EIRENG
CONSULTING ENGINEERS

FLOOD RISK ASSESSMENT

HEATHROW FLIGHTPATH CARPARK

ENGINEERING
CONFIDENCE

eireng.com

DOCUMENT CONTROL:

Job title	HEATHROW FLIGHTPATH CARPARK	Job No.	242120
Document title	Flood Risk Assessment		
Document ref	242120-ECE-XX-XX-RP-C-0001		

Rev	Date	Status	Prepared by	Checked by	Approved by
P1	25/11/24	Prelim.	D.McG	MR	ED
Description		Issue for Client Review			

Rev	Date	Status	Prepared by	Checked by	Approved by
P2	05/06/25	Prelim.	D.McG	MR	ED
Description		Planning Issue			

Rev	Date	Status	Prepared by	Checked by	Approved by
P3	08/08/25	Planning	D.McG	MR	ED
Description		Planning Issue			

Rev	Date	Status	Prepared by	Checked by	Approved by
P4	08/09/25	Planning	D.McG	MR	ED
Description		Planning Issue			

CONTENTS:

1.0	**INTRODUCTION**	**1**
1.1	SITE LOCATION	1
1.2	SITE DESCRIPTION	2
1.3	DEVELOPMENT PROPOSALS	2
2.0	**FLOOD RISKS**	**2**
2.1	FLUVIAL AND TIDAL FLOODING	3
2.2	SURFACE WATER FLOODING	4
2.3	GROUNDWATER FLOODING	5
2.4	GEOLOGY AND GROUNDWATER VULNERABILITY	6
3.0	**CLIMATE CHANGE**	**7**
4.0	**FLOOD RISK MANAGEMENT**	**8**
5.0	**MITIGATION**	**8**
5.1	FLUVIAL AND TIDAL	8
5.2	GROUNDWATER FLOODING MITIGATION	8
5.3	MITIGATION OF SURFACE WATER FLOODING TO THE SITE	8
6.0	**CONCLUSION**	**8**
APPENDIX A – TOPOGRAPHICAL SURVEY		**10**
APPENDIX B – SITE PLANS		**11**
APPENDIX C – LEVELS & EXCEEDENCE FLOWS		**12**

FIGURES:

FIGURE 1 - SITE LOCATION 2
FIGURE 2 - EA FLOOD MAP FOR PLANNING 3
FIGURE 3 - FLUVIAL AND TIDAL FLOOD RISK MAP 4
FIGURE 4 - SURFACE WATER FLOOD RISK MAP 5
FIGURE 5 - BEDROCK GEOLOGY FROM BRITISH GEOLOGICAL SURVEY MAP 7
FIGURE 6 - INFORMATION FROM GOV WEBSITE SHOWING AN INCREASE IN RAINFALL 7

1.0 INTRODUCTION

EirEng have been appointed to undertake a Flood Risk Assessment in support of a planning application on the development of an existing Heathrow flightpath carpark park to the north of Heathrow International Airport (LHR), NGR 507456N, 177075E. See **Figure 1**.

The report provides information on the nature of flood risk at the site and follows Government guidance regarding development and flood risk.

Proposals contained or forming part of this report represent the design intent and may be subject to alteration or adjustment in completing the detailed design for this project. Where such adjustments are undertaken as part of the detailed design and are deemed a material derivation from the intent contained in this document, prior approval shall be obtained from the relevant authority before commencing such works.

Where the proposed works to which this report refers are undertaken more than twelve months following the issue of this report, we shall reserve the right to re-validate the findings and conclusions by undertaking appropriate further investigations at no cost to EirEng Consulting Engineers Ltd.

This report has been prepared according to our client's instructions for their sole and specific use.

Scope of report

The assessment has been undertaken in accordance with the standing advice and requirements of the Local Authority and Environment Agency for Flood Risk Assessments as outlined in the Communities and Local Governments Technical Guidance to the National Planning Policy Framework (NPPF).

The assessment has:

•Considered the National Planning Policy Guidance and Local Authority Guidance procedures.

•Considered the Local Authority SFRA

•Considered the site constraints

•Investigated all potential risks of current or future flooding to the site

•Considered the impact the development may have elsewhere with regard to flood risk

•Considered design proposals to mitigate any potential risk of flooding determined.

1.1 Site Location

The site is located in the London borough of Hillingdon, approximately 25km west of central London. The site is currently accessed from the east via an unnamed bridge that goes over the M4 and comes from a spur

road of the A408. It also has an access road from the west that comes off Sipson Way. See **Figure 1.** Its national Grid Reference (NGR) is 507456N, 177075E and postcode is UB7 0DW.

Figure 1 - Site Location

1.2 Site Description

The existing site is approximately 1.6ha in size and is currently used as surface level car parking. The site consists of asphalt drive aisles with gravel parking bays and is used as a car park that predominantly serves the airport and local area. A review of the topographical survey indicates that the site generally falls from the Southwest to the Northeast, the levels vary from 26.48 to 25.40mAOD respectively. A Topographical and utility survey can be found in **Appendix A**.

1.3 Development Proposals

The proposed site is approximately 1.6 ha, comprising exterior hardstanding to be used for car parking along with high-speed EV charging and extensive landscaping. The proposed site, once completed, will have EV charging spaces, a small staff block, accessible bays, a food and beverages unit and two welfare units. The site will be developed in two phases, with Phase 1 being constructed first and covering the southern part of the site and then Phase 2 being developed at a later date. See the proposed site plans for phase 1 and phase 1 and 2 combined in **Appendix B.** This report will consider the full site area covering phases 1 and 2.

2.0 FLOOD RISKS

Three primary sources of flooding could pose a risk to the proposed development. These are listed below and will be considered in order.

- Fluvial and Tidal Flooding.

- Surface Water Flooding.
- Groundwater Flooding.

The site is located within Flood Zone 1. Flood zone 1 is described as 'the probability of flooding does not exceed 1 in 1000 or 0.1% in any given year'. See **Figure 2** for the EA flood map.

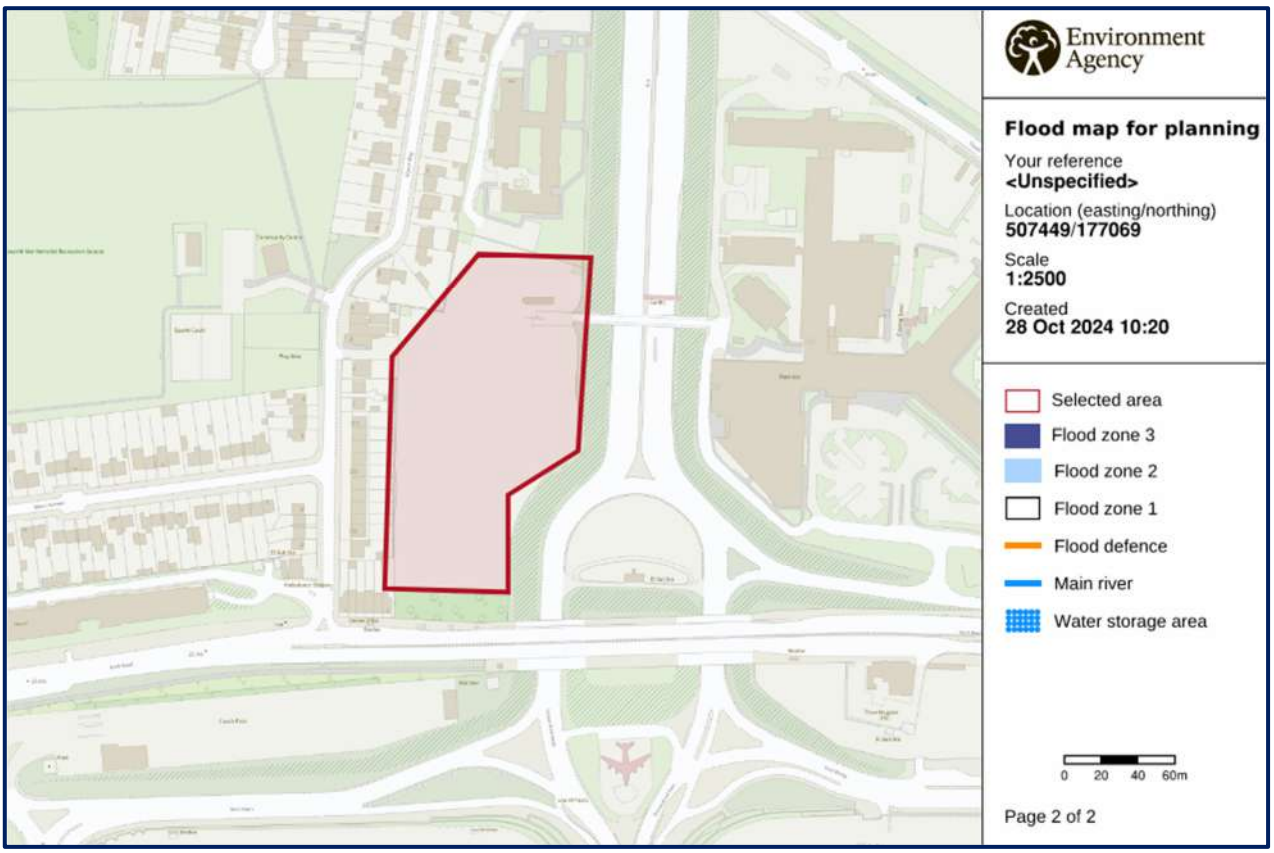


Figure 2 - EA Flood Map for Planning

In addition, Table 2 of the Technical Guidance to the NPPF, 'Flood risk vulnerability classification' states that sites used for car parks are considered less vulnerable to flood risk.

Given that all of the development is within Flood Zone 1 the sequential test is not required. Therefore, the Exception test is not required.

The development is deemed appropriate by Table 3, 'Flood risk vulnerability with flood zone compatibility'.

2.1 Fluvial and Tidal Flooding

The Environment Agency interactive flood map shown in **Figure 3** shows that the site has a low probability of fluvial or tidal flooding. This probability is quantified as having as less than 0.1% or 1 in 1000 annually. In addition, The EA historical flood maps indicate that no recorded historic flood events have occurred on site.

Flooding risk from reservoirs has been identified as 'unlikely' in this area.

