



## Method Statement for Targeted Watching Brief

### Crossrail Eastern Ticket Hall (TCR) 12 Goslett Yard

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Fig 1 Site location

Fig 2 Location of targeted watching brief



## 1 Site-specific methodology

- It is proposed that a targeted watching brief is conducted at 12 Goslett Yard (Figs1 and 2).
- The initial breaking-out of concrete ground slab shall be conducted by the Principal Contractor.
- Modern slab, rubble and overburden will be cleared by machine under archaeological supervision using a toothless ditching bucket to grade down to the top of the predicted level of post-medieval structural remains (approximately 0.50m to 0.75m below current ground surface). More substantial obstructions will be left in place if their removal is likely to damage surrounding archaeological deposits.
- Spoil will be removed and mounded by the Principal Contractor.
- The planning and recording of these remains will occur after the machining process, with selected areas being cleaned in order to determine the sequence.
- At the first archaeological horizon, post-medieval structures will be mapped directly by MOLA surveyors, followed by selective investigation and sampling of individual features as required to meet the stated research objectives.
- Following the initial overall strip, map and clean, individual features will be hand cleaned and defined: sufficient to determine type, plan form and relationships (e.g. for structures and re-builds); and recorded. Sufficient archaeological features/structures will be sample excavated either using a smaller machine with graded digging bucket (by the Principal Contractor under archaeological supervision) to remove low grade cellar fills or hand cleaned if of appropriate significance.
- If a machine has to re-enter the area, as is likely at 12 Goslett Yard, care will need to be taken to ensure that it does not damage underlying remains.
- When this initial phase of the targeted watching brief is completed it will be followed by a second controlled machine strip by removing the post-medieval structures to the level of the pre-urbanisation landscape (c 1.5m to 2.0m below ground level). A second targeted sampling and recording process as described above will be repeated at that second level. The main objective here will be to sample investigate firstly the predicted brickearth quarries (providing a *terminus post quem* for the first urbanisation) and secondly, any remnants of the original rural landscape that might survive between these large cut features.

### 1.1 Recording systems

A unique-number site code has been agreed with the Museum of London Archaeological Resource Centre (TCG09).

The recording systems adopted during the investigations will be fully compatible with those most widely used elsewhere in London, and those required by the Archive Receiving Body, the Museum of London.

The site archive will be so organised as to be compatible with other archaeological archives produced in the Museum of London. It will follow the Museum of London,



*Method Statement Crossrail Eastern Ticket Hal (TCR) 12 Goslett Yard*  
*General Standards for the preparation of archaeological archives deposited with the*  
*Museum of London, (2009). This requirement for archival compatibility extends to the*  
*use of computerised databases.*

A 'site plan', based on the Ordnance Survey 1:1250 map (reproduced with the permission of the Controller of HMSO), will be prepared.

Plans and sections will be drawn on polyester based drawing film at a scale of 1:10 or 1:20. 'Single context planning' is preferred on deeply stratified sites.

## **1.2 Treatment of finds and samples**

Treatment, analysis and subsequent handling of all finds and samples will be carried out by MOLA Specialists.

Where necessary, the strategy for sampling archaeological and environmental deposits and structures (which can include soils, timbers, animal bone and human burials) will be developed by MOLA in accordance with English Heritage and IFA guidelines. Advice will be sought from the LPA Archaeological Advisor and the Regional Archaeological Science Advisor throughout the project, as appropriate. Subsequent on-site work and analysis of the processed samples and remains will be undertaken by MOLA Specialists.

Any organic samples will be subject to appropriate specialist analysis. There may be a requirement to submit timbers to dendrochronological analysis and to process some samples to provide C14 dating. Other forms of specialist analysis may also be appropriate.

The finds retrieval policies of the Museum of London will be adopted. All identified finds and artefacts will be retained, although certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained. No finds will, however, be discarded without the prior approval of the curatorial departments of the Museum of London.

All finds and samples will be treated in a proper manner and to standards agreed in advance with the Museum of London. They will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in the United Kingdom Institute for Conservation's *Conservation Guidelines No. 2* and the Museum of London's *Standards for the Preparation of Finds to be permanently retained by the Museum of London*. Metal objects will be x-rayed and appropriate objects then selected for conservation.

The programme of ceramic dating and analysis will be undertaken by MOLA Specialists.

## **1.3 Reporting**

Formats for report deliverables (Survey Report, Interim Statement, Summary Report, OASIS Summary Sheet and Fieldwork Report) are as specified in the Site-specific WSI (*Crossrail, January 2009, section 8*). The method for preparation of digital records, drawings and reports will also be as specified in the available Crossrail Written Scheme of Investigation (Generic and Site-specific, *as per 1.5, above*).



## 1.4 Site Archive

Deposition of the final public archive normally occurs after a suitable level of analysis and publication of the results of the archaeological project. At present the suggestion location for curation of the archive from this project is the Museum of London Archaeological Archive and Resource Centre.

The site archive will be organised as to be compatible with other archaeological archives in the Museum of London. It will follow the Museum of London, *General Standards for the preparation of archaeological archives deposited with the Museum of London*, (1998). This requirement for archival compatibility extends to the use of computerised databases. The site archive shall also conform to guidelines referred to in the Written Scheme of Investigation (*Crossrail January 2009*, Section 8.5).

In order for the final project archive to be transferred to a public receiving body for long-term curation it will be necessary for the landowner to transfer ownership of the finds and any rights to the accompanying data to that body. If the Museum of London is to be the final archaeological archive location for the Crossrail project and related work, Deed of Transfer forms are available on request.

## 1.5 Quality and Environmental Management Plans

The overall MOLA quality and environmental management plan for Crossrail were submitted as part of our application for accredited Framework panel status.

For this site, quality issues are primarily driven by clear advance specification and understanding of the works; a suitably experienced Site Supervisor able to work closely with the Principal Contractor; and corporate support via experienced managers and specialists able to attend site to advise where necessary (including health and safety advice via the MOLA consultant). A Post-investigation Project Manager will oversee off-site works and all report deliverables will be checked, edited and signed off by the Project Officer and Contract Manager.

Any site-specific environmental protection issues such as groundwater management, contamination or wildlife habitats will be discussed and developed with the Principal Contractor and risk assessments and remedial measures updated. The project planning prior to commencement has not identified any significant environmental issues specific to the archaeological works defined in this method statement.

## 1.6 Programme

The timing and duration of the programme will be agreed with the Principal Contractor and the client LU and will be dependent on activities such as breaking out, removal of obstructions, removing spoil and installing temporary support. Since the archaeologists will not be able to work in the areas during attendances, the time taken will not form part of the archaeological programme.

MOL Archaeology will require at least four week's notice of commencement of the strip, map and sample investigation on site from LU and the Principal Contractor.

The programme for off-site work and the associated report deliverables will be as per the Site-specific WSI (*Crossrail, January 2009*).



