sum relates, and the basis on which that sum has been calculated (a payment notice).

If the Employer does not give a payment notice under this clause 4 or a pay less notice under clause 7, the sum stated as due in the Interim Application shall not be deemed to be accepted or agreed.

5 CONTRACTOR'S DEFAULT NOTICE

If the Employer has not given notice under Paragraph 4, the Contractor may give notice to the Employer specifying the sum the Contractor considers to be or have been due at the payment due date in respect of the payment and the basis on which that sum is calculated (a payment notice). If the Contractor serves such a payment notice the final date for payment of the sum specified in that notice shall for all purposes be regarded as postponed by the same number of days after the date the Employer's payment notice should have been served under Paragraph 4 that the Contractor's payment notice was given.

6 NOTIFIED SUM

In this Part 2 of Schedule 3, notified sum means:

6.1 the sum referred to in a payment notice given under Paragraph 4, or, if such notice is not given;

6.2 the sum referred to in a payment notice given under Paragraph 5.

7 PAY LESS NOTICE

Not later than five days before the final date for payment, the payee may give a notice to the payer specifying its intention to pay less than the notified sum. If given, such notice shall specify the sum that the payee considers to be due on the date the notice is served and the basis on which that sum is calculated (a pay less notice).

8 EMPLOYER TO PAY ON OR BEFORE FINAL DATE FOR PAYMENT

Subject to Paragraph 7, the Employer shall pay the notified sum on or before the final date for payment.

In the event that the sum specified in a payment notice is a negative figure showing a balance due to the Employer to be paid by the Contractor, the Contractor shall, subject to

any pay less notice given under clause 7, pay the sum specified in the payment notice to the Employer by the final date for payment. Where a pay less notice is given by the Contractor to the Employer, the payment to be made to the Employer on or before the final date for payment shall not be less than the amount stated as due in the pay less notice.

9 NOTICE TO PROCEED

- 9.1 If the Employer issues a Notice to Proceed under Clause 6 of this agreement, then from the date of the Notice to Proceed the Employer shall be under no further obligation to make payment to the Contractor under this agreement (including its obligations under this clause) (save for any payments which have already become due for payment) and all sums paid or to be paid under this agreement shall be treated as paid on account under the Contract.

10 PCSA RETENTION

- 10.1 Where a payment under this agreement is required to be made under the Proposed Contract Documents, for the duration of the Pre-Construction Period:

10.1.1 the term 'Retention' in the Proposed Contract Documents shall be replaced with the term 'PCSA Retention' as defined in this agreement; and

10.1.2 the term 'Retention Percentage' in the Proposed Contract Documents shall be replaced with the term 'PCSA Retention Percentage' as defined in this agreement,

and this paragraph 10 shall apply to the treatment of that PCSA Retention.

- 10.2 All payments that become due under this agreement or pursuant to the Proposed Contract Documents shall include the deduction of the PCSA Retention Percentage from the total amount of sums due at the due date of each interim payment.

- 10.3 The PCSA Retention shall be the Employer's property until the last of the following events occur:

10.3.1 the parties confirm in writing that the Contract Sum for the Works has been agreed;

10.3.2 the parties enter into the Contract; and/or

10.3.3 [the parties confirm in writing that the Contractor has completed the delivery of the stage 4 design required by this agreement.

- 10.4 Provided that each of the conditions required in paragraph 10.3 have been satisfied by the Contractor, the PCSA Retention shall become due to the Contractor in the first interim payment under the Contract, with such sum shall being included within the Contract Sum.

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Schedule 4 – Notice to Proceed



Schedule 4

NOTICE TO PROCEED

[TO BE TYPED ON THE EMPLOYER'S HEADED PAPER]

To:

[NAME OF CONTRACTOR]

[ADDRESS]

[DATE]

[EMPLOYER'S REFERENCE]

Dear [CONTRACTOR],

[WORKS/PROJECT NAME]

Notice to Proceed

We refer to the pre-construction services agreement entered into between us on [DATE] (the Pre-Construction Services Agreement).

In accordance with Clause 6 of the Pre-Construction Services Agreement, we hereby give you Notice to Proceed with the Works (as defined in the Pre-Construction Services Agreement) in accordance with the Pre-Construction Services Agreement.

Please arrange for the enclosed documents to be executed and delivered to [PERSON] by return.

Yours faithfully

.....

Signed on behalf of [EMPLOYER]



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Schedule 5 – Proposed Contract Documents

Schedule 5

DOCUMENTS AND PROPOSED CONTRACT DOCUMENTS

The Commissioners for Her Majesty's Revenue and Customs
(the "Employer")

AND

XX Construction Ltd.
(the "Contractor")

SCHEDULE OF AMENDMENTS TO THE
JCT DESIGN AND BUILD CONTRACT 2016

[FIT OUT WORKS]

Write the following wording into the JCT booklet as a new Article 10:

"The Recitals, Articles, Contract Particulars and Conditions of Contract shall have effect as amended by the Schedule of Amendments attached hereto and signed by the parties as if the JCT Design and Build Contract, 2016 edition booklet had been physically amended to incorporate the provisions of the Schedule of Amendments. For the avoidance of doubt, this Schedule of Amendments shall take precedence over the printed JCT booklet."

Signed by the parties and dated

/ /2019

Employer

Contractor

.....

brownejacobson^{LLP}

SCHEDULE OF AMENDMENTS

The following amendments are made to the JCT Design and Build Contract, 2016 edition.

RECITALS

Third Delete the existing recital and insert the following:

“The Contractor has examined the Employer’s Requirements and accepts entire responsibility for the contents of the Employer’s Requirements (including, but not limited to, responsibility for any design contained therein) and is satisfied that:

- (i) the Contractor’s Proposals meet the Employer’s Requirements;
- (ii) there is no discrepancy within and/or between the Employer’s Requirements and the Contractor’s Proposals; and
- (iii) the Employer’s Requirements can be carried out within the timescale envisaged and at the cost indicated in the Contract Sum Analysis.”

ARTICLES

Article 1 After “The Contractor shall” insert “carry out and”.

Article 10 Insert the following as a new article:

“Article 10: Incorporation of Schedule of Amendments

The Recitals, Articles, Contract Particulars and Conditions of Contract shall have effect as amended by the Schedule of Amendments attached and signed by the parties as if the JCT Design and Build Contract, 2016 edition booklet had been physically amended to incorporate the provisions of the Schedule of Amendments. For the avoidance of doubt, this Schedule of Amendments shall take precedence over the printed JCT booklet.”

Article 11 Insert the following as a new article:

“Article 11: Want of knowledge

Notwithstanding any other provision of this Contract, the Contractor shall not be relieved from his liabilities or obligations under this Contract nor shall such liabilities or obligations be removed, restricted, limited or qualified in any respect of want of knowledge, and no defence or claim by the Contractor shall be admissible in respect of any want of knowledge thereof.”

Article 12 Insert the following as a new article:

“Article 12: Manufacturers’ guarantees

The Contractor shall obtain all available manufacturers’ guarantees and/or warranties in favour of the Employer for items of plant and equipment and will deliver them to the Employer (as part of the related information concerning the maintenance and operation of the Works) once obtained but in any event prior to or on practical completion of the sub-contract works under which the plant and equipment was installed.”

Article 13 Insert the following as a new article:

“Article 13: Pre-construction services agreement

Any work, services or supplies performed or provided by or on behalf of the Contractor in connection with the subject matter of this Contract whether carried out before, on, or after the date of this Contract or pursuant to any pre-construction services agreement shall be treated as having been performed or provided under this Contract. Such work, services or supplies shall be subject to the provisions of this Contract and any payments made by the Employer to the Contractor in respect thereof shall be treated as payments under this Contract on account of the Contract Sum.”

Article 14 Insert the following as a new article:

“Article 14: Collateral Warranties

14.1 The Contractor shall, if requested by the Employer in writing, procure and deliver to the Employer within 14 days of the Employer’s request, duly executed deeds of collateral warranty in the relevant forms set out in **Appendix 1** in favour of any Beneficiary.

14.2 The Contractor shall, if requested by the Employer in writing, procure and deliver to the Employer within 14 days of the Employer’s request, duly executed deeds of collateral warranty in the relevant forms set out in **Appendix 2** and **Appendix 3**, from the Design Consultants and the Key Sub-Contractors respectively, in favour of the Employer and any Beneficiary.

14.3 The Contractor shall ensure that a certified copy of each Design Consultant’s appointment and each Key Sub-Contractor’s sub-contract shall be provided by the Contractor to the Employer within 14 days of its execution. The Contractor may redact commercially sensitive pricing information.”

Article 15 Insert the following as a new article:

“Article 15: Contractor’s parent company guarantee

Where it is stated in the Contract Particulars that a parent company guarantee is required, the Contractor shall, no later than the date of this Contract, procure the execution and delivery of a parent company guarantee in favour of the Employer in the form attached at **Appendix 4** to the Schedule of Amendments. The parent company guarantee shall be executed and delivered by the Contractor’s Parent Company. If the Contractor does not procure execution and delivery of the parent company guarantee then, notwithstanding any other term of this Contract, the Employer shall not be liable to make any further payment to the Contractor under this Contract until the Contractor has procured such execution and delivery.”

Article 16 Insert the following as a new article:

“Article 16: Performance bond

Where it is stated in the Contract Particulars that a performance bond is required, the Contractor shall, no later than the date of this Contract, procure the execution and delivery of a performance bond in favour of the Employer in the form attached at **Appendix 5** to the Schedule of Amendments. The bond shall:

- (i) be in an amount no less than 10% of the Contract Sum;

- (ii) have an expiry date no earlier than three months after the issue of the Notice of Completion of Making Good; and
- (iii) be executed and delivered by a surety approved by the Employer, acting reasonably.

If the Contractor does not procure execution and delivery of the bond then, notwithstanding any other term of this Contract, the Employer shall not be liable to make any further payment to the Contractor under this Contract until the Contractor has procured such execution and delivery.”

Article 17 Insurance of Existing Structures and contents

The Employer, as a tenant of the Existing Structures, is unable to procure a Joint Names Policy in respect of the Existing Structures and contents and is unable therefore to procure that the Contractor’s interests are noted on the insurance policy for the Existing Structure and contents. Accordingly the parties have agreed, in respect of the cost of reinstatement, repair or replacement of loss or damage to the Existing Structures and contents due to any of the Specified Perils up to and including the date of issue of the Practical Completion Statement or last Section Completion Statement or (if earlier) the date of termination of the Contractor’s employment (whether or not the validity of that termination is contested), that:

171 the Contractor’s liability is limited to the amount specified in the Contract Particulars; and

17.2 the Employer shall be liable for, and shall indemnify the Contractor against, any expense, liability loss, claim or proceedings in respect of such liability identified in this Article 17 in excess of the amount stated in the Contract Particulars.¹]]

CONTRACT PARTICULARS

Sixth Recital Insert the following: “[INSERT START DATE, TITLE AND PARTIES TO FRAMEWORK AGREEMENT]”

Article 17 Insert £10,000,000 (ten million pounds)

Clause 2.2.6 The Key Personnel for the Contractor are: XX (Key Account Director), XX (Construction Manager), XX (Commercial Manager), XX (Senior Project Manager), XX (Senior Building Services Manager), XX (Senior Design Manager)

Clause 2.17.3 Delete the reference to clause “2.17.3” and replace with “2.17.10”

Clause 2.35 Delete both references to “6 months” shown in brackets and insert “12 months”.

Clause 3.4A.1 Novated Design Consultants

Not required

Clause 3.4B The Project Bank Account ~~does~~ does not apply

Clause 4.2, 4.12 and 4.13 Delete the entire entry on the Fluctuations Provision.

Clause 6.15 Delete “6 years” shown in brackets in the last entry and insert “12 years”.

¹ DRAFTING NOTE: the Employer is currently investigating the insurance for the site and will confirm asap.

Clause 7.2 Delete the entire entry.

Clause 7.3.1 In the entry on the required form of the bond, insert “Appendix 5”

~~Delete the sections entitled “Initial value”, “Period of validity” and “Reduction in value”]~~²

[Clause 7.3.2 In the entry on the required form of the guarantee, insert “Appendix 4”]³

Clause 7.4 Delete the existing text and insert the following:

“Contractor warranties

The Contractor shall provide collateral warranties in favour of any Beneficiary.

Key Sub-Contractor warranties

The Key Sub-Contractors are to provide collateral warranties in favour of the Employer and any Beneficiary.

The “Key Sub-Contractors” are those sub-contractors with a material design responsibility and also include, without limitation, those sub-contractors who are responsible for the following elements of the works:

Element of the Works for which a Key Sub-Contractor is responsible	Amount of professional indemnity insurance required to be maintained (see clause 6.15.6)
TBC	£tbc each and every claim

Design Consultants

The Design Consultants are to provide collateral warranties in favour of the Employer and any Beneficiary.

The “Design Consultants” are those consultants listed in the table below, or such replacement appointed from time to time, and the Novated Design Consultants and any other designer who the Contractor has retained in connection with the Works.

Discipline	Amount of professional indemnity insurance required to be maintained (see clause 6.15.6)
Architect	£10,000,000 for each and every claim
Mechanical and Electrical Engineer	£10,000,000 for each and every claim

² DRAFTING NOTE: delete if a performance bond is not required”

³ DRAFTING NOTE: delete if a parent company guarantee is not required”

Structural Engineer	£10,000,000 for each and every claim

ATTESTATION

This Agreement shall be executed as a deed.

CONDITIONS Section 1: Definitions and Interpretation

Definitions

1.1 Insert the following as new definitions:

“Beneficiary:	a Landlord, Purchaser, Funder and/or Tenant.”
“Construction Regulations:	Products the Construction Products Regulations 2013 (SI 2013/1387), the Construction Products Regulation (305/2011/EU), the Construction Products Regulations 1991 (SI 1991/1620) and the Construction Products Directive (89/109/EC).”
“Consents:	the planning permissions referred to in the Employer's Requirements, approval of reserved matters or details pursuant thereto, building regulations approval, fire officer approval and any other permissions, approvals, certificates and licences that may be necessary pursuant to the Statutory Requirements or otherwise for the carrying out of the Works and, if they are destroyed or damaged, the reinstatement of the Works.”
“Deleterious:	any materials, equipment, products or kits that are generally accepted, or generally suspected, in the construction industry at the relevant time as: <ul style="list-style-type: none"> (i) posing a threat to the health and safety of any person; (ii) posing a threat to the structural stability, performance or physical integrity of the Works or any part or component of the Works; (iii) reducing, or possibly reducing, the normal life expectancy of the completed Works or any part or component of the Works; (iv) not being in accordance with any legislation, British Standard, relevant code of practice, good building practice or any applicable agrément certificate issued by the British Board of Agrément; or (v) having been supplied or placed on the market in breach of the Construction Products Regulations.”
“Design Consultants:	see the Contract Particulars (against the reference to clause 7.4).”
“Emergency Repair:	the repair, rectification or replacement work which is necessary as a result of a defect, shrinkage, damage or other fault: <ul style="list-style-type: none"> (i) that may reasonably be regarded by the Employer or any Beneficiary as a matter of emergency;

	(ii) that causes or may cause the Employer or a Beneficiary to be unable to operate or use the Works or any part of the Works or plant or machinery forming part of the Works properly or at all; and/or
	(iii) that it is a significant threat to health and safety.”
“Key Personnel:	see the Contract Particulars (against the reference to clause 2.2.6)
“Key Sub-Contractors:	see the Contract Particulars (against the reference to clause 7.4).”
“Landlord:	the Employer’s landlord of the property which is part of the site.”
“Material:	all designs, drawings, models, plans, specifications, design details, photographs, brochures, reports, notes of meetings, BIM documents, CAD materials, calculations, data, databases, schedules, programmes, bills of quantities, budgets and any other materials provided in connection with the Works (and completed Works), including the Contractor’s Design Documents, and all updates, amendments, additions and revisions to them and any works, designs, or inventions incorporated or referred to in them for any purpose relating to the Works (and completed Works).”
“Novated Design Consultants:	see the Contract Particulars (against the reference to clause 3.4A.1).”
“Payee:	the party who is entitled to receive a payment from the other party under this Contract.”
“Payer:	the party who is required to make a payment to the other party under this Contract.”
“Permitted Uses:	the design, construction, completion, reconstruction, modification, refurbishment, development, maintenance, facilities management, funding, disposal, letting, fitting-out, advertisement, promotion, decommissioning, demolition, reinstatement, extension, building information modelling and repair of the Works (and the completed Works).”
“Project Bank:	the bank operating the Project Bank Account.”
“Project Bank Account:	is the account used to receive payments from the Employer to the Contractor and from the Contractor to his subcontractor.”
“Schedule of Amendments:	the Schedule of Amendments as annexed to the JCT booklet.”
“Third Party Agreements:	the extracts from agreements between the Employer and third parties, which may affect the Works, attached at Appendix 6 to the Schedule of Amendments, as supplemented by any instruction from the Employer referred to in clause 5.1.3 .”
“Viable Rates and Terms:	see clause 6.15.2 .”
“Warranty Retention:	see clause 7E .”
“Works Programme:	see clause 2.2A .”

Amend the following definitions:

Agreement:	At the end of the definition of “Agreement” insert “(all as amended by the Schedule of Amendments annexed hereto)”
BIM Protocol:	Delete “(where applicable)”
Conditions:	At the end of the definition of “Conditions” insert “(all as amended by the Schedule of Amendments annexed hereto)”
Consultants:	Delete this definition.
Contract Documents:	Delete “(where applicable)” After “these Conditions”, insert “as amended by the Schedule of Amendments.”
Contract Particulars:	At the end of the definition of “Contract Particulars” insert “all as amended by the Schedule of Amendments.”
Employer:	At the end of the definition insert “(which expression shall include its successors in title and permitted assigns)”
Employer’s Rights	Delete this definition
Funder	Delete the existing definition and replace with “each and every party providing, or intending to provide, finance to the Employer in connection with the Works (including its successors in title and assigns and those deriving title under it or them)”
Funder’s rights	Delete this definition
Interest Rate	Delete “5%” and insert “2%”
P&T Rights	Delete this definition
Purchaser:	Delete the existing definition and insert “any person purchasing, or intending to purchase, the premises comprising the Works or any part thereof.”
Rights Particulars	Delete this definition
Tenant:	Delete the existing definition and insert “any person taking, or intending to take, a lease or underlease of the premises comprising the Works or any part thereof.”

Interpretation

1.3 Agreement etc. to be read as a whole

After “override or modify” **insert** “the Schedule of Amendments, ”

1.6 Contracts (Rights of Third Parties) Act 1999

Delete clause 1.6 and **insert** the following:

“Other than any rights as take effect pursuant to section 7 of these Conditions, nothing in this Contract confers or is intended to confer any right to enforce any of its terms on any person who is not a party to it.”

- 1.7 Notices and other communications**
- 1.7.5 In line 2 after “property” insert “(including Emergency Repair)”
- 1.8 Effect of Final Statement**
- 1.8.1.1 Delete this clause and replace with “Not used.”
- 1.9 Effect of payments other than payment of Final Statement**
- Delete “Save as stated in clause 1.8,”
- Insert the following as new clauses 1.12 to 1.15:
- “1.12 Entire agreement**
- The Employer and the Contractor each acknowledge and agree that in entering into this Contract it has not relied upon, and shall have no remedy in respect of, any statement, representation, warranty or undertaking (whether negligently or innocently made) other than those statements expressly set out in this Contract provided that this clause shall not exclude any liability for, or remedy in respect of, fraud or fraudulent misrepresentation.
- 1.13 Set-off and abatement**
- Nothing contained in this Contract (other than as to the giving of notices) shall oust or limit any right of the Employer under any statute or rule of law or of equity in the nature of set-off or abatement of price.”
- 1.14 Severance**
- If any term, condition or provision in this Contract shall be held to be invalid, unlawful or unenforceable to any extent, such term, condition or provision shall not affect the validity, legality and enforceability of the other provisions of or any other documents referred to in this Contract.”
- 1.15 Priority of documents**
- In the event of any conflict or inconsistency between the terms of this Contract and any framework agreement that the contract particulars state is applicable to this Contract, the terms of that framework agreement shall prevail.”
- CONDITIONS Section 2: Carrying out the Works**
- Contractor’s Obligations**
- 2.1 General obligations**
- 2.1.1 In line 1 after “proper” insert “, good”
- In line 1 after “workmanlike manner” insert “and in accordance with the recommendations of BS 8000 (unless there is a discrepancy or conflict between the recommendations of BS 8000 and the Contract Documents in which case the Contract Documents shall prevail)”
- In line 3 after “shall” insert “carry out and”
- Insert the following as a new clause 2.1.5:

- 2.1.5 The Employer and the Contractor shall:
- .1 comply with their respective obligations set out in the BIM Protocol;
 - .2 have the benefit of any rights granted to them in the BIM Protocol; and
 - .3 have the benefit of any limitations or exclusions of their liability contained in the BIM Protocol.”
- 2.2 Materials, goods and workmanship**
- 2.2.1 After “so far as procurable,” **insert** “be good quality materials of satisfactory quality that are appropriate for their use and”
- At the end of clause 2.2.1, **insert** the following as a new sentence:
- “The Contractor warrants that he will use well-maintained plant and equipment in carrying out the Works.”
- Insert** the following as new clauses 2.2.6 and 2.2.7:
- “2.2.6 The Contractor warrants and undertakes that it shall ensure that the Key Personnel maintain a material involvement in the Works and, so far as reasonably possible, the Contractor shall not change the identity of the Key Personnel without the Employer’s prior written consent (such consent not to be unreasonably withheld or delayed).
- 2.2.7 Throughout the duration of this Contract the Contractor shall use all reasonable endeavours to create employment opportunities for residents of the United Kingdom and shall create apprenticeship and job opportunities in accordance with the Employer’s Requirements.”
- After clause 2.2, **insert** the following as a new clause 2.2A:
- “2.2A The Works Programme**
- 2.2A.1 As soon as possible after execution of this Contract and in any event no less than 7 Business Days prior to starting work on site, the Contractor will produce a fully resourced programme for the execution of the Works in such form and giving such information as prescribed in the Employer’s Requirements or as the Employer may otherwise reasonably require (the “**Works Programme**”). Thereafter, the Contractor must revise the Works Programme as appropriate to minimise or avoid any delay or disruption, or anticipated delay or disruption, to the carrying out of the Works.
- 2.2A.2 The Contractor will report to the Employer every month in writing comparing the progress of the execution of the Works with the then current Works Programme and will promptly advise the Employer in the event of delay or disruption and will set out the measures which the Contractor is taking or proposes to take to minimise or make good such delay or disruption.”
- Possession**
- 2.5 Early use by Employer**
- 2.5.1 At the end of clause 2.5.1, **insert** the following as a new sentence:
- “Subject to such confirmation, the Contractor’s consent shall not be unreasonably delayed or withheld.”

Insert the following as a new clause 2.5.3:

- “2.5.3 Where the Employer uses or occupies the site under clause 2.5.1, this shall not be construed as evidence to deem, for the purposes of this Contract, that practical completion shall have taken place.”

2.8 Construction information

Replace “Save for any Contractor’s Design Documents contained in the Contractor’s Proposals, the” with “The”

Discrepancies and Divergences

2.11 Preparation of Employer’s Requirements

2.11 Delete clause 2.11 and insert the following:

“The Contractor accepts entire responsibility for the contents of the Employer’s Requirements including the adequacy of any design contained within them.”

