RIDGE

SPECIFICATION DOCUMENT

Marsh Lock House
Mill Lane
Henley-on-Thames
RG9 4HB

Environment Agency

External Building Repair Works

02 November 2021

SPECIFICATION DOCUMENT
Marsh Lock House

RIDGE

MARSH LOCK HOUSE, MILL LANE, HENLEY-ON-THAMES, RG9 4HB

Environment Agency

02 November 2021

Prepared for
Environment Agency
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King's Meadow Road
Reading
Berkshire
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SPECIFICATION DOCUMENT

Marsh Lock House

RIDGE

CONTENTS PAGE

1. PRELIMINARIES
MATERIALS & WORKMANSHIP

001

Marsh Lock Keepers Cottage – External Repair Works

Project Management Document

Project Definition

Preliminary

101 Project description

- **Project reference:** 5016438
- **Project title:** EA – Marsh Lock – External Repair Works
- **Project description:** External Repairs and Refurbishment

Site information

140 Site waste management plan

- **Details:** To be provided by the Contractor.

Hazardous substances information

150 Asbestos survey report

- **Details:** Provided within tender documentation.

Design information

165 Drawings

- **Details:** Existing floor plans and elevations.
- **Reference:** 5008884 & 5014850 (005)
- **Status:** Tender Drawings shown in Appendix D
- **Format:** PDF
- **Contract drawings:** The same as the tender drawings.

170 Preconstruction information

- **Scope:** Integral with the project specification, including but not restricted to the following: Description of project. Client's consideration and management requirements. Environmental restrictions and on-site risks. Significant design and construction hazards. The Health and Safety File. Asbestos Survey.

Works Terminology

Preliminary

110 Terminology

- **Meaning:** Terms, derived terms and synonyms used are as defined in this section or in the appropriate referenced document.

210 Description terminology

- **Attendance:** Includes

The use of the Main Contractor's temporary roads, pavings and paths, standing scaffolding, standing power operated hoisting plant;
The provision of temporary lighting of an equivalent brightness to the finished lighting brightness;
The provision of water;
The clearing away of rubbish and paying all charges in connection with its disposal, the provision of secure hard standing space for the sub-contractor's own offices, plant and material storage;
The use of standing mess rooms, sanitary accommodation and welfare facilities and
The provision of all Health and Safety facilities and all Fire Safety precautions, services, equipment, signage, facilities, marshals and the like necessary to comply with the relevant parts of the Joint Fire Code.
Additional requirements should be described as 'Special attendance'.

- **Building Manual:** A document containing information of use to subsequent building owners, occupiers and users about the requirements and procedures for effective operation, maintenance, decommissioning and demolition of the building.
- **Construction Work:** Permanent work together with temporary work.
- **Contractor:** The party who undertakes to perform the services, supply goods or carry out work defined in a contract. Includes Main Contractor, Prime Contractor, Supplier, Service provider, Builder, Subcontractor, etc. as the context dictates, which may be defined terms in certain standard contract forms.
- **Contractor's choice:** Selection delegated to the Contractor, but liability to remain with the specifier.
- **Contractor's design:** Design to be carried out or completed by the Contractor, supported by appropriate contractual arrangements, to correspond with specified requirements.
- **Cost:** The amount paid or given by one party to another in exchange for goods, work or services.
- **Designer:** A person carrying out design on a project.
- **Deviation:** Difference between a specified dimension or position and the actual dimension or position.
- **Employer:** The party to the Contract for whom the goods, work or services are provided. Includes Client (in consultancy contracts and CDM Regulations), the Employer, Building owner or Purchaser (in construction contracts), the Developer (in development agreements and funding agreements), or the 'Main' contractor in contractor/ subcontractor agreements - which may be defined terms in certain standard contract forms
- **Estimate:** An approximate evaluation of quantity, number, extent, time or cost of part or the whole of a project.
- **Execute:** To complete a task fully and put into effect. To fix, apply, install or lay products securely, accurately, plumb and in alignment.
- **Existing:** Items retained in place to receive new work.
- **Fastener:** Device for mechanically attaching something to something else.
- **Manufacturer and Product reference:** Manufacturer – the person or legal entity under whose name or trademark the particular product, component or system is marketed.

Product reference – the proprietary brand name and/ or identifier by which the particular product, component or system is described.
References are as specified in the manufacturer's technical literature current on the date specified.

- **Manufacturer's standard:** Where used in conjunction with a specified proprietary product, accessories to be those recommended by the product manufacturer.
- **Permanent Work:** Work to be constructed and completed in accordance with the Contract.
- **Price:** An indication of the amount required to be paid by one party to another in exchange for goods, work or services.
- **Product:** Material, both manufactured and naturally occurring, goods and accessories for permanent incorporation into the Works.
- **Requirements:** A description in outline or detailed form of the development, or a part of it, which one party wants another to undertake, design and/ or construct.
- **Schedule of rates:** The subdivision of product and execution prices by a pre-determined unit basis.
- **Schedule of Work/ Work Schedule:** The subdivision of work items by a pre-determined classification. Can form the basis of a pricing document where Bills of Quantities are not used.
- **Schematic:** A drawing of a system showing components, products, systems and their interconnections.
- **Site equipment:** The Contractor's apparatus, appliances, machinery, vehicles or things of whatsoever nature required in or about the construction for the execution and completion of the Works and the remedying of defects.
Includes Appliances, vehicles, consumables, tools, temporary work, scaffolding, cabins and other site facilities.
Excludes: Temporary work, Employer's products and equipment or anything intended to form or forming part of the permanent Works.
- **Specification:** Written description of requirements.
- **System:** Products, components, equipment, accessories, controls, supports and ancillary items, including installation, necessary for that section of the work to function.
- **Temporary work:** Incidental work to undertaken during construction but not intended to form part of the completed work.

310 Activity terminology

- **Advise:** See 'Communicate'.
- **Agree:** See 'Communicate'.
- **Approve:** Record conformance of work to specified criteria by giving formal or official sanction.
- **Communicate:** Includes advise, inform, agree, confirm, notify, seek or obtain information, consent or instructions, or make arrangements.
- **Confirm:** See 'Communicate'.
- **Ease:** Adjust moving parts of designated products, systems or work to achieve free movement and good fit in open and closed positions.
- **Fix:** Receive, unload, handle, store, protect, place and fasten in position; dispose of waste and surplus packaging; to include labour, materials and site equipment for that purpose.
- **Give notice:** Communicate in writing to the person administering the Contract at the address listed therein.
- **Inform:** See 'Communicate'.
- **Keep for recycling:** As 'keep for use' but relates to a naturally occurring material rather than a manufactured product.
- **Keep for reuse:** Do not damage designated products, systems or work. Clean off bedding and jointing materials. Stack neatly, adequately protect and store until required by the Employer or Purchaser, or for use in the Works as instructed.
- **Make good:** Execute local remedial work to designated work. Make secure, sound and neat.
- **Match existing:** Provide products and work of the same appearance and features as the original, excluding ageing and weathering. Make joints between existing and new work as inconspicuous as possible.

- **Notify:** See 'Communicate'.
- **Quote:** Use 'Estimate'.
- **Recycle:** Collect, sort, process and convert discarded or recovered components into raw materials for use in the creation of new products.
- **Refix:** Fix previously removed products.
- **Remove:** Disconnect, dismantle as necessary and take out the designated products or work, together with associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials. Removal of an item excludes removal and disposing of associated pipework, wiring, ductwork or other services.
Removal of a system includes this work.
- **Remediate:** Action or measures taken to lessen, clean-up, remove or mitigate the existence of hazardous materials existing on a property; in accordance with standards, specifications or requirements as may be required by statutes, rules, regulations or specification.
- **Repair:** Execute remedial work to designated products. Make secure, sound and neat. Excludes redecoration and replacement.
- **Replace:** Supply and fix new products matching those removed. Execute work to match the original new state of that removed.
- **Reuse:** Recover components to be fixed or used in the project or other buildings without the requirement for recycling.
- **Submit:** Deliver an item in a specified format to a specified person within a specified timeframe.
- **Submit proposals:** Submit information in response to specified requirements.
- **Supply and fix:** Supply of products, components or systems to be fixed, together with their fixing.

Project Participants

Preliminary

Management and delivery roles

120 Client

- **Name:** Environmental Agency
- **Address:** Kings Meadow House, Kings Meadow Road, Reading, RG1 8DQ
- **Contact:** Kathryn Forster
- **Telephone:** 020 8474 76444
- **Email address:** Kathryn.Forster@environment-agency.gov.uk

130 Contract Administrator

- **Name:** Ridge & Partners LLP
- **Address:** Beaumont House, 59 High Street, Theale, Reading, Berkshire, RG7 5AL
- **Contact:** Edd Straker MRICS
- **Telephone:** 07917 264 446
- **Email address:** estraker@ridge.co.uk

135 Employer

- **Name:** Environmental Agency
- **Address:** Kings Meadow House, Kings Meadow Road, Reading, RG1 8DQ
- **Contact:** Kathryn Forster
- **Telephone:** 020 8474 76444
- **Email address:** Kathryn.Forster@environment-agency.gov.uk

Statutory roles

205 Principal Designer

- **Name:** Ridge & Partners LLP
- **Address:** Beaumont House, 59 High Street, Theale, Reading, Berkshire, RG7 5AL
- **Contact:** TBC
- **Telephone:** TBC
- **Email address:** TBC

210 Principal Contractor

- **Name:** TBC
- **Address:** TBC
- **Contact:** TBC

Project Location

Preliminary

110 Project location

- **Address:** Marsh Lock, Henley-on-Thames, Berkshire, RG9 4HB

130 Existing buildings on, or adjacent to the site

- **Details:** Standalone detached property.

150 Surrounding land and building uses

- **Surrounding land uses or activities:** Building is located within very close proximity of an operational lock and is located on an island in the River Thames.

170 Access

- **Details:**.There is no vehicular access to site. The property is only accessible via footbridge or barge. A local car park is located approx. 0.1 miles on Mill Lane.
- **Limitations:** Minimal/no parking on site.

Works Contract Content

Preliminary

150 Work by, or on behalf of employer

- **Details:** N/A.

160 Products provided by, or on behalf of employer

- **General:** Details of products to be fixed by the Contractor are given in the work sections. Use for no other purpose than the Works.
- **Handling:** Accept delivery, check against receipts and take into appropriate storage.
- **Surplus products:** Keep safe and obtain instructions.

300 Provisional sum for defined work

- **Details:** See specification

310 Provisional sum for undefined work

- **Details:** See specification

Works contract

Preliminary

JCT Minor Works Building Contract (MW)

- **The Contract:** JCT Minor Works Building Contract 2016 Edition
- **Requirement:** Allow for the obligations, liabilities and services described

THE RECITALS

First The Works and the Contract Administrator

- **The work comprises:** The external repairs and refurbishment of the Lock Keepers Cottage.
- **Architect/ Contract Administrator:** Ridge & Partners LLP

Second Contract documents

- **Contract drawings:** See section 00-05-10.
- **Contract documents:** Tender Specification and Drawings

ARTICLES

3 Architect/ Contract Administrator

- **Architect/ Contract Administrator:** Ridge and Partners LLP

4 and 5 Principal Designer/ Principal Contractor

- **Principal Designer:** Ridge & Partners LLP
- **Principal Contractor:** TBC

CONTRACT PARTICULARS

Fourth Recital and Schedule 2 Base date

- **Base date:** 02.11.21

Fourth Recital and clause 4.2 Construction industry scheme (CIS)

- **Employer at the Base Date:** Is the Contractor for the purposes of the CIS

Fifth Recital CDM Regulations

- **The project:** Is notifiable under the CDM Regulations

Sixth Recital Framework agreement

- **Framework agreement:**
- **Details:** N/A

Seventh Recital and Schedule 3 Supplemental provisions

- **Collaborative working:**
- **Health and safety:**
- **Cost savings and value improvements:**

- **Sustainable development and environmental considerations:**
- **Performance indicators and monitoring:**
- **Notification and negotiation of disputes:**
- **Where Supplemental Provision 6 applies:**
    - **Employer's nominee**
    - **Contractor's nominee**

Article 7 Arbitration

- **Article 7 and Schedule 1:** Applies

Clause 2.2 Commencement and Completion

- **Works commencement date:** TBC
- **Date for Completion:** TBC

Clause 2.8 Liquidated damages

- **Damages:**
    - **Rate:** TBC
    - **Per:** calendar week or pro-rata thereto

Clause 2.10 Rectification period

- **Period:** 12 months from the date of practical completion.

Clause 4.3 Interim payments

- **Interim Valuation Dates:**
    - **The first Interim Valuation Date:** TBC
    - **Thereafter at intervals of:** 4 weeks
- **Payments due prior to practical completion:**
    - **Percentage of the total value of the work, etc.:** 95 per cent
- **Payments becoming due on or after practical completion:**
    - **Percentage of the total amount to be paid:** 97½ per cent

Clause 4.8.1 Supply of documentation for computation of amount to be finally certified

- **Period:** 3 months from the date of practical completion.

Clause 5.3. Contractor's Public Liability insurance – injury to persons or property

- **Insurance cover:** For any one occurrence or series of occurrences arising out of one event.
- **Amount:** £5,000,000

Clauses 5.4A, 5.4B and 5.4C Insurance of the works etc. – alternative provisions

- **Clause:**
- **Where Clause 5.4A or 5.4B applies, percentage to cover professional fees:** 15 per cent.
- **Where Clause 5.4C applies, details of the required policy or policies:**

Clause 7.2 Adjudication

- **The Adjudicator is:** TBC
- **Nominating body:** RICS

Schedule 1 paragraph 2.1 Arbitration

- **Appointor of Arbitrator (and of any replacement):** President or Vice President of the RICS

CONDITIONS

Section 1: Definitions and Interpretation

Section 2: Carrying out the Works

Section 3: Control of the Works

Section 4: Payment

Section 5: Injury, Damage and Insurance

Section 6: Termination

Section 7: Settlement of Disputes

EXECUTION

- **The Contract:** Will be executed as a deed

Works Contract Procurement

Preliminary

110 Compliance with Tender rules

- **Compliance:** Failure to comply may result in Tenders being rejected at the sole discretion of the Employer.
- **Costs:** No liability is accepted for costs incurred in the preparation of a Tender.

165 Tender acceptance

- **Tender acceptance period:**
- **Assurance:** Nothing contained in this Document or its application should be inferred to guarantee that a Tender will be recommended for acceptance or be accepted, or that reasons for non-acceptance will be given.

170 The Tender documents

- **The Tender documents:** Tender must include for all work shown and described in the tender documents

180 Tender queries

- **Notification requirements:** In writing to the CA during the tender period

190 Tender instructions

- **Qualifications:** Do not amend or alter documents without written instruction.
- **Confidentiality:** Do not reveal details of parts of the Tender or supporting documents (except for the necessary purposes of preparing that Tender) without the Employer's express written permission.

210 Pricing

- **Pricing:** Price and extend each item individually as instructed. Do not group items together.
- **Currency:** UK Pound

220 Site visit

- **Nature of the site:** Ascertain before Tendering, including access thereto and local conditions and restrictions likely to affect the execution of the Work.
- **Arrangements for visit:** Via Environment Agency

230 Return of Tender

- **Return of Tender:** as detailed on the tender return form
- **Documents to be returned with the Tender:** Priced Schedule of Works
- **Inability to tender:** Advise immediately if the work as defined in the Tender documents cannot be tendered.
Define those parts, stating reasons for the inability to tender.

320 Error resolution

- **Arithmetical errors:** Tender price will prevail. An opportunity will be given to confirm the Tender or withdraw.

- **Technical errors:** The Tender is deemed to meet or exceed the requirements of the Tender documents. Amendment of the Tender to reflect this will not constitute a variation and no claim for additional costs will be accepted.
- **Corrections:** An endorsement will be added to the priced documents indicating that rates or prices (excluding preliminaries, contingencies, Prime cost and Provisional sums) inserted therein will be adjusted in the same proportion as the corrected total differs from that stated incorrectly.

Works Contract Establishment

Preliminary

ACCESS

110 Access to the site

- **Details:** Via Environment Agency

120 Use of the site

- **General:** Do not use the site for any purpose other than carrying out the contract work.

145 Traffic and vehicles

- **Limitations:** Property situated on an island on the River Thames. No vehicular access possible to property. Residential road and neighbouring properties and school. Parked cars on the surrounding roads.

150 Storage, accommodation, mechanical plant, temporary works and services

- **Position:** Submit proposed details of intended siting.
- **Maintenance:** Alter, adapt and move as necessary. Remove when no longer required and make good.

GENERAL INFORMATION

180 Site Waste Management Plan

- **Development:** The person responsible for developing the plan will be the Contractor.
- **Content:** Identity of proposed Principal Contractor.

Location of the site.
Description of the project.
Estimated project cost.
Types and quantities of waste that will be generated.
Resource management options for these wastes including proposals for minimization, reuse and/or recycling.
The use of appropriate and licensed waste management contractors.
Record keeping procedures.
Waste auditing protocols.

210 Considerate Constructors Scheme

- **Registration:** Before starting work, register with the Considerate Constructors Scheme and pay the appropriate fee.
- **Address:** Considerate Constructors Scheme Office, PO Box 75, Great Amwell, Ware, Hertfordshire, SG12 0YX.

- Tel. 01920 485959.
- Fax. 01920 485958.
- Free phone 0800 7831423
- Web. www.ccscheme.org.uk
- E mail. enquiries@ccscheme.org.uk

220 Constructing Better Health Scheme

- **Membership:** Register and provide evidence of registration
- **Address:** Constructing Better Health, B&CE Building, Manor Royal
Crawley, West Sussex
RH10 9QP
Tel: 0845 873 7726
Email: info@cbhscheme.co.uk
Website:www.cbhscheme.co.uk

225 Freight Vehicle safety requirements

- **Vehicle equipment (minimum):** Audible alert to other road users to the planned movement of the vehicle when the vehicle's indicators are in operation. Prominent signage at the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside.
Properly adjusted class VI mirror/s or Fresnel lens to eliminate the near side blind spot.
Side under run guards.
- **Drivers:** Trained on vulnerable road user safety through an approved course.
Hold a current valid Certificate of Competence.
Have a valid driving licence and be legally able to drive the vehicle.
- **Registration Scheme membership:** Submit evidence of registration with and accreditation to the Fleet Operator Recognition Scheme (FORS).

PROGRAMME

250 Programme

- **Master programme:** When requested and before starting work on site, submit in an approved form a master programme for the Works.

- **Planning:** Planning and mobilization by the Contractor including subcontractor's work.
- **Engineering services:** Running in, adjustment, commissioning and testing of engineering services and installations.
    - **Instructions:** Work resulting from instructions issued in regard to the expenditure of provisional sums.
- **Concurrent work:** Work by or on behalf of the Employer and concurrent with the contract. The nature and scope of which, the relationship with preceding and following work and relevant limitations are suitably defined in the Contract Documents.
- **Submittal date:** Provisional programme to be submitted with Tender Return

280 Commencement of work

- **Notice:** TBC

HEALTH AND SAFETY INFORMATION

300 Health and Safety information

- **Content:** Describe the proposed organization and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the Works may affect.
- **Include:**
- **Policy document:** A copy of the Contractor's health and safety policy documents, including risk assessment procedures.
    - **Records:** Accident and sickness records for the past five years and of any previous Health and Safety Executive enforcement action.
    - **Training:** Records of training and training policy.

- **Personnel:** The proposed number and type of staff responsible for health and safety on this project with details of their qualifications and duties.

- **Submittal date:** TBC

320 Outline Construction Phase Health and Safety Plan

- **Content:**
  - **Risk assessment:** Method statements on how risk from hazards identified in the pre-construction information and other hazards identified by the Contractor will be addressed. Procedures for carrying out risk assessment and for managing and controlling the risk.
  - **Management system:** Details of the proposed management structure, responsibilities and arrangements for issuing health and safety directions. Include procedures for informing other contractors and employees of health and safety hazards.
  - **Selection:** Proposed procedure for ensuring competency of other contractors, the self employed and designers.
  - **Communication:** Procedures for communications between the project team, other contractors and site operatives. Include arrangements for cooperation and coordination between contractors.
  - **Emergency:** Procedures including those for fire prevention and escape.
  - **Records:** Arrangements for ensuring that accidents, illness and dangerous occurrences are recorded.
  - **Personnel:** Procedures for ensuring that persons on site have received relevant health and safety information and training. Include arrangements for consulting with and taking the views of people on site, for preparing site rules and drawing them to the attention of those affected and ensuring compliance.
  - **Monitoring:** Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements. Review procedures to obtain feedback.
- **Submittal date:** TBC

330 Health and safety hazards

- **Hazards:** Potential asbestos containing materials. Building is vacant.
- **Limitations:** The nature and condition of the site and/ or buildings cannot be fully ascertained before they are opened up.
- **Information:** The accuracy and sufficiency of this information provided about existing hazards is not guaranteed by the Employer/Purchaser or their representative. Ascertain if additional information is required to ensure the safety of persons and the Works.
- **Training:** Ensure that all relevant personnel are aware of the hazards listed and have received appropriate training to deal with them.

340 Preconstruction information

- **Availability:** Integral with the project specification, including but not restricted to the following:

Description of project.
Client's consideration and management requirements.
Environmental restrictions and on-site risks.
Significant design and construction hazards.
The Health and Safety File.
Asbestos survey.

350 Execution hazards

- **Common hazards:** Not listed. Control by good management and site practice.

360 Product hazards

- **Hazardous substances:** Site personnel levels must not exceed occupational exposure standards and maximum exposure limits stated in the current version of HSE document EH 40
- **Common hazards:** Not listed. Control by good management and site practice.

370 Construction phase health and safety plan

- **Delivery to the Client:**
- **Confirmation:** Do not start construction work until written confirmation is received that the Construction Phase Health and Safety Plan includes the procedures and arrangements required by the CDM Regulations.
- **Content:** Develop the plan from and draw on the Outline Construction Phase Health and Safety Plan and the Preconstruction information.

MANAGEMENT AND STAFF

400 Management and staff – Contract minimum requirement

- **Details:** Allow for compliance with contract obligations.

TEMPORARY ACCOMMODATION

430 Temporary accommodation – Contract minimum requirement

- **Details:** Allow for compliance with the Contract obligations.

440 Temporary Accommodation - use and location

- **Restrictions:**
  - **Positioning:** TBC
  - **Timing:** TBC

480 Parking

- **Requirement:** No on site parking
- **Details:** No on site parking. Parking available on local roads and car park.

TEMPORARY SERVICES

500 Temporary Services – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

510 Water

- **Supply:** The existing mains may be used for the Works as follows:
- **Continuity:** No liability will be accepted for the consequences of failure or restriction in supply.

520 Water restrictions

- **Emergency legislation:** If the water supply is or is likely to be restricted, inform without delay and ascertain the availability of water from alternative sources.
- **Suitability:** Check pH value of water from a proposed new source and ensure that it is suitable for the plants, soil and turf being watered.

530 Gas

- **Supply:** The existing supply may be used for the Works as follows:

- **Continuity:** No liability will be accepted for the consequences of failure or restriction in supply.

540 Lighting and power

- **Supply:** Electric power from the existing mains may be used for the Works:
- **Continuity:** No liability will be accepted for the consequences of failure or restriction in supply.

550 On site communications

- **Communications:**
    - **General:** Provide and maintain for the sole use of the other members of the project team and their representatives:
- **Costs:** Pay fees and charges associated with connection, rental subscriptions and the like.

560 Employer's site telephones

- **Temporary on site telephone:** Provide as soon as practicable after the start on site for the sole use of those acting on behalf of the Employer.
- **Positions:**
- **Call charges:**

580 E-mail and internet facility

- **General:** As soon as practicable after the start on site provide a suitable e-mail facility on site, with a separate dedicated connection, for the use of the Contractor, Subcontractors and other members of the project team.
- **Use on behalf of Employer:** Allow for the cost of a reasonable number of transmissions made by other members of the project team.
- **Peripherals:**

590 Meter readings

- **Charges for service supplies:** Where to be apportioned ensure that:

Meter readings are taken by relevant authority at possession and/ or completion as appropriate.
Copies of readings are supplied to interested parties.

TEMPORARY SECURITY

600 Security – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

TEMPORARY SAFETY AND CONTROL

630 Safety and environmental protection – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

650 Temporary protection to existing trees and vegetation

- **Trees and vegetation:**
    - **Requirement:** Provide protection before starting work.
    - **Protective barriers and physical protection:** Relevant measures to BS 5837.
- **Areas of structural landscaping to be protected from construction operations:**
    - **Requirement:** Protect from effects of construction operations.
    - **Positions:**
- **Integrity of protection:** Maintain for the duration of the Works.

- **Completion:** Remove on completion of the Works and make good disturbed areas.

710 Beneficial use of installed systems

- **Permanent systems:** Do not use for any purpose other than running in, testing and commissioning.
- **Other uses:** If permission is given for any other use of a system before the Works are accepted as complete, enter into a separate written agreement recording details of the terms and conditions of use.

730 Mechanical plant – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

TEMPORARY WORKS

760 Temporary works – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

820 Thermometers

- **General:** Provide on site and maintain in accurate condition a maximum and minimum thermometer. Measure atmospheric shade temperature in an approved location.

840 Personal protective equipment

- **General:** Provide for the sole use of other members of the project team, in sizes to be specified, the following:
- **Safety helmets:**
    - **Standard:** To BS EN 397, neither damaged nor time expired.
    - **Number required:**
- **High visibility waistcoats:**
    - **Standard:** To BS EN ISO 20471, Class 2.
    - **Number required:**
- **Safety boots:**
    - **Standard:** To BS EN ISO 20345, with steel insole and toecap.
    - **Number of pairs required:**
- **Disposable respirators:**
    - **Standard:** To BS EN 149.FFP1S.
- **Eye protection:**
    - **Standard:** To BS EN 166.
- **Ear protection:**
    - **Standard:** Muffs to BS EN 352-1, plugs to BS EN 352-2.
- **Hand protection:**
    - **Standard:** To BS EN 388, 407, 420 or 511 as appropriate.

Works Contract Management

Preliminary

GENERALLY

SUPERVISION, COOPERATION AND COORDINATION

130 Supervision

- **Requirement:** The whole of the contract work and any significant parts must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality, progress and coordination.
- **Evidence:** Submit, including details of the person proposed; their relevant skills, training and knowledge; practical experience; qualifications; membership or registration with professional bodies; employment history; work related assessments and management structure.
- **Submittal date:**
- **Replacement of supervisory personnel:** Give maximum possible notice before changing supervisory personnel.

PROGRESS

150 Monitoring

- **Progress:**
    - **Records:** Record on a copy of the programme kept on site.
    - **Delays:** Minimize. Take appropriate action to recover lost time.
    - **Corrective action:** Where progress falls below target, Submit proposals.
    - **Submittal date:** As soon as possible.
    - **Completion forecast:** Submit on the last working day of each week.

160 Progress meetings

- **General:** Meetings will be held to review progress and other matters arising from administration of the Contract.
- **Frequency:** TBC
- **Venue:** on site
- **Accommodation:** Ensure availability at the time of such meetings.

190 Photographs

- **Frequency of intervals:** Provide during works and upon completion.

OPERATION

200 Safety provisions for site visits

- **Access:** Provide at reasonable times.
- **Inspections:** Agree dates and times several days in advance, to enable affected parties to be present.
- **Safety:** Submit details in advance of safety provisions and procedures (including those relating to materials, which may be deleterious) which will require compliance when visiting the site.
- **Protective clothing and/ or equipment:** Provide and maintain on site for visitors to the site.

210 Removal or replacement of existing work

- **Extent and location:** Agree before commencement.
- **Execution:** Carry out in ways that minimize the extent of work.

220 Ownership of materials

- **Alteration or clearance work:** Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

230 Measurement

- **Covered work:** Give notice before covering work required to be measured.

240 Service runs

- **General:** Provide adequate space and support for services, including unobstructed routes and fixings.
- **Ducts, chases and holes:** Form during construction rather than cut in situ.
- **Coordination with other works:** Submit details of locations, types and methods of fixing of services to fabric and identification of runs and fittings.

