

Flood Risk Assessment
for a development at the
Wolfson Molecular Imaging Centre
undertaken on behalf of
Halliday Meacham Architects Ltd

Report Title:	Flood Risk Assessment - Wolfson Molecular Imaging Centre
Report Reference:	12380G-WML-00-XX-RP-C-001
Client:	Halliday Meacham Architects Ltd
Issue Date:	10th November 2025
Drafted By:	Christale Mangly
Authorised By:	Kevin Tyldesley

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Revision Status / History

Rev	Date	Issue / Purpose/ Comment	Prepared	Checked
P01	10/11/2025	Planning issue.	CM	KPT

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1.0 INTRODUCTION

1.1 WML Consulting Ltd have been commissioned by Halliday Meacham Architects Ltd to provide a Flood Risk Assessment (FRA) to support a planning application for a proposed development at the Wolfson Molecular Imaging Centre, 27 Palatine Road, Manchester, M20 3LJ.

1.2 A site location plan is presented in Appendix 01.

Scope

1.3 This Flood Risk Assessment (FRA) follows the guidance and requirements of the National Planning Policy Framework (NPPF), and the supporting Technical Guidance to the NPPF.

1.4 The NPPF identifies that it is the responsibility of developers to demonstrate:

- whether the development would be affected by current or future flooding from any source;
- that the development is safe and where possible reduces flood risk overall;
- whether flood risk would be increased elsewhere;
- mitigation measures for any identified flooding risks;
- that the site can be developed and occupied safely.

1.5 The FRA identifies whether there are any flooding or surface water management issues related to the development site that may warrant further consideration.

2.0 NATIONAL PLANNING POLICY

2.1 The aim of the Sequential Test, as set out in the NPPF, is as follows:-

'Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere.'

2.2 It is intended that new development is steered to areas with the lowest probability of flooding.

2.3 The flood zones are shown on the Flood Map for Planning, these zones indicate the probability of sea and river flooding. The extents of Flood Zones 2 and 3 are shown on the flood map, with Flood Zone 1 being the land outside Flood Zones 2 and 3. Flood Zone 1 is the area at the lowest probability of sea or river flooding.

These maps can be viewed on the GOV.UK website via the link below.

<https://flood-warning-information.service.gov.uk/long-term-flood-risk>

2.4 The NPPF Technical Guidance defines at Table 1 the Flood Risk Zones as below:

Flood Zone 1 Low Probability	Land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding in any year (<0.1%).
Flood Zone 2 Medium Probability	Land assessed as having between 1 in 100 and 1 in 1,000 annual probability of river flooding (1% to 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% to 0.1%) in any year.
Flood Zone 3a High Probability	Land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
Flood Zone 3b Functional Floodplain	Land where water has to flow or be stored at times of flood.

2.5 The NPPF Technical Guidance defines at Table 2 the Flood Risk Vulnerability Classifications, i.e. five categories of flood risk vulnerability with each category having a list of appropriate development uses. The classifications are:

- Essential Infrastructure;
- Highly Vulnerable;
- More Vulnerable;
- Less Vulnerable; or
- Water – compatible development.

2.6 The NPPF Technical Guidance defines at Table 3 the Flood Risk Vulnerability and flood zone 'compatibility' as shown below. Thereby providing a matrix that confirms whether a proposed development type is appropriate within a particular flood risk zone.

Table 3 Flood risk vulnerability and flood zone 'compatibility'

Flood Risk Vulnerability Classification (refer to Table 2)		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone (Table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	ExceptionTest required	✓	✓
	Zone 3a	Exception Test required	✓	X	ExceptionTest required	✓
	Zone 3b functional flood plain	Exception Test required	✓	X	X	X

Key: ✓ - Development is appropriate.
X - Development should not be permitted.

2.7 The proposed development would be classified as a 'less vulnerable' form of development. From Table 3 it can be seen that this type of development is appropriate in Flood Zones 1, 2 and 3a.

2.8 In this instance the development is located in Flood Zone 1.

3.0 LOCAL POLICY DOCUMENTS

3.1 Strategic Flood Risk Assessments (SFRAs) are prepared by Lead Local Flood Authorities (LLFAs) in consultation with the Environment Agency, sewerage undertakers and where applicable internal drainage boards. Their aim is to assess the risk to the local area from flooding from all sources currently and in the future, taking account of the impact of future climate change.

3.2 The Manchester City Council SFRA and associated information can be found via the link below.

https://www.manchester.gov.uk/downloads/download/3871/strategic_flood_risk_assessment_sfra

4.0 EXISTING SITE AND PROPOSED DEVELOPMENT DESCRIPTION

- 4.1 The development is proposed on land to the rear of the existing Wolfson Building, Palatine Road, Manchester, M20 3LJ.
- 4.2 A plan illustrating the proposed development layout can be found at appendix 02.
- 4.3 From this plan it can be seen that the proposed development is made up of two elements, one adjacent to the north east corner of the Wolfson Building and one adjacent to the south east corner.
- 4.4 The northerly element involves the installation of some new cycle parking hoops, illuminated bollards, a small bin enclosure, plus some permeable paving and new kerbing around an existing mature tree.
- 4.5 The southerly element involves the installation of a bin store, a plant room, a loading bay and a gas bottle store on an area of land that is currently predominantly used for car parking.
- 4.6 The proposed development has an area of around 0.01 ha.
- 4.7 Pedestrian and vehicular access to the development will continue to be provided off Palatine Road, via a private access road.

5.0 POTENTIAL SOURCES OF FLOODING

Correspondence

- 5.1 The Environment Agency (EA), Manchester City Council (MCC), and United Utilities (UU) have been asked to confirm if they have any information regarding past, present or future flooding issues that may affect the site.
- 5.2 The response from the EA, which can be found at appendix 03, confirms that they are not aware of any flooding problems in the vicinity of the site.
- 5.3 The response from the MCC is still awaited, should this be received during the planning application determination period, and if it contains information that significantly alters the contents of this report, then the report will be updated accordingly and re-submitted to the planning authority. The response would be added to appendix 04.
- 5.4 The response from the UU, which can be found at appendix 05, confirms that they are not aware of any sewer flooding problems in the vicinity of the site.