2.12 Employer’s Requirements - Inadequacy

2.12.1 Delete “and the Contractor under clause 2.11 is not responsible for verifying its adequacy”

2.12.2 Delete clause 2.12.2

2.13 Notification of Discrepancies etc.

2.13 Renumber “2.13” as “2.13.1”, “2.13.1” as “2.13.1.1” and replicate for “2.13.2” and “2.13.3”

Insert the following as a new clause 2.13.2:

“2.13.2 The Contractor shall not have or make any claim for loss and/or expense under clause 4.19 and clause 2.25 shall not have effect, where and to the extent that the cause of the progress of the Works (having been delayed, affected or suspended) is:

- .1 any such discrepancy or divergence as is referred to in clause 2.13; or
- .2 any failure by the Contractor to provide necessary drawings, documents or other information in due time and/or in accordance with the Conditions.

The Contractor shall not be entitled to any adjustment of the Contract Sum in respect of any instructions issued by the Employer in order to correct any such discrepancy or divergence as is referred to in this clause 2.13.”

2.14 Discrepancies in Documents

2.14.2 Delete “and treated as a Change” and insert “and the Contractor shall be obliged to comply with the decision or acceptance by the Employer without affecting in any way or to any degree the responsibility of the Contractor under this Contract and without any adjustment to the Contract Sum (whether under clause 4.19 or otherwise) nor shall there be any extension to the Completion Date.”

2.15 Divergences from Statutory Requirements

- 2.15.1 In line 7 after “clause 2.15.2,” **insert** “carry out and”.
- 2.15.2.1 In line 1 after “Statutory Requirements” **insert** the following:
- “(which could not have been reasonably foreseen by an experienced and competent design and build contractor)”.
- 2.15.2.2 At the end of clause 2.15.2.2, before the full stop, **insert** the following:
- “and has not been caused by the Contractor’s breach of this Contract (to include without limitation, the Contractor’s default, omission and/or negligence in the provision of the Contractor’s planning services to procure the Development Control Requirements) other than an amount that is recoverable by the Employer under a policy of insurance maintained in accordance with Insurance Option B or Insurance Option C, if applicable.”

Design Work - liabilities and limitation

Delete clause 2.17 and **insert** the following:

- “2.17.1 The Contractor shall be solely responsible in all respects for the design of the Works (including any design contained in a Change and any performance specification) and shall adopt and take full responsibility and liability for any error, mistake, inaccuracy or discrepancy in the design of the Works including any design contained in the Employer’s Requirements and/or the Contractor’s Proposals and/or other Contractor’s Design Documents, whether or not carried out before or after the date of this Contract and whether or not by any Contractor’s Person. Without prejudice to the foregoing generality, the Contractor undertakes and warrants to the Employer that:
- .1 he has exercised and will continue to exercise in the performance of his design services, the reasonable skill, care and diligence expected of competent and properly qualified persons of the relevant disciplines who are experienced in carrying out such design services in relation to works of a similar size, scope and nature to the Works.
 - .2 subject to the standard of reasonable skill and care required by clause 2.17.1.1, when completed the Works will comply with:
 - .1 any performance specification or requirement included or referred to in the Employer’s Requirements and/or the Contractor’s Proposals including in any Changes issued pursuant to section 5 of these Conditions; and
 - .2 all appropriate requirements of any Local or Public Authority, Consents and any relevant Statutory Requirements.
- 2.17.2 The Contractor warrants and undertakes to the Employer that it shall not use or specify for use or permit to be used by or on behalf of the Contractor in relation to the Works anything which, at the time of specification or use, is Deleterious.
- 2.17.3 The Contractor shall be deemed to have inspected the physical and other conditions (including the sub-soil and sub-surface conditions) of or affecting the site, its surroundings and access to the site and shall be deemed to have fully acquainted and satisfied itself with the same and to have obtained all necessary information as to any risks, contingencies, restrictions and all other circumstances in relation

thereto which may influence or affect the execution of the Works. The Contractor shall be responsible for satisfying himself as to the restrictions on access to the site and the restrictions on parking around the site.

- 2.17.4 No failure on the part of the Contractor to discover or foresee any such condition, risk, contingency or circumstance, whether or not the same ought reasonably to have been discovered or foreseen by a competent and careful contractor, shall entitle the Contractor to make any claim for an extension of time under clause 2.25 or for loss and/or expense under clause 4.19 (or otherwise) or to any adjustment of the Contract Sum.
- 2.17.5 The Employer makes no representation or warranty as to the accuracy or completeness of any survey, report or document provided by the Employer or included in or forming part of the Employer's Requirements regarding any matter, including without limitation any matter referred to in this clause 2.17. The Employer shall have no liability arising out of or in relation to any such survey, report or document or their contents including any representation or statement, whether made negligently or otherwise.
- 2.17.6 The Contractor shall be responsible for satisfying itself as to the location and nature of the power and utility services and mains which may affect the Works, including the excavation of trial holes if appropriate. All protection to such services and mains deemed necessary by the relevant authority, Statutory Undertaker or public utility organisation as a consequence of executing the Works are to be agreed between the Contractor and that party and advised to the Employer's Agent and carried out or procured by the Contractor. The costs of all such location and protection works, including any charges or fees levied by that authority, Statutory Undertaker or public utility are the responsibility of the Contractor.
- 2.17.7 The Contractor shall make, and be deemed to have made, at his own cost due allowance for any service installations and diversions on or through the site and also for restricted access to the Works and restrictions on parking and for the works of any statutory bodies, authorities, Statutory Undertakers or public utilities insofar as these may affect the carrying out of the Works.
- 2.17.8 Without prejudice to the provisions of clauses 2.17.6 and 2.17.7, the Contractor shall comply with any special requirements that any Statutory Undertakers may require at his own cost without any entitlement to an adjustment to the Contract Sum or to an adjustment of the Completion Date under clause 2.25 or to loss and/or expense under clause 4.19 (or otherwise).
- 2.17.9 The Contractor shall be responsible for making all necessary applications for services and utilities connections required for the purposes of the Works to the relevant service and utilities providers and/or Statutory Undertakers or other relevant body as the case may be and the Contractor shall be responsible for lodging all necessary documentation including all drawings and specifications. The Contractor shall be responsible for procuring the installation or diversion of such services and utilities connections. It is agreed that the Contract Sum is inclusive of all fees and other sums payable to the service and utilities providers or other body in order to achieve the necessary service and utilities connections in respect of all sums due by way of standing charges and consumption charges which are referable for the period up to and including the date of practical completion."
- 2.17.10 Without affecting any other limitation in this Contract, the Contractor's liability under or in connection with this Contract shall be limited to the sum stated in the Contract Particulars. This limit shall apply however that liability arises including a liability arising by breach of contract, arising by tort (including the tort of

negligence) or arising by breach of statutory duty, provided that this clause shall not exclude or limit the Contractor's liability for:

2.17.10.1 any indemnities listed in this Contract;

2.17.10.2 fraud or fraudulent misrepresentation;

2.17.10.3 breach by the Contractor of clauses 2.38 or 3.16 of this Contract; or

2.17.10.4 termination pursuant to clauses 8.4 to 8.6 of this Contract."

2.17.11 Save where otherwise stated in the Employer's Requirements, the Contractor shall be responsible for making all necessary applications for the Consents required for the purposes of the Works to the relevant Statutory Undertakers or other relevant body as the case may be and the Contractor shall be responsible for lodging all necessary documentation including all drawings and specifications. The Contractor shall be responsible for obtaining and/or discharging those Consents. It is agreed that the Contract Sum is inclusive of all fees and other sums payable to any other body in order to obtain and discharge the necessary Consents."

Adjustment of Completion Date

2.24 Notice by Contractor of delay to progress

2.24.1 After the word "forthwith" insert "(and in any event not later than 14 days after it becomes reasonably apparent that the progress of the Works or any Section is being or is likely to be delayed)"

At the end of clause 2.24.1 insert "and provide a revised version of the Works Programme to illustrate the nature of the delay."

2.25 Fixing Completion Date

2.25.5 After "2.25.3" insert "provided always that the Contractor has complied with clause 2.24.1."

2.25.5.1 **Delete** "and whether or not the Relevant Event has been specifically notified by the Contractor under clause 2.24.1."

2.26 Relevant events

2.26.1 At the start of this clause insert "Subject always to clause 5.8,"

2.26.2.1 **Delete** this clause

2.26.6 At the end of clause 2.26.6 insert the following before the semi-colon:

"or in the case of any impediment or prevention, save to the extent that the same is the consequence of the reasonable exercise of the rights of the Employer under this Contract"

2.26.7 At the end of clause 2.26.7 insert the following:

", but always subject to clauses 2.17.7 and 2.17.8"

2.26.12 **Delete** this clause and **replace** with "Not used."

Insert the following as a new clause 2.26A after clause 2.26:

- “2.26A (save where the Relevant Event is as defined in clause 2.26.9 and provided, in that case, that the Contractor has complied fully with any obligation upon the Contractor to maintain insurance against Specified Perils under this Contract) the Contractor shall not become entitled to any extension of time on account of any circumstances arising by reason of any error, omission, negligence or default of the Contractor the Contractor’s Persons.”

Practical Completion, Lateness and Liquidated Damages

2.27 Practical completion

Renumber “2.27” as “2.27.1”, “2.27.1” as “2.27.1.1” and “2.27.2” and “2.27.1.2”

Delete the opening paragraph and **insert** the following:

“The Contractor shall provide the Employer with not less 7 days’ notice in writing of the date when the Contractor anticipates that the Works or any Section will reach practical completion. Provided that the Contractor has provided sufficient prior notice and that practical completion of the Works or a Section is achieved and the Contractor has complied sufficiently with this clause 2.27 and clauses 2.37 and 3.16 in respect of the supply of documents and information, then:”

At the end of clause 2.27.1, **insert** the following as a new sentence:

“If the Employer does not consider that practical completion of the Works or a Section has been achieved then the process in clause 2.27.1 shall be repeated and the Contractor shall be obliged to provide the Employer with further notice of the date when the Contractor anticipates that practical completion of the Works or a Section will be achieved.”

Insert the following new clauses 2.27.2 to 2.27.4 after clause 2.27.1:

- “2.27.2 For the purposes of this clause 2.27, ‘practical completion’ means the state in which the Works are (or any Section is) complete in all respects and free from any apparent defects, save for any minor items of any incomplete works or minor defects the existence, completion, rectification of which will not prevent or interfere with the use and enjoyment (or the fitting out for use) of the Works or Section, provided that where it is expressly stated in any provisions of the Contract Documents that the testing, commissioning, regulation or adjustment of any mechanical or electrical services is to be completed before practical completion of the Works or any Section, the Works or Section shall not be considered practically completed until the same is done as the Contract Documents require.
- 2.27.3 The Practical Completion Statement or Section Completion Certificate (as the case may be) may have appended to it a snagging list setting out minor, incomplete or defective works and the timescale within which such works are to be made good by the Contractor. Should the Contractor fail to make good the works set out on any snagging list within the time set out on that list or such other reasonable period as the Employer’s Agent may instruct, the Employer shall be entitled to complete or make good those items and deduct those sums from the Contract Sum or recover those costs from the Contractor as a debt.
- 2.27.4 The Employer’s Agent shall not be obliged to issue the Practical Completion Statement or Section Completion Certificate (as the case may be) unless all items required by the Employer’s Agent have been provided to the Employer including but not limited to:
- .1 two complete sets of copies of test certificates and commissioning reports, full maintenance and operation manuals for the mechanical and

- electrical installation (if any) and any other plant and material installed at the Works;
- .2 one hard copy and one electronic copy of the health and safety file maintained in relation to the Works pursuant to the Contractor's obligations under the CDM Regulations;
- .3 copies of all manufacturers' guarantees and/or warranties which are available or should be available in respect of the Works;
- .4 the collateral warranties and certified copy sub-contracts and design appointments required by this Contract;
- .5 completion certificates from the Local or Public Authority or, where applicable, a building inspector;
- .6 two copies of the fire, gas safety and electrical certificates; and
- .7 keys for all locks at the site, individually labelled indicating their location
- .8 all Models, Materials or Specific Models as required by the BIM Protocol;
- .9 evidence that the Contractor has obtained complied with and/or discharged all of the conditions of the Consents (except for those Consents that the Employer's Requirements state are not the Contractor's responsibility) that are required to be complied with before the site can be occupied and used for the intended use they have been occupied."

Partial Possession by Employer

2.30 Contractor's consent

In the third line, after "obtained" insert "(which consent shall not be unreasonably delayed or withheld)"

Defects

2.35 Schedules of defects and instructions

Insert the following as a new clause 2.35A after clause 2.35:

"2.35A.1 In the event that any defects, shrinkage or other fault is deemed by the Employer to require an Emergency Repair, the Contractor shall attend the site to rectify the Emergency Repair within 24 hours of it being notified to the Contractor by suitable means. If the Contractor fails to attend to the Emergency Repair within 24 hours the Employer shall be entitled to engage others to carry out the Emergency Repair and shall be entitled to deduct those costs from the Contract Sum or recover those costs from the Contractor as a debt.

2.35A.2 In carrying out any works pursuant to clause 2.35A.1, the Contractor shall:

- .1 act in a reasonable manner so as to cause as little disturbance and interference as reasonably practicable to the business carried out on at the site and forthwith make good any damage to the fixtures, fittings and stock on site to the Employer's reasonable satisfaction.

- .2 insofar as reasonably possible carry out such works outside the usual trading hours of the Employer, Tenant or any other third party in occupation of the site.”

2.36 Notice of Completion of Making Good

In line 2 after “have been made good” insert “to the reasonable satisfaction of the Employer”

At the end of clause 2.36, before the full stop, insert the following:

“provided that the Employer shall not be required to issue any Notice of Completion of Making Good any earlier than the expiry of the Rectification Period.”

Contractor’s Design Documents

2.38 Copyright and use

2.38.1 In line 3, replace “Contractor’s Design Documents” with “Material”

Delete clauses 2.38.2 and 2.38.3 and insert the following:

“2.38.2 Notwithstanding clause 2.38.1, the Contractor grants to the Employer and its nominees (and if it cannot grant such a licence at the date of this Contract then the Contractor shall procure its ability to grant such licence and shall then grant on the same terms when it is able to do so) with full title guarantee a non-exclusive irrevocable, non-terminable, fully paid up and royalty free licence to copy and use the Material prepared by or on behalf of the Contractor for and to reproduce the designs contained in them and to do so in built form for any purpose relating to the Works (and completed Works) including any of the Permitted Uses.

2.38.3 The licence carries the right to grant sub-licences and is transferable to third parties without the Contractor’s consent.”

2.38.4 Replace the word “Contractor’s Design Documents” with “Material”

Insert the following as new clauses 2.39 to 2.41:

Additional Provisions

“2.39 Nuisance

The Contractor shall at all times prevent any nuisance (including but without limitation any noisy working operations or obstruction or damage of the roadways or common areas) or other interference with the rights of the Employer (in respect of land not forming part of the site) and any adjoining land-owner, tenant or occupier or any statutory undertaker arising out of the carrying out of the Works and the Contractor shall assist the Employer in defending any action or proceedings which may be instigated in relation thereto. Without prejudice to the generality of the foregoing, the Contractor shall indemnify the Employer, on demand and as a debt, against any and all expenses, liabilities, losses, claims and proceedings whatsoever (including the entire legal fees and internal management time incurred by the Employer in defending and/or managing any such expenses, liabilities, losses, claims and proceedings whether or not such legal fees and internal management time are reasonably incurred) resulting from any failure by the Contractor to comply with this clause 2.39.

2.40 Trespass

Without prejudice to any other provision of this Contract, the Contractor shall ensure that there is no trespass by the Contractor or the Contractor's Persons (including the oversailing of a tower crane jib or the erection of scaffolding or hoarding) on or over any nearby property arising out of the Works and shall take all reasonable safety and other measures to prevent damage or injury to any persons including the occupiers of nearby property and members of the public. If carrying out the Works or any obligation pursuant to clauses 2.35 and/or 2.35A would otherwise be an act of trespass, the Contractor shall, at no cost to the Employer, obtain the prior written agreement of the owners or occupiers of any nearby property to that act. That agreement shall be subject to the Employer's approval before its completion. The Contractor shall comply with any condition or obligation contained in that agreement, at no cost to the Employer, and shall not be entitled to any extension of time as a result of any condition or obligation contained in that agreement.

2.41 Third Party Agreements

- 2.41.1 The Contractor shall be deemed to have read the Third Party Agreements and to be fully aware of the obligations, risks and liabilities assumed by the Employer under them.
- 2.41.2 The Contractor shall perform and assume, as part of his obligations under this Contract, the Employer's obligations, liabilities and risks contained within the Third Party Agreements that relate to the carrying out of the Works as if they were expressly referred to in this Contract as obligations, liabilities and risks of the Contractor, all other things being equal.
- 2.41.3 The Contractor shall ensure that no act or default or omission on his part or on the part of any of the Contractor's Persons in relation to the performance by the Contractor of his obligations under this Contract shall cause, contribute or otherwise give rise to any breach by the Employer of any of his obligations under the Third Party Agreements."

CONDITIONS Section 3: Control of the Works

Sub-Contracting

3.3 Consent to sub-contracting

- 3.3.1.1 In line 2, after "Works" insert the following:

"(save that the Contractor shall not sub-contract the whole of the Works under one contract or to one sub-contractor)"
- 3.3.1.2 At the end of clause 3.3.1.2, insert the following as a new sentence:

"The Contractor shall appoint any Design Consultants under an appointment that is executed as a deed and which contains no limitations on liability which are of a lesser amount on an any one claim basis than the respective Design Consultant's level of professional indemnity insurance cover (subject to a minimum level of cover set out in clause 6.15.6.1). In addition, such appointment of any Design Consultant shall contain terms, in respect of the design of the Works and the provision of collateral warranties that are no less onerous than those terms imposed on the Contractor under this Contract."

3.4 Conditions of sub-contracting

- 3.4.2.5 **Delete** this clause and replace with:

“3.4.2.5.1 that each Key Sub-Contractor or Design Consultant must execute and deliver collateral warranties in favour of the Employer and/or any Beneficiary in the relevant form annexed to this Contract.

3.4.2.5.2 that each Key Sub-Contractor or Design Consultant carried out and maintains professional indemnity insurance for an amount of not less than that required by clause 6.15.6.2 of this Contract”

Insert the following as a new clause 3.4.4:

“3.4.4 the sub-contract for Key Sub-Contractors shall contain such amendments as are necessary to render it consistent with the Contract Documents and be executed as a deed.”

Insert the following as a new clause 3.4.5:

“3.4.5 the Contractor shall ensure that it complies with the government’s Prompt Payment Policy and that it pays any sums due to its sub-contractor within 30 days of the final date for payment.”

Insert the following as a new clause 3.4A:

“3.4A **Additional conditions of Key Sub-Contractor’s sub-contract and Design Consultant’s appointment**

3.4A.1 The Contractor shall:

- .1 (where stated in the Contract Particulars) within 7 days of entering into this Contract, enter into a deed of novation in the form prescribed by the Employer and accept the appointment of those Novated Design Consultants nominated by the Employer;
- .2 within 7 days of the execution of each Design Consultant’s appointment (including a novation of a Novated Design Consultant) and each Key Sub-Contractor’s sub-contract, deliver to the Employer a certified copy of the relevant sub-contract or appointment;
- .3 not vary, waive, release or dismiss any Key Sub-Contractor or Design Consultant without the written approval of the Employer (such approval not to be unreasonably withheld or delayed);
- .4 not do anything that would entitle any of the Design Consultants or Key Sub-Contractors to regard its employment under its appointment or sub-contract as terminated;
- .5 immediately inform the Employer if the Contractor believes that any Design Consultant or Key Sub-Contractor may be intending to rescind or terminate its appointment or sub-contract;
- .6 ensure that each Design Consultant or Key Sub-Contractor is contractually required to adopt open book contracting; and
- .7 insofar as it is relevant to the Works, ensure that each Design Consultant and Key Sub-Contractor complies with the BIM Protocol.

- 3.4A.2 If the employment of any Key Sub-Contractor or any Design Consultant is terminated before the completion of the sub-contract works or design allocated to such Key Sub-Contractor or Design Consultant (as the case may be), the Contractor shall, as soon as is practicable but on 7 days' prior written notice to the Employer, appoint another sub-contractor or designer (subject to the Employer's consent) to complete those sub-contract or design works (save for any sub-contractor or designer which the Employer makes reasonable objection to in writing). The foregoing provisions of this clause 3.4A shall apply to such replacement sub-contractor or designer, *mutatis mutandis*.
- 3.4A.3 If the Contractor breaches any provision of clause 3.4 or this clause 3.4A, it shall be a deemed failure to comply with his obligations pursuant to clause 8.4.2."
- 3.4B Project Bank Account**
- Insert a new clause 3.4B as follows:
- "3.4B.1 Where it is stated in the Contract Particulars that this clause applies, the Contractor shall establish a Project Bank Account with the Project Bank within two weeks of the Date of Possession of the first Section or Works and the remainder of this clause 3.4B shall apply to that Project Bank Account.
- 3.4B.1.1 Unless stated otherwise in this Contract, the Contractor shall pay any charges made and is paid any interest paid by the Project Bank.
- 3.4B.1.2 The Contractor shall obtain the Employer's prior written consent to the form of banking arrangement for the Project Bank Account, such consent not to be unreasonably withheld or delayed.
- 3.4B.1.3 The Contractor shall include in his subcontracts with his subcontractors the arrangements in this Contract for the operation of the Project Bank Account and notify his subcontractors of the details of the Project Bank Account and the arrangements for payment of amounts due under those subcontracts.
- 3.4B.1.4 The Contractor shall seek the Employer's prior written consent (such consent not to be unreasonably withheld or delayed) before it adds or removes any subcontractors from the Project Bank Account.
- 3.4B.1.5 With each application for payment, the Contractor submits details showing the amounts due to his subcontractors in accordance with their subcontracts.
- 3.4B.1.6 Within the period for payment set out in this Contract or any subcontract:
- 3.4B.1.6(a) the Employer shall make payment to the Project Bank Account of the amount which is due to the Contractor under this Contract; and
- 3.4B.1.6(b) the Contractor shall make payment to the Project Bank Account of any amount which the Employer has notified the Contractor he intends to withhold from the amount due under this Contract and which is required to be paid to the subcontractors as specified by the Employer.
- 3.4B.1.7 The Contractor shall be responsible for authorising the Project Bank to make payments from the Project Bank Account as required and within the timescales set out in this Contract.
- 3.4B.1.8 A payment which is due from the Contractor to the Employer is not made through the Project Bank Account.

3.4B.1.9 Payments made from the Project Bank Account are treated as payments from the Employer to the Contractor in accordance with this Contractor or from the Contractor to his subcontractors in accordance with the relevant subcontract.

3.4B.1.10 If this Contract is terminated, no further payment is made into the Project Bank Account.”

CONDITIONS Section 4: Payment

Payments and Notices - general provisions

4.7 Interim Payments - Contractor’s Interim Payment Applications, due dates and Payment Notices

4.7.1 **After** “by the Employer to the Contractor” insert “or the Contractor to the Employer”

4.7.2 In line 2 **delete** “by the Employer”

4.7.3 **Insert** the following to the end of clause 4.7.3

“The sum due in an Interim Payment Application shall be calculated in accordance with clause 4.14 (Sums due as Interim Payments). Where an Interim Payment is not calculated in accordance with clause 4.14 (Sums due as Interim Payments) the sum stated as due in the Interim Payment Application shall be deemed to be £nil.”