## 2 Attendances, access and safety

### 2.1 Timetable and staffing

The removal of modern slab, rubble and overburden will be cleared by machine by the Principal Contractor under supervision by a Senior Archaeologist. Five archaeologists will subsequently assist with recording and sampling work over a 5-6 week period. The initial strip will commence from 14th June 2010 (confirmed date to be agreed with LU and the Principal Contractor). It is likely that other archaeological specialists may be called in if necessary, e.g. MOLA Surveying team; MOLA Photographer, MOLA Finds Specialist and Finds Processor.

### 2.2 Attendances

Some provision for welfare and working conditions will need to be anticipated. Some or all of the following attendances may be required to be supplied by the Principal Contractor:

Items will be discussed and specified in more detail on site with the Principal Contractor. Those in **bold** will be required – others may be:

- **General site security** including hoardings, gateway, warning notices, etc; to create a secure site perimeter, sufficient to prevent unauthorised access both into the site and into individual areas of excavation, particularly out of hours. If the Principal Contractor has retained security guards, it is recommended that the archaeological investigation areas be added to their schedule for regular patrols.
- Specific site security (if required): it may be necessary to separately secure individual archaeological areas via a physical barrier (e.g. Heras fencing).
- **Providing safe access** from the site gate to offices and facilities and to the specified archaeological investigation areas via defined walkways, secure ladders etc. This includes segregating archaeological work areas from any plant operating nearby e.g. via a physical barrier.
- **Managerial services** – nominated points of contact for Principal Contractor and other key members of development team.
- **Technical advice** to be available if required (e.g. via client or Principal Contractor's consulting engineer) re. protection of adjacent streets and buildings, obstructions, depth of excavation, live services etc.
- **Site accommodation** and welfare facilities with power, running mains water, heating and lighting. To include furnished main base cabin as work space; a furnished mess area; a separate male/female changing area and toilets; plus additional lockable steel cabin for tools and finds.



- **Site preparation and clearance.** Removal of structures, rubbish, spoil heaps, demolition materials, slab, modern obstructions, infill, made ground, etc. as required, prior to and during the archaeological investigation. The majority will be mechanical excavator, under archaeological supervision, but occasional hand work by labourers may be needed (e.g. clearing individual obstructions or removing spoil from excavation areas if the machine cannot re-enter).
- **Transport/mounding/storage of spoil** from archaeological investigation areas. This includes removal from site, if necessary.
- **Filling back and reinstatement** upon completion (investigation areas are normally backfilled, for safety reasons, unless there are client instructions to the contrary).
- **Supply of plant and equipment;** principally a 360 degree tracked mechanical excavator of recommended 20 ton size; supplied with driver, breaker, toothed digging bucket and toothless ditching blade. Other plant such as a Kubota type mini-excavator, dumpers, compressor/breakers, hoist and pumps may also be needed.
- **Accreditation and supervision of operatives, plant and equipment,** including supply of banksmen.
- **Temporary support:** design, installation and maintenance of appropriate temporary support to archaeological investigation areas (or to individual deep features such as wells), where deeper than c 1.20m. This is normally via benching/battering back and/or shoring, depending on depth and ground conditions. A review will be carried out with the Principal Contractor at c 1.20m to determine the most appropriate method.
- **Pumping-out** (if required): A suitable method to keep investigation areas (or individual deep features such as wells) dry, e.g. pumping into a previously investigated trench, to create a sump.
- **Temporary roofing** (if required) to archaeological excavations (e.g. clear plastic sheets on scaffolding frame). Needs to have adequate water drainage and ventilation. Small-scale, portable roofing may be required if individual archaeological features of particular significance are revealed (e.g. a grave) depending on weather conditions.
- **110v. site lighting** (if required) for general access to excavations, plus individual task lighting within trenches (e.g. tripod-mounted spotlights) if required. The need for lighting depends on the depth, season and weather conditions.
- **Locating and making safe any live services or hazardous substances** (above or below ground): All known services have been disconnected and all identified contamination removed, during structural demolition and the removal of ground obstructions across the site. If any further items are encountered, the area will be marked off and decommissioning and decontamination carried out before commencement of archaeological investigation. Any disconnected services within investigation areas should be removed by the Principal Contractor under archaeological monitoring, if this can be done without causing archaeological damage.



- **Development of a safe method of working:** archaeologists will not be able to work within excavations whilst attendances (such as installing temporary support or removing spoil) are taking place or when demolition, construction or heavy plant activity occurs adjacent or overhead.

### 3 MOLA Welfare, Health & Safety Method Statement

The MOLA Site Supervisor is responsible for ensuring that a copy of the Welfare, Health & Safety Method Statement is made available at every archaeological site. Where further changes or additions to the WH&S Method Statement are required and agreed these should be appended to the site master copy by the Site Supervisor. All changes to the WH&S Method Statement will be signed off by the Contract Manager and Field Manager

MOLA Site Supervisor
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#### 3.1 Site-specific Health and Safety methodology

##### 3.1.1 Site Access

###### *General site access and visitors*

Safe access routes from the site gate to work Areas and any offices and/or facilities will be erected and maintained at all times throughout the course of the archaeological works by the Principal Contractor

Principal Contractor responsible
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All visitors to site for archaeological purposes will be accompanied by a member of MOLA staff for the duration of their visit.

MOLA supervisor responsible
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###### *Trench Access and barriers*

The Contractor will establish and maintain designated safe routes to and from MOLA areas of work, and demarcate them and areas of archaeological work with suitable barriers as required and necessary.

Principal contractor to supply and maintain
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The MOLA project supervisor will monitor the safety of access routes and areas used by MOLA.

MOLA supervisor responsible
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Safe access into deep investigation areas will be provided and maintained by the Contractor.

Principal Contractor to supply and maintain
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Shoring in areas which exceed 1.20m in depth (and those of less than 1.20m which are judged unstable) will be installed in accordance with Safety Regulations and maintained throughout the occupancy of the site by the Principal contractor.

Principal contractor to supply and maintain
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##### 3.1.2 Services – Gas, Electricity, Water, Sewers, Telecomms

No member of MOLA staff will touch or otherwise interfere with a live service even if declared 'safe'. In the event of the accidental disruption of a live service by

MOLA supervisor
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archaeologists or sub-contractors under archaeological supervision the MOLA supervisor will inform both their project manager and the Principal Contractor and, when appropriate, call the relevant emergency number.

responsible

In so far as is reasonably possible the location of all live under ground and over ground services has been ascertained by the client and/or his agents and notified to MOLA before the 'handover meeting' (see above) and disconnected, diverted or made safe as appropriate.

Principal Contractor responsible

### 3.1.3 COSHH and Contaminated land

MOLA is not aware of any previous documented land usage suggesting that the site is likely to contain specific potentially dangerous subsurface ground contamination.

### 3.1.4 Area safety

#### 3.1.4.1 Preliminaries

- All machine investigation of the area (under the supervision of the archaeological supervisor) will be assisted by a qualified banksman provided by the Principal Contractor.