Potential Sources of Flooding

- 5.5 Potential sources of flooding that require consideration as part of the FRA are as below:-

- Flooding from rivers – fluvial flooding;
- Flooding from sea – tidal flooding;
- Flooding from surface water run-off – pluvial flooding;
- Flooding from sewers;
- Flooding from ground waters;
- Flooding from reservoirs;
- Flooding from other sources.

Flooding from Rivers – Fluvial Flooding

- 5.6 The online Flood Map for Planning confirms that the area where the development is proposed is located in Flood Zone 1 (low risk), which means that this area has a chance of flooding of less than 0.1% (1 in 1,000) each year.
- 5.7 Given the above, it is considered that the risk to the proposed development from fluvial flooding is low.

Flooding from Sea – Tidal Flooding

- 5.8 The site is not located in an area that is at risk of tidal flooding.
- 5.9 Given the above, it is considered that the risk to the proposed development from this form of flooding is very low.

Flooding from Surface Water Runoff – Pluvial Flooding

- 5.10 The online surface water flood mapping appears to indicate that the northern element of the proposed development may be at risk from this form of flooding.
- 5.11 However, it should be noted that flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features such as surface water drainage systems, that were not taken into account when the modelling behind the surface water flood maps was carried out, can greatly affect the chance and severity of flooding.

- 5.12 Given the above, and when taking into account the nature of the northern element of the proposed development, it is considered that the risk to the proposed development from this form of flooding is low.

Flooding from Sewers

- 5.13 United Utilities have confirmed that they do not have any records of sewer flood risk in the vicinity of the proposed development.
- 5.14 On this basis it is considered that the risk to the proposed development from this form of flooding is low.

Flooding from Groundwater

- 5.15 Groundwater flooding tends to occur sporadically in both location and time. When groundwater flooding does occur, it tends to mostly affect low-lying areas, below ground infrastructure and buildings (tunnels, basements, etc.) where these are underlain by permeable strata (aquifers).
- 5.16 A review of BGS plan indicate the site to be underlain by Devensian Glacial Till, mainly comprising clay below which solid strata is indicated to comprise the Chester Sandstone Formation.
- 5.17 In general, clayey or silty ground conditions are likely to restrict the potential for ground water flooding, whereas sandy or gravelly ground conditions would be less of barrier to this form of flooding.
- 5.18 The site is indicated on the BGS records to be within an area which is considered to have a 'low' risk from groundwater flooding.
- 5.19 The site owner has not raised the issue of ground water flooding at the site.
- 5.20 The proposed development does not entail the creation of any below ground / basement facilities.
- 5.21 Given the above, it is considered that the risk to the proposed development from this form of flooding is low.

Flooding from Reservoirs

- 5.22 The online reservoir flood mapping indicates that the site may be at risk from this form of flooding.
- 5.23 However the risk of flooding from reservoirs is generally considered to be very low in the UK, with it being mitigated through a combination of strict legislation (the Reservoirs Act 1975), robust engineering and maintenance, and proactive emergency planning.
- 5.24 On this basis it is considered that the risk to the proposed development from this form of flooding is low.

Flooding from Other Sources

- 5.25 From a review of the Ordnance Survey mapping, there does not appear to be any significant bodies of water in the vicinity of the site.
- 5.26 On this basis, it is considered that the risk to the development from flooding from other sources is low.

