advant ENGINEERS

JUNCTION HOTEL
ROLLS CRESCENT
MANCHESTER
M15 5FT

DRAINAGE STRATEGY

16th JUNE 2026

DOCUMENT No:
26013-DOC-001-B

Issue Sheet.

Prepared	Date		Checked	Date
M M	05-03-26		M M	05-03-26

Revisions	Comment	Date
A	Initial Issue	05-03-26
B	Updated to LLFA comments	16-06-26

The report is based on the information that has been acquired and / or made available to Advant Engineers via the various searches and consultations undertaken as part of the Drainage Strategy. In some cases, anecdotal information has been relied upon, where documented evidence has been lacking.

The conclusions drawn in the above report are considered correct although any subsequent additional information may allow refinement of the conclusions.

All work carried out in preparing this report has utilised and is based upon Advant Engineers current professional knowledge and understanding of current UK standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and cause any conclusions to become inappropriate or incorrect.

This report has been prepared using information contained in maps and documents prepared by others. Advant Engineers can accept no responsibility for the accuracy of such information.

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1. Introduction

1.1. Advant Engineers has been commissioned, to undertake a Drainage Strategy in connection with the proposed development at the land of the former Junction Hotel Public House off Rolls Crescent in Manchester. The proposal consists of the redevelopment of the existing building and then the construction of 2 new blocks to the rear providing a total of 28 apartments, 4 commercial units and parking on the ground floor.

1.2. This report should be read in conjunction with drawing 26013-101 and associated architectural and engineering drawings.

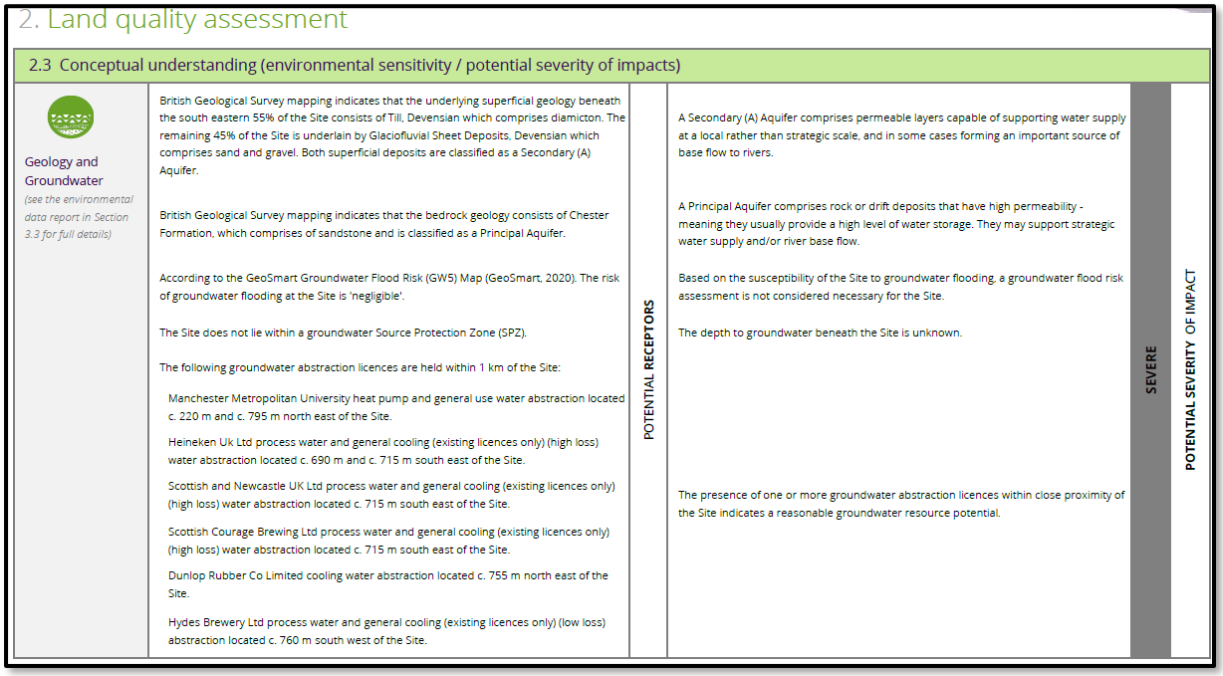
2. Existing Site

2.1. The site is a derelict public house building and a concrete yard to the rear, and is therefore classed as a brownfield site, vehicular access to the site will be from the access road to the west of the site. The overall site area is 1,271m² (0.13ha).

2.2. This site can be located at the following co-ordinates 383564E, 396572N and the nearest postcode is M15 5FT and can be seen on the below extract.



2.3. A Phase 1 Contamination Report has been undertaken by Geosmart Information Limited, Report Ref: 73397R1. From this report the site has been described as follows: (See Appendix A for Report extracts).



