

British Library Extension

Underground Utilities Survey (Trial Pits) Specification

BL-ARUP-ZZ-BG-SP-CU-000001

P01 | 30 June 2023

This report takes into account the particular instructions and requirements of our client.

It is not intended for any third party.


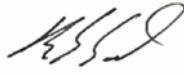

Job number 249622

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Document verification

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Issue Document verification with document



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Contents

Document verification	1
Contents	1
Schedule 1: Underground Utilities Survey (Trial Pits) Specification	3
1 Introduction	5
1.1 Background	5
1.2 The Parties	5
1.3 Site Location	7
2 Project and Scope Information	8
2.1 Purpose of the Survey	8
2.2 Extent of Survey	8
2.3 Survey Type	8
3 Access	8
4 Methodology	9
5 Scope of Survey	10
5.1 Features to be Recorded	10
5.2 Trial Pit Survey	10
6 Accuracy	12
7 Deliverables	12
7.1 General	12
7.2 Trial Pit Survey Report	12
8 Reinstatement	13
9 Background Information Supplied	13
10 Health and Safety	13
11 Traffic Management	14
12 Licences	14
13 Programme	15
14 Tender Returns	15
Appendix A	1
Proposed Trial Pit Locations	1

Appendix B	2
Existing Utilities Information	2
Appendix C	3
Topographical Survey	3
Appendix D	4
Tender Return Information	4

Schedule 1: Underground Utilities Survey (Trial Pits) Specification

Name of project:	British Library Extension
Project number:	249622
Purpose of survey:	To excavate trial pits to identify and record the routes of existing below-ground apparatus including sewer structures, pipes, direct buried cables, ducted cables, and empty ducts. The survey information will be used to provide engineering design services to support the proposed development.
Client:	SMBL c/o Stanhope 100 New Oxford Street, London WC1 1HB
Survey location/extent:	<p>The site is located in the London Borough of Camden. The site is bounded to the north by Dangoor Walk and the Francis Crick Institute, to the east by Midland Road and St Pancras International Station, Ossulston Street to the west and the existing British Library building to the south. The approximate National Grid reference of the site centre is TQ299828.</p> <p>The required works are to be carried out within the area identified on the survey plans.</p>
Scope of works:	The survey works are as defined in this Specification.
Survey schedule dates	To be confirmed
Project Contact:	Juan Pablo Villagra Arup 8 Fitzroy Street London W1T 4BJ +44 20 7755 0235
Site Access:	Access to the Site is to be arranged by the Contractor via the Employer and the

land Owner(s). Prior to commencing work, the Contractor shall undertake an initial site visit to identify the local constraints and recognise the access requirements to be included in the method statement.

The Contractor is to agree all approvals, traffic management and access arrangements with the Employer, Owner(s) and the Highway Authority when required. The tenderer shall make an allowance for the appropriate traffic management (if required) within the tender return to undertake these works and agree working methods with the parties above.

1 Introduction

1.1 Background

Arup have been commissioned by Stanhope Mitsui British Library Developments Ltd (SMBL) to provide design services in support of the implementation of an extension to the British Library in the London Borough of Camden.

The purpose of the Survey is to identify and record the routes of all existing below ground apparatus including pipes, direct buried cables, and empty ducts within the specified trial pits.

Arup will use the Survey information to assess the proposed route for connections to and diversions off the existing site.

1.2 The Parties

The Parties are defined as follows:

1. **Owner** – the organisation(s) or individual(s) that own the land where the Survey is to be undertaken.
2. **Client** - the organisation for whom the use of the Survey is ultimately being procured for. This may/may not be the same as the Owner, or Employer.
3. **Employer** - the organisation that is contracting with the Survey Contractor for this Project. This may or may not be the same as the Client, or Owner.
4. **Contractor** - the organisation employed by the Employer to execute the Survey as defined in this Specification.
5. **Consultant** - the technical advisor employed by the Client to prepare this Specification and point of contact for technical queries from the Contractor.