6.0 DRAINAGE STRATEGY

Surface Water Drainage Proposals

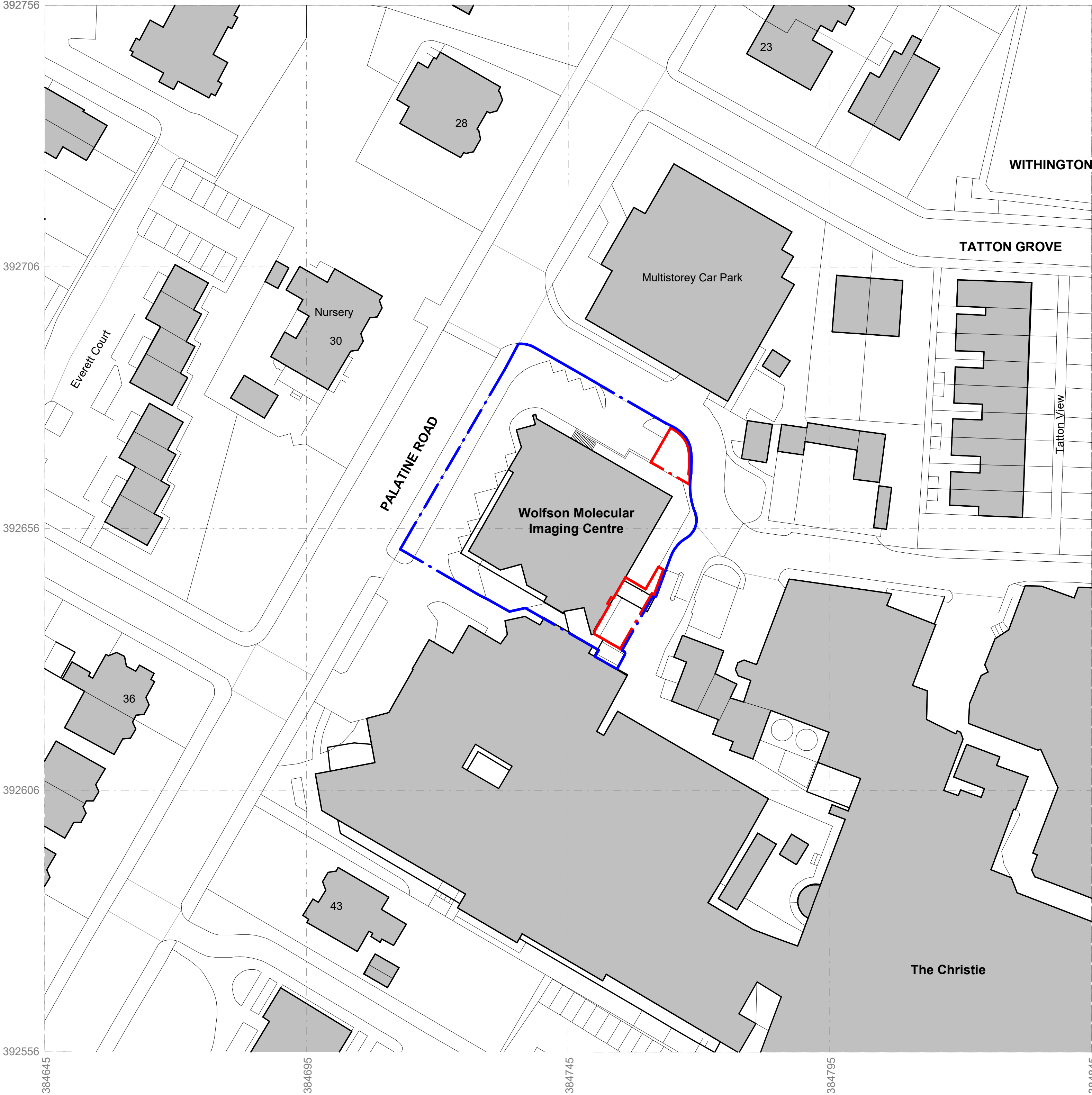
- 6.1 The proposed drainage strategy for this site will incorporate the principles of, and where appropriate demonstrate compliance with the NPPF and the SUDS manual.
- 6.2 The proposed drainage system will be designed in accordance with BS EN 752 and Building Regulations Part H (2010). Approved Document H indicates the following hierarchy for the disposal of surface water drainage from the new development sites, firstly discharge via infiltration, secondly discharge via watercourse and lastly discharge to sewer.
- 6.3 These options are discussed in further detail below.
- 6.4 **Surface water discharge via infiltration:** A review of BGS records indicate that the site is underlain by Devensian Glacial Till, mainly comprising clay, below which solid strata is indicated to comprise the Chester Sandstone Formation. Given the relatively impermeable nature of the ground conditions, it is considered that soakaways and / or other infiltration techniques will not be suitable for dealing with the concentrated discharges from roof drainage systems. However permeable paving should be used where practical to deal with the non-concentrated runoff from new external areas. This is proposed for the northerly element of the proposed development, as can be seen from the drawing at appendix 02.
- 6.5 **Surface water discharge via watercourse:** A review of the Ordnance Survey mapping around the site has confirmed that there are no watercourses located within the vicinity of the development.
- 6.6 **Surface water discharge via public sewer:** Given the above, it is considered that the surface water runoff from the southerly element of the proposed development will need to be discharged to the public drainage system via a connection to the existing private surface water drainage system on site.
- 6.7 A GPR survey has been undertaken by Subscan covering the area where the southerly element of the development is proposed. A copy of this survey can be found in appendix 06. A review of this drawing indicates the presence of two existing 150mm diameter surface water drains running south-west to north-east through the development area.
- 6.8 As both of these existing drains are located beneath or in close proximity to the proposed works area, it is proposed that they be diverted, as shown on the WML proposed drainage layout drawing (11841-WML-01-XX-DR-C-0001), which can be found in appendix 07.
- 6.9 The diverted flows will then be conveyed via a new 300mm diameter drain, which will discharge into an existing manhole downstream.
- 6.10 The runoff from the southerly element of the proposed development will also be connected into the new 300mm pipework. As the southerly element of the proposed development is to be constructed on an existing area of hardstanding that is currently positively drained to this same surface water drainage system, there will be no increase in runoff rate or volume as a result of the proposed development.

7.0 CONCLUSIONS

- 7.1 WML Consulting Ltd have been commissioned by Halliday Meacham Architects Ltd to provide a Flood Risk Assessment (FRA) to support a planning application for a proposed development at the Wolfson Molecular Imaging Centre, 27 Palatine Road, Manchester, M20 3LJ.
- 7.2 The proposed development is made up of two elements, one adjacent to the north east corner of the Wolfson Building and one adjacent to the south east corner. The northerly element involves the installation of some new cycle parking hoops, illuminated bollards, a small bin enclosure, plus some permeable paving and new kerbing around an existing mature tree. The southerly element involves the installation of a bin store, a plant room, a loading bay and a gas bottle store on an area of land that is currently predominantly used for car parking.
- 7.3 The online Flood Map for Planning confirms that the area where the development is proposed is located in Flood Zone 1 (low risk), which means that this area has a chance of flooding of less than 0.1% (1 in 1,000) each year.
- 7.4 From the NPPF the proposed development would be classified as a "less vulnerable" form of development, and is therefore considered to be appropriate in flood zone 1.
- 7.5 It is considered that the development is not at significant risk of flooding from tidal waters, surface water, reservoirs, sewers, groundwater or from other sources.
- 7.6 Given the above it is considered that the development is appropriate in this instance.
- 7.7 The surface water drainage proposals for the development will incorporate the principles of the NPPF and the SUDS manual.
- 7.8 The proposed development will not result in an increase in surface water runoff rate or volume.
- 7.9 Given the above it is considered that the proposed development should not be at risk from flooding during its life time, and that it will not increase flood risk to elsewhere.

Appendix 01

Site Location Plan



Site Key

Site Ownership Boundary: 2030 Sq.m

Planning Boundary: 133 Sq.m

P02	Issued for planning approval	25.09.25	SA	FW
P01	Issued for comment	13.12.24	SA	FW