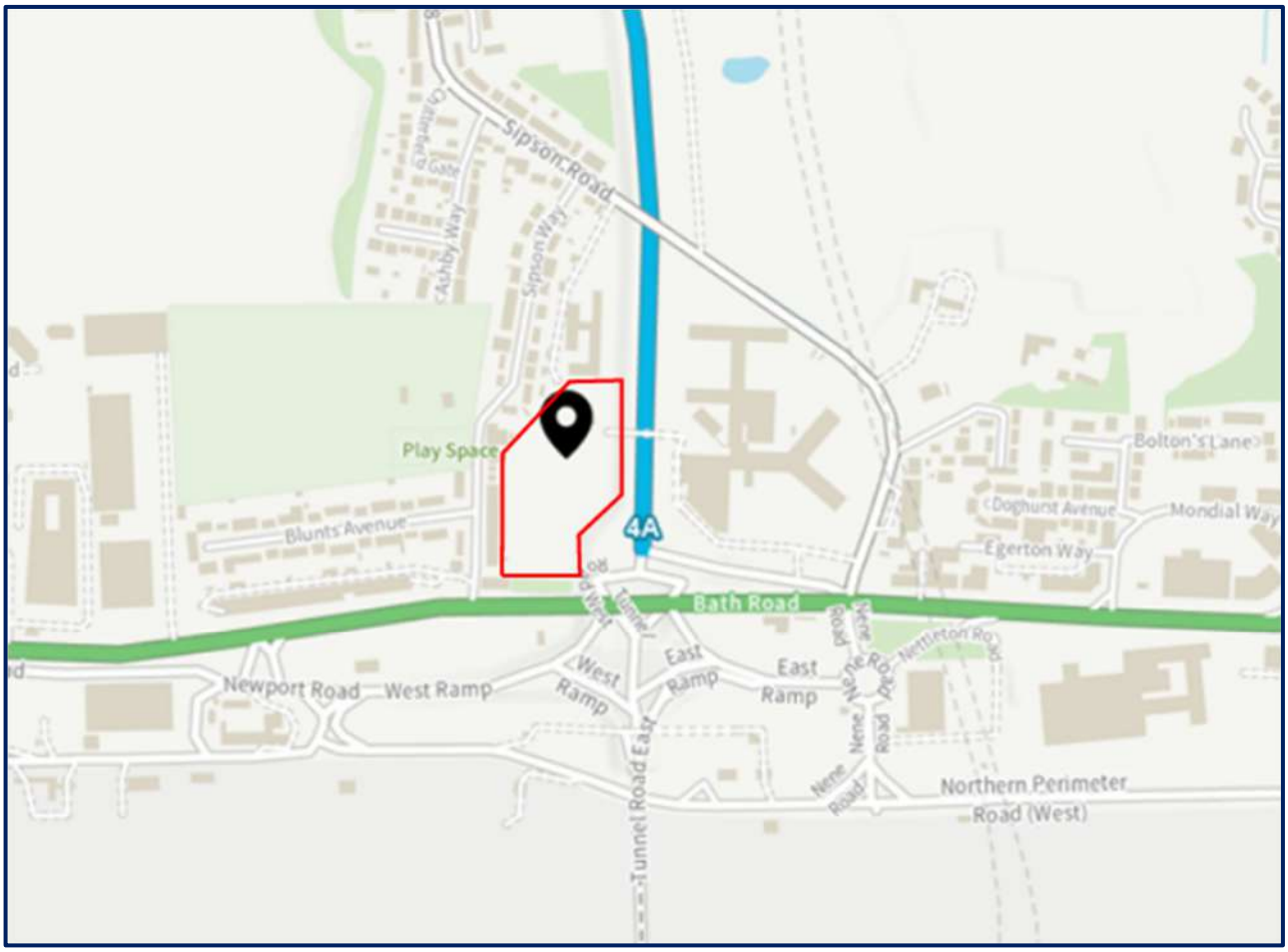


Figure 3 - Fluvial and Tidal Flood Risk Map

2.2 Surface Water Flooding

The Environment Agency Flood Mapping in **Figure 4** shows that the site is at very low risk from surface water flooding with no flow paths identified from off-site. Surface water flooding occurs when the rainfall event exceeds the drainage capacity of the network. If the theoretical capacity of the network for a rainfall event is sufficient and the network still proceeds to flood, then there is an issue with the network not performing to its design capacity; this is usually due to blockage or damage to the network.

Figure 4 - Surface Water Flood Risk Map

2.3 Groundwater Flooding

Groundwater flooding is caused by the natural emergence of water at surface level originating from underlying permeable sediments or rocks (aquifers).

The site is within an area identified to be at limited potential for groundwater water emergence. Groundwater monitoring data from a TRC report from 2021 and more recent groundwater monitoring undertaken by Tetra Tech in 2024/2025 is included in **Table 1**. Taking all of this information into account the site is not at risk of groundwater flooding.

Table 1(a) Groundwater levels in 2021 investigation

	Groundwater Level (m bgl)		
Borehole	22/09/2021	06/10/2021	13/10/2021
BH101	4.31	4.09	4.10
BH102	6.45	7.85	7.64
BH103	5.16	5.00	4.99
WS102	Dry	Dry	Dry
WS107	Dry	Dry	Dry

m bgl = metres below ground level
NM = Not Monitored

Table 1(b) Groundwater levels in 2024/2025 monitoring

	Groundwater Level (m bgl)			
Location	05/12/2024	12/12/2024	08/01/2025	15/01/2025
BH101	4.00	4.01	3.89	4.01
BH102	4.40	4.37	4.39	4.39
BH103	4.94	4.91	4.82	4.81
WS102	Damp	Dry	Dry	Dry
WS107	NM	NM	NM	NM
Add. BH	4.52	4.45	4.67	4.64

m bgl = metres below ground level
NM = Not Monitored/Unlocatable

Table 1 – Groundwater Monitoring from 2021 and 2024/2025

2.4 Geology and Groundwater Vulnerability

The British Geological Survey map shown in **Figure 5** indicates that the site is underlain by superficial deposits comprising Langley Silt Member which is made up of clay and silt. This overlays Taplow Gravel Member deposits, a River Terrace Deposit associated with the River Thames. The site is also underlain by the London Clay formation bedrock deposits which are described as comprising Clay, Silt and Sand.

The site is not within a source protection zone and the ground water vulnerability map identifies the geology and soils as unproductive.

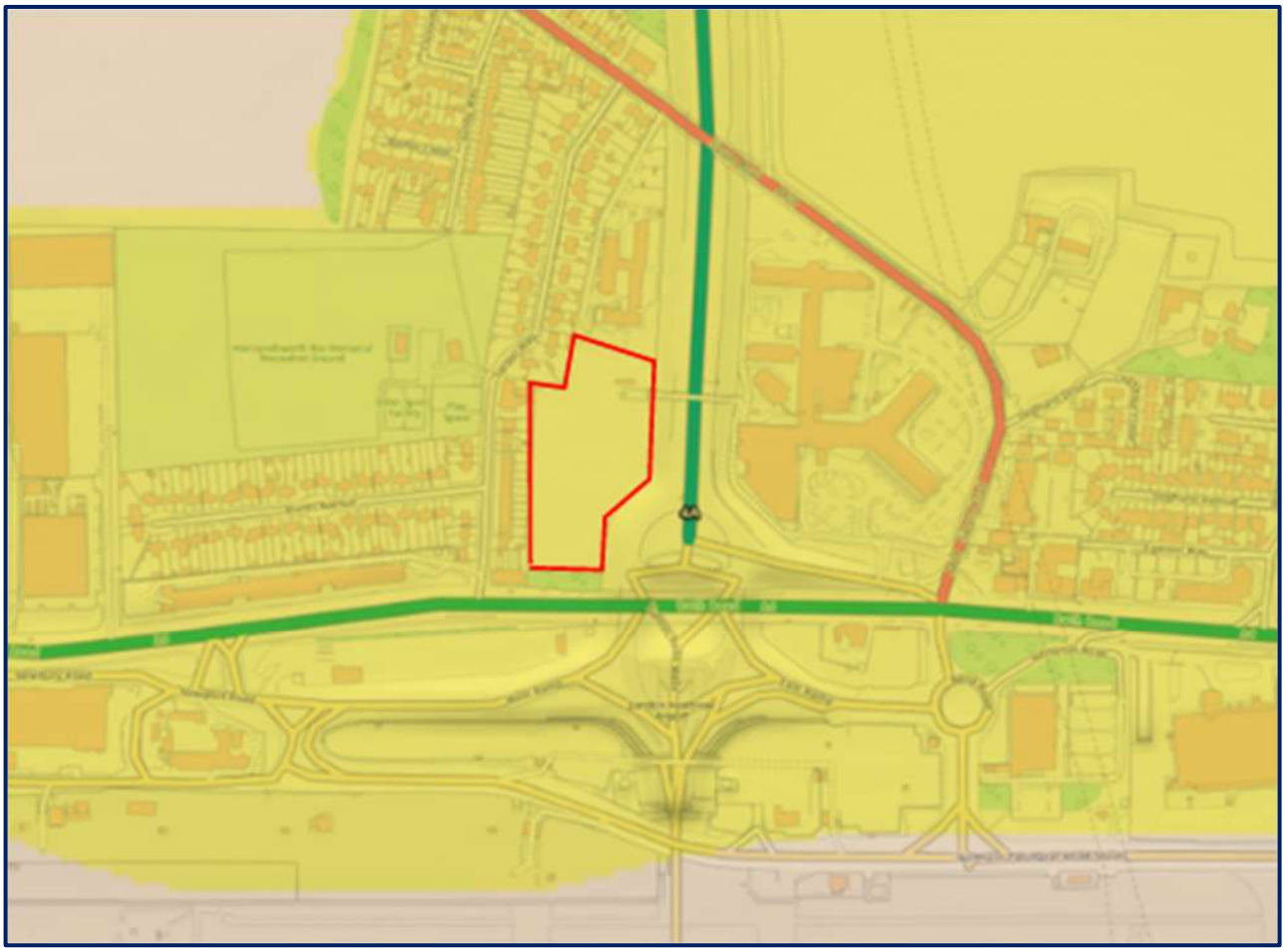


Figure 5 - Bedrock Geology from British Geological Survey Map

3.0 CLIMATE CHANGE

Climate Change is predicted to cause increases in the frequency and intensity of rainfall events. To mitigate against this, the site levels and drainage will be designed to accommodate a 1 in 100yr + 40% Climate Change rainfall event. The 40% value for climate change has been taken from the government website for this catchment area, as shown in **Figure 6**. The design life of the car park has been taken as 60 years placing the development in the 2070s epoch. The upper-end allowance has then been taken.