The Parties, their key contact person and contact details where applicable are defined below:

Party	Organisation	Contact Person & Details
Client	SMBL Developments Ltd	Paul March Project Director M: +44 (0) 7773 033 192 E: paul.march@stanhopeplc.com
Owner (proposed development)	British Library	Rahif Olodo Programme Support T: +44 (0) 20 7412 7287 E: rahif.olodo@bl.uk
Employer	SMBL Developments Ltd	Paul March Project Director

		M: +44 (0) 7773 033 192 E: paul.march@stanhopeplc.com
Consultant	Arup	Juan Pablo Villagra Senior Engineer T: +44 (0) 20 7755 0235 E: juanpablo.villagra@arup.com
Contractor	To be determined	

1.3 Site Location

The location of the proposed development is shown on Figure 1. The Site is located to the rear of 96 Euston Road, London, NW1 2DB, within the London Borough of Camden. It is bounded by Midland Road and St. Pancras International Station to the east, Ossulston Street to the west, Dangoor Walk and the Francis Crick Institute building to the north, as well as the existing British Library buildings to the south.



Figure 1 The British Library Extension location (Google Earth, 2020)

2 Project and Scope Information

2.1 Purpose of the Survey

This Specification outlines the specific requirements of the underground utilities (trial pits) survey for The British Library Extension. The purpose of this survey is to establish and record the location, type and dimensions of all drainage and underground utilities within the specified trial pits, to provide confidence in the planning of all necessary works.

The survey work should be carried out as detailed in this Specification and in accordance with the relevant British Standards (BS), Royal Institution of Chartered Surveyors (RICS), PAS128:2022 and industry standard guidance documents.

2.2 Extent of Survey

An indicative location of the trial pits is shown in Appendix A. This shall be reviewed and, if required, revised based upon the findings of the surveys detailed in the Drainage and Underground Utilities Survey Specification (BL-ARUP-ZZ-BG-MS-CU-00001).

No survey work is required within existing buildings.

2.3 Survey Type

The survey shall be carried out in accordance with PAS128:2022.

The survey shall be a Type A survey comprising utilities trial pits.

3 Access

The appointed Contractor shall make the necessary arrangements to access the whole survey extents by arrangement via the Employer. This is to include the Owner(s) and relevant statutory authorities, who may need to be consulted in advance.

When tendering, the Contractor is responsible for assessing site specific access constraints. They shall ensure that such access prioritises the safety of their operatives and users of the Site. As part of this, the Contractor shall also satisfy both themselves and the Employer that equipment can be used safely and recovered.

It should be noted that some of the areas to be surveyed are operational areas and therefore liaison with the Employer will be required for access, and to allow the minimum disruption to the survey teams and the public.

Where vegetation clearance is required, it is to be agreed with the Employer. Consideration should be given to environmental and ecological protections and constraints.

4 Methodology

It is recommended that the Contractor arranges with the Employer, Owner and Consultant to visit the Site and its surroundings to assess the full extent of the survey and satisfy themselves of all the potential difficulties the survey may present.

Based on this site visit, the Contractor shall use their experience to produce a method statement, risk assessment and programme of works prior to the survey works commencing. The programme should itemise and detail how they will carry out all of the requirements as listed within this Specification.

The Contractor shall be responsible for liaison with the relevant statutory authorities to facilitate the survey, obtaining approval for the work and ensuring that all relevant licences are in place. In particular, it should be noted that the survey area includes a significant proportion of public highway. The Contractor is responsible for obtaining approval from the Highway Authority to undertake the works required and for designing and implementing any traffic management requirements. The Contractor shall also comply with all requirements of the utility companies for protection of existing services during any excavation.

A Method Statement shall be issued by the Contractor to the Employer and the Consultant. This should include, but not be limited to:

- A summary sheet detailing the works to be undertaken;
- Information on access requirements;
- Measurement/detection methods to be deployed
- Means of access for all plant and equipment necessary to carry out the works;
- Plant/labour to be used;
- Details of any Subcontractors;
- Storage requirements for materials;
- Any areas of the site highlighted by the Contractor, which cannot be accessed under the present conditions
- Comments on the expected achievable quality;
- Sequence and programme of operations including consultations with London Borough of Camden and relevant utility companies prior to commencement of the works;
- Working hours, security and safety equipment to be installed;
- Details of welfare provision during the works;
- Any third-party permissions required;
- Traffic management proposals;
- Any other information required by the Client.