Revision	Description	Date	Drawn	Checked
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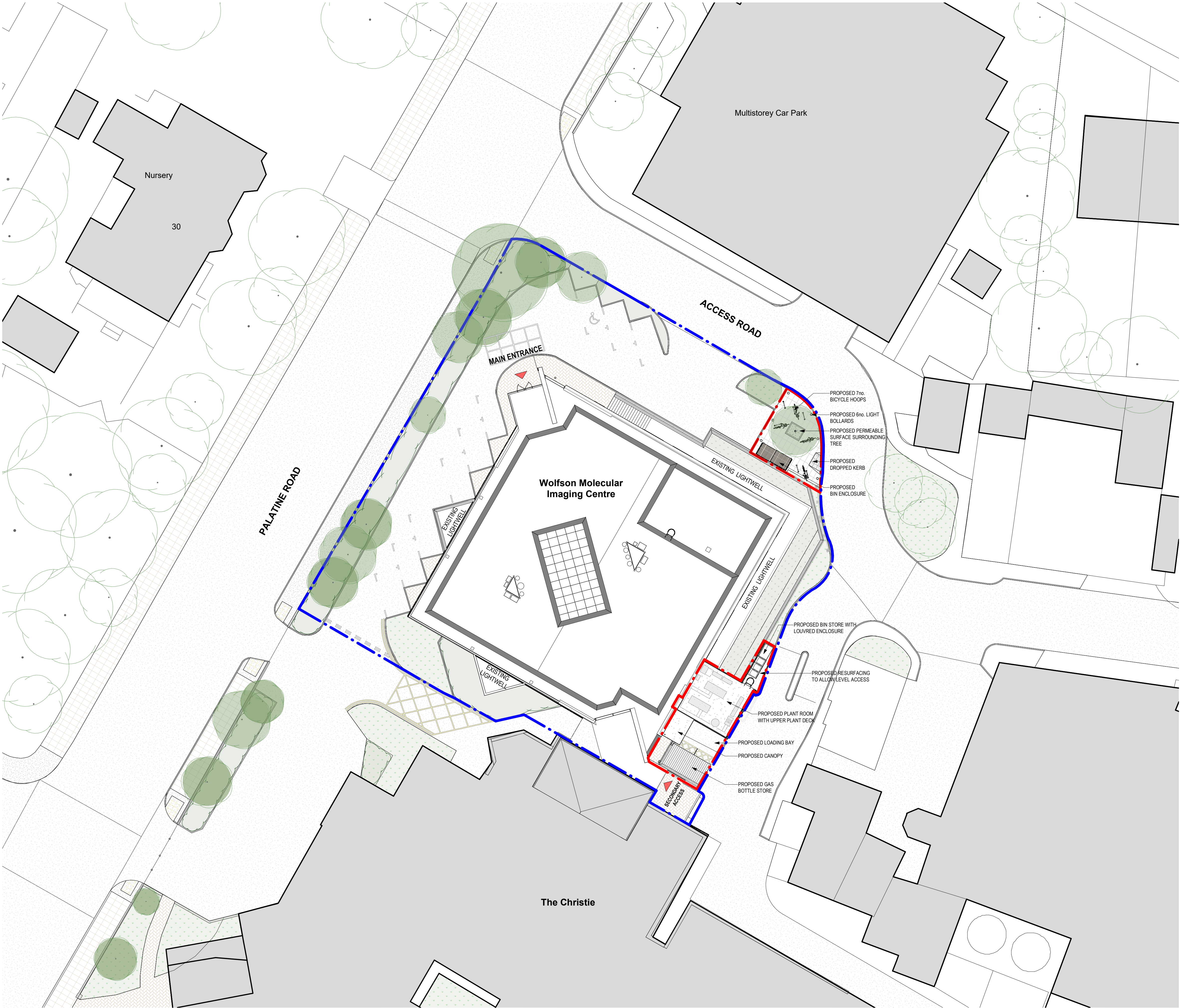
Client:		University of Manchester			
Project:		Wolfson Molecular Imaging Centre			
Phase/ Location:		27 Palatine Rd, Withington, Manchester M20 3LJ			
Drawing:		Site Location Plan			
Scale @ A1	Scale @ A3	Date:	Drawn:	Checked:	Job No.
1:100	1:200	25.02.25	MT	SA	5682
				Drawing No.	00010
Scale		0 10m 25m		Stage / Suitability:	
1:500				Planning	
Drawing Ref.		5682-HMA-WMIC-XX-DR-A-00010			Revision:
					P02

Site Location Plan

1 : 500 @ A1

Appendix 02

Proposed Development Plan



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Legend

- Existing Buildings
- Existing Paving
- Existing Grass
- Existing Metal Roof
- Existing Tree
- Proposed Ramped Kerb
- Proposed Permeable Tree surround

P02	Issued for planning approval	25.09.25	SA	FW
P01	Issued for comment	13.12.24	SA	FW

Revision	Description	Date	Drawn	Checked
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Client:	University of Manchester			
Project:	Wolfson Molecular Imaging Centre			
Phase/ Location:	27 Palatine Rd, Withington, Manchester M20 3LJ			
Drawing:	Proposed Site Plan			

Scale @ A1	Scale @ A3	Date:	Drawn:	Checked:	Job No.	Drawing No.
1:200	N/A	25.02.25	MT	SA	5682	00220

	Scale	Stage / Suitability:	Status:
		Planning	

Drawing Ref.	5682-HMA-WMIC-XX-DR-A-00220	Revision
		P02

Proposed Site Plan

1 : 200 @ A1

Appendix 03

Environment Agency Correspondence

Kevin Tyldesley

From: Greater Manchester, Merseyside and Cheshire Enquiries
<inforequests.gmmc@environment-agency.gov.uk>
Sent: 23 October 2025 09:56
To: Christale Mangly
Subject: Request for information - Ref: EIR2025/36909

Dear Christale Mangly,

I am writing in response to your request for information, received 21 October 2025 regarding Wolfson Molecular Imaging Centre, Wolfson Building, 27 Palatine Road, Manchester, M20 3LJ.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

We hold no record of flooding in this area. However, this does not mean flooding has not occurred in the past or that it will not flood in future. We recommend that you also contact United Utilities and who may hold additional information (the former especially in relation to sewer flooding).

The Environment Agency offers an Insurance Related Letter, which outlines the risk of flooding from rivers and the sea and surface water. This may help when obtaining suitable insurance. If you would like to receive an Insurance Related Letter, please request this in your reply to this enquiry.

For further information on your property's flood risk, visit:

Long term flood risk website: <https://flood-warning-information.service.gov.uk/long-term-flood-risk/>

Flood Map for Planning: <https://flood-map-for-planning.service.gov.uk/>

For additional flood risk information, advice and support in your area, please visit: <https://thefloodhub.co.uk/>

The National Flood Forum also offers advice on obtaining insurance, particularly for those properties deemed at high risk. This is helped by the government-backed scheme 'Flood Re' which enables those at risk to shop around for affordable insurance. They also offer advice on property resilience, flood prevention and mitigation measures which we hope you will find useful. For this information please visit: <http://www.nationalfloodforum.org.uk/>

Please refer to the Open Government Licence which explains the permitted use of this information.

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Yours sincerely,

Sarah Walters

GMMC Area Customers and Engagement Team

Environment Agency

Please tell us how we did

Appendix 04

Manchester City Council Correspondence

Freddie Entwisle

From: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Sent: 21 October 2025 15:54
To: Christale Mangly
Subject: Automatic reply: Wolfson Molecular Imaging Centre, Wolfson Building, 27 Palatine Road, Manchester, M20 3LJ

Thank you for contacting Flood Risk Management Team (LLFA). Your enquiry has been received and will be processed as below.