Principal Contractor

#### 3.1.4.2 During investigation

- No MOLA staff will enter the area if it is declared unsafe by any competent person or the MOLA project supervisor.
- A safe working distance of 6 metres, between archaeologist recording and planning features and the machines in use will be maintained at all times.
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MOLA site supervisor

### 3.1.5 Confined Spaces

A "confined space" is any space of a substantially enclosed nature where there is a reasonably foreseeable risk of injury from a specific source. The space does not have to be completely enclosed. MOLA will accept any area as a "confined space" where so designated by LU or Principal Contractor and may independently designate such spaces where the MOLA contract manager in consultation with the MOLA H&S advisor considers that conditions in the working area are consistent with the need to adopt Confined Spaces working practices. Note that work areas may become confined spaces as work progresses. Where so designated MOLA staff will operate the space in accordance with a safe system of work.

At the time of writing no areas have been defined by MOLA or the client as Confined Spaces. This will be kept under constant review.



## 3.2 Generic

### 3.2.1 National legislation

MOLA staff will at all times comply with all existing national legislation regarding Health and Safety at work.

### 3.2.2 Health and Safety Policies

All MOLA staff will adhere to the Health and Safety regulations and procedures laid down in the most up to date version of the MOLA *Health & Safety Policy*. Copies of this document will be made available for inspection on site to clients, visitors, MOLA staff and contractors.

MOLA Site  
Supervisor

The Policy reflects guidance contained in the HSE's publication HS(G)65 *Successful Health and Safety Management* as a guide to management of Health and Safety; and guidance contained in the HSE's *Protection of workers and the General Public during the Development of Contaminated Land*.

### 3.2.3 Client or Principal Contractor H&S Policy/Instructions

In so far as they do not contradict procedures laid out in our own H&S Policy or current legislation, MOLA staff will also comply with any Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal Contractor or H&S coordinator.

### 3.2.4 Specialist H&S Advice

MOLA retains the services of and is advised by a third party H&S advisory company, who provide ongoing advice on health and safety matters to all departments in the organisation. On most sites a member of this organisation will visit at least once to carry out a H&S audit. They report to the MOLA site supervisor who will carry out their recommendations. Where necessary, or if requested, this report will be made available to the client's H&S representative.

MOLA Site  
Supervisor

### 3.2.5 Construction Design and Management Regulations CDM 2007

Archaeology as a stand-alone activity and profession is not considered to be part of the construction industry and is therefore currently formally exempt from the CDM regulations 2007. However, where archaeological work is undertaken as part of a construction project, whether defined as notifiable or not under the regulations, it is considered reasonable to expect that work to conform to CDM 2007. MOLA cannot act as the CDM co-ordinator or Principal Contractor for any construction project, but may be considered a Designer under the regulations.

### 3.2.6 CSCS

At present the profession of Archaeologist is largely covered by the CSCS, Construction Related Organisation CRO White Card for Archaeological Technician (Code 5363); other cards are available for site visitors etc. For this all MOLA staff likely to undertake fieldwork must pass a CITB Health and Safety Test at least to operative level. Where a member of staff has not yet received their card they will produce a certificate to prove that they have passed the test or a letter confirming that a test has been booked for them.



### **3.2.7 CHAS**

MOLA is an accredited contractor with the Contractors' Health and Safety Scheme (CHAS) a founder member of Safety Schemes in Procurement (SSIP). This demonstrated compliance with and sound management of current basic H&S legislation.

### **3.2.8 Hours of work**

MOLA staff will generally work a 37 hour week between the hours of 8.0/8.30am until 4.30/5.0pm, Monday to Friday on site, with suitable breaks conforming to all legal requirements. Where requested and funded by the client any overtime worked will also conform to legal requirements with regard to duration and breaks. MOLA staff contracts permit only voluntary overtime over 40hrs per week.

### **3.2.9 English Language**

All members of MOLA staff are sufficiently fluent in both spoken and written English to understand all verbal and written safety instructions and warnings on site.

### **3.2.10 Behaviour**

Mobile phones, personal CD players, I-pods and similar will not be used by MOLA staff in archaeological trenches or areas of work. Smoking and naked flames are/is not permitted in the areas of work. Alcohol is not permitted on site.

### **3.2.11 Legal Status of employees**

As a division of the Museum of London, MOLA conforms to all UK employment legislation covering the legal right to work in the UK of all staff, and has in place, via the Museum's Human Resources department, rigorous procedures to ensure that legislation is conformed to.

### **3.2.12 Training and Certification**

MOLA provides Safety Training for its staff as follows:

- Induction Training for all staff (undertaken on joining MOLA, and as appropriate on individual projects).
- General H&S Training for supervisory staff (an H&S awareness course targeted at Field and Support Staff).
- Specialist H&S Training (designed to cover specialist areas and to update professional knowledge; as appropriate to deployment)

All MOLA staff on site will be competent to carry out their archaeological work. Where less experienced staff are used these will at all times be under the supervision of the Site Supervisor or other experienced member of staff for training. Certain specific aspects of MOLA work require additional and specific training and certification, and only those members of staff with the relevant training and certification will be allowed to undertake them. These include Cable and Pipe/Underground Service Location, Chainsaw use, Confined Spaces and Power Auger use.

### **3.2.13 Personal Protective Equipment (PPE)**

All MOLA staff are supplied with and will wear or use the following PPE where required and as appropriate:

- Safety Helmets (EN397)
- Ear Defenders (EN 352-3)



- Safety spectacles (EN166)
- Goggles (Chemical BSEN 166 Type 3)
- Dust masks plain and valved (EN149 2001)
- Half masks and filters (EN140 & A1B1E1K1P3)
- Disposable overalls (Type 5/6 disposable EN340)
- Hi-visibility vests (EN471)
- Gloves Nitrile and latex disposable, PVC, EN374
- Heavy duty nitron rubber gloves (EN420, 388)
- Safety footwear - steel toecap and mid-sole boots and Wellingtons EN345-47
- Fall arrest harnesses (EN361) with Lanyards (EN355) and connectors (EN362), winch and tripod
- Escape Set and Breathing apparatus, full-face respirator (EN136) filter (A1B1E1K1P3), PVC gauntlets, chemical overalls (type 3).

Any other PPE required by the client and/or Principal Contractor must be provided or funded by them.