1% annual exceedance rainfall event

Epoch

	Central allowance	Upper end allowance
2050s	20%	40%
2070s	25%	40%

*Use '2050s' for development with a lifetime up 2060 and use the 2070s epoch for development with a lifetime between 2061 and 2125.

Figure 6 - Information from Gov Website showing an increase in rainfall

4.0 FLOOD RISK MANAGEMENT

Flood risk will be managed through the design and implementation of appropriate drainage and SuDS systems on site and a surface water maintenance plan to mitigate flooding resulting from siltation or blockages within the drainage system.

Any building levels will be set above surrounding ground levels with falls away from thresholds. In an exceedance event, overland flow routes have been considered with small amounts of surface water being stored against kerb faces before flowing off site, see proposed levels and exceedance plan in **Appendix C**. There are no offsite impacts to consider since the surface water discharge from the proposed development ultimately will discharge to the same receptor albeit at a controlled rate of discharge with an additional 40% allowance for climate change.

5.0 MITIGATION

5.1 Fluvial and Tidal

The development site lies within Flood Zone 1 and there have been no historical recorded floods in the area. From this information it can be assumed that there is no increase in the risk of fluvial flooding and no mitigation is necessary.

5.2 Groundwater Flooding Mitigation

There is limited potential for groundwater flooding at the site. No basements are proposed and proposed levels will be kept at or above existing levels.

5.3 Mitigation of Surface Water flooding to the site

The Environment Agency Surface Water flood map for the area indicates no surface water flooding within the boundary of the site. With the proposed development and associated drainage network that will be provided this will reduce the risk of any surface water flooding to and from the site.

Surface water drainage shall be designed in accordance with Hillingdon local authorities' requirements to reduce runoff where possible and mitigate against flood risk. A surface water drainage strategy has been produced, outlining the site's drainage proposals.

The new development will pose no risk to the surrounding area and will control runoff from the site reducing flood risk. The site will discharge via infiltration helping to recharge local groundwater.

6.0 CONCLUSION

The report is based on current available information and preliminary discussions.

The assessment has been undertaken in accordance with the standing advice and requirements of the Environment Agency (EA) for Flood Risk Assessments as outlined in the Communities and Local Governments Planning Policy Guidance to the National Planning Policy Framework (NPPF).

The assessment has:

•Investigated all reasonably foreseeable potential risks of flooding to the site,

•Considered the impact the development may have elsewhere with regard to flooding

•Considered outline design proposals to mitigate any potential risk of flooding determined to be present.

The report concludes that:

•The development site is located within Flood Zone 1

• No flood risk is identified from reservoir flooding or canals

•The Environment Agency Surface Water flood map for the area indicates a no surface water flood risk

•The proposals shall decrease runoff from the site. Impermeable surfacing shall be partially replaced with permeable surfacing, thus benefiting the environment and reducing flood risk. SuDS systems shall be implemented to reduce runoff and flood risk further and control them.

The site has been demonstrated to be at low risk from any form of flooding and any proposals will further reduce flood risk to the site and to surrounding properties within the local catchment area.

APPENDIX A – TOPOGRAPHICAL SURVEY

KEY

TOPOGRAPHICAL KEY

SURVEY STATION — 5
BANKING — TOP / BOTTOM
HEDGE SPREADS
WOODLAND CANOPY
ARROW ON STEPS / RAMPS INDICATES DIRECTION UPWARDS
TREES — SPREAD & GIRTH SHOWN TO SCALE
GATE
KERB CHANNEL
ROAD UNKERBED

FENCE
WALL
BUILDING
OPEN SIDED BUILDING
OVERHANG / CANOPY
GLASSHOUSE
CONTOUR — 25.00
SPOT LEVEL + 127.13 — SONAR LEVEL ⊙ 127.13
BORE HOLE — BH
TRIAL HOLE — TH
FOOTPATH
CHANGE IN SURFACE

GENERAL

Av.	AVERAGE
COW	CABLE ON WALL
CW	COMBINED WATER
DIS	DISUSED
DK	DROPPED KERBS
EML	ELECTROMAGNETIC LOCATOR
EOT	END OF TRACE
FO	FIBRE OPTIC
FP	FOOTPATH
FW	FOUL WATER
GP	GATE POST
GPR	GROUND PENETRATING RADAR
HB	HARD BED
HIP	HIGH PRESSURE
HV	HIGH VOLTAGE
KV	KILO VOLT
IP	INTERMEDIATE PRESSURE
LP	LOW PRESSURE
MH	MANHOLE
MIP	MEDIUM PRESSURE
NDI	NO DEPTH INFORMATION
NFI	NO FURTHER INFORMATION
NDV	NO DUCTS VISIBLE
NPV	NO PIPES VISIBLE
OSBM	ORDNANCE SURVEY BENCHMARK
POW	POLE ON WALL
PBOX	POST BOX
RSI	RISING MAIN/ANT SERVICE
RW	RETAINING WALL
SB	SOFT BED
SNP	STREET NAME PLATE
SW	SURFACE WATER
TAC	TACTILE PAVING
TOW	TOP OF WALL
UW	UNDERGROUND STREAM WATER
UTL	UNABLE TO LOCATE
UTR	UNABLE TO RAISE
UTS	UNABLE TO SURVEY

APPARATUS

ACU	AIR CONDITIONING UNIT
BB	BELISHA BEACON
BE	BELISHA/BEACON
BO	BOLLARD
BOL	BOLLARD LIGHT
BS	BUS STOP
CATV	CABLE TELEVISION
CB	CONTROL BOX
CCB	CROSSING CONTROL BUTTON
CP	CROSSING POINT
CR	CABLE RISER
DCH	DRAINAGE CHANNEL
EB	ELECTRIC CONTROL BOX
EP	ELECTRIC POLE
ER	EARTH ROD
FD	FILTER DRAIN
FFP	FUEL TANK FILL POINT
FP	FLOOD POINT
GR	GAS RISER
GV	GAS VALVE
GY	GULLY
IC	INSPECTION COVER
INT	INTERCEPTOR
IT	INLET
LO	LOOP OUTLET
LD	LOOP DETECTOR
LH	LAMP HOLE
LP	LAMP POST
MH	MANHOLE
MK	MARKER POST / PLATE
MT	METER
MW	MONITORING WELL
OL	OUTLET
OU	OUTFALL
PO	POST
PTG	PIPE TO GROUND
PTS	PIPE TO SURFACE
PU	PUMP
RE	ROAD EYE
RI	ROAD IRON
RWP	RAIN WATER PIPE
SC	STOP COCK
SO	SOAKAWAY
SP	SOIL PIPE
ST	STAY CABLE
SV	STOP / SIGNAL VALVE
TCP	TEST CAP POT
TCB	TELEPHONE CALL BOX
TEL	TELECOM INSPECTION COVER
TL	TRAFFIC LIGHT
TLC	TRAFFIC LIGHT COVER
TM	TICKET MACHINE
TP	TELECOM POLE
VP	VENT PIPE
WM	WATER METER
WO	WASH OUT
WR	WATER RISER
WT	WATER TAP
WW	WET WELL

DEPTHS

#	ELECTRONICALLY DERIVED
Pd	PASSIVELY DERIVED
Bd	BASE DEPTH
Cd	DEPTH TO CROWN
Id	DEPTH TO INVERT
Sd	DEPTH TO SOFFIT
Std	DEPTH TO SILT

CAUTIONARY NOTES

1. EML techniques have been used in the detection of underground utilities as outlined in Table 2 of PAS 128:2022, the interpretation of these results is not infallible and trial excavations must be carried out in order to confirm identification, position and in particular depth of the utility.
2. GPR techniques has been used in the detection of non-metallic utilities as outlined in Table 2 of PAS 128:2022. The interpretation of these results is not infallible and success will depend on a number of factors including soil type, ground water levels and surface conditions, hence trial excavations must be carried out in order to confirm identification, position and in particular depth of the utility.
3. Depths derived via EML are taken to the centre of the conductor (cable, metallic pipe) and those derived via GPR are usually to the crown of the utility unless otherwise indicated.
4. Where cables cannot be detected individually an average depth has been obtained and trial excavations are recommended to confirm number and depths of cables banded together.
5. 'Pot-ended' cables are often difficult to detect and although we have made all reasonable efforts to locate or transpose this information from records, we cannot guarantee that all 'pot-ended' cables have been located.
6. Fibre optic cables are often difficult to detect, and commonly access chambers can be locked and thereby made inaccessible by the utility provider. All reasonable efforts have been made to locate these ducts using GPR. Cables not located have been transposed from records.
7. Within close proximity of electric substations and similar structures results using EML may become distorted. All reasonable efforts have been made to verify our results using GPR wherever conditions permitted.
8. Underneath overhead power lines results using EML may become distorted. All reasonable efforts have been made to verify our results using GPR wherever conditions permitted.
9. Drainage information has been obtained without man entry into the chamber.
10. Wherever possible we have attempted to locate the route of the sewer. Issues such as blockages, surcharging, flooding, sedimentation, sewer collapse, root ingress, excessive depth, obstructions or heavy traffic flow may have affected our ability to obtain meaningful results. In these cases recommendations have been made for further survey or maintenance work.
11. Pipe / duct sizes have been recorded from surface inspection or taken from record information. Pipe sizes have been recorded in millimetres and depths in metres, except in instances where sizes are indicated in imperial units on the record information.
12. Water and Gas utilities to individual properties are often of a size that cannot be detected using EML or GPR investigation, wherever possible the route has been added from surface evidence (pipe risers, valves, etc), but this should be viewed as a guide only.
13. All utilities detected by MK Surveys should be considered live unless confirmed otherwise by client or service provider.
14. MK Surveys cannot confirm when utilities are redundant unless there is visual or record evidence to indicate this. In addition MK Surveys cannot guarantee being able to detect all redundant utilities.
15. Wherever available the results of our investigations have been cross referenced with record information. If a utility shown on the records cannot be detected on site, the information has been added to the drawing and indicated as QB4 (R). However it should be noted that the completeness and accuracy of the records cannot be guaranteed.
16. The utility information has been obtained from non-intrusive survey techniques; it always remains possible that there are additional utilities within the survey boundary that we have not been able to detect. We recommend that care is taken on site and that all utility records are used in conjunction with this survey.
17. The responsibility for avoiding damage to assets and utilities on site shall be that of the persons proposing to excavate within the surveyed area, who shall be liable to the asset owner and any third party who may be affected in any way for any loss or damage.