Live service updates: w/c 23 June - We are running 1 week late on responses.

Service Response Times:

Planning Consultation:

New planning notifications from planning@manchester.gov.uk – 21 days

Reviews of further CDN submission via Planning Officer – 14 days

Pre-Application advice (must be requested by your MCC Planning Officer) – 14 days

Land Drainage Consent:

Decision in statutory 2 month time frame

All Other Enquiries:

21 days target timescale

Kind Regards,

Flood Risk Management Team (LLFA)

floodriskmanagement@manchester.gov.uk

Highways Service

Neighbourhoods Directorate

Manchester City Council

PO Box 532

Town Hall

Manchester

M60 2LA

Web: <http://www.manchester.gov.uk>

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Appendix 05

United Utilities Correspondence

Kevin Tyldesley

To: wastewaterdeveloperservices@uuplc.co.uk; Christale Mangly
Subject: RE: 08334569 - Wolfson Molecular Imaging Centre, Wolfson Building, 27 Palatine Road, Manchester, M20 3LJ

From: wastewaterdeveloperservices@uuplc.co.uk <wastewaterdeveloperservices@uuplc.co.uk>
Sent: 27 October 2025 11:19
To: Christale Mangly <Christale.Mangly@wmlconsulting.com>
Subject: RE: 08334569 - Wolfson Molecular Imaging Centre, Wolfson Building, 27 Palatine Road, Manchester, M20 3LJ

Good Morning Christale,

Thank you for contacting United Utilities regarding flood risk in relation to your proposed development. Gulshan is currently leave so I have responded on his behalf any further requirements should be discussed with Gulshan.

We can confirm that, based on our current modelling data, there is no identified flood risk within the vicinity of the site. Please note, however, that our modelling is indicative and represents only the 1-in-100-year storm event. It may not account for more extreme weather scenarios, localised drainage conditions, or future climate variability.

We recommend that this information be considered alongside other sources such as Environment Agency flood maps, local authority assessments, and any site-specific surveys to ensure a comprehensive understanding of flood risk.

Should you require any further information or clarification, please do not hesitate to contact us.

If I can be of any further assistance please don't hesitate to contact me.

Regards,



Daniel McDermott
Customer Area Manager WW
Developer Services & Metering
Customer Services
M: 07795046445
unitedutilities.com

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----- Original Message -----

From: wastewaterdeveloperservices@uuplc.co.uk [wastewaterdeveloperservices@uuplc.co.uk]
Sent: 22/10/2025 12:11
To: christale.mangly@wmlconsulting.com
Subject: 08334569 - Wolfson Molecular Imaging Centre, Wolfson Building, 27 Palatine Road, Manchester, M20 3LJ

Good Afternoon Christale

Thank you for your email.

I've forwarded it onto the engineer who will respond to you directly on 28/10/2025 if not before.

Kind Regards

Yvonne

If you believe you have received a good service today, you can report this on the link below. This only takes a minute, and I would really appreciate it.

<https://unitedutilities.thewowawards.co.uk/nominate>



Yvonne Manboard
Customer Advisor Advanced
Developer Services & Metering
Customer Services
unitedutilities.com
Tel: 0345 072 6067
(Option 2 for Wastewater Services)

----- Original Message -----

From: Christale Mangly [christale.mangly@wmlconsulting.com]