2. Land quality assessment

2.3 Conceptual understanding (environmental sensitivity / potential severity of impacts)

Geology and Groundwater *(see the environmental data report in Section 3.3 for full details)*	British Geological Survey mapping indicates that the underlying superficial geology beneath the south eastern 55% of the Site consists of Till, Devensian which comprises diamicton. The remaining 45% of the Site is underlain by Glaciofluvial Sheet Deposits, Devensian which comprises sand and gravel. Both superficial deposits are classified as a Secondary (A) Aquifer. British Geological Survey mapping indicates that the bedrock geology consists of Chester Formation, which comprises of sandstone and is classified as a Principal Aquifer. According to the GeoSmart Groundwater Flood Risk (GW5) Map (GeoSmart, 2020). The risk of groundwater flooding at the Site is 'negligible'. The Site does not lie within a groundwater Source Protection Zone (SPZ). The following groundwater abstraction licences are held within 1 km of the Site: Manchester Metropolitan University heat pump and general use water abstraction located c. 220 m and c. 795 m north east of the Site. Heineken Uk Ltd process water and general cooling (existing licences only) (high loss) water abstraction located c. 690 m and c. 715 m south east of the Site. Scottish and Newcastle UK Ltd process water and general cooling (existing licences only) (high loss) water abstraction located c. 715 m south east of the Site. Scottish Courage Brewing Ltd process water and general cooling (existing licences only) (high loss) water abstraction located c. 715 m south east of the Site. Dunlop Rubber Co Limited cooling water abstraction located c. 755 m north east of the Site. Hydes Brewery Ltd process water and general cooling (existing licences only) (low loss) abstraction located c. 760 m south west of the Site.	POTENTIAL RECEPTORS	A Secondary (A) Aquifer comprises permeable layers capable of supporting water supply at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. A Principal Aquifer comprises rock or drift deposits that have high permeability - meaning they usually provide a high level of water storage. They may support strategic water supply and/or river base flow. Based on the susceptibility of the Site to groundwater flooding, a groundwater flood risk assessment is not considered necessary for the Site. The depth to groundwater beneath the Site is unknown. The presence of one or more groundwater abstraction licences within close proximity of the Site indicates a reasonable groundwater resource potential.	SEVERE	POTENTIAL SEVERITY OF IMPACT

2.4. The site is fairly flat with a gentle fall from the south-east corner to the north-west corner. from the South to the North with a high point of 34.72 and a low point of 33.63 which gives an approximate gradient of 1:50. (See Appendix B for Survey).

2.5. There are existing public combined sewers located on all three sides of the development located under the adopted highways, with a leg of combined sewer located on site. (See Appendix C for sewer records).

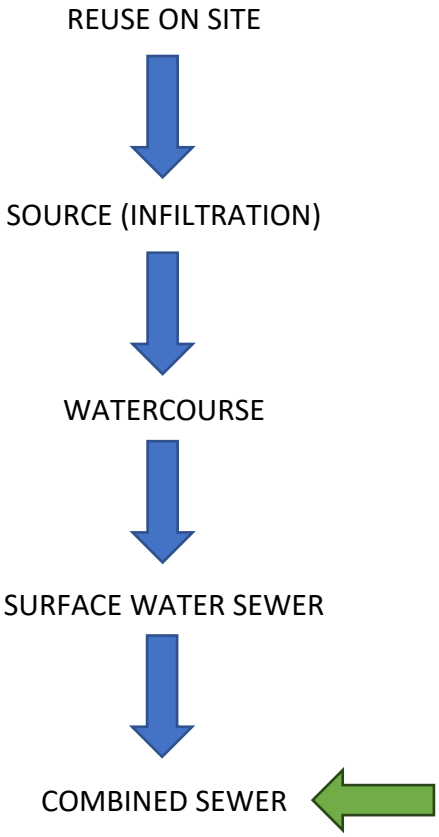
3. Proposed Development

3.1. The proposed development is for 28 new apartments and 4 commercial units across the existing building and 2 new build units to the rear of the land. (See Appendix D for layout)

4. Drainage Strategy

4.1. Surface Water

4.2. The surface water drainage should be designed in accordance with the SUD hierarchy providing evidence to each step before moving on to the next one, the SUDS hierarchy is as follows:



4.3. According to the Phase 1 report then ground may have infiltration potential, however due to the proposed development occupying the entire area of the site then there would be no space to locate a soakaway, therefore the use of soakaways has been discounted.

4.4. Next in the hierarchy is to discharge to a water course, as there are no watercourses in the vicinity then this has also been discounted.

4.5. From the sewer records there are no public surface water sewers in the vicinity, therefore this has been discounted.

4.6. It is therefore proposed to discharge the surface water to the existing public combined sewer located in the adjacent access road. (See Appendix C for sewer records).

4.7. The site is a brownfield site, however wherever possible surface water discharge rates should be returned to the equivalent Greenfield rate.

4.8. The greenfield runoff rates for the site are as follows (See Appendix E for Greenfield Calc):

Qbar = 0.8 l/s
1 in 1 Year = 0.7 l/s
1 in 30 Year = 1.4 l/s
1 in 100 Year = 1.7 l/s

4.9. We are unable to achieve the QBar rate, therefore we are proposing a rate of **2.0l/s** via a vortex flow control and provide attenuation on site to accommodate the 1 in 100 year + 45% climate change rainfall event. (See Appendix F for Drainage Layout and Appendix G for Calcs).

4.10. Foul Drainage

4.11. The foul drainage is proposed to connect into the public combined sewer located in the adjacent access road.

5. SUDS Elements

5.1. All new surface water drainage systems should implement SUDS features where reasonably possible, these features are incorporated to offer benefits in Water Quality, Water Quantity, Amenity and Biodiversity. Below we have considered each SUDS element and determined it use within this particular development.

COMPONENT	SUITABILITY	REASON
Green Roof	✓	Potential for Green Roof on existing building
Blue Roof	X	Green Roof proposed
Infiltration Systems	X	Not suitable due to site constraints
Proprietary Treatment Systems	✓	Flow control device to be utilised.
Filter Strips	X	Not suitable due to site constraints
Filter Drains	X	Not suitable due to site constraints
Swales	X	Not suitable due to site constraints
Bioretention Systems	X	Insufficient land available.
Trees	X	Insufficient land available.
Rain Garden	✓	Vertical gardens being installed
Rainwater Harvesting	✓	Rainwater harvesting provided to supply the vertical gardens
Pervious Pavements	X	Insufficient land available.
Attenuation Storage Tanks	✓	Tank proposed under ground floor car parking.
Detention Basins	X	Insufficient land available.
Ponds and Wetlands	X	Insufficient land available.

6. SUDS Operations and Maintenance

6.1. Responsibility of the drainage system, and SUDS elements will be with a management company that services the communal areas of the apartments.

6.2. The convention drainage system, consisting of standard manholes and pipework, are maintained by sub-contractors using specialist machinery to clear gullies, pipework and storage zones of rubbish and sediment. The frequency of this task is determined by the need, this can be identified by a reduced flow through the pipework, water surcharging or the visible sight of sediment or buildup in the manholes.