ALWAYS EXERCISE CAUTION WHEN EXCAVATING.

INTERNAL METER — (MT)
POT ENDED SERVICE
SEWER CAPPED RUN
SURVEY ABANDONED
INTERNAL VALVE
UNKNOWN UNDERGROUND ANOMALY
UNDERGROUND CHAMBERS
VERIFICATION TRIAL HOLE/EXCAVATION

ABOVE GROUND — (AG)
ASSUMED ROUTE — QB4(AR)
EMPTY DUCTS — (E)
OVERHEAD — (OH)
BACK DROP
P TRAP
UTILITY CROSSOVER
SURVEY BOUNDARY
VERBAL INFORMATION — QB4 (VI)
RECORD INFORMATION — QB4 (R)
REDUNDANT SERVICE
RISING MAIN

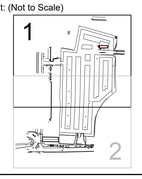
CCTV SECTION 4 AND 5 FAULTS ARE SHOWN IN RED

SERVICE TYPE

ELECTRICITY (HV)	
ELECTRICITY (LV)	
FUEL	
GAS	
HEATING	
OVERHEAD ELECTRIC	
OVERHEAD TELECOM	
FOUL SEWER	
SURFACE SEWER	
TRADE EFFLUENT	
UNIDENTIFIED SEWER	
TELECOM	
UNKNOWN SERVICE	
WATER	

SERVICES SURVEY WARNING

Sheet Layout: (Not to Scale)



Notes :

1. GRID AND LEVELS BASED ON ORDNANCE DATUM, DERIVED FROM THE NATIONAL GNSS NETWORK. LOCAL SCALE FACTOR 0.99974 APPLIED.
2. TREE AND HEDGE SPECIES HAVE BEEN IDENTIFIED AS ACCURATELY AS POSSIBLE BUT SHOULD BE CROSS CHECKED IN CRITICAL AREAS.
3. THIS SURVEY SHOULD ALWAYS BE READ IN CONJUNCTION WITH THE DESKTOP UTILITY REPORT, THAT WAS CARRIED OUT AS A PREREQUISITE TO THIS DETECTION SURVEY.
4. DRAINAGE TO BE READ IN CONJUNCTION WITH INSEWER CCTV REPORT REF: TV250111.

Coordinate Table

Station	Description	Easting	Northing	Level
S1	Road Nail	507402.775	177105.247	26.204
S2	Road Nail	507458.371	177048.166	25.965
S3	Road Nail	507487.016	177093.775	25.942
S4	Road Nail	507486.639	177120.541	25.726
S5	Road Nail	507453.820	177140.543	26.067
S6	Road Nail	507358.951	177109.134	26.049
J1	Road Nail	507362.519	176947.376	26.200
J2	Road Nail	507398.820	176960.124	26.023
J3	Road Nail	507430.563	176958.874	26.101

Equipment Information

Equipment	Manufacturer	Model	Serial Number	MKS REF	Date of Calibration
EML Tx Transmitter	SPX Radiodetection	RD8100	10/TX-3-10652	RD4	02/10/2024
EML Rx Receiver	SPX Radiodetection	RD8200	10/82-GB-628	RD27	02/10/2024
GPR	IDS Georadar	OPERA DUO	SN-010-17-000374	GPR10	20/12/2024
GPS	Leica Geosystems	CS10/GS014	2885708	GNSS 23	N/A

DETECTION SURVEY REPORT

GENERAL
This survey was carried out in accordance with PAS 128:2022 (Publicly Available Specification from BSI) by an experienced surveyor qualified to a minimum of QCF Level 3. After a pre-survey consultation with the client it was agreed to carry out the detection survey using methodology M1 as per Table 2 of the PAS 128:2022. The survey boundary has been shown on the drawing; please see linestyle section of the key for reference.

DESKTOP UTILITY REPORT
Prior to the survey commencing record information was gathered and compiled in a separate desktop utility report. This report should be read in conjunction with the information contained in this utility detection survey. Record information was at the time of the survey the most recent available in accordance with the requirements of the PAS 128:2022. For a full list of the providers searched, records received and the dates the information was obtained, please refer to the attachments page of the desktop utility report.

DETECTION SURVEY
DRAINAGE (WITH CCTV SURVEY)
Drainage was lifted with pipe sizes and invert levels recorded. Wherever possible the chamber sizes have been recorded and positioned on the drawing. If the drain / sewer has been CCTV surveyed, saddle connections and line deviations are indicative and not positioned via Ground penetrating radar (GPR) or Electromagnetic locator (EML). All connections from gullies, external rainwater pipes and external soil stacks should be treated as assumed, unless proven with a CCTV Survey. Where a saddle connection / line deviation is present the position is assumed only until proven to QB2 or above. In instances where other detection methods were unsuccessful connections between manholes have been assumed to be straight and labelled as QB4. All sub surface drainage positions should be cross checked in critical areas by EML, GPR survey or hand dug trial holes (verification survey type A).
Attempts have been made to carry out CCTV surveys of all sewers within the scope of work at Bath Road. As pre-cleaning via high pressure water jetting has not taken place, surveys may have been abandoned due to a build up of silt/debris and any other obstructions/debris. In other cases, structural defects within the system may prevent completion of CCTV surveys between manholes.

Information regarding the drainage system has been added to the drawing. For all information regarding the CCTV survey, please refer to Insewer (TV250111) CCTV Report.

WATER
Water utilities have been located using EML methodologies. Where water utilities were unable to be located, record information has been added to the drawing to a quality level of QB4. Recommend trial excavations to confirm depth and position in critical areas.

GAS
Gas utilities were unable to be located using EML or GPR methodologies. Record information has been added to the drawing to a quality level of QB4. Recommend trial excavations to confirm depth and position in critical areas.

ELECTRICITY
Electric cables within the survey area have been located using EML methods with electronically derived depths recorded.Where GPR results confirmed EML findings the quality level has been increased to QB1. Where electric cables were unable to be detected, record information has been added to the drawing to a quality level of QB4. Recommend trial excavations to confirm depth and position in critical areas.

TELECOM
Telecom ducts have been located using EML methodologies to a quality level of QB2.Where GPR confirms position the quality level has been improved to QB1. Where telecom ducts were unable to be located, record information has been added to the drawing to a quality level of QB4. Due to laws protecting British Telecom apparatus all ducts have been located using remote detection techniques only and compared with record information.Chamber sizes have been recorded using GPR techniques wherever possible. For further information regarding BT apparatus please contact Openreach directly.

CATVDATA
CATV and data ducts have been located using EML methodologies to a quality level of QB2. Where GPR confirms position the quality level has been improved to QB1. Where CATV and data ducts were unable to be located, record information has been added to the drawing to a quality level of QB4. Recommend trial excavations to confirm depth and position in critical areas.

UNKNOWNS
Some unknown targets identified on the drawing using GPR are classified as "non-linear targets". These are not consistent with what we expect to see when identifying a buried utility and appear on the drawing as single targets with depths (i.e. not linking two or more depth readings). This does not mean they are not utilities, we are just unable to positively identify them as a utility. We would strongly recommend that further verification surveys (PAS 128:2022 survey type A) are carried out to identify these targets in critical areas.

SEE CAUTIONARY NOTES WITHIN THE UTILITY KEY

PAS 128:2022 Quality Level Guide

Quality Level	Description	Accuracy
QB4 (QL-B4)	A utility is expected to exist but cannot be detected - (AR), (R), (VI)	Undefined
QB3 (QL-B3) / QB3P (QL-B3P)	Horizontal location only using one geophysical technique. No depth information - NDI	+/- 500mm Horizontal Undefined Vertical
QB2 (QL-B2) / QB2P (QL-B2P)	Horizontal and vertical location only using one geophysical technique.	+/- 250mm or +/- 40% of depth whichever is greater
QB1 (QL-B1) / QB1P (QB-1P)	Horizontal and vertical location only using two geophysical techniques.	+/-150mm or +/- 15% of depth whichever is greater
QA (QL-A)	Service verified in an open excavation, inside an inspection chamber / draw pit, or at the point the service enters / exits the ground.	+/- 50mm Horizontal +/- 50mm Vertical

Desktop Utility Records

Utility Type	Provider Details	Date Acquired
Drainage	Thames Water	29/11/2024
Water	Affinity Water	02/12/2024
Gas	Cadent	02/12/2024
Electricity	Scottish & Southern Electricity Networks	02/12/2024
Telecom	Openreach	02/12/2024
CATV	Virgin Media	02/12/2024
Communications	EU Networks	02/12/2024
Communications	Neos	02/12/2024
Communications	OCU	04/12/2024
Communications	Vodafone Ltd	03/12/2024
Communications	Zayo	02/12/2024
Tunnels & Pipelines	LinesearchbeforeUdig	03/12/2024

Survey Information

Fieldwork dates	10/12	20/12							
Weather conditions									
Ground conditions	Wet	Wet							

Rt	Survey Extended Bath Road & Sipson Way		JRL	KG	EP	02/04/2025
Revision	Description		Surv. by	Check. by	Appr. by	Date

0m 2 4 6 8 10 12 14 16 18 20 22

Topographical, CCTV & and PAS 128:2022 Utility Survey

Lysander

Bath Road
West Drayton
Heathrow
Greater London

Scale:	Sheet Size:	Sheet Number:	Date:
1:200	A0	1	January 2025

Project Number:	Rev:	Surveyed by:	Checked by:	Approved by:
35225	1	NL/MK	AG/AC	CP/NF

mksurveys
www.mksurveys.com www.surveys4bim.co.uk
Head Office: Milton Keynes t: 01908 565561 e: mail@mksurveys.co.uk

KEY

TOPOGRAPHICAL KEY

SURVEY STATION 5 (TOP / BOTTOM)
BANKING
HEDGE SPREADS
WOODLAND CANOPY
ARROW ON STEPS / RAMPS INDICATES DIRECTION UP/HANDS
TREES — SPREAD & GIRTH SHOWN TO SCALE
GATE
KERB CHANNEL
ROAD UNKERBED

FENCE
WALL
BUILDING
OPEN SIDED BUILDING
OVERHANG / CANOPY
GLASSHOUSE
CONTOUR — 25.50
SPOT LEVEL + 127.13 — SONAR LEVEL ⊙ 127.13
BORE HOLE — BH
TRIAL HOLE — TH
FOOTPATH
CHANGE IN SURFACE