Insert the following as a new clause 4.7.6:

“4.7.6 The Contractor warrants the sum claimed in his Interim Payment Application is calculated in accordance with clause 4.14 (Sums due as Interim Payments).”

4.9 Interim and final payments - final date and amount

4.9.1 **Delete** “14 days” and insert “28 days”.

4.9.2 Throughout clause 4.9.2, **replace** “Employer” with “the Payer”

4.9.5 Throughout clause 4.9.5, **replace** “the Employer” with “the Payer”

Insert the following as a new clause 4.9.8:

“4.9.8 In the event that the sum specified in a Payment Notice is a negative figure showing a balance due to the Employer to be paid by the Contractor, the Contractor shall, subject to any Pay Less Notice given under clause 4.9.5, pay the sum specified in the Employer’s Payment Notice to the Employer by the final date for payment. Where a Pay Less Notice is given by the Contractor to the Employer, the payment to be made to the Employer on or before the final date for payment shall not be less than the amount stated as due in the Pay Less Notice.”

4.10 Pay Less Notices and other general provisions

“4.10.4 **Replace** “The Employer’s fiduciary interest... prevent him from exercising” with “The Employer may exercise”

Retention

4.16 Rules on treatment of Retention

Delete the existing clause and **insert** the following:

- “4.16.1 The Employer will be under no obligation to set aside in a separate account any amount representing the Retention and will be under no fiduciary obligation with regard to it.
- 4.16.2 Any right of the Employer to deduct or set off any amount (whether arising under any term of this Contract or under any rule of law or in equity) shall be exercisable against any monies due or to become due to the Contractor, whether or not such monies included or consist of any Retention.”

Loss and Expense

4.19 Matters materially affecting regular progress

Insert new sub-clause 4.19.3:

Notwithstanding any other provision, the Contractor shall not become entitled to the addition of any amount to the Contract Sum nor to any other financial adjustment under this Contract in respect of any cost, loss or expense incurred by reason of any error, omission, negligence or default of the Contractor or any Contractor’s Person, or any of their respective agents servants or sub-contractors (other than an amount that is recoverable by the Employer under a policy of insurance maintained in accordance with Insurance Option B or Insurance Option C, if applicable).”

4.20 Notification and ascertainment

- 4.20.1 After the words “as soon as” **insert** “and in any event not later than 14 days after”

4.21 Relevant Matters

- 4.21.1 At the start of this clause, **insert** “Subject always to clause 5.8, ”

CONDITIONS Section 5: Changes

General

5.1 Definition of Changes

Replace the full stop at the end of clause 5.1.2.4 with a semi-colon and **insert** the following as a new clause 5.1.3:

- “5.1.3 without prejudice to the rest of this clause 5.1, an instruction from the Employer supplementing or amending the Third Party Agreements.”

The Valuation Rules

5.6 Change of conditions for other work

At the end of the clause, **insert** the following:

“provided always that the substantial change in the conditions does not arise by reason of any error, omission, negligence or default of the Contractor or the Contractor’s Persons.”

Insert a new clause 5.8:

- “5.8 Employer’s instruction affecting the Contract Sum and/or the Completion Date**
- 5.8.1 Where in the opinion of the Contractor any instructions issued by the Employer to the Contractor under this Contract may require an adjustment to the Contract Sum and/or the Completion Date, before complying with that instruction the Contractor shall provide to the Employer as soon as practicable (and in any event within 10 Business Days of the date of the Employer’s instruction) with details of all necessary design details including Material associated with that instruction, along with details of the value of the adjustment to the Contract Sum (providing the Employer with all necessary supporting calculations by reference to the values contained in the Contract Sum Analysis) and the length of any extension of time to the Completion Date which the Contractor considers he may be entitled to if he complies with that instruction.
- 5.8.2 The Employer shall either confirm or revoke that instruction in writing. The Contractor shall not be entitled to any adjustment to the Contract Sum or the Completion Date in respect of any Change under this Contract unless and until he is in receipt of an Employer’s written instruction pursuant to this clause 5.8.2.”

CONDITIONS Section 6: Injury Damage and Insurance

Professional Indemnity Insurance

- 6.13 **Loss or damage - insurance claims and reinstatement**
- 6.13.3 **Delete** “and from any policies covering Existing Structures or their contents that are effected by the Employer”
- 6.15 **Obligation to insure**
- Delete** clause 6.15.2 and **insert** the following:
- “6.15.2 thereafter, provided it is available at commercially affordable rates and on terms which are such that on a reasonable view such insurance is worth effecting (“**Viable Rates and Terms**”), the Contractor shall maintain such insurance until the expiry of the period stated in the Contract Particulars from the date of practical completion of the Works. Any increased or additional premium required by insurers by reason of the Contractor’s own claims record or other acts, omissions, matters or things particular to the Contractor shall be deemed to be within Viable Rates and Terms;”
- 6.15.3 **Replace** the full stop at the end of clause 6.15.3 with a semi-colon.
- Insert** the following as new clauses 6.15.4 to 6.15.6:
- 6.15.4 immediately inform the Employer if such insurance ceases to be available at Viable Rates and Terms so the Contractor and the Employer can discuss the means of best protecting their respective positions in respect of the Works in the absence of such insurance. If the professional indemnity insurance cover ceases to be available by reason of the Contractor’s acts, defaults or omissions and/or due to the Contractor’s claims record such cover shall nevertheless be deemed to be available at Viable Rates and Terms;

6.15.5 fully co-operate with any measures reasonably required by the Employer, including (without limitation) completing any proposals for insurance and associated documents, maintaining such insurance at rates above Viable Rates and Terms if the Employer undertakes in writing to reimburse the Contractor in respect of the net cost of such insurance to the Contractor above Viable Rates and Terms; and

6.15.6 procure that:

- .1 each Design Consultant maintains professional indemnity insurance of not less than the amount specified in the Contract Particulars for any one claim or series of claims arising out of any one event; and
- .2 each Key Sub-Contractor maintains professional indemnity insurance of not less than the amount specified in the Contract Particulars for any one claim or series of claims arising out of any one event,

for a period of 12 years from the date of practical completion of the Works.”

6.16 Professional Indemnity Insurance: Increased cost and non-availability

Delete the existing clause 6.16 and **insert** “Not used.”

CONDITIONS Section 7: Assignment, Third Party Rights and Collateral Warranties

Assignment

7.1 General

Delete clause 7.1 and **insert** the following:

“7.1 The Employer may assign his entire rights and benefits under this Contract to any person having or acquiring an interest in the Works and such rights and benefits shall be capable of one further assignment by the assignee. In addition, the Employer’s rights and benefits may be charged and/or assigned by way of security and by way of reassignment on redemption without the Contractor’s consent and without the same counting against the permitted number of assignments. Also, intra group assignments shall be permitted and shall not count against the permitted number of two assignments. The Contractor may not assign the benefit of this Contract without the prior written consent of the Employer (such consent not to be unreasonably withheld or delayed).”

Performance Bonds and Guarantees

Delete clause 7.3 and **insert** the following:

“7.3.1 Where it is stated in the Contract Particulars that a parent company guarantee is required, the Contractor shall, no later than the date of this Contract, procure the execution and delivery of a parent company guarantee in favour of the Employer in the form attached at **Appendix 4** to the Schedule of Amendments. The parent company guarantee shall be executed and delivered by the Contractor’s parent company. If the Contractor does not procure execution and delivery of the parent company guarantee, then, notwithstanding any other term of this Contract, the Employer shall not be liable to make any payment to the Contractor under this Contract until the Contractor has procured such execution and delivery.”

7.3.2 Where it is stated in the Contract Particulars that a performance bond is required, the Contractor shall, no later than the date of this Contract, procure the execution

and delivery of a performance bond in favour of the Employer in the form attached at **Appendix 5** to the Schedule of Amendments. The bond shall:

- .1 be in an amount no less than 10% of the Contract Sum;
- .2 have an expiry date no earlier than three months after the issue of the Notice of Completion of Making Good; and
- .3 be executed and delivered by a surety approved by the Employer, acting reasonably.

If the Contractor does not procure execution and delivery of the bond then, notwithstanding any other term of this Contract, the Employer shall not be liable to make any payment to the Contractor under this Contract until the Contractor has procured such execution and delivery.”

Clauses 7A to 7E - Preliminary

Delete clauses 7.4 to 7.6

Third Party Rights from Contractor

Delete existing clauses 7A to 7E and **insert** the following:

- “7A Contractor’s warranties - any Beneficiary**
- The Contractor shall, within 14 days of receiving a written request from the Employer, deliver to the Employer duly executed deeds of collateral warranty in the relevant form set out in **Appendix 1** in favour of any Beneficiary.
- 7B Design Consultants’ warranties - Employer and any Beneficiary**
- The Contractor shall, within 14 days of receiving a written request from the Employer (whether before or after completion of the Works), procure and deliver to the Employer duly executed deeds of collateral warranty in the form set out in **Appendix 2** from each Design Consultant in favour of the Employer and any Beneficiary.
- 7C Key Sub-Contractors’ warranties - Employer and any Beneficiary**
- The Contractor shall, within 28 days of receiving a written request from the Employer (whether before or after completion of the Works), procure and deliver to the Employer duly executed deeds of collateral warranty in the form set out in **Appendix 3** from each Key Sub-Contractor in favour of the Employer and any Beneficiary.
- 7D** Notwithstanding clauses 7B and 7C, minor changes sought by Key Sub-Contractors and Design Consultants to the collateral warranty template will be considered by the Employer but the Employer will not be required to consider or to agree to material changes such as clauses limiting or excluding liability or which are net contributions clauses or clauses which materially lessen the obligations owed by the sub-contractor or design consultant to the beneficiary under the collateral warranty.
- 7E Warranty Retention**
- Where the Contractor has failed to provide either:

- .1 any collateral warranty under clauses 7A, 7B or 7C; or
- .2 any certified copy of a Key Sub-Contractor sub-contract or a Design Consultant appointment under clause 3.4A.1.1,

then, provided such failure is not caused by the insolvency of the relevant Key Sub-Contractor or Design Consultant, the Employer may, provided that the Employer issues a valid Pay Less Notice in accordance with clause 4.9.5, retain from any Interim Payment a sum of 10% of the Gross Valuation of the Works that relate to each such warranty and 10% of the Gross Valuation for Works that relate to each such certified copy which the Contractor has failed to provide (the “**Warranty Retention**”). Any such Warranty Retention shall be released to the Contractor to the extent that the Contractor remedies such failure to provide any relevant warranty, sub-contract or appointment (as the case may be).”

CONDITIONS Section 8: Termination

Termination by Employer

8.4 Default by Contractor

8.4.1.3 In line 2 after “remove” **insert** “or rectify”

8.4.1.5 At the end of the clause, **insert** “or”

Insert a new clause 8.4.1.6:

8.4.1.6 “fails to comply with any other requirement in this Contract which is listed as a Contractor default event, ”

8.5 Insolvency of Contractor

8.5.1 In clause 8.5.1 after “Insolvent” **insert** the following:

“or files a notice of his intention to appoint an administrator: ”

In clause 8.5.1, **transfer** “the Employer may...” until the end of the clause to a new clause 8.5.1.1.

At the end of new clause 8.5.1.1, **insert** “; and”.

Insert the following as a new clause 8.5.1.2:

“8.5.1.2 The event of Insolvency is deemed to be a material breach of this Contract.”

8.5.3.3 After “the Employer may” **insert** “at the Contractor’s expense, ”

8.11A **Insert** a new clause 8.11A “The Employer may voluntarily terminate this Contract at any stage by written notice.”

8.12 At the start of clause 8.12 and in clause 8.12.3 after “clauses 8.9 to 8.11” **insert** “or clause 8.11A”

SCHEDULES

SCHEDULE 2 SUPPLEMENTAL PROVISIONS

[Part 1

1

Named Sub-Contractors

Delete existing clauses 1.1.2, 1.2, 1.4.2, 1.4.3 and 1.5.]⁴

[SCHEDULE 3 INSURANCE OPTIONS⁵

Insurance Option A

In the subtitle, **delete** “New Buildings -” and **insert** “Insurance of Existing Structures and Works in or Extensions to them and”

Before paragraph A.1, **insert** the following as a new paragraph A.01:

A.01 “Existing structures and contents

In respect of the cost of reinstatement, repair or replacement of loss or damage to the Existing Structures and contents due to any of the Specified Perils up to and including the date of issue of the Practical Completion Statement or last Section Completion Statement or (if earlier) the date of termination of the Contractor’s employment (whether or not the validity of that termination is contested):

A01.1 the Contractor’s liability is limited to the amount stated in the Contract Particulars; and

A01.2 the Employer shall be liable for, and shall indemnify the Contractor against, any expense, liability loss, claim or proceedings in respect of such liability identified in this paragraph A.01 in excess of the amount stated in the Contract Particulars.”

A4 Insert new paragraph A.4:

Loss or damage - insurance claims and Contractor’s obligations

If during the carrying out of the Works there is any loss of or damage of any kind to any of the existing structures or their contents occasioned by any of the Specified Perils then, upon its occurrence or later discovery, the Contractor shall forthwith give notice to the Employer of its extent, nature and location.

If there is material loss of or damage to any of the Existing Structures and it is just and equitable, the Contractor’s employment under this Contract may within 28 days of the occurrence of such loss or damage be terminated at the option of either party by notice given to the other in accordance with clause 1.7.4. If such notice is given:

.1 either Party may within 7 days of receiving such a notice (but not thereafter) invoke the dispute resolution procedures that apply

⁴ DRAFTING NOTE: Where it is stated in the Contract Particulars that the “Named Sub-Contractors” entry does not apply, this part should be deleted.

⁵ DRAFTING NOTE: Insurance Options to be reviewed on a case by case basis. These amendments will only apply where Article 17 applies.

under this Contract in order that it may be decided whether the termination is just and equitable; and

- .2 upon the giving of such notice of termination or, where those dispute resolution procedures have been invoked, upon any final upholding of the notice of termination the provisions of clauses 8.12.2 to 8.12.5 (except clause 8.12.3.5) shall apply.”]

[**Insurance Option C**

C.1 After “specified in clause 6.7.2” insert “procure that the Landlord”

C.2 Delete “Employer” and replace with “Contractor”⁶]

SCHEDULE 5 THIRD PARTY RIGHTS

Delete the existing schedule and **replace** with “Not used”.

SCHEDULE 7 JCT FLUCTUATION OPTION A

Delete the existing schedule and **replace** with “Not used.”

⁶ DRAFTING NOTE: This clause must be tailored for use if the landlord will insure the existing structure with the contractor as a joint named insured but the contractor insures the works.

Appendix 1

CONTRACTOR'S COLLATERAL WARRANTY

Template Deed of Collateral Warranty to be provided by the Contractor in favour of a
Landlord / Purchaser/ Tenant

Appendix 2

DESIGN CONSULTANT COLLATERAL WARRANTY

Template Deed of Collateral Warranty to be provided by the Design Consultants
in favour of the
Employer and Landlord/ Purchaser/ Tenant

Appendix 3

KEY SUB-CONTRACTOR COLLATERAL WARRANTY

Template Deed of Collateral Warranty to be provided by a Key Sub-Contractor in favour of the
Employer and Landlord/ Purchaser/ Tenant

Appendix 4

PARENT COMPANY GUARANTEE

Appendix 5

PERFORMANCE BOND

Appendix 6

THIRD PARTY AGREEMENTS

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Schedule 6 – BIM Protocol



Schedule 6

BIM PROTOCOL



HM Revenue
& Customs

Employer's Information Requirements (EIR) for HM Revenue & Customs

Gary Bell
Senior Consultant - BIM

Turner & Townsend
3rd Floor, Time Central
32 Gallowgate
Newcastle Upon Tyne
NE1 4SN
United Kingdom

t: +44 (0) 191 279 7200
e: gary.bell@turntown.co.uk
w: turnerandtownsend.com

Building Our Future Locations Programme

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Rev	Originator	BIM Approved	Date
WIP	Laurice Peverett	Sharon Osei	25/05/2016
P01	Andrew McKeown	Gary Bell	01/10/2018
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1 Introduction

1.1 Purpose of document

HM Revenue & Customs (HMRC) require all Project Stakeholders on the Building Our Future Locations Programme to work to Building Information Modelling (BIM) Level 2 as defined by PAS 1192-2:2013.

The intent of this document is to outline HMRC's information requirements to support the implementation of BIM on the Building Our Future Locations (BOFL) programme and shall be known as the Employer's Information Requirement (EIR) document. The EIR also outlines the following to support collaborative processes to produce the information required during design, construction and handover:

- Management processes and standards
- Commercial requirements
- Technical deliverables

This document specifies the minimum information requirements for all Project Stakeholders and represents part of the contractual agreement.

No part of this document shall be construed as preventing any Project Stakeholders from collaborating if this is to benefit the project progress and coordination.

1.2 BIM and BOFL Programme

The BOFL Programme is comprised of multiple projects. However, the overall BIM deliverable of a digital Asset Information Model (AIM) is a requirement that is consistent across the various projects to support maintenance of the facility after completion of the building and construction fit-out works. It is for this reason that an EIR document has been developed specifically for this project which takes into account the specific project information requirements.

1.3 Bidders' responses to HRMC's BIM requirements

Each bidders' response to HRMC's BIM requirements shall be detailed in a pre-contract award BIM Execution Plan (BEP) outlining a proposed approach to achieving the requirements set out in this document.

Upon appointment, the Design/Contractor Lead shall integrate their pre-contract award BEP into the post-contract award BEP and maintain the post-contract award BEP for the remaining project duration.

Any additional parties interfacing with BIM models shall likewise provide details of their BIM processes or any specific modelling requirements. This shall be integrated into the BEP as the agreed BIM process management standard for the project.

In order to facilitate the effective use of BIM on this project, the CIC BIM protocol shall be appended to all appointment documentation.

2 Abbreviations, Glossary of terms and Project roles

2.1 Abbreviations

AIM	Asset Information Model
BASS	Built Asset Security Strategy
BASMP	Built Asset Security Management Plan
BASIR	Built Asset Security Information Requirements
BEP	BIM Execution Plan
BIM	Building Information Modelling
CAFM	Computer-Aided Facilities Management
CDE	Common Data Environment
CDM	Construction (Design and Management)
EIR	Employer's Information Requirements (document)
FM	Facilities Management
GIS	Geographical Information System
IFC	Industry Foundation Classes
LOD	Level Of Definition
LOI	Level of Information
MPDT	Model Production Delivery Table
PIM	Project Information Model
TBC	To Be Confirmed
WIP	Work In Progress

2.2 Glossary of terms

4D	A 3D representation of an asset with the element of time included to enable simulations
5D	A 3D representation of an asset with the element of time and cost included/linked to enable simulations, commercial management and earned value tracking to take place
6D	A 3D representation of an asset which includes data which enables the efficient management, operation and maintenance of the completed asset
Asset Information Model (AIM)	information model used to manage, maintain and operate the asset
Attribute	A specification that defines a property of an object
BIM Model or BIM Model file	A 3D model file containing hierarchically defined objects to which data can be attributed
Building Information Modelling (BIM)	Process of designing, constructing or operating a building or infrastructure asset using electronic object-oriented information
CIC Scope of Services	Multi-disciplinary scope of services published by the Construction Industry Council (CIC) for use by Project Stakeholders on projects
COBie (Construction to Operation Building information exchange)	Structured asset information for the commissioning, operation and maintenance of a project often in a neutral spread sheet format that will be used to supply data to the Employer or operator to populate decision-making tools, facilities management and/or asset management systems
Common Data Environment (CDE)	Single source of information for any given project, used to collect, manage and disseminate all relevant approved project documents for multi-disciplinary teams in a managed process. This is commonly a cloud based SaaS (Software as a Service) solution synchronised with party servers to host the PIM

Data	Information stored but not yet interpreted or analysed
Document	Information for use in the briefing, design, construction, operation, maintenance or decommissioning of a construction project, including but not limited to correspondence, drawings, schedules, specifications, calculations, spread sheets
Drawing	Static, printed, graphical representation of part or all of a project or asset
Element or NRM1 element	A grouping of measurable objects as defined in NRM1. Elements are categorised by grouped elements and further categorised by sub-elements
Employer's Information Requirements (EIR)	Pre-tender document setting out the information to be delivered, and the standards and processes to be adopted by the Project Stakeholders as part of the project delivery process
Exchange BIM model file	An open and neutral data format for BIM models
Federated BIM model file	A file combining all available latest BIM models into a single BIM model for reference
Graphical data	Data conveyed using shape and arrangement in space
Model Production Delivery Table (MPDT)	Identifies the LOD required for a specific BIM object at a given project work stage and the BIM author responsible for the object's inclusion
Native BIM model file	The primary data format used by the BIM model authoring tool to create BIM models
Object or BIM Object	A repository of information that holds data regarding 2D and 3D geometry description of the actual product or component
Pre-contract award BEP	The pre-contract award BEP is to demonstrate the Project Stakeholder's proposed approach, capability, capacity and

	competence to meet the EIR. It is assessed prior to the appointment of any stakeholder
Post-contract award BEP	The post-contract award BEP is the document defining standard methods and procedures adopted during the contract in order to meet the objectives and requirements set forth in the EIR. It is utilised following the appointment of Project Stakeholders and in particular by the Contractor Lead
Project Information Model (PIM)	Information model developed during the design and construction phase of a project
Space	Represents an area or volume bounded within a BIM model which provides a certain function
Standard Method and Procedure (SMP)	Set of combined processes covering the way information is named, expressed and referenced
Supplier Information Exchange	Structured collection of information at the end of a work stage with defined format and fidelity
Type	A grouping of BIM objects
Volume	Manageable spatial subdivision of a project. Defined by the Design Team as a subdivision of the overall project that allows more than one person to work on the project models simultaneously and consistent with the design process
Zone	A group of spaces, partial spaces or other zones

2.3 Project roles

Built Asset Security Manager	As defined in the PAS1192-5:2015 for a security-minded process for the management of BIM information
BIM author	Originator of BIM model files
BIM Leader	Responsible for defining the strategy that will describe how the BIM information is to be produced and managed to facilitate collaborative working, information exchange and project team management
Contractor Lead	Directs and coordinates design and construction after contractor appointment
Cost Manager	Plan, predicts and controls the cost of the project
Design Lead	Directs and coordinates the Design Team and its related activities until contractor appointment
Design Team	Organisations with a design responsibility
Employer	For the purposes of this document the 'Employer' is HM Revenue & Customs (HMRC)
Government Soft Landings Champion	Responsible for the process of aligning the interests of those who design and construct an asset with the interests of those who use and manage that asset
Information Manager	As defined in the CIC BIM Protocol Second Edition – an Information Manager shall be appointed by the Employer to facilitate the management of the federated model and the production of project outputs. The Information Manager is also responsible for managing the operation, standards and culture of the Common Data Environment.
Principal Contractor	As defined in The Construction (Design and Management) Regulations 2015
Principal Designer	As defined in The Construction (Design and Management) Regulations 2015
Project Stakeholder	Any organisation or individual that is involved in the project

Task team	Any multi-disciplinary team or team within an organisation assembled to carry out a task on the project
Task team manager	Individual responsible for a specific task team
Task team interface Manager	Individual responsible for managing spatial co-ordination on behalf of a specific task team
Task team information manager	Individual within a task team responsible for production of information for a given task in compliance with defined standards and methods

3 Project information

The following section defines information about the project.