6.3. Beyond the convention drainage manholes and pipework, the drainage system also has the following SUDS elements that requires routine inspection and maintenance as outlined below.

ELEMENT	RESPONSIBILITY		
	PUBLIC	PRIVATE	MANAGEMENT COMPANY
GREEN ROOF			✓
FLOW CONTROL			✓
VERTICAL GARDEN			✓
RAINWATER HARVESTING			✓
ATTENUATION TANK			✓

GREEN ROOF

MAINTENANCE SCHEDULE	REQUIRED ACTION	FREQUENCY
Regular Maintenance	Remove debris and litter to prevent clogging of inlet drains and interference with plant growth.	Six monthly and annually.
	During establishment (i.e. year one), replace dead plants as required.	Monthly.
	Post establishment, replace dead plants as required (where > 5% of coverage).	Annually (in autumn).
	Remove fallen leaves and debris from deciduous plant foliage.	Six monthly or as required.
	Remove nuisance and invasive vegetation, including weeds.	Six monthly or as required.
	Mow grasses, prune shrubs and manage other planting (if appropriate) as required – clippings should be removed and not allowed to accumulate.	Six monthly or as required.
Remedial Actions	If erosion channels are evident, these should be stabilised with extra soil substrate similar to the original material, and sources of erosion damage should be identified and Controlled.	As required.
	If drain inlet has settled, cracked or moved, investigate and repair as appropriate.	As required.
Monitoring	Inspect all components including soil substrate, vegetation, drains, irrigation systems (if applicable), membranes and roof structure for proper operation, integrity of waterproofing and structural stability.	Annually
	Inspect soil substrate for evidence of erosion channels and identify any sediment sources.	Annually
	Inspect drain inlets to ensure unrestricted runoff from the drainage layer to the conveyance or roof drain system.	Annually
	Inspect underside of roof for evidence of leakage	Annually

6.4. The above is scheduled maintenance, additional inspections and cleaning of the green roof chamber should be undertaken in the event of a failure or after every extreme flood event.

FLOW CONTROL MANHOLE – HYDROBRAKE UNIT

MAINTENANCE SCHEDULE	REQUIRED ACTION	FREQUENCY
Regular Maintenance	Vacuum clean the sump in the manhole.	Annually
	Inspect pipework for silt accumulation and jet-vac clean.	Annually
	All other moving parts should be lightly oiled / greased.	As required.
Remedial Actions	Repair / rehabilitate inlets, outlets and vents.	As required.
	Replace hydrobrake unit should it become damage and fail to operate.	As required.
	Anytime the hydrobrake unit is removed then new neoprene seals should be installed.	As required.
Monitoring	Check that flow control manhole is emptying, there should be little or no water after consecutive days of dry weather.	Twice in the first year, once after heavy rainfall, and then once after consecutive days of dry weather. After that annual inspections.
	The hydrobrake has one moving part which is the bypass gate, and the penstock has a gate operated by a rising spindle, both elements should be opened and closed to check their operation.	Every 3 months
	Check for any leakages between the hydrobrake / penstock units and the concrete mounting block.	Annually
	Check tightness of all fixing bolts.	Annually

6.5. The above is scheduled maintenance, additional inspections and cleaning of the hydrobrake chamber should be undertaken in the event of a failure or after every extreme flood event.

VERTICAL RAIN GARDEN

MAINTENANCE SCHEDULE	REQUIRED ACTION	FREQUENCY
Regular Maintenance	Pruning, weeding, deadheading, and timely replacement of dead, diseased or sparse plants to maintain health, density, coverage and visual appeal of the living wall.	Quarterly.
	Irrigation system maintenance: Inspection, cleaning, testing and calibration of drip emitters, distribution lines, filters, pressure regulators, timers, sensors and any recirculation pumps or storage.	Quarterly.
	Growing media & surface care: Top-up or selective replacement of growing substrate; replenishment of mulch layer (where present); minor organic amendments to sustain plant vigour without promoting nutrient leaching.	Annually (preferably spring).
Remedial Actions	Waterproofing & structural repairs: Prompt repair of any damage, breaches or deterioration in the waterproof membrane, backing, support framework or wall fixings. Critical to prevent water ingress, staining or structural damage to the building.	As required.
	Irrigation & mechanical repairs: Repair or replacement of failed pumps, valves, control systems, emitters or pipework.	As required.
Monitoring	Routine inspections: Visual and tactile assessment of plant health/vigour, signs of pest or disease pressure, nutrient stress, uneven wetting/drying patterns, leaks or staining on the building wall, debris accumulation, and attachment/security of panels or fixings. Maintain written or digital logs.	Monthly.
	Annual comprehensive audit: Professional inspection covering structural integrity, waterproofing performance, media condition and chemistry, irrigation efficiency and uniformity, plant survival / establishment rates, overall stormwater capture and treatment function, and aesthetic condition. Review and update this schedule based on findings and performance data.	Annually in spring.

RAINWATER HARVESTING

MAINTENANCE SCHEDULE	REQUIRED ACTION	FREQUENCY
Regular Maintenance	Cleaning of tank, inlets, outlets, gutters, withdrawal devices and roof drain filters of silts and other debris	Annually
	Cleaning and/or replacement of any filters	Three monthly
Remedial Actions	Repair of overflow erosion damage or damage to tank	As required.
	Pump repairs	As required.
Monitoring	Inspection of the tank for debris and sediment buildup, inlets / outlets / withdrawal devices, overflow areas, pumps, filters.	Annually

CELLULAR ATTENUATION TANK

MAINTENANCE SCHEDULE	REQUIRED ACTION	FREQUENCY
Regular Maintenance	Inspect and identify areas that are not operating correctly. If required take remedial action.	Monthly for the first 3 months and then annually.
	Jet clean the inside of the tank for sediment removal	Annually
Remedial Actions	Repair / rehabilitate inlets, outlets and vents.	As required.
Monitoring	Inspect / check all inlets, outlets and vents to ensure that they are in good condition and operating as designed.	Annually

6.6. The above is scheduled maintenance, additional inspections and cleaning of the tank should be undertaken in the event of a failure or after every extreme flood event.