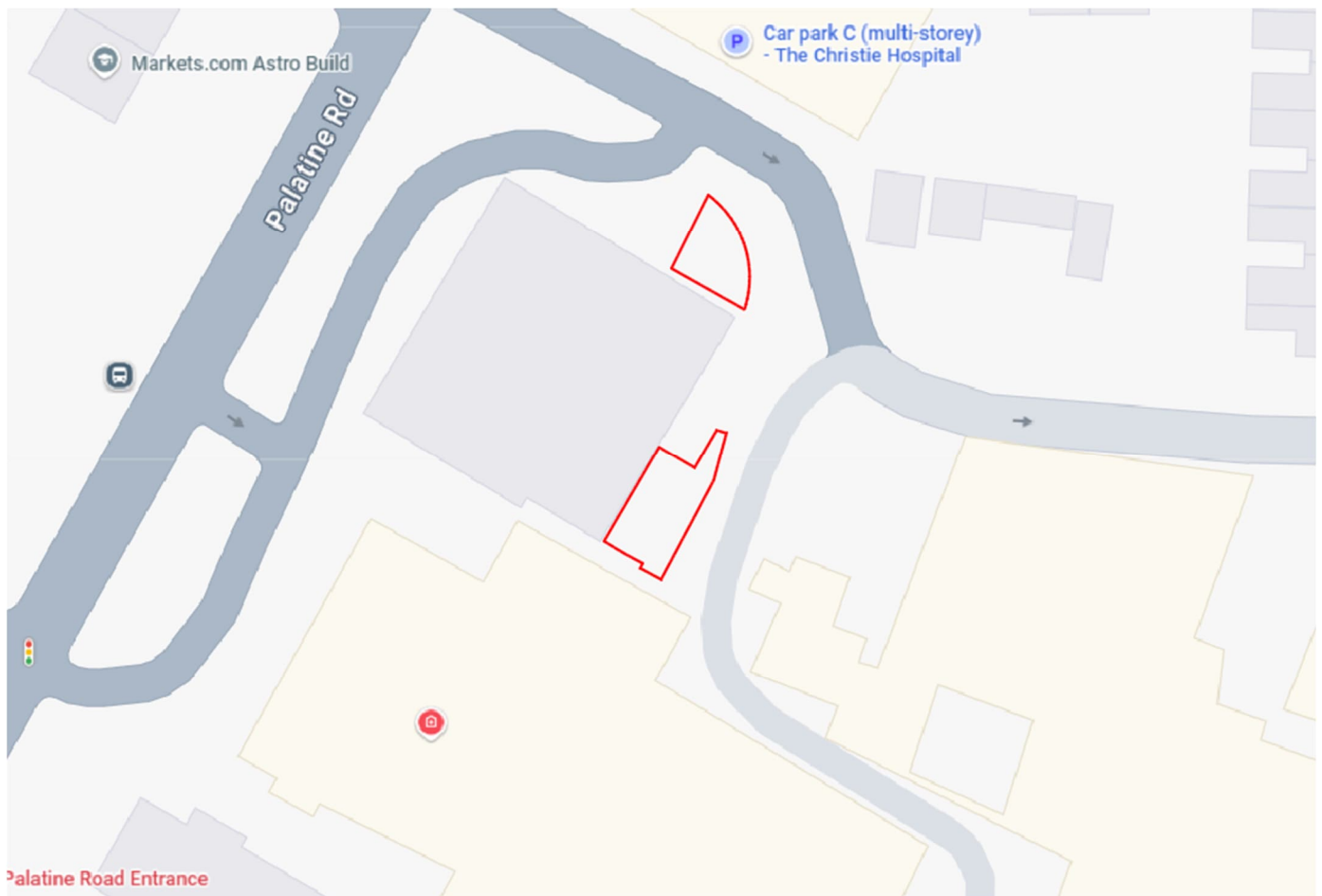
Sent: 21/10/2025 15:47

To: wastewaterdeveloperservices@uuplc.co.uk

Subject: Wolfson Molecular Imaging Centre, Wolfson Building, 27 Palatine Road, Manchester, M20 3LJ

Hi,

We are producing a Flood Risk Assessment in respect of a proposed development at the above, as shown below.



Can you please confirm if you are aware of any flood risk or drainage related issues which may affect the site ?

Any queries, let me know.

Regards,

Christale Mangly

Civil engineer

WML Consulting Ltd

Civil, Structural & Geotechnical Engineers
Third Floor South | Metropolitan House | Station Road | Cheadle Hulme | Cheshire | SK8 7AZ

Tel: 0161 482 0600 | Mobile: 07949 133 257 | email: christale.mangly@wmlconsulting.com

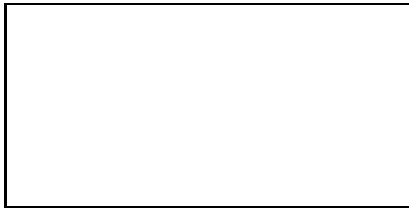


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Appendix 06

GPR Underground Utility & Drainage Survey

All services shown on this plan have been surveyed using approved detectors and the connections between manholes, if not traced, are assumed to be direct.

Should the background, or topographical, information for the survey area be based on an Ordnance Survey tile we are not liable for any loss that may arise due to a lack of accuracy in that digital data.

Location accuracy detected by EML methods are determined by referring to manufacturer's guidelines for the equipment used. In ideal conditions the accuracies for the underground utilities located and mapped are $\pm 10\%$ of the depth. Whilst this is not a very high accuracy, it is still a significant improvement on the ground conditions. The depths obtained are for the centre of the conductor and do not necessarily the depth to a duct or pipe.

Although all reasonable effort is made during site detection, the completeness of the underground services information cannot be guaranteed. An electric current will flow along the path of least resistance. This means that when a current is induced into a feature it will 'jump' to adjacent features if they offer a better conducting pathway. It is therefore possible that a feature may be detected by connecting to one type of apparatus may not in fact be the type of utility. The identification of apparatus cannot be assumed to be totally accurate. It should be noted that the technique is limited to metallic features. It is therefore general an electromagnetic field, such as power cables, or around which an electromagnetic field can be induced, such as some water pipes and some communications cables, and it cannot therefore be guaranteed to reveal the exact routes of all buried services or to detect their presence.

GPR is very useful on flat relatively smooth surface areas from obstructions. Areas of vegetation, waterlogged areas or uneven ground will often not be scanned using GPR as the data is too unreliable.

Examples of the results of GPR below ground conditions. Saturated ground or concrete reinforcement bars are examples of below ground conditions that can have effects on the results of scans.

Service information can also be shown on the drawings taken from statutory undertakers' record plans. This information is shown for the sake of completeness and Subscan Udon Ltd can take no responsibility for the positional accuracy of such information as this may be derived directly from the service plan information. The information as stated on the information may not be traced and may be off set due to the inaccuracy of the service records with which the information has been digitised.

	Quality Level	Horizontal Accuracy	Vertical Accuracy	Detection Clarification
Desktop Records Search	D	N/A	N/A	Service shown on records only not found on site.
Site Reconnaissance	C	N/A	N/A	A segment of utility whose location is demonstrated by visual reference to street furniture, topographical features or evidence of previous street works (reinstatement scar).
Detection	B4	Undefined	Undefined	A utility segment which is suspected to exist but has not been detected and is therefore shown as an assumed route.
Detection	B3	+/- 500mm	Undefined No reliable depth	Horizontal location only of the utility detected by one of the geophysical techniques used.
Detection	B2	+/- 250mm	+/- 40% Detected Depth	Horizontal and vertical location of the utility detected by one of the geophysical techniques used.
Detection	B1	+/- 150mm	+/- 15% Detected Depth	Horizontal and vertical location of the utility detected by multiple geophysical techniques used.
Verification	A	+/- 50mm	+/- 25mm	Horizontal and vertical location of the top and/or bottom of the utility.

CATV Cable

CCTV Cable

Comms Cable

Duct

Earthing Rod

Electric Cable

Electric HV Cable

Electric LV Cable

Fibre Optic

Gas Pipe

GPR Anomaly

GPR Linear

Heating Pipe

Rising Main

Surface Sewer

Foul Sewer

Combined Sewer

Trade Effluent

Traffic Signal Cable

Unidentified

Water Main

Vent Pipe

Fuel Pipe

Oil Pipe Line

Survey Extents

Assume Route

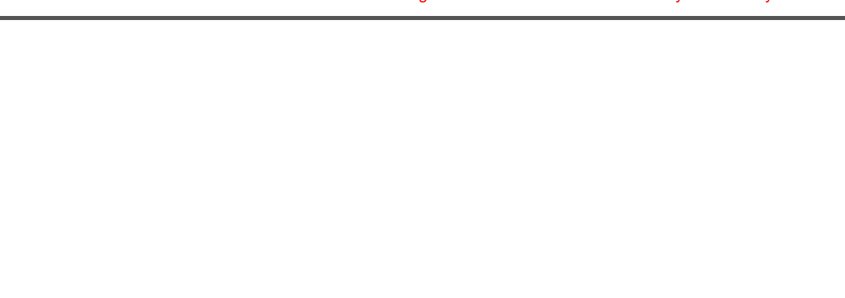
Taken From Records

Letters correspond with
CCTV report and
indicate pipe
references.