250 Access

- **Extent:** Provide at reasonable times access to the Works; also to other places where the Contractor or subcontractors are preparing work for the Contract.
- **Designate:** TBC

260 Security

- **Protection:** Safeguard the site, the Works, products, materials, and existing buildings affected by the Works from damage and theft.
- **Access:** Take reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.

280 Stability

- **Responsibility:** Maintain the stability and structural integrity of the Works and adjacent structures during the Contract.
- **Design loads:** Obtain details, support as necessary and prevent overloading.

300 Access control

- **Authorized persons:** Submit a list of the names of persons requiring access together with other related information reasonably required.
- **Return of equipment:** On request or on completion of the work to which it relates.

310 Occupier's rules and regulations

- **Occupier's rules and regulations:** Comply.

PROTECTION FROM

390 Noise and vibration

- **Noise control:** In accordance with BS: Code of practice for noise and vibration control on construction and open sites. Noise,
- **Noise levels from the Works:** Maximum 85 dB(A) when measured from 5m
- **Equipment:** Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.

- **Restrictions:** Obtain consent before using percussion tools and other noisy appliances – times: TBC
Do not use radios or other audio equipment or permit employees to use in ways or at times that may cause nuisance.

400 Pollution

- **Prevention:** Protect the site, the Works and the general environment including the atmosphere, land, and water courses against pollution.
- **Contamination:** If pollution occurs inform immediately, including to the appropriate Authorities and provide relevant information.

420 Pesticides

- **Use:** Not permitted.

430 Nuisance

- **Duty:** Prevent nuisance from smoke, dust, rubbish, vermin and other causes.
- **Surface water:** Prevent hazardous build-up on site, in excavations and to surrounding areas and roads.

440 Asbestos containing materials

- **Requirement:** Report immediately suspected materials discovered during execution of the Works. Do not disturb and agree methods for safe removal or encapsulation.

450 Fire prevention

- **Requirement:** Prevent personal injury or death, and damage to the Works or other property from fire.
- **Standard:** Comply with 'Fire prevention on construction sites' - the joint code of practice on the protection from fire of construction sites and buildings undergoing renovation.

460 Smoking on site

- **Smoking on site:** Not permitted.

470 Burning on site

- **Burning on site:** Not permitted.

480 Moisture

- **Wetness or dampness:** Prevent, where this may cause damage to the Works.
- **Drying out:** Control humidity and the application of heat to prevent:

Blistering and failure of adhesion.
Damage due to trapped moisture.
Excessive movement.

500 Infected timber and contaminated materials

- **Removal:** Where instructed to remove material affected by fungal and/or insect attack from the building, minimize the risk of infecting other parts of the building.
- **Testing:** Carry out and keep records of appropriate tests to demonstrate that hazards presented by concentrations of airborne particles, toxins and other micro-organisms are within acceptable levels.

510 Waste

- **Includes:** Rubbish, debris, spoil, containers and surplus material.
- **Requirement:** Keep the site and Works clean and tidy. Remove rubbish, dirt and residues before closing voids and cavities in the construction.

- **Waste:** Remove frequently and dispose off site in a safe and competent manner as approved and directed by the Waste Regulation Authority.
- **Recyclable material:** Sort and dispose at a Materials Recycling Facility approved by the Waste Regulation Authority.
- **Documentation:** Retain waste transfer documentation on site.

540 Powder actuated fixing systems

- **Use:** Not permitted.

550 Invasive species

- **General:** Prevent the introduction or spread of species (e.g. plants or animals) that may adversely affect the site and the Works economically, environmentally or ecologically.
- **Special precautions:**
- **Requirement:** Report immediately suspected invasive species discovered during execution of the Works. Do not disturb and agree methods for safe eradication or encapsulation.

580 Existing services

- **Confirmation:** Notify service authorities, statutory undertakers and/ or adjacent owners of proposed work not less than one week before commencing site operations.
- **Identification:** Before starting work, check and mark positions of mains and services. Where positions are not shown on drawings obtain relevant details from service authorities, statutory undertakers or other owners.
- **Work adjacent to services:** Comply with service authority's or statutory undertaker's recommendations.
Adequately protect, and prevent damage to services.
Do not interfere with their operation without consent of service authorities, statutory undertakers or other owners.
- **Identifying services:**
    - **Below ground:** Use signboards, giving type and depth.
- **Overhead:** Use headroom markers.
- **Damage to services:**
    - **Action:** Immediately give notice and notify appropriate service authority or statutory undertaker.
    - **Repair:** Make arrangements for making good without delay to the satisfaction of service authority, statutory undertaker or other owner as appropriate.
- **Liability:** Measures taken to deal with an emergency will not affect the extent of the Contractor's liability.
- **Marker tapes or protective covers:** Replace, if disturbed during site operations, to service authority's or statutory undertakers recommendations.

590 Roads and footpaths

- **Duty:** Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.
- **Damage:** Make good if caused by site traffic, or otherwise consequent upon the Works, to the satisfaction of the Employer, Local Authority or other owner.

600 Existing topsoil and subsoil

- **Duty:** Prevent over compaction of existing topsoil and subsoil in those areas which may be damaged by construction traffic, parking of vehicles, temporary site accommodation or storage of materials and which will require reinstatement prior to completion of the Works.
- **Protection:** Submit proposals.

- **Submittal date:** Before starting work.

610 Retained trees, shrubs and grassed areas

- **Protection:** Preserve and prevent damage.
- **Replacement:** Mature trees and shrubs if uprooted, destroyed, or damaged beyond reasonable chance of survival in their original shape, as a consequence of the Contractor's negligence, must be replaced with those of a similar type and age at the Contractor's expense.

620 Retained trees

- **Protected area:** Unless agreed otherwise, do not dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within an area which is the larger of the branch spread of the tree or an area with a radius of half the tree's height, measured from the trunk.
- **Roots:** Do not sever if exceeding 25mm in diameter. If unintentionally severed give notice and seek advice.
- **Ground levels:** Do not change within an area 3m beyond branch spread.

630 Existing features

- **Protection:** Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works.
- **Special requirements:**

640 Existing work

- **Protection:** Prevent damage to existing work, structures or other property during the execution of the Works.
- **Removal:** Minimum amount necessary.
- **Replacement work:** To match existing.

650 Building interiors

- **Protection:** Prevent damage from exposure to the environment, including weather, flora, fauna, and other causes of material degradation during the execution of the Works.

680 Especially valuable or vulnerable items

- **Protection:** Ensure provision and maintenance of special protective measures to prevent damage.
- **Items:**
- **Method statement:** Submit within one week of request describing special protection to be provided.

METHOD AND SEQUENCE

730 Adjoining property

- **Agreement:** Access to and/ or use of the following has been agreed with adjacent owners.
- **Details:**
- **Permission:** Obtain as necessary from other owners if required to erect scaffolding on, or otherwise use, adjoining property.

740 Adjoining property restrictions

- **Precautions:** Prevent trespass of workpeople and take precautions to prevent damage to adjoining property. Pay charges. Remove temporary protection and make good on completion or when directed.
- **Damage:** Bear cost of repairing damage arising from execution of the Works.

750 Existing structures

- **Duty:** Check proposed methods of work for effects on adjacent structures inside and outside the site boundary.
- **Supports:**
    - **Standards:** In accordance with BS 5975 and BS EN 12812.
    - **Requirements:** Provide and maintain incidental shoring, strutting, needling and other supports as may be necessary to preserve stability of existing structures on the site or adjoining, which may be endangered or affected by the Works.
      Do not remove until new work is strong enough to support existing structure.
      Prevent overstressing of completed work when removing supports.
- **Adjacent structures:** Monitor and immediately report excessive movement.

760 Materials for recycling or reuse

- **Duty:** Sort and prevent damage to stated products or materials, clean off bedding and jointing materials and other contaminants.
- **Storage:** Stack neatly and protect until required by the Employer or for use in the Works as instructed.

790 Working hours

- **Specific limitations:**

TBC

Works Contract Verification

Preliminary

STANDARDS OF PRODUCTS AND EXECUTIONS

110 Substitute products

- **Details:** If products of different manufacture to those specified are proposed, submit details with the tender giving reasons for each proposed substitution. Substitutions which have not been notified at tender stage may not be considered.
- **Compliance:** Substitutions accepted will be subject to verification requirements detailed in the specification.

120 Substitution of products

- **Products:** If an alternative product to that specified is proposed, obtain approval before ordering the product.
- **Reasons:** Submit reasons and relevant information for the proposed substitution.
- **Information to be submitted:** Manufacturer and product reference.

Cost.
Availability.
Relevant standards.
Performance.
Function.
Compatibility of accessories.
Proposed revisions to drawings and specification.
Compatibility with adjacent work.
Appearance.
Copy of warranty or guarantee.

- **Alterations to adjacent work:** If needed, advise scope, nature and cost.
- **Manufacturers' guarantees:** If substitution is accepted, submit before ordering products.

130 Equivalent products

- **Inadvertent omission:** Wherever products are specified by proprietary name the phrase 'or equivalent' is to be deemed included.

140 Substitution of standards

- **Specification:** To British Standard or European Standard.
- **Substitution:** May be proposed complying with a grade or category within a national standard of another Member State of the European Community or an international standard recognized in the UK.
- **Ordering:** Submit notification of all such substitutions before ordering.
- **Documentary evidence:** Submit for verification when requested. Submitted foreign language documents must be accompanied by certified translations into English.

DOCUMENTS AND INFORMATION

150 Currency of documents

- **Currency:** References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender.

160 Incomplete documentation

- **Products and executions:** Where and to the extent that products or executions are not fully documented, they are to be as follows.
- **Requirements:**
  - **Standard:** Of a kind and quality appropriate to the nature and character of that part of the Works where they will be used.
  - **Suitability:** Suitable for the purposes stated or reasonably to be inferred from the project documents.
- **Contract documents:** Omissions or errors in description and/ or quantity shall not vitiate the Contract nor release the Contractor from obligations or liabilities under the Contract.

220 Technical information

- **Retain:** Available on site for reference by supervisory personnel.
- **Information:** Manufacturer's current information and relevant British Standards, relating to products to be used in the Works.

230 Evidence of Compliance

- **Proprietary products:** Retain on site evidence that the proprietary product specified has been supplied.
- **Performance specification:** Submit on request evidence of compliance with performance specifications, including test reports indicating properties tested, pass or fail criteria, test methods and procedures, test results, identity of testing agency, test dates and times, identities of witnesses and analysis of results.

PRODUCTS AND EXECUTION

240 Workmanship skills

- **Operatives:** Appropriately skilled and experienced for the type and quality of work.
- **Registration:** With Construction Skills Certification Scheme.
- **Evidence:** Operatives must produce evidence of skills and qualifications when requested.

250 Quality of products

- **Generally:** New.
- **Supply:** Each product from the same source or manufacturer.
- **Quantity:** Whole quantity of each product required to complete the Works of consistent kind, size, quality and overall appearance.
- **Tolerances:** Where critical, measure a sufficient quantity to determine compliance.
- **Deterioration:** Prevent. Order in suitable quantities to a programme and use in appropriate sequence.
- **Recycling:** Proposals for recycled products may be considered.

260 Quality of execution

- **Generally:** Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
- **Colour batching:** Do not use different colour batches where they can be seen together.
- **Dimensions:** Check on-site.
- **Finished work:** Not defective, damaged, disfigured, dirty, faulty, or out of tolerance.
- **Appearance:** Adjust joints open to view so they are even and regular.

270 Inspections

- **Standard:** Inspection, or other action, of products or executions must not be taken as approval unless confirmed in writing including the following:
Date of inspection.
Part of the work inspected.
Respects or characteristics which are approved.
Extent and purpose of the approval.
Associated conditions.

280 Related work

- **Details:** Provide trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is approximately complete, in accordance with the project documents, to a suitable standard and in a suitable condition to receive new work.
- **Preparatory work:** Ensure necessary preparatory work has been carried out.

290 Manufacturer's recommendations and instructions

- **General:** Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to Tender.
- **Exceptions:** Submit details of changes to recommendations or instructions.
- **Execution:** Use ancillary products and accessories supplied or recommended by main product manufacturer.
- **Products:** Comply with limitations, recommendations and requirements of relevant valid certificates.

SAMPLES AND APPROVALS

330 Samples

- **Products or executions:** Comply with specification requirements and in respect of the stated or implied characteristics:
To an express approval.
To match a sample expressly approved as a standard for the purpose.

340 Approval of products

- **Programme:** Undertake or arrange submissions, samples, inspections and tests to suit the Works programme.
- **Approval:** Relates to a sample of the product and not to the product as used in the Works. Do not confirm orders or use the product until approval of the sample has been obtained.
- **Complying sample:** Retain in good, clean condition on site. Remove when no longer required.

350 Approval of execution

- **Programme:** Undertake or arrange submissions, samples, inspections and tests to suit the Works programme.
- **Approval:** Relates to the stated characteristics of the sample. (If approval of the finished work as a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed.
- **Complying sample:** Retain in good, clean condition on site. Remove when no longer required.

ACCURACY AND SETTING OUT GENERALLY

370 Accuracy of instruments

- **Measurement:** Use instruments and methods described in BS 5606, Appendix A.
- **Accuracy:** Maintain

380 Setting out

- **General:** Submit details of methods and equipment to be used in setting out the Works.
- **Levels and dimensions:** Check and record the results on a copy of drawings. Notify discrepancies and obtain instructions before proceeding.
- **Completion of setting out:** Give notice before commencing construction.

400 Critical dimensions

- **Critical dimensions:** Set out and construct the Works in accordance with the critical dimensions and tolerances stated.
- **Details:**

410 Setting out records

- **Record drawings:** Include details of grid lines, setting-out stations, benchmarks and profiles. Retain on site throughout the Contract and hand over on completion.

SERVICES GENERALLY

430 Services regulations

- **Services:** New and existing services must comply with the Byelaws or Regulations of the relevant Statutory Authority.

440 Water regulations and byelaws notification

- **Requirements:** Notify Water Undertaker of work carried out to or which affects new or existing services. Submit required plans, diagrams and details.
- **Consent:** Allow adequate time to receive Undertaker's consent before starting work. Inform immediately if consent is withheld or is granted subject to significant conditions.

450 Water regulations and byelaws Contractor's certificate

- **Content:**
    - **Installation:** Describe the new installation and/ or the work carried out to an existing installation, including the address.
- **Statement:** Confirm that the installation complies with the relevant Water Regulations or Bylaws.
    - **Inspection:** Provide the Contractor's name and address, the name and signature of the individual responsible for checking compliance and the date on which the installation was checked.
- **Submit:** Certificate on completion of the work, include a copy to the Water Undertaker.

460 Electrical installation certificate

- **Certification:** The original certificate is to be lodged in the Building Manual at the completion of relevant electrical work.

470 Gas, oil and solid fuel appliance installation certificate

- **Content:**
    - **Installation:** Describe the new installation and/ or the work carried out to an existing installation including the address.
    - **Safety:** Include special recommendations or instructions for the safe use and operation of appliances and flues.
- **Statement:** Confirm that the installation complies with the appropriate safety, installation and use regulations.

- **Inspection:** Provide the Contractor's name and address, the date on which the installation was checked and the name, qualifications and signature of the competent person responsible for checking compliance.

- **Submit:** Before the completion date stated in the contract.
- **Certificate location:** TBC

480 Mechanical and electrical services

- **Final tests and commissioning:** Carry out so that services are in full working order at completion of the Works.
- **Confirmation:** Provide a Building Regulations notice, signed by a suitably qualified person, to Building Control that systems have been commissioned in accordance with approved procedures.
- **Records:** A copy to be lodged in the Building Manual.

500 Continuity of thermal insulation

- **Record and report:** Confirm that work to new, renovated or upgraded thermal elements has been carried out to conform to the Specification.
  - **Content:** Address of premises, the Contractor's name and address, the name, qualification and signature of a competent person responsible for checking compliance and the date on which the installation was checked.
- **Submit:** Before completion of the Works.
- **Copy:** Include in the Building Manual.

QUALITY CONTROL

540 Proposals for rectification of non-compliant products and executions

- **Non-compliant items:**
  - **Opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution:** Submit proposals
  - **Submittal date:** So soon as possible after discovery of items which are or appear to be non-compliant.
- **Acceptability:** Such proposals may be unacceptable and contrary instructions may be issued.

550 Measures to establish acceptability

- **General:** Wherever inspection or testing shows that the work, materials or goods are not in accordance with the Contract and measures (e.g. testing, opening up, experimental making good) are taken to help in establishing whether or not the work is acceptable, such measures will be at the expense of the Contractor and will not be considered as grounds for revision of the completion date.

600 Daywork

- **Labour, plant and materials definitions:** As described in 'Definition of Prime Cost of Daywork carried out under a Building Contract' published by the RICS and the Construction Confederation.

Works Contract Administration

Preliminary

USE OF DOCUMENTS

100 Freedom of information

- **Records:** Retain, make available for inspection and supply on request information reasonably required to allow response to requests made under the provisions of the Freedom of Information Act.
- **Received requests:** Obtain instruction before proceeding.

Do not supply information to those who are not project participants without express written permission.

- **Confidentiality:** Maintain at all times.

110 Drawings

- **Definitions:** Building Applications Guide: Design framework for building services. 5th edition
- **CAD data:** In accordance with BS 1192.

120 Cross references

- **Accuracy:** Check remainder of the annotation or item description against the terminology used in the cited section or clause.
- **Related terminology:** Where a numerical cross-reference is not given the relevant sections and clauses of the Specification will apply.
- **Relevant clauses:** Clauses in the cited specification section dealing with general matters, ancillary products and execution also apply.
- **Discrepancy or ambiguity:** Before proceeding, obtain clarification or instructions.

130 Referenced documents - conflicts

- **Precedence:** Specification prevails over referenced documents.

140 Dimensions

- **Dimensions:** Do not scale.

150 Rules of measurement

- **Method of measurement:** In accordance with the current version of the Code of Measuring Practice.

DOCUMENTS PROVIDED BY CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS

280 Schedule of Rates

- **Schedule of rates (unpriced):** Provided. The Contractor may insert additional items. Fully price all items.

380 Method statements

- **Method statements:** Prepare describing how and when the following procedures are to be carried out.
- **Submittal date:** Issue prior to commencement of works for approval. No works to start on site without approval.

400 Alternative method proposals

- **General:** In addition to and at the same time as tendering for the Works as defined in the tender documents, alternative methods of construction and installation may be submitted for consideration. Alternatives, which would involve significant changes to other work, may not be considered.
- **Alternative method proposals:** Include a complete and precise statement of the effects on cost and programme.
- **Safety method statement:** Carry out a health and safety risk assessment for each alternative and where appropriate provide a safety method statement suitable for incorporation in the Health and Safety Plan.
- **Full technical data:** Submit for each alternative together with details of any consequential amendments to the design and/ or construction of other parts of the Works.

410 Alternative time proposals

- **General:** In addition to and at the same time as undertaking to complete the contract work by the date for completion or period specified in the Contract, an alternative proposal based upon a different date or period may be submitted.
- **Date for Completion:** If any such proposal is accepted, the date for completion or period inserted in the Contract will be the date stated in or determined from the alternative proposal.

450 Health and safety information

- **Content:** Describe the proposed organization and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the Works may affect.
- **Include:**
    - **Policy document:** A copy of the Contractor's health and safety policy documents, including risk assessment procedures.
    - **Records:** Accident and sickness records for the past five years and of any previous Health and Safety Executive enforcement action.
    - **Training:** Records of training and training policy.
    - **Personnel:** The proposed number and type of staff responsible for health and safety on this project with details of their qualifications and duties.

470 Outline construction phase health and safety plan

- **Content:**
    - **Risk assessment:** Method statements on how risk from hazards identified in the pre-construction information and other hazards identified by the Contractor will be addressed. Procedures for carrying out risk assessment and for managing and controlling the risk.
    - **Management system:** Details of the proposed management structure, responsibilities and arrangements for issuing health and safety directions. Include procedures for informing other contractors and employees of health and safety hazards.
    - **Selection:** Proposed procedure for ensuring competency of other contractors, the self employed and designers.
    - **Communication:** Procedures for communications between the project team, other contractors and site operatives. Include arrangements for cooperation and coordination between contractors.
    - **Emergency:** Procedures including those for fire prevention and escape.
    - **Records:** Arrangements for ensuring that accidents, illness and dangerous occurrences are recorded.
    - **Personnel:** Procedures for ensuring that persons on site have received relevant health and safety information and training. Include arrangements for consulting with and taking the views of people on site, for preparing site rules and drawing them to the attention of those affected and ensuring compliance.

- **Monitoring:** Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements. Review procedures to obtain feedback.

- **Submittal date:** Within one week of request.

480 Health and safety file information

- **Information:** TBC

SUBLETTING AND SUPPLY

600 Domestic subcontracts - list

- **Content:** Details of proposed subcontractors and the work for which they will be responsible – Contractor to Provide

640 'Listed' domestic subcontractors

- **General:** Certain work must be carried out by a person of the Contractor's choice selected from a list of not less than three persons.

- **Additions to lists:**

  - **Employer:** The Employer or Employer's representative may, but only with the consent of the Contractor which shall not be unreasonably withheld, add additional person to the list at any time prior to the execution of a binding subcontract agreement.

  - **Contractor:** The Contractor may, but only with consent, which will not be unreasonably withheld, add additional persons to the list and must, if requested, submit (in an approved form) evidence of the suitability of such additional person. Wherever possible, submissions for addition of person must be made, and consent obtained, before return of the tender. If any submission for addition of person is made with the tender, the consequences, if any, to the tender price (compared to the use of the listed persons) are to be made clear or the tender will be treated as qualified.

- **Shortage of names:** If at any time prior to execution of a binding subcontract agreement less than three persons named in the list (including any persons added as provided above) are able and willing to carry out the relevant work, give notice without delay. The Employer will then forthwith add the names of other persons as provided above so that the list comprises not less than three such persons, or confirm that no names will be added. If the Employer fails to do either within one week of the Contractor's notification the Contractor, who may subcontract in accordance with the Contract, must carry out the work.

- **Agreement:** Before the start of work to which the list relates, enter into a binding subcontract agreement and confirm that this has been done, giving the name of the selected Subcontractor.

INFORMATION

740 Proposed instructions

- **Estimates:** If a proposed instruction requests an estimate of cost, submit without delay and in any case within seven days.

800 Insurance

- **Documentary evidence:** Before starting work on site submit details and/ or policies and receipts for the insurances required by the Conditions of Contract.

820 Insurance claims

- **Notice:** If an event occurs which may give rise to a claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the Employer/ Client, the person administering the contract on their behalf and the Insurers.

- **Failure to notify:** Indemnify the Employer/ Client against loss, which may be caused by failure to give such notice.

840 Ownership of products

- **Ownership:** At the time of each valuation, supply details of those products not incorporated into the Works which are subject to reservation of title inconsistent with passing of property as required by the Conditions of Contract, together with their respective values.
- **Evidence:** When requested, provide evidence of freedom of reservation of title.

870 Overtime working schedule

- **Requirement:** Prior to overtime being worked, submit notice of times, types and locations of work to be done.
- **Notice period (minimum):** TBC
- **Concealed work:** If executed during overtime for which notice has not been submitted, it may be required to be opened up for inspection and reinstatement at the Contractor's expense.

880 Defects in existing work report

- **Undocumented defects:** When discovered, immediately give notice. Do not proceed with affected related work until response has been received.
- **Documented remedial work:** Do not execute work which may hinder access to defective products or executions, or be rendered abortive by the remedial work.

890 Tests and inspection schedule

- **Timing:** Agree and record dates and times of tests and inspections to enable affected parties to be represented.
- **Confirmation:** Provide one working day prior to each test or inspection. If sample or test is not ready, agree a new date and time.
- **Records:** Submit a copy of test certificates and retain copies on site.

920 Maintenance instructions and guarantees

- **Components and equipment:** Obtain or retain copies, register with manufacturer and hand over on or before completion of the Works.
- **Information location:** In Building Manual.
- **Emergency call out services:**
    - **Telephone numbers:** Provide for use after completion.
    - **Extent of cover:**

Works Contract Completion

Preliminary

NOTIFICATION

100 Notice of completion

- **Requirement:** Give notice of the anticipated dates of completion of the whole or parts of the Works.
- **Associated work:** Ensure necessary access, services and facilities are complete.
- **Period of notice (minimum):** 5 Days prior to completion.

COMPLETION WORK

170 Work before completion

- **General:** Make good damage consequent upon the Works. Remove temporary markings, coverings and protective wrappings unless otherwise instructed.
- **Cleaning:** Clean the Works thoroughly inside and out, including accessible ducts and voids. Remove splashes, deposits, efflorescence, rubbish and surplus materials.
- **Cleaning materials and methods:** As recommended by manufacturers of products being cleaned, and must not damage or disfigure other materials or construction.
- **COSHH dated data sheets:** Obtain for materials used for cleaning and ensure they are used only as recommended by their manufacturers.
- **Minor faults:** Touch up in newly painted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.
- **Moving parts of new work:** Adjust, ease and lubricate as necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances, valves and controls.

180 Security at completion

- **General:** Leave the Works secure with, where appropriate, accesses closed and locked.
- **Keys:** Account for and adequately label keys. Hand over to the duly authorized person with an itemized schedule. Retain a duplicate schedule signed by that person as a receipt.

190 Rectification and defects

- **Notice:** Give reasonable notice for access to the various parts of the Works.
- **Access arrangements:**
- **Completion:** Give notice when remedial works have been completed.

INFORMATION

310 Content of the Building Manual

- **General:** Details of the property, the parties, fire safety strategy, operational requirements and constraints of a general nature.
- **Building fabric:** Design criteria, maintenance details, product details, and environmental and trafficking conditions.
- **Building services:** Description and operation of systems, diagrammatic drawings, record drawings, identification of services, product details, equipment settings, maintenance schedules, consumable items, spares and emergency procedures.

- **Documentation:** Guarantees, warranties, maintenance agreements, test certificates and reports.

320 Presentation of Building Manual

- **Format:** A4 size, plastics covered, loose leaf, four ring binders with hard covers, each indexed, divided and appropriately cover titled
- **Selected drawings:** Where these are needed to illustrate or locate items mentioned in the Manual: if larger than A4, to be folded and accommodated in the binders so that they may be unfolded without being detached from the rings.
- **As-built/ record drawings:** The main sets may form annexes to the Manual.

340 Information for commissioning of services

- **General:** Submit relevant drawings and preliminary performance data to enable the building user's staff to familiarise themselves with the installation.
- **Submittal date:** At commencement of commissioning.

350 Training

- **Objective:** Before completion, explain and demonstrate to designated maintenance staff / Client the purpose, function and operation of the installations including items and procedures listed in the Building Manual.