6.7. Access to the tank can be achieved with a van for maintenance, and the cell can take a load of 67 tonnes/m2.

7. Flood Exceedance Events

7.1. Although the surface water drainage has been designed to accommodate the 1 in 100 year + 45% climate change rainfall event with no flooding, we have to consider events that exceed this and what happens to any flooding that may occur.

7.2. To illustrate this event, we have produced a Flood Exceedance Layout plan (See Appendix H for layout) and from this we can see that flood would occur at manhole (S4) and then would downhill, this mimics how the site would operate pre-development as per the original contours of the site.

8. Conclusion

8.1. Advant Engineers were commissioned to undertake a Drainage Strategy for the proposed development at the former Junction Hotel off Rolls Crescent in Manchester. This report will be provided as supporting documentation to discharge a planning condition.

8.2. The site currently consists of a derelict public house and concrete yard area.

8.3. It is proposed to discharge the surface water to the public combined sewer in the adjacent access road at 2.0 l/s and to accommodate the 1 in 100 year + 45% climate change rainfall event on site.

8.4. Foul drainage is to be discharged to the public combined sewer located in the adjacent access road.

9. References

9.1. CIRIA C753 The SuDS Manual

APPENDIX A
EXTRACT FROM PHASE 1 REPORT

EnviroSmart

(Phase 1 Contaminated Land Assessment)

Site address	Junction Hotel 1 Rolls Crescent Manchester M15 5JZ
Site coordinates	383570, 396560
Report prepared for	Junction Manchester Limited 32 Acomb Street Manchester Lancashire M15 6FQ
Report reference	73397R1
Report status	Final
Date issued	August 2020
Report author	Jessica Bayliff Project Consultant
Report check & review	Alan White Principal Consultant

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Report summary: contaminated land risks

The purpose of this EnviroSmart report is to provide clear and pragmatic advice regarding the nature and potential significance of contaminated land hazards which may be present at the study site. GeoSmart are providing consultancy and professional opinion based upon our collation, interpretation and assessment of information contained within an Envirocheck report, and other sources where expressly stated (i.e. site visits, photographs, and anecdotal evidence).

As such, potential contaminated land risks have been assessed by considering two key items:

1. The likelihood that **sources of contamination** are present within the sub surface beneath the site. This gives a measure of the potential for contamination to be occurring at the site.
2. The **consequence or severity of any impacts** should contamination be present. The consequence or severity of impact is inferred from the nature of any **potential receptors** (i.e., something that could be adversely affected by a contaminant, such as people, an ecological system, property or a water body) as well as any **relevant pathways** (i.e., a route or means by which a receptor can be exposed to or affected by a contaminant) relating to the site and the surrounding area.

The assessment findings are summarised as follows:

		On-Site	Off-Site
1. **Probability/likelihood** of a contaminant hazard at the Site	High likelihood		
	Likely		
	Low likelihood		
	Unlikely		
2. Potential **severity/consequence** of any impacts	**Severe**		
	Medium		
	Mild		
	Minor		
3. **Overall land quality risks posed by the Site**	Very high		
	High		
	Moderate		
	Moderate/low		
	Low		
	Very low		

Risk Key

Very High	High	Moderate	Moderate/Low	Low	Very Low
There is a high probability that severe harm could arise to a designated receptor from an identified hazard without appropriate remediation action	Harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remediation action	It is possible that without appropriate remediation action harm could arise to a designated receptor. It is relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely that such harm would be relatively mild	It is possible that harm could arise to a designated receptor from an identified hazard. It is likely any harm would be mild	It is possible that harm could arise to a designated receptor from an identified hazard. It is likely that, at worst if any harm was realised any effects would be mild	The presence of an identified hazard does not give rise to the potential to cause harm to a receptor

It is acknowledged that the risk assessment findings are based on documentary sources of information alone.

Recommendations (for next steps)

✓	**No immediate action but observe a watching brief**	It is noted that whilst a limited intrusive site investigation (including appropriate laboratory testing of soil samples) could be adopted in order to validate the preliminary risk assessment conclusions, a watching brief during all proposed redevelopment activities and associated ground works (which would include a thorough inspection of any exposed sub surface soils/Made Ground) would likely be sufficient.
✓	**Consider Coal Mining Risk**	As the Site is **not** located within a Coal Authority Development High Risk Area there is no specific requirement to submit any coal mining information with a planning application and the Coal Authority will not be consulted by the local planning authority (LPA). The LPA are likely to include the Coal Authority Standing Advice as an informative note with the decision notice. Consideration should however be given to further investigation of the coal mining risk.

GeoSmart would be delighted to provide further information and a site specific quotation in relation to the above recommendations.

Please contact **info@geosmartinfo.co.uk** for further advice.

1. Introduction

1.1 Background

The study site (from herein known as 'the Site') is situated at Junction Hotel in 1 Rolls Crescent, Manchester. A location plan of the Site is shown in Section 1.5. A proposed development plan of the Site is shown in Section 1.6.

GeoSmart was commissioned by Junction Manchester Limited in July 2020 to undertake a Phase 1 Land Quality Assessment for the Site. The report has been requested in order to support a proposed planning application for the Site.

The proposed development is for restoration, refurbishment and expansion of the former hotel, the demolition of a single storey extension, and the construction of a connected four storey apartment building with ground floor commercial use. Once complete, the former hotel will comprise a community hub at ground and basement levels, and apartments at first and second floor levels, the second floor being a lightweight rooftop extension.

The development will comprise 100% hardstanding/building cover.