The Method Statement shall be submitted with the tender return to allow for review to be undertaken prior to appointment.

5 Scope of Survey

5.1 Features to be Recorded

All utility types located shall be recorded as part of the survey works. These will include amongst others:

- Electricity cables (LV and HV)
- Gas mains
- Water mains
- Telecommunication cables and ducts
- Drainage systems (surface water, foul water and combined sewers etc.)

In addition to public utilities listed above, any other underground services or structures should be recorded. Some examples of items that are expected to be found in an urbanised area such as this are as follows:

- CCTV cables
- Traffic signal cables
- Cables for public service information
- Other gas pipework (for example industrial gases, medical gases)
- Pipe crossings
- Private services (electricity, gas, water, telecoms etc.)
- Substation earthing mats
- Structural foundations

Sub-surface features which are detected but could not be positively identified as a pipe/cable/duct etc should be recorded as an ‘unknown feature’. Examples of buried features that are indistinguishable from utility services include buried rails, kerbs etc.

5.2 Trial Pit Survey

The proposed locations of the utilities trial pits are included in Appendix A and summarised in Table 1 below. It is anticipated that the trial pit survey will be undertaken after the drainage and underground utilities (GPR) surveys are completed and therefore the location, number, and dimensions of the utilities trial pits may be subject to change, dependent on the findings of the surveys.

The trial pits are to extend 1.2m below existing ground levels or until all known utilities / services requiring validation are located.

Table 1: Schedule of proposed utility trial pits

Reference	Indicative location	Purpose	Approx. dimensions
TP01	Entrance point to existing access road to British Library loading bay	To locate utilities corridor on Midland Road	9.0m (length) 1.0m (width) 1.2m (depth)
TP02	Vicinity of access road within British Library boundary	To understand proximity of utilities to proposed basement walls	11.0m (length) 1.0m (width) 1.2m (depth)
TP03	Midland Road footway	To identify utilities running along Midland Road footway	3.5m (length) 1.0m (width) 1.2m (depth)
TP04	Vicinity of car park within British Library boundary	To locate utilities corridor on Midland Road and understand proximity to proposed basement walls	5.9m (length) 1.0m (width) 1.2m (depth)
TP05	Midland Road footway	To locate utilities that are redirected to Midland Road carriageway	3.2m (length) 1.0m (width) 1.2m (depth)
TP06	Entrance point to access ramp in vicinity of planters on Midland Road	To locate utilities that are not redirected to Midland Road carriageway	4.5m (length) 1.0m (width) 1.2m (depth)
TP07	Ossulston Street footway in vicinity of Dangoor Walk	To identify utilities running along Ossulston Street pavement	3.0m (length) 1.0m (width) 1.2m (depth)
TP08	Ossulston Street footway in vicinity of substation	To identify utilities connecting with and in proximity of existing substation	7.5m (length) 2.0m (width) 1.2m (depth)
TP09	Ossulston Street footway	To identify utilities running along Ossulston Street pavement	3.2m (length) 1.0m (width) 1.2m (depth)
TP10	Story Garden	To locate utilities within Story Garden	2.0m (length) 1.0m (width) 1.2m (depth)

The required measurements for each utilities trial pit are as follows:

- Utility identification;
- Duct / pipe outside diameter;
- Surveyed utility locations and level;
- Surveyed dimensions of actual pit extent;
- Photogrammetry of pit and utilities;

6 Accuracy

The Contractor shall confirm the proposed method and intervals of survey data collection, to obtain accurate results.

The Contractor shall confirm the accuracy of the survey data in plan and depth and identify any cost impacts for increased accuracy over and above standard tolerances.

7 Deliverables

7.1 General

Deliverables shall be compliant with PAS128:2022.

7.2 Trial Pit Survey Report

Following excavation of trial pits, the Contractor shall prepare a trial pit survey report which includes:

- Plan location of the pit;
- Photographs of the excavated pit at suitable intervals; and
- Annotated cross-sections of the pit at suitable intervals (clearly recording location, depth, size and type of utility or below-ground obstructions encountered).

Refer to [Error! Reference source not found.](#) for example trial pit outputs.