2. PRELIMINARIES BREAKDOWN

RIDGE

PRELIMINARIES BREAKDOWN

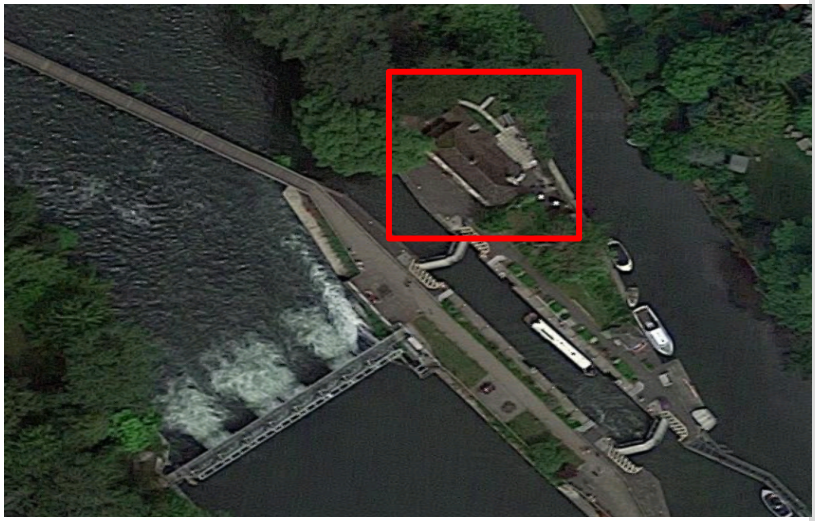
Ref.	Description	£	p
2.0	**PRELIMINARIES BREAKDOWN**		
	Works Contract Procurement		
2.1	Compliance with tender rules		
2.2	Pricing		
2.3	Site Visit		
	Works Contract Establishment		
2.4	General Information		
2.5	Programme		
2.6	Health & Safety Information		
2.7	Management & Staff		
2.8	Temporary Services		
2.9	Temporary Security, Safety & Control		
2.10	Temporary Works		
	Works Contract Management		
2.11	Supervision, Cooperation & Coordination		
2.12	Progress & Operation		
2.13	Protection From		
2.14	Method & Sequence		
	Works Contract Verification		
2.15	Standards of Products & Executions		
2.16	Services Generally		
2.17	Quality Control		

PRELIMINARIES BREAKDOWN

Ref.	Description	£	p
	Works Contract Administration		
2.18	Use of Documents		
2.19	Documents Provided by Contractor, Subcontractors & Suppliers		
2.20	Subletting & Supply		
	Works Contract Completion		
2.21	Notification		
2.22	Completion Works		
2.23	Information		
	Other		
2.24	Insurance, Bonds, Warranties & Guarantees		
2.25	Site Clearance & Cleaning		
	NOTE: The above relates to the project specific preliminaries and are deemed to include all definitions, procedures, policies and works detailed in this document. Where no project specific preliminaries are confirmed during the tendering stage of the project the contractor pricing the works will price the above based on the JCT Minor Works Building Contract 2016 Edition executed as a deed.		
	SECTION 2 - COSTED TOTAL (Excl VAT) £		

3. SCHEDULE OF WORKS PRICING DOCUMENT

SCHEDULE OF WORKS

Ref.	Description	£	p
3.0	**SCHEDULE OF WORKS**		
3.1	**INTRODUCTION**		
3.1.1	The contractor is to note that the proposed works forming this schedule are for external repair and replacement window and door works to various area of the building forming Marsh Lock House.		
3.1.2	The location of Marsh Lock House is shown in the Google Maps image below, as well as in more detail in Appendix E. 		
3.1.3	Location of works: Marsh Lock House, Mill Lane, Henley-on-Thames, RG9 4HB.		
3.1.4	The Client will be: Environment Agency Address: Kings Meadow House, Kings Meadow Road, Reading, Berkshire, RH1 8DG.		
3.1.5	The Client Representative will be: Ridge & Partners LLP Address: Beaumont House, 59 High Street, Theale, Reading, Berkshire, RG7 5AL.		
3.2	**GENERAL**		
3.2.1	The schedule has been prepared in order for a detailed cost breakdown to be provided, to aid the assessment of the works and to assist with progress and payments.		
3.2.2	The contractor is to take responsibility for the schedule and is to ensure its completeness with regards to the proposed scope of works. No costs incurred by the contractor during the pricing of these works will be accepted by the Employer.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.2.3	The contractor should note that all items of work contained within this schedule have been described in reasonable detail, but the contractor shall consider them in conjunction with material manufacturers recommendations, and actual work on site. The contractor shall include in his price for everything that is necessary in order to allow him to carry out the works in the best manner whether specifically mentioned or not. If and where approximate quantities are stated, these are for guidance only and the contractor is to make his own assessment of the actual quantities required by visiting site prior to submitting their costed return.		
3.2.4	The contractor is responsible for checking all dimensions on site. Any alterations or amendments to those detailed in this document are to be confirmed in writing by Ridge & Partners LLP.		
3.2.5	Should there be any items of work which the contractor is unclear as to what is required, then the query should be raised to Ridge & Partners LLP for clarification, during the tender process.		
3.2.6	The contractor is to price the schedule boldly in black ink, or typed to facilitate the photocopying of priced copies.		
3.2.7	The contractor is to allow to price for each item individually where ever possible. Items should not be grouped together quoting lump sums prices.		
3.2.8	No qualifications or alterations of any kind are to be made by the contractor to this schedule of works without the written agreement by the CA (Ridge & Partners LLP) or Environment Agency.		
3.2.9	The contractor is to refer to the Preliminaries section of this document for all applicable standards of all products and materials described below. Strict adherence to the requirements are required at all times		
3.2.10	The contractor is to refer to Materials and Workmanship clauses included with the Preliminaries section of this document for all applicable standards of all products and materials described below. Strict adherence to the requirements are required at all times.		
3.2.11	The contractor must examine this specification document, to ascertain all local conditions and restrictions, accessibility and visit site to ensure they have allowed for all necessary works (all labour, materials and equipment). No claims arising from the failure to do so, will be considered. The client will not be held responsible for any additional works claims which are deemed to be reasonably foreseeable which the contractor should have included for.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.2.12	The contractor's attention is also drawn to the Appendices detailing additional information required to complete the works. The contractor must strictly adhere to the requirements of these sections at all times while completing the works.		
3.2.13	The contractor must notify Ridge & Partners LLP upon the discovery of any discrepancies, errors or omissions within the specification documents or the works required immediately.		
3.2.14	The contractor shall be responsible for ensuring all employees including sub-contractors fully understand and work in accordance with the site's rules and procedures. All contractors must wear company clothing, ID badges and have the correct PPE provisions.		
3.2.15	Allow to submit a detailed and site specific Pre-start Health & Safety Plan for the proposed works to Ridge & Partners LLP for comment and approval.		
3.2.16	The contractor is to allow for regularly removing waste materials from site (noting that there is limited access to the property, due to its location on an island in the River Thames. Where items are to be set aside, allow to record their condition and for safe and secure storage.		
3.2.17	The contractor is to leave the working areas clean and tidy upon at the end of the each working day.		
3.2.18	The contractor is to price for all works to be undertaken during "normal working hours" unless otherwise stated. Exact timings: to be confirmed, prior to works starting on site. No weekend or Bank Holiday works is permitted. No noisy works are permitted before 8.30am.		
3.2.19	Access to the site is only permitted for working on the proposed works.		
3.2.20	The contractor shall carry out the works without undue inconvenience and nuisance and without danger to building owners, occupants and visitors.		
3.2.21	When undertaking the specified works, they are to be in accordance with manufacturer's recommendations and guidelines.		
3.3	**WORKS PROGRAMMING/ PHASING**		
3.3.1	The works are to be undertaken in an occupied residential property. Therefore the contractor is to consider the use and occupancy of the site as part of phasing the works.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.3.2	The contractor is to outline their proposals for programming the works below. A project programme must be provided with the tender.		
3.3.3	Prior to commencing works on site, the contractor must produce detailed plans for means of access, site compound, storage facilities, means of escape and evacuation routes from the building during the course of the works. This is to be issued to Ridge & Partners LLP and the Environment Agency for approval a minimum of two weeks prior to the commencement of works.		
3.3.4	The works are to be undertaken in strict accordance with all Statutory Consents and Conditions required by the local Building Control and Planning Department where necessary. The contractor shall be responsible for ensuring all works undertaken comply with current regulations and byelaws.		
3.3.5	The successful contractor is to undertake the works utilising trades persons and operatives who have the relevant experience, competence and technical skills required to achieve the applicable standards of all works, products and materials described below.		
3.3.6	The contractor is to make a reasonable allowance for the inspection, instruction and agreement of any works by Ridge & Partners LLP during the works as necessary to complete the works to the reasonable satisfaction of Ridge & Partners LLP.		
3.4	**CONSTRUCTION (DESIGN AND MANAGEMENT REGULATIONS) 2015**		
3.4.1	The Construction (Design & Management) Regulations 2015 apply in full to these works. The contractor must comply with these regulations and ensure all required information is provided.		
3.4.2	The building is to remain in operation through all of the works. The contractor must maintain safe access routes for all occupants, residents, visitors, deliveries and own workforce. Provide adequate segregation to separate occupied areas from the works.		
3.5	**REFURBISHMENT AND DEMOLITION ASBESTOS SURVEY**		
3.5.1	The Environment Agency has provided an Asbestos Survey Report (dated 28 August 2019) by EDP Health, Safety & Environment Consultants Limited within Appendix C of this report. The report provides R&D information relating to the internal and external areas of the property. Should any asbestos containing materials be found, the contractor is to allow for the safe removal and disposal of all asbestos containing materials as detailed within the report that are identified within the proposed works area.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.5.2	Prior to the commencement of any works on site (including any site set up etc.), the contractor is to fully review the extent of Asbestos identified in the Survey Report provided within the Appendices. Where required the contractor is to employ a UKAS accredited Asbestos Surveying Specialist to undertake full Refurbishment and Demolition (R&D) inspection and survey the areas of the building not included in the Survey Report provided. This is to include for full testing of samples where applicable. Allow for all necessary asbestos air sampling, fibre identification, bulk sampling and bulk sample identification as required.		
3.5.3	The contractor is responsible for ensuring that all asbestos containing materials are correctly removed (if any are found to be present within the proposed working area), upon advice from the CA) from site by a UKAS accredited company with an approved Waste Carriers Licence and disposed of in accordance with current HSE and regulatory guidelines. Copies of disposal certificates are to be issued to Ridge & Partners LLP & the Environment Agency.		
3.5.4	During the works the contractor is to give notice immediately of suspected asbestos-containing materials if discovered during the Works and avoid disturbing such materials. Statutory risk assessments and details of proposed methods for its safe removal are to be undertaken and submitted by the contractor.		
3.5.5	The contractor is to note that all work to be carried out in accordance with Health & Safety Executive (HSE) guidelines, including The Analysts' Guide (HSG248), Asbestos: The Survey Guide (HSG264) and the Control of Asbestos Regulations 2012.		
3.6	**SITE MANAGEMENT & WELFARE**		
3.6.1	The building is due to be occupied for the duration of the works. The contractor will submit proposals within the Construction Phase Plan that outline the safety of the occupants for the duration of the works. This will be reviewed by Ridge & Partners LLP & the Environment Agency, prior to agreement.		
3.6.2	The contractor is to submit proposals for site set up, site accommodation and welfare facilities which will be discussed and agreed at the pre-commencement meeting. Limited space maybe provided within the grounds of the building depending on the extent of the facilities required by the contractor, however the contractor must not assume that any areas will be made available for the duration of the works.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.6.3	The contractor is to provide all necessary barriers; safety signage and site security required to carry out the works. This must include adequate 1800mm timber hoarding and or "Heras" type fencing, double clipped, around any external works areas and site compounds. The property must remain secure at all times and once works are complete at the end of each day. All necessary lighting, warning and prohibition signs must be provided. The contractor is to ensure that no unauthorised access is permitted within the curtilage of the site or beyond the building secured entrances.		
3.6.4	The contractor is to provide all necessary facilities and on-site welfare facilities including WC's and a mess area for the duration of the works. The contractor is to ensure that these are well maintained for the duration of the works. The contractor must ensure that all existing service covers, footpaths and other surfaces are adequately protected from damage from the use of site facilities during the works.		
3.6.5	The contractor shall provide and maintain all necessary mechanical equipment, plant etc. of all descriptions required for the satisfactory completion of the works and remove all, as and when required, or when directed by Ridge & Partners LLP.		
3.6.6	Due to the nature of the site all operatives must respect the surrounding residential area and be respectful to neighbours and members of the public.		
3.6.7	The contractor is to allow for removal and safe disposal of all waste from site including skips, chutes and double polythene sheeting for all hazardous waste material in accordance with current Control of Asbestos Regulations 2012 and all Health & Safety legislation.		
3.6.8	The contractor is to allow for regularly removing waste materials from site.		
3.6.9	The contractor is to allow for an appointed site foreman to be on site at all times for the duration of the works. The site foreman must be able to communicate well with all client representatives, occupant and member of the public and be available to liaise directly with them at all times. Contact details of the site foreman must be provided at the pre-contract meeting.		
3.6.10	The contractor shall be responsible for obtaining any required permission from the Local Authority, Client or other bodies for the positioning of any temporary facilities or structures outside the premises required for completing the works and ensuring all works undertaken comply with current regulations and byelaws.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.6.11	The contractor is to allow for all necessary protection to prevent surfaces and areas adjacent to the works from being damaged by the proposed works.		
3.6.12	The use of any electrical equipment is to be strictly controlled and steps are to be taken to ensure that leads are not long enough to touch the water. All equipment should be connected to lines to prevent their accidental dropping into water causing possible electric shocks etc.		
3.7	**ACCESS & SCAFFOLDING**		
3.7.1	The contractor is to provide all necessary access equipment required for completing the specified works. Any scaffolding and access equipment must be installed/ erected and maintained to current national standards. Where this is permitted the contractor is responsible for maintaining the access routes and providing all necessary barriers, signage etc. to maintain safe working routes for the occupants, visitors and site operatives. Upon completion all access routes to be thoroughly cleaned and reinstated to match the existing standard.		
3.7.2	Scaffolding must be installed / erected and maintained to current Building Regulations, NASCC and national standards.		
3.7.3	The contractor is to allow for safe access in order to carry out all elements of the works. The contractor is deemed to have allowed for all alterations and amendments to the scaffold design to allow works by different trades and operatives needed to complete the works.		
3.7.4	Any damage to existing structures arising as a result of scaffold assembly and the works will be made good at the expense of the contractor.		
3.7.5	The contractor must allow to supply continuous robust good quality clean debris netting to all scaffolding, where required.		
3.7.6	The contractor is to ensure that at all times, scaffolding / access provisions to undertake the works in no way reduces the security of the property. The contractor is to ensure that the scaffolding is suitably secured and protected from all persons, including any potential intruders at all times. All ladders are to be locked away at second lift level or above at the end of each working day.		
3.7.7	The scaffold at all times, should comply with the latest Building Regulations and requirements.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.7.8	The contractor must ensure that whilst erecting and dismantling scaffolding that noise is kept to a minimum.		
3.7.9	When painting and / or spray cleaning is being carried out in the vicinity of members of the public, the contractor is to display adequate warning notices.		
3.7.10	The contractor is to submit proposals for all high level access measures including risk assessments and method statements along with details of proposed specialist sub contractor. Risk assessments and method statement are to be reviewed and discussed with Ridge & Partners LLP prior to the works commencing on site. Any reasonably requested amendments to the submitted documents are to be made and subsequently included within the documents prior to works commencing.		
3.7.11	It should be noted that, due to the location of Marsh Lock, there is no vehicle access to the curtilage of the property. Therefore the contractor must make arrangement to access the property via the foot bridge. This will limit the type of plant and equipment etc. that can be carried over to the property. The contractor is to visit site prior to works starting. Method of material and operative transport to be provided within this tender. Possible use of an Environment Agency barge boat may possibly be arranged following review (upon further clarity and confirmation from the Environment Agency). 		
3.7.12	When working near or over the water, the contractor must undertake works in accordance with the rules and requirement stated by the Environment Agency, including buoyancy aid, of a tested and approved pattern, is to be worn by all personnel working over water.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.7.13	The contractor is to familiarise themselves with the Environment Agency, Constructing a Better Environment - Safety, Health, Environment and Wellbeing, Code of Practice prior to works starting on site. This document provides guidance on working methods around the water. This is provided within Appendix F.		
3.8	**EXISTING SERVICES**		
3.8.1	No disruption of services to the building shall be allowed without written consent of the CA and without adequate notice of the disruption being provided.		
3.8.2	Adequate protection of the existing services to the building will be required and any damage shall be made good to the satisfaction of Ridge & Partners LLP, the Environment Agency and the appropriate Statutory Authority, with the minimum of delay at the contractor's expense.		
3.8.3	The contractor is to ascertain for themselves the location of all services (which shall include gas, water, electricity, telecommunications services, fibre optic, drains (foul and surface), ducts, tubes, tunnels and the like, on and adjacent to the Site (underground and over ground)), that may be affected by the carrying out of the works and is to allow for all costs in connection with upholding, protecting and, if necessary, temporarily and / or permanently diverting and reinstating these services. All costs associated with works undertaken by Statutory / Service Utility Companies, including builder's work in connection, are to be allowed for by the contractor.		
3.8.4	All chambers, manholes, draw pits, plant and the like shall be adequately protected and any damage shall be made good at the contractor's expense.		
3.9	**PROPOSED EXTERNAL WORKS**		
3.9.1	The contractor is to allow for undertaking the proposed works as detailed below. Various photographs have been provided in Appendix B as a guide, to show the areas of the building (where possible) more detail.		
3.10	**CHIMNEY STACKS**		
3.10.1	The contractor is to carefully inspect the 2 No. free standing brick built chimney stacks and associated pots, flaunching etc.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.10.2	The contractor is to undertake isolated brickwork and mortar repairs / replacement to the main chimney (located at ridge level) and to the lower chimney (located adjacent to the satellite TV dish). Allow to rake out (to a depth of 20mm) and repoint by hand isolated areas of deteriorated and eroded mortar joints at low level and finish with a neat joint to match the existing. Repointing works to be with a new suitable sand / cement mix. Include to carry out brick replacements to approximately 10 No. bricks. New brickwork is to match the appearance of the existing.		
3.10.3	The contractor is to carefully remove and dispose all of the mortar flaunching to the chimneys. Make good surrounding surfaces, re-bed existing chimney pots and install new flaunching with new suitable sand/cement mix. Ensure a compact and watertight covering is provided.		
3.11	**ROOF**		
3.11.1	The contractor is to allow a **Provisional Sum of £2,500.00** to undertake isolated roof repairs, following closer inspection from the scaffold. Repairs are to include replacement of damaged roof tiles, replacement of flashings, clean down of tree debris and moss build up etc.		
3.11.2	Allow to rake out all damaged, cracked, defective and missing sections of cement/mortar to verges and dispose. At this tendering stage, allow for approximately 10lm. Allow for the correct mortar/cement mix. Allow to make good any roof tiles and surrounding surfaces damaged during the works.		
3.11.3	The contractor is to retain the existing uPVC vented soffit and fascia, to the rear lower roof area. Allow to inspect and secure all fixings where loose or missing (if any) and clean all surfaces, using a non abrasive solution.		
3.11.4	The contractor is to carefully remove and dispose all of the existing timber facias, soffits and bargeboards to the property, including associated fixings, brackets and supports etc. Allow to make good any affected surfaces.		
3.11.5	The contractor is to supply and install new 18mm uPVC facias and bargeboards to the locations where the timber ones have been removed. Allow for Eurocell or similar approved. The new facias are to match the size and profile of the existing facias. Allow for new stainless steel fixing nails. Fixings to be a minimum of 600mm centres. Fixings to have protective caps installed. Include for suitable fixing joints, to match the size and profile of the facias. Ensure a 10mm expansion gap is provided between joints. Install as per manufacturer's guidelines and recommendations. Colour: White		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.11.6	The contractor is to supply and install new uPVC soffit boards to the locations where the timber ones have been removed. Allow for Eurocell or similar approved. The new soffits are to match the profile of the other soffits and are to be suitably sized in relation to the fascias. Allow for suitable 30mm fixings with protective caps. Include for suitable fixing joints, end caps, to match the size and profile of the soffits. Fix to facias. Install as per manufacturer's guidelines and recommendations. Colour: White.		
3.11.7	The contractor is to clean and clear out all remaining debris, sediment and vegetation growth etc. from the rainwater goods. Leave rainwater goods free flowing.		
3.11.8	The contractor is to allow to undertake a detailed inspection to the existing uPVC rainwater goods. Allow to realign rainwater goods and leave in good condition. In addition, include a **Provisional Sum of £500.00** for isolated replacement sections of rainwater goods (size, profile and colour to match existing).		
3.11.9	The contractor is to allow for a full CCTV survey and flush through/clean of all drainage on site following completion of works and include for written report to be issued to CA. Allow to price for any subsequent works once report is provided.		
3.12	**FRONT PORCH (FRONT ELEVATION FACING LOCK & RIVER)**		
3.12.1	The contractor is to allow undertake isolated timber repairs to the existing timber porch, located above the door within the front elevation (facing lock and river). Include for spliced repairs or fill using a two part filler, to all those areas of the porch that are rotten and defective. Ensure suitable detailing and bonding to surrounding surfaces. New repairs to match the existing profile, size and design. Leave ready for decoration.		
3.12.2	The contractor is to carefully remove and dispose of the existing lead roof covering to the entrance porch. Allow to inspect the timber decking forming the roof and make good affected surfaces (where required). Supply and install new lead roof covering. Provide a secure fixing / detailing to the adjacent elevation. Include to apply Calder or similar approved, patination oil to all of the leadwork. Allow for 2 No. coats. All works to be undertaken in accordance with The Lead Sheet Association and the manufacturer's recommendations and guidelines.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.12.3	The contractor is to fully rub down, prepare and redecorate the existing timber front porch, located to the front elevation. Allow for suitable Dulux external grade paint or similar approved, 1 No. undercoat and 2 No. top coats. Colour: White.		
3.13	**HALLWAY ENTRANCE PORCH (LEFT HAND ELEVATION)**		
3.13.1	The contractor is to allow to fully overhaul, repair and resecure the existing timber porch, located above the door within the left hand elevation (door leading to the internal hallway). Include for timber splice repairs or fill using a two part filler, to all those areas of the porch that are rotten and defective. Ensure suitable detailing and bonding to surrounding surfaces. Provide a secure fixing to the elevation. New repairs to match the existing profile, size and design. Leave ready for decoration.		
3.13.2	The contractor is to carefully remove and dispose of the existing lead roof covering to the left hand elevation entrance porch. Allow to inspect the timber decking forming the roof and make good affected surfaces (where required). Supply and install new lead roof covering. Provide a secure fixing / detailing to the adjacent elevation. Include to apply Calder or similar approved, patination oil to all of the leadwork. Allow for 2 No. coats. All works to be undertaken in accordance with The Lead Sheet Association and the manufacturer's recommendations and guidelines.		
3.13.3	The contractor is to fully rub down, prepare and redecorate the existing timber entrance porch, located to the left hand side elevation. Allow for suitable Dulux external grade paint or similar approved, 1 No. undercoat and 2 No. top coats. Colour: White.		
3.13.4	**Cost Option:** The contractor is to carefully remove and dispose of the existing timber porch and roof covering, located above the door within the left hand elevation (door leading to the internal hallway). Allow to make good and decorate all surround and affected surfaces, including any associated render repairs. Allow to supply and install a new timber frame porch with lead roof covering (ensure it is the same or very similar in appearance to the existing porch). Provide a secure fixing / detailing to the adjacent elevation. Include to apply Calder or similar approved, patination oil to all of the leadwork. Allow for 2 No. coats. All works to be undertaken in accordance with The Lead Sheet Association and the manufacturer's recommendations and guidelines. Allow for suitable Dulux external grade paint or similar approved, 1 No. undercoat and 2 No. top coats. Colour: White. Cost.....	Cost Is Not To Be Carried Forward	Cost Is Not To Be Carried Forward