### 3.2.14 MOLA H&S Responsibility matrix

		<b>Overall responsibility</b>	<b>Accountability, monitoring and/or actions</b>	<b>In consultation with:</b>
<b>Policies and Procedures</b>	Maintain WSI and H&S MSs masters	MOLA MD	Senior Consultant	Ops Managers
	Regular maintenance Health & Safety Policy	MOLA MD	Field Manager	Client Teams, Ops Teams, Union MOL H&S
	Relay of H&S legislation or guidance changes to appropriate managers	MOLA MD	Operations Manager	H&S Advisors (External and MOL)
<b>Project Activities</b>	DTA template and H&S components	Senior Consultant	DTA Team Manager	Contract Managers
	Project-specific H&S elements of DTA	DTA Team Manager	DTA team member	Contract Managers
	Create Project Specific Risk Assessment	Senior Consultant	Contract Manager	Site Supervisor / H&S advisor Field Manager
	Create Project Specific H&S Method Statement in WSI	Senior Consultant	Contract Manager	Site Supervisor / H&S advisor Field Manager
	Handover of site to Operations for H&S	Senior Consultant	Contract Manager	Field Manager and Site Supervisor
	Acceptance of site by Operations for H&S	Operations Manager	Field Manager**	Site Supervisors and Contract Manager
	Adherence to H&S	Field Manager	Site Supervisor	Project team



*Method Statement Crossrail Eastern Ticket Hal (TCR) 12 Goslett Yard*

	Method Statement			3rd party advisor Contract manager
	Updates of site specific risk assessments	Field Manager	Site Supervisor	Contract Manager 3rd party advisor
	Updates of site H&S Method Statement	Field Manager	Site Supervisor	Contract Manager 3rd party advisor
	Raising H&S issues during site	Site supervisor	All	All
	Resolving H&S issues at site level	Field Manager*	Site supervisor	Contract Manager , 3rd party advisor
	Escalation of non-resolved H&S issues	Senior Consultant	Field Manager*	Site Supervisor 3rd party advisor
	General Health & Safety Liaison with Client	Contract Manager	Site supervisor	3rd party advisor Field Manager*

\* or, in absence, Operations Manager

\*\* may be delegated on smaller sites to site supervisors. This will be recorded.

Note: in general, 'final responsibility' rests with those in column three; continuous monitoring, actions required, documents to write etc are by those in column four.

**3.2.15 Liaison with Client/Principal Contractor H&S representative**

The appointed MOLA site supervisor will act as the principal liaison with their counterpart at the offices of the Principal Contractor and/or Attendance Contractor throughout the periods of investigation. They will take advice from MOLA's 3rd party H&S advisor and liaise with the Contract Manager.

MOLA Site Supervisor
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**3.2.16 Personal information relating to MOLA staff**

In compliance with the Data Protection Act (1998) and to protect the personal and financial safety of our staff, MOLA will not provide personal data for MOLA staff to clients, Principal Contractors, or other bodies without the express written permission of those staff. We will also seek to ensure that such information is being securely held and responsibly used by the organisation seeking it and not provide it without first obtaining a signed standard written statement.

**3.2.17 Fire and Emergency Procedures**

Where the client or Principal Contractor has procedures for dealing with fire and other emergencies on site, MOLA staff will at all times inform themselves of these procedures and follow them

MOLA Site Supervisor
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Where the client or Principal Contractor advises that it is necessary for MOLA to establish its own procedures with regards to fire and other emergencies on a site, this will be done by the Site Supervisor by the end of the first day of site work, after details of the site layout (e.g. entrances/exits, safe assembly points, fire equipment

MOLA Site Supervisor
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points, location of accommodation, trenches and other work areas) have been finalised.



**3.2.18 First Aid and appointed First Aider(s)**

MOLA will ensure there is an appointed first aider(s) for the site. A MOLA first aid kit, of an appropriate size for the site, will be located in the site office/mess hut/canteen.

**3.2.19 MOLA Safety Documents and Accident Book**

The MOLA site safety documents will be located with the first aid kit in the site office/mess hut/canteen. The safety documents will include a minimum of:

MOLA Site Supervisor

- Current Health and Safety at Law Poster for display where legislation requires
- Accident Book compliant with the Data Protection Regulations.
- MOLA Public Liability Insurance & Employers Liability Insurance for display
- Where To Get First Aid poster – to be displayed if required.
- Current MOLA Health and Safety Policy
- A copy of the site Welfare, Health and Safety Method Statement, extracted from the Site WSI, and modified as agreed during the course of the site.

**3.2.20 Inductions and Tool Box talks**

All MOLA staff and volunteers receive a full induction including Health and Safety on commencement of their first day of work with the organisation. A record of the induction is kept.

Where a site is under the control of a Principal Contractor, MOLA staff will attend all initial site inductions and subsequent toolbox talks as required and managed by the Principal Contractor

Where MOLA has control of a site: A site-specific induction will be undertaken by the Site Supervisor (or other competent staff member) for each member of staff on their first day of work. All visitors to the site will also receive a short Health and Safety induction on their first visit. A signed record of all on site inductions will be maintained by MOLA for inspection.

MOLA Site Supervisor

**Toolbox Talks**

Irrespective of whether the site is controlled by MOLA or a Principal Contractor, on larger projects e.g. those with more than 2-3 staff and of a week or longer duration, regular toolbox talks will be given by the MOLA Supervisor or other suitable member of staff using the *CITB: construction site safety tool box talks manual*. As a minimum requirement these talks will occur 1-2 times per week and be of 10-15 minutes duration.

MOLA Site Supervisor

**3.2.21 Accident reporting and RIDDOR**

In order to identify quickly problem areas and allow corrective action to be taken all accidents, dangerous occurrences and near misses, including those that do not cause injury, will be a) reported immediately to the MOLA supervisor and b) entered in the site Accident Book.

MOLA Site Supervisor

The Reporting of Injuries, Diseases and Dangerous Occurrences (RIDDOR)

MOLA Site Supervisor



Regulations 1995 sets out requirements for the reporting of certain types of accidents. RIDDOR notifiable accidents will be reported immediately by the MOLA site supervisor to:



- the MOLA Field Manager, who inform the appropriate enforcing authority, normally the Health and Safety Executive.
- the client's representative on site

If necessary the scene of the accident will be sealed off by MOLA and left undisturbed until the HSE's Inspector and any other interested party have carried out an investigation.

### 3.2.22 Stopping work for Health and Safety issues

If at any time the site or part of the site being worked by MOLA is made unsafe or the safety of MOLA staff is endangered, other than through the actions of MOLA, then MOLA will give notice to the client or his agents of the unsafe conditions which will be confirmed in writing if a claim for compensation is to be made. If reasonable steps are not taken immediately to abate the danger or risk then MOLA reserves the right to withdraw its staff and workforce from the site until it is declared safe, and the period of time of the withdrawal will be added to any agreed period of work. If MOLA is unable to find suitable work to redeploy such staff financial compensation will also be sought.

### 3.2.23 Asbestos

The Client and/or Principal Contractor will supply MOLA with a copy of the documents required under Regulation 4 of the Control of Asbestos Regulations 2006 relating to any building that MOLA staff will be required to enter during their work or any building within the same site where demolition will be taking place. No work will be undertaken without this. Where the client has not provided this before work is due to start, MOLA will procure the services of a competent body to carry out the survey and recharge any costs to the client. Where risks are identified, mitigations will be put in place by the client before work starts.

Client to supply

## 3.3 Welfare

As the fieldwork may extend over several weeks, the MOLA archaeologist(s) will require access to office space for working on the archaeological records and for storing finds, and a lockable facility for storage of tools and equipment. Although the site visits are likely to be intermittent the archaeologist should also have access to toilets with hot and cold water. These facilities will be supplied by the Principal Contractor.