GENERAL

Av.	AVERAGE
COW	CABLE ON WALL
CW	COMBINED WATER
DIS	DISUSED
EB	ELECTRIC BOX
EML	ELECTROMAGNETIC LOCATOR
EOT	END OF TRACE
FO	FIBRE OPTIC
FP	FOOTPATH
FW	FOUL WATER
GP	GATE POST
GPR	GROUND PENETRATING RADAR
HB	HARD BED
HIP	HIGH PRESSURE
HV	HIGH VOLTAGE
KV	KILO VOLT
IP	INTERMEDIATE PRESSURE
LP	LOW PRESSURE
MH	MANHOLE
MIP	MEDIUM PRESSURE
NDI	NO DEPTH INFORMATION
NFI	NO FURTHER INFORMATION
NDV	NO DUCTS VISIBLE
NPV	NO PIPES VISIBLE
OSBM	ORDNANCE SURVEY BENCHMARK
POW	POST ON WALL
PBOX	POLE MOUNT BOX
RSC	ROAD SIDE CONCRETE
RW	RETAINING WALL
SB	SOFT BED
SNP	STREET NAME PLATE
SW	SURFACE WATER
TAC	TACTILE PAVING
TOW	TOP OF WALL
TW	TREATED FOUL WATER
UTL	UNABLE TO LOCATE
UTR	UNABLE TO RAISE
UTS	UNABLE TO SURVEY

APPARATUS

ACU	AIR CONDITIONING UNIT
BB	BOLLARD
BE	BELISHA BEACON
BO	BOLLARD
BOL	BOLLARD LIGHT
BS	BUS STOP
CATV	CABLE TELEVISION
CB	CONTROL BOX
CCB	CROSSING CONTROL BUTTON
CP	CCTV POLE
CR	CABLE RISER
DCH	DRAINAGE CHANNEL
EB	ELECTRIC CONTROL BOX
EP	ELECTRIC POLE
ER	EARTH ROD
FD	FILTER DRAIN
FFP	FUEL TANK FILL POINT
FH	FLAG HOLDER
GR	GAS RISER
GV	GAS VALVE
GY	GULLY
IC	INSPECTION COVER
INT	INTERCEPTOR
IT	INLET
LO	LAMP OUTLET
LD	LOOP DETECTOR
LH	LAMP HOLE
LP	LAMP POST
MH	MANHOLE
MK	MARKER POST / PLATE
MT	METER
MW	MONITORING WELL
OL	OUTLET
OU	OUTFALL
PO	POST
PTG	PIPE TO GROUND
PTS	PIPE TO SURFACE
PU	PUMP
RE	ROAD EYE
RI	ROAD IRON
RWP	RAIN WATER PIPE
SC	STOP COCK
SO	SOAKAWAY
SP	SOIL PIPE
ST	STAY CABLE
SV	STOP / SLUICE VALVE
TCP	TEMP TRAFFIC PIPE
TCB	TELEPHONE CALL BOX
TEL	TELECOM INSPECTION COVER
TL	TRAFFIC LIGHT
TLC	TRAFFIC LIGHT COVER
TM	TICKET MACHINE
TP	TELECOM POLE
VP	VENT PIPE
WM	WATER METER
WO	WASH OUT
WR	WATER RISER
WT	WATER TAP
WW	WET WELL

DEPTHS

#	ELECTRONICALLY DERIVED
Pd	PASSIVELY DERIVED
Bd	BASE DEPTH
Cd	DEPTH TO CROWN
Id	DEPTH TO INVERT
Sd	DEPTH TO SOFFIT
Std	DEPTH TO SILT

PIPE MATERIALS

AC	ASBESTOS CEMENT
ALK	ALKATHENE
BK	BRICK
CI	CAST IRON
CO	CONCRETE
DI	DUCTILE IRON
HDPE	HIGH DENSITY PE
MDPE	MEDIUM DENSITY PE
PE	POLYETHYLENE
PF	PITCH FIBRE
PP	POLYPROPYLENE
PVC	POLYVINYL CHLORIDE
PVC-U	ULTRA RIB (PVC)
SI	SPUN IRON
ST	STEEL
VC	VITRIFIED CLAY

FENCES

B/W	BARBED WIRE FENCE
C/B	CLOSED BOARDED FENCE
C/PL	CONCRETE PANEL FENCE
C/I	CORRUGATED IRON FENCE
CNF	CHESTNUT PAILING
C/L	CHAIN LINK FENCE
I/R	IRON RAILINGS
L/L	LARCH LAP FENCE
P/R	POST AND RAIL FENCE
P/W	POST AND WIRE FENCE
W/M	WIRE MESH FENCE

LEVELS

BD	BACKDROP LEVEL
BL	BASE LEVEL
CL	COVER LEVEL
DL	DRAIN LEVEL
DPC	DAMP PROOF COURSE
FL	FLOOR LEVEL
IL	INVERT LEVEL
PT	P TRAP LEVEL
RL	ROOF LEVEL
SL	SILT LEVEL
TL	TOP WATER LEVEL
THL	THRESHOLD LEVEL
WL	WATER LEVEL

LINESTYLE

INTERNAL METER — (MT)
POT ENDED SERVICE
SEWER CAPPED RUN
SURVEY ABANDONED
INTERNAL VALVE
UNKNOWN UNDERGROUND ANOMALY
UNDERGROUND CHAMBERS
VERIFICATION TRIAL HOLE/EXCAVATION
ABOVE GROUND — (AG)
ASSUMED ROUTE — (QB4(AR))
EMPTY DUCTS — (E)
OVERHEAD — (OH)
BACK DROP
P TRAP
UTILITY CROSSOVER
SURVEY BOUNDARY
VERBAL INFORMATION — (QB4(V))
RECORD INFORMATION — (QB4(R))
REDUNDANT SERVICE
RISING MAIN
CCTV SECTION 4 AND 5 FAULTS ARE SHOWN IN RED

SERVICE TYPE

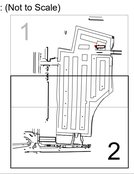
(GRAY / DATA)
ELECTRICITY (HV)
ELECTRICITY (LV)
FUEL
GAS
HEATING
OVERHEAD ELECTRIC
OVERHEAD TELECOM
KOMMINED SEWER
FOUL SEWER
SURFACE SEWER
TRADE EFFLUENT
UNIDENTIFIED SEWER
TELECOM
UNKNOWN SERVICE
WATER
SERVICES SURVEY WARNING

CAUTIONARY NOTES

1. EML techniques have been used in the detection of underground utilities as outlined in Table 2 of PAS 128:2022, the results are not infallible and trial excavations must be carried out in order to confirm identification, position and in particular depth of the utility.
2. GPR techniques has been used in the detection of non-metallic utilities as outlined in Table 2 of PAS 128:2022. The interpretation of these results is not infallible and success will depend on a number of factors including soil type, ground water levels and surface conditions, hence trial excavations must be carried out in order to confirm identification, position and in particular depth of the utility.
3. Depths derived via EML are taken to the centre of the conductor (cable, metallic pipe) and those derived via GPR are usually to the crown of the utility unless otherwise indicated.
4. Where cables cannot be detected individually an average depth has been obtained and trial excavations are recommended to confirm number and depths of cables banded together.
5. 'Pot-ended' cables are often difficult to detect and although we have made all reasonable efforts to locate or transpose this information from records, we cannot guarantee that all 'pot-ended' cables have been located.
6. Fibre optic cables are often difficult to detect, and commonly access chambers can be locked and thereby made inaccessible by the utility provider. All reasonable efforts have been made to locate these ducts using GPR. Cables not located have been transposed from records.
7. Within close proximity of electric substations and similar structures results using EML may become distorted. All reasonable efforts have been made to verify our results using GPR wherever conditions permitted.
8. Underneath overhead power lines results using EML may become distorted. All reasonable efforts have been made to verify our results using GPR wherever conditions permitted.
9. Drainage information has been obtained without man entry into the chamber.
10. Wherever possible we have attempted to locate the route of the sewer. Issues such as blockages, surcharging, flooding, sedimentation, sewer collapse, root ingress, excessive depth, obstructions or heavy traffic flow may have prevented us being able to obtain meaningful results. In these cases recommendations have been made for further survey or maintenance work.
11. Pipe / duct sizes have been recorded from surface inspection or taken from record information. Pipe sizes have been recorded in millimetres and depths in metres, except in instances where sizes are indicated in imperial units on the record information.
12. Water and Gas utilities to individual properties are often of a size that cannot be detected using EML or GPR investigation, wherever possible the route has been added from surface evidence (pipe risers, valves, etc), but this should be viewed as a guide only.
13. All utilities detected by MK Surveys should be considered live unless confirmed otherwise by client or service provider.
14. MK Surveys cannot confirm when utilities are redundant unless there is visual or record evidence to indicate this. In addition MK Surveys cannot guarantee being able to detect all redundant utilities.
15. Wherever available the results of our investigations have been cross referenced with record information. If a utility shown on the records cannot be detected on site, the information has been added to the drawing and indicated as QB4 (R). However it should be noted that the completeness and accuracy of the records cannot be guaranteed.
16. The utility information has been obtained from non-intrusive survey techniques, it always remains possible that there are additional utilities within the survey boundary that we have not been able to detect. We recommend that care is taken on site and that all utility records are used in conjunction with this survey.
17. The responsibility for avoiding damage to assets and utilities on site shall be that of the persons proposing to excavate within the surveyed area, who shall be liable to the asset owner and any third party who may be affected in any way for any loss or damage.

ALWAYS EXERCISE CAUTION WHEN EXCAVATING.

Sheet Layout: (Not to Scale)



Notes :

1. GRID AND LEVELS BASED ON ORDNANCE DATUM, DERIVED FROM THE NATIONAL GNSS NETWORK. LOCAL SCALE FACTOR 0.99974 APPLIED.
2. TREE AND HEDGE SPECIES HAVE BEEN IDENTIFIED AS ACCURATELY AS POSSIBLE BUT SHOULD BE CROSS CHECKED IN CRITICAL AREAS.
3. THIS SURVEY SHOULD ALWAYS BE READ IN CONJUNCTION WITH THE DESKTOP UTILITY REPORT, THAT WAS CARRIED OUT AS A PREREQUISITE TO THIS DETECTION SURVEY.
4. DRAINAGE TO BE READ IN CONJUNCTION WITH INSEWER CCTV REPORT REF: TV250111.

