

Horniman Museum, Butterfly House

Duty Standby Heater Project plus additional works

100 London Rd, London SE23 3PQ

Pre-Construction Information



10 November 2022

Revision A – 12/11/2022



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Introduction

This Pre Construction Information (PCI) has been produced, on behalf of the Client and Principal Designer, to satisfy the requirements contained in the CDM²⁰¹⁵ Regulations. It provides information required by Statute and should be read carefully in conjunction with the Tender Documents.

The Industry Guidance documents for Duty Holders produced by CONIAC (Construction Industry Advisory Committee) have been used as guidance in the preparation of this document.

The PCI includes material which is in the client's possession or which is reasonably obtainable by, or on behalf of the client, and includes proportionate information about:

- The project, such as the client brief and key dates of the construction phase
- The planning and management of the project such as the resources and time being allocated to each stage of the project and the arrangements to ensure there is co-operation between duty-holders and that the work is co-ordinated
- The health and safety hazards of the site, including design and construction hazards and how they will be addressed
- Any relevant information in an existing Health & Safety File

The information is provided to help other duty-holders involved in the project to carry out their duties.

The Principal Contractor must develop their own Health and Safety Plan in accordance with the Regulations and maintain it until the end of the construction phase.

The Principal Contractor is required to have a reasonable degree of competence for health and safety matters, in accordance with the Health & Safety at Work Act 1974 and Subsequent Regulations. Therefore, detailed H&S procedures which are common knowledge to a Principal Contractor experienced in the nature of the work proposed are not specifically referred to in this document.

The intention of this document is to identify areas of risk or hazards that may reasonably be foreseen. No warranty can be given that other hazards will not be encountered during the works and due care should be given to assessing risks and hazards as work progresses, especially where opening up, demolition or other exposure of previously covered construction takes place.

Any queries or clarification needed on the application of this document should be referred to the Principal Designer or CDM Consultant.

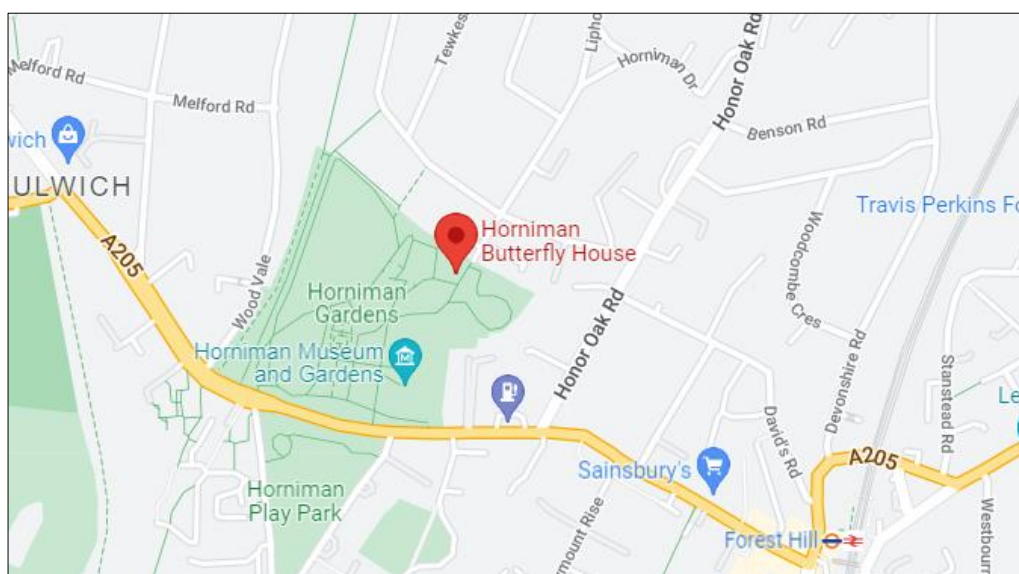
1. The Project

Existing Site

The Butterfly House is a single storey greenhouse constructed 2017 to provide a live butterfly exhibit area with a public reception and shop, an office and mechanical and electrical plant room at the Horniman Museum.

The Horniman Museum and Gardens is located in Forest Hill in the London borough of Lewisham.