MOLA will require accommodation for the site staff during the investigation for up to 6 members. The following will therefore be supplied by the Principal Contractor/MOLA:

A lockable mess area for up to 6 persons, with lighting, electrical points, heating, mains water supply, chairs, benches and tables.

A lockable office area suitable for 6 persons, with lighting, electrical points, heating, chairs, tables (or desks), shelf units, lockable filing cabinet.

Male and female toilets/changing rooms with hot and cold water.

Principal contractor
Supplied by Principal contractor
Supplied by Principal



A lockable tool store for holding large hand tools, sufficiently robust to store surveying and other equipment.

A lockable store for finds and environmental samples.

Separate finds and environmental cleaning and processing areas, with running water and drainage

Contractor
Supplied by Principal contractor
Supplied by Principal contractor
Supplied by Principal contractor

### 3.4 Preliminary Site Risk Assessment

Under the Management of Health and Safety at Work Regulations 1999, MOLA has undertaken a preliminary assessment of the risks to H&S of employees, other contractors, and visitors (authorised and unauthorised) to which they may be exposed whilst they are on site. Prior to the commencement of the on-site work MOLA has prepared the following Overall Site Risk Assessment for the hazards it feels are likely to be present on the site.

This exercise is not intended to, and cannot, replace the need to conduct more detailed Risk Assessments on site once work has commenced. Further Risk Assessments for specific activities and areas of work will be made as work progresses and as required.

Risk Assessments form part of the Health and Safety controls for the site and will be kept on file on site and brought to the attention of and made available to all staff working there.

MOLA Site Supervisor
MOLA Site Supervisor

#### 3.4.1 Preliminary Overall Site Risk Assessment

The MOLA Site Supervisor will be responsible during the progress of the site work for monitoring whether (and what) *additional* updates, modifications or Specific Risk Assessments may be required.

MOLA Site Supervisor
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Site name 12 Goslett Yard		Type wb		March 2010	
Persons Affected	No	Classification	No		
Employees	5-7	Experienced	5-7		
Other workers	-	Inexperienced	-		
Public	-	Disabled	-		
Known and Suspected Hazards on site (tick as appropriate)					
Mobile Plant	✓	Power Auger		Ionising radiation	
Moving Machine Parts		Access equipment		Lasers	
Moving objects		Hazardous Substances		Ultraviolet	
Falls from height	✓	Contamination		Temperature	
Falls on level	✓	Micro organisms		Noise	
Manual Handling	✓	Vermin/Weil's Disease		Vibration	
Buried services	✓	Fumes/Gas		Weather	
Electrical		Lone working		Hot/cold objects	
LPG etc		Welfare		Physical attack etc	
Fire/Explosion		Confined spaces		Vehicles	
Chainsaw		Hand Tools	✓	Human remains	
Control Measures Required					
Compliance with H&S at Work Act 1974, Construction(Design and Management) Regulations 2007 and MOLA H&S Policy					





Compliance with MOLA Generic or Site Specific Risk Assessment(s). And:											
<b>Assessment of Remaining risk (Low, Medium, High) (see notes on reverse)</b>											
	L	M	H		L	M	H		L	M	H
Mobile Plant	✓			Power Auger				Ionising radiation			
Machine Parts				Access equipment				Lasers			
Moving objects				Hazardous Substances				Ultraviolet			
Falls from height	✓			Contamination				Temperature			
Falls on level	✓			Micro organisms				Noise			
Manual Handling	✓			Vermin/Weil's Disease				Vibration			
Buried services	✓			Fumes/Gas				Weather			
Electrical				Lone working				Hot/cold objects			
LPG etc				Welfare				Physical attack etc			
Fire/Explosion				Confined spaces				Vehicles			
Chainsaw				Hand Tools	✓			Human remains			
<b>Emergency action/additional assessment required for remaining medium/high risk</b>											
<b>Competent Person(s) appointed to take action:</b> PO Elaine Eastbury HSO Ian Grainger				<b>Report seen by (initials)</b> SCM George Dennis <b>SA(s)</b> <b>Client</b> <b>Contractor</b> <b>Other</b>							
				<b>Archaeologists</b>							

### 3.4.2 Specific Risk Assessments

<b>MoLAS RISK ASSESSMENT</b>		<b>MECHANICAL EXCAVATORS</b>			
<b>Significant Hazards</b>		<b>Assessment of Risk</b>			
		<b>Insignif</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
<b>1</b>	Shovel or load dropping inadvertently		•		
<b>2</b>	Overturning of machine		•		
<b>3</b>	Materials dropping from shovel or bucket			•	
<b>4</b>	Persons struck by machine			•	
<b>5</b>	Restriction of driver's vision.			•	
<b>6</b>	Hydraulic fluid spray		•		
<b>7</b>					
<b>ACTIONS ALREADY TAKEN TO REDUCE RISKS</b>					
<b>Compliance with:</b> MoLAS Safety Policy Construction(Design and Management) Regulations 2007 Control of noise at Work regulations 2005 Control of Vibrations at Work Regulations 2005 British or European Standards including: 5228: Noise on construction sites. 6912: Safety in earthmoving machinery 6913: Operation & maintenance of earthmoving machinery					



**Planning:**

MoLAS Staff will not operate Mechanical excavators.  
 Choice of hire equipment and requirements assessed with regards to ground conditions and local operational requirements.  
 Choice of Excavators and driver/operator to be from sub-contractors competent to provide the machinery and service required.

**Physical:**

180 degree machines - When using the backhoe the front bucket must be lowered to the ground  
360 degree machines - At least 600mm clearance to be allowed for tail swing.  
 No persons are allowed to stand or work within operating radius without the operator's permission. Loads must not be slewed over personnel, vehicle cabins or huts.  
 Overhangs are not to be created on high workfaces. Wheels/tracks are to be at 90 degrees to the workface.  
 Travel and operations on a gradient must be controlled to ensure machine stability.  
 A banksman is to be used where driver's vision is impaired or operating in congested areas.

**Management:**

Certification of drivers must be checked.  
 Drivers must be over 18 years old.  
 MoLAS Staff must not operate mechanical excavators  
 All trenching and deep investigation work must be supervised to ensure the stability of machine and investigation, and that persons do not work within the swinging radius of a backhoe.  
 Vehicles must be checked by drivers before use and secured afterwards.  
 Management must ensure speed restrictions are enforced, and monitor use on sloping ground.  
 Noise levels are to be monitored and assessed as may be necessary.

**Training:**

Driver training to CITB/CSCS (or equivalent) standard is required; also to comply with BS 6264: Operator training for earthmoving machinery. Excavator driving by uncertificated operatives is not permitted; this also applies to our subcontractors and the self-employed.