SCHEDULE OF WORKS

Ref.	Description	£	p
3.14	**WINDOWS & DOORS**		
3.14.1	The contractor is to note that the external window and door replacement works are to be undertaken on a room-by-room basis (provide detailed breakdown, as part of programme of works). This is to allow the works to progress, whilst the residential property can maintain operational.		
3.14.2	The contractor is to allow to remove the existing windows and doors to the property, including the existing timber frame and cills. (including the Mess Room's windows and door) and allow to replace them with new uPVC ones throughout. The works also include to replace the existing timber framed circular window, within the front elevation.		
3.14.3	The contractor is to review the window and door replacement specification in Appendix A (allow to provide cost for windows and doors within this pricing document), as well as the elevation drawing in Appendix D.		
3.14.4	The contractor is note that all the window replacement works are to be undertaken in strict accordance with manufacturer's specification, recommendations and guidelines. All works are to achieve Building Regulations and British Standards.		
3.14.5	The contractor is to note that as part of the tender submission, the size of the existing window and door opening is to remain as existing for the installation of the new windows and doors. This includes cill heights. No alterations are at present planned to the opening sizes.		
3.14.6	The contractor is to carefully remove and set aside the existing secondary glazing provided to the circular window in Bedroom 2 (front elevation). Allow to suitably protect and reinstate on completion (subject to further instruction from the Environment Agency).		
3.14.7	The contractor is to note that the following doors are to be replaced, as part of the works, as scheduled in Appendix A: a) Kitchen (front elevation). b) Hallway (left hand elevation). c) Mess Room (left hand elevation) d) Utility Room (rear elevation). e) Log Store (rear elevation).		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.14.8	The contractor is to ensure the exterior window and door reveals are suitably repaired, detailed and made watertight, prior to the installation of the new windows and doors. This includes any repairs that are required, to the reveals etc. following the removal of the existing windows and door, including the timber frames and cills. Allow a **Provisional Sum of £3,000.00** for any associated repairs and remedial works to the reveals.		
3.15	**ELEVATIONS**		
3.15.1	A pre-application survey of the property is to be carried out by the contractor to determine the suitability of the substrate to receive the products and whether repairs to the building structure are necessary before application.		
3.15.2	The contractor is to determine preliminary treatment and existing condition of the background brickwork, detailing around existing windows, doors and at open eaves, damp-proof course level, exact position of movement joints, areas where flexible sealants must be used, any alterations to external plumbing.		
3.15.3	The contractor is to note that where they are due to undertake various render repairs (as stated below), if these are in the location of existing building features (signage, flood markings, cabling etc), then they are to carefully remove all detailing in order to necessitate the application of the new render. Care is to be taken to accurately record the positioning and levels to ensure detailing is replaced in the same position as was previously installed, in particular the level of the flood markers located to the front of the property. The contractor is to take photographic evidence of the location of the markers prior to commencement of the works.		
3.15.4	The contractor is to ensure that where items / existing building features have been removed for later reinstatement, they are to stored in a safe, watertight and secure location for the duration of the remedial works. All items are to be inspected prior to reinstatement. The contractor is to allow to reinstate upon completion of the render works.		
3.15.5	The contractor is to carefully rub down and clean the existing external elevation surfaces, prior to the commencing of brickwork mortar and render repairs. Leave surfaces ready for further repair works to be suitably undertaken.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.15.6	The contractor is to hack off all of the existing loose, cracked and defective render forming the elevations of the property and dispose. At this stage the contractor is to allow for 30 sqm. Exact locations of the render repairs are to be confirmed, following combined site inspection with the contractor, Ridge & Partners LLP and the Environment Agency.		
3.15.7	Where areas of the existing render have been removed, the contractor is to allow a **Provisional Sum of £3,000.00** to make good any identified cracks and associated remedial works to the elevations before the render repairs can be undertaken.		
3.15.8	The contractor is to hammer test the render elevations to ensure all defective areas of render are allowed to be removed and replaced. Allow remove all areas of loose, cracked and debonding external render.		
3.15.9	Where required, the contractor is to allow to carefully rake out areas of existing perished and defective mortar to the elevations. Allow to rake out to a depth of 25mm. Allow to prepare joints and repoint with new suitable lime based mortar. New mortar is to match existing in terms of size, colour, style and design. In addition, if required, allow to treat the cracking with Wykamol Crack Sealer Plus Kit (or similar approved) as per manufacturer's instructions and recommendations)		
3.15.10	To the areas of cracking, allow to dress off the wall surface a minimum 200mm from the defect in all directions and leave flat and suitable to receive the following treatment: Apply 400mm (minimum) wide stainless steel gauze centrally to and for the full length of the crack. Fix using fixings at maximum 300mm centres either side of the crack prior to the application of the new render.		
3.15.11	The contractor is to supply and install a new rendered finish to the defective area forming the external elevations. Ensure there is no bridging of any damp proof course, notably to the elevations forming the rear and side extensions.		
3.15.12	The contractor is to ensure the newly installed render is correctly formed and detailed around angles forming the elevation etc. and that surfaces are level, flush and match the shape and profile of the surrounding surfaces.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.15.13	The contractor is to supply and install a new lime based render to the previously rendered areas of the elevations, where the defective areas have allowed to be removed (30sqm for tendering purposes). Including for scratch coat and final float coat, and for providing a suitable key detailing to the surfaces, to ensure a suitable bond is applied. Allow for any movement joints, flashings, trims as necessary and to form a new suitable Bell Drip detail away from the ground level, at the base of the render. New render is to match the existing in terms of size and colour. In addition, the contractor is to allow for the following: a) Fix stainless steel expamet to external angles and render stops to both horizontal and vertical points. b) Brush clean all surfaces to remove debris etc. c) Apply a Unibond coat (or similar approved) to the affected wall surfaces. d) The new render is to be a 19mm coat 1:1:6 cement: lime: sand, applied in two coat work (or similar appro. Apply first coat render a minimum of 12mm thick. Allow for a scratch coat. Apply the second float coat finished with steel trowel, to a smooth surface. e) Leave surfaces ready for redecoration.		
3.15.14	Please note the above is not an exhaustive list and the contractor is responsible for installing the new render installation, in line with current regulations, manufacturer's guideline and recommendations and best practice.		
3.15.15	**Cost Option:** The contractor is to carefully remove and dispose of all the existing render to the external elevations of the property. Then allow to supply and install a new lime based render to all of the elevations forming the property. Including for scratch coat and final float coat, and for providing a suitable key detailing to the surfaces, to ensure a suitable bond is applied. Allow for any movement joints, flashings, trims as necessary and to form a new suitable Bell Drip detail away from the ground level, at the base of the render. New render is to match the existing in terms of size and colour. Confirm the sqm allowed for ..... Cost	Cost Is Not To Be Carried Forward	Cost Is Not To Be Carried Forward
3.15.16	The contractor is to allow to check for initial shrinkage in the newly rendered layers. If shrinkage is noted, allow to repair accordingly and make good.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.15.17	The contractor is to ensure the newly installed render is correctly formed and detailed around angles forming the elevations etc. and that surfaces are level, flush and match the shape and profile of the surrounding surfaces.		
3.15.18	Following the completion of the various render and brickwork repairs (as stated above), the contractor is to fully prepare and decorate all the external elevation finishes throughout the building. Allow for applying 1 No. sealing coat and 2 No. full coats of Sandtex External Masonry paint (or similar approved). Colour: to be confirmed.		
3.15.19	The contractor is to fully rub down, prepare and redecorate previously decorated small section of decorated elevation brickwork at low level, to the perimeter of the property. Allow for two coats of Dulux external grade paint. Colour to match existing.		
3.15.20	The contractor is to refix any loose cabling which is present to the property, as a result of the works, using suitable fixings.		
3.15.21	The contractor is to fully rub down, prepare and decorate the exposed circular metal strengthening supports, located within the front and rear elevations. Allow to make good surfaces, prepare and redecorate all previously decorated elevations, using Dulux external grade paint or similar approved, 2 No. coats. Colour: Black.		
3.15.22	The contractor is to fully rub down, prepare and decorate the flood marker signage / plaques, located within the front elevation. Allow to make good surfaces, prepare and redecorate all previously decorated elevations, using Dulux external grade paint or similar approved, 2 No. coats. Colour: Black & White (to match existing).		
3.15.23	The contractor is to fully rub down, prepare and decorate the 4 no. metal hanging basket angled supports, located within the front elevation. Allow to make good surfaces, prepare and redecorate all previously decorated elevations, using Dulux external grade paint or similar approved, 2 No. coats. Colour: Black.		
3.15.24	The contractor is to fully rub down, prepare and decorate the various waste pipework and the soil and vent pipe (previously decorated), located on the left hand elevation. Allow to make good surfaces, prepare and redecorate all previously decorated elevations, using Dulux external grade paint or similar approved, 2 No. coats. Colour: to match existing.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.15.25	The contractor is to allow undertake isolated timber repairs to the various timber posts forming the flood barrier supports, either side of the external doors (front, side and rear elevations). Include for spliced repairs or fill using a two part filler, to all those areas that are rotten and defective. Ensure suitable detailing and bonding to surrounding surfaces. New repairs to match the existing profile, size and design. Leave ready for decoration.		
3.15.26	The contractor is to fully rub down, prepare and redecorate the existing various timber posts forming the flood barrier supports, either side of the external doors (front, side and rear elevations). . Allow for suitable Dulux external grade paint or similar approved, 1 No. undercoat and 2 No. top coats. Colour: to be confirmed.		
3.16	**HARDSTANDING AREA ADJACENT TO KLARGESTER**		
3.16.1	The area of the proposed is within the rear garden, adjacent to the septic tank / Klargester system.		
3.16.2	The contractor is to carefully lift, clean and set aside the existing areas of paving forming the patio area, adjacent to the septic tank / Klargester system. Remove any weed and / or root growth to the affected area and treat with weedkiller. Where any paviours are cracked and / or defective, allow to dispose. The area is approximately 8 x 11 no. paviours (contractor is to measure the exact size and area of works required).		
3.16.3	Following the removal of the existing paving (as noted above), the contractor is to excavate, bed and lay 25mm of sharp sand compacted base to form the ground for the new area of paving. Ensure the ground and area of paving is level (allow to adjust levels where required).		
3.16.4	The contractor is to relay the existing set side paving on the newly prepared compacted base. Where required allow to supply and install new paviours to replace any cracked and defective ones that have been disposed of. Any new paving is to match the remaining paving, in terms of style, size, profile, colour etc. Include for brushed sand joints. Ensure ground, paving and all surfaces are level throughout with surrounding surfaces.		
3.16.5	The contractor is to confirm the number of paviours they are to replace….....		
3.17	**HARDSTANDING AREA FORMING REAR PATIO**		
3.17.1	The area of the proposed work is to the patio within the rear garden, adjacent to the rear elevation.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.17.2	The contractor is to carefully remove, set aside and protect any of the occupant's furniture / belongings etc. within the patio area. Upon completion of the proposed patio works allow to reinstate.		
3.17.3	The contractor is to carefully lift and dispose of any cracked / defective paviours in this area, and dispose. Allow to clean all areas of retained paving (using a non abrasive solution) to remove all areas of dirt build up and staining. Remove any weeds and vegetation growth to the affected area and treat with weedkiller.		
3.17.4	The contractor is to supply and install new paviours to replace any cracked and defective ones that have been disposed of. Any new paving is to match the remaining paving, in terms of style, size, profile, colour etc. Include for brushed sand joints.		
3.17.5	The contractor is to confirm the number of paviours they are to replace….....		
3.17.6	The contractor is to ensure the ground, paving and all surfaces are level throughout with surrounding surfaces. New paving is to be installed on newly prepared compacted base of 25mm sharp sand Allow to excavate where required. Ensure the ground and area of paving is level (allow to adjust levels where required).		
3.18	**HARDSTANDING AREA LEADING TO THE MESS ROOM ENTRANCE DOOR**		
3.18.1	The area of the proposed work is to the hardstanding adjacent to the left hand elevation, leading to the Mess Room entrance door. This is a small area of paving (approx. 2 x 6 No. paviours).		
3.18.2	The contractor is to carefully lift and dispose of any cracked / defective paviours in this area, and dispose. Allow to clean all areas of retained paving (using a non abrasive solution) to remove all areas of dirt build up and staining. Remove any weeds and vegetation growth to the affected area and treat with weedkiller.		
3.18.3	The contractor is to supply and install new paviours to replace any cracked and defective ones that have been disposed of. Any new paving is to match the remaining paving, in terms of style, size, profile, colour etc. Include for brushed sand joints.		
3.18.4	The contractor is to confirm the number of paviours they are to replace….....		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.18.5	The contractor is to ensure the ground, paving and all surfaces are level throughout with surrounding surfaces. New paving is to be installed on newly prepared compacted base of 25mm sharp sand Allow to excavate where required. Ensure the ground and area of paving is level (allow to adjust levels where required).		
3.19	**PROPOSED INTERNAL WORKS**		
3.19.1	The contractor is to carefully remove, set aside and protect any surface or hung/mounted furniture, curtains, blinds or items / displays etc. to allow for the internal repairs and redecoration works around the window and door reveals. Upon completion of the works allow to reinstate.		
3.19.2	Following the completion of the various external repairs and the installation of the new external uPVC doors and windows, the contractor is to allow for various isolated internal repair and redecoration works to the affected window and door reveals within the property.		
3.19.3	The contractor is to hammer test the plaster forming each window and door reveal within the property. Allow remove all areas of loose and debonding plaster.		
3.19.4	The contractor is to allow to clean, fill, repair and make good areas of cracking (where required) to each window and door reveal within the property. Then replaster affected surfaces with British Gypsum 3mm Thistle Multi-Finish top coat (where required). Include to make good around the edges of the reveals, where they abut the other wall surfaces and the newly installed windows and doors. Allow a provisional quantity of 2lm per window and door opening for pricing purposes.		
3.19.5	The contractor is to allow to redecorate all affected window and door reveals where repairs have been undertaken (as stated above). Allow for all preparation and two coats of Dulux Trade Diamond High Performance Eggshell paint. Include for all preparation works as required and recommended by the manufacturer. Colours are to match existing.		

SCHEDULE OF WORKS

Ref.	Description	£	p
3.20	**CLEANING & COMPLETION**		
3.20.1	The contractor is to leave the property clear, debris free and tidy on completion of the works, to the satisfaction of Ridge & Partners LLP, including the removal of all debris, materials plant and equipment etc., ready for inspection and handover.		
3.20.2	The contractor is to clean all the window and door glazing and frames internally and externally throughout.		
3.20.3	Allow for providing all necessary installation certification and warranties for all materials and installations included within the works. All certification and testing must be undertaken by a nationally qualified specialist.		
3.20.4	The contractor is to provide and ensure Health and Safety File and Building Manual for the works has been issued for comment 1 week prior to completion. The Health and Safety File is to include all O&M information for the works.		
3.20.5	Upon completion ensure that 2 No. A4 sized paper copies of the Health and Safety file and as built drawings are provided to Ridge & Partners LLP for issue to the Environment Agency one week after Practical Completion. A full and completed electrical copy is also to be provided.		
3.20.6	The contractor is to ensure that upon completion of the works, all the insurance backed guarantees covering the external works, including the installation and workmanship etc., are to be handed to Ridge & Partners LLP and included within the O&M Manuals for the works.		
3.21	**CONTRACTOR RATES**		
3.21.1	The contractor is to provide rates for works, which will assist with any additional works which may be found to be required, once works commence on site. Any additional works are to be at the agreement of Ridge & Partners LLP and the Environment Agency.	Note	Note
3.21.2	The contractor is to confirm their SQM rate for undertaking any additional external render replacement…….(sqm).	N/A	N/A

SCHEDULE OF WORKS

Ref.	Description	£	p
3.21.3	The contractor is to confirm their SQM rate for undertaking any additional external repointing of brickwork…….(sqm).	N/A	N/A
3.21.4	The contractor is to confirm their LM rate for undertaking any additional external repointing of brickwork…….(lm).	N/A	N/A
3.21.5	The contractor is to confirm their LM rate for undertaking any additional timber joinery replacement (fascia / soffit for example) …….(lm).	N/A	N/A
3.21.6	The contractor is to confirm their SQM rate for undertaking any internal plaster replacement…….(sqm).	N/A	N/A
SECTION 3 - COSTED TOTAL (Excl VAT) £			

4. CONTINGENCY SUM

CONTINGENCY SUM

Ref.	Description	£	p
4.0	**CONTINGENCY SUM**		
4.1	The contractor is to allow a Contingency Sum of 10% of the total value of the **Preliminary Breakdown & Schedule of Measured Works (Sections 2.0 & 3.0) only**, as described within this specification document. This is for works of an unforeseen nature. All such works to be executed under written instructions from the Ridge & Partners LLP or the Environment Agency.		
	SECTION 4 - COSTED TOTAL (Excl VAT) £		

5. COLLECTION PAGE

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COLLECTION PAGE

Ref.	Description	£	p
5.0	**COLLECTION PAGE**		
5.1	**PREMIMINARIES**		
5.2	**MATERIALS & WORKMANSHIP**		
5.3	**SCHEDULE OF WORKS**		
5.4	**CONTINGENCY SUM (10%)**		
	SUB TOTAL		
5.5	**MAIN CONTRACTOR OVERHEADS & PROFIT**		
	Add a percentage to cover all Main Contractor overheads and profits based on the value of this tender Submission. The percentage is to allow for all adjustments to the net value of work (including Main Contractor Discount). No other adjustments shall apply.		
	Insert Percentage……		
	TOTAL		
	Contractor : ……		
	Address : ……		
	……		
	……		
	……		
	……		
	Date : ……		
	TOTAL PRICED SUBMISSION (Excl VAT) £		

6. FORM OF TENDER

SPECIFICATION DOCUMENT

Marsh Lock House

FORM OF TENDER

Tender For: External Building Repair Works at Marsh Lock House

TENDER RETURNS ARE TO BE ISSUED TO:

To: Edd Straker MRICS
Ridge & Partners LLP
Beaumont House
59 High Street
Theale
Reading
RG7 5AL

From: ……
……
……
……
……

We have examined the following documents:

- Specification & Pricing Document
- All appendices included within the Specification & Pricing Document
- All drawings listed in the Specification & Pricing Document

We offer to carry out the whole of the Works described in accordance with the documents referred to above;

for the sum of £ …….. (in words)

£ …… (in figures) exclusive of any VAT chargeable

within ……..…… weeks from acceptance of our tender, comprising a period of:

……..…… weeks from acceptance to the Date of Possession and

……..…… weeks from the Date of Possession to the Date for Completion.

For the purposes of the warranties and guarantee requirements mentioned in the Specification & Pricing Document, We have reviewed the contents of the Specification & Pricing Document and accept, without amendment, the wording set out in the appendices

FORM OF TENDER

Tender For: External Building Repair Works at Marsh Lock House

We enclose our fully priced document in the separate envelope provided and marked with our name.

We agree that if any obvious errors in pricing or errors in arithmetic are discovered in the priced document before acceptance of this offer, they shall be dealt with in accordance with the Alternative 2 procedure set out in the latest JCT Practice Note.

We undertake in the event of your acceptance to execute with you a formal contract embodying all the conditions and terms contained in this offer within 21 days of being required to do so by the Employer.

This tender remains open for acceptance for 90 days from the latest date fixed for the submission of tenders.

We confirm that this tender is submitted at our expense and agree that the Employer need not necessarily accept the lowest or any other tender.

I/We confirm the following Principle Domestic Sub Contractors will be employed on this project. I/We confirm their sub contract tenders have been used within our tender and, where necessary, all these domestic sub contractors have accepted the wording of

Our list of proposed sub-contractors are;

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FORM OF TENDER

Tender For: External Building Repair Works at Marsh Lock House

Certificate of Bona Fide Tender

The essence of selective tendering is that the client shall receive bona fide competitive tenders from all those tendering. In recognition of the principle, I certify that this is a bona fide tender, intended to be competitive, and that we have not fixed or adjusted the amount of the tender by or under or in accordance with any agreement or arrangement with any other person. I also certify that we have not done and we undertake that will not do at any time before the hour and date specified for return of this tender any of the following acts:-

a. Communication to a person other than the person calling for those tenders the amount or approximate amount of the proposed tender, except where the disclosure, in confidence, of the approximate amount of the tender was necessary to obtain insurance premium quotations required for the preparation of the tender.

b. entering into any agreement or arrangement with any other person that he shall refrain from tendering or as to the amount of any tender to be submitted.

c. offering or paying or giving or agreeing to pay or give any sum of money or valuable consideration directly or indirectly to any person for doing or having done or causing or having caused to be done in relation to any other tender or proposed tender for the said work any act or thing or sort described above.

In this certificate the word "person" includes any person any body or association, corporate or unincorporate and "any agreement or arrangement" includes any such transaction, formal or informal, and whether legally binding or not.

Signed by or on behalf of : ……

Signature : ……
duly authorised to sign

Position : ……

Date : ……

Note: The completed form of tender together with the information requested must be received at the above address no later than the agreed time and date set out in the tender invitation.

APPENDIX A

Proposed uPVC Windows & Doors Replacement Works

Performance Specification

Proposed Performance Specification For uPVC Window and Door Replacement Works

1.0 General Requirement and Scope of Work

1.1 The contractor shall provide all necessary design, survey, manufacturing, fabrication, installation, associated works, and operating & maintenance manuals to ensure proper and complete installation to the satisfaction of Ridge & Partners LLP.

1.2 All design in connection with the works shall be undertaken by and shall remain the responsibility of the contractor, who shall prepare Contractor's Proposals in response to the Specification contained herein and shall submit the same with the tender return. The contractor should note that tenders returned without adequate written Contractor's Proposals may be rejected.

1.3 The Contractor's Proposals shall include detailed technical specifications for windows and doors, manufacturers' product literature, accreditation certificates, information on guarantees/warranties and 'as proposed' drawings.

1.4 The contractor shall make all arrangements for safe access as necessary to carry out the installation.

1.5 The works covered include, but is not limited to the following:

- Survey of the existing site and openings.
- Provision of temporary safe access.
- Measuring and design of new windows, screens and doors and all necessary supports.
- Provision of temporary covers to protect furniture, furnishings and fixtures during the course of the works.
- Removal of existing windows, screens and doors and the provision of temporary weather sealing and security as required.
- Supply and installation of new supports.
- Supply and installation of new windows, screens and doors, with all fittings required to complete the installation and ensure full, effective and safe operation.
- Builders work including making good around the frames.
- Internal and external finishing and weather sealing.
- Cleaning (using a non abrasive solution.

1.6 It is the intention, by setting the standards quoted within this specification, to set a quality standard so as to obtain sustainability and performance of the components in achieving the full 25 year life cycle of all windows at minimal cost to the Employer.

Proposed Performance Specification For uPVC Window and Door Replacement Works

1.7 The contractor is to allow for a full scaffold where required to allow access to all areas of works, which is to remain in place until the works are complete. The scaffold must conform to Local Authority guidelines as defined under the terms of the licence. All scaffolding is to be erected in accordance with all British Standards. The price for this is to be included in the Preliminaries costs within the specification document.

1.8 The contractor is to make all due allowance to ensure that no damage is caused to the property internally and externally. Any damaged caused as a result of the replacement windows, screens and doors will be the contractor's liability.

1.9 The contractor is to allow for all necessary measures to protect the occupants, fittings and finishes within the rooms for the duration of the works.

1.10 The contractor is to allow to remove and re-fit existing net curtains, blinds, curtains etc. as well as any other soft furnishings as applicable and to inform if any soft furnishings not suitable for reinstatement.

1.11 The contractor is to allow for the unclipping of all existing telephone cables, aerial cables and the like from existing frames and re-clip to surround in a suitable location using new cable clips of an appropriate size and colour. Any cables passing through a frame/ structure joint shall be routed through a plastic sleeve, the inner end of which is to be higher than the outer to prevent water penetration along or through the sleeve.

1.12 On completion of the installation of each window, screen or door, all glazing, window frames, handles and all other surfaces are to be cleaned to a perfect finish with mild detergent. All components are to be checked for security of fixings, adequacy of clearances, adjustment of hinges, locks etc. as may be necessary to leave the units in perfect working order.

1.13 All works must be undertaken by competent operatives. Works to achieve self certification for all installations in accordance with the Fenestration Assessment Scheme by FENSA Limited to ensure Building Regulations are fully complied with.

1.14 This section of the Specification should be read in conjunction with the current British Standards and Building Regulation requirements for new window installations in terms of construction, safety, thermal performance and robustness, suitable for use in a residential environment.

1.15 The contractor is required to survey the existing installation as part of the tender process, no subsequent claim for lack of knowledge of the existing installation shall be considered.

Proposed Performance Specification For uPVC Window and Door Replacement Works

2.0 Contractor Site Survey Requirements

2.1 The Contractor shall design, supply and install new double glazed windows, screens and doors. This shall include all structural supports to ensure that the windows do not flex in the event of extreme winds, forces from occupants and the building itself.

2.2 The contractor shall ascertain on site the exact dimensions of openings before manufacture of the windows, screens and doors. The contractor shall allow in his price for a survey visit to take the dimensions and adjacent structural details of every window and door that is to be replaced. The units supplied and manufactured are to suit each individual opening and the relative sizes to take into consideration the site and site conditions. Surveys are to be carried out at appointed times in liaison with resident. Where access proves difficult Ridge & Partners LLP shall be informed.

2.3 It is recommended that surveys of external windows and doors are undertaken by surveyors / technical specialists employed by the fabricating organisation.

2.4 Replacement windows are to match the existing arrangement and relative sizes of fixed and opening lights except where indicated otherwise or required in order to comply with Building Regulations.

2.5 The replacement windows and doors are to match the existing colour and style unless we state otherwise.

2.6 Each and every structural opening shall be measured including checks for squareness by measuring diagonals. The responsibility to survey each and every structural opening is that of the contractor and no claims or acceptance for ill-fitting doors or deviations in the structure will be entertained by Ridge & Partners or the Environment Agency. Allow for any anomalies and variations in the size of openings and for out of square openings. This is to include for the manufacture of 'specials' as necessary.

2.7 Window and door sizes shall include for all necessary tolerances for thermal movement together with manufacturer’s tolerances in fitting to existing/new openings.

2.8 The appearance of the external cill must remain the same and must not be adversely affected by the installation of a new window or door. The cill must be left in a condition to ensure that it is fully protected from rainwater damage.

2.9 On completion of the tender and before appointment, the contractor shall be required to demonstrate that they have included for all supports and fixings required to ensure that the existing structure is not weakened, the rigidity of the new windows exceeds that of the existing installation along with meeting all current British Standards and Building Regulations for windows and doors being installed in the particular situation.

Proposed Performance Specification For uPVC Window and Door Replacement Works

2.10 The contractor surveys shall consider the location of BT, power, coaxial, lighting, bell wire and other electrical cabling that is present either internally or externally.

2.11 The contactor is to ensure that both internal and external dimensional checks are to be undertaken to ensure the correct fitment and alignment of the proposed doors and windows.

3.0 Compliance Standards

3.1 The contractor shall ensure that the design, surveying, fabrication/manufacture and installation complies with all relevant British and European Standards, Codes of Practice, Building Regulations and manufacturers' current printed instructions and recommendations, including, but not limited to, the following standards and all amendments thereto:

Building Regulations Approved Documents B, F, K, L and M.

BS EN 795 Protection against falls from a height - anchor devices - requirements and testing.

BS EN 1027 Windows and doors. Water tightness. Test method.

BS EN 1125 Panic and emergency exit devices.

BS EN 1279 Glass in building. Insulating glass units.

BS EN 1670 Building hardware – corrosion resistance.

BS EN 1935 Building hardware. Single-axis hinges. Requirements and test methods.

BS EN 1991 Eurocode 1. Actions on structures. General Actions. Wind actions.

BS EN 12519 Windows and pedestrian doors.

BS EN 12600 Glass in building - pendulum test - impact test method and classification.

BS EN 12758 Glass in building. Glazing and airborne sound insulation.

BS EN 13115 Windows. Classification of mechanical properties.

BS EN 13126 Building hardware. Hardware for windows and door height windows.

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Proposed Performance Specification For uPVC Window and Door Replacement Works

BS EN 14351 Windows and doors. Product standard, performance characteristics.

BS EN 17271. Plastics. Poly(vinyl chloride) (PVC) based profiles. Determination of peel strength of profiles laminated with foils.

BS 3621 Thief resistant lock assemblies.

BS 4255 Rubber used in preformed gaskets for weather exclusion from buildings.

BS 6206 Specification for impact performance requirements for flat safety glass and safety plastics for use in buildings (AMD 4580) (AMD 5189) (AMD 7589) (AMD 8156) (AMD 8693).

BS 6213 Guide to selection of constructional sealants.

BS 6262 Glazing for buildings.

BS 6375 Performance of windows and doors.
Part 1: Classification for weathertightness.
Part 2: Specification for operation and strength.
Part 3: Classification for additional performance.

BS 7412 Specification for windows and door sets made from unplasticized polyvinyl chloride (PVC-U) extruded hollow profiles.

BS 8213 Windows and doors.
Part 1: Code of practice for safety in use and during cleaning of windows and doors.
Part 4: Code of practice for the installation of replacement door sets in dwellings.

BS 8220 Guide for security of buildings against crimes.

BRE Digest 379 Double glazing for heat and sound insulation.

BRE IP 25/81 The selection and performance of sealants.

BS EN ISO 9001 & 9002 Quality assurance systems for design, development, production, installation and servicing.

The Workplace (Health, Safety and Welfare) Regulations 1992, Specific Regulation 14.

PAS 24 - Enhanced security performance requirements for door sets and windows in the UK. External door sets and windows intended to offer a level of security suitable for dwellings and other buildings exposed to comparable risk.

Proposed Performance Specification For uPVC Window and Door Replacement Works

4.0 Design

4.1 The contractor shall design, supply and install new hermetically sealed double glazed windows, screens and doors. This shall include all structural supports and framing to ensure the windows do not flex in the event of extreme winds, forces from occupants within the building and the building itself. The contractor is to produce accurate design and manufacture drawings including sections and elevations for approval by Ridge & Partners and the Environment Agency prior to the placing of the final order for manufacture.

4.2 The design shall take into account the following:

- Cleaning of the windows.
- Meeting the requirements of The Workplace (Health, Safety and Welfare) Regulations 1992.
- Energy efficiency of the windows.
- Security of the building.
- Robustness for heavy handling and misuse.
- Ease of maintenance.
- Have a 10 year minimum insurance backed guarantee for materials and workmanship.

4.3 For any windows that are load bearing or structural, taking loads from the roof etc, the new windows must be designed to take the same loads by means of structural members, corner posts etc., that must fully and adequately transfer the loads to the structure below the window. The contractor must serve a Building Notice in respect of any structural windows and provide temporary support. Calculations proving the adequacy of the structural members must be provided.

4.4 Windows are not to open outwards in other locations where they could present a danger to persons using access routes.

4.5 Opening lights shall be no closer to finished floor level than 1100mm.

4.6 The contractor shall provide 'As Proposed' drawings with the tender. The drawings shall either be fully annotated to explain any designs not in accordance with the Performance Specification and Compliance Standards, or a separate written explanation shall be provided in support of the drawings. The contractor shall agree all design proposals with Ridge & Partners LLP and the Environment Agency, prior to commencing fabrication and installation.

4.7 The contractor's detailed design shall include full working drawings and specifications; copies of which are to be submitted to Ridge & Partners LLP and the Environment Agency for approval prior to manufacture.

Proposed Performance Specification For uPVC Window and Door Replacement Works

5.0 Manufacture

5.1 The contractor shall call upon the system manufacturers to provide any necessary technical assistance throughout the design, fabrication, installation, maintenance and guarantee/warranty periods.

5.2 The finished windows, screens, doors and all components shall be clearly identified by a permanent manufacturer's mark or label. This should be unobtrusive.

5.3 The units supplied are to be manufactured to suit existing/ prepared openings.

5.4 All joints associated with the uPVC frames are to be hot fusion welded and shall meet all current requirements. The joints must be completely moisture resistant and not permit any penetrations into the profiles either internally or externally. The residue of material resulting from hot fusion welding is to be carefully removed and neatly routed to just below the surface leaving a uniformed recessed feature.

5.5 All profile sections are to be multi-chambered extruded uPVC. The system must enable adequate drainage to be incorporated away from the central reinforcement chamber regardless of the positioning of the profile. The profiles should resist normal weathering and colour fastness.

6.0 Windows and Doors

6.1 The window assemblies must incorporate concealed drainage dispersal methods that discharge clear of the structure.

6.2 All fixings and fastenings shall be of corrosion resistant material and be compatible with other metallic fixings used in the manufacture of the window. Where surface fixed and generally seen, fixings and fastenings are to be coloured to match the frame.

6.3 Generally hardware and ironmongery fittings and fixtures are to penetrate at least two thicknesses of the uPVC profile and/ or penetrate the reinforcement by at least 2mm.

6.4 Any multi light window is any room is to have sight lines kept to a minimum. Therefore, coupling of multi light windows will not be permitted except for window and door combinations.

7.0 Glazing

7.1 All glazing is to be 28mm hermetically sealed double glazed units with an inner pane of 'soft coat' low emissivity glass, an argon filled cavity and thermally broken 'warm edge' spacer bar. The thickness of the double glazed units shall be selected to ensure that each window achieves or betters the Environment Agency's thermal and sound insulation requirements.

Proposed Performance Specification For uPVC Window and Door Replacement Works

7.2 The glazing shall be of neutral colour in transmission and reflection without applied tints or coatings, though 'K' glass or other suitable low emissivity (low 'E') coatings shall be provided for the purpose of attaining the required thermal performance.