The main access route to the site runs through the Museums public gardens which are open to the public from 10am each day.



Please note - the Butterfly House will be populated by butterflies during the works. A misting system and heater operate to maintain a humid environment.

Brief scope of work

Works to the Butterfly House include:

- replacement of duty standby heater and new raised steel structure for the AHU unit with the addition of new ductwork to existing structure
- strip out of some existing services and introduction of a new shed
- modification to the façade and partitions associated with the AHU installation

Additional works in the main Museum (Plant Room 3) include removal of an ultrasonic dehumidification system and water softening plant, adjustment to the electrical supply and installation of a new humidification system (likely to be steam).

Please note: Path refurbishments may be underway across the site during the Project – to be confirmed.

1. The Project (*continued*)

Programme details

Start on site to be confirmed with a contract period of approximately 26 months.

Expected number of people on site: to be confirmed.

Expected number of Contractors on site: to be confirmed.

Minimum mobilisation period allowed for by the client

4 weeks.

Extent and location of existing records and plans

F10 Notification

Notification will be submitted once a Principal Contractor is appointed if appropriate.

Health & Safety File

The existing Health & Safety File is held with the Client.

Ground Investigation

A Ground Condition Assessment was carried out Ridge Property and Construction Consultants in October 2016, reference 5001510-815-02.

Drawings

Existing and planned drawings are held by all parties.

Client brief

A written client brief has not been prepared however, the designer has been made aware of the clients' aims including budget, the design requirements for the Project and end use.

The client has confirmed a single point of contact during the execution of the Project.

The main function of the finished building is a Butterfly House.

The client's expectations is that the project runs in an efficient manner, within budget and realistic time-scales and with all due care and attention paid to welfare and health & safety issues. The project must be run considerately to avoid any inconvenience to staff, visitors, occupants or others, with any unnecessary nuisance.

1. The Project (*continued*)

Project team

Client:

Horniman Museum and Gardens - Tim Hopkins
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SE23 3PQ

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020 8291 8680

Principal Designer:

Harley Haddow - Chris McLaren
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London
SE1 3LE

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Principal Contractor:

To be confirmed.

Structural Engineer:

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CDM Consultant:

No Nonsense CDM Ltd – Jennie Storey
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WC2H 9JQ

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07958 475458

2. Planning and management of the Project

General arrangements

The client (via the CDM Consultant) will require the Project Team to confirm and explain their management arrangements for the project, in particular:

- clarity of roles and responsibilities
- allocation of sufficient time and resources
- good communication between team members
- confirmation from contractors that Health and Safety on site will be controlled and monitored
- provision of welfare facilities

Checks will be made (by the CDM Consultant) to ensure that these arrangements are maintained throughout the Project.

Health and safety aims of the project

The health and safety aims of the Project are:

- an accident free contract
- maintaining a COVID-19 secure workplace
- co-operation throughout the workforce to ensure safety is everybody's responsibility
- a pro-active approach to health and safety by the Contract Management Team
- a safe working environment as a condition of employment



To help achieve this:

All site operatives to hold the CSCS Green Card (or equivalent) and/or have the appropriate skills, knowledge and experience to carry out their work safely.

Everyone working at, or visiting, the site to receive Site H&S Induction. **This includes Horniman Museum and Gardens Rules for Visiting Contractors**

Regular consultation to be held with workforce on site H&S issues.

Daily site inspections to be carried out by the Site Manager.

Health and safety performance to be managed, monitored and reviewed on an ongoing basis. Reports of implementation and performance to be sent to the Principal Designer.

A COVID-19 Risk Assessment to be in place and the measures outlined to be fully complied with.

Health & Safety and CDM to be an agenda item at each site progress meeting.

2. Planning and management of the Project (*continued*)

Risk Assessments and Method Statements (RAMs)

The Principal Contractor must identify and specify safe systems of work designed to eliminate or introduce controls to minimise the relevant risks.