**MOLAS SITE/TASK SPECIFIC RISK ASSESSMENT**

**For each site, location, and task the appropriate generic assessment should be reviewed to ensure that all significant hazards and their risks are identified and controlled. Completion of this Risk Assessment will ensure that your assessment is both appropriate and complete**

<b>Site/Location/Task:</b>	
----------------------------	--

<b>Frequency and Duration of Task:</b>		<b>Number of Staff Involved:</b>	
--	--	----------------------------------	--

**Specific Hazards Identified?**

**Control Measures Required?**

<b>Assessment of Remaining Risks:</b>	High	Medium	Low
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<b>Serious and Imminent Danger Identified:</b>		Yes	No
<b>What Emergency Action Required?</b>			
<b>Circumstances Requiring Additional Assessment?</b>			
<b>Competent Persons Appointed to Take Action</b>			
<b>Circulation of Risk Assessment</b>			
<b>Employees and Volunteers</b>			
<b>Principal Contractor</b>			
<b>Client</b>			
<b>Sub Contractor</b>			
<b>Public/Visitors</b>			
<b>Other Occupier</b>			
<b>Risk Assessment Prepared by</b>	<b>Signed:</b>	<b>Name:</b>	<b>Date:</b>

<b>MoLAS RISK ASSESSMENT</b>		<b>UNDERGROUND SERVICES</b>			
<b>Significant Hazards</b>		<b>Assessment of Risk</b>			
		<b>Insignif</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
<b>1</b>	Contact with electricity or gas supplies			•	
<b>2</b>	Contact with sewage		•		
<b>3</b>	Flooding from water services		•		
<b>4</b>	Explosion or asphyxia from gas leaks		•		
<b>5</b>					
<b>6</b>					
<b>7</b>					
<b>ACTIONS ALREADY TAKEN TO REDUCE RISKS</b>					



**Compliance with:**

MoLAS Safety Policy  
 Electricity at Work Regs.1989  
 Construction(Design and Management) Regulations 2007  
 DSEAR 2002  
 Regulatory Reform (Fire Safety) Order 2005  
 HSE Guidance Booklet HS(G)47 - Avoiding danger from underground services.  
 Highways Act 1980,  
 New Roads and Streetworks Act 1991  
 DoT ACOP - Safety at Street Works & Roadworks  
 Traffic Signs Manual, Chapter 8  
 National Joint Utilities Group publications :  
     No.3 - Cable locating devices  
     No.42 - Identification of small buried mains and services.

**Planning:**

All work to be planned in advance, taking account of the above.  
 Full details of underground services must be obtained in advance from the relevant authority, including Television Cable Companies, BT and other telephone companies, and private property owners.

**Physical:**

Plans and cable location equipment to be available before work starts. Plans must not be assumed to be accurate, and location devices to be used in addition. Trial holes to be dug, using hand digging to confirm locations, taking account of physical indications such as junction boxes and manholes. The lines of services to be marked, using paint, wooden pegs, etc. All services to be assumed to be live until proven otherwise. Services crossing investigations to be supported.  
 Services in concrete to be isolated before breaking operations begin.

**Management:**

Site supervisors or the person in charge to ensure that services are located and marked before further work begins.  
 Full consultation to be held with relevant authorities to agree precautions to be carried out before work begins.  
 All personnel, machine operators and subcontractors to be fully briefed before they begin work.  
 All temporary services to be properly marked.

**Training:**

The person in charge must be trained in operation of cable locating equipment, and the requirements of HS(G)47. Personnel locating services must be similarly trained

MoLAS RISK ASSESSMENT		Manual Handling (Fencing, Planks, Boards)			
		Assessment of Risk			
Significant Hazards		Insignif	Low	Medium	High
		1	Immediate Injury to back and body		
2	Musculoskeletal disorder etc			●	
3	Slips and Trips			●	
<b>ACTIONS ALREADY TAKEN TO REDUCE RISKS</b>					



**Compliance with:**

MoLAS Safety Policy; Construction(Design and Management) Regulations 2007  
 Manual Handling Operations Regulations 1992 (amended 2002)  
 Health and Safety at Work Act 1974  
 COSHH Regulations 2002  
 Provision and Use of Work Equipment Regulations 1998 (amended 2002)  
 Management of Health and Safety at Work Regulations 1999

**Planning:**

The need for manual handling to be removed wherever possible, and minimised where practical.  
 The task or workplace to be structured to reduce the risk of injury wherever possible  
 Suitable mechanical aids to be provided where possible  
 Mechanical aids to be maintained in good working order. All large or unusual manual handling tasks to be subject of a site/task specific Risk Assessment by a competent person

**Physical and Management:**

Fill in Manual Handling Risk Assessment Record below  
 Determine size and weight as accurately as possible. Assess fragility/flexibility. Assess material and examine for splinters, protruding nails and other puncture/cut hazards. Find and secure all movable parts, eg joints, step ladder legs etc. Ensure appropriate PPE is worn, particularly gloves. Delay task if weather/site conditions inappropriate, particularly if it is too windy – consider wind resistance on boards/planks. Decide on the likely duration of the task and the numbers needed to complete it. Assess carefully how many are actually needed to move each item safely and comfortably. Assess the route to be used, particularly with long or wide objects in mind. Minimise trip hazards, constrictions on space, variations in height for lifting etc. Employ professional movers where practical for larger tasks. Use cranes, pallet or forklift trucks where possible. If on site consult other contractors as to route and timing of task. Ensure staff selected for the task are the most suitable for the purpose? E.g identify those who cannot perform the task for medical/physical reasons. Ensure that sufficient breaks/rests are taken.

**Training:** All staff to be trained in Manual Handling Techniques where practicable and are trained and certificated to use pallet trucks etc. All staff to Follow Manual Handling Instructions as per.....

**MANUAL HANDLING RISK ASSESSMENT RECORD**

Risk analysis	High	Medium	Low
<b>The Task</b>			
Does it involve holding the load away from the body?			
Does it involve lifting or lowering distances?			
Does it involve carrying over distances?			
Does it involve twisting or bending?			
Does it involve pushing or pulling?			
Does it involve frequent or prolonged physical effort?			
Does it involve static effort (e.g. holding positions)?			
Does it involve reaching up?			
Does it involve large vertical movement?			
Does it involve the unpredictable movement of Loads?			
Does it involve repetitive handling?			
Does it involve insufficient rest or recovery periods?			
<b>The Load</b>			
How many objects are to be moved?			
Are they too long, wide, thick or heavy(Note over 25kg for men and 17kg. For women are HSE guidelines only –not weight limits)?			
What materials are they made of?			
Are the boards/planks too thin/flexible for their size to be carried manually?			
Are there any movable sections, joints to trap limbs/fingers, cause trips?			



Are there splinters, nails, other hazards protruding			
Does each item involve team handling?			
Could they be moved by other means? (e.g crane or fork lift truck?)			
Should/could professional movers be used?			
Are they dry? Easy to handle?			
Does it restrict the operator's movement or vision?			
Is it unstable with an awkward centre of gravity?			
Are the type and/or size of handholds inadequate			
Does it necessitate the use of PPE (e.g. gloves, safety footwear, etc.)?			