Water & Gas utilities entering into properties are generally of a size that cannot be detected by Radio detection of GPR. The route of these is shown from surface evidence such as pipe risers or valves. This data should be viewed as a guide on and safe digging techniques should be used at all times.

Records information & positions should be viewed as approximate and indicative. Safe digging practices should be used to verify their position and type.

Utilities depths marked with an 'I' have been detected using an induced method and therefore should be regarded as less reliable than a directly traced utility.



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Key	OSBIM Benchmark
(i) Induced	NVP No Visible Pipe
(s) Depth	OSBIM Depth
(s) Sounded (m)	RP Poor Trace
AR Assessed Route	RE Rodding Eye
AV Average	RW Rain Water
BR Borehole	SA Survey Abandon
BS Bore Stop	SC Stop Tap
BLNK Blocked	SP Sign
BD Blocked	SV Stop Valve
DO Down	ST Soil Vent Pipe
BUS Bus Stop	TAP Tap
CCTV Camera	TEL Telecom Cover
CL Cover Level	TEL Taken From
Col Column	Records
Cab Cabinet	THL Threshold Level
DOB Depth Bottom	TL Traffic Light
DOD Depth	TOF Top of Fence
EDC Empty of Cover	TOU Trenching
EL End of Line Point	UTL Unable to Locate
EOT End of Trace	UTL Unable to Raise
EP Electric Pole	UTS Unable to Survey
ER Earth Rod	UTS Unable to Trace
FF Fire	UTTF Unable to Trace
FH Fire Hydrant	Further
FP Flag Pole	V Vent
FV Flag Valve	WM Water Meter
IL Inlet	WM Water Meter
GL Floor Light	WO Wash Out
GP Gate Post	WW Water Valve
GR Gas Risers	
GV Gas Valve	
IL Inlet	
LOR Loss of Reflection	
LOS Lost of Signal	
LP Lamp Post	
MAN Manhole	
MA Man Access	
Required	
MH Manhole	

This survey has been carried out in accordance with RICS accuracy band E, as described in RICS guidance note Surveying in the field of residential buildings and utilities (3rd Ed.)

Drawing units are metres, quoted units are metres.

Grid ticks should be used to check for plotting distortions.

Details or services hidden or obscured by vegetation, debris or vehicles at survey dates may be omitted. Hedge & Vegetation details are outline.

Any assumed details are shown in DASHDOT linetype

All arrows point up unless otherwise stated

All levels shown on this drawing are related to Ordnance Survey Datum by means of multiple network GNSS observations taken at Station S1.

The grid shown on this survey is based on Ordnance Survey Grid OSG836 using OSTN15. These co-ordinates have been derived from multiple network GNSS observations taken at Station S1.

All other stations are relative to this in plane projection and Grid North orientation is from S2 (i.e one point localisation with a scale factor equal to 1).

A rectangular box with a black border containing the text "Sheet 1" in a blue serif font.



Direction
of North

REV	DATE	DRAWN	DESCRIPTION	CHECK

 **NATIONWIDE
COVERAGE AVAILABLE**

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E: info@subscan.com**

 **0344 499 5220**



CLIENT **Wolfson Molecular**

SITE

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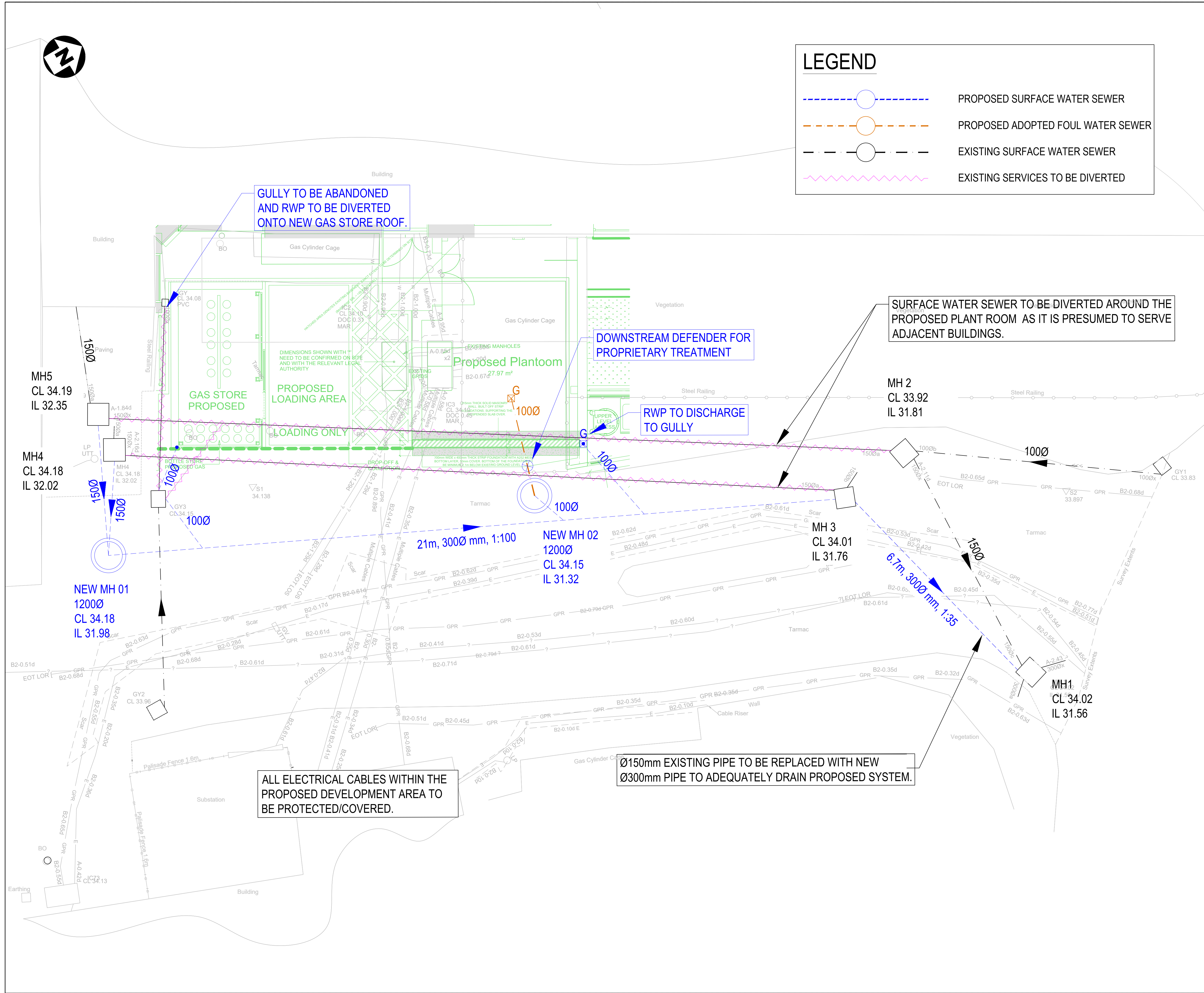
DRAWING TITLE