Risk assessments must:

- identify the hazards
- identify who might be harmed and how
- evaluate the risks and decide on precautions
- record significant findings
- be reviewed and updated as necessary

Where necessary, Method Statements must:

- name the person taking control of the works
- identify known and anticipated hazards
- identify control measures
- include details of plant and equipment to be used
- detail the sequence of works

Continuing design work

Design input during the construction phase must comply with the requirements placed on Designers under CDM. Where design alterations, amendments and additions are undertaken, the persons carrying out such tasks must ensure consideration is given to the hierarchy of risk control i.e.

- avoid a risk altogether e.g. design the works to be undertaken using a different approach without introducing greater risks.
- assess the risk and combat it at source, e.g. utilise different lifting procedures, relocation of plant requiring maintenance etc.
- adapt the workplace to the requirements of the workers e.g. provide collective protection to all affected by the project.
- if collective protection cannot be provided, personal protective equipment (PPE) to be used as a last resort.

2. Planning and management of the Project (*continued*)

Co-operation between duty holders and co-ordinating the work

CDM and health and safety matters may be communicated to the client through the Principal Designer or CDM Consultant.

CDM and H&S must be an agenda item at each Design Team Meeting and Site Progress Meeting.

The Principal Contractor will be required to maintain suitable communication with all works contractors.

Welfare provision

The Principal Contractor must provide facilities which are clean, warm, properly ventilated and fully functional from day 1 of the project, albeit welfare facilities may be utilised at the Nursery Cottage, opposite the site, with lunch breaks accommodated from 12noon to 1pm. Provision must include:

- mains plumbed WCs
- a means of heating food and preparing hot drinks
- a place to sit and consume food and drink
- chairs with backrests
- a supply of fresh drinking water

Washing facilities with hot and cold running water

A space to change, store and dry clothing

First Aid facilities to include:

- provision of first aid box and eyewash
- signage
- information for site operatives
- adequately trained first aiders



Fire precautions and emergency procedures

A Site Fire and Emergency Plan must be included in the Principal Contractor's Health & Safety Plan. This is to detail management duties, the method of raising the alarm, means of escape, alternative access routes as may become necessary and muster points. It must also take account of existing arrangements, neighbouring properties and access for emergency vehicles.

2. Planning and management of the Project (*continued*)

Security of the site

The site and any contractors' plant, machinery and materials must be kept secure at all times.

The site area must be fully secured at the end of each working day by the Principal Contractor.

Hoardings, perimeter/Heras fencing to be checked at the start and end of each day to ensure it remains in good order.

A site visitors' book to be kept on site at all times.

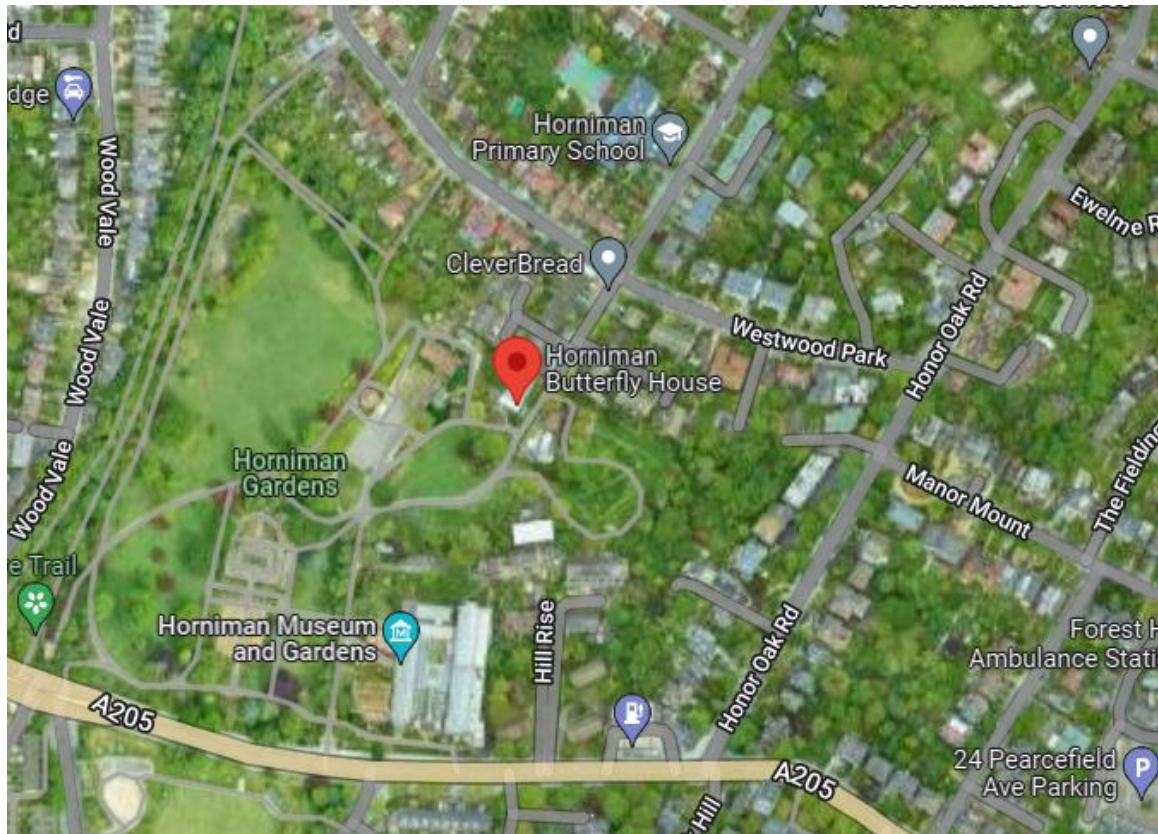
All fixed external access scaffolding to be alarmed with all access points secured against unauthorised entry.