Coordinate Table

Station	Description	Easting	Northing	Level
S1	Road Nail	507402.775	177105.247	26.204
S2	Road Nail	507458.371	177048.166	25.965
S3	Road Nail	507487.016	177093.775	25.942
S4	Road Nail	507486.639	177120.541	25.726
S5	Road Nail	507453.820	177140.543	26.067
S6	Road Nail	507358.951	177109.134	26.049
J1	Road Nail	507362.519	176947.376	26.200
J2	Road Nail	507398.820	176960.124	26.023
J3	Road Nail	507430.563	176958.874	26.101

Equipment Information

Equipment	Manufacturer	Model	Serial Number	MKS REF	Date of Calibration
EML Tx Transmitter	SPX Radiodetection	RD8100	10/TX-3-10652	RD4	02/10/2024
EML Rx Receiver	SPX Radiodetection	RD8200	10/SD-GB-628	RD27	02/10/2024
GPR	IDS Georadar	OPERA DUO	SN-010-17-000374	GPR10	20/12/2024
GPS	Leica Geosystems	CS10/GS14	2885708	GNSS 23	N/A

DETECTION SURVEY REPORT

GENERAL
This survey was carried out in accordance with PAS 128:2022 (Publicly Available Specification from BSI) by an experienced surveyor qualified to a minimum of QCF Level 3. After a pre-survey consultation with the client it was agreed to carry out the detection survey using methodology M1 as per Table 2 of the PAS 128:2022. The survey boundary has been shown on the drawing; please see linestyle section of the key for reference.

DESKTOP UTILITY REPORT
Prior to the survey commencing record information was gathered and compiled in a separate desktop utility report. This report should be read in conjunction with the information contained in this utility detection survey. Record information was at the time of the survey the most recent available in accordance with the requirements of the PAS 128:2022. For a full list of the providers searched, records received and the dates the information was obtained, please refer to the attachments page of the desktop utility report.

DETECTION SURVEY
DRAINAGE (WITH CCTV SURVEY)
Drainage was lifted with pipe sizes and invert levels recorded. Wherever possible the chamber sizes have been recorded and positioned on the drawing. If the drain / sewer has been CCTV surveyed, saddle connections and line deviations are indicative and not positioned via Ground penetrating radar (GPR) or Electromagnetic locator (EML). All connections from gullies, external rainwater pipes and external soil stacks should be treated as assumed, unless proven with a CCTV Survey. Where a saddle connection / line deviation is present the position is assumed only until proven to QB2 or above. In instances where other detection methods were unsuccessful connections between manholes have been assumed to be straight and labelled as QB4. All sub surface drainage positions should be cross checked in critical areas by EML, GPR survey or hand dug trial holes (verification survey type A).
Attempts have been made to carry out CCTV surveys of all sewers within the scope of work at Bath Road. As pre-cleaning via high pressure water jetting has not taken place, surveys may have been abandoned due to a build up of silt/debris and any other obstructions/debacle. In other cases, structural defects within the system may prevent completion of CCTV surveys between access.

Information regarding the drainage system has been added to the drawing. For all information regarding the CCTV survey, please refer to Insewer (TV250111) CCTV Report.

WATER
Water utilities have been located using EML methodologies. Where water utilities were unable to be located, record information has been added to the drawing to a quality level of QB4. Recommend trial excavations to confirm depth and position in critical areas.

GAS
Gas utilities were unable to be located using EML or GPR methodologies. Record information has been added to the drawing to a quality level of QB4. Recommend trial excavations to confirm depth and position in critical areas.

ELECTRICITY
Electric cables within the survey area have been located using EML methods with electronically derived depths recorded.Where GPR results confirmed EML findings the quality level has been increased to QB1. Where electric cables were unable to be detected, record information has been added to the drawing to a quality level of QB4. Recommend trial excavations to confirm depth and position in critical areas.

TELECOM
Telecom ducts have been located using EML methodologies to a quality level of QB2.Where GPR confirms position the quality level has been improved to QB1. Where telecom ducts were unable to be located, record information has been added to the drawing to a quality level of QB4. Due to laws protecting British Telecom apparatus all ducts have been located using remote detection techniques only and compared with record information. Chamber sizes have been recorded using GPR techniques wherever possible. For further information regarding BT apparatus please contact Openreach directly.

CATVDATA
CATV and data ducts have been located using EML methodologies to a quality level of QB2. Where GPR confirms position the quality level has been improved to QB1. Where CATV and data ducts were unable to be located, record information has been added to the drawing to a quality level of QB4. Recommend trial excavations to confirm depth and position in critical areas.

UNKNOWNS
Some unknown targets identified on the drawing using GPR are classified as "non-linear targets". These are not consistent with what we expect to see when identifying a buried utility, and appear on the drawing as single targets with depths (i.e. not linking two or more depth readings). This does not mean they are not utilities, we are just unable to positively identify them as a utility. We would strongly recommend that further verification surveys (PAS 128:2022 survey type A) are carried out to identify these targets in critical areas.

SEE CAUTIONARY NOTES WITHIN THE UTILITY KEY

PAS 128:2022 Quality Level Guide

Quality Level	Description	Accuracy
QB4 (QL-B4)	A utility is expected to exist but cannot be detected - (AR), (R), (V).	Undefined
QB3 (QL-B3) QB3P (QL-B3P)	Horizontal location only using one geophysical technique. No depth information - NDI.	+/- 500mm Horizontal Undefined Vertical
QB2 (QL-B2) QB2P (QL-B2P)	Horizontal and vertical location only using two geophysical technique.	+/- 250mm or +/- 40% of depth whichever is greater
QB1 (QL-B1) QB1P (QB-1P)	Horizontal and vertical location only using two geophysical techniques.	+/- 150mm or +/- 15% of depth whichever is greater
GA (GL-A)	Service verified in an open excavation, inside an inspection chamber / draw pit, or at the point the service enters / exits the ground.	+/- 50mm Horizontal +/- 50mm Vertical

Desktop Utility Records

Utility Type	Provider Details	Date Acquired
Drainage	Thames Water	29/11/2024
Water	Affinity Water	02/12/2024
Gas	Cadent	02/12/2024
Electricity	Scottish & Southern Electricity Networks	02/12/2024
Telecom	Openreach	02/12/2024
CATV	Virgin Media	02/12/2024
Communications	EU Networks	02/12/2024
Communications	Neos	02/12/2024
Communications	OCU	04/12/2024
Communications	Vodafone Ltd	03/12/2024
Communications	Zayo	02/12/2024
Tunnels & Pipelines	LinearearthbeforeUdig	02/12/2024

Survey Information

Fieldwork dates	19/12	20/12							
Weather conditions									
Ground conditions	Wet	Wet							

R1	Survey Extended Bath Road & Sipson Way	JRL	AG	DP	30/04/2025
Revision	Description	Surv. by	Check. by	Appr. by	Date

0m 2 4 6 8 10 12 14 16 18 20 22

Topographical, CCTV & and PAS 128:2022 Utility Survey

Lysander

Bath Road
West Drayton
Heathrow
Greater London

Scale:	Sheet Size:	Sheet Number:	Date:
1:200	A0	2	January 2025
Project Number:	**Rev:**	**Surveyed by:**	**Checked by:**	**Approved by:**
35225	1	NL/MK	AG/AC	CP/NF

mksurveys
www.mksurveys.com www.surveys4bim.co.uk
Head Office: Milton Keynes t: 01908 565561 e: mail@mksurveys.co.uk

APPENDIX B – SITE PLANS

LEGEND

- AREA TO BE DEVELOPED DURING PHASE 2
- SEWER WAYLEAVE
- EMERGENCY ROUTE
- ELECTRICAL UNIT AREA
- EXTENT OF PHOTOVOLTAIC CANOPY
- EXTENT OF ROOT PROTECTION AREAS
- EXISTING BOUNDARY FENCE
- EXISTING KERB LINE

SITE APPLICATION BOUNDARY - PHASE 1

		AREA (sqm)	AREA (Hectare)	AREA (Acre)
PHASE 1 APPLICATION BOUNDARY		6981.75	0.698	1.73

SITE ACCOMMODATION

CAR PARKING	SPACES
PUBLIC FLEXI COMMERCIAL ELECTRIC VEHICLE STANDARD BAYS (SUBJECT TO NETWORK CAPACITY AVAILABILITY)	16
CONTRACTED FLEXI COMMERCIAL ELECTRIC VEHICLE STANDARD BAYS (SUBJECT TO NETWORK CAPACITY AVAILABILITY)	38
ACCESSIBLE ELECTRIC VEHICLE PARKING BAYS	2
FOOD & BEVERAGE STANDARD PARKING BAYS	8
FOOD & BEVERAGE ACCESSIBLE PARKING BAYS	2
TOTAL	**66**

OPERATIONAL BAYS	SPACES
HIGH GOODS VEHICLE WASTE/ DELIVERY BAY	1
DISTRIBUTION NETWORK OPERATOR MAINTENANCE BAYS	2
DRIVE THRU WAITING BAYS	2

AREA SCHEDULE	AREA (m^2)
FOOD & BEVERAGE UNIT (1 NO.)	195
STAFF WELFARE UNIT (1 NO.)	16
CUSTOMER WELFARE UNIT (1 NO.)	30.5
ELECTRICAL UNIT AREA (1 NO.)	323

Architects are to be notified of any discrepancies.
Contractors must check all dimensions on site.
This drawing is subject to copyright laws and is for use on this project only.
This drawing is to be used solely for the information as titled only.
For other information refer to the latest revision of any cross referenced drawings.
To be read in conjunction with relevant design standards/protocols

This is a colour drawing. In order to ensure any subsequent reproduction is viewed correctly it should be printed in full colour.

5 0 5 10 15 20 25
SCALE 1:500 m

N

SIPSON WAY

BLUE LINE DENOTES EXISTING BOUNDARY FENCE AS PER TOPOGRAPHICAL SURVEY. REFER TO - 35225 Topographical Survey (December 2024).

BINS AREA. REFER TO REFUSE MANAGEMENT STRATEGY FOR FURTHER INFORMATION.

MAGENTA DENOTES TREE ROOT PROTECTION AREA

INDICATIVE LOCATION OF 9.05m HIGH TOTEM SIGNAGE UNDER SEPERATE APPLICATION. COLOUR AND MATERIAL TBC.