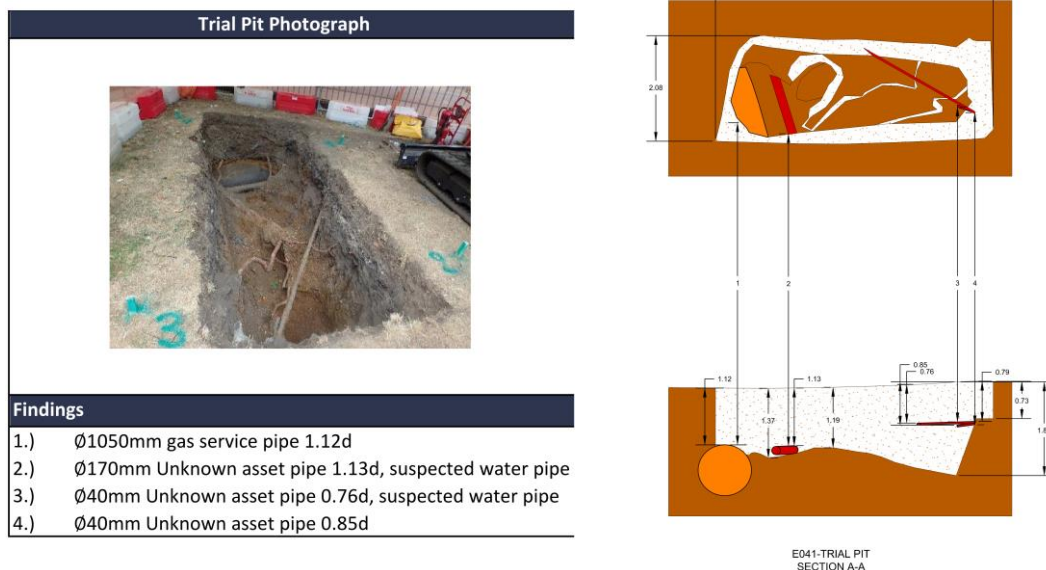


Figure 2: Sample data sheet for utilities trial pits

8 Reinstatement

The Contractor shall backfill each excavation and reinstate the pavement build-up / surfacing (with equal or similar materials to existing) to the satisfaction of the relevant Highway Authority and the London Borough of Camden.

9 Background Information Supplied

The following information will be supplied:

- Plan of proposed trial pit locations (Appendix A).
- Statutory Undertaker Responses from Groundwise Report (Appendix B):
 - TWUL Plans
 - UKPN Power plans
 - Cadent Gas Plans
 - Vodafone Plans
 - BT Plans
- Latest topographical survey of the Site (Appendix C).

10 Health and Safety

The Contractor shall comply with the relevant health and safety legislation, regulations and guidelines, and always maintain safe systems of work. Particular attention shall be given to:

- Health and Safety at Work Act 1974
- Construction (Design & Management) Regulations 2015
- Health & Safety Executive SG 151: Protecting the Public
- Control of Asbestos Regulations 2012 – Health and Safety Executive (HSE)
- HSG47 Avoiding Danger from Underground Services

It shall be the Contractor's responsibility to carry out the necessary risk assessment, determine and agree safe methods of working for carrying out the survey with the Highway Authority, relevant utility companies and London Borough of Camden where appropriate.

The Contractor shall take particular note that the survey will be conducted whilst maintaining operation of services and public areas and therefore the Contractor shall ensure that his employees are made aware of and suitably protected against the hazards related to the live utilities and public areas which will be encountered during the survey works.

The Contractor shall also liaise with the Employer and submit any additional information as required relating to Health and Safety prior to starting any work on site.

11 Traffic Management

The Contractor shall carry out the survey in such a manner as to cause as little interference as possible to the flow of vehicular traffic and pedestrians. The Contractor shall maintain safe passage for pedestrians and vehicular traffic at all times and coordinate with the Highway Authority and Employer to confirm the approach to working and approval of method statements.

The Contractor shall be responsible for all matters regarding traffic management including the design, installation, maintenance and removal of the traffic management measures.

The Contractor shall notify the Highway Authority and the Employer of the proposed survey and consult with them on when the survey can be carried out. It is likely that the survey works will be subject to restricted access and / or timings, and this will need to be co-ordinated.

12 Licences

The Contractor shall liaise with all the statutory authorities, utility companies, and the Employer, as necessary to facilitate the survey.