3.1 General

Employer	HM Revenue & Customs (HMRC)
Programme	Building Our Future Locations Programme
Project name	HMRC New Waverly - Edinburgh Regional Centre
Short project description	<p>Category B Fit-out – Landlord and the Employer collaborate to create the facility that will meet the needs of the Employer</p> <p>New build Regional Centre comprising 16,443 sq m. fully occupied by HMRC.</p>
Project address	New Waverly, Edinburgh, EH8 8BG
Correspondence address	HMRC, C/O Alan Davies, Deputy Director Construction & Fitout, 100 Parliament Street, London, SW1A 2BQ
Project contract type	Joint Contract Tribunal (JCT) 2016 Design & Build or Joint Contract Tribunal (JCT) 2016 Standard Building Contract without Quantities
Plan of works	RIBA 2013

Table 1: General Project Information

3.1.1 Project information

Both the pre-contract award and post-contract award BEPs shall detail and expand on the specific information for this project. This shall include:

- Contract type
- Organisations, individuals involved and their assigned roles
- Date of completion of the project work stages
- Dates of project milestones including Supplier Information Exchanges

4 Management

This section outlines the standards and specifications to be referenced for the definition and delivery of the each project undertaken within the BOFL Programme.

4.1 Applicable standards and specifications

In order to establish a consistent approach to collaboration, the Employer requires Project Stakeholders to adopt the following standards:

			Application										
Standards		Collaboration	Project stages	File naming	Object authoring	Drawing	Classification	LOD/LOI	CDE	Costing	COBie	Health & Safety	Contracts
Industry	PAS 1192-2:2013	✓											
	PAS 1192-3:2014								✓		✓		
	BS 1192-4:2014						✓				✓		
	PAS 1192-5:2015	✓							✓				
	PAS 1192-6:2018	✓										✓	
	BS 1192:2007+A2:2016			✓	✓	✓	✓		✓				
	Level of Definition – NBS Toolkit							✓			✓		
	New Rules of Measurement (NRM1)						✓			✓			
	BS 8541-1:2012				✓								
	BS 8541-2:2011				✓								
	BS 8541-3:2012				✓								
	BS 8541-4:2012				✓								
	BS 8541-5:2015				✓								
	BS 8541-6:2015				✓								
	Uniclass 2015						✓				✓		
	CIC/BIM INS								✓				
	CIC BIM protocol	✓											✓
		Post-contract award BEP	✓	✓	✓	✓		✓	✓	✓	✓	✓	

Table 2: Applicable Standards

If it is deemed that any of the standards detailed in the above table are out-of-date during the execution of this project, the standard may be revised or superseded by a standard of the same function. For a standard to be revised or superseded, the proposing Project Stakeholder shall provide the Employer, Information Manager and BIM Leader with a report detailing the change in standard and its implications to the Employer's information requirements. The standard can only be superseded following an explicit agreement with the Employer and BIM Leader.

4.2 Planning of work and data segregation

BIM Information shall be managed in accordance with the processes described in PAS 1192-2:2013 and BS 1192:2007.

The Design/Contractor Lead (at respective work stages) shall work with the BIM Leader and Information Manager to establish the processes for model management. The approach shall be documented in the post-contract award BEP and agreed by the BIM Leader and Information Manager. The contractor shall follow the volume and system (zone/level) strategy provided by the Lead Designer. Naming of spaces shall follow the agreed naming convention.

4.3 Project Stakeholder requirements

Project BIM uses are defined in APPENDIX A. BIM use definitions and deliverables are defined in APPENDIX B.

Model production responsibilities of the Design/Contractor Lead are defined within the Model Production Delivery Table (MPDT) located in APPENDIX C.

4.3.1 Strategic BIM roles

4.3.1.1 BIM Leader

- Responsible for reviewing and commenting on the BIM supplier capability assessments of prospective Project Stakeholders
- Responsible for facilitating and chairing BIM workgroup and strategy meetings
- Report progress, drivers and highlight risks to the BIM process to the Employer and Project Stakeholders
- With the Information Manager, establish a CDE for the management and exchange of BIM information
- Agree the processes and procedures defined by the Information Manager for validating the Employer's information exchange requirements between Project Stakeholders

- With the Contractor Lead, agree the process for validating and incorporating as-constructed and commissioning information into the AIM

4.3.1.2 Information Manager

- Assess and report to the Employer and BIM Leader at defined intervals the compliance of Project Stakeholder's BIM information shared via the CDE
- Assess and report to the Employer and BIM Leader that Project Stakeholders are utilising appropriate software and have the appropriate level of skill

As defined in the CIC Outline Scope of Services for Information Management:

- With the BIM Leader establish a CDE for the management and exchange of BIM information
- Define the processes and procedures for validating the Employer's information exchange requirements between Project Stakeholders. This shall be detailed in the post-contract award BEP
- With task team managers, establish and implement the information structure and maintenance standards for the Project and Asset Information Model within the post-contract award BEP
- Support the ongoing implementation of the BIM process including the development and ongoing maintenance of the post-contract award BEP
- Prior to contractor appointment, define and implement the Project Information Plan and Asset Information Plan within the post-contract award BEP, covering:
 - Information structure across roles e.g. software platforms (all levels of supply chain) appropriate to meet Employer requirements and Project Team resources
 - Agreeing the Level of Definition of BIM model information required for specific BIM Uses

4.3.1.3 Built Asset Security Manager (BASM)

- Reports directly to the Employer
- Undertakes the security management role

As defined in PAS1192-5:2015 BASM:

- Provide a holistic view of the security issues and threats to be addressed
- Offer guidance and direction on the handling of risks

- Take ownership, manage and assist in the development of the Built Asset Security Strategy (BASS)
- Be accountable for security decisions that are taken
- Take ownership, manage and assist in the development of the Built Asset Security Management Plan (BASMP)
- Take ownership, manage and assist in the development of Security Breach/Incident Management Plan (SB/IMP)
- Take ownership, manage and assist in the development of the built asset security information requirements (BASIR)
- Assist in the development of Plain Language Questions and Employer's Information Requirements document (EIR)
- Assist in the development and reviewing of any tendering and project planning documentation
- Be responsible for promoting a security-minded culture
- Brief advisors, specialist and supply chain on relevant aspects of the BASS, BASMP and BASIR
- Advise on the need for and undertake the review and auditing of documentation, policies, processes and procedures relating to the security of the built asset
- Where appropriate and necessary, seek appropriate professional security advice to provide additional guidance through the lifecycle of the project and/or asset

As per PAS1192-5:2015 section 6.3, the Built Asset Security Manager may delegate specific security tasks or duties to functional roles to manage on a day-to-day basis however they shall remain responsible for the operational effectiveness of each of the aspects of security.

4.3.1.4 Government Soft Landings Champions

This describes a role and not a person, the role of the Government Soft Landings Champion may be undertaken by an appropriate appointed Project Stakeholder. The two Government Soft Landings Champions are to be identified as:

- Employer representative
- Project representative

The Soft Landings Champions are required to carry out the following with regards to the BIM process:

- Drives the Soft Landings process forward
- Review past experience to inform design
- To engage in the procurement process to place emphasis on achieving better building performance
- To review end of stage progress and re-engage the project team with regard to Soft Landings objectives

4.3.2 Design/Contractor Lead specific roles, responsibilities and authority

Design/Contractor Lead responsibilities specific to the BIM process are described below:

4.3.2.1 Design Lead

- Responsible for the coordinated delivery of all design information to enable reliable information exchange through the specified CDE
- Responsible for managing information production and information approvals for the maintenance and receipt of information into the Project Information Model (PIM)
- Responsible for confirming overall Design Team deliverables to enable integration and coordination of information within the PIM
- Responsible for confirming status and approving BIM information issued within the CDE
- Responsible for the approval of design changes to resolve clashes

4.3.2.2 Contractor Lead

The Information Manager responsibilities shall be transferred to the Contractor Lead upon appointment. In addition to these responsibilities the Contractor Lead is required to:

- Establish and implement the information structure and maintenance standards for the Information Model in agreement with the BIM Leader
- Manage the CDE processes and procedures, validate compliance with information requirements and advise on noncompliance
- Deliver the Asset Information Requirements

- Propose and execute the process for validating and incorporating as-constructed and commissioning information into the AIM
- Facilitate BIM model integration for the Contractor Lead supply chain in order to achieve coordination
- Support the ongoing implementation of the BIM process including the development and ongoing maintenance of the post-contract award BEP
- Assist the Project Stakeholders in establishing information exchange processes, including:
 - define and agree procedures for convening, chairing, attendance and responsibility for recording BIM workshop and workgroup meetings
- Participate in, and comply with, Project Stakeholder management procedures and processes including:
 - risk and value management utilising BIM information where possible
 - performance management and measurement procedures related to BIM

4.3.3 **Key BIM roles and responsibilities**

4.3.3.1 **Task team manager**

Responsible for:

- The production of design outputs related to a discipline-specific package based on time-based task
- Issuing their team's approved information within the CDE

4.3.3.2 **Task information manager**

Responsible for:

- Directing the production of task information in compliance with agreed standards and methods defined in the post-contract award BEP to enable reliable information exchange through the CDE
- Confirming to the Task Team Manager that information is suitable for issue within a CDE

4.3.3.3 Task team interface managers

Responsible for:

- Managing spatial coordination on behalf of a task team
- Proposing resolutions to coordination clashes

4.3.3.4 BIM author

Responsible for:

- Developing constituent parts of the information model in connection with specific tasks
- The production of project outputs for the maintenance and receipt of information into the information model
- Ownership of the authored model

4.3.4 BIM uses

The Design/Contractor Lead shall propose in their pre-contract award BEPs their approach and programme for completing the allocated BIM uses in APPENDIX A. These shall be agreed and detailed in the post-contract award BEP.

4.3.5 Health and safety (H&S) and Construction (Design and Management) compliance

The Principal Designer shall outline in their pre-contract award BEP their strategy for how BIM models shall be utilised to fulfil H&S and CDM obligations and a schedule of related deliverables. This is to be agreed with the Employer and BIM Leader and detailed in the post-contract award BEP.

BIM information shall be made available to the Principal Designer by Project Stakeholders for identifying residual risks before contractor appointment and monitored, updated or developed after contractor appointment by the Principal Contractor.

The Principal Designer and Design Team are obligated to inform of potential hazards and risks to the Employer and BIM Leader. This shall be communicated within the model where feasible and via the CDE. The Principal Contractor shall be responsible for acquiring this information upon appointment.

4.4 Collaborative requirements

4.4.1 Document naming protocol

Document naming conventions (including BIM model files) shall be in accordance with BS 1192:2007+A2:2016.

The complete project file nomenclature shall be detailed in the post-contract award BEP and should follow the nomenclature outlined by the Lead Designer.

4.4.2 BIM object authoring protocol

All BIM objects within BIM models shared between Project Stakeholders and issued as part of Supplier Information Exchanges shall be authored in accordance with the BS 8541 series.

4.4.3 Common Data Environment (CDE)

The purpose of the CDE is to provide the Employer and Project Stakeholders with a secure, central, accessible resource of current project information. The CDE shall be owned by the Employer and utilised by Project Stakeholders. The CDE shall be the repository of the PIM for the project lifecycle.

When submitting BIM models to the CDE, Project Stakeholders are required to report the following to the Information Manager and Design Lead or Contractor Lead upon discovery:

- Discrepancies in BIM models which may cause inaccuracies
- The validity of the data structure within the model and adherence to the data requirements defined in this document and the post-contract award BEP
- Instances where information contained within any of the BIM models is known to be superseded.

Project Stakeholders are responsible for storing and maintaining a copy of all project information in a secure, stable location within their own organisation and shall make information available if requested, over the CDE. The Employer shall have access to both native and exchange BIM model files stored on the CDE at any point during the project.

Models shall be issued within three working days of an RFI requesting this information.

The specific CDE for this project, file naming and location structure shall be defined within the post-contract award BEP. The folder or container structure for BIM information within the CDE shall match with that detailed in PAS 1192-2:2013.

4.4.4 Exchange BIM model file format

When uploading BIM models to the CDE, all Project Stakeholders are required to include the native file format, the exchange file format and the .dwfx file versions of the BIM models.

The exchange file format shall be an Industry Foundation Classes (IFC) file of version IFC2x3. A newer version of the IFC format may be used if agreed by the Information Manager, BIM Leader and the Employer. The exact IFC version shall be defined in the post-contract award BEP.

IFC export settings for the BIM authoring software shall be defined in the post-contract award BEP and shall be consistent throughout the project.

4.4.5 Federated BIM model file format

The Design/Contractor Lead is responsible for creating and updating a federated BIM model file linking to the latest BIM. As a minimum requirement, the federated model shall be updated monthly and issued onto the CDE throughout the project duration unless explicitly agreed with the Employer and BIM Leader.

The federated model shall be comprised of exchange format BIM models from all of the relevant Project Stakeholders. These are to be contained and shared in either:

- A Solibri .smc file (recommended)
- An Autodesk Navisworks .nwf file

Other software platforms may be considered but shall be approved by the Employer, BIM Leader and the Information Manager. The exact format for the federated BIM model file and the approach for its creation shall be defined in the post-contract award BEP.

4.4.6 Security

All Project Stakeholders shall adhere to the security requirements defined in PAS 1192-5:2015 and the compliance monitor of BOFL programme information security requirements shall be the responsibility of the Built Asset Security Manager.

All project information shall be treated with confidence unless explicitly agreed with the Employer and the Built Asset Security Manager. All Project Stakeholders are required to adopt this policy. Project Stakeholders are responsible for their supply chain's adherence to this policy.

All BIM information shall be shared through the CDE only.

To support security and accessibility of information, folder locations and upload purposes shall be strictly adhered to, as defined in PAS 1192-2:2013. Any amendments to the naming or structure of the CDE workspace shall be explicitly agreed with the Employer, BIM Leader and the Information Manager.

4.4.7 **Collaboration process requirements**

Pre-contract award BEPs shall contain a proposed collaboration process detailing the strategy for production of BIM models to address the identified BIM uses. The combined process for all Project Stakeholders shall be agreed and detailed in the post-contract award BEP. This shall contain the following information as a minimum requirement:

- The exchange format BIM model file and any additional forms of sharing information that required for interoperability with other Project Stakeholders
- A copy of the MPDT from this document (APPENDIX C), amended to contain proposed responsible parties and LOD requirements to carry out the required BIM uses. The table shall remain defined by NRM1 sub-element and work stage. Any necessary revisions relating to responsible parties, sub-elements involved or specified LOD shall require an accompanying justification statement.
- Details of proposed model review workshops
- Details of proposed method of collaboration with Project Stakeholders and the Employer to utilise the federated BIM model and any other models required for BIM uses
- For Category A and B fit-out projects Project Stakeholders should propose how to address the development of a BIM model and identify any previous examples of such projects where BIM requirements were in place

The post-contract award BEP shall contain an agreed MPDT that shall represent the LOD requirement for the project.

4.4.7.1 **Trialling of the CDE**

To trial the exchange of BIM models, the Design/Contractor Lead shall facilitate the initial sharing and linking of project models using the CDE upon the confirmation of appointments. Upon completion of the trial(s) the Design/Contractor and Information Manager shall report outcomes to the Employer and BIM Leader.

4.4.8 **Coordination, clash detection and buildability process**

The pre-contract award BEPs shall contain a proposed coordination and clash detection strategy, which is to be agreed by the Employer, BIM Leader, Information Manager and

defined in the post-contract award BEP. The minimum requirements of the strategy are defined as:

- Each task team manager shall make their latest BIM models available to Project Stakeholders via the CDE at least once every two weeks. A schedule and details of how to carry out this exchange shall be defined
- The process for task team interface managers to coordinate their BIM models within their task team
- The process for checking, approving and validating shared data by task team members before sharing data. The shared data shall then be issued to the shared area with the status code 'Issued for coordination' adhering to PAS 1192-2:2013

The Design/Contractor Lead shall access information issued as 'Issued for coordination' provided by all BIM authors and evaluate the BIM models against the requirements of the EIR. This exercise shall occur at least once a month unless otherwise explicitly agreed with the Employer and BIM Leader. An issue report shall be produced by the Design/Contractor Lead and made available to all Project Stakeholders three days before BIM coordination meetings.

The issue report shall be structured in line with the defined validation process and criteria used to check BIM models agreed within the post-contract award BEP. This report shall also be used to form the basis of the agenda used to facilitate BIM coordination meetings.

During coordination meetings, the approach for resolving model issues and the responsible party for doing so shall be agreed. BIM authors shall then update BIM models following the meeting.

BIM coordination meetings are required to be carried out at least once a month with task team managers, task team interface managers, task team information managers.

Upon contractor appointment, the Contractor Lead shall carry out buildability checks in addition to the coordination and clash detection process. The issues generated shall be reported as part of the validation process.

4.4.9 **Systems performance**

To support access and use of information for all Project Stakeholders, the following guidelines shall be met:

- Individual models shall not exceed 250mb. Project Stakeholders unable to process a file of this size shall resolve this immediately. This limit may be raised upon explicit agreement of the Information Manager, BIM Leader and the Employer.

- Files shall not contain any geometry greater than the LOD requirement defined in the MPDT of this document and the post-contract award BEP.

4.4.10 **Delivery strategy for asset information**

Asset information is to be delivered in accordance with the BS 1192-4:2014 data schema (COBie), the exchange format is to be defined in the post-contract award BEP. The minimum requirements for asset information data to be exchanged is detailed in APPENDIX D and E. As per the COBie schema, the minimum requirements are those parameters highlighted in yellow. However the requirement for each project within the programme will be assessed individually to determine if this minimum is to be extended.

Project stakeholders shall within the pre-contract award BEP indicate known responsibility to capture data against the COBie parameters.

Further details of model property sets and information required shall be defined through further engagement with the FM provider and agreed by the BIM Leader, Information Manager and the Employer upon appointment of the Contractor Lead. These details may include the outstanding COBie sheets (see APPENDIX E) and/or the collection of O&M documentation, this shall be defined within the post-contract award BEP.

The Contractor Lead shall incorporate the process for asset information delivery into the Computer Aided Facilities Management (CAFM) system within the post-contract award BEP. The CAFM system shall be detailed and agreed within the post-contract award BEP once it has been specified by the Employer.

The Contractor Lead shall provide a strategy within their pre-contract award BEP to demonstrate that information can be accessed efficiently during operations. The proposed strategy shall be agreed and detailed in the post-contract award BEP.

4.4.11 **Government Soft Landings**

Soft Landings is a process to improve operation performance of buildings and to provide feedback to project teams in line with this.

With the requirement for Government Soft Landing (GSL), on nomination of the Soft Landings Champions a strategic process will be defined and included within the post-contract award BEP. Champions will be active throughout the project and into operations with set objects engaging in the design, procurement, construction and operational phases.

The GSL process requires an extended period of aftercare following practical completion of up to three years. Project Stakeholders and particularly the Contractor Lead are to include within their pre-contract award BEP how this requirement will be met and any examples of having undertaken this role previously.

4.5 Compliance plan

The Employer requires all Project Stakeholders to comply with the Employer's Information Requirements (EIR) and associated appendices and the Post-contract award BEP and associated appendices. The Employer may wish to appoint a third party consultant to audit project BIM information at key stages within the context of these documents.

All Project Stakeholders are to make themselves familiar with and consider at all times the security and information requirements of the Employer. The Employer shall seek assurance from the Built Asset Information Manager that all Project Stakeholders are meeting the necessary standards.

5 Commercial

This section looks at the information requirements, defines purposes for data and the content of key deliverables.

5.1 Overall purposes requiring information

The Employer requires information to fulfil the following purposes:

- A full registration of assets to support accurate auditing and reporting. Every identifiable internal and external space shall be captured within the BIM model in addition to every distinct floor containing them. Zones shall also be identified within the COBie deliverable
- Facility, floors (regions), zones and spaces (locations) shall be documented with their net and gross areas. The method of measurement used shall be documented on the facility sheet of the COBie deliverable
- Information required for the operation of the facility shall be provided to support the facility operators and the Employer to anticipate costs of operations. This shall be agreed by the Employer and BIM Leader and added to the post-contract award BEP
- Category A and B fit-out projects will include an approach that is both in line with the Employer's requirements along with any Landlord requirements that have been agreed

5.2 Employer's strategic BIM priorities

BIM processes are underpinned by open, collaborative behaviours. To maximise the benefits of BIM, Project Stakeholders shall work openly with shared outcomes and processes.

Defining and understanding the information needs of others will improve outcomes, as each member of the team moves away from serving their own information needs and moves toward openly sharing their output as work in progress to reduce inter-discipline rework.

It is essential for shared benefit that Project Stakeholders align their aspirations with those of the Employer. The Employer requires the following strategic BIM priorities:

1. Project delivery of the highest quality
2. Better informed client decision making, earlier and more efficient reporting of developing design information allowing key changes to the design to be made earlier, at less cost

3. Improved multidisciplinary design coordination and reduced variation costs during construction
4. Visual communication and optimisation of construction phasing and sequencing
5. Improved cost certainty and predictability
6. Improved accuracy and consistency of design information
7. Improved health and safety on site and during operation
8. Models and information which can be used to support operation and maintenance of the facility beyond practical completion
9. Asset information delivery of the highest quality
10. More efficient visual communication of the design intent as this develops

These priorities are supported by the prescribed BIM uses and shall also be included in the post-contract award BEP.

Project Stakeholders shall demonstrate proposals within their pre-contract award BEP to facilitate the Employer's strategic BIM priorities within their scope.

5.2.1 **Project Key Performance Indicators**

To enable the Employer to determine the success of their strategic BIM priorities, the following Key Performance Indicators (KPIs) have been identified:

- **Percentage LOD compliance:**
All BIM objects within the latest shared BIM models are to be analysed for their compliance to their required LOD for a given work stage, as defined in the amended MPDT within the post-contract award BEP. BIM objects are to be categorised by NRM1 sub-element and each NRM1 sub-element can then be classified as compliant or non-compliant. All BIM objects within an NRM1 sub-element are to be of the correct LOD for the NRM1 sub-element to be considered compliant
- **Percentage compliance to model data requirements:**
All BIM objects within the latest authored BIM models are to be analysed for their compliance to their required Level of Information (in addition to LOD) and model classification, as defined in this document and supplemented by requirements in the post-contract award BEP. BIM objects shall be categorised by NRM1 sub-element
- **Model quality and coordination percentage compliance:**
A numerical metric to be based on the level of BIM object intersections within the federated and individual discipline BIM models and other factors including (but not

limited to) spatial and clearance requirements, BIM object integrity and sensibility requirements. During the design work stages uncoordinated elements within the BIM models can be considered compliant if they fall within an agreed tolerance, authorised by the Design Team, BIM Leader and Employer and detailed in the post-contract award BEP. Any areas of non-compliance shall be clearly documented, demonstrating the location within the federated BIM model

The Information Manager is required to calculate and report the KPIs to the Employer and BIM Leader at regularly agreed intervals unless explicitly agreed with the Employer and BIM Leader.

The KPIs which are calculated as a percentage compliance shall be 100% compliant by the end of each work stage.

5.3 Supplier Information Exchange requirements

Supplier Information Exchanges (as defined by PAS 1192-2:2013) shall be supplied to the Employer at critical milestones, the timing for which are defined below:

Supplier Information Exchange	Point in project phase	Employer decision point (Gateway)	Required / not-required
1	End of work stage 1	1	n/a
2	End of work stage 2	2	Required
3	End of work stage 3	3	Required
4	End of work stage 4		Required
5	End of work stage 5		Required
6	End of work stage 6	6	Required

Table 3: **Supplier Information Exchanges**

The Supplier Information Exchanges as defined in the above table, shall be used as support for Employer decision point reviews, leading to the instruction to proceed to the next stage if the information is satisfactory.