PROPOSED KNEE RAIL FENCE REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2006.

PROPOSED REMOVAL/RELOCATION OF EXISTING TREES IN GREEN DASHED LINE. REFER TO - 35225 Topographical Survey (December 2024)

FOOD & BEVERAGE UNIT. DESIGN SUBJECT TO OCCUPIER SPEC TBC.

2NO. LONG STAY CYCLE PARKING SECURE LOCKERS

INDICATIVE E-COMMERCE PICK UP / DROP OFF SMART LOCKER - 95 OPENINGS

5NO. SHEFFIELD STANDS FOR CUSTOMER PARKING & E-BIKE BATTERY CHARGING UNIT.

DROPPED KERBS AND TACTILE PAVING.

INDICATIVE LOCATION OF BARRIERLESS ANPR.

INDICATIVE LOCATION OF WAYFINDING SIGNAGE, UNDER A SEPARATE SIGNAGE APPLICATION.

ACCESS JUNCTION AS PER S278 WORKS. DRWG. REFERENCE: 0001 Rev P6 - FOR CONSTRUCTION BY MAYER BROWN.

PROPOSED KNEE RAIL FENCE. REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2006.

EXISTING FENCE TO BE REMOVED AND NEW FENCE TO BE ERECTED TO PERIMETER. REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2006.

CYCLE SHELTER REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2008.

MAGENTA DENOTES TREE ROOT PROTECTION AREA

PHASE 1 SMOKING SHELTER REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2008.

2NO. ACCESSIBLE BAYS.

2NO. ACCESSIBLE EV CAR PARKING BAYS.

1NO. STAFF BLOCK. REFER TO DRAWING 7935-SMR-03-ZZ-DR-A-2103.

EXISTING KERB LINE.

ORANGE DASH DENOTES PV CANOPY OVERHEAD - DESIGN TO BE CONFIRMED.

PROPOSED REMOVAL/RELOCATION OF EXISTING TREES IN GREEN DASHED LINE. REFER TO - 35225 Topographical Survey (December 2024).

PERIMETER GATE AND FENCE.REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2006.

8NO. STANDARD PARKING BAYS FOR USE OF FOOD & BEVERAGE UNIT.

BATH RD

STOP

NO ENTRY

TURN RIGHT CUSTOMER ENTRANCE

8NO. EV BAYS

16NO. PUBLIC EV BAYS

TURN RIGHT

38NO. CONTRACTED EV CAR PARKING BAYS

DELIVERY BAY

DNO

DNO

ELECTRICAL UNIT AREA

SEWER WAYLEAVE

2 MAINTENANCE BAYS

EXISTING TREES AS PER TOPOGRAPHICAL SURVEY. REFER TO - 35225 Topographical Survey (December 2024). DETAILS OF NEW FENCING WITHIN ROOT PROTECTION AREAS FOUND IN APPENDIX D OF ARBORICULTURAL IMPACT ASSESMENT ACCOMPANYING THIS PLANNING APPLICATION.

CENTRALISED ELECTRICAL UNIT AREA IN PREPARATION FOR PHASE 2.

2.1m HIGH HEIGHT RESTRICTOR WITH ANPR. REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2008.

PERIMETER GATE AND FENCE BETWEEN PHASES 1 & 2, WITH TEMPORARY KERB AND BANK TO AREA. REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2006.

PERIMETER GATE AND FENCE BETWEEN PHASES 1 & 2, WITH TEMPORARY KERB AND BANK TO AREA. REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2006.

PHASE 2
9,407.81 m^2
2.32 Acres

BRIDGE OVER M4 MOTORWAY

TUNNEL ROAD W (M4)

Rev	Description	Date	Drn	Ckd
P10	MINOR AMENDMENT TO BOUNDARY TREATMENTS & PLANNING.	29.08.25	AH	CV
P9	MINOR AMENDMENT TO ELECTRICAL UNIT AREA.	19.08.25	JC	CV
P8	PLANNING ISSUE IN LINE WITH DESIGN FREEZE 22.07.25.	30.07.25	JC	CV
P7	PLANNING ISSUE.	25.06.25	JC	CV
P6	F&B UNIT UPDATED, SOLAR CANOPY COLUMN POSITIONS INCLUDED IN PHASE 2, EV CHARGERS INCLUDED, AND OTHER MINOR AMENDMENTS.	06.06.25	AH	JC
P5	UPDATED IN LINE WITH DESIGN FREEZE 02.	23.05.25	JC	JM
P4	SUBSTATION LAYOUT UPDATED. TRUCK PARKING POSITION REVISED. CYCLE PARKING AMENDED	25.03.25	TH	CV
P3	DRAWING UPDATED	10.03.25	TH	CV
P2	NOTES UPDATED	14.02.25	TH	CV
P1	FIRST ISSUE.	13.02.25	TH	CV

Status

PLANNING

SMR
SMALLEY MARSEY RISPIN
ARCHITECTS
The Exchange Station Parade Harrogate HG1 1TS
01423 707 757 admin@smrarchitects.co.uk

Project

HEATHROW FLIGHTPATH CAR PARK, UB7 0DU

Client

LYSARA

Drawing Title

PROPOSED SITE PLAN - PHASE 1

Proj Ref	Origin	Zone	Level	Type	Role	Num	Status	Rev
7935	SMR	00	ZZ	DR	A	2003	S3	P10

SMR Job Ref	Sheet	Scale	Drawn
7935-00-2003	A2	1 : 500	AH

LEGEND

- SEWER WAYLEAVE
- EMERGENCY ROUTE
- ELECTRICAL UNIT AREA
- EXTENT OF PHOTOVOLTAIC CANOPY
- EXTENT OF ROOT PROTECTION AREAS
- EXISTING BOUNDARY FENCE
- EXISTING KERB LINE
- DEMOLISHED FENCE

SITE APPLICATION BOUNDARY - PHASE 2

		AREA (sqm)	AREA (Hectare)	AREA (Acre)
SITE BOUNDARY		16389.50	1.639	4.05

SITE ACCOMMODATION

CAR PARKING	SPACES
PUBLIC FLEXI COMMERCIAL ELECTRIC VEHICLE STANDARD BAYS (SUBJECT TO NETWORK CAPACITY AVAILABILITY)	139
CONTRACTED FLEXI COMMERCIAL ELECTRIC VEHICLE STANDARD BAYS (SUBJECT TO NETWORK CAPACITY AVAILABILITY)	38
ACCESSIBLE ELECTRIC VEHICLE PARKING BAYS	8
FOOD & BEVERAGE STANDARD PARKING BAYS	8
FOOD & BEVERAGE ACCESSIBLE PARKING BAYS	2
TOTAL	**195**

OPERATIONAL BAYS	SPACES
HIGH GOODS VEHICLE WASTE/ DELIVERY BAY	1
DISTRIBUTION NETWORK OPERATOR MAINTENANCE BAYS	2
DRIVE THRU WAITING BAYS	2

AREA SCHEDULE	AREA (m^2)
FOOD & BEVERAGE UNIT (1 NO.)	195
STAFF WELFARE UNIT (1 NO.)	16
CUSTOMER WELFARE UNIT (1 NO.)	30.5
ELECTRICAL UNIT AREA (1 NO.)	323

Architects are to be notified of any discrepancies.
Contractors must check all dimensions on site.
This drawing is subject to copyright laws and is for use on this project only.
This drawing is to be used solely for the information as titled only.
For other information refer to the latest revision of any cross referenced drawings.
To be read in conjunction with relevant design standards/protocols

This is a colour drawing. In order to ensure any subsequent reproduction is viewed correctly it should be printed in full colour.

5 0 5 10 15 20 25
SCALE 1:500 m

N

SIPSON WAY

BLUE LINE DENOTES EXISTING BOUNDARY FENCE AS PER TOPOGRAPHICAL SURVEY. REFER TO - 35225 Topographical Survey (December 2024).

BINS AREA. REFER TO REFUSE MANAGEMENT STRATEGY FOR FURTHER INFORMATION.

MAGENTA DENOTES TREE ROOT PROTECTION AREA

INDICATIVE LOCATION OF 9.05m HIGH TOTEM SIGNAGE UNDER SEPERATE APPLICATION. COLOUR AND MATERIAL TBC.

PROPOSED KNEE RAIL FENCE REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2006.

PROPOSED REMOVAL/RELOCATION OF EXISTING TREES IN GREEN DASHED LINE. REFER TO - 35225 Topographical Survey (December 2024)

FOOD & BEVERAGE UNIT. DESIGN SUBJECT TO OCCUPIER SPEC TBC.

2NO. LONG STAY CYCLE PARKING SECURE LOCKERS

INDICATIVE E-COMMERCE PICK UP / DROP OFF SMART LOCKER - 95 OPENINGS

5NO. SHEFFIELD STANDS FOR CUSTOMER PARKING & E-BIKE BATTERY CHARGING UNIT.

DROPPED KERBS AND TACTILE PAVING.

INDICATIVE LOCATION OF BARRIERLESS ANPR.

INDICATIVE LOCATION OF WAYFINDING SIGNAGE, UNDER A SEPARATE SIGNAGE APPLICATION.

ACCESS JUNCTION AS PER S278 WORKS. DRWG. REFERENCE: 0001 Rev P6 - FOR CONSTRUCTION BY MAYER BROWN.

PROPOSED KNEE RAIL FENCE. REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2006.

EXISTING FENCE TO BE REMOVED AND NEW FENCE TO BE ERECTED TO PERIMETER. REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2006.

CYCLE SHELTER REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2008.

MAGENTA DENOTES TREE ROOT PROTECTION AREA

PHASE 1 SMOKING SHELTER REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2008.

2NO. ACCESSIBLE BAYS.

2NO. ACCESSIBLE EV CAR PARKING BAYS.

1NO. STAFF BLOCK. REFER TO DRAWING 7935-SMR-03-ZZ-DR-A-2103.

EXISTING KERB LINE.

ORANGE DASH DENOTES PV CANOPY OVERHEAD - DESIGN TO BE CONFIRMED.

PROPOSED REMOVAL/RELOCATION OF EXISTING TREES IN GREEN DASHED LINE. REFER TO - 35225 Topographical Survey (December 2024).

PERIMETER GATE AND FENCE.REFER TO DRAWING /ING 7935-SMR-00-ZZ-DR-A-2006.-2006.