7.3 All glazing in bathrooms/ WCs is to be obscured glass to the inner pane, grade/ rating 5.

7.4 Glazing shall be of British manufacture of the best quality of its respective kind, picked clear of all specks, bubbles, smoke wanes, all holes and other defects to comply with BS 952. The glazing units are to be retained by suitable uPVC integral glazing beads matching the existing frame.

7.5 The glazing shall have a minimum rating Grade A with all glazing having a U value of 1.8W/m2K or below, in order to meet current Building Regulations.

7.6 Each panel of laminated and toughened glass shall be permanently etched with the Kitemark identifying the appropriate BS number in the bottom right hand corner when viewed from the inside.

7.7 Glazing gaskets shall be EPDM and shall remain free from long-term shrinkage.

8.0 Insulated Panels

8.1 Insulated panels will be required where existing.

8.2 Insulation panels are to comprise a phenolic foam core faced internally and externally with BSC Colorcoat Plastisol coated steel, internal colour white, external colour to match the installation, both side to have a 'leathergrain' finish.

8.3 The panel thickness is to suit the uPVC extrusion and to achieve the 'U' value requirements set out in the Building Regulations.

8.4 Panels should be fixed with internal glazing beads.

8.5 Fire resistance rating and surface spread of flame rating of the panels is to comply with the current Building Regulations requirements.

9.0 Window and Door Ironmongery

9.1 The Contractor shall ensure that all ironmongery has a positive and smooth action and shall be capable of operation by occupiers of all ages.

Proposed Performance Specification For uPVC Window and Door Replacement Works

9.2 Openable windows shall be fitted with stainless steel friction hinges incorporating integral restrictors limiting the opening of the window to 100mm. The restrictors are to be capable of simple release to allow the window to open fully and function as a fire escape window in accordance with Building Regulations.

9.3 Openable windows shall be fitted with multipoint locking mechanisms operated via a key deadlocking, push button locking handle. 1 No. key is to be supplied with each handle. Egress windows are to be fitted with non key locking push to release handle.

9.4 Window furniture to opening lights is to be positioned so that the handle can be easily operated by the resident whilst standing with their feet on the floor. Window furniture in kitchens and bathrooms are to be positioned on the opening light such that it can be easily reached by an average sized person leaning over sanitary and kitchen fittings, i.e. below the centre line within the limit of the design of the window.

9.5 The hinges should be capable of holding the windows steady when opening under all foreseeable wind loads and shall prevent slamming on closing.

9.6 All ground floor and any vulnerable windows are to be fitted with additional security to the hinged side of the window or door.

10.0 Appearance

10.1 The contractor shall ensure that frame sizes and sight lines match as closely as practicable with those of the existing windows and doors.

10.2 The finish must be resistant to colour fading, staining and all other foreseeable modes of deterioration for the effective life of the system.

11.0 Durability

11.1 The new windows shall have a minimum serviceable life of 25 years and they shall be designed and installed to eliminate, or reduce to a practicable minimum, the need for repairs and maintenance during this period.

11.2 All components and materials shall, in so far as is practicable, remain corrosion resistant and free from abrasion, cracking, crazing, discolouration, interstitial condensation, peeling, staining and all other foreseeable modes of deterioration for the serviceable life of the frames.

Proposed Performance Specification For uPVC Window and Door Replacement Works

12.0 Air and Water Tightness

12.1 The windows, screens and doors shall be air and watertight under all foreseeable weather conditions for the area and shall remain so for their serviceable life span. The Contractor will therefore be required to determine the local wind pressures and exposure categories in accordance with BS6375. The contractor shall provide a copy of his exposure, thermal and structural calculations to Ridge and Partners or the Environment Agency on request.

13.0 Thermal and Condensation Performance

13.1 The inside surfaces of the frames and components fixed thereto shall minimise the formation of condensation under all foreseeable psychrometric conditions and shall therefore incorporate suitable thermal breaks. The design shall ensure that condensation always forms on the glazing before the frames.

14.0 Sound Insulation

14.1 The windows and doors shall be designed, manufactured and installed with due regard to the requirements of the Approved Document E of the Building Regulations and BS 8233.

14.2 The contractor shall therefore pay close attention to the design and installation of the glazing units, gaskets, perimeter seals and the like.

15.0 Background Ventilation

15.1 Background ventilation to all windows shall be provided in accordance with Approved Document F of the Building Regulations. These shall be fully closable and draught-free when closed. The trickle vents shall be fitted with insect screening and the vents shall be fully controllable by the occupiers. Colour of vents to match the window frames.

16.0 Window, Door and Screen Frames and Sills

16.1 All new frames shall be fixed in accordance with the quality assurance systems for design, development, production, installation and servicing (BS EN ISO 9001 & 9002). In particular, the contractor shall be responsible for ensuring that the number, spacing, size and type of fixings are appropriate for the substrates, frame sizes and anticipated loading conditions.

16.2 All joints at angles and abutments shall be heat welded to BS 2782 and finished with a V groove or be ground down flush and polished.

16.3 All sections shall be reinforced with internal hot dip galvanised steel cores, which shall be sealed into the central sections of the frame profiles.

Proposed Performance Specification For uPVC Window and Door Replacement Works

17.0 Installation Requirements

17.1 The new windows, screens and doors shall be supplied by only one manufacturer and shall be fabricated and installed by only one contractor, who shall be approved in writing by the system manufacturer.

17.2 The complete systems shall be designed, fabricated and installed in accordance with the current printed instructions and recommendations of the relevant manufacturer.

17.3 Window and door framing is to be securely fixed direct to the building structure.

17.4 The removal of existing windows and doors must be programmed to ensure that units are removed only if they are to be replaced within the same working day. Immediately on removal the existing windows and doors together with any debris associated with the removal of the existing units is to be cleared away to an appropriate location. At the end of each working day, the contractor shall be responsible for the removal of any debris and shall thoroughly clean the working area. No windows are to be left out overnight. New windows are to be offered up to position to ensure that they fit before the existing windows are removed.

17.5 On removal of the existing windows and doors, the reveal surfaces of the opening are to be cleaned to remove all existing frame sealant, mastic, beading mortar etc., ready for the installation of the new units. The masonry surrounds of the windows and doors must be left in a condition that will prevent the ingress of moisture and its appearance not affected.

17.6 Damp proof materials are to be repaired and /or renewed as necessary and tucked into the new framing.

17.7 The contractor shall allow for the supply and installation of matching trims, internal and external perimeter sealant pointing. All gaps around frames shall be fully filled with expanding foam. The depth of sealant is to be 10mm minimum to the full width of the gap, with a backing strip used where necessary. All trims are to match the colour of the window profile. Joints are to be mitred and not butt jointed.

17.8 Allow for all making good to window and door openings, both internally and externally. This is to include masonry, plaster, cladding and decorative finishes. No additional allowance will be made for costs associated with making good which should have been visible on a site inspection.

17.9 Frames are to be positioned to cover the cavity, within the reveals and level with the existing external window line wherever possible, ensuring that they are plumb, level and without bow.

Proposed Performance Specification For uPVC Window and Door Replacement Works

17.10 New windows and doors are to be provided with cills of sizes appropriate to maintain the projection of the existing cills beyond the face of the external walls.

17.11 The contractor is to ensure that all uPVC or other framing materials and all glass taken out is recycled, using the system's recycling facilities.

17.12 Once the entire installation is complete the windows and glazing are to be cleaned and the ironmongery checked to ensure that it operates correctly.

18.0 Operation and Maintenance

18.1 The contractor shall provide the occupant with operating instructions and basic maintenance and cleaning instructions. The contractor shall demonstrate the operation of all windows, doors, safety devices etc. to the resident.

19.0 Guarantee

19.1 The contractor shall provide a 10 year fully independent insurance backed warranty covering all design, materials and workmanship and protecting against insolvency of any Sub-Contractors used.

19.2 The Guarantee shall cover all costs involved should remedial work prove to be necessary and shall cover against consequential loss and be protected against inflation.

20.0 Design Output

20.1 It shall be the contractors objective to develop the detailed design in partnership with Ridge & Partners LLP and the Environment Agency in order to add maximum value to the project and to ensure the satisfaction of all parties.

20.2 The contractor shall submit their detailed design, including full working drawings and specification to the Ridge & Partners LLP and the Environment Agency for approval.

APPENDIX B

Existing Selection of Initial Site Inspection Photographs (14.06.21)

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Front Elevation (1)

Front Elevation (2)

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Front Elevation (3)

Front Elevation (4)

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Front Elevation (5)

Front Elevation (6)

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Front Elevation (7)

Front Elevation (8)

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Front Elevation Entrance Porch

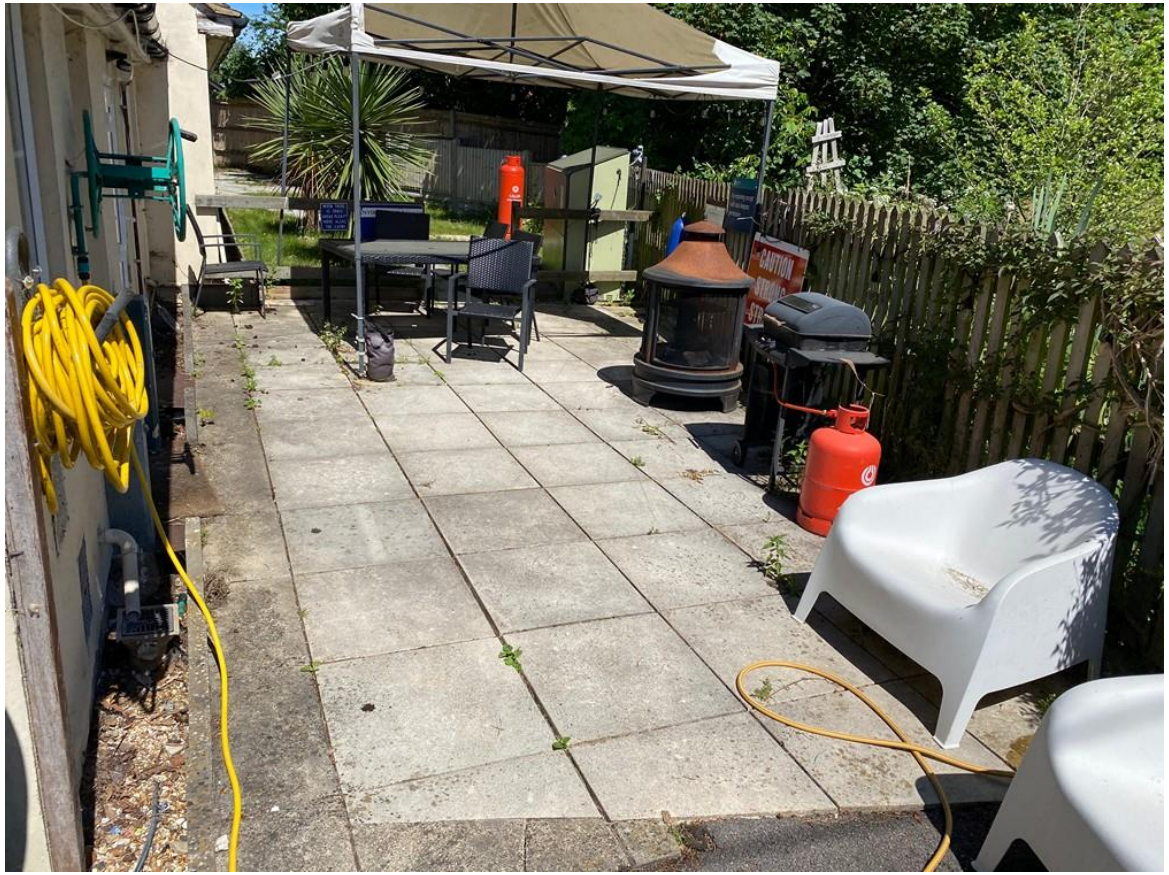
Hardstanding Adj to Klargester

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Hardstanding Adj To Mess Room



Hardstanding to Rear

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Left Hand Elevation (1)

Left Hand Elevation (2)

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Left Hand Elevation (3)

Left Hand Side Elevation Entrance Porch

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Rear Elevation (1)

Rear Elevation (2)

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Rear Elevation (3)

Rear Elevation (4)

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Rear Elevation (5)

Rear Elevation (6)

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Rear Elevation (7)

Right Hand Elevation

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Roof (1)

Roof (2)

EXISTING SUPPORTING PHOTOGRAPHS

Marsh Lock House (14.06.21)

RIDGE

Roof (3)

Secondary Glazing to Circular Window

APPENDIX C

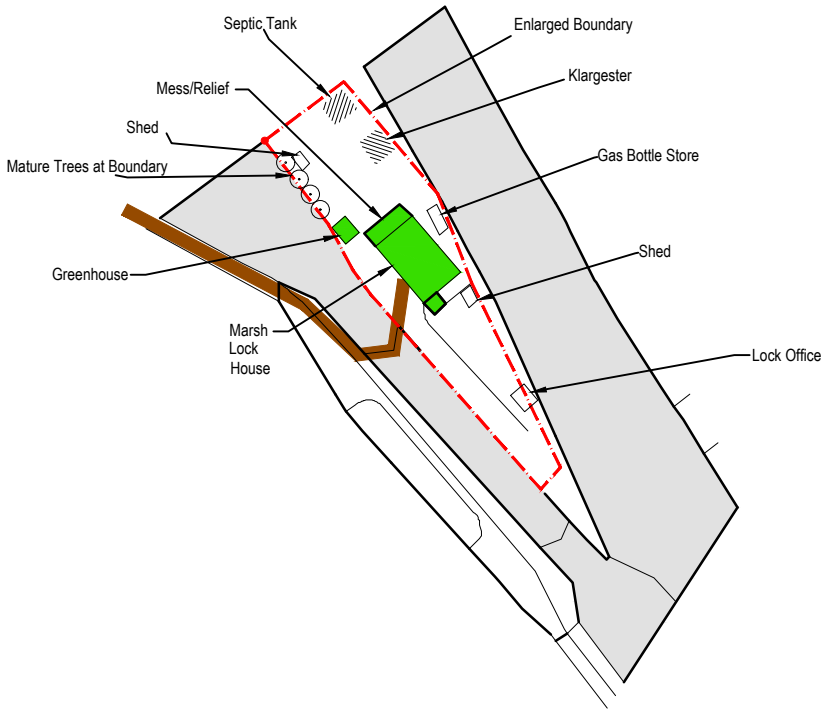
R&D Asbestos Survey Report (28.08.19)

APPENDIX D

Existing Layout, Elevation & Site Reference Drawings

NOTES:

1. DO NOT SCALE
2. DRAWINGS TO BE READ IN CONJUNCTION WITH ALL SERVICES AND STRUCTURAL ENGINEERS DRAWINGS & SPECIFICATIONS.
3.



REFERENCE

- DOMESTIC BUILDINGS
- ACCESS ROUTE TO DWELLING
- RIVER THAMES
- CONCESSION TRADING
- BOUNDARY OF DWELLING AND GARDEN

REF	DATE	REVISION	DRAWN	CHECKED

SCALE	DATE	DRAWN BY	CHECKED BY
1:1250@A4	07/2021	HW	ES

DRAWING

Marsh Lock

Location Plan

PROJECT

Condition and PPM Survey

CLIENT

Environment Agency

1:1250

0 5 10 15 20 30 40 50M

RIDGE

BEAUMONT HOUSE
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Also at Oxford, Bristol, London and Leicester

DRG NO: 5014850 / 005_A001

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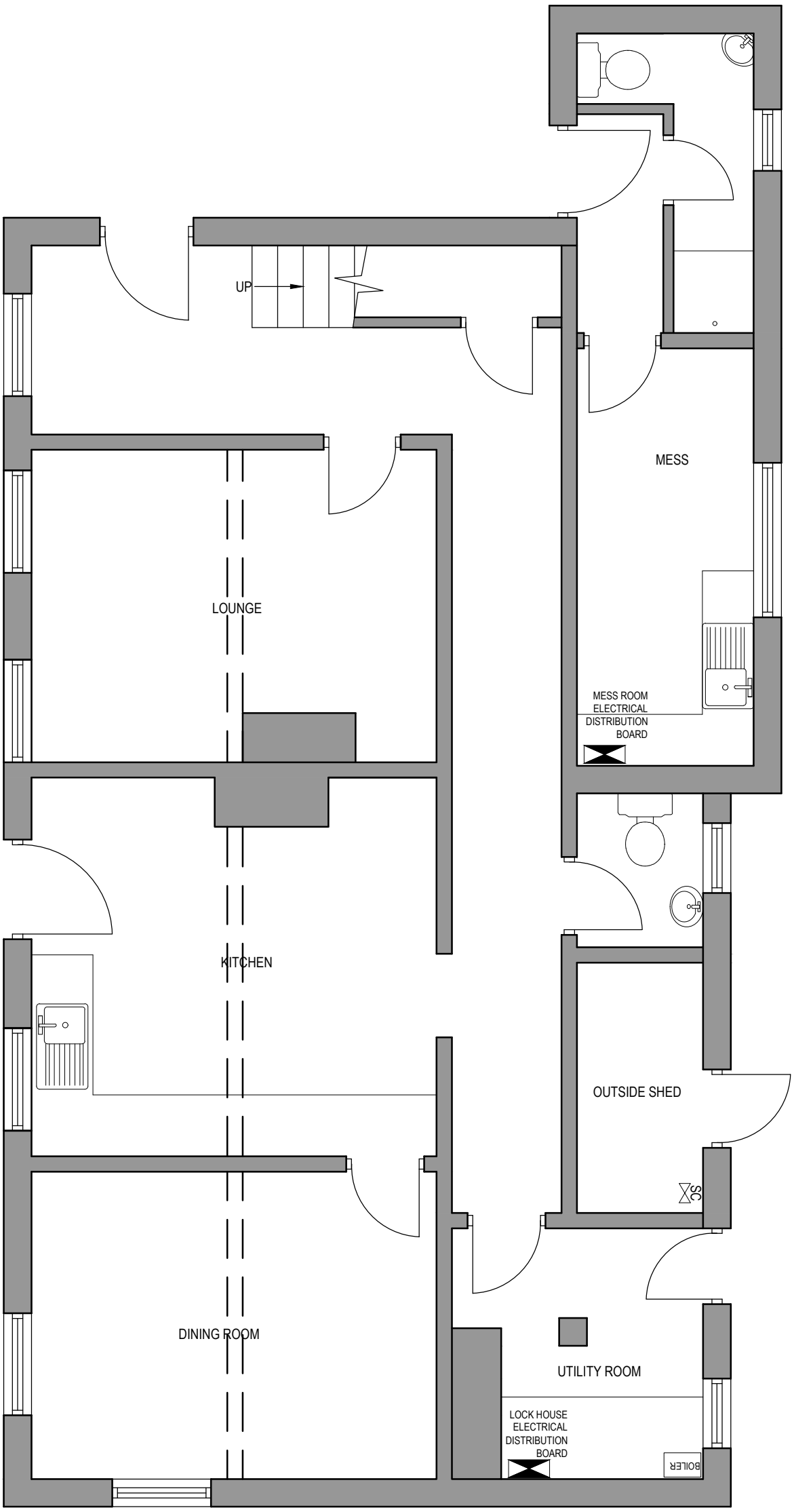

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1:50@A3	07/2021	HW	ES

DRAWING

Marsh Lock

Ground Floor Plan

PROJECT

Condition and PPM Survey

CLIENT

Environment Agency

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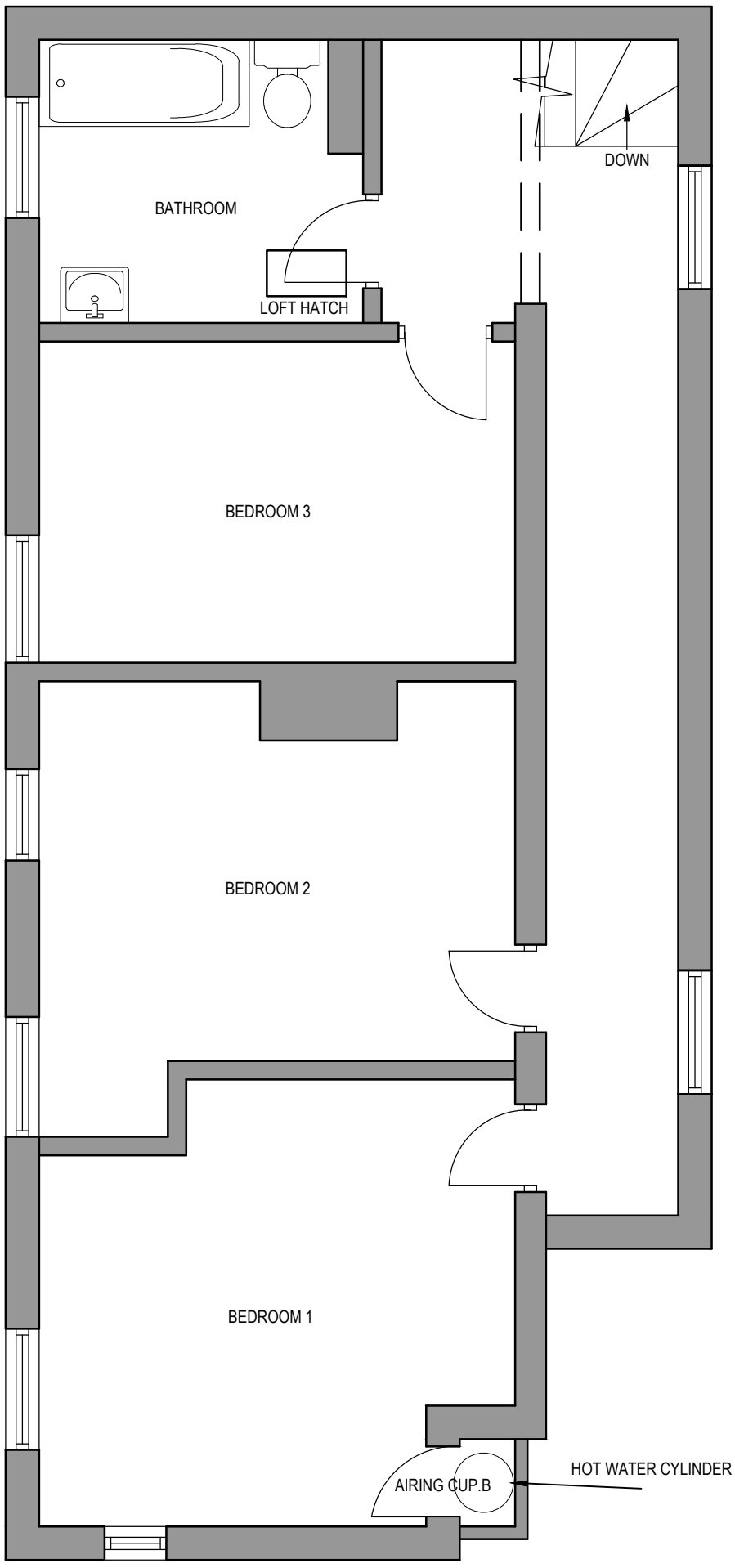

REF	DATE	REVISION	DRAWN	CHECKED

SCALE	DATE	DRAWN BY	CHECKED BY
1:50@A3	07/2021	HW	ES

DRAWING

Marsh Lock

First Floor Plan

PROJECT

Condition and PPM Survey

CLIENT

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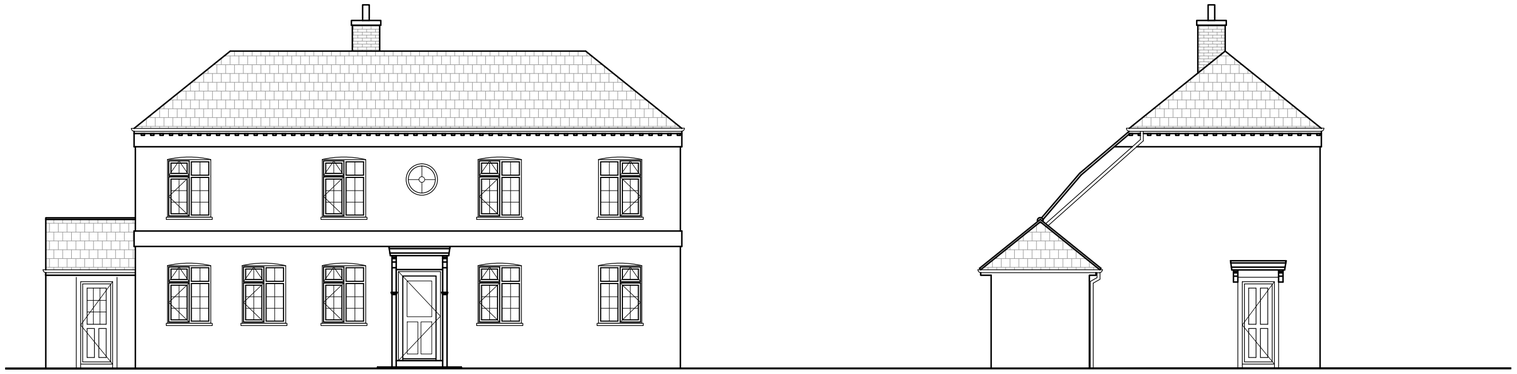
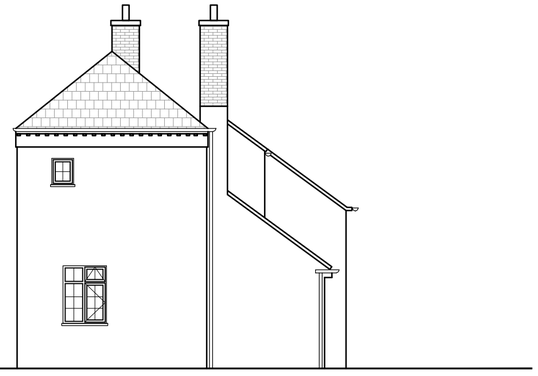


FRONT ELEVATION

SIDE ELEVATION

REAR ELEVATION



SIDE ELEVATION

1 0 1 2 3 4 5
SCALE 1:100 m

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Dalcour Maclaren

IN ASSOCIATION WITH:
-

PROJECT:
Marsh Lock
Refurbishment

TITLE:
Proposed Floor Plans

DRAWN BY:	SM	SCALE:	1:100 @ A2
CHECKED BY:	KS	DATE:	03/10/2017

STATUS:
PLANNING

DRAWING No: -

JOB No:	ORG:	ZONE:	LEVEL:	TYPE:	ROLE:	NUMBER:	REV:
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APPENDIX E

Location Plan of Marsh Lock House

RIDGE

Appendix E

Location Map of Marsh Lock House, the Weir and the Access Bridge from Mill Lane

Access Bridge to Lock House from Mill Lane (from the left hand side of this image).
A Public Car Park is located on Mill Lane

APPENDIX F

Environment Agency, Constructing a Better Environment

Safety, Health, Environment and Wellbeing, Code of Practice

Environment Agency

SHEW CoP

Managing safety and the environment during design and construction.

Constructing a Better Environment

Safety, Health, Environment and Wellbeing (SHEW)

Code of Practice (CoP)

May 2018

Document status

This is a controlled document.

Issue authority

Author	Owner	Issue authority
Environment Agency Construction Safety, Health & Wellbeing Team	Environment Agency Construction Safety, Health & Wellbeing Team	Environment Agency Deputy Director Health, Safety and Wellbeing

Contents

4.0 Section Four – Principal Contractor and Contractors

Section One

1. Introduction

1.1 Scope

The Environment Agency, (EA) recognises the key role we play delivering construction activities as defined in the Construction (Design and Management) Regulations 2015, (CDM).

We will act on our health, safety and wellbeing values: the belief that all harm can be prevented, and working here will improve health and wellbeing. We also put the environment at the heart of everything we do. E:Mission is our environmental plan (to 2020) and outlines the objectives and targets that we are aiming to achieve as part of this commitment.

The EA accepts the roles of Client, and in some cases Principal Contractor, Contractor, Principal Designer and Designer under CDM 2015, and will take reasonable steps to ensure those appointed have the skills, knowledge and experience to carry out the work in a way that secures safety, health, environment and wellbeing. We will also ensure whenever possible that all Principal Designers comply with their duties in regulations 11 and 12, and Principal Contractors comply with their duties in regulations 12 to 14.