3. Health and safety hazards at the site

Safety hazards –

Adjacent land use



The Butterfly House and surrounding buildings will be in occupation for the duration of the works and the Principal Contractor must take reasonable steps to ensure the health, safety and welfare of occupants and members of the public.

Foot access to the site is via public footpaths through the Museum's Gardens.

Site vehicle movement adjacent to the site must be controlled by the use of trained banks-men.

3. Health and safety hazards at the site (*continued*)

Safety hazards –

Restrictions on deliveries, waste collection or storage

Delivery of materials and equipment will be from outside the Horniman Drive gate (off site) or from the Contractors parking bays.

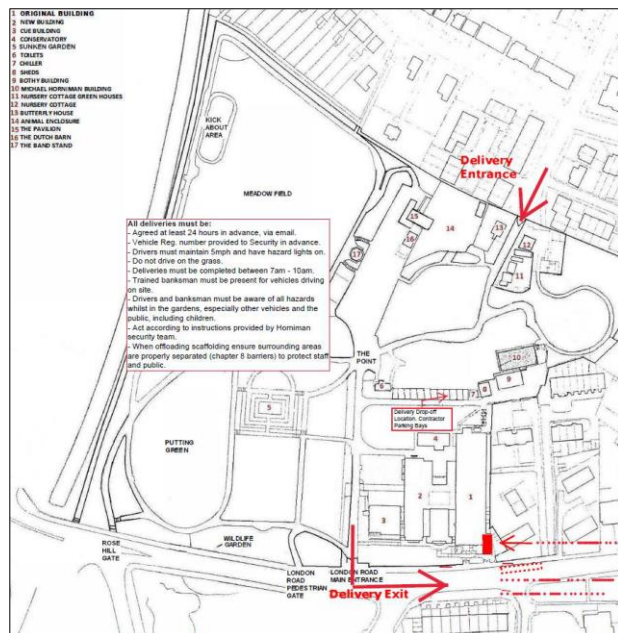
Deliveries must be made between 7am and 10am and be managed and agreed with the Museum, in advance, to ensure there is no conflict with routes used by the public, or if unavoidable an agreed management strategy.

Deliveries may also be made from the red box on London Road at any time but must not obstruct the fire exit at the lower clocktower.

Delivery Logistics Plan at Appendix B.

The Principal Contractor is to allocate storage space for materials and waste within the site compound.

Waste is to be removed from site daily.



Occupied premises

The Principal Contractor must ensure regular liaison with other occupants to ensure they are aware of the work to be undertaken and segregations and any restricted access requirements.

Suitable hoarding, barriers or other means of segregation must be in place to ensure occupants are kept out of the work areas as appropriate.