**The Working Environment**

Is the floor slippery or unstable?			
Is the lighting inadequate?			
Are there space restrictions or constraints on posture?			
Is there a temporary working platform (e.g. scaffold, hop-up etc)?			
Are there unreasonable levels of hot, cold, wind, or air movement?			
On site - what is the weather like (hot, cold, rain, wind), can the task be delayed for better conditions? In particular is it too windy?			
Are the standards of housekeeping poor?			
Is the floor uneven, or vary in level, are there steps/stairs or obstructions?			
Has the route been assessed with long/wide objects in mind? (corners, stairs, low ceilings etc?)			
On site - Has route been agreed with other contractors site?			

**The individual**

Does the task require unusual capability?			
Could the task be age restricted?			
Could it be limited to males only? (e.g over 18kg in weight)			
Is there a need for specialist information or training			
Have staff received manual handling training ?			
Have staff received training to operate pallet trucks etc?			
Could the task be hazardous to those with a health problem?			
Should the task be prohibited for pregnant women?			

Is there a risk of injury or the development of one?

Yes

No

If yes what action is needed?

Name:

Signature:

Position:

**MOLAS SITE/TASK SPECIFIC RISK ASSESSMENT**

For each site, location, and task the appropriate generic assessment should be reviewed to ensure that all significant hazards and their risks are identified and controlled. Completion of this Risk Assessment will ensure that your assessment is both appropriate and complete

Site/Location/Task:

Frequency and Duration of Task:

Number of Staff Involved:

Specific Hazards Identified?



<b>Control Measures Required?</b>				
<b>Assessment of Remaining Risks:</b>		High	Medium	Low
<b>Serious and Imminent Danger Identified:</b>		Yes	No	
<b>What Emergency Action Required?</b>				
<b>Circumstances Requiring Additional Assessment?</b>				
<b>Competent Persons Appointed to Take Action</b>				
<b>Circulation of Risk Assessment</b>				
<b>Employees and Volunteers</b>				
<b>Principal Contractor</b>				
<b>Client</b>				
<b>Sub Contractor</b>				
<b>Public/Visitors</b>				
<b>Other Occupier</b>				
<b>Risk Assessment Prepared by</b>		<b>Signed:</b>	<b>Name:</b>	<b>Date:</b>

MoLA RISK ASSESSMENT Significant Hazards		HAND TOOLS			
		Assessment of Risk			
		Insignif	Low	Medium	High
1	Eye injury		•		
2	Injury to hands, feet and body			•	



3				
4				
5				
6				
7				

**ACTIONS ALREADY TAKEN TO REDUCE RISKS**

**Compliance with:**

MoLA Safety Policy  
 Provision and Use of Work Equipment Regulations 1998 (amended 2002)  
 Construction(Design and Management) Regulations 2007

**Planning:**

Hand tools = simple none mechanical tools eg spades, shovels, mattocks, grubbing mattocks, pick axes, chisels, hammers, screw drivers etc. Can also include small electrical equipment – drills etc  
 Tools provided must be assessed to ensure that they are suitable, fit for the purpose, the environment in which they are to be used and are in good working condition.  
 Operatives must be assessed to ensure that they are physically capable of undertaking the task and using the required tool.  
 Operative must be trained and supervised in the use of hand tools where applicable.  
 Consider manual handling risk assessment where applicable.

**Physical:**

Eye and hand protection is to be provided and used whenever work is done using cold chisels, drills, grinders or other tools where there is a risk of flying particles or pieces of the tool breaking off.  
 Open-bladed knives, scalpels, screwdrivers and other sharp tools are to be carried and used so as not to cause injury to the user or others.  
 Use tools correctly as per training.  
 Do not over exert yourself.  
 Insulated tools must be used where there is a possibility of live electrical work.

**Management:**

Site Supervisors and those in charge of work must monitor hand tools which can deteriorate with use, to ensure they are repaired or replaced as necessary, and to ensure that the correct tools are being used.  
 Specific checks must be made as follows:  
     Chisels for mushroom heads  
     Hammer and file handles for deterioration and exposed tangs.  
     Open-ended spanners for splayed jaws.  
     Spade and digging tool handles for tightness and damage  
 Supervisors must also check at the beginning of each day and/or shift, that operatives are fit for the task and to use the tools required. Consideration must be given to the duration and intensity of the task in this regard.  
 Use manual handling risk assessment check list where applicable.

**Training:**

Personnel must be instructed in the correct method of use and in maintenance requirements as applicable to them (level of experience) and the specifics of the task (unusual tools or task). This may be done as on the job training, task specific instruction and training, tool box talks

**4 Funding**

The developer has already agreed to fund the appropriate archaeological strip, map and sample coverage and the costs will be agreed in a separate document.





## 5 Acknowledgements

MOLA is grateful for the assistance of Will Peters of LU and Mike Curran of VINCI BAM Nuttall Joint Venture for their assistance in preparation of this report.