This Safety, Health, Environment and Wellbeing Code of Practice (SHEW CoP) has been developed in consultation with our supply chain partners to set out expected standards for Safety, Health, Environment and Wellbeing, (SHEW) that will be applied to all design and construction work we procure and deliver.

We will make suitable arrangements for managing a project and maintaining and reviewing these arrangements throughout, so the project is carried out in a way that manages the SHEW risks. Our Client ethos and expectations regarding behaviours and standards will be presented to all people visiting and working on our sites via our Common Site Induction video

Planning is vitally important and adequate time should be allowed for all duty holders to discharge their responsibilities with respect to SHEW requirements.

Construction has been identified as a significant sustainability risk area for both our internal operations and our supply chain. Our suppliers will play a significant part in helping us to achieve our e:Mission and sustainability objectives.

We have an Environmental Management System (EMS) that is certified to ISO14001:2015 standards. As part of this, we take a full lifecycle approach to the identification and management of the significant environmental risks and opportunities in our procurement activities. We require all suppliers to embrace and adopt the same approach and reduce the environmental and social impact of this framework over its full lifecycle in addition to fully realising any benefits or opportunities that may exist. The supplier must ensure that impacts identified are reduced to benefit the environment and society, and that they are not passed on to another lifecycle stage. This includes considering and reducing those impacts that lie outside of the supplier's direct operation and impact on both the EA as a customer and on the supplier's supply chain.

This code of practice, together with specific references to safety, health, wellbeing and the environment in tender and other documents, if followed should ensure projects consistently achieve the highest, and where possible, industry leading standards above and beyond legal compliance.

This Code of Practice states the EA's:

a) Commitment to safety, health, environment and wellbeing
b) Expectations of framework partners and other suppliers in respect of their health, safety, environmental, and welfare performance;
c) Arrangements for suppliers to report incidents and statistics used in benchmarking our overall performance.
d) Arrangements for assuring that the standards are being applied in practice, and defining any corrective actions required.

A working group is reviewing initiatives and improvements related to wellbeing at work, and the findings will be included in the updates to this document accordingly.

.

1.2 Environment Agency HSW Values and Commitment

1.3 Environment Agency Environmental Commitment

1.4 EA SHE&Q Management Systems

Our management systems for quality and environment are accredited to ISO's 9001 and 14001 respectively, and our H&S management system aligns with the requirements of ISO 45001

1.5 Health, Safety, Environment and Wellbeing Forums and Groups

Forums and Groups will be established where this is considered to be a benefit to the framework community for the sharing of information, innovation, best practice and learning to allow collective work to solve common problems and improve performance. Representatives from supply chain partners including Principal Contractors, Principal Designers and Designers will be invited to lead and attend framework meetings, along with representatives from the Area Operations teams and other EA colleagues involved in procuring and managing construction work.

1.6 Supplier Development Review

SHEW performance will feed into framework level supplier development. This will include compliance with the standards and expectations set out in this document.

The EA will review its own performance against compliance of the SHEW Code of Practice.

1.7 SHEW CoP Review

This document will be subject to a periodic review by the EA and supported by supply chain partners.

The EA reserves the right to amend this document, in consultation with representatives of our key framework partners, as and when appropriate.

Section Two

2. General

(Applicable to all projects/sites)

2.1 Considerate Constructors Scheme (CCS)

Environment Agency construction projects longer than six weeks **and** with potential to have a significant impact on the public, e.g. near schools, recreation areas, and residential areas will register with the Considerate Constructors Scheme. Projects that meet this criteria wishing to opt out of CCS will do so only with dispensation from Environment Agency's SHEW (Construction) Senior Business Partner. There must be reasonable grounds for exemption, (such as works within a restricted access site where there will be minimal impact on public and other businesses).

CCS posters must be displayed on all public site information boards and additional banners erected where they are clearly visible to the public.

Findings from CCS audits must be promptly copied into the project team and the Environment Agency's Senior Health, Safety and Wellbeing Business Partner.

2.2 Socially Aware and Community Conscious Employer

Contractors and Designers are expected to:

- Use local employment and local training initiatives where appropriate and practicable;
- Look for opportunities to enhance community benefits
- Encourage a diverse supply base that includes local Small and Medium Enterprises, social enterprises and the Voluntary in the Community Sector.
- Develop and integrate modern apprenticeship opportunities and encourage the consideration of diversity and equality in our decisions. Demonstrate compliance with the Equality Act 2010 through the work delivered. Projects and community engagement should be inclusive and accessible for all. The Environment Agency "Access for All Design Guidance" is available to support this approach.
- Adopt a policy of equal opportunities to encourage a diverse workforce;
- Offer training and development to all staff, including the client to meet individual, project and company needs.

2.3 Overarching Sustainability Requirements and behaviours

We expect our Suppliers to understand their supply chains and ensure that this approach is embedded throughout them. All suppliers will:

- Ensure that that all supplier staff working on our behalf are aware of and are trained and competent to deliver the sustainability requirements laid out in this schedule.
- Engage with us and the wider industry to share best practice, innovation and lesson learned; improve and develop best practice sustainability standards and support trials of innovative products and materials.
- Help achieve, and where possible exceed, our e:Mission and sustainability targets where they are relevant to this Framework. This includes any changes or amendments to these targets during the life of the contract.
- Work towards having a relevant Environment Management System (EMS) accredited by UKAS to the standard of ISO14001:2015 or equivalent within 2 years of contract award. A staged approach to this standard will be acceptable for Small and Medium Enterprises (SMEs).

- Engage in, attend and implement training or events that you are invited to by the EA. This may include but is not limited to workshops, webinars, toolbox talks, audits and training. The Contractor may be invited to take part in our supplier development programme.
- Sign up to the Supply Chain Sustainability School
- Adopt a lifecycle approach to the identification and management of environmental and social risks;

2.4 Health Surveillance/Monitoring

Risk assessments (including Designer's) and method statements should have full regard for managing health risks associated with the work. For activities that pose a significant health risk, suitable control measures should be in place, and appropriate remedial actions identified.

Organisation arrangements should be in place for access to occupational health for surveillance and referrals related to work related medical issues. Health checks should be made available for direct employees, and should include audiometry, spirometry, HAVs assessment, etc. as appropriate and depending on the exposure to the health risks.

A health surveillance programme should be available to employees exposed to significant health hazards associated with their work activities, (vibration, noise, dust, asbestos, lead, COSHH substances, etc.).

For activities that pose a significant health risk suitable controls measure should be in place, and appropriate remedial action identified, (such as control of trigger times, PPE, RPE, etc.).

2.5 Occupational Health/Hygiene Promotion

A health promotion programme should be in place, (e.g. monthly health awareness theme, participation in campaigns, active management of health issues on site, etc.).

Where appropriate occupational hygiene assessments will be in place to determine the nature and magnitude of exposure to health risks associated with the foreseeable work activities and substances present on sites.

2.6 Welfare

In addition to legislative welfare requirements, construction sites will have:

- Housekeeping to a high standard for all welfare facilities, (e.g. regular inspection and cleaning programme);
- A skin care safety board, (e.g. DEB or similar) complete with a 'protect, cleanse, restore' system on site;
- A separate sun barrier cream dispenser to at least factor 15 and at least 4 star UVA protection readily available at all times.

2.7 Welfare on Short Duration or Transient Sites

A transient site/project, (construction or other work related activity) is either where short duration work, (e.g. up to one week) is carried out at one or many locations, or is of a longer duration carried out while moving over a continuous geographical area (e.g. linear grass cutting operations or embankment routine maintenance, etc.). Suitable arrangements for drinking water, hand cleaning, access to hot water and sun-cream (where relevant) should be established. Also, shelter/shade from the elements, be it wind, rain or sun, and this can be a structure or a vehicle.

Only if it is specified in the Construction Phase Plan would it be appropriate to make arrangements to use facilities provided by the owner of existing premises in which the work is being undertaken,

local public facilities or the facilities of local businesses. Clear documented agreement should be made with the provider of the facilities; it should not be assumed that local commercial premises can be used without their agreement. Workers should be made aware of the agreed welfare arrangements and conditions to use the facilities and informed of their location.

In all cases the standards of CDM 2015 Schedule 2 must be provided or made available.
Facilities must be:

- Readily accessible to the worksite, (e.g. within a 10-minute walk or drive);
- Open at all relevant times and be at no cost to the workers;
- Of an acceptable standard in terms of cleanliness, (e.g. regular cleaning programme established) and have hand-washing facilities.

2.8 Travel

The adverse effects on the environment related to travel can be significant. Every effort must be made to reduce the air quality and emissions impact caused from delivery and travel linked to construction work, including from the supply chain. It is anticipated that no flights will be required to be undertaken by suppliers in delivering construction work on behalf of the EA, but if this unavoidable then dispensation from the relevant Environment Agency Project Executive f is required.

2.9 Construction Phase Plan (CPP)

Where appointed, Principal Contractors (PC) must provide a CPP to the Principal Designer (PD) or CDM Advisor as applicable prior to the start of the construction phase. Sufficient time, (ideally 10 working days) must be allocated to review the suitability of the CPP, and advise the Client whether it is sufficiently developed to allow construction to commence. The principles of the Principal Designer SHE 'Stop - Go' Checklist should also be considered and implemented as appropriate throughout the design phase.

For single-contractor projects, the contractor must provide a CPP to the Client for review.

Work, including site set-up, mobilisation and advanced works can only commence on site once the Client has given authorisation in writing.

Construction Phase Plans should be subject to regular review during the lifecycle of the project and in response to significant change.

2.10 Environmental Action Plan (EAP)

The EAP forms part of the contract documents issued to the contractor for adherence to during the construction works. IT summarises the actions required to be implemented, and sets out specific objectives and targets defining the way in which environmental risks need to be addressed. It also details roles and responsibilities of those involved in the proposal, and applies to temporary and permanent works.

The EAP is usually created by the National Environment Assessment Service (NEAS) when there are environmental aspects on or around the construction site. On smaller schemes the local Fisheries Biodiversity and Geomorphology team (FBG) will provide relevant information on environmental risks. NEAS are responsible for agreeing any changes to the EAP and for signing off, or agreeing to sign off the actions. The Principal Contractor in liaison with the Client are responsible for advising NEAS on any changes to method statements or the planned construction work as these may result in changes to the EAP or additional consultation with statutory consultees. NEAS will assess the significance of these changes and determine the appropriate course of action.

The requirement for an EAP will depend on the size of the scheme and associated environmental risks, but it is the contractor's responsibility for ensuring the EAP commitments are delivered.

2.11 Materials and Equipment

Materials and equipment must be suitable for the task and used in accordance with manufacturer's/supplier's instructions, including testing and calibration as necessary. Adequate, appropriate training must be provided to the user, including awareness of a relevant risk assessment as well as the provision of specific PPE as necessary.

Materials and equipment, when not in use, must be stored safely. Safe stacking methods should always be adopted and good access/egress must be maintained. Segregation and clear signage should be in place where necessary. Handling should be carried out by mechanical means where possible to avoid manual handling injuries. Loading and unloading activities should only be carried out by authorised personnel in compliance with LOLER requirements.

2.12 Plant – Operational Impact and Air Quality

When selecting and using plant consideration must be made to minimise environmental impact from emissions. This includes carbon as well as local air quality impacts of nitrogen dioxide, sulphur dioxide and particulate matter emissions. All plant provided for use in an area where legal local air emission standards are in place must as a minimum meet that standard. Low carbon fuel or alternative fuel should also be considered.

In addition, all plant will be properly maintained to ensure continued operation at the most efficient levels.

We encourage innovation and technology that results in reduced emissions and air pollutants where this does not affect operational, safety or cost requirements.

2.13 Portable Appliances

All portable appliances on site should be included in a Portable Appliance Test (PAT) register. Appliances should be tested by a competent person in accordance with legislation and manufacturer's instruction. A label or sticker should be clearly visible on the appliance that identifies the last test date, and/or the next test due date.

2.14 Fire

Suitable safe systems of work must be implemented via risk assessment of hot work activities. As a minimum requirement, this would include awareness training of the action to take in an emergency. A Muster Point should be established for evacuation purposes, and fire extinguishers appropriate for the task must be kept readily available for all hot work activities. Each extinguisher must have an in-date service sticker attached, and there should be evidence the operatives know how to use them. A risk assessment should identify when appropriate flame retardant PPE, (coveralls, hi-vis jacket or vest, etc.) should be worn for hot work activities.

Fire risk should be assessed and controlled, with specific reference to site accommodation, welfare facilities and fuel storage. A documented procedure for the action to take in a fire emergency, including an emergency evacuation exercise schedule and the location of a suitable muster point. Everyone operating out of the facility must be made aware of the procedure. There should also be evidence that the fixed equipment has been tested for safety.

2.15 Management of Change

During the construction phase of a project, changes often occur for a variety of reasons. Our experience is that an inappropriate response to change can result in teams or individuals deviating from the agreed safe system of work. For example weather conditions, ground conditions, availability of plant and equipment, failure or faults in work equipment, availability of sufficient competent people, or the realisation that the planned and agreed safe system is not workable can generate changes. Often for good intention, teams or individuals decide to proceed with a work activity outside of agreed and documented risk assessments which significantly increases risk and can result in an accident if there is no effective review of the risks and control measures.

Recognising our experience from numerous safety critical incidents where agreed safe systems of work were not followed after a change, the EA fully supports and encourages work to be paused on site to allow for the risks to be re-assessed and alternative safe system of work to be documented, agreed and briefed.

All operatives must be briefed on the requirement to pause work and inform their supervisor/manager when there are changes that have an impact on their ability to follow a planned safe system of work, or if they are concerned that the activities are unsafe.

There may be a need to involve others in the review of risks and methods of work, such as the PD and/or the EA PM, etc. The work activity should only recommence when risks have been reassessed, appropriate system of work agreed and briefed to those undertaking the work. The relevant risk assessment and method statement must be updated and a record maintained.

The action to take when a significant change occurs must be emphasized during site induction and then re-enforced via regular briefings and toolbox talks. Line managers must encourage and support this culture through reacting positively when teams pause work and report issues with systems of work and changes to them.

2.16 Accident/Incident and Near Miss Notification and Review

All accidents and incidents must be reviewed to identify the possible root cause and actions to implement to prevent a recurrence. They must be reported in accordance with the criteria in Appendix **A** of this document:

Health and Safety incidents and near misses should be reported by following the guidance procedure in Appendix **A.1** of this document.

Environmental incidents and near misses should be reported by following the guidance procedure in Appendix **A.2** of this document.

Note: Environment Agency Area Operations teams will follow their own reporting procedures:
http://intranet.ea.gov/peoplematters/help/62918.aspx

A copy of the EA incident and near miss reporting procedures shall be displayed in a prominent position in the site office and in the welfare accommodation, (Appendix A.1 and A.2). The reporting of Injuries, Diseases and Dangerous Occurrence Regulations, (RIDDOR) should be complied with when applicable.

All accidents and incidents must be reviewed to identify the root cause and actions to implement to prevent a recurrence. Initial reports for such incidents must be followed by a written report using the form in Appendix B, or a comparable form containing this information.

2.17 Materials Management/Resource Efficiency

Contractors and Designers will:

- Use Site Waste Management Plans effectively on all schemes.

- Take advantage of opportunities for standardisation, prefabrication, off-site manufacture and locally sourced materials. As prefabrication or off site manufacture can be a dichotomy with locally sourced materials.
- Encourage innovation of cost-effective low carbon solutions.
- Prioritise, as far as practicable, energy efficiency initiatives on site and in design, such as connection to the grid, insulated cabins, fuel efficient plant and vehicles, low carbon concrete.
- Use information available from the Environment Agency's Procurement Sustainability Risk Assessments for each project.
- Adopt a zero-waste approach.
- Specify, design, source and prioritise materials and products from recycled or renewable sources, and avoid virgin, and as far as practicable, finite resources.
- Use on-site borrow pits where appropriate to win material with subsequent habitat creation.
- Use the CL:AIRE register of materials to source material and to offer excess material
- Use available design tools to maximise resource efficiency, e.g. 'WRAP Designing out Waste Tool for Civils Projects' and the Construction Carbon Calculator during options design and construction stages to identify, investigate and implement carbon reduction opportunities.
- Make the best use of available materials, minimise the volume of materials required, minimise wasted materials (i.e. adopt a zero waste principle and design for passive/efficient operation).
- Seek to use materials that can be sourced locally and reduce the carbon impact of transportation.
- Be compliant with relevant Government Buying Standards, providing evidence of compliance when requested. This is to include the use of environmentally preferable chemical products where they exist (e.g. low-VOC paints).

2.18 Waste

Site Waste Management Plans (SWMP) must be used effectively on all sites, and a zero approach to waste must be adopted. The SWMP must be reviewed throughout the project to ensure it is current and takes into account any changes in design and construction.

The 'waste hierarchy' should be implemented through effective materials/Waste Management Plans to maximise opportunities for re-use/recycling, and to minimise waste sent to landfill. Re-use should be considered across the Framework and from within the wider supply chain.

2.19 Carbon Management

The reduction in carbon should be a serious consideration for all aspects of a construction project and suppliers must:

- Support delivery of the EA's E:mission targets on lifecycle carbon;
- Design, construct and operate assets, developing the lowest impact solutions over their full lifecycle;
- Create innovative low cost solutions that use natural resources wisely and reduce consumption by using materials efficiently across all supply chains to reduce waste, carbon and water use and consider and reduce the embodied impacts;
- Use ERIC, (carbon planning/accounting tool) to identify and deliver low carbon solutions and review the tool periodically;
- Prioritise, as far as practicable energy efficiency initiatives on site and in design, such as connection to the grid, insulated cabins, fuel efficient plant and vehicles, low carbon concrete.

2.20 Climate Change Risk and Adaption

Suppliers should consider the impact of extreme weather events and a changing climate on the delivery of construction work. When requested to, suppliers should be able to provide evidence of the impacts of climate resilience and how the impacts have been considered within their organisation, (i.e. supply chain premises and site operations). To help contractors assess this, a Business Resilience Health Check, (or similar applicable tool) may be used: http://www.businessresiliencehealthcheck.co.uk/

Suppliers may be required to produce supply chain maps for key and/or vulnerable materials as part of this Framework, and may be selected to work with the Agency as part of its work to help understand where the risks currently are for its key and/or vulnerable materials.

2.21 Timber

Timber must be specified, sourced and purchased from legal and sustainable sources, with an audit trail from forest to end use in accordance with the Environment Agency's timber purchasing requirements. Recycled timber should be considered and used ahead of virgin timber where appropriate.

All potential purchases of tropical hardwood, regardless of size and value, must receive Environment Agency internal approval via a business case authorised by the Sustainable Commercial Advisor and the Director of Operational Services FCRM before it can be purchased.

2.22 Environment Agency SHEW Assurance

HS&E audits of construction projects will be undertaken by a representative of the EA Construction Safety, Health, Environment & Wellbeing, (SHEW) Team. Findings will be communicated to those directly involved with the project, with a handshake on key findings and actions on the day. Following peer review, a final report will be issued confirming remedial actions assigned as necessary. Actions from an audit must be closed out in accordance with the agreed timescale by the relevant Duty Holder.

Where an auditor deems an unsafe act or condition to be of significant concern, (e.g. serious injury potential or significant environmental harm) they will have the authority to stop the work activity and notify senior management. The work will not re-commence until the auditor is satisfied that the deficiencies have been adequately addressed.

Section Three

3. Principal Designer and Designers

Health, Safety and Environment

Health and Safety Specific

3.1 Construction (Design and Management) Regulations 2015 (CDM 2015)

3.1.1 Principal Designer (PD)

In liaison with the Client, Principal Contractor, Designers and Contractors the Principal Designer has an important role in influencing how the risks to health, safety and the environment should be

managed and incorporated into the wider management of a project. The Principal Designer's role involves effective communication and coordination of the work of others in the project team to ensure that significant and foreseeable risks are managed throughout the design process.

3.1.2 Designers

Designers include architects, architectural technologists, consulting engineers, MEICA officers and advisors, landscape architects, quantity surveyors, interior designers, temporary work engineers, chartered surveyors, technicians or anyone who specifies or alters a design. They can include others if they carry out design work, such as Principal Contractors, and specialist contractors, e.g. an engineering contractor providing design, procurement and construction management services. Where Clients become actively involved in designing in relation to their project, they may also be considered to be designers.

3.2 Competence

The competency of a PD and of Designers must meet the requirements set by the Consultants Health & Safety Forum. This includes: training, qualifications (e.g. relevant degree), experience, supervision, etc.

Designers must have a technical knowledge of the construction industry relevant to the project they are assigned to. Also, the understanding and skills to support the management and co-ordination of the pre-construction phase, including any design work carried out after construction begins.

Each designer shall ensure arrangements are in place to assess the competency of professional and supervisory staff against the requirements of their company's safety, health and environmental management systems. This condition applies to permanent and temporary works.

3.3 Design Risk Assessments and Buildability Statements

All designers need to address their design risks; site wide and task specific. They will ensure that all foreseeable risks are identified and those which cannot be eliminated are mitigated by design options to reduce the risks. Suitable controls must be identified by the designer for any residual risks. These residual risks or mitigation requiring specific controls, or which may be unusual or not immediately apparent to the contractor shall be clearly identified. As a minimum, this will involve effective use of SHE boxes on drawings.

Occupational health issues must be given consideration, as well as safety issues, both in terms of the "buildability" of the design, and also in terms of the ongoing use and maintenance of the asset. For any COSHH substances specified as part of a design a Material Safety Data Sheet, (MSDS) must be made available to identify the specific health risks the substance poses.

A task specific 'buildability' statement will be provided by each designer, that identifies the assumptions made in their design, the anticipated controls and demonstrates that the risks incurred by their design can be managed appropriately. This does not dictate methods of work to a contractor, only demonstrates that the designer has complied with their obligations.

Hazard maps must also be produced by the designer for WEM delivered works. Other contractors and designers for other frameworks will be expected to comply by end of December 2018.

Designers must liaise on a regular basis with the Principal Designer to discuss their design risk assessments, buildability statements and hazard maps.

Designers will ensure that:

a) Hazard information which may be relevant to safety during the construction phase, for example underground or overhead services, lifting operations, traffic management etc. are identified for inclusion in the pre-construction information. Also, historical information such as previous land uses.
b) Hazard information which may be relevant to health during the construction phase, for example processes creating noise, dust, vibration or use of COSHH substances, etc. are identified for inclusion in the pre-construction information. Also, historical site information such as burial sites, abattoirs, tanneries which may have chemicals and pathogens. . Also railway land may have residues of heavy metals, asbestos, etc.
c) Hazard information which may be relevant to operators or maintainers of the asset, for example confined spaces, mechanical systems etc. are identified for inclusion in the health and safety file.
d) Hazard information which may be relevant to demolition or dismantling of the asset, for example structural principles, stored energy etc. are identified for inclusion in the health and safety file.
e) Detailed consideration, in conjunction with the Principal Contractor or site operator, for welfare requirements appropriate to the location and work activity.
f) For any changes in design, including on-site changes, a review of the design risks will be undertaken, involving the Principal Designer in the review process before implementation.
g) They highlight need for temporary works that will be foreseeably be required to construct their design

3.4 Design criteria – Red Amber Green (RAG) List

Designers will use the Red Amber Green (RAG) list when considering options in both design and construction phases. Where work is to be contracted outside the framework, they will ensure that the organisations used also comply with the RAG list requirements.

Designs which require sign off for Amber or Red items need to be identified early and justification provided by the designer, in conjunction with the Principal Designer to allow sign off by the designated person.

The principles of the Principal Designer SHE 'Stop - Go' Checklist should also be considered and implemented as appropriate throughout the design phase.

3.5 Public Safety Risk Assessment (PSRA)

Where formally identified in consultation with the EA Area Lead PSRA Assessor, Designers are required to complete a PSRA for all new and existing EA assets, including assets for which the EA has assumed ownership where work is being proposed. The PSRA will be completed in accordance with the following procedure.

Designers are required to complete the PSRA in compliance with the format in Operational Instruction 733_11 and the Designers' PSRA Assessor will be provided with training by the EA, equivalent to the R79 PSRA training course. Designers' organisations are responsible for ensuring the competency of their design teams. For example, the EA operate a three-year competency review on internal PSRA Assessors that includes a peer review by an Area Lead PSRA Assessor.

Completed PSRA deliverables are required:

1. At the end of appraisal, (included in any detailed design tender information).
2. At the end of detailed design, (prior to construction commencement) or
3. For design and build, completed prior to construction of any individual asset.

The Designer's PSRA Assessor is expected to liaise with the local Area Lead PSRA Assessor, (via the senior user) during the design development and prior to any deliverable. The Designer PSRA is signed off by the EA Senior Assessor. When nearing completion of the work on the asset, the local Area and Designer's PSRA Assessors should carry out a final review of the works to identify any additional requirements and instigate work prior to handover in conjunction with the Client. A copy of the final completed signed off PSRA should be held in the asset Health and Safety File.

Further information/guidance related to Public Safety Risk Assessment of assets in the water environment - Recreation, water, and land access can be found at: http://intranet.ea.gov/handlers/GetDocumentById.ashx?id=8648

3.6 Traffic and pedestrian management

Designers must identify in their designs the assumed access and egress routes to and from sites, with due consideration to the assumed plant to be used including deliveries of materials.

Designers must outline in their design on-site traffic management assumptions on drawings with regards to access points, compound locations, plant and vehicle movements, pedestrian movements, any space constraints, ground bearing capacities, culverts, cattle grids, bridge weight capacities and height/width restrictions, etc.

3.7 Ground Penetration

Designers' must be competent to recognise, manage and control the risks to avoid underground services. This would include training which provides sufficient awareness to inform decision making on application of the risk control hierarchy with adequate consideration for controlling risks by, design changes, service diversion and isolation. Competence can be demonstrated through completion of the 'Best Practice in Avoiding Underground Services' (BPAUS) training or equivalent training on 'Avoiding Services and Utility Plant'.

Designers must ensure that so far as reasonably practical scheme designs minimise the potential for contact with underground services, structures, obstructions, and features such as ephemeral streams which are none of the foregoing and are not archaeological, but can introduce unexpected flows, voids, instability, etc. Others may be caverns, swallow holes, or old workings/ mines. Reference should be made to CIRIA guides C681 and C754, and to 'Dealing with munitions in marine sediments' published by The Crown Estate.

Designers must use adequate information regarding the presence of services and structures during design and construction, and only use justified assumptions. To inform decision making at design and appraisal, adequate information on the presence and location of underground services will be provided through application of PAS 128:2014, Specification for underground utility detection, verification and location. A desktop search of statutory utility supplier services information, (Survey Category Type D) must be available at Gateway 1, (or earlier as part of appraisal) to inform early decision making, by indicating the relative risk of options and, where practicable, elimination of those risks.

Service plans and drawings should be viewed beforehand, but these should not be considered as conclusive evidence that no services are in the excavation location, (e.g. service drawings rarely show connections to properties). An onsite walkover survey should also be undertaken. Prior to any intrusive construction work or investigation, (site investigation, archaeology, etc.) a specification and scope of on-site services must be prepared for those undertaking the investigation.

Projects will be subject to an on-site services survey compliant to PAS 128 stages A-D carried out by a competent supplier. The requirement for Survey type B using GPR can be risk assessed

out where this is deemed not reasonably practicable. This decision must be recorded and approved by the Client and Lead Designer. Surveys can be commissioned by framework suppliers or directly by the Environment Agency. Service searches and on-site surveys must be included in the project programme for completion in sufficient time for review prior to any intrusive works on site.

3.8 Working near Overhead Cables

Consideration must be given at the design phase to eliminate the potential to come into contact with overhead cables, in particular power lines, (e.g. consider diversion, isolation and/or the use of physical controls such as 'goal posts', etc.).

All overhead services crossing or adjacent to the works area and access routes should be clearly highlighted on Designer's hazard maps, so that the Principal Contractor or Contractor for single-contractor projects is made aware if the potential exists.

Where applicable all designs must be prepared in accordance with the HSE Guidance Note GS6 – 'Avoiding danger from overhead power lines'.

3.9 Work at Height

When designs include temporary work platforms, access ways, excavations, etc., stairway systems will be prioritised over ladders.