Adequate signage must be displayed.

Fire exit doors must be kept clear and in normal use and floors kept tidy with all cables run above head height.

Temporary lighting must be provided if lights are disconnected.

Combustible or flammable materials must not be stored in the area.

Site specific risk assessment and method statement to be prepared prior to the start of the project.

3. Health and safety hazards at the site (*continued*)

Safety hazards –

Location of existing services and electricity

All existing services remain live and must be:

- accurately identified and located
- located on existing services drawings from all the statutory utilities
- where appropriate marked with warning signage/warning tape on site.

Any diversion work of existing services to be carried out by competent persons.

All work to mains electricity must be carried out by appropriately qualified contractors/sub-contractors.

Electricity supply and other services to be isolated before any drilling into walls

Electrical tools must be battery operated or run off a 110v transformer or a Residual Current Device.

Plant and equipment

All work plant and equipment must be maintained in an efficient state, kept in good repair, and inspected before use each day.

Storage of materials and work equipment

Materials must only be stored on site where it is practical to do so. Materials must be delivered to the site at frequency and in quantities to avoid excessive stockpiles. No materials to be stored on emergency routes, welfare areas or loading/unloading areas.

Hot Works

All hot works such as welding, cutting, soldering and any activities that involve using open flames or excessive heat must be planned and exact hazards identified.

A thorough risk assessment must be carried out and effective control measures put in place to ensure a safe system of work.

A Hot Works Permit must be in place.

Where possible hot works should be avoided, and alternative processes considered.

3. Health and safety hazards at the site (*continued*)

Safety hazards –

Falls from height

All areas from which a person may fall must be adequately protected by barriers or other preventative measures.

All fall prevention measures must in place and be monitored throughout the project.

Suitable access and/or edge protection must be provided to all areas where there is a risk of an operative falling.

A suitable access point to be created enabling safe movement of personnel, tools and materials between the scaffolding and the working area.

Scaffolding must have guard-rails, mid-rails and toe-boards to prevent people or materials falling. The edge protection must have a rail at 950mm with an intermediate rail at 470mm and toe board at 150mm. There must be suitable ladder access for personnel to gain access.

Work from scaffolding must not commence until a hand-over certificate has been received from the scaffolding contractor.

The scaffold structure must be checked and recorded by a competent person:

- after any substantial addition, dismantling or other alteration
- after any event likely to have affected its strength or stability
- weekly



The type of tower scaffolding selected must be suitable for the work and erected and dismantled by people who have been trained and are competent to do so.

Those using tower scaffolds must be trained in the potential dangers and precautions required during use.

Tower scaffold provision is to be properly managed and include rigorous scaffold inspection arrangements.

All ladders are to be checked to ensure they are in good condition, the right type of ladder for the job is to be used and HSE guidance on the 'Safe use of Ladders and Stepladders' (INDG455) is to be followed.

3. Health and safety hazards at the site (*continued*)

Safety hazards –

Collapse of structures
<p>Work will be carried out as per Structural Engineers design.</p> <p>This will include relevant information about the building's structure, stability and structural form and any significant design assumptions, suggested work methods and sequences. This information must be used to plan and carry out the work safely.</p>

3. Health and safety hazards at the site (*continued*)

Health hazards –

COVID-19

A COVID-19 site specific Risk Assessment must be carried out and recorded with procedures for monitoring and reviewing.

Humidity

The environment within the Butterfly House itself is very humid. The works must be managed to ensure regular breaks/job rotation and operatives must be encouraged to keep hydrated.

Contamination

The Principal Contractor must assess the risk of harmful micro-organisms such as bacteria, viruses and fungi and ensure that all workers are aware of the associated hazards and are encouraged to wear all necessary PPE and to practise good hygiene.

Building dust

Any dust generated by the works must be adequately suppressed by damping down or other appropriate method such as on-tool extraction.

Dust levels must be regularly:

- Assessed
- Controlled
- Reviewed



Good ventilation must be maintained at all times.

Appropriate and suitable Respiratory Protection Equipment/Personal Protection Equipment must be worn as necessary.