8NO. STANDARD PARKING BAYS FOR USE OF FOOD & BEVERAGE UNIT.

1 No. WELFARE BLOCK. REFER TO DRAWING 7935-SMR-03-ZZ-DR-A-2104.

PERIMETER GATE AND FENCE BETWEEN PHASES 1 & 2, WITH TEMPORARY KERB AND BANK, TO BE REMOVED ONCE PHASE 2 IS IN OPERATION. REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2006.

PHASE 2 SMOKING SHELTER REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2008.

BATH RD

STOP
NO ENTRY
CUSTOMER ENTRANCE
8NO. NON EV BAYS
16NO. PUBLIC EV BAYS
38NO. CONTRACTED EV CAR PARKING BAYS
DELIVERY BAY
DNO
DNO
ELECTRICAL UNIT AREA
SEWER WAYLEAVE
123NO. STANDARD EV CAR PARKING BAYS
2 MAINTENANCE BAYS
EXISTING TREES AS PER TOPOGRAPHICAL SURVEY. REFER TO - 35225 Topographical Survey (December 2024). DETAILS OF NEW FENCING WITHIN ROOT PROTECTION AREAS FOUND IN APPENDIX D OF ARBORICULTURAL IMPACT ASSESMENT ACCOMPANYING THIS PLANNING APPLICATION.
CENTRALISED ELECTRICAL UNIT AREA IN PREPARATION FOR PHASE 2.
2.1m HIGH HEIGHT RESTRICTOR WITH ANPR. REFER TO DRAWING 7935-SMR-00-ZZ-DR-A-2008.
BRIDGE OVER M4 MOTORWAY

TUNNEL ROAD W (M4)

Rev	Description	Date	Drn	Ckd
P12	MINOR AMENDMENT TO BOUNDARY TREATMENTS & PLANNING.	29.08.25	AH	CV
P11	MINOR AMENDMENT TO ELECTRICAL UNIT AREA.	19.08.25	JC	CV
P10	PLANNING ISSUE IN LINE WITH DESIGN FREEZE 22.07.25.	30.07.25	JC	CV
P9	PLANNING ISSUE.	25.06.25	JC	CV
P8	ADDITION OF PHASE 2 FOOTPATH & REVISED WELFARE BLOCK	19.06.25	AH	CV
P7	F&B UNIT UPDATED, SOLAR CANOPY COLUMN POSITIONS INCLUDED IN PHASE 2, EV CHARGERS INCLUDED, AND OTHER MINOR AMENDMENTS.	06.06.25	AH	JC
P6	UPDATED IN LINE WITH DESIGN FREEZE 02.	23.05.25	JC	JM
P5	TREE ROOT PROTECTION OVERLAID, CYCLE ROUTE ADJUSTED ACCORDINGLY	10.04.25	HJ	JM
P4	SUBSTATION LAYOUT UPDATED. TRUCK PARKING POSITION REVISED. CYCLE PARKING AMENDED	25.03.25	TH	CV
P3	DRAWING UPDATED	10.03.25	TH	CV
P2	NOTES UPDATED	14.02.25	TH	CV
P1	FIRST ISSUE.	13.02.25	TH	CV

Status

PLANNING

SMR
SMALLEY MARSEY RISPIN
ARCHITECTS
The Exchange Station Parade Harrogate HG1 1TS
01423 707 757 admin@smrarchitects.co.uk

Project

HEATHROW FLIGHTPATH CAR PARK, UB7 0DU

Client

LYSARA

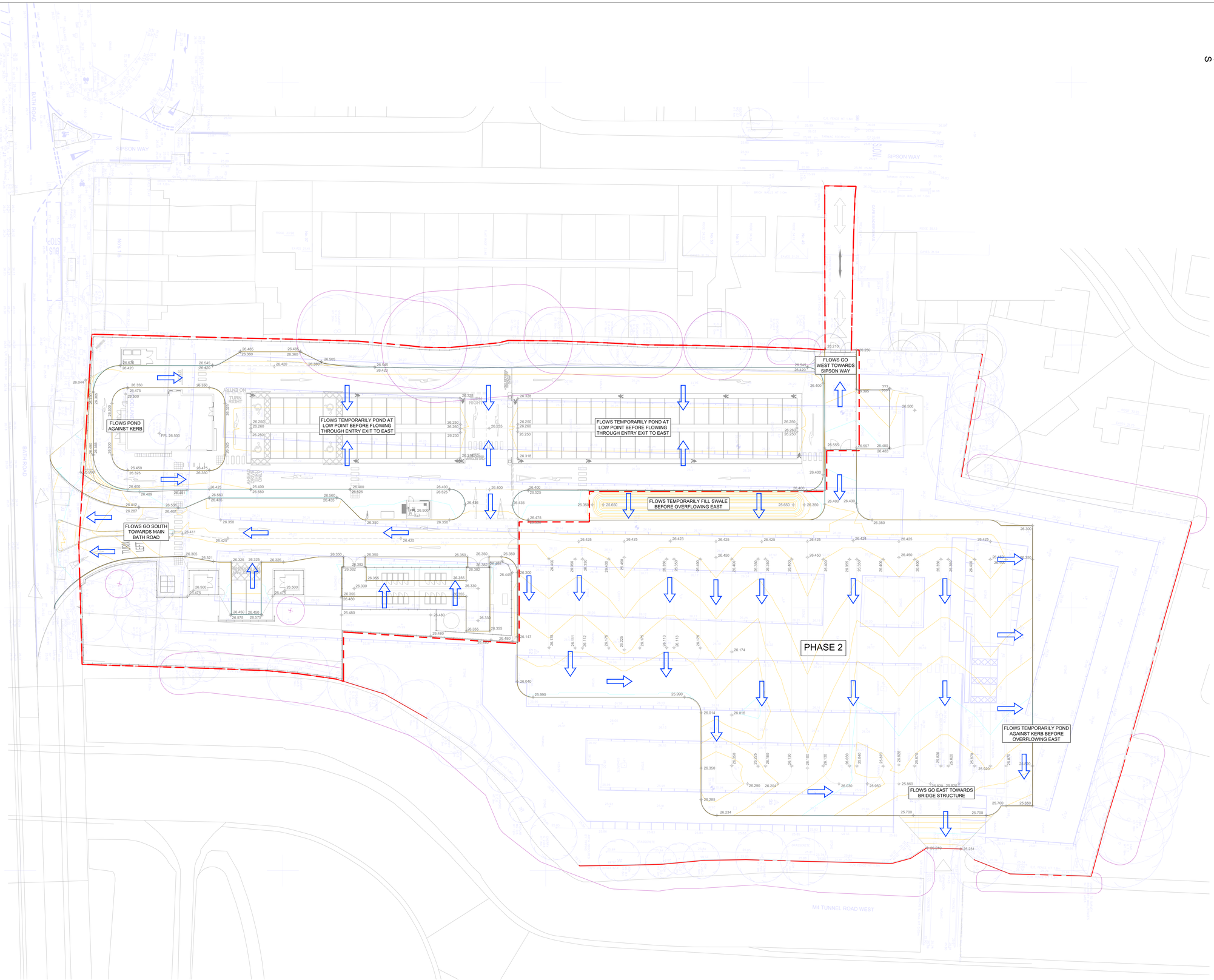
Drawing Title

PROPOSED SITE PLAN - PHASE 2

Proj Ref	Origin	Zone	Level	Type	Role	Num	Status	Rev
7935	SMR	00	ZZ	DR	A	2004	S3	P12

SMR Job Ref	Sheet	Scale	Drawn
7935-00-2004	A2	1 : 500	AH

APPENDIX C – LEVELS & EXCEEDENCE FLOWS



GENERAL NOTES :-

1. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGN DRAWINGS
2. ALL DIMENSIONS ARE IN METRES.
3. DO NOT SCALE, USE FIGURED DIMENSIONS ONLY.
4. ALL LEVELS ARE IN METERS RELATIVE TO DATUM U.N.O.
5. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY OR DETERMINE ALL DIMENSIONS AND LEVELS REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION OR PRODUCTION OF FABRICATION DRAWINGS.

EXCEEDANCE LEGEND:

- 66.750 PROPOSED SITE LEVEL
- 1:40 PROPOSED SITE GRADIENTS
- MAJOR CONTOUR (0.5m)
- MINOR CONTOUR (0.1m)
- DIRECTION OF OVERLAND FLOW PATH

REV	DATE	BY	Apvd	DESCRIPTION
P3	05.08.25	CJ	MR	UPDATED LAYOUT
P2	05.06.25	DM	MR	REVISED LAYOUT
P1	06.03.25	DM	MR	DRAFT ISSUE FOR REVIEW

REVISIONS

CLIENT
LYSARA

PROJECT TITLE
HEATHROW CAR PARK
BATH ROAD

DRAWING TITLE
DRAINAGE EXCEEDANCE FLOWS

EIRENG CONSULTING ENGINEERS
IRELAND - 3 Eustace Court, Patrick Street, Dun Laoghaire, Co.Dublin, A96 T3H2 ✆ +353 1 9539507
UNITED KINGDOM - Cambridge House, Henry Street, Bath, BA1 1BT ✆ +44 7 224 974202
info@eireng.com
eireng.com

DRAWN BY	C.EATON	DATE	06.03.25
ENG CHECK	M.REDFERN	DATE	06.03.25
APPROVED	E.DEASY	DATE	06.03.25
SCALE	1:250 @ A0	JOB No	242120
STATUS	PRELIMINARY	REVISION	P3
DWG NO	242120-ECE-ZZ-XX-DR-C-5215		

© EIRENG CONSULTING ENGINEERS This drawing and any design hereon is the copyright of the Consultants and must not be reproduced without their written consent. All drawings remain the property of the Consultants. Figured dimension only to be taken from this drawing. All dimensions to be checked on site. Consultants to be informed immediately of any discrepancies before work proceeds
COLOUR DRAWING

info@eireng.com

eireng.com

DUBLIN OFFICE

+353 (0) 1 663 8957

3 Rogan's Court
Patrick Street
Dun Laoghaire
County Dublin
A96 T0H2
Ireland

Registered in IRL
Company Reg No. 501522

BATH OFFICE

+44 (0) 1225 618 222

Cambridge House
Henry Street
Bath
BA1 1BT
UK

Registered in UK
Company Reg No. 13057536

DIRECTORS:

J. Lamb, T. Sheehan,
E. Deasy, C. Hanney