When designing structures that require operation, use or maintenance at height, then the design must ensure documented application of the principles of prevention when determining preventative measures. Specifically:

- Avoiding working at height, for example designs that permit lowering something to ground level allowing for use, maintenance or cleaning.
- Designs that eliminate access to fragile surfaces
- Provision of fixed guard rails to eliminate falls from height and appropriate means of access not involving ladders.
- Use of collective equipment such as external advance guard rails
- Provision of anchorage points and systems for work positioning and fall arrest
- Minimise the distance or consequences of a fall from height

3.10 Temporary Works Design

Temporary works (TW) are the parts of a construction project needed to enable the permanent works to be built. Usually the TW are removed after use (e.g. access scaffolds, props, shoring, excavation support, falsework and formwork, etc.). It is important that the same degree of care and attention is given to the design of the TW as to the design of the permanent works. The principles of BS5975 Code of Practice for temporary works procedures and the permissible stress design of falsework, must be applied to the design, installation, alteration and removal.

The TW Designer (TWD) should have undertaken TW training and have experience appropriate to the associated hazards and risks. TW designs shall comply with requirements for design risk assessments, buildability statements and RAG List in the same manner as for permanent works. A temporary works schedule should be produced early in the project to identify information and surveys required and included in the CPP

The TWD must liaise on a regular basis with the Principal Designer to discuss the design risk assessments, buildability statements and RAG List.

Particular consideration should be given to:

- Stability requirements, lateral restraint and wind uplift on untied decking components;
- Designing TW that can be erected, inspected and dismantled safely, including how striking will be achieved;
- Selecting adequate foundations or providing information to ensure adequate foundations are used;
- Ensuring 'Working Drawings' and not 'Preliminary Drawings' are provided for the construction phase.
- Providing relevant information to the person fulfilling the role of Temporary Works Coordinator (TWC) and Temporary Works Supervisor (TWS), so that associated tasks can be completed safely

TW design checks will be carried out according to the complexity and category of the temporary works. On completion of the design check, a certificate (or similar method of verification) will be issued confirming that the design complies with the requirements of the design brief, outlining the standards/technical literature used and the constraints or loading conditions imposed. The certificate will identify the drawings/sketches, specification, and methodology that are part of the design and signed by the TWD.The TWC will be responsible for the arrangement of TW design approvals prior to construction.

Refer to the enclosed link for information regarding TW design check categories: (The management of temporary works in the construction industry)

3.11 Working Close to or Over Water

Designers must consider implications of working close to or over water caused by their design, and apply principles of prevention to decisions to control risks. Designers must also take into consideration the requirements set out in Appendix C of this SHEW CoP re. 'Control Zone'.

Environment Specific

3.13 Designer Compliance

Designers will ensure:

a) They demonstrate application of principles of prevention in their design decision making process and compliance with the Environment Agency RAG List.
b) Delivery of the actions assigned to them in the Environmental Action Plan (EAP), (environmental risk assessment) and will work with the Environmental Clerk of Works (or others) to ensure this is done effectively and that actions are completed and signed off.
c) That environmentally sensitive areas are located and segregated to protect them from harm. These areas must be clearly marked on drawings, Hazard Maps and included in site rules.
d) They avoid impact to the environment by planning and managing their activities appropriately, and by maximising environmental opportunities.
e) Suitable information is provided on environmental risks associated with any design
f) Any seeds or plants selected for planting schemes must comply with local *provenance standards stipulated by Flora Locale* or other competent authorities such as Natural England or the Forestry Commission and must not include non-native species particularly those listed within Schedule 9, Wildlife & Countryside Act 1981
g) Projects are surveyed for invasive non-native animals and plants listed on Schedule 9, Wildlife & Countryside Act 1981, such as Japanese knotweed and giant hogweed. Guidance on identification of these species is available from the Non-Native Species Secretariat.

3.14 Pollution Prevention Planning & Provision

Designers must engage with local EA Environment Officers to make use of their local knowledge and expertise in planning and undertaking works in or near to watercourses. They must also minimise in-channel works as far as practicable and implement suitable mitigation measures where required, considering active spawning seasons and other restrictions on the sites.

Designers must also consider the pollution risks associated with the design (e.g. in situ concrete/use of grout) as part of the designer's risk assessment process.

3.15 Resource Management

Designers must use:

- The Environment Agency carbon accounting tool 'ERIC' during design to reduce carbon of the proposed solution. A copy will be sent to the contractor to update during construction.
- The CL:AIRE register of materials to help identify required and excess materials for schemes.
- Site Waste Management Plan effectively, to identify the design actions that have reduced waste and the predicted waste types to help the Contractor plan for effective waste management.
- Design low carbon, resource and waste solutions, taking account the lifecycle of the scheme.
- The Environment Agency guidance "*Alternative hardwood timbers for use in marine & freshwater construction"* when specifying and designing the required performance for any hardwood timber element.

Section Four

4. Principal Contractor and Contractors

Health, Safety and Environment

Health, Safety and Wellbeing Specific

4.1 Construction (Design and Management) Regulations 2015 (CDM 2015)

4.1.1 Principal Contractor (PC)

The PC is expected to take care in the selection and supervision of subcontractors. Particular attention should be given to assessing the competence and experience of labour only subcontractor personnel and of plant operators.

The PC must plan, manage and monitor the construction phase and coordinate matters relating to health and safety during the construction phase to ensure that, so far as is reasonably practicable, construction work is carried out without risks to health or safety.

The Environment Agency will hold the PC accountable for the performance of their supply chain in meeting these standards during the construction phase of the project.

4.2 Competence

4.2.1 Management/Supervision

Each Framework Partner and CDM duty holder is responsible for strictly ensuring the competence, including physical capability, of each organisation, team and individual to carry out their undertaking.

The EA also require the following minimum standards:

a) Anyone acting as:

- Site Manager and/or any person in control of the site
- Engineering and Construction Contract (ECC) Site Supervisors
- Area Operations team members supervising works

Must hold as a minimum a current CITB Site Management Safety Training Scheme (SMSTS) or IOSH Managing Safely in Construction qualification.

Exceptions to this requirement require dispensation from the Environment Agency's SHEW (Construction) Senior Business Partner.

b) Everyone acting in the roles described above, must have attended CIRIA's 'Environmental Good Practice on Site' training or CITB 'Site Environmental Awareness Training Scheme within the last five years. Contractors may wish to provide comparable in-house environmental training. This must be approved by the Environment Agency's Senior Health, Safety and Wellbeing Business Partner

c) All supervisors whether employed by the Principal Contractor or their supply chain will be expected to hold the CITB Site Supervisors Safety Training Scheme (SSSTS) qualification and the CITB/CIRIA environmental awareness training or an approved equivalent training course, (e.g. contractor's own internal course). For site investigation activities, supervisors can hold an

alternative qualification such as the IOSH 'Safe Supervision of Geotechnical Sites' qualification, in lieu of SSSTS.

d) Each Contractor will ensure that arrangements are in place to assess the competency of professional and supervisory staff against the requirements of their own company's safety, health and environmental management systems.

e) All sites must have suitable first aid provision, based on the outcome of a first aid needs assessment which will be identified in the Construction Phase Plan. This will include provision of sufficient first aid equipment, facilities and personnel. As a minimum sites must have at least one First Aider qualified to 'Emergency First Aid at Work'. Arrangements must be made for is suitable cover in the event of absence of the First Aider from site.

4.2.2 Operative

Everyone working on site, including visiting workers, shall have suitable evidence of competency to fulfil their role, (e.g. Construction Skills Certification Scheme (CSCS) card, or partner card scheme schemes.). The card held must relate to the occupation and activity undertaken on site – right card for the job.

This does not apply in the case of:

- Infrequent visitors who have been inducted and are escorted at all times.
- Any person with a statutory right, for example the emergency services (Police, Ambulance, Fire),HSE Inspectors, or Environment Agency Officers undertaking their legal duties.

All plant operators shall be trained and certified to Lantra, CSCS partner card scheme, such as Construction Plant Certification Scheme (CPCS), Association of Lorry loader Manufacturers and Importers (ALLMI), International Powered Access Federation (IPAF) standards. The National Plant Operators Registration Scheme (NPORS) standard is now acceptable, provided that the card carries a CSCS logo and vocational qualification t can be demonstrated to achieve competent operator status within two years of receiving a trained operator card. This mirrors the requirements of the CPCS scheme with respect to trained and competent operator cards.

An NPORS card which does not have a CSCS logo could still be accepted under certain conditions as a supplementary card to an operative's main trade. For example, if a steel erector holds a relevant CSCS card for their main occupation i.e. Steel Erector, but holds a supplementary card to operate plant and equipment as part of their job i.e. an NPORS card for a Mobile Elevating Work Platform then this is acceptable.

Operatives carrying out vehicle marshal duties whilst on site must have attended a recognised vehicle marshal training course or an alternative approved by the Environment Agency's Senior Health, Safety and Wellbeing Business Partner.

If ground investigation works involve drilling, then the competency requirements of BS EN 22475: Part 2 recommendations should be followed. The British Drilling Association (BDA) provides information and clarification on the competency requirements of drilling operatives. For more information visit: www.britishdrillingassociation.co.uk

In particular Lead Drillers should be competent to the 'National Vocational Qualification', (NVQ) level 2 – 'Land Drilling', or equivalent, (RCF, QCF, etc.). They should also hold a 'Construction Skills Certification Scheme' (CSCS) Blue Skilled Worker card confirming 'Lead Driller' on the reverse of the card.

Support Operatives should be competent to the NVQ level 2 – 'Drilling Support Operative', or equivalent, (Vocational qualification). *Note: All Support Operatives should be registered onto a scheme and then be fully compliant within two years.*

4.3 Project/Public Interface

Risks to the public must be assessed and suitably managed on all sites. There must be specific management controls where construction work is adjacent to or affects public highways, footpaths and bridleways. This should include a specific risk assessment, and where appropriate compliance with conditions specified in the licence issued by the relevant highway authority. The Environment Agency's 'Hostile Sites Register' should also be referred to.

Every effort must be made during the planning and management of activities to reduce the impact on the public and the impression of a 'considerate constructor' should be given at all times. This includes reducing noise, dust and vehicle/plant movements as far as reasonable.

Construction teams should seek to engage with the community and respond promptly to complaints (relating to on and off-site activities), put things right and seek feedback.

4.4 Site Induction

All persons on an EA construction site must also receive a site health, safety and environmental, (HSE) induction. A common Client site induction video has been developed that must form an introduction to all site inductions. It sends a clear message to all people visiting and working on our projects of our Client ethos and expectations. A more detailed Principal Contractor/Contractor site induction will follow. Inductions must be carried out before being allowed to undertake a work activity. The site specific induction should include site hazards and risks, site rules (such as PPE requirements), emergency action and the accident/incident reporting procedure. Inductions must also include information regarding the EA Core Values, SHEW Code of Practice, key items from the Environmental Action Plan (EAP) and what this means in respect of individual health, safety and environmental performance and behaviour.

Visitors to the site should be escorted at all times, and receive an HSE induction albeit not so detailed as the operatives' induction, (e.g. site rules, PPE requirements, action to take in an emergency, etc.).

4.5 Briefings and Toolbox Talks

A daily briefing should be given by site management (e.g. roles named at 4.2.1 as Management/ Supervision) to the workforce (including sub-contractors) prior to them commencing work activities to ensure they have a good understanding of the tasks and associated hazards, risks and precautions. Further briefings should be carried out during the day if there are any significant changes that could affect the work activity, (update to risk assessment or method statement, changes in climate conditions, accident/incident on site, etc.). There needs to be due regard to transient/migrant labour and tailor the materials, briefing and understanding checks accordingly to ensure comprehension. A mechanism should be established to confirm a good understanding of the briefing by the audience, (e.g. a questions and answer session after the briefing). If there are any doubts, issues or concerns related to the briefing, then the works should be delayed until safety can be assured to an acceptable level.

A toolbox talk should be given to the workforce, (including sub-contractors) at regular intervals, (e.g. at least weekly for projects of more than 30 days). The talk should be on one or more health, safety, wellbeing and/or environmental topics, and should be relevant to the work activities on site.

Records of briefings and toolbox talks should be maintained and be readily available for audit purposes.

4.6 Site H&S Signage and Security

Appropriate H&S signs must be displayed at the site entrance to warn of the hazard potential and specific site requirements, such as PPE, speed limit, etc.

Key H&S documentation in accordance with legislative and company requirements, (e.g. H&S Law poster, F10 when applicable, Liability Insurance Certificates, emergency information, the Environment Agency H&S and Environmental Incident Reporting Procedure posters, Core Values, etc.) should be displayed where it is clearly visible to the workforce, (e.g. site office and welfare area).

Effective security must be established around the project perimeter and work area, (e.g. double clipped Heras fencing) to prevent any unauthorised entry.

4.7 Housekeeping

A good standard of housekeeping must be established on site at the earliest opportunity and maintained throughout the project duration. Methods must be in place to collect rubbish/redundant materials, and suitable containers positioned in strategic places. Adequate, appropriate means for materials and waste storage, and where necessary segregation arrangements must be maintained in accordance with the Site Waste Management Plan, (SWMP).

4.8 Welfare – Shower Facilities

Shower facilities will be provided in line with legislative requirements, based on risk assessment. On projects employing more than four people and lasting more than 30 days the contractor will consult site staff whether they wish to have these facilities and record the fact. The inclusion of showers would need to be agreed before the Construction Phase Plan is submitted for review by the Principal Designer. Otherwise shower facilities need not be provided under this Code of Practice.

4.9 Personal Protective Equipment (PPE)

Everyone on an Environment Agency projects will wear as a minimum on site:

- Long trousers of a suitable kind
- Safety boots with steel toe cap and midsole protection
- Appropriate head protection, (e.g. safety helmet)
- High visibility vest or jacket
- Suitable hand protection appropriate for the task
- Suitable safety eye protection
  Note: In certain conditions, (e.g. when raining) eye protection may itself be considered hazardous, but as a minimum light eye protection must be worn on site unless a specific risk assessment identifies the conditions that remove the requirement.

The task risk assessments and site rules will determine any additional PPE requirements.

Suitable, well maintained life jackets must be provided for persons working or visiting within 3m of the vicinity of deep water, and personnel must be trained in their use, to ensure they are worn correctly.

Flame retardant clothing must be worn when excavating within 500mm of a known live electric or gas main, unless this requirement is risk assessed out.

A sufficient quantity and variety of PPE, such as gloves, safety glasses, high visibility clothing, lifejackets, hearing protection and hard hats must be available on site to ensure the immediate replacement of damaged or lost items and to provide for visitors attending site.

4.10 Respiratory Protective Equipment

Contractors should avoid work activities that create hazardous dust or fumes. When this cannot be avoided, suitable control measures must be implemented to protect anyone near the exposure location. Suitable extraction/ventilation should be installed as necessary to reduce the level of exposure. When controls cannot eliminate the exposure potential, then Respiratory Protective Equipment, (RPE) must be provided. A risk assessment should be carried out to identify the type of RPE (respirators or breathing apparatus) required and the findings recorded.

Adequate, appropriate training, (including fitting, use, maintenance, replacement and disposal) must be provided to the wearer of the RPE and records maintained. Respirators or face masks must be to the FFP3 standard as a minimum and the wearer must undergo face fit testing. This training should be repeated annually and if the wearer loses/gains significant weight and/or grows facial hair.

4.11 Risk Assessment and Method Statement

The PC is ultimately responsible for safety, health and environmental management on site during construction. Risk assessments and method statements must be produced in a style, language and level of detail suitable for the employees who will be working in accordance with them.

All operatives must be briefed on the hazards, risks and precautions related to their work activity. Further briefings should be carried out as the work progresses. In particular, when hazards and risks increase, such as the introduction to site of plant/machinery, other contracting companies, extreme weather conditions or on any significant change to the content of a risk assessment or method statement.

Construction Phase Plans must include a schedule of risk assessments and method statements for significant activities during construction.. The schedules must be updated when changes occur on site or new hazards/activities come to light. Revised schedules must be forwarded to the Client, Principal Designer, the Site Supervisor and where relevant to the Environmental Clerk of Works for environmental risks.

The Client, or where appropriate the Site Supervisor or Environmental Clerk of Works acting on their behalf, will periodically review arrangements for the identification and management of risk. They may comment upon and offer suggestions regarding risk assessments, method statements and permits, but the Principal Contractor or Contractor for single-contractor projects retains ultimate responsibility and may choose to accept or not accept any suggestions made.

If reviewers are concerned that the documented systems will lead to undue risk, they will advise the contractor of their concerns and inform the Client, Principal Designer, and Environment Agency Construction SHEW Team. Appropriate remedial action should be agreed and taken before the associated work activity takes place.

4.12 Method Statement Briefings

Operatives undertaking physical work will be briefed on the related method statement. Method statements will be debriefed (‘brief back’) to operatives before the second use of that method to ensure that staff have:

a) Understood the method statement.

b) Any defects in the method statement discovered during the first period of use can be raised and remedied before work continues.

c) Any changes to the method of works can be added to the method statement and re-briefed to the operatives before starting works.

4.13 Control of Substances Hazardous to Health, (COSHH)

COSHH covers substances that are hazardous to health and they can take many forms, including: chemicals, products containing chemicals, fumes, dusts, vapours, mists, nanotechnology, gases and asphyxiating gases, biological agents, and include banned substances such as Triclosan (floor adhesive).

All substances must be purchased from reputable suppliers, and be used, stored and disposed of in accordance with the supplier/manufacturer's recommendation and the Site Waste Management Plan (SWMP). Someone with the relevant competency should complete a COSHH assessment using details taken from the substance's Material Safety Data Sheet (MSDS). Prior to use the user of the substance should be made aware of the COSHH assessment and the MSDS and both documents should be kept readily available at the job site.

When selecting products due consideration should be given to the relative health risks arising from their application and use. Preference should be given to specifying non-hazardous or least hazardous products to reduce the risk of harm to health.

4.14 Permits

A permit system should be implemented to control hazardous activities whenever there is a significant risk, (typical examples include Hot Work, Working at Height, Confined Space, Excavations, Electrical, etc.). This would also include 'live' structures, e.g. a pumping station where equipment could start up automatically. The arrangements must be clear and properly implemented, so that all concerned fully understand its purpose, their roles and responsibilities, and the various related forms. Evidence should be available that those issuing a permit and those receiving a permit have received adequate, appropriate awareness training in the permit system should be operated (as a minimum a toolbox talk or briefing). The importance of adhering to the permit system must be communicated to all concerned and permit violations must be avoided.

Specific named individuals responsible for issuing a permit must be identified in the Construction Phase Plan along with the procedure for obtaining and closing the permit.

4.15 Hand Arm Vibration (HAV)

Contractors must assess and identify measures to eliminate or reduce risks from exposure to HAV so that employees are protected from risks to their health. Equipment with the potential to cause HAV must be provided by a reputable supplier. The exposure time limit for continuous use must be documented, and the user made fully aware of the hazard, risks and precautions. The time limitation details should be specified on a tag on the equipment, usually provided by the supplier. Reducing the time spent operating the equipment or finding an alternative method of doing the work should be considered in preference to providing additional, specific PPE.

4.16 Lone Working

The Environment Agency would not normally expect contractors, designers or visitors to undertake any lone working except where the risk involved is no greater than for a member of the public in a non-construction environment, (e.g. very low risk activities, whilst travelling to sites, inspecting completed works from a public access, etc.). The potential for lone working must be identified in a risk assessment and appropriate precautions implemented. In all instances where

contractors elect to undertake lone working, suitable documented arrangements including monitoring and emergency arrangements must be in place.

4.17 Working close to or over water

The Principal Contractor and Contractors must ensure, where possible, they prevent personnel falling into water. Principles of prevention should be applied:

-Avoiding working next to or over water,
-Provision of fixed edge protection to eliminate falls into water,
-Provision of systems for work positioning and fall arrest

If someone did fall into the water they must be prevented from drowning, and so a suitable means of recovery must be provided.

PPE appropriate to the activity and environment must be considered during the planning stage and identified in the associated risk assessment e.g.:

- Lifejacket to BS EN 396
- Harness to BS EN 361
- Approved Buoyancy Aid (min. 8.2kg buoyancy)
- Safety head protection with chin strap
- Whistle or other means of giving audible alarm
- Buoyant safety lines/lifebuoys (where considered necessary)

For activities near the water's edge, especially for plant and equipment, a proportionate and site-specific assessment of ground conditions, particularly the bank, berm and channel side, including taking account of any signs of repair to these areas, should be undertaken. The assessment should be recorded.

Pontoons and similar floating work platforms should be suitably buoyant and stable, and must be provided with edge protection or other arrangements sufficient to prevent persons working on the platform from falling into water. Pontoons and floating plant must be suitably sized to ensure that no crush zones are created between plant and edge protection or other fixed objects. If this is not reasonably practicable, then exclusion zones preventing access to crush zones must be implemented.

An emergency exercise/drill for water rescue should be carried out and recorded whenever the work activity includes a significant risk of drowning. These should be completed within the first week of site set up or other appropriate timescale identified and agreed in the Construction Phase Plan.

Principal Contractors or Contractor for single-contractor projects must also take into consideration the requirements set out in Appendix C of this SHEW CoP re. 'Control Zone'.

4.18 Use of Mats Near Water

All contractors will ensure that where any item of ride on plant is to be used on mats within one machine width of a water body, stream or river the risk of sliding towards the water will be assessed, documented and controlled. This will include an assessment of the maximum allowable load, (tracked and wheeled).

Additional distance rules apply to the use of machine mats. When proposing to use machine mats consideration must be given to risk controls specified in the EA Operational Instruction 898_11. Further information/guidance can be found at:
http://ams.ea.gov/ams_root/2011/851_900/898_11.pdf

4.19 Compressed Air Diving

Diving operations undertaken on behalf of the Environment Agency must meet certain minimum standards, these include:

- A minimum 5-person team
- The use of surface supplied diving equipment
- Compliance with the HSE ACoP L104 diving projects inland/inshore
- Diving contractors to be full members of the Association of Diving Contractors (ADC)
- To be aware of and eliminate or effectively control the risks from differential pressure.

When planning a diving operation, or where it is reasonably foreseeable that a diving operation is likely to be required at some stage of a project, then representatives of the contractor and the Environment Agency will often have to coordinate arrangements to facilitate a safe dive. Formal isolation of flow control structures in particular is something which is often required and should be considered.

Where the Environment Agency is directly appointing a diving contractor, the Quick Guide 'How to use a diving contractor' 612_08 must be followed. The Environment Agency's Diving Contract Coordinator (DCC) will review the contractor's competence and proposed plans for the diving operation.

Where a supplier is appointing the diving contractor, the Environment Agency's DCC may be able to assist. It should be stressed that their role is not to approve a contractor's diving RAMS etc under these circumstances, but they often have local knowledge that could assist a diving contractor.

Planning and timing of diving operations is vitally important and adequate time should be allowed for all duty holders to discharge their responsibilities.

4.20 Ground Penetration

Ground penetration activities must be carried out in accordance with HSE guidance document HSG47 - 'Avoiding danger from underground services'.

Before breaking ground, checks must be carried out that there are no underground services, (electricity, gas, water, telecommunication, etc.) that will be damaged during the work activity. Service plans/drawings should be viewed beforehand, but these should not be considered as conclusive evidence that no services are in the excavation location.

PAS 128:2014 Specification for underground utility detection, verification and location must be applied to projects that foreseeably involve ground penetration. This is to provide a high degree of confidence of presence and position of underground services to inform the application of the risk management hierarchy to avoid service strikes. This can be commissioned by framework suppliers or directly by the Environment Agency. Service searches and on-site surveys must be included in the project programme for completion in sufficient time for review prior to any intrusive works on site.

PAS 128 Survey Category Type B requires geophysical detection, by electromagnetic and Ground Penetrating Radar surveys, to obtain greater positional accuracy for the services present. The requirement for GPR can be risk assessed out where this is deemed not reasonably practicable. This decision must be recorded and approved by the Client and lead Designer.

Electromagnetic service detection equipment, such as Cable Avoidance Tools (CAT), can only be used by competent people. Competence can be demonstrated through completion of Energy & Utility Skills Register (EUSR) or equivalent approved training on utility avoidance (use of locating equipment and

techniques). The effectiveness of the CAT should first be confirmed by use on known live services. CAT's must have a current calibration certificate and a data logging facility which records how the detection equipment was used. Monitoring of usage data must be done to confirm these important detection tools are being used appropriately and to provide an opportunity for management intervention where equipment is not utilised properly. A signal generator must always be used in conjunction with the CAT to allow detection of pot ended electricity cables and telemetry.

As specified in PAS 128 Survey Type A, on-site verification through intrusive inspection must be undertaken to confirm the position of known services. This may be achieved through strategically positioned vacuum excavation, hand dug trial pitting or visual inspection within a utility chamber. When reasonably practicable construction teams should use soil picks and vacuum excavation, or other minimal risk techniques. Where this is not practicable hand-digging techniques should be applied using non-conductive or insulated tools.

Site managers and construction teams must be able to recognise and manage the risk to safely detect and avoid services. This includes capability to interpret utility drawings, use locating equipment and safe digging techniques. Competence can be demonstrated through completion of EUSR or equivalent approved training on safe digging techniques.

Flame retardant PPE, (in particular jacket and trousers) must be worn when excavating within 500mm of a known live electric or gas main unless risk assessed out. If the wearing of flame retardant PPE is not deemed necessary, it should still be kept readily available in case the risk changes.

4.21 Working Near to Overhead Cables

All construction related activities near an overhead cable, in particular power lines, should be carried out in accordance with the HSE Guidance Note GS6 – 'Avoiding danger from overhead power lines'.

Consideration must be given at the design and construction phases to eliminate the potential to come into contact with overhead power lines, (e.g. diversion, isolation and/or the use of 'goal posts', etc.).

When 'goal posts' are implemented, they must have adequate clearance from the overhead services, and warning signs should be in place where vehicles and plant pass under or parallel to the services.

4.22 Working at Height

The use of working at height equipment must be captured on a risk assessment, and the hazards, risks and precautions shared with the user prior to use.

Mobile towers should only be erected and inspected by appropriately trained personnel.

Scaffold should be assembled to a generally recognised standard configuration, e.g. National Access and Scaffolding Confederation (NASC) Technical Guidance TG20 for tube and fitting scaffolds or similar guidance from manufacturers of system scaffolds. Non-standard configurations must be subject to temporary works design and compliant with the European standard for scaffolding: BS EN 12811

A 'Scafftag', (plastic card inside a holder) should be placed in a prominent position on scaffold or mobile tower with relevant details, including the date of the last seven-day inspection. This is in addition to the scaffold inspection register which should be included in the CPP or other site documentation system.

When constructing temporary work platforms, access ways, excavations, etc. a stairway system will be prioritised over ladders.

Mobile Elevated Working Platform (MEWP) will only be sourced from a reputable supplier, and will be operated by someone with the CPCS or IPAF standard training and in accordance with manufacturer's instructions. An emergency rescue plan must be established for any MEWP operation.

Podium steps should be prioritised over 'A' frame steps or ladders whenever possible. They should be inspected by the user prior to use, and included in a regular documented inspection programme.

The use of a ladder on site will be avoided whenever possible. If this is unavoidable then the ladder must have a unique identification mark or 'Ladder Tag' that corresponds with a Ladder Register and a regular documented ladder inspection programme implemented. Where ladders can't be avoided they shall only be used as means of access, not as a working platform.

4.23 Confined Space

A confined space is a place which is substantially enclosed (though not always entirely) and where serious injury can occur from hazardous substances or conditions within the space or nearby (e.g. oxygen deficient, toxic or explosive atmospheres, high temperatures, drowning or entrapment). Whenever possible entry into a confined space should be avoided and only considered when all other options have been eliminated. Consideration must be given as to whether the work location and/or work environment constitutes a 'statutory' confined space. If it does, then the confined space activities must be carried out in accordance with the Confined Space Regulations and HSE guidance document INDG258: 'Safe Work in Confined Spaces'. There must also be evidence available that persons undertaking work in a confined space have the adequate training, equipment, supervision and authorization to enter.