5.3.1 Supplier Information Exchange requirements

The post-contract award BEP shall contain the agreed dates for submitting Supplier Information Exchanges based on the work stage dates for the specific phase. The Design/Contractor Lead shall be responsible for collecting and collating required information and submitting the Supplier Information Exchanges. All Project Stakeholders shall be responsible for supplying the required information to the Design/Contractor Lead

at the end of each work stage. The following information is required for each Supplier Information Exchange:

- Native BIM model files
- Exchange BIM model files
- Site information if this process is undertaken on the project
- Responses to Plain Language Questions and their required supporting information (defined in APPENDIX D)
- COBie-UK-2012 export (requirements defined in APPENDIX E).

The Design/Contractor Lead shall agree protocols with the Information Manager to confirm that the model is current and all parties are working to the latest model. These shall be documented in the post-contract award BEP.

The Information Manager shall be responsible for validating the Supplier Information Exchange contents against the following:

- The level of coordination in the federated BIM model file
- Compliance with design performance requirements set out in contractual agreements (to be detailed in the post-contract BEP)
- The development, completeness and validity of non-geometrical data specified in APPENDIX E & F

The validation of the Supplier Information Exchanges is to be supported by the KPI calculations.

Errors or non-compliance shall be corrected as a priority with agreed timescales. Actions shall be distributed to all Project Stakeholders by the Design/Contractor Lead via the CDE.

The Built Asset Security Manager, on appointment, shall make all Project Stakeholders aware of any models required for review and the format these shall be issued in.

The Soft Landings Champions, upon appointment, shall formulate the strategy for project team engagement and review with respect to the Soft Landings objectives and any KPIs set. It is also expected that the Champions will review and contribute to the end of stage review process, at these key stages the project is assessed to establish if requirements are being met.

6 Technical

This section establishes technical information requirements, including software, LOD and non-geometrical requirements.

6.1 Software platforms

The agreed software for the production of BIM models, federated BIM model file and the AIM shall be agreed and defined for each phase in the post-contract award BEP. The minimum requirement for software used to author BIM Models shall be buildingSMART certified for export of the agreed exchange BIM model file format.

Software versions may require updating at any point during this project if deemed beneficial to the collaborative process. Any update or change in software versions shall be agreed by the Employer, Information Manager and Task Information Managers.

The Employer and the BIM Leader may define version and software platform for collaboration and facilities management software in the post-contract award BEP.

For coordination, clash review and comment it is suggested that one of the following software combinations be implemented:

- Solibri:
 - Solibri model checker 9.0 (and onwards, recommended)
 - Solibri model viewer 9.0 (and onwards, recommended)
- Autodesk Navisworks:
 - Navisworks manage 2015 (and onwards)
 - Navisworks freedom 2015 (and onwards)

Other software platforms may be considered but shall be approved by the Employer and the BIM Leader. Project Stakeholders are to communicate the software platforms they will implement and provide an outline of how they will interoperate with the software listed above as part of their pre-contract award BEPs.

6.2 BIM Model requirements

All BIM objects authored for the purpose of this project shall be shared by Project Stakeholders. Object standards shall be in alignment with the BS 8541.

6.2.1 Level of Definition (LOD)

The LOD requirement for each NRM1 sub-element at the end of each work stage is defined in the MPDT in APPENDIX C of this document. The responsible party for each sub-element at each work stage shall be defined in the post-contract award BEP. LOD shall be consistent with the NBS Toolkit definitions and comprise both Level of Detail (LoD) and Level of Information (LoI). LOD requirements shall be strictly adhered to unless explicitly agreed by all relevant Project Stakeholders including the BIM Leader and the Employer. The LOD requirement defines both geometric (level of detail) and non-geometric (level of information) requirements for a BIM object at a given LOD level. The non-geometrical requirements shall be attached to the given object as data attributes as defined in BS 8541.

In future work stages, any amendment to the post-contract award BEP MPDT shall be explicitly agreed by all Project Stakeholders that require BIM models to carry out BIM uses so that it remains in alignment with the project design responsibilities matrix.

On appointment of the Built Asset Security Manager, they shall identify through the Built Asset Security Information Requirements (BASIR) any sensitive assets or systems and their subsequent LOD requirements.

6.2.2 Additional non-geometric information requirements (Level of Information)

In addition to the non-geometric requirements defined by the LOD required level, BIM models shall have as a minimum, the following information attached as hosted data attributes:

- Uniclass 2015 classifications to be populated in parameters named appropriate to their use.
 - PM (Project Management): number and description
 - En (Entities): number and description
 - SL (Spaces/Locations): number and description
 - Ss (Systems): number and description
 - Pr (Products): number and description
- NRM1 classification, in a data attribute termed 'NRM1' (obtainable from Uniclass 2015)
- Basic parameter requirements; area, volume, length, width, height
- COBie requirements (required at Supplier Information Exchanges, APPENDIX E)

6.2.2.1 COBie required practises

As per BS 1192-4:2014 the integrity of data, included within the COBie schema, shall be maintained as follows:

- a) Every Component shall be assigned to at least one Space.
- b) Every Component shall be assigned to one Type.
- c) Every Component shall be assigned to at least one System.
- d) Every Space shall be assigned to at least one Zone.
- e) Every reference to other sheets shall be valid.
- f) Every reference to PickList enumerations and classifications shall be valid.
- g) Enumerations specified in the Attributes and PickLists shall be adhered to.

To enable consistency all COBie deliverables shall have continuity with earlier deliverables and shall be developed cumulatively to enable comparison and validation.

6.2.3 Coordinates and origin requirements

The base project reference points are to be identified and communicated by the Design/Contractor Lead. As a minimum requirement the base project reference point shall be defined as a physical location that shall not be altered during the project.

To keep coordinates consistent, set-out information shall be maintained throughout all BIM models. To eliminate compatibility issues arising from discrepancies between coordinate systems, all BIM model files shall share the same Survey Point and Coordinates.

BIM authors shall set up BIM models with identical locations and origin coordinates. The following procedure is required for establishing model location and origin:

- Building and site location on the architectural BIM model shall be set at the correct longitude and latitude or defined reference point
- True north of the building and site location on the architectural BIM model shall also be set correctly. This is to be consistent with the existing site model

Project Stakeholders shall share BIM models in the exchange BIM model format so that information is correctly and consistently aligned. The process is to be agreed with the Information Manager, BIM Leader and the Employer and documented in the post-contract award BEP.

6.2.4 Cost management requirements

6.2.4.1 Area and quantity calculation

Standards for area schedules shall be agreed by the Design/Contractor Lead, Cost Manager and the Employer at the outset of the phase. Data shall be extracted from the BIM models with no editing of naming and values in other software. Area scheduling shall adhere to the following terms:

- GIA - Gross Internal Area
- GEA – Gross External Area

Area data reported from the model shall be current, consistent with the design intent and in alignment with the terms above using definitions from NRM1.

6.2.4.2 Model authoring for use with CM software

To support costing using the BIM model, BIM authors shall adhere to the following:

- All building elements shall be modelled as an instance of a 3D BIM object unless specifically agreed by the Cost Manager, BIM Leader and Contractor Lead
- BIM objects shall be authored using the correct building category, or IFC mapping to allow accurate IFC type mapping during export processes
- BIM objects shall be modelled in accurate locations, with accurate dimensions in alignment with the design intent
- All duplicate BIM objects and BIM model issues shall be removed when shared on the CDE
- Layered or composite BIM objects shall contain material data attributes (defining the materials of the BIM objects) consistent with the design intent, or shall be indicated as concept in the BIM object 'name' data attribute
- Any additional non-geometric fields to be attached to BIM objects that are required for cost management shall be agreed and defined in the post-contract award BEP
- Spaces shall contain accurate data regarding finishes, room function, name and intended occupancy where known
- Models should also be exported in a dwfx. file format and made available to the Employer at the agreed information exchange dates.

6.3 Asset Information Model (AIM)

The AIM shall be delivered as part of Supplier Information Exchange 6 as defined in PAS 1192-3:2014.

At handover, the Employer requires the delivery of an AIM. Object property sets in addition to those defined as non-geometric requirements and COBie parameters (APPENDIX E) may be defined by the Information Manager and incorporated in the post-contract award BEP upon agreement with the BIM Leader and the Employer.

The handover of the AIM shall include a process of consultation with the Built Asset Security Manager, Information Manager, Contractor Lead, Facilities Manager and the Employer. This will determine for each project within the programme how data and information is to be handed over securely.

6.4 Quality Assurance and Quality Control (QA/QC)

6.4.1 Geometric quality assurance and quality control

6.4.1.1 Model files

BIM models shall not be accepted if considered unsuitable:

- All construction items to be represented in 3D as defined in the LOD requirements of the MPDT (APPENDIX C)
- All drawing sheets shall be created within the BIM model authoring environment to maintain accuracy and coordination.

6.4.1.2 Spatial integrity

The following rules shall apply to the model spatial integrity:

- Space validation – There shall be no space gaps. Bounding boxes used to represent spaces and zones shall match with architectural requirements and data values
- All walls shall be properly joined to prevent spaces being incorrectly defined. Bounding boxes of spaces shall not conflict
- Spatial data shall be generated and associated with bounding elements (walls, doors, windows, floors, columns, ceilings)

6.4.1.3 Material integrity

Representations of BIM object's material specifications (as data attributes) shall be modelled correctly in respect to the actual physical materials of the components. In addition:

- Modelling shall follow the method of construction.
- Once BIM models from other disciplines are available they shall be used as linked files and the placeholder BIM objects previously representing aspects of these models are to be deleted. **BIM object instances shall not appear in more than one model**
- In BIM authoring software where MEP systems are authored, a systems list shall be agreed and detailed in the post-contract award BEP.

6.4.1.4 BIM Validation prior to model sharing

Validation of BIM models and data extracted from such models, prior to sharing shall check that:

- All linked files and links to centralised information sources or databases have been removed
- All extraneous drawings sheets (i.e. those deemed to not be a deliverable) have been removed from the BIM model
- All BIM models contained within the BIM model file but not present in the design have been removed
- File format and naming conventions conform to this document and the post-contract award BEP and remain constant for the life span of the project
- Data segregation conforms to project requirements (as detailed in the post-contract BEP)
- 3D model and 2D drawings are up to date and the 2D information has been derived from the 3D model
- All BIM objects in the BIM model present in the design have been made visible
- All ownership of any shared work sets has been relinquished
- All BIM models are using the shared coordinate system defined at the outset of the project

6.4.2 Data Quality Assurance and Quality Control (QA/QC)

The Design/Contractor Lead project data QA/QC procedure shall follow the procedure detailed in BS 1192-4:2014 clause 6. At the agreed information exchange points, the Design/Contractor Lead shall supply an information schedule identifying all the design changes that have been made in the models, after the previous revision.

6.5 Training

The Employer shall not be responsible for providing training with regards to the BIM authoring and validation tools used by Project Stakeholders. It is a requirement that all individual parties are fully trained on authoring and validation tools prior to project engagement.

Initial training requirements shall be identified by the Employer and Information Manager through the Project Stakeholder's response to capability assessments (0).

The Built Asset Security Manager shall include within the Employer's Built Asset Security Management Plan (BASMP) details of any security awareness training or induction requirements project teams are to undertake upon appointment.

7 Competence assessment

7.1 BIM specific capability assessment for Project Stakeholders

The supplier capability assessment shall be completed and returned in tandem with the pre-contract award BEP that represents a Project Stakeholder's response to the EIR.

This document is included as APPENDIX G.

7.2 Knowledge and Skill Requirements

7.2.1 BIM Objectives and Processes

Project Stakeholders shall demonstrate knowledge of the underlying processes required to support required BIM uses. This will involve communicating and recording intended methodology which shall be shared with the BIM Leader for confirmation prior to implementation.

All Project Stakeholders are responsible for procuring training within their own organisation, and are required to undertake sufficient training to efficiently and effectively meet the requirements of the project.

7.2.2 Software

Experience, knowledge and skill of the task team shall be sufficient to competently undertake processes required to achieve the required BIM uses.

If Project Stakeholders fail to meet these requirements they shall immediately report this to the Employer and BIM Leader, and are responsible for improving internal skill sets or recruit additional technical staff before implementing processes.

7.3 Resource Requirements

7.3.1 Hardware and Technology

Project Stakeholders are required to operate on or procure IT infrastructure which meet system and software requirements of the BIM software tools utilised.

APPENDIX A BIM uses

REQUIRED BIM USES	RIBA WORK STAGES						
	1	2	3	4	5	6	7
Pre-design							
Existing conditions modelling	✓						
Site analysis	✓	✓	✓	✓			
Forward planning							
Cost estimation and management	✓	✓	✓	✓	✓		
Planning, sequencing and simulation		✓	✓	✓	✓		
Visualisation and communication		✓	✓	✓	✓		
Design authoring							
Spatial planning and optimisation	✓	✓	✓	✓			
3D design reviews		✓	✓	✓	✓		
Drawing generation		✓	✓	✓	✓	✓	
Data classification	✓	✓	✓	✓	✓	✓	✓
Bespoke BIM object library authoring		✓	✓	✓	✓	✓	✓
3D coordination		✓	✓	✓	✓	✓	
Assurance and data validation		✓	✓	✓	✓	✓	
Buildability analysis			✓	✓	✓		
5D Costings				✓	✓		
Technical/specialist design							
Disaster planning		✓	✓	✓	✓	✓	✓
Energy analysis		✓	✓	✓	✓		
Lighting analysis		✓	✓	✓	✓		
Pedestrian simulation		✓	✓	✓	✓		
Structural analysis		✓	✓	✓	✓		

Sustainability evaluation		✓	✓	✓	✓		
Construction							
Digital fabrication			✓	✓	✓		
Field management tracking					✓		
Possessions and permit to work					✓		
Record modelling						✓	✓
Building Systems analysis						✓	✓
Operations & Maintenance							
Asset management					✓	✓	✓
Planned maintenance					✓	✓	✓

APPENDIX B BIM use definitions

BIM Use	Definition	Deliverables
Pre-design		
Existing conditions modelling	Creation of an accurate digital record of the existing asset or facility aligned with accurate survey data to communicate the existing site and asset conditions.	An object based 3D model generated by a 3D laser scan or radar survey, including ground conditions existing structures and services.
Site analysis	The use of BIM and/or GIS is used to evaluate the geographical area to determine the optimum location, orientation and juxtaposition for the asset.	Site analysis report which demonstrates some use of model analytics to determine optimal asset position(s).
Forward planning		
Cost estimation and management	Utilising native and exchange BIM model files to inform on and measure quantities.	Cost plan and / or bill of quantities evidencing linkage to and utilisation of BIM models and assumptions made.
Planning, sequencing and simulation	Utilising 4D BIM processes to simulate, communicate and optimise project phases and construction sequences, including site logistics and temporary works.	Interactive 4D model and relevant exports including images and videos.
Visualisation and communication	Using or aligning to the BIM models to visualise or communicate the design intent.	Images and videos of the design or construction stage BIM models and / or virtual environment.

Design authoring		
Spatial planning and optimisation	Setup schedules within BIM models to allow for live tracking and export of spatial information including name/function/area (as defined within this document) to inform optimisation processes and report on non-conformities with the design brief.	Space data schedules exported from the BIM models.
3D design reviews	Use of the WIP or Shared BIM models to facilitate the design review process, including walk through exercises and model issue / coordination review.	Issue tracking report.
Drawing generation	2D graphical information is extracted from the model to communicate design information and meet contractual obligations.	2D graphical information such as plans, sections, elevations, callouts, detailing.
Data classification	The unification of data structures, including property sets, object and BIM model naming taxonomy across all BIM models to provide consistent design, construction and asset information.	BIM models in both native and exchange formats adhering to non-geometrical BIM requirements detailed in the EIR.
Bespoke BIM object library authoring	Creating and developing BIM objects (components) specifically for use on this project.	A schedule of all BIM objects authored for the purpose of the project and their location within the CDE.
3D coordination	Carry out clash detection exercises at regular intervals to identify and eradicate design coordination issues.	Compliant BIM models in both native and exchange formats.
Assurance and data validation	Carry out model validation exercises to identify and eradicate model deficiencies or non-compliances.	Model issue trackers (e.g. xlsx or BCF). End of stage reports. Model validation check lists for distributed information.
Buildability analysis	Analysis of the BIM models to determine whether what is defined is suitable for construction.	Model issue trackers (e.g. xlsx or BCF).

Technical/specialist design		
Disaster Planning	Utilise BIM models for analysis or simulation of emergency situations in order to rationalise the strategy, design or emergency event procedure and communicate this to building users and the emergency services.	A report including evidenced analysis of the model to achieve the required result.
Energy analysis	Utilising BIM models to simulate and optimise environmental performance during concept and early design stage.	A report including evidenced analysis of the model to achieve the required result.
Lighting analysis	Analysis of BIM models to determine the lighting requirements and performance of lighting systems and natural light.	A report including evidenced analysis of the model to achieve the required result.
Pedestrian simulation	Utilising BIM models to simulate scenarios including hazards and general use to identify and eradicate pinch points which may cause congestion during evacuation or misuse of the asset or public realm.	A report including evidenced analysis of the model to achieve the required result.
Structural analysis	Utilising BIM models to analyse structural design performance.	A report including evidenced analysis of the model to achieve the required result.
Sustainability evaluation	Using BIM models to support project assessment for the environmental statement, BREEAM and Code for Sustainable home certifications.	A report including evidenced analysis of the model to achieve the required result.

Construction		
Digital fabrication	Fabrication of building elements from BIM models.	Fabrication model files and drawings required.
Field management tracking	Field BIM software utilised during construction and handover to manage, track, task and report safety, commissioning and handover documents which are linked to the BIM for further use and access.	Associated or relational database of information captured on site. Report on as-built and issue for construction BIM model alignment.
Possessions and permit to work	Modelling site ownership and temporary access to adjacent parties to allow dynamic clash detection for site operations.	4D model or BIM model with spatial annotations.
Record modelling	BIM model which accurately represents the as-built asset, incorporating all changes made during construction and a representation of the physical conditions of the completed facility.	BIM model(s) compliant with geometric and non-geometric requirements.
Operations & Maintenance		
Asset management	The inputting of asset information into BIM models throughout design and construction to enable the BIM models to contain all asset information for use with a CAFM system.	BIM model(s) compliant with geometric and non-geometric requirements.
Planned maintenance	The integration of the AIM into a software package which enables maintenance to be predicted and scheduled and the asset more easily maintained.	The AIM containing product specifications and maintenance information.
Building Systems analysis	Analysis of the completed asset by measuring the actual building performance empirically and comparing this performance to the theoretical models.	A report comparing the empirical data to the theoretical predictions.

APPENDIX C Model Production Delivery Table (MPDT)

RIBA 2013 (CIC) Work stages		1		2		3		4		5		6	
		Preparation & Brief		Concept		Developed Design		Technical Design		Construction		Handover & Closeout	
NRM1 group elements, elements and sub-elements		LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOI	Resp Party
1 Substructure													
1.1 Substructure	1.1.1 Standard Foundations	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	1.1.2 Specialist Foundations	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	1.1.3 Lowest Floor Construction	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	1.1.4 Basement Excavation	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	1.1.5 Basement Walls	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
2 Superstructure													
2.1 Frame	2.1.1 Steel frames	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.1.2 Space frames/decks	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.1.3 Concrete casings to steel frames	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.1.4 Concrete frames	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.1.5 Timber frames	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.1.6 Specialist frames	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
2.2 Upper floors	2.2.1 Floors	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.2.2 Balconies	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.2.3 Drainage to balconies	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
2.3 Roof	2.3.1 Roof structure	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.3.2 Roof coverings	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.3.3 Specialist roof systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.3.4 Roof drainage	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.3.5 Rooflights, skylights and openings	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.3.6 Roof features	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
2.4 Stairs and ramps	2.4.1 Stair/ramp structures	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.4.2 Stair/ramp finishes	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.4.3 Stair/ramp balustrades and handrails	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.4.4 Ladders/chutes/slides	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
2.5 External walls	2.5.1 External enclosing walls above ground level	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.5.2 External enclosing walls below ground level	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.5.3 Solar/rain screening	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.5.4 External soffits	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.5.5 Subsidiary walls, balustrades and proprietary balconies	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON

RIBA 2013 (CIC) Work stages		1		2		3		4		5		6	
		Preparation & Brief		Concept		Developed Design		Technical Design		Construction		Handover & Closeout	
NRM1 group elements, elements and sub-elements		LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOI	Resp Party
	2.5.6 Facade access/cleaning systems	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
2.6 Windows and external doors	2.6.1 External windows	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
	2.6.2 External doors	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
2.7 Internal walls and partitions	2.7.1 Walls and partitions	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.7.2 Balustrades and handrails	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
	2.7.3 Moveable room dividers	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	2.7.4 Cubicles	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
2.8 Internal doors	2.8.1 Internal doors	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
3 Internal finishes													
3.1 Wall finishes	3.1.1 Wall finishes	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
3.2 Floor finishes	3.2.1 Finishes to floors	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	3.2.2 Raised access floors	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
3.3 Ceiling finishes	3.3.1 Finishes to ceilings	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	3.3.2 False ceilings	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	3.3.3 Demountable suspended ceilings	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
4 Fittings, furnishings and equipment													
4.1 Fittings, furnishings and equipment	4.1.1 General fittings, furnishings and equipment	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	4.1.2 Domestic kitchen fittings and equipment	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	4.1.3 Special purpose fittings, furnishings and equipment	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	4.1.4 Signs/notices	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	4.1.5 Works of art	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	4.1.6 Non-mechanical and non-electrical equipment	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	4.1.7 Internal planting	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	4.1.8 Bird and vermin control	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5 Services													
5.1 Sanitary installations	5.1.1 Sanitary appliances	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.1.2 Sanitary ancillaries	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.2 Services equipment	5.2.1 Services equipment	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.3 Disposal installations	5.3.1 Foul drainage above ground	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.3.2 Chemical, toxic and industrial liquid waste drainage	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.3.3 Refuse disposal	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.4 Water installations	5.4.1 Mains water supply	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.4.2 Cold water distribution	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.4.3 Hot water distribution	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON

RIBA 2013 (CIC) Work stages		1		2		3		4		5		6	
		Preparation & Brief		Concept		Developed Design		Technical Design		Construction		Handover & Closeout	
NRM1 group elements, elements and sub-elements		LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOI	Resp Party
	5.4.4 Local hot water distribution	1		2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.4.5 Steam and condensate distribution	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.5 Heat source	5.5.1 Heat source	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.6 Space heating and air conditioning	5.6.1 Central heating	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.6.2 Local heating	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.6.3 Central cooling	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.6.4 Local cooling	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.6.5 Central heating and cooling	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.6.6 Local heating and cooling	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.6.7 Central air conditioning	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.6.8 Local air conditioning	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.7 Ventilation	5.7.1 Central ventilation	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.7.2 Local and special ventilation	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.7.3 Smoke extract/control	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.8 Electrical installations	5.8.1 Electrical mains and sub-mains distribution	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.8.2 Power installations	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.8.3 Lighting installations	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.8.4 Specialist lighting installations	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.8.5 Local electricity generation systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.8.6 Earthing and bonding systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.9 Fuel installations	5.9.1 Fuel storage	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.9.2 Fuel distribution systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.10 Lift and conveyor installations	5.10.1 Lifts and enclosed hoists	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.10.2 Escalators	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.10.3 Moving pavements	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.10.4 Powered stairlifts	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.10.5 Conveyors	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.10.6 Dock levellers and scissor lifts	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.10.7 Cranes and unenclosed hoists	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.10.8 Car lifts, car stacking systems, turntables and the like	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.10.9 Document handling systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.10.10 Lift and conveyor systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.11 Fire and lightning protection	5.11.1 Fire fighting systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.11.2 Fire suppression systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON

