



DRAINAGE IMPACT ASSESSMENT

Dakota Hotel Manchester Airport

Reference

6338-JPG-XX-XX-RP-D-0622-S2-P03

Date

May 2024

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CONFIDENTIALITY STATEMENT

This report is addressed to and may be relied upon by the following:

Evans Dakota Hotels Limited
Millshaw
LEEDS
LS10 1AB

This report has been prepared for the sole use and reliance of the above-named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of JPG (Leeds) Limited. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

DOCUMENT HISTORY

Revision	Date	Revision Details	Status	Author(s)	Approved
P01	03.05.2024	First Issue	Preliminary	BT	LJB
P02	21.05.2024	Second Issue	Preliminary	BT	LJB
P03	22.05.2024	Third Issue	Preliminary	BT	LJB



1.0 INTRODUCTION

JPG (Leeds) Limited (JPG) has been instructed by Evans Dakota Hotels Limited to provide a drainage impact assessment for a proposed hotel development off Enterprise Way immediately North East of Manchester Airport.

A new hotel and car park will replace the existing car park.

The report will detail the drainage strategy associated with the proposed development.

A separate Flood Risk Assessment document will cover the flood risk document reference 6338-JPG-XX-XX-RP-0621. This document should be read in conjunction with the Flood Risk Assessment Report.

These include both technical, nontechnical, legislation, codes, and guidance document at both national and local level:

- National Planning Policy Framework and the Planning Practice Guidance.
- Flood and Water Management Act 2010.
- Defra's Non-Statutory Technical Standards for SuDS.
- CIRIA C753 SUDS Manual and various other CIRIA guidance.
- Building Regulations: Approved Document H - Drainage and Waste Disposal (2015 edition).
- BS 8582:2013 Code of Practice for Surface Water Management for Development Sites.
- BS EN 752:2017 Drain and sewer systems outside buildings - sewer system management.
- Sewers for Adoption 6th and 7th Edition (now superseded).
- Design and Construction Guidance (DCG) version 2.0, March 2020.

2.0 THE SITE

2.1 Location

The site is located to the East of Junction 5 of the M56, approximately 500m to the North East of Terminal 2, Manchester Airport. The approximate centre of the site is located at NGR 381961 386038.

A site location plan is provided in Appendix A.



2.2 Site Description and Topography

The site has an area of approximately 1.22 hectares (ha) and comprises an irregular shaped relatively level parcel of land. It measures approximately 110m along its North to South axis and 140m along its East to West axis. Vehicular access to the site is off Bailey Lane from the North West.

Most of the site is covered with crushed stone, with smaller areas of concrete hardstanding.

A shallow embankment, approximately 2m high, runs along the South Eastern, South Western and North Western boundaries of the site.

Mature and semi-mature trees are located along the North Eastern boundary of the site.

Most of site is bound by a wooden fence, except for the entrance off Bailey Lane which comprises herras fencing secured with a combination lock. An additional fence/gate with a combination lock is located inside the site, close to the entrance off Bailey Lane.

Bailey Lane is located immediately beyond the North Western boundary beyond which are units occupied by the Razorblue Group and Etrop Grange Hotel. Woodland and houses are located beyond the site to the North East. A roundabout is located beyond the site to the South East and Enterprise Way is beyond the site to the South West.

Land beyond Enterprise Way to the South West and to the West beyond Bailey Lane are currently under construction.

3.0 EXISTING DRAINAGE NETWORK

3.1 Watercourses and Land Drainage

There is an open watercourse located on the Eastern boundary of the development, this is culverted both upstream and downstream of the development boundary.

This watercourse will be the surface water outfall for the development.

3.2 Public Sewer Network

Public sewer records have been obtained from United Utilities (UU) and indicate public sewer assets outside of the boundary in the Bailey Lane and Hilary Road junction.

Based on the United Utilities record drawing there is a public combined water sewer detailed below, there are no adopted surface water sewer in the vicinity of the site.

300dia. Foul Water Public Sewer (material vitrified clay).



The law regarding responsibility for drains and sewers changed on the 1 October 2011. From this date the Government transferred the majority of drainage pipes that are either outside a property's boundary or are shared with other buildings to the Sewage/Water companies. The sewer records may not show all of the transferred sewers.

An extract from United Utilities sewer record plan is provided in Appendix C.

3.3 Private Drainage Systems/Network

There is an existing foul water existing drainage system which serves future developments sites along Enterprise Way, this has eventual outfall into the adopted combined sewer in Bailey Lane/Hilary Road.

The sewers are owned and maintained by the Manchester Airport Group.

A private drainage layout plan is located in Appendix C.

This private drainage network will be the foul water outfall for the development.

4.0 DEVELOPMENT PROPOSALS

The proposed development comprises a seven-story hotel building with associated car parking, electrical charging points, service yard and landscaping.

A plan of the proposed development has been provided by the architect. This is referenced below, and a copy is provided in Appendix D.

- KPP Architects. 3001 Rev.P1 PROPOSED SITE PLAN. Dated May 2024.

5.0 PROPOSED SURFACE WATER DRAINAGE

5.1 Proposed Surface Water Drainage & Disposal Hierarchy

The proposed on-site plot drainage will consist of a separate surface and foul water drainage system and will remain in private ownership.

SuDs treatment employed as part of the drainage infrastructure on the development will be maintained by a private management company.

The following assessment summarises the disposal of surface water from the site.

As detailed in Building regulation Document H the hierarchy for surface water drainage disposal is as follows:

- Discharge to ground (infiltration).



- Discharge to a surface water body (Land drainage Ditch, Water Body or Watercourse).
- Discharge to a surface water sewer.
- Discharge to a combined water sewer.
- Discharge to a foul water sewer.

All options for the disposal of the surface water have been considered in accordance with current legislation, recommendation, and good practice. Refer to Section 5.3 of this report for more details.

Operation and maintenance of the proposed drainage system is covered in a separate report reference 6338-JPG-XX-XX-RP-D-0623 Drainage Maintenance and Management Plan (DMMP). This report should be read in conjunction with the Flood Risk Assessment Report and Drainage Impact Assessment Report.

5.2 Sustainable Urban Drainage Systems (SUDS)

Sustainable Urban Drainage System (SuDS) may be used in conjunction with conventional drainage systems to improve water quality as well as manage surface water discharge. Incorporation of SuDs should be considered at an early design stage of the project.

A phase 2 Geo-environment Ground Investigation study has been undertaken on the site by JPG reference 6338-JPG-XX-XX-RP-G-0604.

The Phase 2 Ground Investigation states that the underlying existing ground conditions consists of mainly clayey soils, and standing groundwater was indicated at between 1.05m and 1.20m BGL. Given the clayey soils and groundwater present infiltration has been deemed unfeasible. Given the proximity of the watercourse to the site boundary discharge, to watercourse is the recommended surface water discharge.

National and local guidance require developers to consider the utilisation of SuDS features as part of new development.

Based on the requirements that SuDs drainage features should be considered and that infiltration drainage methods at the site would be unsuitable the following audit has been undertaken relating to suitability of SuDS features/systems at the proposed development.

While the audit outlines drainage features that could be considered ultimately the proposed layout and levels of the development will dictate what can be reasonably incorporated.



Site specific SuDs Audit below:

Drainage Method	Description/Suitability	Proposal/Feasibility
1. Infiltration.	Site ground conditions unsuitable for infiltration	Not Applicable
2. Ponds and wetlands.	Not suitable.	Not suitable due to site layout constraints.
3. Infiltration Basins.	Site ground conditions unsuitable for infiltration	Not Applicable
4. Detention Basins.	Not suitable.	Not suitable due to site layout constraints.
5. Swale.	Not suitable.	Not suitable due to site layout constraints.
6. French/Filter drain.	May be utilised to convey water.	Applicable (non-infiltration method)
7. Pervious/Permeable Pavement.	May be utilised - subject to detailed design.	Applicable (non-infiltration method)
8. Geocellular Systems/Tank systems.	May be utilised – subject to detailed design.	Applicable.
9. Oversized pipes.	May be used as surface water attenuation.	Applicable.
10. Box culverts.	May be used as surface water attenuation.	Applicable.
11. Proprietary tanks systems.	May be used as surface water attenuation.	Applicable.

5.3 Run off and Restricted Discharge

The proposed site of the new car park is currently a car park with no positive drainage system.

A topographical survey is located in Appendix B.

For greenfield sites, the pre-development greenfield run off rate must be calculated only from the post development impermeable and drained areas and not the whole site.

Greenfield run off has been calculated using the ICP-SUD methodology and generated a discharge rate of QBAR 2.700 l/s.

However, the limiting factor for the discharge rate will likely be the criteria that states generally flow control device orifices should not be less than 75mm in diameter as quoted in C753 the SuDs Manual. Therefore, a practical minimum discharge of 3 l/s has been applied.

5.4 Surface Water Drainage Strategy

H3 of the Building Regulations establishes a preferred hierarchy for the disposal of surface water. Consideration should firstly be given to soakaway, infiltration, watercourse, and sewer in that priority order.

The phase 2 Ground Investigation states that the underlying existing ground conditions consists of mainly clayey soils, and standing groundwater was indicated at between 1.05m and 1.20m BGL. Given the clayey soils and groundwater present infiltration has been deemed unfeasible.



Based on the above statement and drainage hierarchy connection to watercourse should be considered next.

Discharge to the watercourse on the northern boundary is proposed at 3 l/s, due to the restricted discharge surface water attenuation will be required.

The proposed on-site drainage system shall be designed in accordance with the requirements of Codes for Adoption, Sewers for Adoption, national non-statutory technical SuDS standards, British Standards and Building Regulations and industry best practice and shall demonstrate that:

- No surcharge of pipes occurs in the 1 in 2-year rainfall event.
- No surface flooding occurs in 1 in 30-year rainfall event.
- No flooding to buildings and adjacent properties occurs in 1 in 100-year rainfall event (including an allowance of for the effects of future climate change), as defined in NPPF Technical Guidance. The climate change allowance shall be 40%.

The drainage system will be a gravity system via pipes and manholes to the attenuation tank and vortex flow controller.

A Network models have been produced in line with the above criteria, for the hydraulic modelling results please see Appendix G.

An associated drainage area plan can be found in Appendix E.

5.5 Water Quality and Pollution Control

Water treatment is to be in line with the simple index approach as outlined in chapter 26 of the CIRIA SUDs manual C753. A worst-case hazard classification of 3 has been assumed.

Treatment is to be provided by a proprietary treatment separator, please see Appendix H for further details of the Simple Index approach applied.

5.6 Exceedance Event

For storm events above the design event of 1 in 100-year event plus climate change run off would be managed so that it would not affect the existing buildings and third-party property.

The excellence flood route would be applicable for storm events above the 1 in 100-year plus climate change event.

A Drainage Exceedance Plan drawing 6338-JPG-ZZ-ZZ-DR-D-1402 has been produced to demonstrate the flood routing.

A copy of the exceedance plan drawing is located in Appendix I.



5.7 Foul Water Drainage

Foul water drainage will connect into the existing private network surrounding the site, see Appendix F for the proposed connection location.

6.0 CONCLUSIONS

The report has been prepared to assess the drainage impact for a proposed development for a new hotel car park at Bailey Lane, Manchester.

This report shall be read in conjunction with the corresponding Flood Risk Assessment Report 6338-JPG-XX-XX-RP-D-0621.

This report shall be read in conjunction with the corresponding drainage Maintenance and Management Plan 6338-JPG-XX-XX-RP-D-0623.

As confirmed by the accompanying Flood Risk Assessment Report the site falls within Flood Zone 1 (low flood risk) and is considered to be at a low and acceptable flood risk.

The onsite private surface water drainage system will be design and constructed in accordance with Building Regulations, all national and local standards and best practice.

Hierarchy for discharge of surface water has been considered as detailed in building regulations document H3. Consideration should firstly be given to soakaway, infiltration, watercourse, and sewer in that priority order.

The LLFA has not confirmed the preferred method of discharge, although infiltration drainage techniques will unlikely be suitable on this site due to the underlaying ground conditions.

Discharge to the watercourse on the northern boundary is proposed, this will be restricted to greenfield run off rates while maintaining a minimum orifice size of 75mm. Attenuation storage will be provided on site in a below ground attenuation tank.

Foul water will discharge to the existing private foul water network surrounding the site in Bailey Lane and Enterprise Way.

The reports supporting calculations and drawings provide a robust case for justifying the means of surface water drainage and that the site can be suitably, safely, and sustainably drained.

Overall, this report demonstrates that the surface water drainage systems reasonable and acceptable for the proposed development.



Appendix A Site Location Plan





Appendix B Topographic Survey



Appendix C Existing Drainage and Sewer Record Plans

CON29DW Commercial Search

Responses to a drainage and water enquiry for commercial premises or development sites.

Client:

Client ref: 2019-08

Kilmartin Plowman & Partners Ltd

12
Town Street, Kilmartin Plowman & Partners Ltd
Leeds, West Yorkshire
LS18 4RJ

Order number: UUPS-ORD-550893

Received date: 21/02/2024

Response date: 22/02/2024

FAO:

The following records were searched in compiling this report:

The map of public sewers
The map of waterworks
Water and sewerage billing records
Adoption of public sewers records
Building over public sewer records
Adoption of public water mains records
Water supply clarification

Property address: Site off Bailey Lane

Please Note - We must make you aware that due to the introduction of the open market with effect from 1st April 2017 for commercial customers, Property Searches will no longer be able to resolve issues regarding some discrepancies within the report. Due to the change in the structure of the market the retailer is now responsible for taking ownership of certain issues, particularly relating to billing/tariff charges as well as, but not limited to change of usage of a property.