Underground Utilities Survey
Drainage Survey

DRAWING REF GR75795-UU-DR			SCALE@A1 1/100
PROJECT REF GR/75795		SHEET 1 of 1	REV 0
SURVEYED	OS, FM, GS	DRAWN	FM
CHECKED	AF	DATE	23/12/2024

Appendix 07

Proposed Drainage Layout (11841-WML-01-XX-DR-C-0001)



GENERAL NOTES

NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT PRIOR PERMISSION IN WRITING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.

THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE PRE-TENDER STAGE HEALTH AND SAFETY PLAN.

FOR DETAILS OF MATERIALS AND WORKMANSHIP REFER TO THE SPECIFICATION.

THE CONTRACTOR IS RESPONSIBLE FOR CHECKING INVERT LEVELS AND POSITIONS OF ALL EXISTING DRAINS, SEWERS, INSPECTION CHAMBERS AND MANHOLES SHOWN ON THIS DRAWING IMMEDIATELY ON SITE ESTABLISHMENT. ANY DISCREPANCIES MUST BE REPORTED TO WML CONSULTING IMMEDIATELY.

WHERE THE NEW SITE DRAINAGE CONNECTS IN TO EXISTING MANHOLES IN CARRIAGEWAYS AND / OR EXISTING ADOPTED SEWERS, THE CONTRACTOR IS RESPONSIBLE FOR ALL LIAISON WITH THE RELEVANT STATUTORY UNDERTAKER AND LOCAL AUTHORITY WITH REGARD TO ROAD CLOSURES, TRAFFIC MANAGEMENT, PERMITS TO WORK, SUBMISSION OF CONTRACTORS METHOD STATEMENTS AND RISK ASSESSMENTS AND OTHER DOCUMENTATION AND CORRESPONDENCE ASSOCIATED WITH THE SITE STAGE (PART 2) ELEMENT OF THE WORKS.

ROCKER PIPES TO BE PROVIDED AT ALL CONCRETE CASED INTERFACES.

PROVIDE ADEQUATE PROTECTION TO MAINTAIN MINIMUM COVER TO DRAINS DURING THE CONSTRUCTION PERIOD.

COVER LEVELS ON THIS DRAWING ARE APPROXIMATE AND INDICATIVE ONLY ARCHITECT TO CONFIRM COVER LEVELS TO ALL MANHOLES AND GULLIES PRIOR TO CONSTRUCTION.

THE LAYOUT OF DRAINAGE ON THIS DRAWING IS INDICATIVE ONLY ARCHITECT TO CONFIRM EXACT LOCATION OF MANHOLES AND GULLIES.

U.N.O. ALL DRAINAGE GOODS & FITTINGS TO BE:-

- UPTO 225 DIA (AND INCLUDING) TO BE SUPERSLEVE VITRIFIED CLAY PIPES OR SIMILAR.
- 300 DIA AND ABOVE TO BE CONCRETE BY STANTON BONNA OR SIMILAR.

ALL COVERS AND RODDING ACCESS POINTS TO BE SEALED AND SCREWED TIGHT.

ALL INTERNAL MANHOLE COVERS TO BE DOUBLE SEALED, LOCKABLE AND RECESSED TO ACCEPT FLOOR FINISHES WHERE APPLICABLE.

SETTING OUT OF ALL INTERNAL GULLY / PLUMBING CONNECTIONS TO BE CO-ORDINATED BETWEEN THE SERVICE ENGINEERS AND THE ARCHITECT.

ALL INTERNAL GULLIES, PLUMBING CONNECTIONS, SOIL STACKS, SVPS AND ALL OTHER CONNECTIONS OF FOUL AND SURFACE WATER DRAINS TO BELOW GROUND TO BE FITTED WITH ACCESSIBLE RODDING POINTS ABOVE SLAB LEVEL.

ALL CONNECTIONS TO BE MADE IN ACCORDANCE WITH STANDARD DETAIL DRAWINGS.

ALL PIPEWORK TO BE INSTALLED WITH SOFFITS LEVEL (E.G. AT CHANGES IN PIPE SIZE) U.N.O.

ON COMPLETION OF DRAINAGE WORKS, THE NEW DRAINAGE SYSTEM IS TO BE THOROUGHLY CLEANED AND A CCTV SURVEY CARRIED OUT TO CONFIRM NO CONSTRUCTION DEBRIS OR BLOCKAGES REMAIN.

ALL PRIVATE DRAINAGE IS TO COMPLY WITH BS EN 752 AND BUILDING REGS. PART H.

MANHOLE COVERS IN VEHICULAR AREAS TO BE EN124 CLASS D400, IN NON - VEHICULAR AREAS TO BE EN124 CLASS C250

PRELIMINARY

P02	PRELIMINARY ISSUE	18.03.25	CM	RZ
P01	PRELIMINARY ISSUE	11.03.25	CM	RZ
Rev.	Amendment	Date	By	Chkd

Project

WOLFSON MOLECULAR IMAGING CENTRE

Client

HALLIDAY MEECHAM ARCHITECTS

Title

PROPOSED DRAINAGE LAYOUT

WML Job No.	Drawn	Checked	Date	Scale
11841	CM	RZ	MAR.2025	1:20 @A1

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Drawing No.

11841-WML-10-XX-DR-C-1001

Revision

P02