**Employer's Information Requirements
Building Our Future Locations Programme**

RIBA 2013 (CIC) Work stages		1		2		3		4		5		6	
		Preparation & Brief		Concept		Developed Design		Technical Design		Construction		Handover & Closeout	
NRM1 group elements, elements and sub-elements		LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOI	Resp Party
5.12 Communication, security and control systems	5.11.3 Lightning protection	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.12.1 Communication systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.12.2 Security systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.12.3 Central control/building management systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
5.13 Specialist installations	5.13.1 Specialist piped supply installations	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.13.2 Specialist refrigeration systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.13.3 Specialist mechanical installations	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.13.4 Specialist electrical/electronic installations	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	5.13.5 Water features	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
6 Prefabricated buildings and building units													
6.1 Prefabricated buildings and building units	6.1.1 Complete buildings	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
	6.1.2 Building units	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
	6.1.3 Pods	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
7 Work to existing buildings													
7.1 Minor demolition works and alteration works	7.1.1 Minor demolition and alteration works	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
7.2 Repairs to existing services	7.2.1 Repairs to existing services	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
7.3 Damp-proof courses/fungus and beetle eradication	7.3.1 Damp-proof courses	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
	7.3.2 Fungus/beetle eradication	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
7.4 Facade retention	7.4.1 Facade retention	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
7.5 Cleaning existing surfaces	7.5.1 Cleaning existing surfaces	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
7.6 Renovation works	7.6.1 Masonry repairs	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
	7.6.2 Concrete repairs	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
	7.6.3 Metal repairs	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
	7.6.4 Timber repairs	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
	7.6.5 Plastics repairs	1	TBC	2	TBC	3	TBC	4	TBC	5	TBC	6	TBC
8 External works													
8.1 Site preparation works	8.1.1 Site clearance	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.1.2 Preparatory groundworks	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
8.2 Roads, paths, pavings and surfacings	8.2.1 Roads, paths and pavings	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.2.2 Special surfacings and pavings	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
8.3 Soft landscaping, planting and irrigation systems	8.3.1 Seeding and turfing	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.3.2 External planting	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.3.3 Irrigation systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
8.4 Fencing, railings and walls	8.4.1 Fencing and railings	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON

RIBA 2013 (CIC) Work stages		1		2		3		4		5		6	
		Preparation & Brief		Concept		Developed Design		Technical Design		Construction		Handover & Closeout	
NRM1 group elements, elements and sub-elements		LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOD	Resp Party	LOI	Resp Party
	8.4.2 Walls and screens	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.4.3 Retaining walls	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.4.4 Barriers and guardrails	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
8.5 External fixtures	8.5.1 Site/street furniture and equipment	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.5.2 Ornamental features	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
8.6 External drainage	8.6.1 Surface water and foul water drainage	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.6.2 Ancillary drainage systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.6.3 External chemical, toxic and industrial liquid waste drainage	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.6.4 Land drainage	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
8.7 External services	8.7.1 Water mains supply	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.7.2 Electricity mains supply	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.7.3 External transformation devices	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.7.4 Electricity distribution to external plant and equipment	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.7.5 Gas mains supply	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.7.6 Telecommunications and other communication system connections	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.7.7 External fuel storage and piped distribution systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.7.8 External security systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.7.9 External/street lighting systems	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.7.10 Local/district heating installations	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON
	8.7.11 Builder's work in connection with external services	1	TBC	2	TBC	3	TBC	4	CON	5	CON	6	CON

APPENDIX D Supplier information exchange requirements – Plain language questions

The following sections define the plain language questions required to be answered at the end of each RIBA work stage. Below each question is detailed the minimum requirements for accompanying documentation to support each answer.

Project Stakeholders are required to only answer questions relevant to the specific BIM uses detailed within their terms of appointment. BIM use requirements for work stages have been described in Appendix A.

Pre-design

What is the available site?

BIM Use: Existing conditions modelling

- Provide evidence of a 3D laser and / or radar survey generated model including ground conditions, existing structures and services. This may take the form of existing information from a field verified BIM model or GIS data. Provide confirmation that the BIM model represents the current condition and that any changes to existing conditions have been incorporated

What is the most optimal location/position for the asset?

BIM Use: Site analysis

- Provide evidence of how the BIM models and /or GIS data has been used to evaluate the geographical area to determine the optimal site location for the project
- Identify the optimal position of the assets within the site with coordinate and orientation information

Forward planning

What is the current cost plan?

BIM Use: Cost estimation and management

- Provide evidence of how the cost plan has been informed and updated using the BIM models
- Provide evidence for how the accuracy of this information has been evaluated

What is the sequence of development for the project?

BIM Use: Planning, sequencing and simulation

- Provide evidence of a 4D simulation of the sequential development using the BIM models
- Provide examples of how this has informed the planning process

What is the design intent?

BIM Use: Visualisation and communication

- Provide visualisations consistent with the current design and BIM models

Design Authoring

Does the building meet space requirements, as outlined in the brief?

BIM Use: Spatial planning and optimisation

- Provide evidence of how the space scheduling has been generated from the BIM model(s)
- Provide evidence showing how the design has been optimised through simulation and how this has informed decision making regarding layouts and access

How has the model informed design reviews?

BIM Use: 3D design reviews

- Provide evidence of the use of the BIM models as part of reviews and the tracking of issues within models throughout the work stage
- Provide examples of where the BIM models have improved informed decision-making and enabled a shared understanding of design intent and responsibilities

What drawings have been produced?

BIM Use: Drawing generation

- Confirm that the latest BIM model(s) were used to author all submitted drawings.
- Provide a schedule of drawings submitted, the models which were used to create them, attributed BIM authors and their location within the CDE

Has the information within BIM models and within the CDE been classified correctly?

BIM Use: Data classification

- Provide evidence of compliance to classifications defined as non-geometrical requirements

What bespoke objects have been created for this project?

BIM Use: Bespoke BIM object library authoring

- Provide a schedule detailing all project bespoke objects and their location within the CDE

Is the design coordinated?

BIM Use: 3D coordination

- Provide BIM models in both native and exchange formats, according to the Supplier Information Exchange protocols

Do the BIM models comply with the Employer's Information Requirements?

BIM Use: Assurance and data validation

- Provide model issue trackers (e.g. xlsx or BCF) and validation check lists for distributed information

Is the design buildable?

BIM Use: Buildability analysis

- Provide evidence of the means taken to establish that the design can be constructed
- Provide model issue trackers (e.g. xlsx or BCF) and buildability check lists for distributed information

Technical/specialist design

How can emergency situations be planned/communicated?

BIM Use: Disaster planning

- Provide evidence of provisions for emergency services having access to the digital information to develop rescue strategies

Does the building satisfy the energy use aspirations?

BIM Use: Energy analysis

- Provide evidence of how the BIM models have been used to inform the energy analysis simulations
- Provide confirmation that the energy analysis is correct for the current design and how any changes to the design will be addressed in the analysis
- Demonstrate that performance data and specification from the energy analysis has been used to author the relevant non-geometric data within the BIM models

Will the building have the required natural light and not intrude on others' right to light? During night time, how will the lighting layouts satisfy statutory requirements?

BIM Use: Lighting analysis

- Provide evidence of how analytical modelling has determined the behaviour of natural light and lighting systems
- Provide evidence that the analytical model is still a true representation of the current design

How has pedestrian movement been considered?

BIM Use: Pedestrian simulation

- Provide evidence of the simulations of hazards to identify and eradicate pinch points which may cause congestion during evacuation
- Provide evidence of the simulations of pedestrian routes to identify pinch points which may affect dwell time
- Provide evidence that the simulations are still a true representation of the current design

Is the building structurally sound?

BIM Use: Structural analysis

- Provide evidence of how structural analytics models have been informed by BIM models
- Provide evidence of the results of the structural analysis and any design performance optimisation of structural elements
- Provide evidence that the analytical model is still a true representation of the current design

Does the project meet the sustainability aspirations?

BIM Use: Sustainability evaluation

- Provide evidence of how the BIM models have been used to support project assessment for the environmental statement, BREEAM and Code for Sustainable home certifications
- Provide evidence that the evaluation is still a true representation of the current design

Construction

What is the Design for Manufacturing and Assembly methodology?

BIM Use: Digital fabrication

- Provide evidence that the BIM models have been used to generate or verify any digital fabrication modelling
- Provide a schedule of any submitted drawings for elements which will be manufactured/fabricated off-site, detailing the BIM models used to create them, the attributed authors and their location of the models within the CDE

How is BIM being utilised on-site?

BIM Use: Field management tracking

- Provide details of the use of on-site software for this project
- Provide evidence of the use of the software with the BIM models to manage tasks and resources, progress tracking, issue tracking, safety reports and commissioning that has been carried out with the software

How have the BIM models contributed to the management of resources and tasks on site?

BIM Use: Possessions and permit to work

- Provide evidence of models indicating site ownership and temporary access to adjacent parties
- Provide examples of dynamic clash detection of site operations

Does the model accurately represent what has been built?

BIM Use: Record modelling

- Provide details of the verification process and any discrepancies between what is contained within the BIM models and what has been built
- Submit verified as-built models in accordance with the Asset Information requirements

Operations & maintenance

Is the Asset Information Model usable for operation and maintenance?

BIM Use: Asset management

- Submit BIM models and COBie output in accordance with the Information Exchange protocol and Asset Information Requirements

Can the model be used for planned maintenance?

BIM Use: Planned maintenance

- Provide evidence of the linking of BIM information to systems which support operational maintenance

Is the building performing as designed?

BIM Use: Building Systems Analysis

- Submit a report containing analysis of the actual building performance against the design intent. Performance data shall be measured through the BMS and recorded in the Asset Information Model

APPENDIX E Supplier information exchange requirements – COBie requirements

The table below is a representation of the COBie schema detailed in PAS1192-4:2014. At each supplier information exchange, it is the duty of the responsible party to validate the data as per the agreed QA/QC procedure. Contractor Lead upon appointment will be responsible for the integrity and completeness of the COBie data set requirements along with carrying out the supplier information exchanges.

The data set requirement shall be completed, at each relevant stage, for every element authored in line with the MPDT in APPENDIX B. Project Stakeholders' responsibility for capturing data within the schema has been included within the information below. When activity is sub-contracted, it is the responsibility of the sub-contracting organisation to articulate the responsibility outlined in this section.

	This field is expected as part of the minimum requirement						
	The field expects the name or email found on a COBie sheet or the value is to be selected from a picklist						
	This field is filled in by the generating application						
	This field may be required, this is project dependant						
	This field is user defined						
Supplier Information Exchange Project Work Stage (end of)		1 1	2 2	3 3	4 4	5 5	6 6
Contact sheet							
COBie field	Instance/Type						
Email	Type	-	✓	✓	✓	✓	✓
CreatedBy	Type	-	✓	✓	✓	✓	✓
CreatedOn	Type	-	✓	✓	✓	✓	✓
Category	Type	-	✓	✓	✓	✓	✓
Company	Type	-	✓	✓	✓	✓	✓
Phone	Type	-	✓	✓	✓	✓	✓
ExtSystem	N/A	-	-	-	-	-	-
ExtObject	N/A	-	-	-	-	-	-
ExtIdentifier	N/A	-	-	-	-	-	-
Department	Type	-	✓	✓	✓	✓	✓
OrganizationCode	Type	-	✓	✓	✓	✓	✓
GivenName	Type	-	✓	✓	✓	✓	✓
FamilyName	Type	-	✓	✓	✓	✓	✓
Street	Type	-	✓	✓	✓	✓	✓
PostalBox	Type	-	✓	✓	✓	✓	✓
Town	Type	-	✓	✓	✓	✓	✓
StateRegion	Type	-	✓	✓	✓	✓	✓
PostalCode	Type	-	✓	✓	✓	✓	✓
Country	Type	-	✓	✓	✓	✓	✓

Supplier Information Exchange Project Work Stage (end of)		1 1	2 2	3 3	4 4	5 5	6 6
Facility sheet							
COBie field	Instance/Type						
Name	Type	-	✓	✓	✓	✓	✓
CreatedBy	Type	-	✓	✓	✓	✓	✓
CreatedOn	Type	-	✓	✓	✓	✓	✓
Category	Type	-	✓	✓	✓	✓	✓
ProjectName	Type	-	✓	✓	✓	✓	✓
SiteName	Type	-	✓	✓	✓	✓	✓
LinearUnits	Type	-	✓	✓	✓	✓	✓
AreaUnits	Type	-	✓	✓	✓	✓	✓
VolumeUnits	Type	-	✓	✓	✓	✓	✓
CurrencyUnits	Type	-	✓	✓	✓	✓	✓
AreaMeasurement	Type	✓	✓	✓	✓	✓	✓
ExternalSystem	N/A	-	-	-	-	-	-
ExternalProjectObject	N/A	-	-	-	-	-	-
ExternalProjectIdentifier	N/A	-	-	-	-	-	-
ExternalSiteObject	N/A	-	-	-	-	-	-
ExternalSiteIdentifier	N/A	-	-	-	-	-	-
ExternalFacilityObject	N/A	-	-	-	-	-	-
ExternalFacilityIdentifier	N/A	-	-	-	-	-	-
Description	Type	-	✓	✓	✓	✓	✓
ProjectDescription	Type	-	✓	✓	✓	✓	✓
SiteDescription	Type	-	✓	✓	✓	✓	✓
Phase	Type	-	✓	✓	✓	✓	✓
Floor sheet							
COBie field	Type						
Name	Instance	-	✓	✓	✓	✓	✓
CreatedBy	Type	-	✓	✓	✓	✓	✓
CreatedOn	Type	-	✓	✓	✓	✓	✓
Category	Instance	-	✓	✓	✓	✓	✓
ExtSystem	N/A	-	-	-	-	-	-
ExtObject	N/A	-	-	-	-	-	-
ExtIdentifier	N/A	-	-	-	-	-	-
Description	Instance	-	-	✓	✓	✓	✓
Elevation	Instance	✓	✓	✓	✓	✓	✓
Height	Instance	✓	-	✓	✓	✓	✓

Supplier Information Exchange Project Work Stage (end of)		1 1	2 2	3 3	4 4	5 5	6 6
Space sheet							
COBie field	Type						
Name	Instance	-	✓	✓	✓	✓	✓
CreatedBy	Type	-	✓	✓	✓	✓	✓
CreatedOn	Type	-	✓	✓	✓	✓	✓
Category	Instance	-	-	✓	✓	✓	✓
FloorName	Instance	-	-	✓	✓	✓	✓
Description	Instance	-	-	✓	✓	✓	✓
ExtSystem	N/A	-	-	-	-	-	-
ExtObject	N/A	-	-	-	-	-	-
ExtIdentifier	N/A	-	-	-	-	-	-
RoomTag	Instance	-		✓	✓	✓	✓
UsableHeight	Instance	-		✓	✓	✓	✓
GrossArea	Instance	-	✓	✓	✓	✓	✓
NetArea	Instance	-	✓	✓	✓	✓	✓
Zone sheet							
COBie field	Type						
Name	Instance	-	✓	✓	✓	✓	✓
CreatedOn	Type	-	-	✓	✓	✓	✓
CreatedBy	Type	-	-	✓	✓	✓	✓
Category	Instance	-	✓	✓	✓	✓	✓
SpaceNames	Instance	-	✓	✓	✓	✓	✓
ExtSystem	N/A	-	-	-	-	-	-
ExtObject	N/A	-	-	-	-	-	-
ExtIdentifier	N/A	-	-	-	-	-	-
Description	Instance	-	-	✓	✓	✓	✓
Type sheet							
COBie field	Type						
Name	Type	-	✓	✓	✓	✓	✓
CreatedBy	Type	-	✓	✓	✓	✓	✓
CreatedOn	Type	-	✓	✓	✓	✓	✓
Category	Type	-	-	✓	✓	✓	✓
Description	Type	-	✓	✓	✓	✓	✓
AssetType	Type	-	-	✓	✓	✓	✓
Manufacturer	Type	-	-	-	-	✓	✓
ModelNumber	Type	-	-	-	-	✓	✓

Supplier Information Exchange Project Work Stage (end of)		1 1	2 2	3 3	4 4	5 5	6 6
WarrantyGuarantorParts	Type	-	-	-	-	✓	✓
WarrantyDurationParts	Type	-	-	-	-	✓	✓
WarrantyGuarantorLabor	Type	-	-	-	-	✓	✓
WarrantyDurationLabor	Type	-	-	-	-	✓	✓
WarrantyDurationUnit	Type	-	-	-	-	✓	✓
ExtSystem	N/A	-	-	-	-	-	-
ExtObject	N/A	-	-	-	-	-	-
ExtIdentifier	N/A	-	-	-	-	-	-
ReplacementCost	Type	-	-	-	-	✓	✓
ExpectedLife	Type	-	-	-	✓	✓	✓
DurationUnit	Type	-	-	-	-	✓	✓
WarrantyDescription	Type	-	-	-	-	✓	✓
NominalLength	Type	-	-	✓	✓	✓	✓
NominalWidth	Type	-	-	✓	✓	✓	✓
NominalHeight	Type	-	-	✓	✓	✓	✓
ModelReference	Type	-	-			✓	✓
Shape	Type	-	-	✓	✓	✓	✓
Size	Type	-	-	✓	✓	✓	✓
Color	Type	-	-	✓	✓	✓	✓
Finish	Type	-	-	✓	✓	✓	✓
Grade	Type	-	-	✓	✓	✓	✓
Material	Type	-	-	✓	✓	✓	✓
Constituents	Type	-	-	-	✓	✓	✓
Features	Type	-	-	-	✓	✓	✓
AccessibilityPerformance	Type	-	-	-	✓	✓	✓
CodePerformance	Type	-	-	-	✓	✓	✓
SustainabilityPerformance	Type	-	-	-	✓	✓	✓
Component sheet							
COBie field	Type						
Name	Instance	-	✓	✓	✓	✓	✓
CreatedBy	Type	-	✓	✓	✓	✓	✓
CreatedOn	Type	-	✓	✓	✓	✓	✓
TypeName	Instance	-		✓	✓	✓	✓
Space	Instance	-	✓	✓	✓	✓	✓
Description	Instance	-	-	✓	✓	✓	✓
ExtSystem	N/A	-	-	-	-	-	-
ExtObject	N/A	-	-	-	-	-	-
ExtIdentifier	N/A	-	-	-	-	-	-

Supplier Information Exchange Project Work Stage (end of)		1 1	2 2	3 3	4 4	5 5	6 6
SerialNumber	Instance	-	-	-	-	✓	✓
InstallationDate	Instance	-	-	-	-	✓	✓
WarrantyStartDate	Instance	-	-	-	-	✓	✓
TagNumber	Instance	-	-	-	-	✓	✓
Barcode	Instance	-	-	-	-	✓	✓
AssetIdentifier	Instance	-	-	✓	✓	✓	✓
System sheet							
COBie field	Type						
Name	Instance	-	✓	✓	✓	✓	✓
CreatedBy	Type	-	✓	✓	✓	✓	✓
CreatedOn	Type	-	✓	✓	✓	✓	✓
Category	Instance	-	-	✓	✓	✓	✓
ComponentNames	Instance	-	-	-	✓	✓	✓
ExtSystem	N/A	-	-	-	-	-	-
ExtObject	N/A	-	-	-	-	-	-
ExtIdentifier	N/A	-	-	-	-	-	-
Description	Instance	-	-	✓	✓	✓	✓
Assembly sheet							
COBie field	Type						
Name		-	✓	✓	✓	✓	✓
CreatedBy		-	✓	✓	✓	✓	✓
CreatedOn		-	✓	✓	✓	✓	✓
AssemblyType		-	✓	✓	✓	✓	✓
SheetName		-	✓	✓	✓	✓	✓
ParentName		-	✓	✓	✓	✓	✓
ChildNames		-	✓	✓	✓	✓	✓
ExtSystem		-	-	-	-	-	-
ExtObject		-	-	-	-	-	-
ExtIdentifier		-	-	-	-	-	-
Description		✓	✓	✓	✓	✓	✓

APPENDIX F Asset List

Maintainable assets (FM capture requirements)			COBie output requirements					
Category	Sub-category	Title (Asset name)	Uniclass Code	BIM Model Level of Definition		Asset Tag	Photo?	O&M Req'
				LOD	LOI			
Ss_25_Wall And Barrier Systems								
	_Wall and barrier systems		Ss_25	3	6	N	N	Y
	10_Framed wall systems	Curtain walling systems	Ss_25_10_20	3	6	N	N	Y
	30_Framed Partition Systems			3	6	N	N	Y
	30_Framed Partition Systems	Window systems	Ss_25_30_95	3	6	N	N	Y
	30_Framed Partition Systems	Glazing systems	Ss_25_60_35	3	6	N	N	Y
	45_Wall covering and finish systems	Wall covering and finish systems	Ss_25_45	3	6	N	N	Y
	60_Wall And Barrier Accessory Systems			3	6	N	N	Y
	71_Rigid board, panel and sheet products	Non-metal barrier panels	Pr_25_71_57	3	6	N	N	Y
Ss_30_Roof, Floor And Paving Systems								
	25_Ceiling and soffit systems		Ss_30_25	4	6	N	N	Y
	30_Roof Opening Systems		Ss_30_10 - Ss_30_95	4	6	N	N	Y
	30_Roof Opening Systems	Roof openings	Ss_30_30	5	6	Y	N	Y
	30_Roof Opening Systems	Rooflight and window systems	Ss_30_30_72	5	6	Y	N	Y
	42_Floor covering and finishing systems	Calcium sulphate-based screed systems	Ss_30_42_10	3	6	N	N	Y
		Cementitious screed systems	Ss_30_42_20					
	42_Floor covering and finishing systems	Floor covering and finishing systems	Ss_30_42	3	6	N	N	Y
	42_Floor covering and finishing systems	Resilient and textile floor covering systems	Ss_30_42_72	3	6	N	N	Y
Ss_35 Stair and ramp systems								
	42_Floor covering and finishing systems		Ss_35	3	3	N	N	Y

Employer's Information Requirements
Building Our Future Locations Programme

Ss_40_Signage, FF&E, And General Finishing Systems								
	35_Medical, Health, Welfare And Sanitary FF&E Systems	Sanitary appliance	Ss_40_15_75	5	6	N	N	Y
Ss_50_Piped Supply Systems								
	30_Drainage collection and distribution systems	Rainwater drainage systems	Ss_50_30_02	5	6	Y	N	Y
Ss_55_Piped Supply Systems								
	10_Liquid Fuel Extraction, Treatment And Storage Systems	Liquid Fuel Storage Tank Systems	Ss_55_10_75	5	6	Y	N	Y
	15_Water Extraction, Treatment And Storage Systems	Water Storage Tank Systems	Ss_55_15_75	5	6	Y	N	Y
	20_Gas distribution and supply systems		Ss_55_20	5	6	Y	N	Y
	30_Fire Extinguishing Systems	Gaseous And Foam Fire Extinguishing Systems Only	Ss_55_30	5	6	Y	N	Y
	30_Fire Extinguishing Systems	Water fire extinguishing systems	Ss_55_30_96	5	6	Y	N	Y
	30_Fire Extinguishing Systems	Sprinkler systems	Ss_55_30_96_85	5	6	Y	N	Y
	70_Water Distribution And Supply Systems	Hot And Cold Water Supply Systems	Ss_55_70_38	5	6	Y	N	Y
Ss_60_Heating, Cooling And Refrigeration Systems								
	40_Space Heating And Cooling Systems			5	6	Y	N	Y
	40_Space Heating And Cooling Systems	Cooling systems	Ss_60_40_17	5	6	Y	N	Y
	40_Space Heating And Cooling Systems	Heating systems	Ss_60_40_37	5	6	Y	N	Y
	40_Space Heating And Cooling Systems	District cooling distribution network systems	Ss_60_40_84_21	5	6	Y	N	Y
	40_Space Heating And Cooling Systems	District cooling distribution network systems	Ss_60_40_84_22	5	6	Y	N	Y
Ss_65_Ventilation And Air Conditioning Systems								
	40_Ventilation systems		Ss_65_40	5	6	Y	N	Y