Enquiries and Responses

The records were searched by Joanne Jones for United Utilities who does not have, nor is likely to have, any personal or business relationship with any person involved in the sale of the property.

This search report was prepared by Joanne Jones for United Utilities who does not have, nor is likely to have, any personal or business relationship with any person involved in the sale of the property.

How to contact us:

United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

What is included:

1. Summary of findings and key
2. Detailed findings of the CON29DW
3. Guidance for interpretation
4. Terms and conditions
5. Complaints policy

If you are planning works anywhere in the North West, please read our access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.



To help understand the implications of the drainage and water enquiries report a summary guide to the content of the full report is provided below.

✓ This response represents the typical situation for a property.

⚠ The attention of the purchaser is drawn to this response. The purchaser may wish to make further investigations into this situation.

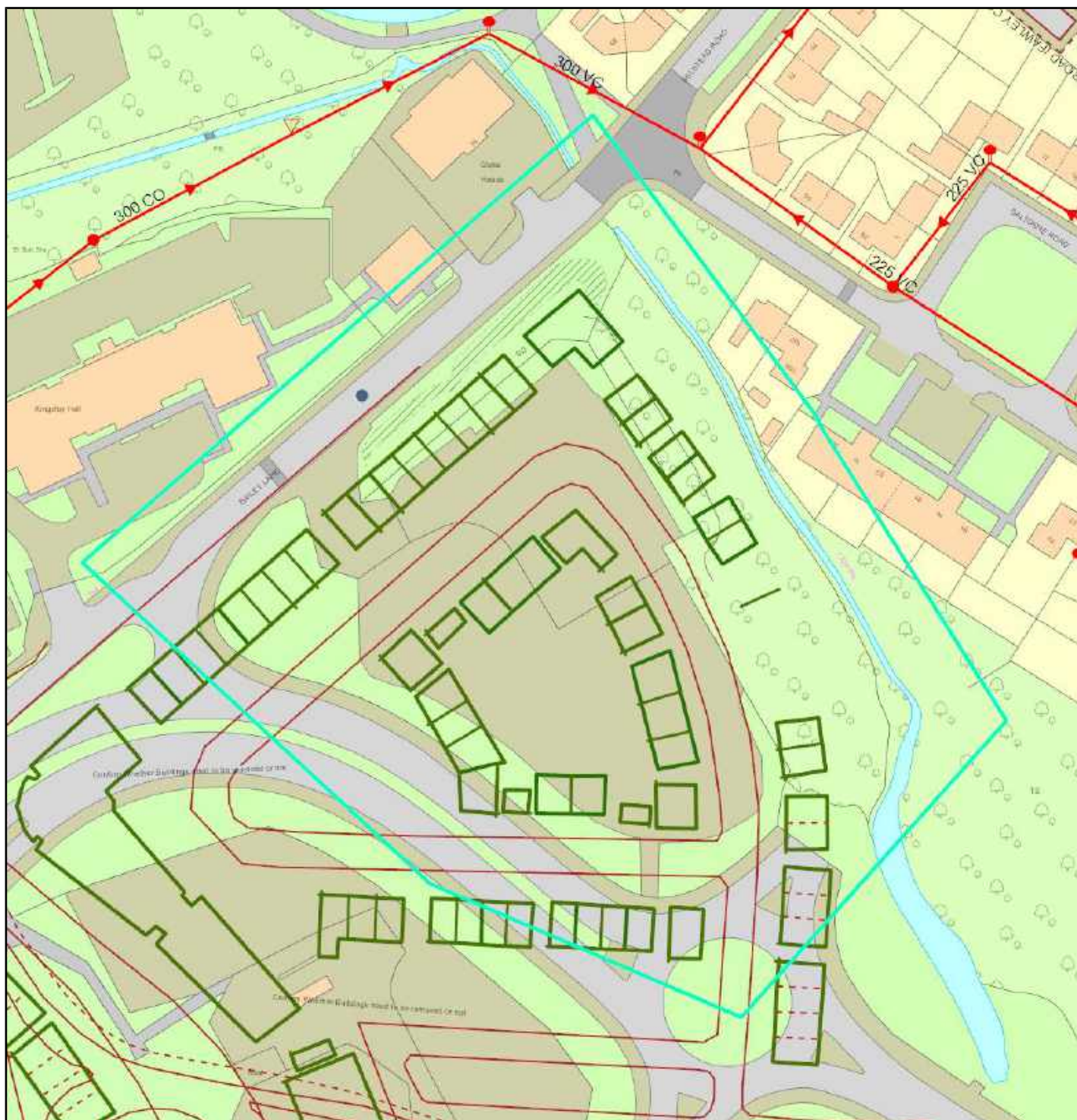
✗ This response represents an uncommon situation for a property and the purchaser should carefully consider its implications.

Question	Report Schedule	Answer	
1.1	Where relevant, please include a copy of an extract from the public sewer map.	Yes & location	✓
1.2	Where relevant, please include a copy of an extract from the map of waterworks.	Yes & location	✓
2.1	Does foul water from the property drain to a public sewer?	Plot of land	⚠
2.2	Does surface water from the property drain to a public sewer?	Plot of land	⚠
2.3	Is a surface water drainage charge payable?	No	✗
2.4	Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?	None	✓
2.4.1	Does the public sewer map indicate any pumping station or ancillary apparatus within the boundaries of the property?	None	✓
2.5	Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?	None	⚠
2.5.1	Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres (164.04 feet) of any buildings within the property?	None	✓
2.6	Are any sewers or lateral drains serving or which are proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?	F - No	✓
		SW - No	✓
2.7	Has a sewerage undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?	None	✓
2.8	Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?	No	✓
2.9	Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.	Yes	✓
3.1	Is the property connected to mains water supply?	Plot of land	⚠
3.2	Are there any water mains, resource mains or discharge pipes within the boundaries of the property?	Yes	✗
3.3	Is any water main or service pipe serving or which is proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?	No	✓

Question	Report Schedule	Answer	
3.4	Is this property at risk of receiving low water pressure or flow?	No	✓
3.5	What is the clarification of the water supply for the property?	Very soft	✓
3.6	Is there a meter installed at the property?	No	✓
3.7	Please include details of the location of any water meter serving the property.	No Meter	✓
4.1.1	Who is responsible for providing the sewerage services for the property?	United Utilities	✓
4.1.2	Who is responsible for providing the water services for the property?	United Utilities	✓
4.2	Who bills the property for sewerage services?	Retailer Sewer	✓
4.3	Who bills the property for water services?	Retailer Water	✓
5.1	Is there Consent, on this property, to discharge Trade Effluent under S118 of the Water Industry Act (1991) into the public sewerage system?	No	✓
6.1	Is there a wayleave/easement agreement giving the Water and/or Sewerage Undertaker the right to lay or maintain assets or right of access to pass through private land in order to reach the Company's assets?	No	✓
6.2	On the copy extract from the public sewer map, please show manhole cover, depth and invert levels where the information is available.	Not included	✓

SEWER RECORD

Site off Bailey Lane



The position of underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. The actual positions may be different from those shown on the plan and private pipes, sewers or drains may not be recorded. United Utilities Water PLC will not accept any liability for any damage caused by the actual positions being different from those shown.

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Wastewater Symbolology

Abandoned	Foul	Surface Water	Combined	
				Public Sewer
				Private Sewer
				Section 104
				Rising Main
				Sludge Main
				Overflow
				Water Course
				Highway Drain

All point assets follow the standard colour convention: **red** – combined **brown** - foul
blue – surface water **purple** - overflow

Manhole	Side Entry Manhole
Head of System	Outfall
Extent of Survey	Screen Chamber
Rodding Eye	Inspection Chamber
Inlet	Bifurcation Chamber
Discharge Point	Lamp Hole
Vortex	T Junction / Saddle
Penstock	Catchpit
Washout Chamber	Valve Chamber
Valve	Vent Column
Air Valve	Vortex Chamber
Non Return Valve	Penstock Chamber
Soakaway	Network Storage Tank
Gully	Sewer Overflow
Cascade	Ww Treatment Works
Flow Meter	Ww Pumping Station
Hatch Box	Septic Tank
Oil Interceptor	Control Kiosk
Summit	
Drop Shaft	Change of Characteristic
Orifice Plate	

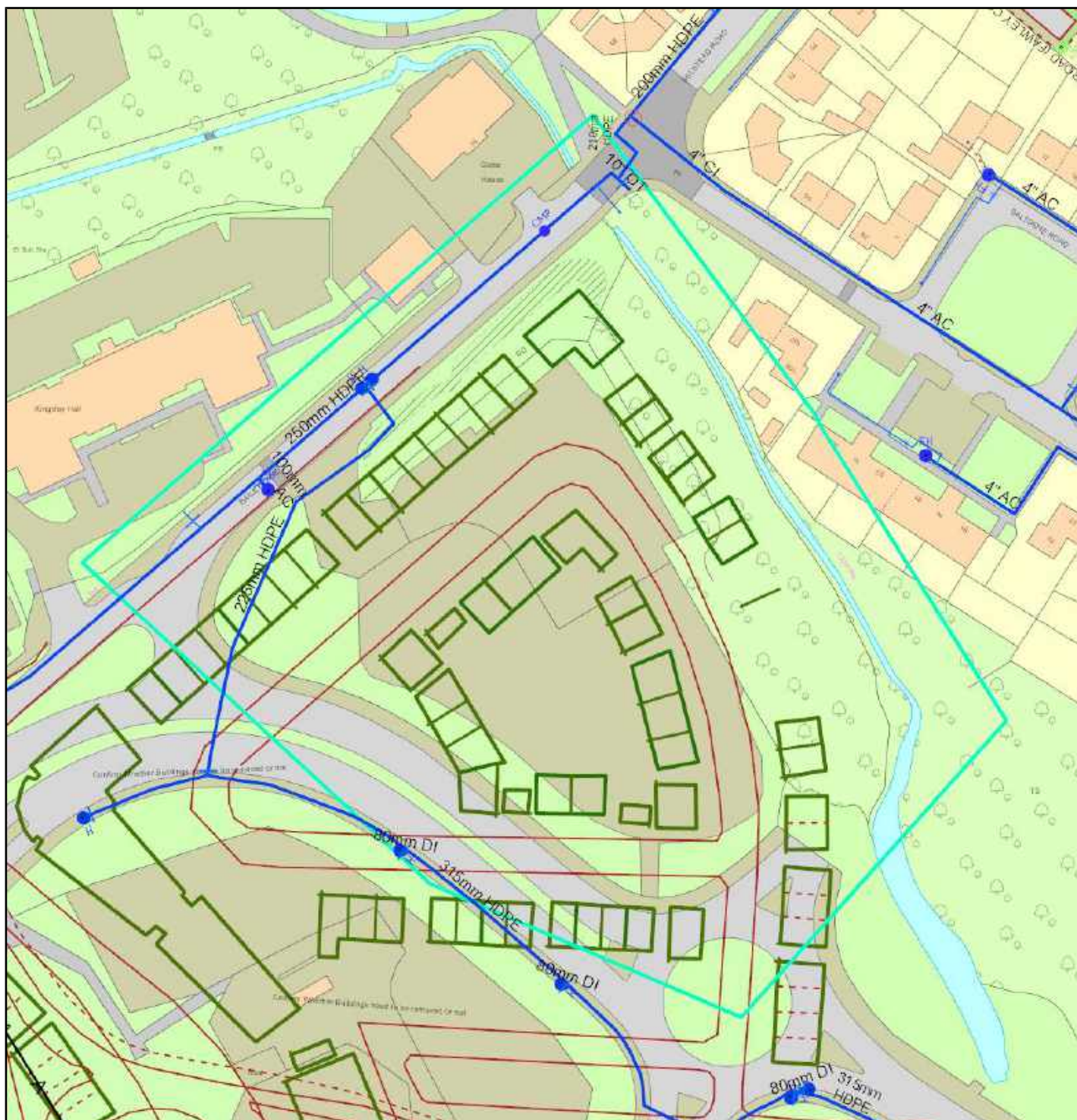
Clean Water Symbolology

Proposed	Abandoned	Live	
			Distribution Main
			Trunk Main
			Comms Pipe
			Private Pipe
			Concessionary Service
			Raw Water
			LDTM Raw Water
			LDTM Treated Water
			Air Valve
			AC Valve, open
			AC Valve, closed
			CC Valve, open
			CC Valve, closed
			Non Return Valve
			Pressure Management Valve
			OMS Valve
			Stop Tap
			Flow Meter
			Domestic Meter
			Commercial Meter
			Pump
			Hydrant
			Fire Hydrant
			Anode
			Chlorination Point
			De-chlorination Point
			Strainer Point
			Access Point
			Hatch Box
			IP Point
			Sampling Station
			Logger Box
			Bore Hole
			Inlet Point
			Bulk Supply Point
			End Cap
			Site Termination
			Change of Characteristic
			Condition Report
			<u>Property Types</u>
			Water Tower
			Valve House
			Booster Pumping Station
			Intake Pumping Station
			Water Treatment Works
			Supply Reservoir
			Service Reservoir
			Impounding Reservoir
			Pipe Bridge

Symbology for proposed assets is the same as above, but shown in **green**
Symbology for abandoned assets is the same as above, but shown in **black**

WATER RECORD

Site off Bailey Lane



The position of underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. The actual positions may be different from those shown on the plan and private pipes, sewers or drains may not be recorded. United Utilities Water PLC will not accept any liability for any damage caused by the actual positions being different from those shown.