The EnviroSmart report has been undertaken by firstly compiling information concerning the Site and the surrounding area, including current and historical land uses, geological records and registered pollution incidents. The information which is gathered is then used to construct a 'conceptual site model', including an understanding of likely contaminant sources, pathways and receptors. Finally, a preliminary assessment of risks posed to identified receptors (i.e., people, buildings or the natural environment) from the anticipated land quality at the Site is performed. The risk assessment methodology is consistent with CIRIA C552 (2001); see Section 3.4 for details.

1.2 Purpose of this report

The purpose of this EnviroSmart report is to provide clear and pragmatic advice regarding the nature and potential significance of contamination hazards which may be present at the Site.

1.3 Report contents

This report is divided into two sections, as described below:

Section	Content	Purpose
Section 2: **LAND QUALITY ASSESSMENT**	A summary of the site history and environmental setting, the findings of the preliminary risk assessment and associated recommendations	To present a clear and concise overview of the land quality issues facing the Site, including recommendations of how to manage any land contamination which may be present
Section 3: **SUPPORTING INFORMATION**	A collection of site specific information on which the land quality assessment is based	To provide detailed information in support of the risk assessment; this section also represents a source of reference data for use in any subsequent site works/assessments

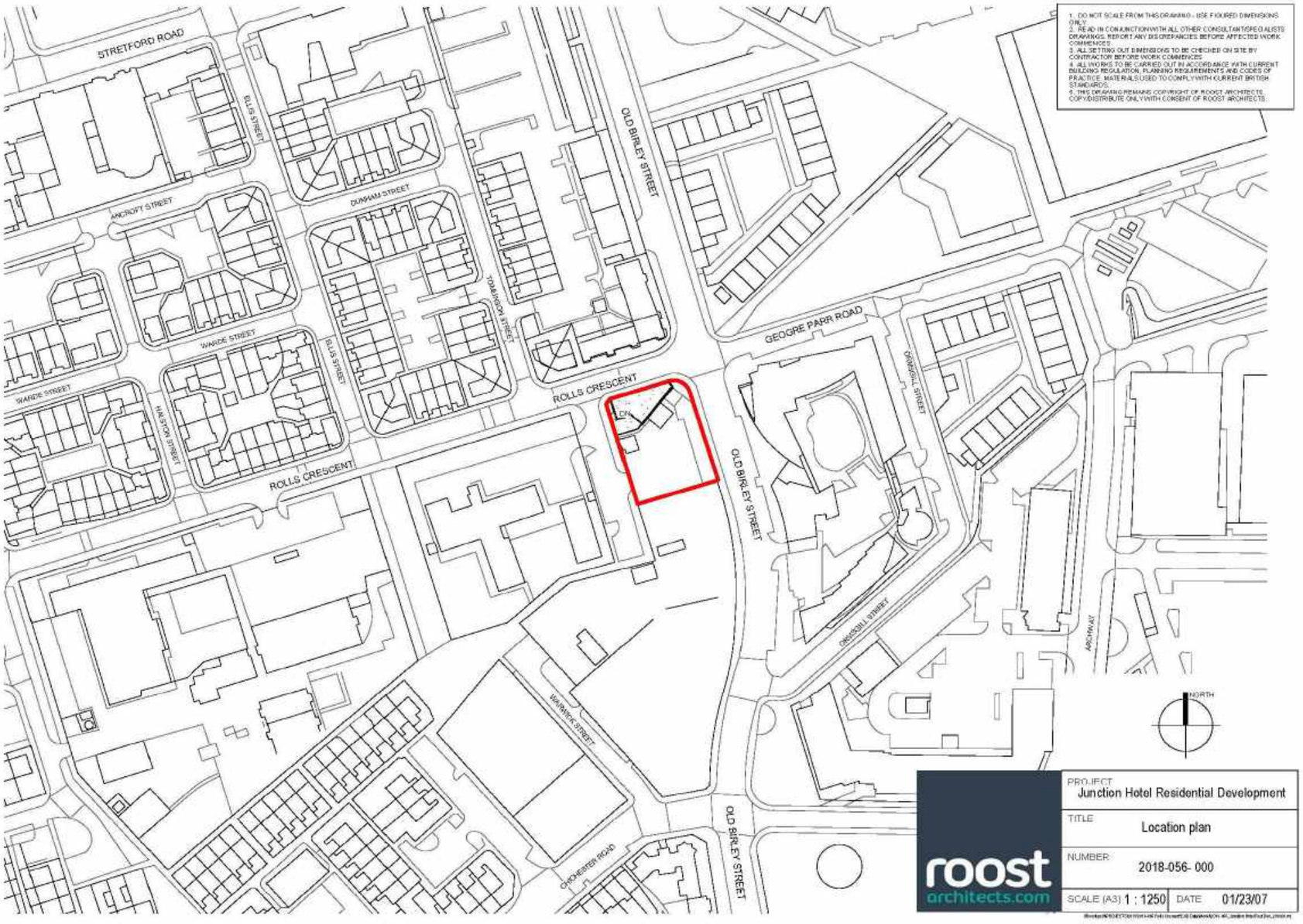
1.4 Report limitations

It is noted that the findings presented in this report are largely based on information supplied by third parties. Whilst we assume that all information is representative of past and present conditions we can offer no guarantee as to its validity.

This report excludes consideration of potential hazards arising from any activities at the Site other than normal use and occupancy for the intended land uses. Hazards associated with any other activities have not been assessed and must be subject to a specific risk assessment by the parties responsible for those activities.