	40_Ventilation systems	Natural ventilation systems	Ss_65_40_33_56	5	6	Y	N	Y
Ss_70_Electricity Distribution And Transmission Systems								
	10_Communications systems	Renewable power generation systems	Ss_70_10_70	5	6	Y	N	Y
	30_Electrical Systems	High-Voltage Distribution And Transmission Systems	Ss_70_30_35	5	6	Y	N	Y
	30_Electrical Systems	Low-Voltage Distribution And Transmission Systems	Ss_70_30_45	5	6	Y	N	Y
	30_Electrical Systems	Electric vehicle charging systems	Ss_70_30_94_27	5	6	Y	N	Y
	80_Lighting Systems	General Space Lighting Systems	Ss_70_80_33	5	6	Y	N	Y
Ss_75_Communications, Security, Safety, Control And Protection Systems								
	10_Communications systems	Data distribution and telecommunications systems	Ss_75_10_21	3	6	Y	N	Y
	40_Security systems	Access control systems	Ss_75_40_03	3	6	Y	N	Y
	60_Environmental Safety Systems	Fire Detection And Alarm Systems	Ss_75_60_28	3	6	Y	N	Y
	70_Control and management systems	Building monitoring and management systems	Ss_75_70_54_10	5	6	Y	N	Y
	80_Protection Systems	Lightning protection systems	Ss_75_80_45_45					
Ss_80_Transport Systems								
	20_Conveying systems	Escalator systems	Ss_80_20_62_28	5	6	Y	N	Y
	30_Crane And Hoist Systems	Dynamic Permanent Access And Safety Equipment Systems	Ss_80_30_25	5	6	Y	N	Y
	50_Lift Systems	Passenger And Goods Lift Systems	Ss_80_50_60	5	6	Y	N	Y
Pr_20_Structure and general products								
	76_Sectional products	Collapsible metal bollards	Pr_20_76_08_15	4	6	Y	N	Y
Pr_25_Skin Products								
	71_Rigid board, panel and sheet products	Raised access floor panels	Pr_25_71_42_70	3	6	Y	N	Y
	71_Rigid board, panel and sheet products	Non-metal barrier panels	Pr_25_71_57	3	6	Y	N	Y
	80_Smoke And Fire Control Products	Smoke And Fire Barriers	Pr_25_80_79	4	6	Y	N	Y

Employer's Information Requirements
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Pr_30_Opening Products								
	59_Openings And Opening Component Products	Blinds	Pr_30_59_07	3	6	Y	N	Y
	59_Openings And Opening Component Products	Security shutters	Pr_30_59_57_76	4	6	Y	N	Y
	59_Openings And Opening Component Products	Operable vehicular barriers	Pr_30_59_98	4	6	N	N	Y
	59_Openings And Opening Component Products	Window units	Pr_30_59_98	4	6	N	N	Y
	59_Openings And Opening Component Products	Doorsets	Pr_30_59_24	4	6	Y	N	Y
Pr_40_Signage, sanitary fittings and fittings, furnishing and equipment (FF&E) products								
	10_Signage Products	Fire equipment signs	Pr_40_10_77_31	3	6	Y	N	Y
	10_Signage Products	Surveillance system signs	Pr_40_10_27_86	3	6	Y	N	Y
	10_Signage Products	Externally Illuminated Emergency Exit Signs	Pr_40_10_77_28	3	6	Y	N	Y
	20_Sanitary fittings and accessories		Pr_40_20	5	6	Y	N	Y
	20_Sanitary fittings and accessories	Sink taps	Pr_40_20_87_84	5	6	Y	N	Y
	20_Sanitary fittings and accessories	Washbasin manual water supply sets	Pr_40_20_87_96	5	6	Y	N	Y
	20_Sanitary fittings and accessories	Urinal and WC fittings	Pr_40_20_93	5	6	Y	N	Y
	30_Fittings	Curtains and screens	Pr_40_30_20	4	6	Y	N	Y
	30_Fittings	Reception desks	Pr_40_30_30_71	4	6	Y	N	Y
	30_Fittings	Shelves and storage units	Pr_40_30_78	4	6	Y	N	Y
	30_Fittings	Lockers	Pr_40_30_78_48	4	6	Y	N	Y
	30_Fittings	Wardrobes	Pr_40_30_78_96	4	6	Y	N	Y
	50_Furnishings	Soft furnishings	Pr_40_50_81	4	6	Y	N	Y
	70_Equipment	Hand driers	Pr_40_70_62_37	4	6	Y	N	Y
	70_Equipment	Food refrigerators and freezers	Pr_40_70_31	4	6	Y	N	Y
	70_Equipment	Domestic cooking equipment	Pr_40_70_24	4	6	Y	N	Y
	70_Equipment	Dishwashers	Pr_40_70_21	4	6	Y	N	Y
	70_Equipment	Packaged goods dispensers	Pr_40_70_22_60	4	6	Y	N	Y

	70_Equipment	Domestic laundry equipment	Pr_40_70_25	4	6	Y	N	Y
	70_Equipment	Safety equipment	Pr_40_70_75	4	6	Y	N	Y
	75_Services control products	Servers	Pr_75_75_15_80	4	6	Y	N	Y
	75_Services control products	Printers	Pr_75_75_15_66	4	6	Y	N	Y
	75_Services control products	Scanners	Pr_75_75_15_76	4	6	Y	N	Y
Pr_60_Services Source Products								
	70_Power Supply Products			4	6	Y	N	Y
	75_Communications Source Products	Audio and video players and recorders	Pr_60_75_03	3	6	Y	N	Y
	75_Communications Source Products	Surveillance Cameras And Ancillaries	Pr_60_75_86	4	6	Y	N	Y
Pr_65_Services Distribution Products								
	10_Extraction Systems	Fire and smoke dampers	Pr_65_65_24_29	5	6	Y	N	Y
	10_Extraction Systems	Smoke extract fans	Pr_65_67_29_80	5	6	Y	N	Y
	52_Pipe, Tube And Fitting Products	Pipe Accessories	Pr_65_52_61	5	6	N	N	Y
	53_Pump Products	Drainage Pumps	Pr_65_53_24	5	6	N	N	Y
	57_Filter products		Pr_65_57	1	6	N	N	Y
	80_Air Conditioning Systems	Air handling units	Pr_60_65_03_87	5	6	N	N	Y
	80_Air Conditioning Systems	Fan coil units	Pr_70_65_03_29	5	6	N	N	Y
Pr_70_Services Outlet Products								
	75_Communications Outlet Products	Fire Alarm Sounders	Pr_70_75_02_30	4	6	Y	N	Y
Pr_75_Services Control Products								
	30_Opening Control Products	Electromagnetic Door Holders	Pr_75_30_26_26	4	6	Y	N	Y
	50_Mechanical and electrical services control products	Sensors and detectors	Pr_75_50_76	5	6	Y	N	Y
	75_Communications control products	Computers and peripherals	Pr_75_75_15	3	6	Y	N	Y
Pr_80_Services general products								
	51_Measuring and metering products	Gas meters	Pr_80_51_51_33	4	6	Y	N	Y

APPENDIX G Supplier Capability Assessment



BIM Supply Chain Capability Assessment

Building Our Future Locations
Programme

Contact

Sharon Osei

Turner & Townsend Management Solutions
One New Change
London EC4M 9AF

t: +44 (0)207 544 4000
e: sharon.osei@turntown.co.uk
w: turnerandtownsend.com

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00	Laurice Peverett	Sharon Osei	24/06/2016
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O4 - Q1

Provide evidence of your organisation's capability of working with a project using a "Common Data Environment" as described in PAS 1192:2:2013?

Description

You will be expected to demonstrate that your organisation understands the concept of a "Common Data Environment" and experience of extranet systems used as described in PAS 1192:2:2013 and is able to exchange information between supply chain members in an efficient and collaborative manner. If you have delivered a project in this way, you may use this to demonstrate your capability.

Applicable response

Applicable evidencing

Provide evidence of your organisation's documented policy, systems and procedures to achieve "Level 2 BIM" maturity as defined in the government's BIM Strategy?

Definition

You will be expected to provide evidence that you or your organisation has a policy authorised by the Chief Executive or equivalent and regularly reviewed. The policy and procedures should be able to be applied to both large and small projects efficiently.

Applicable response

Applicable evidence

O4 – Q3

Provide evidence of your organisations of developing and delivering or working to (depending upon the role(s) that this PQQ covers) a BIM Execution Plan (BEP) as described in PAS1192:2:2013? Describe how this is achieved by your organisation and where available, provide a pre-contract execution plan for this purpose.

Description

You will be expected to demonstrate that your organisation understands the requirements of PAS 1192:2:2013, in particular with respect to the EIR and BEP. This will include experience in wider understanding of the client's primary BIM uses to create reliable information and exchange it between supply chain members in an efficient and collaborative manner, and where appropriate, to the client, in the form specified (EG in accordance with IFC/COBie UK 2012 standard and other typical client's information requirements). If you have delivered a project in this way, you may present an example BEP.

Applicable response:

Applicable evidence

O4 – Q4

Provide measurable details of the number of BIM Level 2 projects undertaken by your company, comparative to the number of overall projects delivered within the last 3 years, stating if a lower-band threshold applies.

Description

(e.g. 20 of 50 projects over £1,000,000 delivered to a BIM Level 2 standard) Include with this the supporting information regarding your organisation policies which drive these figures.

Applicable response:

Applicable evidence

O4 – Q5

Describe how you will utilise the BIM level 2 process and data to achieve (and where possible improve upon) the requirements to deliver Soft Landings and an as built verified LOD 500 model as stated in the EIR document.

Applicable response:

Applicable evidence

Do you have arrangements for training employees in BIM related skills and do you assess their capabilities? Provide an indicative organisation chart detailing the employees and relevant qualifications of who will deliver the BIM requirements of this project

Description

You will be expected to demonstrate that your organisation 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” maturity. Include in your response specific visualisation software for clash detection and spatial coordination or other specific software applications for visualisation which your organisation may use. Completed Construction Project Information Exchange (CPIx) templates referred to in the Project Implementation Plan (PIP), part of the BEP defined in PAS 1192-2 would be considered.

Applicable response:

Applicable evidence

XX Hub

Schedule 7 – Cost Plan

Schedule 7

COST PLAN

Target cost plan to be agreed in the first three weeks as per 1st Stage ITT



XX Hub

Schedule 8 – Programme

Schedule 8

PROGRAMME

The following key milestones will be incorporated into a detailed programme in accordance with the Scope of Service which is to be agreed within 2 weeks commencement of the Pre-Construction Services Agreement;

PCSA Start - XX/XX/XXXX

Completion of PCSA - XX/XX/XXXX

Contract Award - XX/XX/XXXX

Start on Site - XX/XX/XXXX

Practical Completion - XX/XX/XXXX

XX Hub

Schedule 9 – Commercial Protocols



Schedule 9
COMMERCIAL PROTOCOLS

Stage 2**Commercial Protocols
and Procedures**

Damien Clifford
Senior Cost Manager

Turner & Townsend Cost Management
1 New Change,
London
EC4M 9AF

t: +44 (0) 20 7544 4000
e: damien.clifford@turntown.co.uk
w: turnerandtownsend.com

HM Revenue & Customs
Edinburgh



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<p>F:\LON\CM\QS24000 - QS 24999\QS24705 - HMRC PMO\6. PROCUREMENT\FRAMEWORKS\HMRC FRAMEWORK\ITT\SCHEDULE 21 - PCSA\HMRC - COMMERCIAL PROTOCOLS AND PROCEDURES - REV 1.DOCX</p>			

1 Introduction

The purpose of this document is to confirm the necessary actions and processes to deliver the required commercial functions during the Pre-Construction Period of Project. This is put into context with the overall requirement on the Project Team to agree a Contract Sum with the Contractor within the prescribed Project budget and Programme. Whilst the content of this document is largely prescriptive. It is proposed to engage with the Contractor to establish their complete buy in and detail fully how duties are implemented.

The document confirms the Contractor's commercial obligations under this Pre-Construction Services Agreement (PCSA) and how their commercial function will interface with the Employer's Agent and Quantity Surveyor Turner & Townsend. The following commercial responsibility and interface issues have been addressed:

- Subcontract Package Procurement
- Cost Reporting
- Incremental Agreement of Contract Sum
- Cashflow
- Agreement of Cost Plan
- Inflation
- Risk Management
- Value Engineering/Opportunities Management
- General Cost Advice/Support

For each of the above headings the key deliverables are noted along with a timeline identifying the processes and protocols to achieve the required level of commercial assurance throughout the Pre-Construction Period. Also identified are the key meetings that will be necessary along with the proposed control documentation.

Responsibilities placed on the chosen Main Contractor under the PCSA relating to non-commercial activities are excluded from this document (e.g. design activities, etc).

2 Subcontract Package Procurement

The following items are services detailed in the Stage 1 Services relating to subcontract procurement:

- Develop optimum package split in the context of responding to cost, risk design options and programme considerations and seek approval from the Employer for all sub contract and supplier packages. Procurement of the works is to be undertaken in a fully transparent, open and collaborative manner.
- Develop detailed scope of works, identifying responsibilities in term of design, interfaces, preliminaries including site constraints and programme. Identify early procurement items and prioritise procurement actions.
- The Contractor is to obtain a minimum of 3 comprehensive competitive tenders for each package. Where the Contractor means to procure the works other than competitive tender, he is to obtain prior written approval from the Employer.
- Undertake sub contract prequalification process with confirmation of compliant tenderers.
- Carry out the tendering and procurement of sub-contract and supplier packages in full compliance of duties detailed in the Stage 1 Services.

2.1 Package Procurement – Allocation of Responsibilities

The table below indicates the allocation of key responsibilities and deliverables:

Activity/Deliverable	Main Contractor	Turner & Townsend	HMRC	Notes/Comments
Agree sub-contract and supplier package strategy	✓	✓	✓	
Confirm budgets for each sub-contract package	✓	✓		Following sign off of latest design and the Contractors Cost Plan
Prequalify potential sub-contract tenderers for each package	✓			With support from Employer as required
Propose tender list for each package for agreement by Employer	✓			In conjunction with the Project Team
Approval of proposed tender list		✓	✓	
Preparation of package specific tender documents (including pricing schedules)	✓			For approval by Employer prior to issue

Activity/Deliverable	Main Contractor	Turner & Townsend	HMRC	Notes/Comments
Preparation of Pre Tender Estimate for each sub-contract package	✓			Including apportionment of inflation - for agreement by the Employer's Agent
Manage sub-contract tender process	✓			Including managing tender queries and arranging mid tender interviews as necessary
Chair opening of sub-contract tender return meetings and supply only packages		✓		
Review tender returns for each sub-contract package and conduct any negotiations to ensure compliance with the package scope and conditions	✓			To be carried out on an open book basis with input from the Cost Consultant and other project team members as necessary
Lead any negotiations, or value engineering, as far as possible to procure the package within budget	✓			
Chair post tender meetings	✓			
Prepare Tender Report for each sub-contract package	✓			For review and approval by the Employer / Employer's Agent
Obtain HMRC approval to tender report		✓	✓	

2.2 Main Contractor Responsibilities/Deliverables

From the allocation of key responsibilities matrix above, the key points to note are:

- As part of the agreement of the sub-contract packaging strategy the Contractor will be required to advise the Employer of the most appropriate and cost effective method of tendering each of the sub-contract packages. The sub-contract packaging strategy will be agreed between the Contractor and the Employer and will be monitored during Stage 2. If appropriate, and agreed by all parties, it will be amended to reflect the nature of the works and design information available
- Confirm and agree with the Employer the overall sub-contract and supplier packaging strategy and programme
- The prequalification and agreement of the tender list for each package will be a process led by the Contractor in conjunction with the Project Team with the identification of suitable subcontractors and suppliers for each package shall be agreed by the Employer. The

prequalification process will be prepared in consultation with the Project Team and should measure each of the proposed subcontractors on qualitative issues, financial standing, capacity to carry out the works, and experience of similar projects. For each sub-contract package the Contractor will propose the prequalification assessment criteria for approval by the Project Team.

- Prior to the procurement of any of the sub-contract packages the Contractor will provide a draft of the generic proposed sub-contract tender documents for review/approval by the Employer's Agent and Employer
- The Contractor is to agree and notify each updated edition of the Contract Sum forecast. The Contractor shall produce a pre-tender estimate (PTE) for each subcontract package immediately upon the release of tender information, and in any case be issued to the Employer's Agent and the Employer no later than 7 working days before the issue of tender documentation. The PTE should be in a format similar to the Project Cost Plan for ease of comparison with the package specific budget and clearly identify any potential areas of cost overspend with potential mitigation measures by the project team. The terms of the PCSA refer to accurate forecasting and updating by the Main Contractor to elements/packages.
- Upon agreement of the draft tender documentation, the Contractor will develop a detailed set of tender documents for each package and recommendations provided to the Employer's Agent and the Employer no later than 7 working days prior to the issue of the sub-contract tender. This will be commented upon by the Employer's Agent and other Project Team members as appropriate with any comments incorporated into the final issue. This should include, as a minimum:
 - Preliminaries (both generic and package specific)
 - Pricing document
 - Sub-contract and supplier terms and conditions
 - List of design information (both drawings and specifications)
 - Survey information
- Particular commercial issues to note are:
 - The pricing documents shall be in sufficient detail to provide transparency on the breakdown of costs and for easy comparison against the sub-contract package budget. Where practicable all sub-contract tender returns received shall be fully quantified and unit rates provided to enable easy comparison and also to form the basis of any post-contract change. Preliminaries costs shall be required to be priced in a similar level of detail as the First Stage Tender Documents. Provisional Sums shall only be included with the prior agreement of the Employer.

- All sub-contract prices received should be in pound sterling, inclusive of currency fluctuation and inflation
- Whilst the Contractor will lead any tender negotiations and value engineering, this process will be on an open book basis. The Employer's Agent, and other relevant members of the Project Team will be invited to, and attend, any such relevant meetings.
- The Contractor will prepare a Tender Recommendation for each of the sub-contract packages to be issued to the Employer, supported through the process by the Employer as necessary in order that the Tender Recommendation is iteratively agreed. The Contractor shall prepare a draft version of the Tender Report for review/approval by the Employer's Agent and the Employer prior to the commencement of the procurement of sub-contract packages. The tender report shall, as a minimum, contain the following information:
 - Comparison of tender return costs against the package budget
 - Details of Option costs
 - Priced Schedule of Rates
 - Identification of Provisional Sums and what was done during the tender process to mitigate/eliminate them
 - Identification of OH&P margin
 - Identification of build up to, and commentary on, package specific risk as advised by the Contractor (see Section 4 for further details)
 - Any qualification/notes that remain and what was done during the tender process to mitigate/eliminate them
 - Confirmation of the acceptance of the position on bonds, warranties, and the sub-contract terms and conditions
 - Commentary on design and qualitative issues relating to each of the sub-contract tender returns including a statement that all technical/design queries have been resolved
 - Confirmation of compliance with the master programme
 - Recommendation of a sub-contractor for the works package including the basis for recommendation
- The Contractor will develop the Contractors Cost Plan (with the overall cost position subsequently agreed between the Contractor, the Employer and the Employer's Agent)

- The Contractor will manage their designers to deliver complete tender design packages, and upload them onto the Employer's document collaboration system in accordance with the agreed design and procurement sub-contract procurement programme

2.3 Employer's Agent Responsibilities/Deliverables

- The Employer's Agent will oversee the entire sub-contract package procurement process to confirm compliance with the Sub-Contracting Procedure contained in the Pre-Construction Agreement
- The Employer's Agent will arrange and chair tender opening meetings

2.4 Key Interfaces/Meetings

Key areas of close liaison between the Contractor and the Employer's Agent will be required for the following:

- Agreement of the sub-contract and supplier packaging strategy (so as to meet the information release schedule, achieving best buy in the market, and achieving the required incremental cost certainty)
- Agreement of robust tender documentation (to deliver fixed price lump sums for each sub-contract package)
- Review of tender pricing information (against budget)
- Agreement of tender recommendation

The following key meetings will be scheduled to manage the commercial interface between the Contractor and the Employer's Agent:

- Weekly sub-contract package procurement review meetings with relevant package managers and members of the project team as required
- Pre Tender Estimate review meetings
- Package specific Tender Document Review Meetings/Post Tender Interviews/Tender Report Sign Off Meetings
- Ad-hoc package specific meetings as required

2.5 Key Documents to be provided by the Contractor

- The agreed sub-contract package procurement schedule. This will form the basis of the management of the sub-contract tender process
- Draft outline Tender Documents which will form the basis of the package specific tender documents (the basis being that this is a “live” document to be reviewed as necessary and formally updated on a weekly basis)
- Package specific Pre Tender Estimates for comparison against budgetary constraints
- Schedule of bonds, warranties, samples, etc for inclusion within the package specific tender documents

3 Cost Reporting/Incremental Agreement of Contract Sum/Cashflow

The following items are the key Contractor Stage 1 Services relating to cost reporting, cashflow, and incremental cost certainty the PCSA:

- Provide cost advice and assist in the regular, diligent and accurate forecasting and updating of the contract sum
- Collaborate with the Cost Consultant, providing costing advice and assist in regular, diligent and accurate forecasting and updating of the Contract Sum and cash flow at element/package level.
- Monitor and advise on the availability and price of materials, method of working, labour plans, building systems, feasibility of construction and manufacture of components and installation of construction
- Agree with the Cost Consultant and implement cost control procedures and control documentation for monitoring the implications of design variations on the Contract Sum.

3.1 Cost Reporting – Allocation of Responsibilities

The table below indicates the allocation of key responsibilities and deliverables between the Main Contractor and the Employer's Agent:

Activity/Deliverable	Main Contractor	Turner & Townsend	Notes/Comments
Maintenance and updating of Project Cost Plan		✓	Contractor to provide supporting information as required
Preparation of monthly Construction Cost Reports (in package format)	✓		
Preparation of monthly Project Cost Reports		✓	
Preparation of construction cashflow	✓		Updated as required.
Preparation of project cashflow		✓	
Reporting on requirements for cost commitments by Employer prior to entering into Main Contract	✓		For review and agreement by the Employer

Activity/Deliverable	Main Contractor	Turner & Townsend	Notes/Comments
Pricing of variation to the Brief and Design on an ad-hoc basis	✓	✓	Contractor to provide costs as and when requested by the Employer's Agent and the Project Team
Cost and supply chain information to support design development	✓	✓	Contractor to provide costs as and when requested by the Employer's Agent and the Project Team

3.2 Cost Plan Review

The Contractor will develop the Contractors Cost Plan and provide a copy to the Employer's Agent Manager and the quantity surveyor for review. It is to be developed sufficiently for the basis of defining sub-contract package budgets. The Contractor is expected to provide a commentary upon any opportunities or areas of risk. This shall then be reviewed with the Employer's Agent to agree the overall value and basis of a package based cost plan.