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Question 1.1 **Where relevant, please include a copy of an extract from the public sewer map.**

Answer **A copy of an extract from the public sewer map is included in which the location of the property is identified.**

Guidance

1. The Water Industry Act 1991 defines Public Sewers as those which (United Utilities) have responsibility for. Other assets and rivers, water courses, ponds, culverts or highway drains may be shown for information purposes only.
2. Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.
3. The Sewerage Undertaker has a statutory right of access to carry out work on its assets, subject to notice. This may result in employees of the Sewerage Undertaker or its contractors needing to enter the property to carry out work.

Question 1.2 **Where relevant, please include a copy of an extract from the map of waterworks.**

Answer **A copy of an extract from the map of waterworks is included in which the location of the property is identified.**

Guidance

The "water mains" in this context are those which are vested in and maintainable by the Water Undertaker under statute.

Assets other than public water mains may be shown on the plan, for information only. Water Undertakers are not responsible for private supply pipes connecting the property to the public water main and do not hold details of these. These may pass through land outside of the control of the seller, or may be shared with adjacent properties. The buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

If an extract of the public water main record is enclosed, it will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

The presence of a public water main running within the boundary of the property may restrict further development within it. Water Undertakers have a statutory right of access to carry out work on their assets, subject to notice. This may result in employees of the Water Undertaker or its contractors needing to enter the property to carry out work.

Question 2.1 **Does foul water from the property drain to a public sewer?**

Answer **This enquiry appears to relate to a plot of land or a recently built property. It is recommended that drainage proposals are checked with the developer.**

Guidance

Sewerage Undertakers are not responsible for any private drains or sewers that connect the property to the public sewerage system, and do not hold details of these.

The property owner will normally have sole responsibility for private drains serving the property and may have shared responsibility, with other users, if the property is served by a private sewer which also serves other properties. These may pass through land outside of the control of the seller and the buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

If foul water does not drain to the public sewerage system the property may have private facilities in the form of a cesspit, septic tank or other type of treatment plant.

If an extract from the public sewer map is enclosed, this will show known public sewers in the vicinity of the property and it should be possible to estimate the likely length and route of any private drains and/or sewers connecting the property to the public sewerage system.

Question 2.2 Does surface water from the property drain to a public sewer?

Answer **This enquiry appears to relate to a plot of land or a recently built property. It is recommended that drainage proposals are checked with the developer. If the property was constructed after the 6th April 2015 the surface water drainage may be served by a sustainable drainage system.**

Guidance Sewerage Undertakers are not responsible for any private drains or sewers that connect the property to the public sewerage system and do not hold details of these.

The property owner will normally have sole responsibility for private drains serving the property and may have shared responsibility with other users, if the property is served by a private sewer which also serves other properties. These may pass through land outside of the control of the seller and the buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

In some cases, Sewerage Undertakers' records do not distinguish between foul and surface water connections to the public sewerage system. If on inspection the buyer finds that the property is not connected for surface water drainage, the property may be eligible for a rebate of the surface water drainage charge. Details can be obtained from the Sewerage Undertaker.

If surface water does not drain to the public sewerage system the property may have private facilities in the form of a soakaway or private connection to a watercourse. If an extract from the public sewer map is enclosed, this will show known public sewers in the vicinity of the property and it should be possible to estimate the likely length and route of any private drains and/or sewers connecting the property to the public sewerage system.

Question 2.3 Is a surface water drainage charge payable?

Answer **Records indicate that a surface water drainage charge is not applicable for the property.**

Guidance Since 1st April 2017 commercial customers can choose their retailer for clean, waste or both services. For more information on any applicable surface water charges you will need to contact the current owner of the property to find out who the current retailer is. Details of the retailer for a property can be found on the current occupiers bill. For a list of all potential retailers of water and waste water services for the property please visit www.open-water.org.uk.

Please note if the property was constructed after 6th April 2015 the Surface Water drainage may be served by a Sustainable Drainage System. Further information may be available from the Developer.

Question 2.4 Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?

Answer **The public sewer map included indicates that there are no public sewers, disposal mains or lateral drains within the boundary of the property. However from the 1st October 2011 there may be additional public sewers, disposal mains or lateral drains which are not recorded on the public sewer map which may further prevent or restrict development of the property. If you are considering any future development at this property which may require build over consent, please complete the enquiry form by accessing the following link <http://www.unitedutilities.com/planning-wastewater-guidance.aspx>.**

Guidance The approximate boundary of the property has been determined by reference to the Ordnance Survey record. A property of this type will normally be served by a shared sewer passing through the boundaries of several properties. It is therefore likely that a public sewer or lateral drain is present within the property boundary.

Please note that from 1st October 2011 the majority of private sewers and lateral drains connected to the public network as of 1st July 2011 transferred into public ownership and therefore it is possible there may be additional public assets which may not be shown on the public sewer plan.

The presence of public assets running within the boundary of the property may restrict further development. If there are any plans to develop the property further enquiries should be made to United Utilities Build Over department.

United Utilities Water has a legal right of access to carry out work on its assets, subject to notice. This may result in employees of the Company or its contractors needing to enter the property to carry out work.

Question 2.4.1 Does the public sewer map indicate any pumping station or ancillary apparatus within the boundaries of the property?

Answer The public sewer map included indicates that there is no public pumping station or other ancillary apparatus within the boundaries of the property. However, from the 1st October 2016 private pumping stations which serve more than one property will be transferred into public ownership but may not be recorded on the public sewer map until that time

Guidance From 1 October 2016 United Utilities will be responsible for private pumping stations (though we may take ownership of some stations before this date) that either:

- * serve a single property, and are outside the property boundary or
- * serves two or more properties

Only private pumping stations installed before 1st July 2011 will be transferred into our ownership. United Utilities will be responsible for all associated costs, maintenance, repairs and any necessary upgrade work.

Where the property is part of a very recent or ongoing development and the sewers/pumping station are not the subject of an adoption application, buyers should consult with the developer to ascertain the extent of private drains, sewers and pumping stations for which they will hold maintenance and renewal liabilities.

Other ancillary apparatus may include in-sewer monitors. These devices help United Utilities proactively monitor performance of the sewerage network. United Utilities will be responsible for maintaining these devices. If an in-sewer monitor is installed in the sewerage network within the boundary of the property then please be aware that maintenance work may be needed on the device.

Question 2.5 Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?

Answer The public sewer map included indicates that there are no public sewers within 30.48 metres (100 feet) of a building within the boundary of the property. However from the 1st October 2011 private sewers will be transferred into public ownership and may not be recorded on the public sewer map and it is our professional opinion that there will be a public sewer within 30.48 (100 feet) of a building within the boundary of the property.

Guidance From 1st October 2011 there may be additional lateral drains and/or public sewers which are not recorded on the public sewer map but are also within 30.48 metres (100 feet) of a building within the property.

The presence of a public sewer within 30.48 metres (100 feet) of the building(s) within the property can result in the Local Authority requiring a property to be connected to the public sewer.

The measure is estimated from the Ordnance Survey record, between the building(s) within the boundary of the property and the nearest public sewer.

Sewers indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended that these details are checked with the developer, if any.

Assets other than public sewers may be shown on the copy extract for information only.

Question 2.5.1 Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres (164.04 feet) of any buildings within the property?

Answer	The public sewer map included indicates that there is no public pumping station or other ancillary apparatus within 50 metres of any buildings within the property. However, from 1st October 2016 private pumping stations which serve more than one property will be transferred into public ownership but may not be recorded on the public sewer map until that time.
Guidance	<p>From 1 October 2016 United Utilities will be responsible for private pumping stations (though we may take ownership of some stations before this date) that either:</p> <ul style="list-style-type: none"> * serve a single property, and are outside the property boundary or * serves two or more properties. <p>Only private pumping stations installed before 1st July 2011 will be transferred into our ownership. United Utilities will be responsible for all associated costs, maintenance, repairs and any necessary upgrade work.</p> <p>If you think there might be a private pumping station on your land or near your business property, please let us know by completing this questionnaire with as much information as possible, please visit our website http://www.unitedutilities.com/ppstransfer.aspx.</p> <p>Where the property is part of a very recent or ongoing development and the sewers/pumping station are not the subject of an adoption application, buyers should consult with the developer to ascertain the extent of private drains, sewers and pumping stations for which they will hold maintenance and renewal liabilities.</p>
Question 2.6	Are any sewers or lateral drains serving or which are proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?
Answer	<p>Foul - Records confirm that foul sewers and/or lateral drains serving the development, of which the property forms part are not the subject of an existing adoption agreement or an application for such an agreement.</p> <p>Surface Water - Records confirm that the surface water sewer(s) and/or surface water lateral drain(s) are not the subject of an adoption agreement and it is recommended that responsibility for maintenance of these is checked with the developer as this may be due to a Sustainable Drainage Scheme (SUDS)</p>
Guidance	<p>This enquiry is of interest to purchasers of new property who will want to know whether or not the property will be linked to a public sewer.</p> <p>Where the property is part of a very recent or ongoing development and the sewers are not the subject of an adoption application, buyers should consult with the developer to ascertain the extent of private drains and sewers for which they will hold maintenance and renewal liabilities.</p> <p>Final adoption is subject to the developer complying with the terms of the adoption agreement under Section 104 of the Water Industry Act 1991.</p>
Question 2.7	Has a sewerage undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?
Answer	There are no records in relation to any approval or consultation about plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain. However, the sewerage undertaker might not be aware of a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain.
Guidance	<p>From the 1st October 2011 private sewers, disposal mains and lateral drains were transferred into public ownership and the sewerage undertaker may not have granted approval or been consulted about any plans to erect a building or extension on the property over or in the vicinity of these assets.</p> <p>Prior to 2003 United Utilities Water Limited had sewerage agency agreements with the local authorities therefore details of any agreements/consents or rejections may not have been forwarded on to our offices before this date.</p>

Buildings or extensions erected over a sewer in contravention of building controls may have to be removed or altered.

Question 2.8 **Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?**

Answer **The building is not recorded as being at risk of internal flooding due to overloaded public sewers. From the 1st October 2011 private sewers, disposal mains and lateral drains were transferred into public ownership it is therefore possible that a property may be at risk of internal flooding due to an overloaded public sewer which the sewerage undertaker is not aware of. For further information it is recommended that enquiries are made of the vendor.**

Guidance

1. A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
2. "Internal flooding" from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
3. These are defined as properties that have suffered or are likely to suffer internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Sewerage Undertaker's reporting procedure.
4. Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included.
5. Properties may be at risk of flooding but not included where flooding incidents have not been reported to the Sewerage Undertaker.
6. Public sewers are defined as those for which the Sewerage Undertaker holds statutory responsibility under the Water Industry Act 1991.
7. It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Sewerage Undertaker.
8. This report excludes flooding from private sewers and drains and the Sewerage Undertaker makes no comment upon this matter. For reporting purposes buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.

Question 2.9 **Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.**

Answer **The nearest Sewage Treatment Works is 2.6 miles (4.18 km), South East of the property. The name of the Sewage treatment works is Wilmslow WwTW. The owner is United Utilities**

Guidance

The nearest sewage treatment works will not always be the sewage treatment works serving the catchment within which the property is situated i.e. the property may not necessarily drain to this works.

The Sewerage Undertaker's records were inspected to determine the nearest sewage treatment works.

It should be noted therefore that there may be a private sewage treatment works closer than the one detailed above that has not been identified. As a responsible utility operator, United Utilities Water Limited seeks to manage the impact of odour from operational sewage works on the surrounding area.

This is done in accordance with the "Code of Practice on Odour Nuisance from Sewage Treatment Works" issued via the Department of Environment, Food and Rural Affairs (DEFRA).

This Code recognises that odour from sewage treatment works can have a detrimental impact on the quality of the local environment for those living close to works.

However DEFRA also recognises that sewage treatment works provide important services to communities and are essential for maintaining standards in water quality and protecting aquatic based environments. For more information visit www.unitedutilities.com.

Question 3.1 **Is the property connected to mains water supply?**

Answer **This enquiry relates to a plot of land or a recently built property. It is recommended that the water supply proposals are checked with the developer.**

Guidance If the property is supplied by private water mains please note that details of private supplies are not kept by the Water Undertaker. The situation should be checked with the current owner of the property.

Question 3.2 **Are there any water mains, resource mains or discharge pipes within the boundaries of the property?**

Answer **The map of waterworks indicates that there are water mains, resource mains or discharge pipes within the boundaries of the property.**

Guidance The boundary of the property has been determined by reference to the Ordnance Survey record.

The presence of a public water main within the boundary of the property may restrict further development within it. Water Undertakers have a statutory right of access to carry out work on their assets, subject to notice.

This may result in employees of the Water Undertaker or its contractors needing to enter the property to carry out work.