The Contractor shall obtain any street works licence and any other consent, licence or permission that may be required for the carrying out of the survey with the relevant Highway Authority and shall supply the Consultant with copies including details of any conditions or limitations imposed.

13 Programme

Before commencing the survey works the Contractor shall produce a detailed programme indicating each area to be surveyed and the times and access requirements for each area. The Contractor's programme shall include the following:

- The notice period required prior to commencing the works for mobilisation.
- The time period for executing the survey works on site.
- The total time from receipt of instruction to the receipt of the finalised survey report.
- A provisional risk and method statement for undertaking the work and any attendance that may be required.

As the survey has varying locations, there is the potential for differing notification periods for access. Therefore, the survey areas may need to be staged to accommodate these periods. If a staged programme is approved or agreed, the individual surveys are to be submitted in accordance with this staged programme.

14 Tender Returns

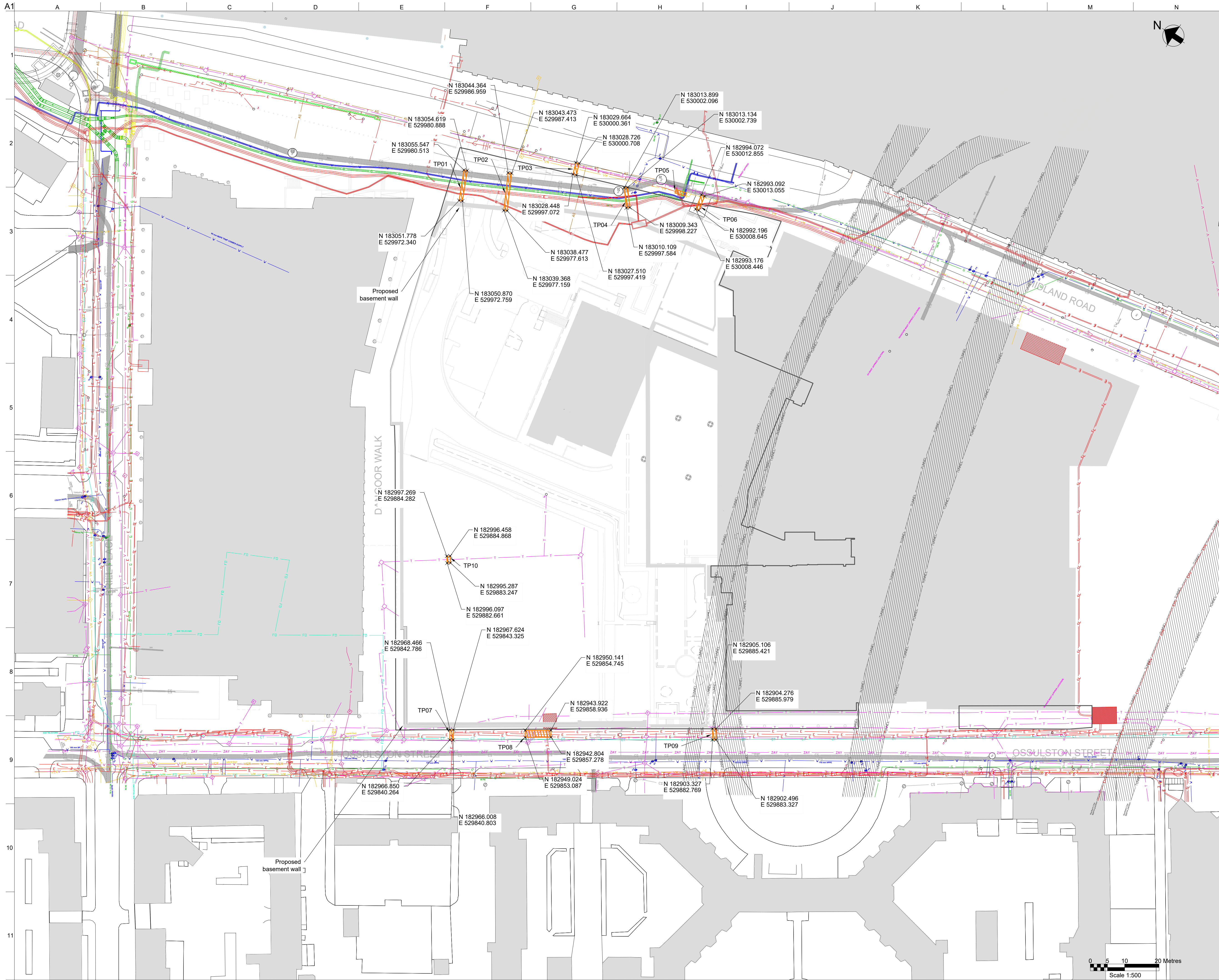
The Contractor shall return the information indicated in Appendix D as part of their tender return. The contract will be awarded on a fixed price lump sum basis.