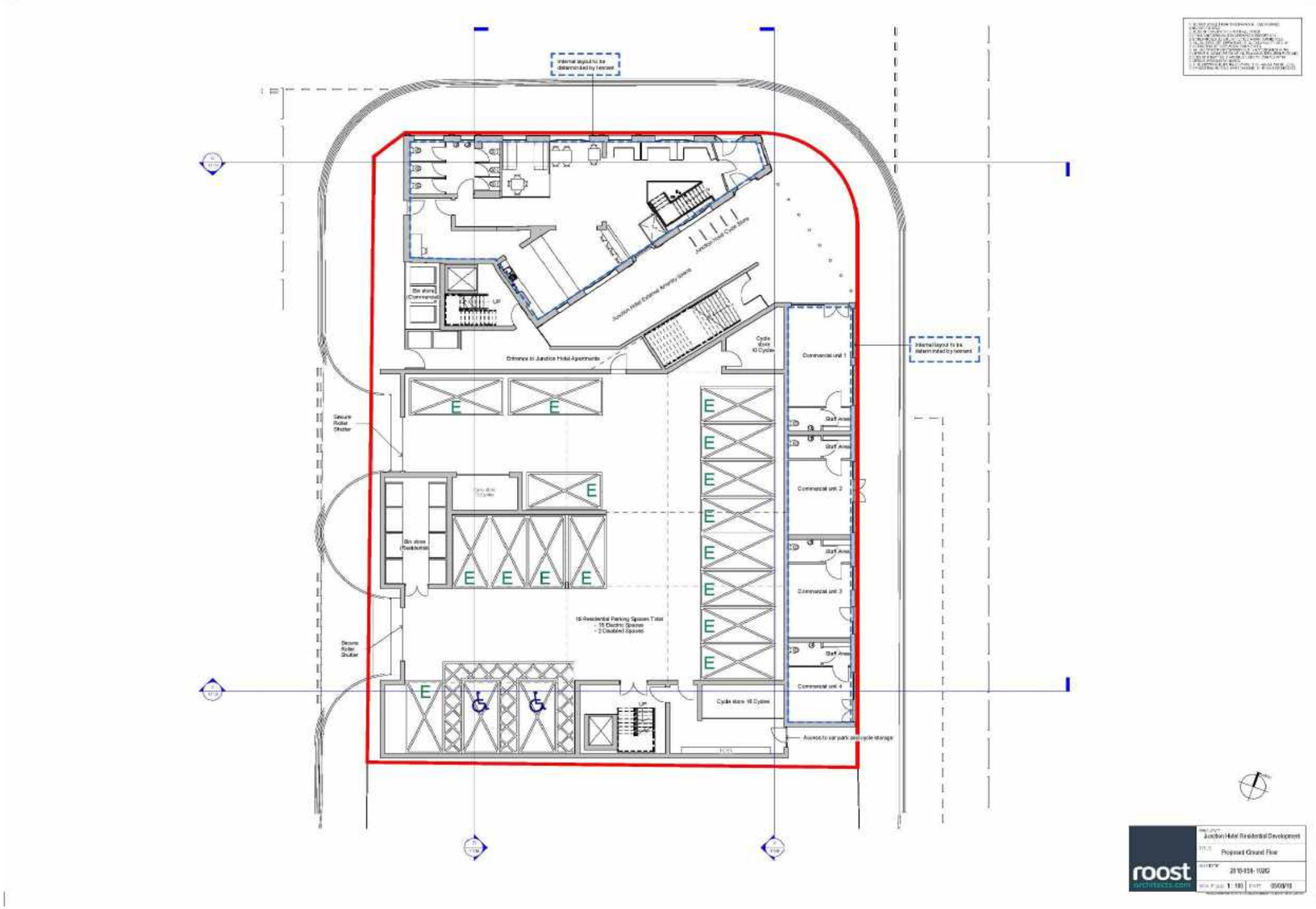
1. Introduction

1.5 Site location plan



1. Introduction

1.6 Proposed Site development plan



2. Land quality assessment

2.1 Site details

Site name:	Junction Hotel	Current land cover:	Vacant public house (25%), associated hard standing (60%) and minimal landscaping (15%)
Current use:	Disused Public House and carpark		
Proposed use:	Mixed residential / commercial	Site area:	0.13 ha

2.2 Conceptual understanding (potential sources of contamination)

Site history *(historical land use taken within 250m radius of the Site boundary)*

Date	Description of land use: On-Site	Description of land use: Off-Site
1848 - 1851	The south Site is used in conjunction with buildings adjacent to the south of the Site. There is a road (Preston Street) present in the north of the Site from the centre of the western boundary to the north eastern corner.	There are several sporadic terraced developments within the surrounding area.
1891 - 1896	The north of the Site is developed with a building labelled the Grand Junction Hotel. The south east of the Site is developed with terraced building and a crane is also labelled as being present.	The surrounding area has been extensively developed with terraced buildings. A brewery is labelled c. 35 m east.
1908 - 1909	The northern building is labelled as a public house. The crane is no longer labelled.	No change
1923 - 1938	No change	
1950 - 1951	No change	An electricity sub station is labelled c. 45 m south east. A warehouse is labelled c. 135 m south east and an engineering works c. 235 m north west.
1956	No change	

POTENTIAL **SOURCES** OF CONTAMINATION

Source description

The land use history suggests that there is the potential for contamination to have occurred on-Site relating to the following:

Public House
- Miscellaneous small scale fuel or chemical spills associated with ad hoc commercial activities.
- Potential for localised/historical deposition of domestic/commercial wastes.
- Made Ground associated with former development/demolition activities.
- Asbestos containing materials (ACM) may have been incorporated within the built structures in the past; the disturbance of any such materials may have resulted in asbestos being present within the sub surface surrounding the buildings.