Question 3.3 **Is any water main or service pipe serving or which is proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?**

Answer **Records confirm that water mains or service pipes serving the property are not the subject of an existing adoption agreement or an application for such an agreement.**

Guidance This enquiry is of interest to purchasers of new premises who will want to know whether or not the property will be linked to the mains water supply.

Question 3.4 **Is this property at risk of receiving low water pressure or flow?**

Answer **Records confirm that the building is not recorded by the water undertaker as being at risk of receiving low water pressure or flow.**

Guidance The boundary of the property has been determined by reference to the Ordnance Survey record. "Low water pressure" means water pressure below the regulatory reference level which is the minimum pressure when demand on the system is not abnormal. Water undertakers report properties receiving pressure below the reference level, provided that allowable exclusions do not apply (i.e. events which can cause pressure to temporarily fall below the reference level). Reference level: The reference level of service is a flow of 9l/min at a pressure of 10m head on the customer's side of the main stop tap (mst). The reference level applies to a single property. The reference level of service must be applied on the customer's side of a meter or any other company fittings that are on the customer's side of the main stop tap. Where a common service pipe serves more than one property, the flow assumed in the reference level must be appropriately increased to take account of the total number of properties served. Surrogate for the reference level: Because of the difficulty in measuring pressure and flow at the mst, companies may measure against a surrogate reference level. Companies should use a surrogate of 15m head in the adjacent distribution main unless a different level can be shown to be suitable. In some circumstances companies may need to use a surrogate pressure greater than 15m to ensure that the reference level is supplied at the customer's side of the mst (for example in areas with small diameter or shared communication pipes).

There are a number of circumstances under which properties identified as receiving low pressure should be excluded from the reported figure. The aim of these exclusions is to exclude properties which receive a low pressure as a result of a one-off event and which, under normal circumstances (including normal peaks in demand), will not receive pressure or flow below the reference level. Companies must maintain verifiable, auditable records of all the exclusions that they apply in order to confirm the accuracy and validity of their information. Allowable exclusions includes Abnormal demand, Planned maintenance, One off incidents, Low pressure incidents of short duration and common supply.

Abnormal demand:

This exclusion is intended to cover abnormal peaks in demand and not the daily, weekly or monthly peaks in demand, which are normally expected. Water undertakers exclude figures from properties which are affected by low pressure only on those days with the highest peak demands. During the yearly report water undertakers may exclude, for each property, up to five days of low pressure caused by peak demand.

Planned maintenance:

Water undertakers will not report low pressures caused by planned maintenance. It is not intended that water undertakers identify the number of properties affected in each instance. However, water undertakers must maintain sufficiently accurate records to verify that low-pressure incidents that are excluded because of planned maintenance, are actually caused by maintenance.

One-off incidents:

This exclusion covers a number of causes of low pressure; mains bursts; failures of company equipment (such as pressure reducing valves or booster pumps); fire fighting and action by a third party. However, if problems of this type affect a property frequently, they cannot be classed as one-off events and further investigation will be required before they can be excluded.

Low pressure incidents of short duration:

Properties affected by low pressures that only occur for a short period, and for which there is evidence that incidents of a longer duration would not occur during the course of the year, may be excluded.

A company must maintain a minimum pressure in the communication pipe of seven metres static head (0.7 bar). If pressure falls below this on two occasions, each occasion lasting more than one hour, within a 28-day period, the company must automatically make a GSS payment to the customer. There are exceptions to the requirement to make a GSS payment if the pressure standard is not met. These are: a payment has already been made to the same customer in respect of the same financial year; it is impractical for the company to have identified the particular customer as being affected, and the customer has not made a claim within three months of the date of the latter occasion; industrial action by the company's employees makes it not feasible to maintain the pressure standard; the act or default of a person other than the company's representative make it not feasible to maintain the pressure standard; or the pressure falls below the minimum standard due to necessary works taking place or due to a drought.

It should be noted that low water pressure can occur from private water mains, private supply pipes (the pipework from the external stop cock to the property) or internal plumbing which are not the responsibility of the Water Undertaker. This report excludes low water pressure from private water mains, supply pipes and internal plumbing and the Water Undertaker makes no comment upon this matter. For reporting purposes buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.

Question 3.5

What is the clarification of the water supply for the property?

Answer

The water supplied to the property has an average water hardness of 27mg/l calcium carbonate, which is defined as very soft by United Utilities

Guidance

The hardness of water is due to the presence of calcium and magnesium minerals that are naturally present in the water. The usual signs of a hard water supply are scaling inside kettles, poor lathering of soaps and scum.

What is water hardness?

Hard water is formed when water passes through or over limestone or chalk areas and calcium and magnesium ions dissolve into the water. The hardness is made up of two parts: temporary (carbonate) and permanent (non-carbonate) hardness. When water is boiled, calcium carbonate scale can form, which can deposit on things like kettle elements. The scale will not stick to kettles that have a plastic polypropylene lining but will float on the surface. The permanent hardness that comprises calcium and magnesium sulphate does not go on to form scale when heated or boiled.

How is water hardness measured?

Hardness is usually expressed in terms of the equivalent quantity of calcium carbonate (CaCO₃) in milligrams per litre or parts per million. You may also see hardness expressed as degrees of hardness in Clark (English) degrees, French or German degrees. Interconversion between the different measurements can be made by using the appropriate conversion factors below. There are no standard levels as to what constitutes a hard or a soft water. Table 1 gives an indication of the equivalents of calcium and calcium carbonate and the relative degree of hardness.

Water quality standards

There are no regulatory standards for water hardness in drinking water.

Water hardness in the North West

The majority of raw water in the United Utilities region comes from upland surface water reservoirs. The water in the reservoirs has little chance of passing through rocks and to dissolve the minerals that make water hard. Therefore, the majority of water in this region is soft or very soft. We supply water from a number of boreholes in the south of the region that are reasonably hard, but these tend to be blended with softer sources to meet demand. No water supply in the North West is artificially softened.

Can hard water be softened?

Yes, water can be softened artificially by the installation of a water softener or the use of 'jug type' filters. Medical experts recommend that a non-softened supply is maintained for drinking purposes because softened water may contain high levels of sodium. Softeners should be fitted after the drinking water tap and comply with the requirements of the Water Supply (Water Fittings) Regulations 1999. They should be maintained in accordance with manufacturers' instructions.

If you're interested in finding out more about the quality of your drinking water, please visit www.unitedutilities.com/waterquality and enter your postcode.

The Drinking Water Inspectorate is responsible for ensuring the quality of public water supplies. Visit their website at: www.dwi.defra.gov.uk.

Question 3.6

Is there a meter installed at the property?

Answer

Records indicate that the property is not served by a water meter

Guidance

Not applicable

Question 3.7

Please include details of the location of any water meter serving the property.

Answer

Records indicate that the property is not served by a water meter.

Guidance

Where the property is not served by a meter the current occupier can contact the retailer directly to advise on the current charging method, details of the retailer can also be found on the current occupiers bill.

Question 4.1.1

Who is responsible for providing the sewerage services for the property?

Answer

United Utilities Water Limited, Haweswater House, Lingley Mere Business Park, Lingley Green Avenue, Great Sankey, Warrington, WA5 3LP

Guidance Not Applicable

Question 4.1.2 Who is responsible for providing the water services for the property?

Answer [United Utilities Water Limited, Haweswater House, Lingley Mere Business Park, Lingley Green Avenue, Great Sankey, Warrington, WA5 3LP](#)

Guidance Not Applicable

Question 4.2 Who bills the property for sewerage services?

Answer [Since 1st April 2017 commercial customers can choose their retailer. If you wish to know who currently bills the property for sewerage services you will need to contact the current owner of the property to find out who the current retailer is.](#)

Guidance Details of the retailer for a property can be found on the current occupiers bill. For a list of all potential retailers of waste water services for the property please visit www.open-water.org.uk

Question 4.3 Who bills the property for water services?

Answer [Since 1st April 2017 commercial customers can choose their retailer. If you wish to know who currently bills the property for water services you will need to contact the current owner of the property to find out who the current retailer is.](#)

Guidance Details of the retailer for a property can be found on the current occupiers bill. For a list of all potential retailers of water services for the property please visit www.open-water.org.uk

Question 5.1 Is there Consent, on this property, to discharge Trade Effluent under S118 of the Water Industry Act (1991) into the public sewerage system?

Answer [There is no record of a Trade Effluent consent at this property. Applications for Trade Effluent consents should be submitted via your retailer for info please visit <https://www.unitedutilities.com/Business-services/trade-effluent/>](#)

Guidance The owner/occupiers of Trade Premises do not have the right to discharge Trade Effluent to the public wastewater network. Any Trade Effluent Discharge Consent will be issued under Section 118 of the Water Industry Act 1991 and will be subject to conditions set by the Sewerage Undertaker.

Generally these conditions are to ensure:

- a) The Health and Safety of staff working within the wastewater network and at wastewater treatment plants.
- b) The apparatus of the wastewater network is not damaged.
- c) The flow of the contents of the wastewater network is not restricted.
- d) Equipment, plant, and processes at treatment works are not disrupted or damaged.
- e) Treatment of sewage sludge is not impeded and sludges are disposed of in an environmentally friendly manner.
- f) Final effluent discharge from wastewater treatment plants has no impact on the environment or prevents the receiving waters from complying with EU Directives.
- g) Potential damage to the environment via storm water overflows is minimised.

Disputes between an occupier of a Trade Premise and the Sewerage Undertaker can be referred to the Director General of Water Services (OFWAT).

Protecting Public Sewers - Discharges Section 111 of the Water Industry Act 1991, places prohibition on the discharge of the following into a public sewer, drain or a sewer that communicates with a public sewer.

i) Any matter likely to injure the sewer or drain, to interfere with the free flow of its contents or to affect prejudicially the treatment or disposal of its contents.

ii) Any chemical refuse or waste steam or any liquid of temperature higher than 43.3 degrees Celsius (110 degrees Fahrenheit).

iii) Any petroleum spirit or carbide of calcium. On summary conviction offences under this Section carry a fine not exceeding the statutory maximum or a term of imprisonment not exceeding two years, or both.

Please note any existing consent is dependant on the business being carried out at the property and will not transfer automatically upon change of ownership.

Question 6.1 Is there a wayleave/easement agreement giving the Water and/or Sewerage Undertaker the right to lay or maintain assets or right of access to pass through private land in order to reach the Company's assets?

Answer There is no record of a formal easement affecting this property.

Guidance Not Applicable.

Question 6.2 On the copy extract from the public sewer map, please show manhole cover, depth and invert levels where the information is available.

Answer Manhole cover, depth and invert levels (where the information is available) are only provided in a Commercial A1 sewer, A3 water search. Please contact propertysearches@uuplc.co.uk for support.

Guidance Not applicable

Appendix 1- General interpretation

1. (1) In this Schedule-

"the 1991 Act" means the Water Industry Act 1991(a);

"the 2000 Regulations" means the Water Supply (Water Quality) Regulations 2000(b);

"the 2001 Regulations" means the Water Supply (Water Quality) Regulations 2001(c);

"adoption agreement" means an agreement made or to be made under Section 51A(1) or 104(1) of the 1991 Act (d);

"bond" means a surety granted by a developer who is a party to an adoption agreement;

"bond waiver" means an agreement with a developer for the provision of a form of financial security as a substitute for a bond;

"calendar year" means the twelve months ending with 31st December;

"discharge pipe" means a pipe from which discharges are made or are to be made under Section 165(1) of the 1991 Act;

"disposal main" means (subject to Section 219(2) of the 1991 Act) any outfall pipe or other pipe which-

- a) is a pipe for the conveyance of effluent to or from any sewage disposal works, whether of a sewerage undertaker or of any other person; and
- (b) is not a public sewer;

"drain" means (subject to Section 219(2) of the 1991 Act) a drain used for the drainage of one building or any buildings or yards appurtenant to buildings within the same curtilage;

"effluent" means any liquid, including particles of matter and other substances in suspension in the liquid; "financial year" means the twelve months ending with 31st March;

"lateral drain" means-

- (a) that part of a drain which runs from the curtilage of a building (or buildings or yards within the same curtilage) to the sewer with which the drain communicates or is to communicate; or
- b) (if different and the context so requires) the part of a drain identified in a declaration of vesting made under Section 102 of the 1991 Act or in an agreement made under Section 104 of that Act (e);

"licensed water supplier" means a company which is the holder for the time being of a water supply licence under Section 17A(1) of the 1991 Act(f);

"maintenance period" means the period so specified in an adoption agreement as a period of time-

- (a) from the date of issue of a certificate by a Sewerage Undertaker to the effect that a developer has built (or substantially built) a private sewer or lateral drain to that undertaker's satisfaction; and
- (b) until the date that private sewer or lateral drain is vested in the Sewerage Undertaker;

"map of waterworks" means the map made available under Section 198(3) of the 1991 Act (g) in relation to the information specified in subsection (1A);

"private sewer" means a pipe or pipes which drain foul or surface water, or both, from premises, and are not vested in a Sewerage Undertaker;

"public sewer" means, subject to Section 106(1A) of the 1991 Act(h), a sewer for the time being vested in a Sewerage Undertaker in its capacity as such, whether vested in that undertaker-

- (a) by virtue of a scheme under Schedule 2 to the Water Act 1989(i);
- (b) by virtue of a scheme under Schedule 2 to the 1991 Act (j);
- (c) under Section 179 of the 1991 Act (k); or
- (d) otherwise;

"public sewer map" means the map made available under Section 199(5) of the 1991 Act (l);

"resource main" means (subject to Section 219(2) of the 1991 Act) any pipe, not being a trunk main, which is or is to be used for the purpose of-

- (a) conveying water from one source of supply to another, from a source of supply to a regulating reservoir or from a regulating reservoir to a source of supply; or
- (b) giving or taking a supply of water in bulk;

"sewerage services" includes the collection and disposal of foul and surface water and any other services which are required to be provided by a Sewerage Undertaker for the purpose of carrying out its functions;

"Sewerage Undertaker" means the company appointed to be the Sewerage Undertaker under Section 6(1) of the 1991 Act for the area in which the property is or will be situated;

"surface water" includes water from roofs and other impermeable surfaces within the curtilage of the property;

"water main" means (subject to Section 219(2) of the 1991 Act) any pipe, not being a pipe for the time being vested in a person other than the water Undertaker, which is used or to be used by a Water Undertaker or licensed water supplier for the purpose of making a general supply of water available to customers or potential customers of the undertaker or supplier, as distinct from for the purpose of providing a supply to particular customers;

"water meter" means any apparatus for measuring or showing the volume of water supplied to, or of effluent discharged from any premises; "water supplier" means the company supplying water in the water supply zone, whether a water undertaker or licensed water supplier;

"water supply zone" means the names and areas designated by a Water Undertaker within its area of supply that are to be its water supply zones for that year; and

"Water Undertaker" means the company appointed to be the Water Undertaker under Section 6(1) of the 1991 Act for the area in which the property is or will be situated.