4.24 Temporary Works

Temporary works (TW) are the parts of a construction related project that are needed to enable the permanent works to be built. Usually the TW are removed after use, (e.g. access scaffolds, props, shoring, excavation support, falsework, formwork, configurable floating platforms, access and haul routes, etc.). The principles of BS5975 Code of practice for temporary works procedures and the permissible stress design of falsework, must be applied to the design, installation, alteration and removal.

It is very important that the same degree of care and attention is given to the construction of the TW as to the construction of the permanent works. Any plant, materials or equipment used in the construction of TW must be installed in accordance with the manufacturer's instructions.

The management of TW requires the involvement of individuals with specific responsibilities. They include the Temporary Works Designer (TWD), Temporary Works Co-ordinator (TWC) and the Temporary Works Supervisor (TWS). The appointments must be made in writing. Their responsibilities are:

Temporary Works Co-ordinator (TWC):

- Co-ordinates the TW design, selection of equipment, appointment of contractors, supervision of work and checks completion.
- Ensures a TW register is in place and kept up to date. The register should include the category of TW and dates of the design approval.

- Responsible for the TW risk assessment, that a safe system of work and method statement, which includes how all the hazards are to be managed prior to installation, is developed.
- Ensures “Working Drawings” not “Preliminary” TW drawings are used for authorisation to install TW.
- Provides authorisation on the loading and removal of TW. A Permit to Load should be issued before use/access to any TW platform.

Temporary Works Designer (TWD):

- Engages with the Permanent Works Designer and Principal Designer on TW information. A Temporary Works schedule should be produced early in the project to identify information and surveys required.
- Completes a design brief and risk analysis.
- Reviews TW designs, calculations, specifications and information.
- Undertakes TW designs and design reviews proportional to the complexity and category of the TW involved.
- Completes design certification to authorise TW designs.

Temporary Works Supervisor (TWS):

- Ensures that the TW risk assessment and method statement for the installation and removal of TW are briefed, read and understood by those doing the work.
- Ensures that the TW are installed in accordance with the TW design, agreed methodology and safe systems of work.
- Ensures “Working Drawings” not “Preliminary” TW drawings are used for installing TW.
- Ensures regular safety checks on TW are completed.

Individuals appointed in the management of TW must have relevant skills, knowledge and experience to discharge their roles effectively. The following link to the Temporary Works Forum website provides further information (refer to link: Twf information sheet no 2)

4.25 Site Plant and Equipment

All plant and equipment on site must comply with the Provision and Use of Work Equipment Regulations and be:

- Sourced from a reputable supplier
- Operated only by someone with adequate, appropriate training
- Operated and maintained in accordance with manufacturer’s instructions.

Plant must be inspected after delivery for any obvious defects. Particular attention should be made to the condition of hydraulic systems and hoses. Damaged hoses must be replaced, and all plant inspections must be recorded. All work equipment must be inspected by the user prior to use for any damage or wear and tear that may result in not being fit for purpose. A more formal inspection must be carried out at least weekly and must be recorded.

People and plant interface is of prime concern to the Environment Agency and construction teams must ensure adequate segregation between plant/vehicles and pedestrians. Appropriate arrangements must be in place to prevent persons being put at risk from operated plant. All task specific risk assessments must detail the safety control measures for keeping people safe when there is a legitimate need to work near plant. Whenever practicable pedestrian access to site must be by an alternative means other than via plant or vehicle access points. Pedestrian walkways,

with appropriate barrier protection, should be established wherever reasonably practicable, (especially in the site office and compound areas).

In terms of plant and machinery movement, a hierarchy of control measures should be implemented, as follows:

- Total segregation of plant and people
- Eliminate the need for reversing
- Providing segregated reversing/turning areas
- Providing trained Vehicle Marshal

If drivers/operators lose sight of the Vehicle Marshal they must stop all movements immediately. Suitable communication arrangements must be implemented to ensure operators of plant are aware of any persons wishing to be in close proximity to the machine, (e.g. 'thumbs-up', 'say hello and wave goodbye').

All operatives, supervisors and other persons on site (including archaeological teams) must stay outside of the danger zone of excavators when they are operating (see example diagram in Appendix D). Arrangements should be that a person is not allowed to encroach inside the RED zone area until the machine has been hydraulically isolated. Everyone is expected to follow these arrangements, or alternatives with similar controls. The Construction Plant Association (www.cpa.uk.net) has published a guidance document entitled 'Reducing Unintended Movement of Plant - and managing exposure to consequential risks'. Appendix E of this document provides examples of secondary isolation devices which provide further controls to manage the risk of the unintended movement of plant.

Dumpers of 4T or above used on the highway as part of our projects will have proximity sensors or an alternative means of eliminating blind spots fitted as standard. A Vehicle Collision Avoidance System (VCAS) should be fitted unless there is a risk assessment which identifies that these controls are not necessary.

By the end of 2018, 360 excavators over 6T must be fitted with seat-belt interlock devices to isolate hydraulics when not engaged (this is to allow for a phased upgrade

Recognising that a range of technology is now available for all construction plant, driver aids should be fitted to eliminate the potential for blind spots during operation, to ensure 360 visibility. Assessment and installation of upgrades must be completed by the end of 2019. In the interim period, alternative site risk management arrangements must be in place.

Seat belts, where fitted on plant/vehicles, must be worn all the times the vehicle is occupied, - without exception.

All plant operators shall be trained and certified to Lantra or CPCS standards. NPORS standard is acceptable provided that vocational qualification can be demonstrated to achieve competent operator status. More specific CSCS partner scheme cards are also acceptable, such as ALLMI for lorry loaders and IPAF for MEWPs

4.26 Traffic Management Plan, (TMP)

Principal Contractors or Contractor for single-contractor projects should ensure a Traffic Management Plan (TMP) is created for the project, unless the Client or Environment Agency Construction Safety Health and Environment Business Partner agrees that one is not required.

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The TMP should identify the specific controls related to highway activities and people/plant interface at the point of work. Consideration must also be given to the precautions required to protect pedestrians, including designated walkways on site and in the compound area.

The TMP should be referenced in the Construction Phase Plan prior to commencement of work on site, be displayed on site during construction and referenced in the site induction. It should be regularly reviewed and updated whenever vehicle routes or movement conditions change. All associated operatives must be briefed on the content of the updated TMP and records maintained of the briefing.

4.27 Emergency Arrangements

When work is in progress, framework partners and CDM duty holders will ensure there are effective arrangements for managing safety, health or environmental emergency incidents. Emergency practice drills for fire, evacuation, water rescue, confined space rescue, harness recovery, etc. will be required within two weeks from commencement of work on site or other period as agreed in the Construction Phase Plan.

4.28 Health and Safety Related Accident/Incident

All accidents and incidents must be reported in accordance with the guidance in Appendix A, and process flow charts in Appendices A.1 and A.2 of this document. The Health and Safety Incident and Near Miss reporting procedure poster (Appendix A.1) shall be displayed in a prominent position in the site office and in the welfare accommodation.

Note: Environment Agency Area Operations teams will follow their own reporting procedures: http://intranet.ea.gov/peoplematters/help/62918.aspx

All HSE reportable injuries, occupational diseases and dangerous occurrences plus any other lost time incidents, property damage greater than 50k or near misses with a potential to result in a fatality must be reported by the Contractor at the earliest opportunity to the ECC Project Manager, Site Supervisor and Client. The Reporting of Injuries, Diseases and Dangerous Occurrence Regulations (RIDDOR) should be complied with when appropriate.

All accidents and incidents resulting in or having the potential for significant harm must be investigated to identify the root cause and actions to prevent a recurrence. Initial reports for such incidents must be followed by a written report using the form in Appendix B, or a comparable form containing this information. Contractors are required to investigate their own accidents and incidents; the depth and detail of the investigation must be proportionate to the severity or potential severity of the event. The accident investigation should consider the guidance contained in the HSE publication HSG 245, 'Investigating Accidents and Incidents'.

A final and comprehensive investigation report must be provided by the Contractor to the Client Construction SHEW Team, and where relevant the ECC PM, within 14 days. Any deviation from this must be reported to and agreed with the Client and/or Senior Health, Safety and Wellbeing Business Partner.

Environment Specific

4.29 Environmental Compliance

Whilst undertaking their work activities contractors must:

a) Avoid adverse impact to the environment by planning and managing their activities appropriately and by maximising environmental opportunities.
b) Ensure inductions contain relevant site specific environmental information and rules.
c) Where relevant, contribute to the Environmental Impact Assessment (EIA) process as agreed with the Client to minimise environmental damage through careful design and

construction methodology, including protective or remedial actions where damage is unavoidable.

d) Deliver the actions assigned to them in the Environmental Action Plan, (Environmental risk assessment) and work with the Environmental Clerk of Works, or others to ensure this is done effectively and that actions are completed and signed off.
e) Locate sensitive areas and segregate or protect them from harm. These areas must be clearly marked on drawings, site rules and included in the induction.
f) Not store materials under the canopy or within the sensitive root zone of trees and will erect tree protection fencing in areas of high risk, such as traffic routes.

Any changes to works that could increase environmental risk must be discussed with the Client or Environmental Clerk of Works.

4.30 Resource Management

Contractors must:

- Take actions to reduce carbon through construction, including consideration of eco-cabins, dual generators and efficient plant.
- Use the CL:AIRE register of materials to help identify required and excess materials required for schemes.
- Utilise Site Waste Management Plans effectively on all schemes to record Duty of Care information as well as account for the waste removed.
- Work with the supply chain to reduce packaging waste associated with deliveries to the project

Contractors will ensure all timber (permanent and temporary works) purchased either directly or via sub-contractors will comply with the Environment Agency's timber purchasing requirements. We expect relevant documentary evidence to confirm the source and sustainability of the timber purchased on our projects to be provided upon request.

4.31 Pollution Prevention

Contractors must engage with local Environment Agency Environment Officers to make use of their local knowledge and expertise in planning and undertaking works in or near to water bodies, including watercourses, marine, estuaries, boreholes, groundwater, reservoirs, etc.

Before starting works, contractors must ensure site drainage, pathways, watercourses and groundwater source protection zones have been identified. This information, together with site specific measures to prevent spread of pollution, must be included in the site environmental emergency plan or site pack, (following Environment Agency Pollution Prevention Guidance Note 21). This will include actions to be taken in the event of silt, concrete and other chemical incidents where these risks exist.

Particular attention should be given where risks such as grout/concrete and silt exist on the site formal site specific arrangements including mitigation checks, communications lines and emergency actions must be developed and operatives must be trained in these. This should include a suitable arrangement for wash out of equipment, taking best practice into account to avoid pollution. Actions to take in the event of changes that could occur on site should also be identified.

Suitable pollution prevention measures, (e.g. 'nappies') should be put in place under attachments, parked plant or static equipment, (e.g. generator, pump) whenever there is a risk of fluid leaks or spillages, especially during refuelling operations or within 10m of a watercourse.

Evidence must be readily available that operatives have received training in the use of spill kits within the previous six-month period. Where works are anticipated to last more than 30 days or are being carried out in an environmentally sensitive site, where the risk of spills have the potential for significant impact, a mock exercise for each risk will be undertaken. This will be within 2 weeks of starting on site, unless otherwise defined in the CPP or Site Pack.

Spill kits must be appropriate to the risk and amount of fuel and oils on site, and located to be readily available should there be a spillage. Suitable PPE, (such as goggles and impermeable gauntlet gloves) must be included in the spill kits.

Suitable provision must be provided on site for storage of hazardous waste, (e.g. following a spill) prior to its removal from site by a licensed carrier.

Contractors must minimise in-channel works as far as practicable and implement suitable mitigation measures where required, considering active spawning seasons and other restrictions on the site.

Maintenance of site plant will be done in a way to minimise the environmental risk, with appropriate control measures in place.

All hydraulic oils supplied in plant under this Code of Practice must be defined as "Readily Biodegradable" and meet OECD 301B. Exceptions to this for specialist plant must be justified and the pollution risk assessed and approved in writing by the Environment Agency appointed person discharging the Client's duties.

4.32 Biosecurity and Invasive and Non-native species

Diseases, parasites and invasive non-native species can cause serious harm to the environment and our economy. Good biosecurity is essential to reduce the risk that we spread these damaging organisms.

Contractors must:

- Ensure that all clothing/PPE, plant and equipment will comply with the Check, Clean, Dry approach specifically following the guidance for Biosecurity in the Field. The non-native species secretariat website has a variety of resources including identification sheets that may assist you.
    - **Check** - Check your plant, equipment and clothing for living organisms. Pay particular attention to areas that are damp or hard to inspect.
    - **Clean** - Clean and wash all plant, equipment, footwear and clothes thoroughly, preferably with hot water. If you do come across any organisms, leave them at the location where you found them.
    - **Dry** - Dry all plant, equipment and clothing - some species can live for many days in moist conditions. Make sure you don't transfer them elsewhere.
- Any waste or soil containing propagules of invasive non-native species must either be managed appropriately on site, or taken to an appropriate waste facility. Invasive non-native plant material should be managed in accordance with Treatment and disposal of invasive non-native plants: RPS 178 - GOV.UK

Invasive non-native flora species (e.g. Japanese Knotweed, Himalayan Balsam, Giant Hogweed, etc.) in the work locations will be identified and managed. Excavation of affected areas should not be undertaken without prior advice and guidance from the Environment Agency.

The American Signal Crayfish, '*Dikerogammarus villosus'* and '*Dikerogammarus haemobaphes'*, sometimes known as 'killer shrimps' are invasive non-native species. If either of these species are identified at the work location the Environment Agency should be notified at the earliest opportunity for advice and guidance.

If invasive non-native species are present, they must not be spread. All sites will follow the relevant bio-security advice with site specific arrangements formally documented, briefed to staff and followed.

4.33 Environmental Incidents

The following explains the approach for all projects delivered by external contractors, (Environment Agency Area Operations teams will follow their own reporting procedures):

All environmental incidents and significant near misses must be reported to the Environment Agency Incident Hotline 0800 80 70 60 at the earliest opportunity, and then to the Client, Construction SHE Team, and where relevant, the ECC Project Manager, Site Supervisor and Environment Agency NEAS Officer.

Environmental incidents and near misses should be reported by following the guidance procedure in Appendix A.2 of this document.

The Environmental Incident and Near Miss reporting procedure poster, (Appendix A.2) shall be displayed in a prominent position in the site office and in the welfare accommodation.

4.34 Contractor Health, Safety and Environmental Monitoring

For supplier delivered works the following requirements apply:

All projects lasting between 7 and 30 days will be inspected by the Contractor's own competent management staff and the findings recorded.

Projects lasting for 30 days or more must be inspected by the Contractor's own competent HS&E Advisor twice per calendar month, with at least one visit being for the purposes of an inspection which will be recorded.

Following each recorded inspection, and within four working days of the visit, the HS&E Advisor's report will be provided to the following as appropriate:

- Client
- Principal Designer
- ECC Project Manager
- Site Supervisor

Appendix A – Accident/Incident Reporting *(background information)*

Reporting by all individuals working and visiting construction sites is encouraged. Reporting should be made in the first instance to site supervision who will then decide whether to notify the Client. The ethos is that incidents that having significant consequences or potentially significant should be reported up.

1. All incidents identified below must be reported to the Client Manager and where relevant the ECC Project Manager at the first opportunity after the event:

   1.1 All HSE reportable incidents, (including fatalities) specified injuries, injuries resulting in over 7 day's absence, dangerous occurrences and diseases or include over £50k worth of property damage.

   1.2 All injuries or incidents, which are not reportable to the HSE, but:
   - Require medical treatment by a recognised medical practitioner or a nurse, or
   - In the case of people at work, result in an absence of up to 7 days, or
   - Result in £10k-50k property damage.

   1.3 Significant near misses. If a Contractor is unsure as to whether an incident is reportable to the EA the Contractor should consult with the Client.

Note: Environment Agency Area Operations teams will follow their own reporting procedures: http://intranet.ea.gov/peoplematters/help/62918.aspx

Health and Safety incidents and near misses should be reported by following the guidance procedure in Appendix **A.1** of this document.

Environmental incidents and near misses should be reported by following the guidance procedure in Appendix **A.2** of this document.

2. Using the template in **Appendix B** of this document will ensure that all the information required in the first instance is provided to the EA. Contractors should use the template to provide as much information as possible, and can provide subsequent revisions of the template as more information becomes available.

3. Contractors are required to investigate their own accidents and incidents; the depth and detail of the investigation must be proportionate to the incident severity or potential severity.

4. Investigation reports should reach the Client and EA SHEW team by no later than 14 days following the accident or incident; any deviation from this must be reported to and agreed with the Client and/or Construction Safety Health and Environment Manager.

Appendix A.1 – Health and Safety Incident and Near Miss Reporting

Appendix A.2 – Environmental Incident and Near Miss Reporting

e:Mission

Notice to contractors

Environment Agency

Environmental incident and near miss reporting procedure

What is an environment incident?

- Damage to the natural environment
- Pollution
- Risks to wildlife
- Fish in distress

A near miss is a situation where any of the above **could** have happened.

Environmental incident occurs at or from the site.

Environmental near miss occurs at or from the site.

1

Call the Incident Hotline immediately

0800 80 70 60

Give the following information:

- Name and telephone number
- State that it related to Environment Agency
- Principal contractor's name
- Name of site/project, including name of watercourse
- Description of incident
  - Date/time first noticed
  - Pollutant details
  - How serious is it?
- Ask for a reference number
- For contractor incidents inform gary.haley@environment-agency.gov.uk

2

1

Inform the Environment Agency project manager, giving full details of what's happened

[Project manager name]
[Contact number]

Review the incident and provide a written report within 14 days to the Environment Agency project manager and Health, Safety and Wellbeing Construction Team. Include the hydraulic hose form if relevant.

Appendix B – Accident/Incident Information Required

Project Title & Address of site					
Name of main contractor or PC			**Name(s) of injured**		
Date of incident			**Employer of the injured person(s)**		
Time of incident		**Who were they?** *(contractor, member of the public, etc.)*			
Reported to the EA PM by			**Date and time**		
Injury/Incident details					
		✓or **n/a**	**Type/Comment**		
Estimated Severity *(Check with EA PM for definitions)*	HSE Reportable				
	Medical Attention Required *(more than first aid)*				
	Near Miss *(serious or serious potential outcome)*				
	Environmental Incident		NIRS Ref:		
Part and site of body injured or Environment affected			**Type of injury or DO classification**		
Immediate cause of injury					

Investigation details			
Who is undertaking the investigation?	Name: Title: Contact No.:	**When will the investigation report be provided to the EA PM?**	Incident facts confirmed: Interim report: *(if applicable)* Final report:

Appendix C – Plant Working Near Water Control Zone

Why do we need a control zone?

We have had two fatalities linked directly to plant entering the watercourse. We have had several significant near misses where plant has slipped into a watercourse when undertaking maintenance work. It is important to ensure we have robust controls when working in this high-risk area.

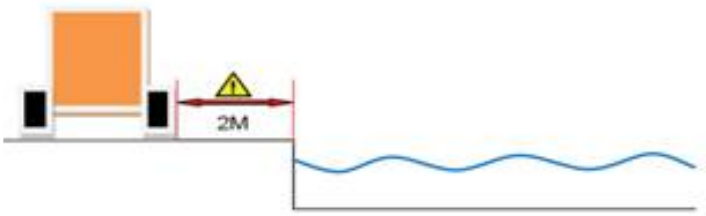
What is the control zone?

The control zone is an area within which plant may operate, but where additional controls are required. Typically, it is a strip of land measured horizontally from the top of the bank away from the watercourse, (see example diagrams below). It should be a minimum of 2m, but if ground conditions are poor or change it may be necessary to have a wider control zone.

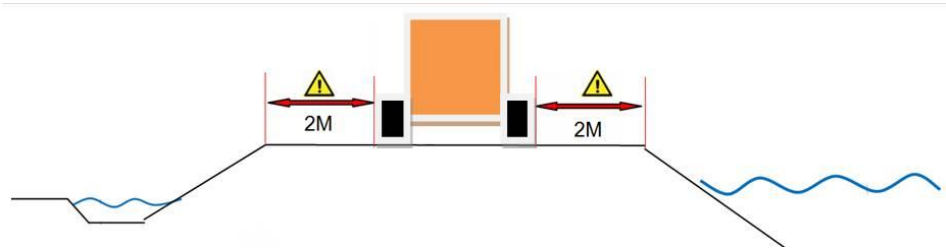
Additional controls include:

- Documented assessment of ground conditions;
- Ensuring the machine chosen is the best possible option;
- RAMS with specific control measures/Safe System of Work
- Edge demarcation

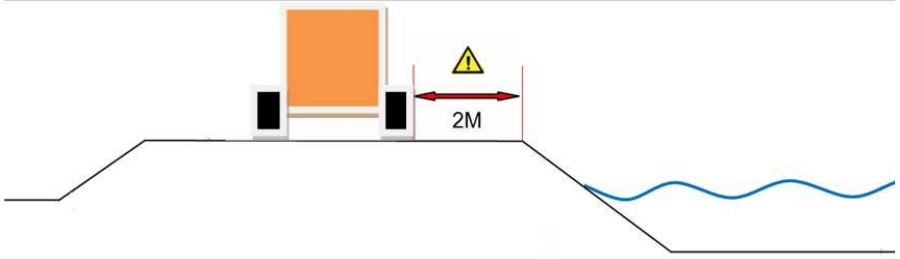
Example 1



Example 2

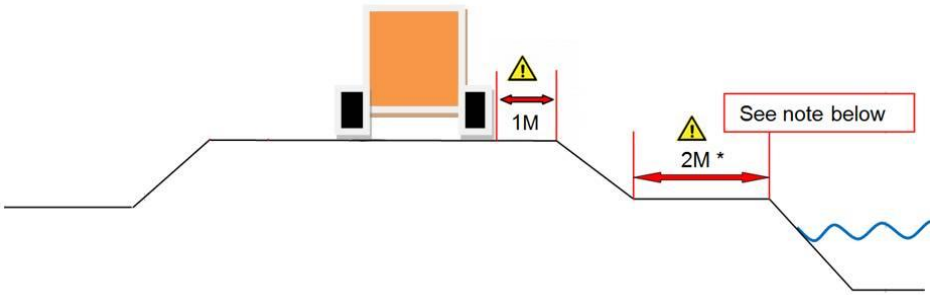


Example 3



Example 4

Example Note



When ride on plant is operated on embankments adjacent to water where there is a berm between the work area and the water, consideration must be given to the width of the berm, the height of the bank and the size and weight of the plant to be used. If the berm is less than 2m wide, the control zone on the embankment must be adopted as per example 2.

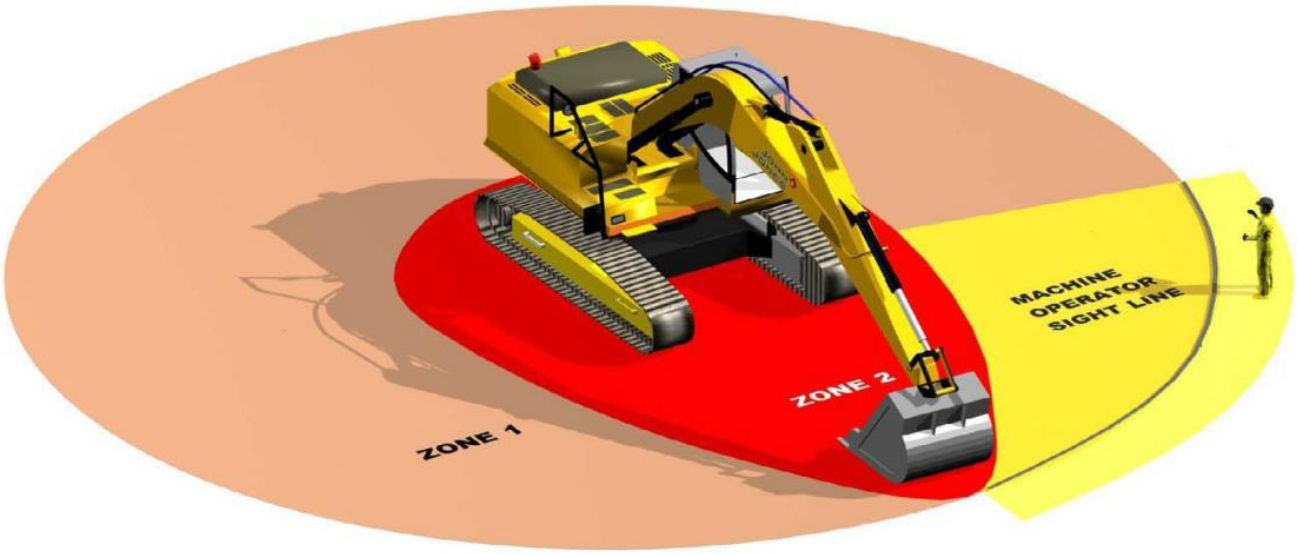
Appendix D – Plant Operation Safe Zone

As a general rule, there should be no one in the plant operating area unless they are authorised to be there.

The planning process should ensure that each item of plant has a designated 'Plant Safe Zone' as shown in the example below, *(courtesy of Highways England).* The aim of a safe zone is to ensure that persons in the vicinity of plant can identify the zones which should not be entered unless the machine's power source is isolated (**Zone 2**) and those which may be entered once the plant operator has indicated that it is safe to do so
(**Zone 1**).

The dimensions and positions of the zones will be decided by individual risk assessment and will vary with the type, size, reach and number of machines operating within a given area. Account should be taken of attachments and long loads.

Plant Safe Zone example



Appendix E – Reducing Unintended Movement of Plant

Care should be taken in the selection of additional measures to prevent unintended movement of plant, as not all guarantee success; some may only reduce the probability of occurrence.

The following provides examples of what should be considered when operating plant in the vicinity of people:

Operator Clothing

Plant operators should be provided with short 'bomber-style' jackets with elasticated cuffs to reduce the risk of coat skirts and cuffs becoming entangled with controls.

White Noise/Audible Movement Alarm

As soon as the item of plant starts moving, an audible alarm sounds which alerts all persons in the area that the machine is moving and that they are potentially in the danger zone.

Reversing Camera

Provides the operator with an image of the area behind the machine to avoid collisions with people and other machines when reversing.

Quick Hitch Attachment/Detachment Alarm

An alarm mounted on the exterior of the machine sounds when the operator is either attaching or detaching a bucket or attachment to the quick hitch. This system alerts anyone in the potential danger zone of what is happening.

Quick Hitch Coupler Alert Safety System

A console in the cab guides the operator step-by-step through every stage of a bucket detachment or attachment in line with the manufacturer's specific procedure. This prevents the operator taking short cuts when carrying out this task and also prompts the operator to carry out the required safety checks.

Secondary Isolation Devices

Additional to the control isolating, (dead man) lever and help to prevent operators from making inadvertent movements of their machine whilst getting in or out of the cab, even with the isolating lever placed in the engaged position. Examples of such devices are:

- **Seat belt monitoring**

The machine's systems do not become operational until the seatbelt is fastened. A green beacon mounted on the outside of the when the isolating lever is engaged and the seat belt fastened.

- **Enabling control**

Another device on the market operates over three safety levels:
1. The operator is required to fasten his lap-belt - preferably a high visibility seatbelt which can be easily seen by supervisors/ site managers;
2. Safety lever required to be in the active position, preventing the operator from leaving their cab;
3. Additional button fitted in the cab and once the first two requirements have been successfully completed, will illuminate allowing operator to press the button and activate the machine's hydraulic system. This allows the machine to become operational.

- **Operator presence sensing**

A new system - currently under development - senses that the operator is sitting in the seat and isolates the machine controls if they attempt to stand up.

Proximity Sensing Systems

Senses the presence of people in the vicinity of the machine and alerts the machine operator if a pre-set zone is breached. This system relies on people wearing transponder units and will not sense the presence of casual bystanders who are not wearing transponder units.

Handheld Remote Cut-off

Allows a banksman or slinger/signaller with a hand-held wireless control to stop the machine remotely. Once the control has been activated and the machine stopped, it cannot be restarted until the control is reset.

(Taken from the Construction Plant-hire Association Reference document No. CPA 1701 www.cpa.uk.net)

APPENDIX G

Environment Agency Standard Pre-Construction Information (see separate document)