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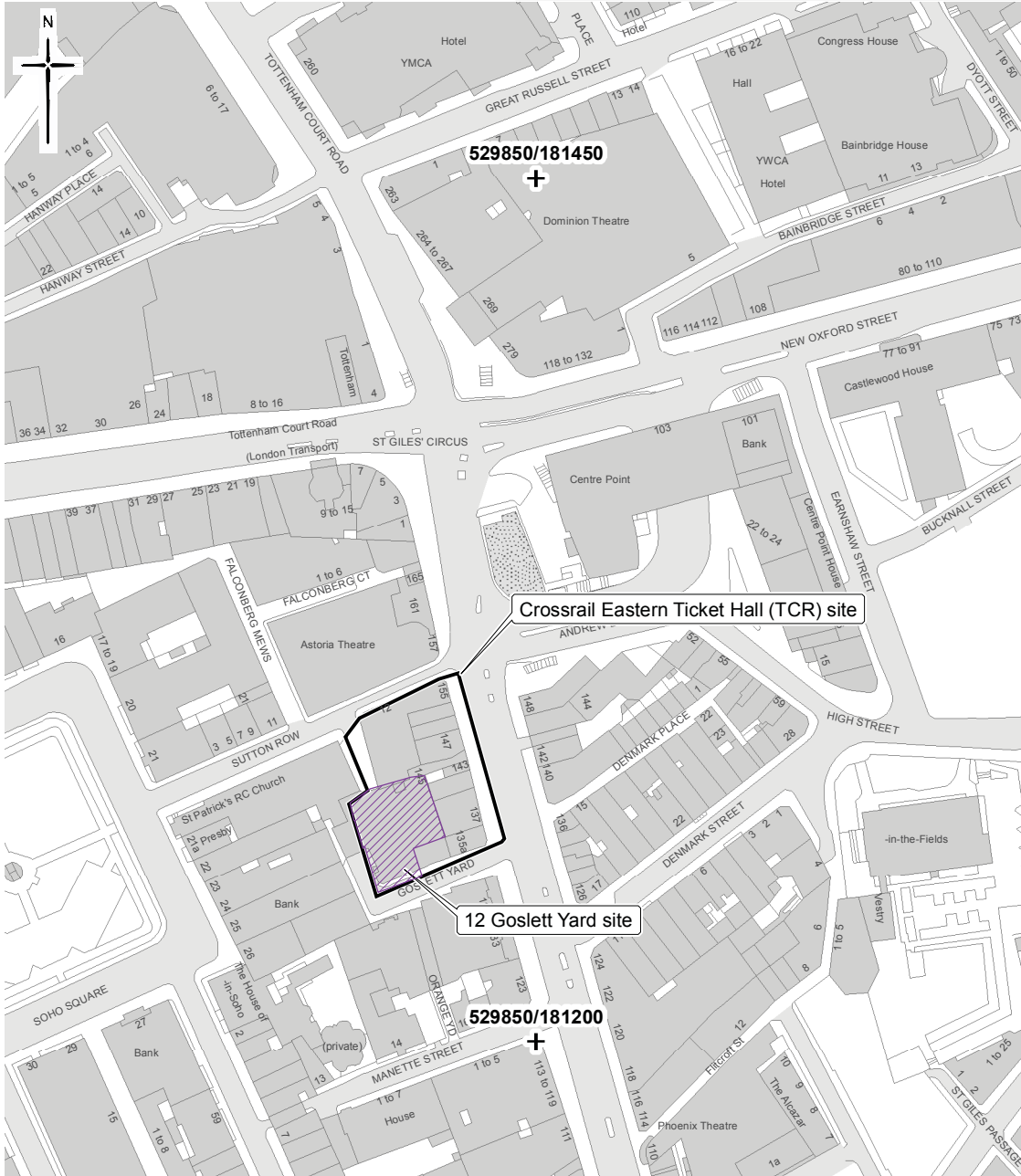
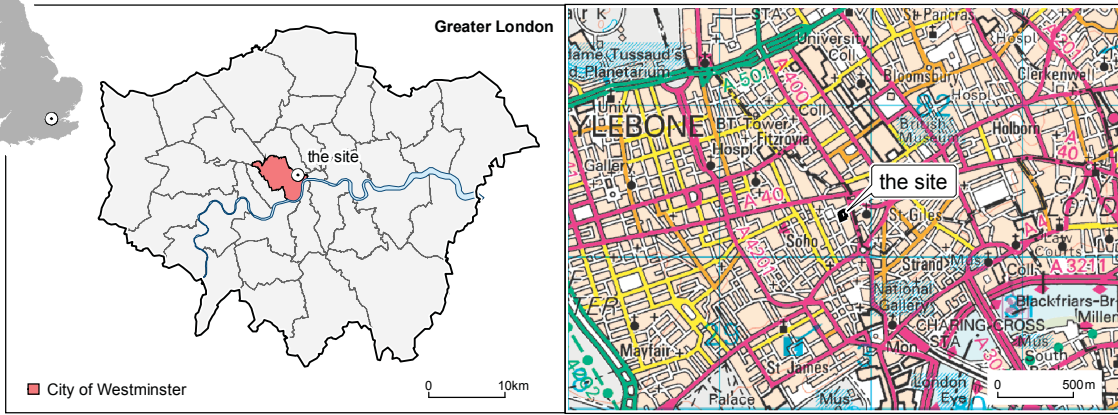
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Scale 1:2,000 @ A4

0 100m

Fig 1 Site location

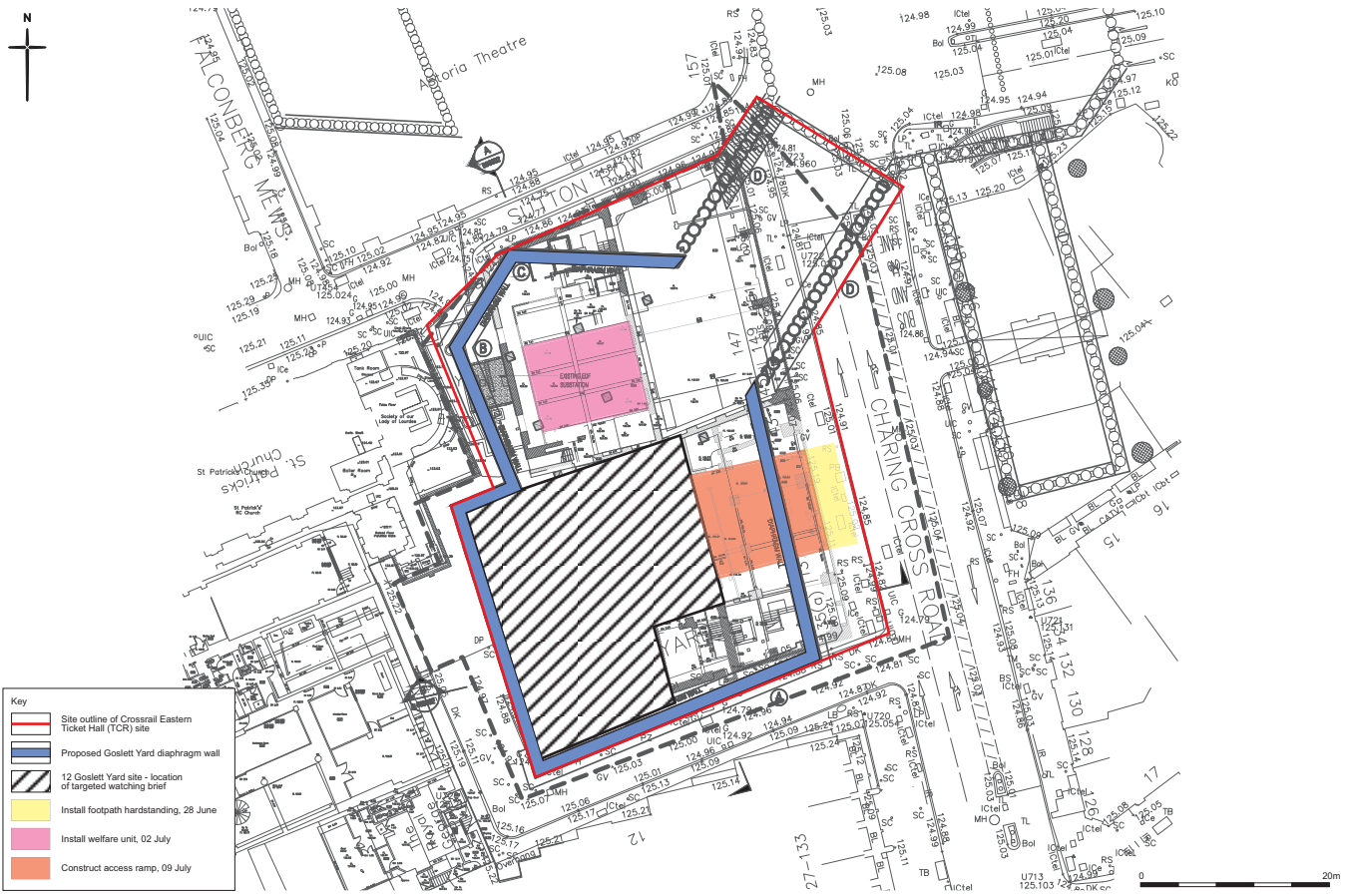


Fig 2 Location of targeted watching brief