(2) In this Schedule, references to a pipe, including references to a main, a drain or a sewer, shall include references to a tunnel or conduit which serves or is to serve as the pipe in question and to any accessories for the pipe.

- (a) 1991 c. 56
- (b) S.I. 2000/3184. These Regulations apply in relation to England.
- (c) S.I. 2001/3911. These Regulations apply in relation to Wales.
- (d) Section 51A was inserted by Section 92(2) of the Water Act 2003 (c. 37). Section 104(1) was amended by Section 96(4) of that Act.
- (e) Various amendments have been made to Sections 102 and 104 by Section 96 of the Water Act 2003.
- (f) Inserted by Section 56 of and Schedule 4 to the Water Act 2003.
- (g) Subsection (1A) was inserted by Section 92(5) of the Water Act 2003.
- (h) Section 106(1A) was inserted by Section 99 of the Water Act 2003.
- (i) 1989 c. 15.
- (j) To which there are various amendments made by Section 101(1) of and Schedule 8 to the Water Act 2003.
- (k) To which there are various amendments made by Section 101(1) of and Schedule 8 to the Water Act 2003.
- (l) Section 199 was amended by Section 97(1) and (8) of the Water Act 2003.

Appendix 2 - DRAINAGE AND WATER ENQUIRY (COMMERCIAL) AGREEMENT

The Customer and the Client are asked to note the provisions of this Agreement, which govern the basis on which this drainage and water report is supplied.

Definitions

'Client' means the person, company or body who is the intended recipient of the Report with an actual or potential interest in the Property (including, where relevant, their mortgage lender).

'Company' means United Utilities Water Limited who produce the Report; its registered office being at Haweswater House, Lingley Mere Business Park, Lingley Green Avenue, Great Sankey, Warrington WA5 3LP, company number 2366678.

'Customer' means the person, company, firm or other legal body placing the Order, either on their own behalf as Client, or, as an agent for a Client. 'Order' means any request completed by the Customer requesting the Report.

'Property' means the address or location supplied by the Customer in the Order.

'Report' means the drainage and water report prepared by the Company in respect of the Property.

Agreement

1.1 The Company agrees to supply the Report to the Customer and the Client subject to this Agreement. The scope and limitations of the Report are described in clauses 2 and 3 of this Agreement. Where the Customer is acting as an agent for the Client, the Customer shall be responsible for bringing this Agreement (including, without limitation, any limitations and exclusions contained in it) to the attention of the Client and ensuring their acceptance of it pursuant to clause 1.2.

1.2 The Customer and the Client agree that the placing of an Order for a Report and the subsequent provision of a copy of the Report to the Customer and/or the Client indicates their acceptance of this Agreement and the Company shall be entitled to rely on this notwithstanding the Customer's failure to comply with clause 1.1.

1.3 The Company's cancellation policy in relation to an Order shall form part of this Agreement and is detailed at <https://propertysearches.unitedutilities.com/cancellation/>

Report

2.1 Whilst the Company will use reasonable care and skill in producing the Report, it is provided to the Customer and the Client on the basis that they acknowledge and agree to the following:-

2.2 The information contained in the Report can change on a regular basis so the Company cannot be responsible to the Customer and/or the Client for any change in the information contained in the Report after the date on which the Report was produced.

2.3 The Report does not give details about the actual state or condition of the Property nor should it be used or taken to indicate or exclude actual suitability or unsuitability of the Property for any particular purpose, or relied upon for determining saleability or value, or used as a substitute for any physical investigation or inspection. Further advice and information from appropriate experts and professionals should always be obtained.

2.4 The information contained in the Report is based upon the accuracy, completeness and legibility of the address, drawn boundaries and/or plans supplied by the Customer in the Order.

2.5 The Report provides information as to the indicative location and connection status of existing services and other information in relation to drainage and water enquiries and should not be used or relied on for any other purpose. The Report may contain opinions or general advice to the Customer and the Client. The Company, subject to clauses 3.4 and 3.7 and without prejudice to the other provisions of this Agreement, accepts no liability in relation to any such opinion or general advice or any other information contained in the Report (including, without limitation, any inaccuracies, errors or omissions) unless and only to the extent that such liability arises as a direct result of the Company's negligence (if relevant).

2.6 The position and depth of apparatus shown on any maps attached to the Report are approximate, and are furnished as a general guide only, and no warranty as to its correctness is given or implied. The exact positions and depths should be obtained by excavation trial holes and the maps must not be relied on in the event of excavation or other works made at the Property and/or in the vicinity of the Company's apparatus and, subject to clause 3.7, the Company accepts no liability in relation to any such reliance.

2.7 In providing the Report the Company will comply with the Drainage & Water Searches Network (DWSN) Standards, <https://www.con29dw.co.uk/about-dwsn/#standards>

Liability

3.1 The Company shall not be liable to the Customer and/or the Client for any failure defect or non-performance of its obligations arising from any failure to provide or delay in providing the Report to the extent that such failure or delay is due to an event or circumstance beyond the reasonable control of the Company including but not limited to any delay, failure of or defect in any machine, processing system or transmission link or any failure or default of a supplier or sub-contractor of the Company or any provider of any third party information except to the extent that such failure or delay is directly caused by the negligence of the Company.

3.2 Where a Report is requested for an address falling within a geographical area where two different entities separately provide Water and Sewerage Services, then any liability imposed on the Company pursuant to this Agreement for information contained in the Report which has been provided by the other entity shall be subject to the provisions of this Agreement and shall, without prejudice to the other provisions of this Agreement (including without limitation clauses 3.3 to 3.7), not exceed the liability that would have been imposed on the other entity had it supplied that information directly to the Customer.

3.3 The Report is produced only for use in relation to individual commercial property transactions (i.e. single commercial units, mixed sales of a building or area of land used for non-residential purposes, dual use of a dwelling house, farms sold with agricultural land and/or buildings, a group of holiday homes or an entire new development or a plot of land/additional area with a single or no building) and which requires the provision of drainage and water information and cannot be used for residential properties (i.e. a single dwelling house together with any associated land). Subject to clauses 3.4 to 3.7, the Company's entire liability to the Client howsoever arising under or in connection with the Report and/or this Agreement and whether in contract, negligence or any other tort or for breach of statutory duty or otherwise shall not exceed £10,000,000 (ten million pounds). The Company shall not in any circumstances (whether for breach of contract, negligence or any other tort, under statute or statutory duty, restitution or otherwise at all) be liable to the Client for any indirect or consequential loss or damage whatsoever caused and howsoever arising under or in connection with the Report and/or this Agreement

3.4. The plans attached to the Report are provided pursuant to the Company's statutory duty to make such plans available for inspection (notwithstanding the provisions of this clause) and your attention is drawn to the notice on the plan(s) attached to the Report which applies to the plan(s) and its/their contents. For the avoidance of doubt, nothing in this Agreement shall be interpreted as, or deemed to be, in any way an acknowledgement or acceptance by the Company that a common law duty of care exists between the Company, the Customer and/or the Client in relation to those plans (including, without limitation, the provision of such plans and the information contained within them) and/or any other information contained in the Report.

3.5 Subject to clause 3.7, the Company's entire liability to the Customer howsoever arising under or in connection with this Agreement and whether in contract, negligence or any other tort or for breach of statutory duty or otherwise shall not exceed £5,000 (five thousand pounds) and the Company shall not in any circumstances (whether for breach of contract, negligence or any other tort, under statute or statutory duty, restitution or otherwise at all) be liable to the Customer for any indirect or consequential loss or damage whatsoever caused and howsoever arising under or in connection with this Agreement .

3.6 The Customer and the Client shall ensure that the Report is not accessed by, made available to, used by and/or relied on (in whole or in part) in any way by any other third party, and, subject to clause 3.7, the Company shall not in any circumstances (whether for breach of contract, negligence or any other tort, under statute or statutory duty, restitution or otherwise at all) be liable to any third party for any loss (whether direct, indirect or consequential loss (all three of which terms include without limitation, pure economic loss, loss of profit, loss of business depletion of goodwill and like loss)) or damage whatsoever caused and howsoever arising under or in connection with this Agreement and/or the Report and/or any use of or reliance placed upon the Report. The Customer and the Client agree to indemnify the Company against any losses, costs, claims and damage suffered by the Company as a result of any breach by either of them of the provisions of this clause 3.6.

3.7 Nothing in this Agreement shall exclude the Company's liability for death or personal injury arising from its negligence or for fraud or any other matter to the extent that such liability cannot be excluded or limited by law.

Copyright and Confidentiality

4.1 The Customer and the Client acknowledge that the Report is confidential and is intended for the personal use of the Client only and shall not be used (in whole or in part) for any commercial gain in any circumstances. The Customer and the Client shall ensure that the Report is not accessed by, made available to, used by and/or relied on (in whole or in part) in any way by any other third party. The copyright and any other intellectual property rights in the Report shall remain the property of the Company and its licensors. No intellectual or other property rights are transferred or licensed to the Customer or the Client except to the extent expressly provided herein.

4.2 The Customer or the Client is entitled to make copies of the Report but may only copy Ordnance Survey mapping or data contained in or attached to the Report, if they have an appropriate licence from the originating source of that mapping or data

4.3 The Customer and, the Client agree (in respect of both the original and any copies made) to respect and not to alter any part of the Report including but not limited to altering, removing or obscuring the trademark, logo, copyright notice or other property marking which appears on the Report.

4.4 The maps contained in the Report are protected by Crown Copyright and must not be used for any purpose outside the context of the Report.

4.5 The enquiries contained in the Report are protected by copyright by the Law Society of 113 Chancery Lane, London, WC2A 1PL and must not be used for any purpose outside the context of the Report

4.6 The Customer and the Client agree to indemnify the Company against any losses, costs, claims and damage suffered by the Company as a result of any breach by either of them of the provisions of clauses 4.1 to 4.5 inclusive.

Payment

5.1 Unless otherwise stated all prices are inclusive of VAT. The Customer shall pay the price of the Report specified by the Company, without any set off, deduction or counterclaim.

5.2 Payment must be received in advance unless an account has been set up with the Company. In these cases, payment terms will be as agreed with the Company, but in any event any invoice must be paid within 30 days of the date of its issue.

5.3 The Company reserves the right to increase fees on reasonable prior written notice at any time.

Data Protection

6.1 We will process any personal data you provide to us in accordance with applicable data protection laws and our Data Protection and Privacy Notice (<https://www.unitedutilities.com/privacy/>). In addition we will use your personal data to manage and administer the provision of the Report under this Agreement and to develop and improve the business and services we provide to our customers. We may also disclose it to other companies in the United Utilities group (being United Utilities Water Limited, its holding companies (and their subsidiary companies) and its subsidiary companies) and their sub-contractors in connection with those purposes, but it will not be processed for other purposes or disclosed to other third parties without your express permission or without lawful purpose under data protection law.

General

7.1 If any provision of this Agreement is or becomes invalid or unenforceable, it will be taken to be removed from the rest of this Agreement to the extent that it is invalid or unenforceable. No other provision of this Agreement shall be affected.

7.2 This Agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts.

7.3 Nothing in this Agreement and conditions shall in any way restrict the Company's or the Customer's or the Client's statutory or any other rights in relation to the provision of and/or access to the information contained in the Report.

7.4 This Agreement and conditions may be enforced by the Customer and the Client but not by any other third party.

7.5 Before you agree to this Agreement, please note that where you are the Customer it is your responsibility to ensure your client/customer is aware of them and that any objections are raised accordingly.

Property Searches complaints procedure

In the event of any queries relating to this Report please e-mail, write or phone our customer team quoting the United Utilities reference detailed on the Report, We will endeavor to resolve any telephone contact or complaint at the time of the call.

Whilst we always try to resolve all complaints straight away, if this is not possible and you are not happy with the course of action taken by us you can ask us to escalate the issues internally via the complaints process detailed below.