LOW LIKELI-HOOD

PROBABILITY OF CONTAMINATION

2. Land quality assessment

2.2 Conceptual understanding (potential sources of contamination)

Site history
(historical land use taken within 250m radius of the Site boundary)

Date	Description of land use	
	On-Site	Off-Site
1972 -1973	All buildings apart from the public house have been demolished. The road is also no longer present.	There has been redevelopment of the area with many of the terraced buildings, warehouse and engineering works being demolished. There has been redevelopment to the north west with the creation of two curved developments and a central area between the two developments with church, library, public house and car park. There are several electricity sub stations mapped located c. 100 m, c. 205 m, c. 220 m and c. 255 m north west.
1980	No change	
1985 - 1990	No change	The brewery to the east is no longer present.
1992 - 1994		The electricity sub station to the south is no longer labelled.
1995 - 1999		Much of the curved developments to the north west are no longer present.
2000	Aerial imagery shows no change. The rear of the Site is used as a car park.	Aerial imagery shows the area to the north west has been completely redeveloped, the buildings on the area to the north east of the Site have been demolished and the area to the east is undergoing redevelopment.
2003 - 2009	Aerial imagery shows no change.	
2013 - 2019	Aerial imagery shows no change.	Aerial imagery shows the area to the north east is undergoing redevelopment.

POTENTIAL **SOURCES** OF CONTAMINATION

Source description

The land use history suggests that there is the potential for contamination to have occurred both on-Site and off-Site relating to the following:

There is also potential for there to have been industrial activity historically, associated with the crane, mapped in 1981.

Industrial Land Use (warehouse, works, brewery)
- Potential for bulk storage of fuels and/or miscellaneous chemicals.
Note: given the land use history there is potential for underground storage tanks or pipelines containing chemical and fuel residues to be present.
- Miscellaneous fuel and chemical spills (i.e., fuels used for heating & powering machinery/vehicles, oils and lubricants, paints/thinners, degreasers, etc.).
- Potential for localised deposition of industrial wastes and by-products.

The land use history suggests that there is the potential for contamination to have occurred off-Site relating to the following:

Electricity Sub Stations
Potential for Polychlorinated Biphenyls (PCB) contamination to have occurred.

LOW LIKELI-HOOD

PROBABILITY OF CONTAMINATION

2. Land quality assessment

2.2 Conceptual understanding (potential sources of contamination)

Current land use

The Site is a disused public house and carpark.

There are no known buried storage tanks at the Site.

There is no known bulk fuel or chemical storage on Site.

POTENTIAL SOURCES OF CONTAMINATION

The Site's current use is unlikely to have given rise to significant land contamination.

UNLIKELY

PROBABILITY OF CONTAMINATION

Neighbouring industrial land uses
(see environmental data report in Section 3.3 for full listing)

There are one or more potentially contaminative land uses are located within 250 m of the Site:

Distance from Site	Number of active industrial land uses	Number of inactive industrial land uses
0 - 50 m	0	0
51 - 100m	1	0
101 - 250 m	0	3

Nr	Nearest distance	Land use / permitted activity / authorisation
0	NA	Fuel station entries
0	NA	Gas pipelines
0	NA	Underground electrical cables
0	NA	Control of major accident hazards sites (COMAH)
0	NA	Notification of installations handling hazardous substances (NIHHS)
0	NA	Explosives sites
0	NA	Planning hazardous substance consents
0	NA	Planning hazardous substance enforcements
0	NA	Sites determined as Contaminated Land under Part IIA of the Environmental Protection Act 1990
1	c. 200 m	Records of Licensed Discharge Consents.
0	NA	Local Authority pollution prevention and control sites
0	NA	Local Authority pollution prevention and control enforcements
0	NA	Records of Category 3 or 4 Radioactive Substance Licences

Despite the presence of potential contaminative activities in the area surrounding the Site, since none occur within close proximity (i.e., within a 50 m radius of the Site) they are unlikely to pose a significant contamination hazard in relation to the Site itself.

Contemporary trade directory entries include:
Clay Studio Ltd (active) ceramic manufacturers, supplies & services c. 5 m south east.
ID (inactive) mechanical engineers c. 170 m north west
M247 (inactive) fibre optics c. 185 m south east
Smart and Effective Cleaning and Support Services (inactive) cleaning services - domestic c. 215 m north.

Discharge Consents
Manchester Metropolitan University c. 200 m east. Discharge Type: Trade Discharges - Cooling Water. Issued Date: 14th August 2013. Status: New issued under EPR 2010.

UNLIKELY

2. Land quality assessment

2.2 Conceptual understanding (potential sources of contamination)

EA recorded pollution incidents *(see environmental data report in Section 3.3 for full listing)*	No Environment Agency pollution incidents have been recorded within 250 m of the Site.	POTENTIAL **SOURCES** OF CONTAMINATION	No potential for gross contamination has been identified in relation to any pollution incidents occurring near to the Site.	**NEGLIGIBLE**	**PROBABILITY** OF CONTAMINATION
Landfills / waste sites *(taken within 500m radius of the Site boundary, see environmental data report in Section 3.3 for full listing)*	There are one or more Environment Agency listed historical landfills located within 500 m of the Site. These include: Moss Side Shopping Centre Landfill is located c. 310 m south of the Site; the landfill received inert and industrial waste between 1994 and 1995. There are one or more registered landfills located within 500 m of the Site. These include: Moss Side District Shopping Centre Landfill is located c. 435 m south of the Site. Site Category: Landfill. Max Input Rate: Very Large. Dated : 1st April 1994. Status: Surrendered. There are no Local Authority listed historical landfills located within 500 m of the Site. The following other waste sites are registered within 500 m of the Site: 0 Records of registered waste transfer sites. 0 Records of registered waste treatment or disposal sites. 0 Records of licenced waste management facilities.		Despite the presence of potential contaminative land uses/activities in the area surrounding the Site, since none of these occur within close proximity (i.e., within a 250 m radius of the Site) they are unlikely to pose a significant contamination hazard in relation to the Site. Given the absence of any waste treatment, transfer or disposal sites within close proximity of the Site no associated contamination hazards have been identified.	**UNLIKELY**	
Radon *(see environmental data report in Section 3.3 for full listing)*	According to current UK radon mapping the Site lies in an area where <1% of homes are at or above the UK radon action level (200 Bq/m3).		<1% of homes are at or above the UK radon action level (200 Bq/m3).	**UNLIKELY**	