COSHH and flammable/dangerous substances

Strictly no chemicals to be used in the Butterfly House.

The Principal Contractor must ensure any hazardous/flammable substances are suitably stored in well ventilated, secure areas away from combustible materials. A COSHH assessment must be carried out and all items will be stored with MS Data sheets.



At the end of the working day, any items such as gas must either be taken away with contractors or returned to the COSHH area.

3. Health and safety hazards at the site (*continued*)

Health hazards –

Manual handling

Manual handling operations will be necessary during the works. Risks must be managed by:

- use of mechanical aids where appropriate
- suitable training, instruction, information and supervision of all operatives.

Noise and vibration

Vibration must be reduced to the lowest practicable level and controlled to safeguard against the risk of hand-arm vibration syndrome (HAVS) and carpal tunnel syndrome (CTS).

Where possible the lowest noise and vibration producing plant and equipment must be used.

Employees must not be exposed above the exposure limit value and HSE guidance L140 'Hand-arm vibration' must be followed.

Noise Assessments must be carried out for each task where judged to be necessary, in accordance with the Control of Noise at Work Regulations 2005.

PPE must be provided and worn as necessary.

3. Health and safety hazards at the site (*continued*)

Design considerations

Significant design assumptions

It is believed the design has eliminated or reduced foreseeable health and safety risks so far as reasonably practicable and that the tendering contractors will be experienced and competent at this type of work and will apply well known and widely practised methods of safe working.

Arrangements for co-ordinating on-going design work

The Principal Contractor must liaise with the Client and Principal Designer re any design in-put.

Any design changes must be discussed and reviewed by the project team to ensure the changes are clearly understood and that they do not introduce any significant hazard or risk that could be avoided.



Significant risks identified during design

None beyond those regularly encountered and managed by competent contractors working on this type of project.

Materials requiring particular precautions

None.

Protecting the general public

The work site must be securely segregated from areas accessed by other occupants visitors and the general public by the erection appropriate robust hoardings.

4. The Construction Phase Plan

Suggested contents

- a description of the project including:
 - key dates and details
 - project team
- the management of the work including:
 - the health and safety aims for the project
 - the site rules
 - arrangements to ensure co-operation between project team members and co-ordination of their work, e.g. regular site meetings
 - arrangements for involving workers
 - site induction
 - welfare facilities
 - fire and emergency procedures
- the control of any of the specific site risks



5. The Health & Safety File

Information in the existing file

The existing Health and Safety file is Held by the Client.

Information required

The first draft of information for the revised Health & Safety File is to be given to **No Nonsense CDM Ltd** two weeks before Project Completion.

The information should cover the following topics, **where this may be relevant to the health and safety of any future work:**

- A brief description of the work carried out. **Bullet points, no more than 1 side A4**
- Any hazards that have not been eliminated through the design and construction processes, and how they have been addressed (for example, surveys or other information concerning asbestos, contaminated land or buried services). **If any**
- Key structural principles (for example, bracing or sources of substantial stored energy including pre or post-tensioned members) and safe working loads for floors and roofs. **If any**
- Hazardous materials used (for example, lead paints and special coatings). **If any**
- Information regarding the removal or dismantling of installed plant and equipment (for example, any special arrangements for lifting such equipment). **If any**
- Health and safety information about equipment provided for cleaning or maintaining the structure. **if applicable**
- The nature, location and markings of significant services, including underground cables, gas supply equipment and fire-fighting services. **Marked on as-built drawings**
- Information and as-built drawings of the building, its plant and equipment (for example, the means of safe access to and from service voids, and the position of fire doors)

Please note the File is NOT an O&M Manual, neither does it need to include information which will be of no use in further construction work such as:

- **the Pre Construction Information or Construction Phase Health & Safety Plan**
- **designers' or contractors' risk assessments or method statements**
- **contractors' COSHH assessments or suppliers MSDS**
- **details about the normal operation of the structure**
- **contractual documents**
- **information contained in other documents, but relevant cross-references should be included**

Appendix A

F10 Notification to follow on appointment of a Principal Contractor, if appropriate.

Appendix B

Delivery Logistics - site plan – Butterfly House, Horniman Museum