We will listen to your complaint and do our best to deal with it immediately.

If we fail to give you a written substantive response within 5 working days the Company will compensate the Customer or the Client (as applicable) the amount of the original fee paid to the Company for the Report, regardless of the outcome of your complaint.

If it is a complex issue requiring more time, we will still get back to you within 5 working days and notify you of progress and update you with the new timescales.

If we consider your complaint to be justified or we have made any errors that substantially change the outcome of the search we will:

- Refund your Report fee
- Provide you with a revised Report (if requested)
- Take the necessary action within our power to put things right which may (where appropriate) include, at our complete discretion, financial compensation or the relocation/removal/installation of our affected water or sewerage assets.
- Keep you informed of any action required

If your complaint has gone through our full internal complaints procedure and you are not satisfied with the response or you believe that we have failed to comply with our internal complaints procedure you may be able to refer your complaint for consideration under The Property Ombudsman Scheme (TPOs). The maximum award available to TPO through their redress scheme is £25k. In addition to TPO's redress scheme covering consumers, TPO will also provide redress for small businesses (including charities and trusts) that meet the following criteria:

- a small business (or group of companies) with an annual turnover of less than £3 million;
- a charity with an annual income of less than £3 million; or
- a trust with a net asset value of less than £3 million.

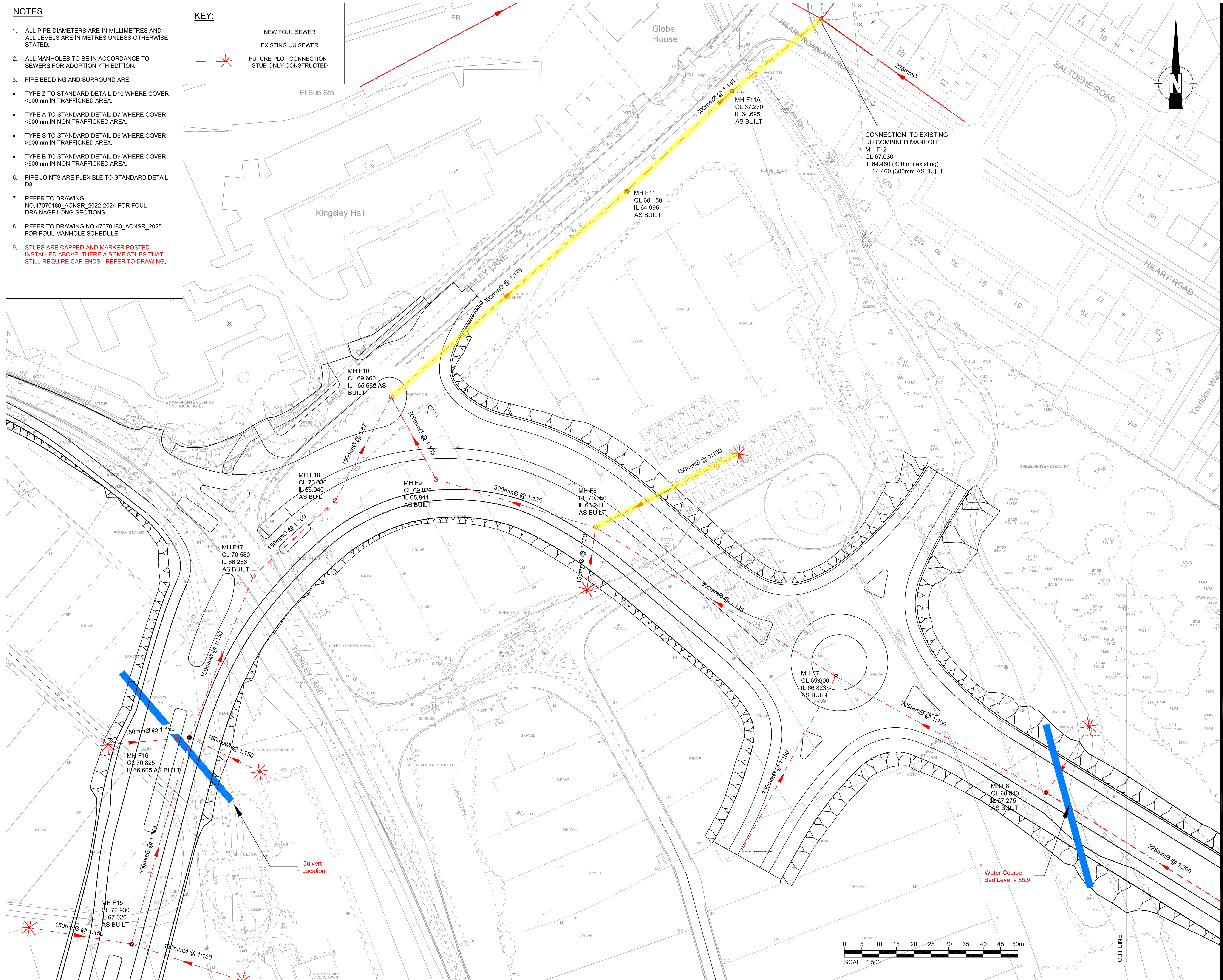
You can obtain further information by visiting www.tpos.co.uk or email admin@tpos.co.uk

NOTES

1. ALL PIPE DIAMETERS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED.
2. ALL MANHOLES TO BE IN ACCORDANCE TO SEWERS FOR ADOPTION 7TH EDITION.
3. PIPE BEDDING AND SURROUND ARE:
 - TYPE Z TO STANDARD DETAIL D10 WHERE COVER <900mm IN TRAFFICKED AREA.
 - TYPE A TO STANDARD DETAIL D7 WHERE COVER <900mm IN NON-TRAFFICKED AREA.
 - TYPE S TO STANDARD DETAIL D6 WHERE COVER >900mm IN TRAFFICKED AREA.
 - TYPE B TO STANDARD DETAIL D9 WHERE COVER >900mm IN NON-TRAFFICKED AREA.
6. PIPE JOINTS ARE FLEXIBLE TO STANDARD DETAIL D8.
7. REFER TO DRAWING
NO.47070180_ACNSR_2022-2024 FOR FOUL DRAINAGE LONG-SECTIONS.
8. REFER TO DRAWING NO.47070180_ACNSR_2025 FOR FOUL MANHOLE SCHEDULE.
9. STUBS ARE CAPPED AND MARKER POSTED INSTALLED ABOVE. THERE A SOME STUBS THAT STILL REQUIRE CAP ENDS - REFER TO DRAWING.

KEY:

-



PROJECT

Airport City North

Spine Road 2015 - 2018

CLIENT

K:\ACNRSR 2015\06 Drawings\Working Drawings\For Construction\For BCDGR\BCDGR.dwg

CONSULTANT

AECOM Manchester
Bridgewater House, Whitworth Street,
Manchester, M1 6LT
0161 907 3500 tel 0161 907 3599 fax
www.aecom.com

CONSULTANTS

Street Lighting Designer

AMEY
Factory Lane
Manchester M9 8AB
0161 277 6770 tel
www.Amey.co.uk

Design of Pedestrian Crossings and Signalised Junctions

TFGM

2 Piccadilly Place
Manchester M1 3BG
0161 224 1000 tel
www.tfgm.com

ISSUE/REVISION

AB1	23/04/18	AS BUILT
I/R	DATE	DESCRIPTION

PROJECT NUMBER

47070180

SHEET TITLE

New Foul Drainage
Sheet 1

SHEET NUMBER

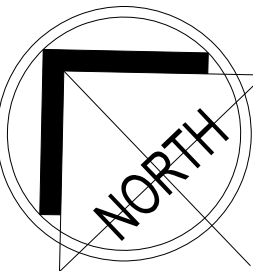
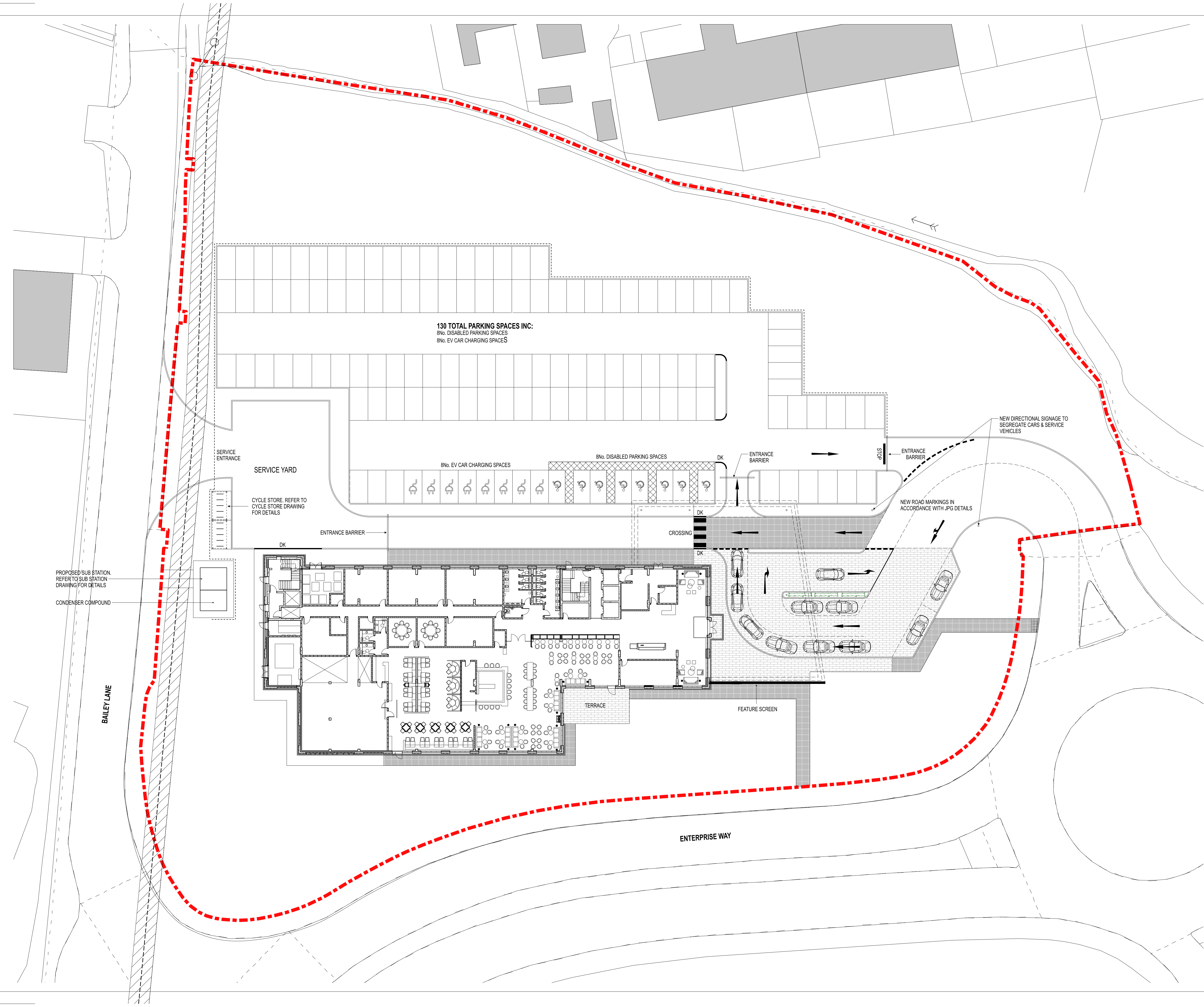
47070180 ACN C 2020

B1



Appendix D Proposed Site Layout Plan

Notes:
This drawing is the sole copyright of KPP Architects Ltd and reproduction in any form is forbidden unless permission is obtained in writing.
Do not scale from this drawing. Any discrepancies on site should be brought to the attention of KPP Architects Ltd.
Work and materials must comply with the current building regulations and codes of practice and be read in conjunction with building specifications and other sub-contractors information. All materials are to be installed in strict accordance with the recommendations of the manufacturers.



Rev	Description	By	Chkd	Date

Client

EVANS DAKOTA HOTELS LTD.

Product Title
DAKOTA HOTEL
LAND OFF ENTERPRISE WAY
WYTHENSHAW

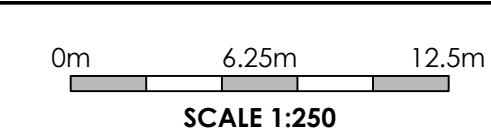
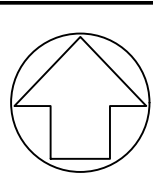
Drawing Title
PROPOSED SITE PLAN

KPP
ARCHITECTS
Lodge House
12 Town Street
Horsforth, Leeds LS184RJ
T : +44 (0) 113 2390460
E : architects@kpp-leeds.co.uk
W : www.kpp-leeds.co.uk

Scale	Size	Date	Drawn	Checked
1:250	A1	MAY '24	JH	.
Status PRELIMINARY				
KPP Job No 2019-08				Rev P1
Number 3001				



Appendix E Proposed Impermeable Area Plan



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NOTES

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- ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO COMMENCEMENT OF WORKS.