The Contractor will continue to monitor the evolving design against the cost plan, immediately identifying any potential costs risks and supporting the Employer's Agent in influencing the design to remain within the package budgets.

3.3 Contractor Responsibilities/Deliverables

- As a minimum that the Contractor shall produce a monthly cost report that shall identify the projected outturn costs for the works currently on Site, as well as the ongoing sub-contract package procurement process. The format of this report shall be agreed with the Employer's Agent to easily enable interfacing with Employer's Agent project cost report. The Contractor report shall include, as a minimum:
 - The projected outturn costs for the works on site including any variations and the potential impact of variations to the Project.
 - Cost advice relating to buildability issues arising
 - The projected cost for each sub-contract package. These should reflect either the package budget costs, the Pre Tender Estimates, or actual bought costs dependent upon the progress of the specific sub-contract package
 - Identification of value engineering opportunities. This shall include the last responsible date for incorporation of each opportunity into the design so as not to impact on the design and procurement programmes, as well as a commentary on the works carried out with the project team to evaluate each opportunity

- Commentary on inflationary trends – both projected and those progressively bought in the agreed sub-contract packages – including identification of any opportunities or risks
- Identify potential impact of currency fluctuations on the Project cost
- Updated construction and sub-contract package risks registers (see Section 4 for details)
- The construction cashflow prepared by the Contractor shall be updated monthly as a minimum, or fortnightly as and when sub-contract package contract sums are agreed. The format of the cashflow shall be agreed with the Employer's Agent to easily enable interfacing with the Employer's Agent Project cashflow to show monthly and cumulative expenditure. The Contractor cashflow shall include, as a minimum:
 - Actual costs incurred to date – e.g. Pre-Construction Fee, works on Site and Preliminaries, any costs incurred by package sub-contractors
 - Forecast monthly expenditure – this should be based on the Contractor agreed Project programme and budget costs progressively replaced by actual costs as and when they become known. The potential impact of any variations are to be included as directed/agreed by the Employer's Agent.
- The Contractor will be required, as soon as it becomes apparent, to report to the Employer's Agent on any early costs commitments required by the Employer prior to entering into the main contract.
- The Contractor will be required to monitor the development of the ongoing design and advise the Employer's Agent as soon as it becomes apparent that changes to the design will impact on the estimated total Project cost. The Contractor will be required to liaise with their supply chain to facilitate accurate budget costs for review with the Employer's Agent.

3.4 The Employer's Agent Responsibilities/Deliverables

- The Employer's Agent will review and agree the Contractor's cost reporting and cashflow information for inclusion within the overall Project reporting documentation.
- The Employer's Agent will liaise with the Contractor to understand the impact of the Contractor cost reporting, early cost commitments, and cashflow information on the overall Project cost profile and identify any potential areas of concern. In these situations the Contractor will be expected to support the Employer's Agent in reporting these to the Employer along with any corrective measures that may be necessary.

3.5 Key Interfaces/Meetings

Key areas of close liaison between Contractor and the Employer's Agent will be required for the following:

- Agreement of projected construction Project costs and cashflow
- Implications of any early costs commitments
- Review of developing design and identification of any potential cost increases

The following key meetings will be scheduled to manage the commercial interface between the Contractor and the Employer's Agent:

- Weekly commercial meetings
- Monthly (progressing to weekly as the sub-contract procurement activities increase) cost reporting and cashflow review meetings
- Ad-hoc meetings to discuss areas of design development or variations as required

3.6 Key Documents to be provided by the Contractor

- Contractor monthly cost report (format to be agreed)
- Contractor construction cashflow (format to be agreed)
- Incremental Cost Certainty Profile
- Variation schedule

4 Risk Management

The following items are the key Contractor Stage 1 Services relating to the risk management during PCSA period:

- Contribute to the process of risk management and actively manage the risk under the Contractor's ownership. Facilitate and assist the Project Team in risk workshop and develop risk registers.
- Contribute to the detailed design review which cover buildability, quality, value, design risk, timing, technical and commercial implications.

4.1 Risk Management – Allocation of Responsibilities

The table below indicates the allocation of key responsibilities and deliverables between the Contractor and the Employer's Agent:

Activity/Deliverable	Main Contractor	Turner & Townsend	Notes/Comments
Prepare and develop a construction risk register	✓		
Identify potential package specific risk items and propose mitigation plans	✓		
Identify potential risk items in the ongoing design	✓	✓	
Maintenance of the project risk register		✓	In conjunction with the Employer's Agent

4.2 Contractor Responsibilities/Deliverables

- The preparation of a Project specific construction risk register identifying all potential risks and prioritising them in terms of probability and impact. In conjunction with the Employer and the Project Team propose mitigation plans and manage the risks allocated to the Contractor so as not to impact on the Project's qualitative, time, and budgetary constraints. This should then feed into the package risk register below.
- From the developing design identify sub-contract package specific risks that are likely to impact on the pricing of the sub-contract packages or areas of uncertainty where the sub-contractors are unlikely to accept the risk. Propose mitigation plans for development with the Project Team to remove the risks in order to obtain the most economically advantageous sub-contract tender returns

- Propose and agree with the Project Team who owns the risk and support the risk owner in all necessary actions to remove or mitigate the risk
- Manage and maintain the overall project risk register obtaining the Contractor input as required to mitigate or transfer risks

4.3 Employer's Agent Responsibilities/Deliverables

- Liaise with the Contractor and the project team to mitigate any potential risk items to the Employer

4.4 Key Interfaces/Meetings

Key areas of close liaison between the Contractor and the Employer's Agent will be required for the following:

- Identification of potential package risks and liaising to advise the Project Team of appropriate mitigation plans
- Agreement of pricing level of any risk items

The following key meetings will be scheduled to manage the risk management interface between the Contractor and the Employer's Agent:

- Both the commercial and sub-contract strategy review meetings identified elsewhere in the document will include agenda items on risk
- Package specific Risk Review Meetings – timing to be agreed to reflect the final sub-contracting package strategy
- Ad-hoc meetings to address major areas of risk or concern as and when they arise
- Contractor input into Project Risk Meetings (as required)

4.5 Key Documents to be provided by the Contractor

- Contractor construction risk register
- Contractor sub-contract package risk register
- Sub-contract package tender documents and design information (and the robustness thereof)

5 Value Engineering/Opportunities Management

The following items are the key Contractor Stage 1 Services relating to the value engineering.:

- Facilitate structure VE/ workshops to achieve economies in time, cost and design and suggest any design without detriment to functionality or scope, changes which could be made to reduce the incidence of conflict or duplication between trades.

5.1 Value Engineering/Opportunities Management – Allocation of Responsibilities

The table below indicates the allocation of key responsibilities and deliverables between the Contractor and the Employer's Agent:

Activity/Deliverable	Main Contractor	Turner & Townsend	Notes/Comments
Identify value engineering opportunities.	✓	✓	Based on items included in tender returns and latest design stage information
Identify potential value engineering opportunities as the sub-contract design information is progressively released	✓	✓	
Provide cost/benefit analysis of all evolving value engineering opportunities	✓	✓	
Maintain a log value engineering considered	✓	✓	Including items identified by package sub-contractors during PCSA period
Obtain HMRC approval to VE items		✓	

5.2 Contractor Responsibilities/Deliverables

- The Contractor will collate all value engineering opportunities identified to date, and review the latest design information, and prepare the initial log of value engineering opportunities. The Contractor will be expected to obtain all necessary information and input from the relevant Project Team members in a structured approach, using reasonable endeavours so as not to impact on their duties in progressing the design to a Stage F level
- Manage all value engineering activities in relation to the design programme
- For all value engineering items to be considered prepare a detailed cost/benefit analysis including impact on programme

- Progressively update the value engineering log, updating it to reflect items previously approved/rejected and items that are identified through the design development/appointment of sub-contractors

5.3 Employer's Agent Responsibilities/Deliverables

- The Employer's Agent will review all cost/benefit analysis' prepared by the Contractor and provide commentary on the costs provided
- The Employer's Agent will peer review the value engineering register to ensure that all potential opportunities are given due consideration by the Employer and the Project Team

5.4 Value Engineering Process

Any suggested areas of value engineering, where accepted and recommended by the Project Team, should be addressed through the existing variation / change processes.

5.5 Key Interfaces/Meetings for the Contractor to attend

- Fortnightly value engineering workshop with whole Project Team
- Ad-hoc meetings to discuss specific value engineering proposals

5.6 Key Documents to be provided by the Contractor

- Contractor value engineering log

5.7 Commercial Opportunities

- The contractor is to consider and advise the employer when procuring sub-contract packages for the Project of any potential economies of scale that would be advantageous to the employer for the whole programme of works (13 Regional Centres)

7 General Cost Advice/Support

In addition to the points noted previously in this document the Contractor will provide all other necessary support to the Employer and the Employer's Agent for the successful commercial delivery of the Project. The Contractor staff are expected to work in the collaborative manner and not display behaviours that will be to the detriment of a successful outcome.

The Contractor shall identify the relevant commercial and procurement personnel for each sub-contract package and will be expected to liaise regularly with their Employer's Agent counterparts to actively manage any potential risks or cost creep.

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Schedule 10 – Not Used



Schedule 10

Not used

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Schedule 11 – Framework Agreement



Schedule 11

THE FRAMEWORK AGREEMENT



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Schedule 12 – PCSA Key Performance Indicators

Schedule 12

PCSA KEY PERFORMANCE INDICATORS

1. GENERAL

- 1.1 This Schedule 12 sets out the PCSA KPIs and PCSA KPI Target by which the Contractor's overall performance under this PCSA shall be monitored and managed.
- 1.2 The Employer may, at its discretion, adjust, introduce new, or remove PCSA KPIs or the PCSA KPI Target throughout the Pre-Construction Period, however any significant changes to PCSA KPIs or PCSA Target shall be agreed between the Employer and the Contractor.
- 1.3 The Contractor shall comply with all its obligations related to PCSA KPIs set out in this agreement and shall use all reasonable endeavours to meet the PCSA KPI Target.
- 1.4 The PCSA KPIs and PCSA KPI Target from which performance by the Contractor of this agreement will be reported against are set out below:

[EXAMPLE KPIs below - See Appendix 5 Other]

KPI no.	Performance Measure	KPI objective	Level	Frequency	Owner & Reporting responsibility	Methodology	Rating
KPI1	Cost	Accuracy of Target Cost Plan compared to agreed CSA	PCSA	End of PCSA	Contractor	Comparison between Target Cost Plan and CSA	5 - 1% (+/-) variance 4 - 2.5% (+/-) variance 3 - 5% (+/-) variance 2 - 7.5% (+/-) variance 1 - 10% (+/-) variance 0 - +10% (+/-) variance
KPI2	Cost	Value Engineering	PCSA	End of PCSA	Contractor	% of VE opportunities identified compared to the Target Cost Plan	5 - 10% + saving 4 - 7.5% saving 3 - 5% saving 2 - 2.5% saving 1 - 1% saving 0 - less than 1% saving
KPI3	Design Quality	Design adherence to brief	PCSA	End of PCSA	Contractor	Technical design sign off by Employer	5 - Sign off 7 days or more ahead of programme 4 - Sign off 1 to 7 days ahead of programme 3 - Sign off to programme 2 - Sign off 1 to 3 days over programme 1 - Sign off 4 to 7 days over programme 0 - Sign off 7 days over programme.
KPI4	Programme	Number of Key Milestones (design, cost and approval deliverables) achieved during the Pre-Construction Stage	PCSA	Monthly	Contractor	Comparison between tendered construction programme and end of call off stage 1 construction programme	5 = call-off stage 1 programme two or more weeks shorter than tendered construction programme. 4 = call-off stage 1 programme up to two weeks shorter than tendered construction programme. 3 = call-off stage 1 programme same as tendered construction programme. 2 = call-off stage 1 programme up to two weeks longer than tendered construction programme. 1 = call-off stage 1 programme two to four weeks longer than tendered construction programme. 0 = call-off stage 1 programme over four weeks longer than tendered construction programme

KPI5	Programme	Adherence to TES deliverables	PCSA	Monthly	Contractor	Monthly review of TES identifying any missed deliverables against planned	5 - 0 milestones missed 4 - 1-2 milestones missed 3 - 3-4 milestones missed 2 - 5-7 milestones missed 1 - 8-10 milestones missed 0 - 10 or more milestones missed
KPI6	Programme	Delivery of draft CSA xx weeks in advance of the Start on Site (SoS)	PCSA	End of PCSA	Contractor	Measure in weeks the time between the draft CSA being submitted and Start on Site	5 - 6 weeks before 4 - 5 weeks before 3 - 4 weeks before 2 - 3 weeks before 1 - 2 weeks before 0 - less than 2 weeks prior to SoS
KPI7	Whole Life Costing	Whole Life Costing analysis of design components during Stages 3 & 4	PCSA	End of PCSA	Contractor	Contractor to provide, against the scoring criteria, a number of WLC options during the development of the Stage 3/4 design	5 - 4 components having had options analysis undertaken 4 - 3 components having had options analysis undertaken 3 - 2 components having had options analysis undertaken 2 - 1 component having had options analysis undertaken 1 - 0 component having had options analysis undertaken 0 - N/A

- 1.5 The Contractor shall establish processes to monitor its performance against the agreed PCSA KPIs. The Contractor shall at all times ensure compliance with the standards set by the PCSA KPIs.
- 1.6 The Employer shall review progress against these PCSA KPIs to evaluate the effectiveness and efficiency of which the Contractor performs its obligations to fulfil this agreement.
- 1.7 The Employer may, at its absolute discretion:
 - 1.6.1 use and publish the performance of the Contractor against the PCSA KPIs and PCSA Target without restriction; and
 - 1.6.2 initiate performance escalation under clause 29 of the Framework Agreement in respect of any failure by the Contractor to comply with the PCSA KPIs or PCSA KPI Target in accordance with this agreement.

Contractor: XX Construction Ltd.

Date: Jan-19



Fit-Out of the Government Hub - XX Regional Centre - KPI Information Return

	Data set	KPI Objective	Data Measurement	Frequency	Notes	Scoring Methodology	Rating Criteria	Evidence Required	Contractor Score	
PCSA Level	KPIs PCSA Level									
									Enter Project Name	Enter Project Name
	KPI - 01	Accuracy of Target Cost Plan compared to agreed CSA	Cost Comparison data	End of PCSA		Comparison between Target cost Plan and CSA	5 = 1% (+/-) variance 4 = 2.5% (+/-) variance 3 = 5% (+/-) variance 2 = 7.5% (+/-) variance 1 = 10% (+/-) variance 0 = +10% (+/-) variance	Cost comparison data		
	KPI - 02	Value Engineering	Cost % of VE opportunities identified compared to the Target Cost Plan	End of PCSA	Note - include reference to this being critical initially but will be reviewed after 6 months as the opportunities will be repeated	% of VE opportunities identified as a percentage of the Target Cost Plan	5 = 10% + identified 4 = 7.5% - identified 3 = 5% - identified 2 = 2.5% identified 1 = 1% identified 0 =4 less than 1% identified	VE report		
	KPI - 03	Design adherence to brief	Technical design submission a) Submitted on time b) Qualitative measures - "non-conformances" identified by retained designer and time taken to resolve the non-conformances	End of PCSA	Amended KPI to measure the time and quality of submitted Technical Design pack	Measure 1 - Time 2 = Submitted ahead of time 1 = Submitted on time 0 = Submitted late Measure 2 - Quality 5 = 0 Non Conformances 4 = 1 - 2 Non Conformances 3 = 3 - 4 Non Conformances 2 = 5 - 6 Non Conformances 1 = 7 - 8 Non Conformances 0 = More than 8 Non conformances	5 = combined score of 7 4 = combined score of 6 3 = combined score of 5 2 = combined score of 4 1 = combines score of 3 0 = combined score less than 3	Evidence captured by T&T Programme Team		
	KPI - 04	Number of key milestones (design, cost and approval deliverables) achieved during the Pre-Con stage	Programme - Comparison between tendered construction programme and end of stage 1 construction programme	End of PCSA		Comparison between tendered programme and end of stage 1 construction programme	5 = stage 1 programme 2 or more weeks shorter than tendered programme 4 = stage 1 programme up to 2 weeks shorter than tendered programme 3 = stage 1 programme same as tendered construction programme 2 = stage 1 programme up to 2 weeks longer than tendered construction programme 1 = stage 1 programme 2 to 4 weeks longer than tendered construction programme 0 = stage 1 programme over 4 weeks longer than tendered construction programme	Evidence captured by T&T Programme Team		
	KPI - 05	Adherence to TES deliverables	Programme - Monthly review of TES identifying any missed deliverables against planned	Monthly		Monthly review of TES identifying any missed deliverables against planned	5 = 0 milestones missed 4 = 1-2 milestones missed 3 = 3-4 milestones missed 2 = 5-7 milestones missed 1 = 8-10 milestones missed 0 = 10 or more milestones missed	Evidence captured by T&T Programme Team		
	KPI - 06	Agreed CSA in advance of the SOS	Measure in weeks the time between the CSA being agreed and Start on Site	End of PCSA		Measure in weeks the time between the draft CSA being agreed and Start of Site	5 - 5 or more weeks before 4 - 4 weeks before 3 - 3 weeks before 2 - 2 weeks before 1 - 1 week before 0 - less than 1 week prior to SoS	Evidence captured by T&T Programme Team		
	KPI - 07	Whole life costing analysis of design components during stages 3&4	Contractor to provide, against the scoring criteria, a number of WLC options during the development of the Stage 3/4 design	End of PCSA	Note - include reference to this being critical initially but will be reviewed after 6 months as the opportunities will be repeated and subsequently become limited	Contractor to provide, against the scoring criteria, a number of WLC options during the development of the Stage 3/4 design	5 = 4 or more components having had options analysis undertaken 4 = 3 components having had options analysis undertaken 3 = 2 components having had options analysis undertaken 2 = 1 component having had options analysis undertaken 1 = 0 components having had options analysis undertaken 0 = N/A	Report showing WLC options appraisal		
	KPIs Project Level									
									Enter Project Name	Enter Project Name
	KPI - 01	Contractor achieves "zero harm" during construction (no reportable RIDDOR incidents)	H&S	Monthly		Contractor to provide data on a monthly basis up to the Completion Date of the individual project	5 = 0 RIDDOR incidents 0 = 1 or more RIDDOR incidents	Self certify - T&T can request project site records if required.		
	KPI - 02	Supporting government Apprenticeships and Skills targets	Total number of apprenticeships supported - Names and working hours of the apprentices working on the project - contractor self-certification (NOTE)	Quarterly	Standard Apprenticeship record form developed and agreed	Score = Total number of apprentices working on the project / approximate value of projects awarded in £ millions. Target a minimum of 1 apprentice per £5m value	5 = score 0.33 or above 4 = score 0.25 - 0.33 3 = score 0.2 - 0.25 2 = score 0.17 - 0.2 1 = score of 0.14 - 0.17 0 = score of less than 0.14	Completed apprenticeship record form for each individual		

Project Level	KPI - 03	Contractor appoints 25% SMEs of project spend for sub-contract packages. Supplier to provide supporting data	Employment & Skills	Quarterly		Contractor to provide data on a quarterly basis up to the completion date	5 = over 35% of spend with SME's 4 = 30% of spend with SME's 3 = 25% of spend with SME's 2 = 20% of spend with SME's 1 = 15% of spend with SME's 0 = below 15% of spend with SME's	Report showing all subcontractor packages with SMEs highlighted		
	KPI - 04	Overall approach to managing risks at key gateways/milestones. Provide data of managing risks - Review at monthly intervals throughout the overall project programme	Risk Management	Monthly		Review at monthly intervals throughout the project lifecycle	5 = 100% of risks with mitigating actions agreed with the Employer 4 = 95% of risks with mitigating actions agreed with the Employer 3 = 90% of risks with mitigating actions agreed with the Employer 2 = 85% of risks with mitigating actions agreed with the Employer 1 = 80% of risks with mitigating actions agreed with the Employer 0 = less than 80% of risks with mitigating actions agreed with the Employer	Self certification - copy of risk register can be provided for audit.		
	KPI - 05	Level of Development (LoD) compliance: Model data - review of COBie data sheet , Quality & Coordination - total no of reported issues recorded and responsibility to resolve in .xls	BIM	End of Each Work Stage		BIM LOD compliance Model data - review of COBie data sheet. Quality & coordination - total no of reported issues recorded and assigned responsibility to resolve in issue tracker. All to be recorded in .xls format	5 = 100% compliant 4 = 90% compliant 3 = 80% compliant 2 = 70% compliant 1 = 60% compliant 0 = 50% or less compliant	Self certify from contractor, T&T can audit records if required		
	KPI - 06	Contractor performance during Construction between the contract programme and progress on site	Programme	Monthly		Monthly review of programme - forecast (contract programme) against actual including any agreed Extension of Time adjustment	5 = Project delivered ahead of contract programme PC date 4 = Project delivered in line with the contract programme PC date 3 = Project delivered within 1 week of the contract programme PC date 2 = Project delivered within 2 weeks of the contract programme PC date 1 = Project delivered within 2 - 4 weeks of the contract programme PC date 0 = Project delivered more than 4 weeks late against the contract programme PC date	Evidence captured by T&T Programme Team		
	KPI - 07	Report of design non-conformances during Construction not rectified prior to Practical Completion	Quality Management	End of Project		Total number of defects at Practical Completion	5 = Defect free 4 = 1-5 defects observed 3 = 6-10 defects observed 2 = 11-20 defects observed 1 = 21-40 defects observed 0 = 40 or more defects observed	Self Certification. Copy of PC certificate & defects log can be shown for audit.		
	KPI - 08	Payment of Supply Chain Members	Commercial	Monthly		Monthly payments due to Supply chain members made on or ahead of due date in accordance with contractual obligations	5 = 100% SCM paid ahead of time 4 = 100% SCM paid on time 3 = 90% SCM paid on time 2 = 80% SCM paid on time 1 = 70% SCM paid on time 0 = less than 70% SCM paid on time	Self certification by the Contractor that is subject to audit by T&T if required when evidence of invoice and remittance will be required to evidence performance		
	KPI - 09	Accuracy of Cash flow Forecasting	Commercial	Monthly		Monthly deviation from cash flow forecast	5 = < 1% deviation from forecast 4 = 1 - 5% deviation from forecast 3 = 5% - 10% deviation from forecast 2 = 10% - 15% deviation from forecast 1 = 15% - 20% deviation from forecast 0 = > than 20% deviation			
	KPI - 10	Considerate Constructors Scheme	Sustainability	End of Project	If more than one CCS inspection, use the average score.	CCS moderated score. If more than one CCS inspection, use the average score.	CCS score of > 45 = 5 CCS score of 41 - 45 = 4 CCS score of 36 - 40 = 3 CCS score of 30 - 35 = 2 CCS score of 20 - 29 = 1 CCS score of <20 = 0	Self Certification. Copy of CCS report can be shown for audit.		



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Schedule 13 – Contractor's 1st Stage quality submission (*redacted*)

- Contractor's 1st Stage commercial submission (*redacted*)**
- Post tender queries and responses (*redacted*)**