The Contractor's proposal shall include the following:

- Detailed programme of survey works,
- A provisional risk and method statement for undertaking the work and any Site attendance that may be required.
- Fixed price lump sum fee for underground utilities survey (trial pits).

Appendix A

Proposed Trial Pit Locations



NOTES

1. Site postcode: NW1 2DB.
2. Do not scale off this drawing.
3. Existing utility survey information is based on records provided by Groundwise Searches in August 2020 and Channel Tunnel Rail Link / High Speed 1 in May 2020.
4. Indicative trial pit locations are shown on this drawing. These shall be reviewed and, if required, revised following the drainage and underground utilities surveys.

LEGEND

Site Boundary	
Proposed Trial Pit	
Existing Utilities	
Electricity Cable	E
Extra High Voltage	EHV
High Voltage	HV
Low Voltage	LV
Street Lighting	SL
Water Main	WM
Gas Main	GM
Foul Water	FW
Surface Water	SW
Combined Sewer	CS
Abandoned Sewer	AS
Culvert	CUL
BT/Openreach	T
Virgin Media	VM
Fibre Optics	FO
Duct	D
Traffic Signaling	TS
CCTV	CC
Vodafone	V
Coit	CT
Instalcom	IC
Telent	TEL
Verizon	VER
Zayo	ZAY
Existing Tunnel	TUNNEL

P01	30/06/23	JPV	AH	CR
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Client
SMBL Developments Ltd

Project Title
British Library

Key Plan

Drawing Title

**Underground Services
Proposed Trial Pit Locations
Plan**

Scale at A1 1:500

Role Civil

Suitability **For Information**

Arup Job No	Rev
249622-00	P01
Name	
BL-ARUP-ZZ-BG-DR-CU-001114	

Appendix B

Existing Utilities Information



- NOTES
- Existing utilities information is based on records provided by Groundwise Searches in August 2020 and Channel Tunnel Rail Link / High Speed 1 in May 2020.
 - Utilities shall be confirmed through underground utilities surveys.
- LEGEND
- Site Boundary
 - Existing Utilities
 - Electricity Cable
 - Extra High Voltage
 - High Voltage
 - Low Voltage
 - Street Lighting
 - Water Main
 - Gas Main
 - Foul Water
 - Surface Water
 - Combined Sewer
 - Abandoned Sewer
 - Culvert
 - BT/Openreach
 - Virgin Media
 - Fibre Optics
 - Duct
 - Traffic Signaling
 - CCTV
 - Vodafone
 - Colt
 - Instalcom
 - Telent
 - Verizon
 - Zayo
 - Existing Tunnel

P01	13/07/23	JPV	JPV	JPV
For Information				
Rev	Date	By	Chkd	Appd

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Client
SMBL Developments Ltd

Project Title
British Library

Key Plan

Drawing Title
**Existing Utilities
Existing Site
Plan**

Scale of A0
1:250

Role
Civil

Subsidiary
For Information

App. Job No
249622-00

Rev
P01

Name
BL-ARUP-ZZ-BG-SK-CU-000004

Appendix C

Topographical Survey

Appendix D

Tender Return Information

The following schedule should be returned as part of the tender return.

Requirement	Contractor Response
Notice period required prior to commencing the works for mobilisation	
Time period for executing the survey works on site	
Total time from receipt of instructions to the receipt of the finalised survey outputs	
Provisional risk and method statement for undertaking the work – enclosed	
Attendance required for Site	
Costs for welfare facilities for staff	
Fixed price lump sum fee for underground utilities survey (trial pits).	