LEGEND

PIPE 1.000 = 240m²

PIPE 1.001 = 3941m²

PIPE 2.000 = 80m²

PIPE 2.001 = 384m²

ROOF AREA = 1400m²
SPLIT BETWEEN 3.000, 4.000 AND 4.001
SUBJECT TO CONFIRMATION OF ROOF PLAN

P02	REVISED TO SUIT LATEST SITE PLAN	20.05.24	LJB	BT
P01	INITIAL ISSUE	02.05.24	LB	BT
REV	DESCRIPTION	DATE	CHK	BY

Project
DAKOTA HOTEL
MANCHESTER AIRPORT

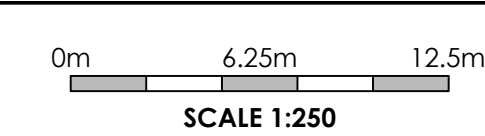
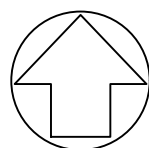
Drawing Title
DRAINAGE AREA PLAN

INFORMATION

JPG
www.jpg.group
E admin@jpg.group | T +44 (0)113 263 1155



Appendix F Proposed Drainage Layout Drawing



DRAINAGE NOTES

- ALL BUILDING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN 752:2008 DRAINAGE AND SEWER SYSTEMS OUTSIDE BUILDINGS, THE CURRENT BUILDING REGULATIONS AND THE LOCAL AUTHORITY BUILDING CONTROL SPECIFICATIONS AND REQUIREMENTS.
- ANY DRAINAGE TO BE PUT FORWARD FOR ADOPTION EITHER WITHIN THE SITE OR OUTSIDE SHALL BE CONSTRUCTED TO SEWERS FOR ADOPTION LATEST EDITION AND ANY SPECIFIC REQUIREMENTS OF THE ADOPTING SEWERAGE/WATER AUTHORITY.
- THE LOCATION, SIZE AND DEPTH OF ALL EXISTING DRAINS/SEWERS AND SERVICES SHALL BE ESTABLISHED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS ON SITE. ANY DISCREPANCIES FROM THE INFORMATION INDICATED ON THESE DRAWINGS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD ANY EXISTING LIVE DRAINAGE BE FOUND WITHIN THE SITE BOUNDARY SERVING ADJACENT PROPERTIES.
- ALL EXISTING DRAINAGE WITHIN THE SITE NOT REQUIRED FOR THE NEW DEVELOPMENT SHALL BE ABANDONED. DRAINS AND SEWERS LESS THAN 1.500m DEEP WHICH ARE IN OPEN GROUND SHOULD AS FAR AS IS PRACTICABLE BE FULLY REMOVED ALL OTHER PIPES SHOULD BE SEALED AT BOTH ENDS AND AT ANY POINT OF CONNECTION, AND BE GROUT FILLED TO ENSURE THAT RATS CANNOT GAIN ACCESS. LARGER PIPES 2250 OR ABOVE SHOULD BE GROUT FILLED TO PREVENT SUBSIDENCE OR DAMAGE TO BUILDINGS OR SERVICES IN THE EVENT OF COLLAPSE.
- THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE UTILITY COMPANIES.
- THE CONTRACTOR SHALL ALLOW FOR DEALING WITH SURFACE WATER RUN OFF IN EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF PUMPS, PUMPING AND DE WATERING AS APPROPRIATE, IN ORDER TO KEEP THE EXCAVATION AS REASONABLY DRY AS POSSIBLE DURING THE CONSTRUCTION OF THE WORKS.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY SAFETY PRECAUTIONS IN LINE WITH CURRENT LEGISLATION WHEN WORKING IN/NEAR CONFINED SPACES, DEEP EXCAVATIONS AND MACHINERY.
- THE CONTRACTOR SHALL ALLOW FOR OBTAINING ALL APPROVALS FROM THE RELEVANT AUTHORITIES WHEN WORKING IN THE PUBLIC HIGHWAY AND ON THE SEWERAGE SYSTEM.
- THE CONTRACTOR SHALL SUITABLY PROTECT PEDESTRIANS AND VEHICLES FROM WORKING AREAS.
- ALL MANHOLE/CHAMBER COVER LEVELS ARE APPROXIMATE AND SHALL BE ADJUSTED ON SITE TO SUIT THE PROPOSED FINISHED LEVELS.
- ALL PIPES SHALL BE LAID WITH LEVEL SOFFITS AND ALL MANHOLE/INSPECTION CHAMBER INVERT LEVELS SHOWN ARE FOR THE OUT GOING PIPE UNO, ON THE DRAWING (NOTE THAT ALL PIPE GRADIENTS INDICATED ON THE DRAWING ARE APPROXIMATE ONLY).
- ALL PIPE CONNECTION FROM DRAINAGE CHANNELS AND GULLIES SHALL BE 1500 PIPES AT A MINIMUM GRADIENT OF 1:100 WITH CLASS Z BEDDING UNO, ON THE DRAWING.
- ALL PIPE CONNECTIONS FROM RWPS TO BE 1000 AT 1:60 MIN. AND ALL PIPE CONNECTIONS FROM WPCS TO FIRST CHAMBER SHALL BE 1000 AT 1:40 MIN. WITH CLASS S BEDDING BENEATH THE BUILDING AND CLASS Z UNDER EXTERNALS WHERE COVER IS LESS THAN 1.20m UNO. ON THE DRAWING (LOCATION OF RWPS AND WPCS TO BE CONFIRMED BY THE ARCHITECT AND ARE SHOWN INDICATIVELY ONLY).
- ALL SYPHONIC RWP SYSTEMS TO BE DESIGNED BY OTHERS. PIPEWORK FROM DOWN PIPE TO FIRST MANHOLE TO BE SIZED/ DESIGNED BY SYPHONIC SYSTEM DESIGNER. THE FIRST MANHOLE TO HAVE AN OPEN GRATE COVER SAINT GOBAIN WATERWAY 2000 - D400 OR SIMILAR APPROVED.
- SUITABLY SIZED PETROL INTERCEPTORS MUST COMPLY WITH THE REQUIREMENTS OUTLINE IN PPG3 THESE INCLUDE SILT STORAGE CAPACITY AND HIGH LEVEL HYDROCARBON ALARM WIRED BACK TO A MANNED OFFICE.
- UPON COMPLETION OF THE DRAINAGE WORKS THE CONTRACTOR SHALL CLEAN ALL DRAIN RUNS BY JETTING AND REMOVE ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE PUBLIC SEWER AND/OR WATERCOURSE SYSTEM. ONCE THE DRAINAGE SYSTEM HAS BEEN FULLY CLEANED OUT A CCTV CAMERA CONDITION SURVEY SHALL BE UNDERTAKEN TO ALL CONSTRUCTED DRAINAGE AND SEWER PIPES WITH THE FOOTAGE ISSUED TO THE ENGINEER FOR VIEW. THE AS BUILT INVERT AND COVER LEVELS SHALL BE RECORDED BY THE CONTRACTOR AND PASSED ON TO THE ENGINEER FOR REVIEW.

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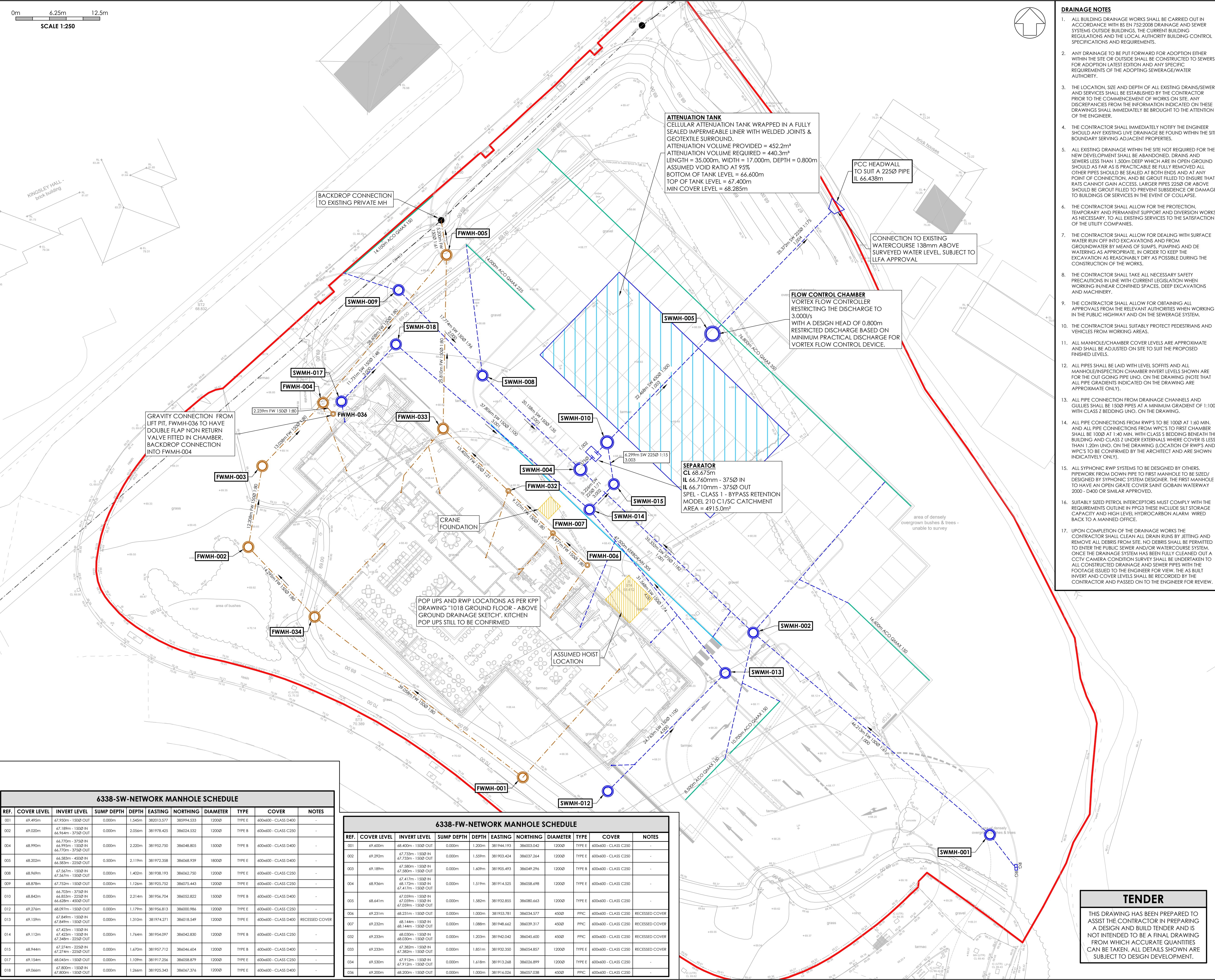
NOTES

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LEGEND

- PROPOSED SURFACE WATER PIPE
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED FOUL WATER PIPE
- PROPOSED FOUL WATER MANHOLE
- EXISTING SURFACE WATER PIPE
- EXISTING SURFACE WATER MANHOLE
- EXISTING FOUL WATER PIPE
- EXISTING FOUL WATER MANHOLE
- PROPOSED DRAINAGE CHANNEL
- PROPOSED KERBDRAIN
- PROPOSED ROAD GULLY
- PROPOSED RAINWATER PIPE
- PROPOSED SYPHONIC RAINWATER PIPE
- PROPOSED WASTE POINT CONNECTION



6338-SW-NETWORK MANHOLE SCHEDULE										
REF.	COVER LEVEL	INVERT LEVEL	SUMP DEPTH	DEPTH	EASTING	NORTHING	DIAMETER	TYPE	COVER	NOTES
001	69.495m	67.950m - 1500 OUT	0.000m	1.545m	382013.577	385994.533	12000	TYPE E	600x600 - CLASS D400	-
002	69.020m	67.189m - 1500 IN 66.944m - 3750 OUT	0.000m	2.056m	381978.425	386024.532	12000	TYPE B	600x600 - CLASS C250	-
004	68.990m	66.770m - 3750 IN 66.770m - 3750 OUT	0.000m	2.220m	381952.750	386048.805	15000	TYPE B	600x600 - CLASS D400	-
005	68.202m	66.583m - 4500 IN 66.583m - 2250 OUT	0.500m	2.119m	381972.358	386048.939	18000	TYPE E	600x600 - CLASS D400	-
008	68.949m	67.547m - 1500 IN 67.547m - 1500 OUT	0.000m	1.402m	381938.193	386062.750	12000	TYPE E	600x600 - CLASS C250	-
009	68.878m	67.752m - 1500 OUT	0.000m	1.126m	381925.752	386075.443	12000	TYPE E	600x600 - CLASS C250	-
010	68.842m	66.703m - 3750 IN 66.833m - 2250 IN 66.628m - 4500 OUT	0.000m	2.214m	381956.704	386052.822	15000	TYPE B	600x600 - CLASS D400	-
012	69.276m	68.097m - 1500 OUT	0.000m	1.179m	381956.813	386000.986	12000	TYPE E	600x600 - CLASS C250	-
013	69.159m	67.849m - 1500 IN 67.849m - 1500 OUT	0.000m	1.310m	381974.271	386018.549	12000	TYPE E	600x600 - CLASS D400	RECESSED COVER
014	69.112m	67.223m - 1500 IN 67.423m - 1500 IN 67.348m - 2250 OUT	0.000m	1.764m	381954.097	386042.830	12000	TYPE B	600x600 - CLASS C250	-
015	68.944m	67.274m - 2250 IN 67.274m - 2250 OUT	0.000m	1.670m	381957.712	386046.604	12000	TYPE B	600x600 - CLASS D400	-
017	69.154m	68.045m - 1500 OUT	0.000m	1.109m	381917.256	386058.879	12000	TYPE E	600x600 - CLASS C250	-
018	69.066m	67.800m - 1500 IN 67.800m - 1500 OUT	0.000m	1.266m	381925.343	386067.376	12000	TYPE E	600x600 - CLASS D400	-

6338-FW-NETWORK MANHOLE SCHEDULE										
REF.	COVER LEVEL	INVERT LEVEL	SUMP DEPTH	DEPTH	EASTING	NORTHING	DIAMETER	TYPE	COVER	NOTES
001	69.400m	68.400m - 1500 OUT	0.000m	1.200m	381944.193	386003.042	12000	TYPE E	600x600 - CLASS C250	-
002	69.292m	67.723m - 1500 IN 67.733m - 1500 OUT	0.000m	1.559m	381903.424	386037.264	12000	TYPE E	600x600 - CLASS C250	-
003	69.189m	67.580m - 1500 IN 67.580m - 1500 OUT	0.000m	1.609m	381905.493	386049.296	12000	TYPE B	600x600 - CLASS C250	-
004	68.936m	67.417m - 1500 IN 68.172m - 1500 IN 67.417m - 1500 OUT	0.000m	1.519m	381914.525	386058.698	12000	TYPE E	600x600 - CLASS C250	-
005	68.641m	67.059m - 1500 IN 67.059m - 1500 IN 67.059m - 1500 OUT	0.000m	1.582m	381932.855	386080.663	12000	TYPE E	600x600 - CLASS C250	-
006	69.231m	68.231m - 1500 OUT	0.000m	1.000m	381953.781	386034.577	4500	PPIC	600x600 - CLASS C250	RECESSED COVER
007	69.232m	68.144m - 1500 IN 68.144m - 1500 OUT	0.000m	1.088m	381948.662	386039.317	4500	PPIC	600x600 - CLASS C250	RECESSED COVER
002	69.233m	68.030m - 1500 IN 68.030m - 1500 OUT	0.000m	1.203m	381942.042	386045.600	4500	PPIC	600x600 - CLASS C250	RECESSED COVER
003	69.233m	67.382m - 1500 IN 67.382m - 1500 OUT	0.000m	1.851m	381932.350	386054.857	12000	TYPE E	600x600 - CLASS C250	RECESSED COVER
004	69.530m	67.912m - 1500 IN 67.912m - 1500 OUT	0.000m	1.618m	381913.268	386026.899	12000	TYPE E	600x600 - CLASS C250	-
006	69.200m	68.200m - 1500 OUT	0.000m	1.000m	381916.026	386057.038	4500	PPIC	600x600 - CLASS C250	-

P06	SW OUTFALL RELOCATED	22.05.24	JLB	BT
P05	PIPE REFS ADDED	20.05.24	JLB	BT
P04	REVISED TO SUIT LATEST SITE PLAN, FOUNDATIONS & POP UPS	17.05.24	JLB	BT
P03	REVISED TO SUIT LATEST SITE PLAN & LEVELS, PIPE REFERENCES ADDED AND OUTFALL RELOCATED FOR BNG	02.05.24	JLB	BT
P02	REVISED TO SUIT LATEST SITE PLAN & LEVELS	22.04.24	JLB	BT
P01	INITIAL ISSUE	23.03.24	JLB	BT
REV	DESCRIPTION	DATE	CHK	BY

Project
DAKOTA HOTEL
MANCHESTER AIRPORT

Drawing Title
DRAINAGE LAYOUT

TENDER

THIS DRAWING HAS BEEN PREPARED TO ASSIST THE CONTRACTOR IN PREPARING A DESIGN AND BUILD TENDER AND IS NOT INTENDED TO BE A FINAL DRAWING FROM WHICH ACCURATE QUANTITIES CAN BE TAKEN. ALL DETAILS SHOWN ARE SUBJECT TO DESIGN DEVELOPMENT.

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S4 P06



Appendix G SW Drainage Hydraulic Calculations

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	18.000	Add Flow / Climate Change (%)	0
Ratio R	0.371	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.410	4-8	0.214

Total Area Contributing (ha) = 0.624

Total Pipe Volume (m³) = 12.720

Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	46.213	0.761	60.7	0.024	4.00	0.0	0.600	o	150	Pipe/Conduit	
1.001	35.332	0.194	182.1	0.394	0.00	0.0	0.600	o	375	Pipe/Conduit	
2.000	17.774	0.185	96.1	0.008	4.00	0.0	0.600	o	150	Pipe/Conduit	
2.001	20.158	0.572	35.2	0.038	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	49.22	4.60	67.950	0.024	0.0	0.0	0.0	1.29	22.8	3.2
1.001	47.38	5.04	66.964	0.418	0.0	0.0	0.0	1.34	147.9	53.6
2.000	50.00	4.29	67.752	0.008	0.0	0.0	0.0	1.03	18.1	1.1
2.001	49.70	4.49	67.567	0.046	0.0	0.0	0.0	1.70	30.1	6.2

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Storm Duration (mins)	30
Ratio R	0.371		

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: 16, DS/PN: 1.004, Volume (m³): 5.7

Unit Reference	MD-SHE-0085-3000-0800-3000
Design Head (m)	0.800
Design Flow (l/s)	3.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	85
Invert Level (m)	66.583
Minimum Outlet Pipe Diameter (mm)	100
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.800	3.0
Flush-Flo™	0.239	3.0
Kick-Flo®	0.517	2.5
Mean Flow over Head Range	-	2.6

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.6	1.200	3.6	3.000	5.5	7.000	8.3
0.200	3.0	1.400	3.9	3.500	6.0	7.500	8.5
0.300	3.0	1.600	4.1	4.000	6.3	8.000	8.8
0.400	2.9	1.800	4.4	4.500	6.7	8.500	9.0
0.500	2.6	2.000	4.6	5.000	7.0	9.000	9.3
0.600	2.6	2.200	4.8	5.500	7.4	9.500	9.6
0.800	3.0	2.400	5.0	6.000	7.7		
1.000	3.3	2.600	5.2	6.500	8.0		

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Storage Structures for Storm

Cellular Storage Manhole: 16, DS/PN: 1.004

Invert Level (m) 66.583 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	595.0	0.0	0.801	0.0	0.0
0.800	595.0	0.0			

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH Name	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status	Level Exceeded
		Level (m)	Depth (m)	Volume (m³)			Time (mins)	Flow (l/s)		
1.000	1	67.993	-0.107	0.000	0.18			4.1	OK	
1.001	2	67.136	-0.203	0.000	0.43			56.6	OK	
2.000	3	67.780	-0.122	0.000	0.08			1.3	OK	
2.001	4	67.616	-0.101	0.000	0.23			6.4	OK	
1.002	5	66.976	-0.169	0.000	0.59			62.8	OK	
3.000	8	68.045	-0.150	0.000	0.00			0.0	OK	
3.001	9	67.858	-0.092	0.000	0.31			5.3	OK	
4.000	11	68.163	-0.084	0.000	0.40			6.7	OK	4
4.001	12	67.959	-0.040	0.000	0.87			17.3	OK	4
3.002	13	67.472	-0.100	0.000	0.59			22.6	OK	
3.003	14	67.350	-0.150	0.000	0.25			22.5	OK	
1.003	15	66.924	-0.154	0.000	0.76			85.5	OK	
1.004	16	66.748	-0.060	0.000	0.08		371	2.9	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH Name	Water	Surcharged	Flooded	Flow / Overflow		Half Drain	Pipe	Status
		Level (m)	Depth (m)	Volume (m³)	Cap.	(l/s)	Time (mins)	Flow (l/s)	
1.000	1	68.011	-0.089	0.000	0.34			7.5	OK
1.001	2	67.425	0.086	0.000	0.93			124.2	SURCHARGED
2.000	3	67.791	-0.111	0.000	0.15			2.6	OK
2.001	4	67.644	-0.073	0.000	0.52			14.7	OK
1.002	5	67.239	0.094	0.000	1.30			139.4	SURCHARGED
3.000	8	68.045	-0.150	0.000	0.00			0.0	OK
3.001	9	67.897	-0.053	0.000	0.73			12.5	OK
4.000	11	68.563	0.316	0.000	0.59			10.0	SURCHARGED
4.001	12	68.486	0.487	0.000	1.45			28.7	SURCHARGED
3.002	13	67.573	0.001	0.000	1.03			39.3	SURCHARGED
3.003	14	67.378	-0.121	0.000	0.43			39.5	OK
1.003	15	67.110	0.032	0.000	1.55			174.4	SURCHARGED
1.004	16	66.922	0.114	0.000	0.08		571	3.0	SURCHARGED

PN	US/MH Level	
	Name	Exceeded
1.000	1	
1.001	2	
2.000	3	
2.001	4	
1.002	5	
3.000	8	
3.001	9	
4.000	11	4
4.001	12	4
3.002	13	
3.003	14	
1.003	15	
1.004	16	



Appendix H SUDS Indices

Project Number: 3668
By: BT
Date: 02/05/24



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The SuDS Manual - Table 26.2 Pollution hazard indices for different land use classifications

Category	Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydrocarbons
1	Residential roofs.	Very low	0.2	0.2	0.05
2	Other roofs (typically commercial/industrial roofs).	Low	0.3	0.2	0.05
3	Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day.	Low	0.5	0.4	0.4
4	Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways.	Medium	0.7	0.6	0.7
5	Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways.	High	0.8	0.8	0.9

Summary	
Category	3
Pollution hazard level	Low
Total suspended solids (TSS)	0.5
Metals	0.4
Hydrocarbons	0.4





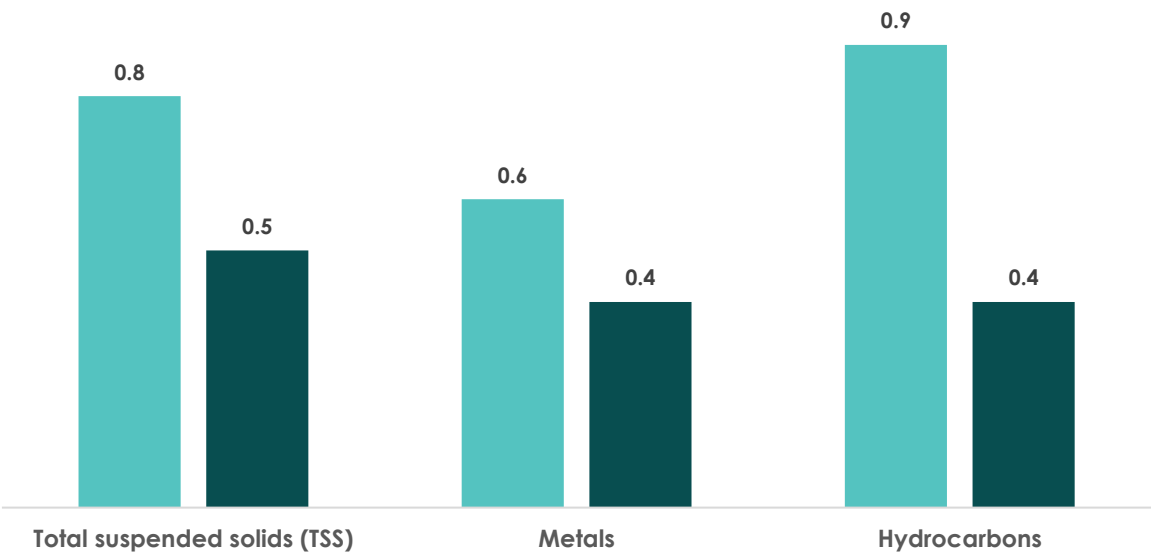
The SuDS Manual - Table 26.3 Indicative SuDS mitigation indices for discharges to surface waters

Type of SuDS component	Mitigation indices		
	Total suspended solids (TSS)	Metals	Hydrocarbons
Filter strip	0.4	0.4	0.5
Filter drain	0.4	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable pavement	0.7	0.6	0.7
Detention basin	0.5	0.5	0.6
Pond	0.7	0.7	0.5
Wetland	0.8	0.8	0.8
Proprietary treatment system 1	0.8	0.6	0.9
Proprietary treatment system 2	0	0	0
Proprietary treatment system 3	0	0	0
None	0	0	0

SuDS components	Mitigation indices		
	Total suspended solids (TSS)	Metals	Hydrocarbons
(1) Proprietary treatment system 1	0.8	0.6	0.9
(2) None	0	0	0
(3) None	0	0	0
Total mitigation indices	0.8	0.6	0.9
Required mitigation indices	0.5	0.4	0.4

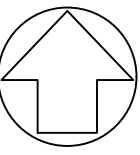


■ Total mitigation indices ■ Required mitigation indices





Appendix I Drainage Exceedance Plan



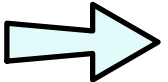
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NOTES

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP IS TO COMPLY WITH JPG CONSULTANTS STANDARD SPECIFICATION & ALL RELEVANT BRITISH & EUROPEAN STANDARDS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, M & E CONSULTANTS AND JPG CONSULTANTS DRAWINGS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO COMMENCEMENT OF WORKS.

LEGEND



DENOTES FLOOD EXCEEDANCE ROUTE

Drawing Title
EXCEEDANCE PLAN

INFORMATION



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S2 | P03

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