2. Land quality assessment

2.3 Conceptual understanding (environmental sensitivity / potential severity of impacts)

Geology and Groundwater *(see the environmental data report in Section 3.3 for full details)*	British Geological Survey mapping indicates that the underlying superficial geology beneath the south eastern 55% of the Site consists of Till, Devensian which comprises diamicton. The remaining 45% of the Site is underlain by Glaciofluvial Sheet Deposits, Devensian which comprises sand and gravel. Both superficial deposits are classified as a Secondary (A) Aquifer. British Geological Survey mapping indicates that the bedrock geology consists of Chester Formation, which comprises of sandstone and is classified as a Principal Aquifer. According to the GeoSmart Groundwater Flood Risk (GW5) Map (GeoSmart, 2020). The risk of groundwater flooding at the Site is 'negligible'. The Site does not lie within a groundwater Source Protection Zone (SPZ). The following groundwater abstraction licences are held within 1 km of the Site: Manchester Metropolitan University heat pump and general use water abstraction located c. 220 m and c. 795 m north east of the Site. Heineken Uk Ltd process water and general cooling (existing licences only) (high loss) water abstraction located c. 690 m and c. 715 m south east of the Site. Scottish and Newcastle UK Ltd process water and general cooling (existing licences only) (high loss) water abstraction located c. 715 m south east of the Site. Scottish Courage Brewing Ltd process water and general cooling (existing licences only) (high loss) water abstraction located c. 715 m south east of the Site. Dunlop Rubber Co Limited cooling water abstraction located c. 755 m north east of the Site. Hydes Brewery Ltd process water and general cooling (existing licences only) (low loss) abstraction located c. 760 m south west of the Site.	POTENTIAL **RECEPTORS**	A Secondary (A) Aquifer comprises permeable layers capable of supporting water supply at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. A Principal Aquifer comprises rock or drift deposits that have high permeability - meaning they usually provide a high level of water storage. They may support strategic water supply and/or river base flow. Based on the susceptibility of the Site to groundwater flooding, a groundwater flood risk assessment is not considered necessary for the Site. The depth to groundwater beneath the Site is unknown. The presence of one or more groundwater abstraction licences within close proximity of the Site indicates a reasonable groundwater resource potential.	**SEVERE**	**POTENTIAL SEVERITY** OF IMPACT

2. Land quality assessment

2.3 Conceptual understanding (environmental sensitivity / potential severity of impacts)					
Geohazards *(see the environmental data report in Section 3.3 for full details)*	The Site lies within an area of historical coal mining activity. There are no brine affected areas within 75 m of the Site. No or limited artificial ground / Made Ground is anticipated on Site. There are no natural hazards (with a hazard rating of moderate or above) at or within 50 m of the Site.	POTENTIAL **RECEPTORS**	Although the Site lies within an area of historic coal mining, as the Site is not located within a Coal Authority Development High Risk Area there is no specific requirement to submit any coal mining information with a planning application and the Coal Authority will not be consulted by the local planning authority (LPA). The LPA are likely to include the Coal Authority Standing Advice as an informative note with the decision notice. The Site does not lie within an area of former brine working and is therefore unlikely to be affected by related ground stability issues. BGS GeoIndex Onshore mapping does not have any artificial deposits recorded at the Site.	**MILD**	**POTENTIAL SEVERITY** OF IMPACT

2. Land quality assessment

2.3 Conceptual understanding (environmental sensitivity / potential severity of impacts)

Surface water *(see the environmental data report in Section 3.3 for full details)*	The nearest water feature isa pond, located c. 220 m south west of the Site boundary. The Site lies within a Flood Zone 1. There are no surface water abstraction licences within 1 km of the Site.	**POTENTIAL** RECEPTORS	Given the distance from the Site, the sensitivity of local surface waters is judged to be low.	**MILD**	**POTENTIAL SEVERITY** OF IMPACT
Environmental designations *(see the environmental data report in Section 3.3 for full details)*	There are no environmentally sensitive land uses within 500 m of the Site.		No relevant environmentally designated sites/receptors have been identified.	**NEGLIGIBLE**	
Human receptors	Proposed residents/users of the Site plus neighbouring residences.		Human receptors are proposed to be present on Site.	**SEVERE**	

APPENDIX B
TOPOGRAPHICAL SURVEY

ROLLS CRESCENT

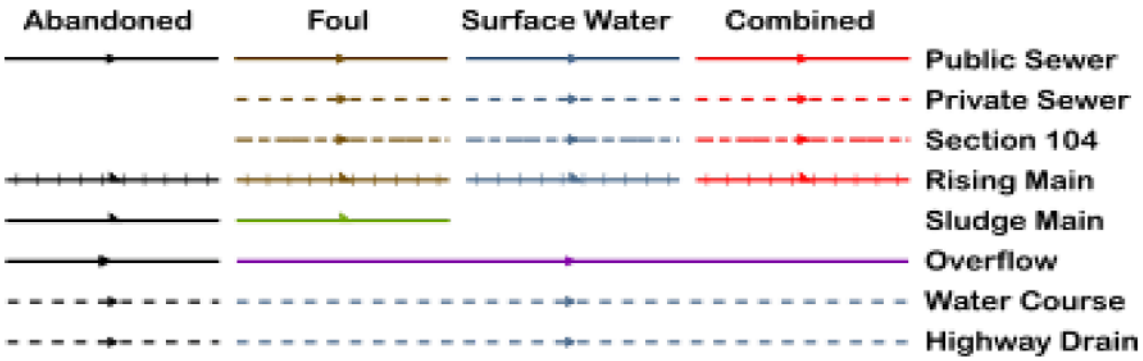
RLEY STREET

Blacktop
Concrete
Grass
Grass Verge
Stairs
No Access
HATCH
Top of Mast
Drainage Channel
Drop Kerb
Kerb
Hedge
Heras Fence 2.0h
Wire Mesh Fence 2.0h
Eaves
MH
LP
BT
RS
DP
THL
RLVL

APPENDIX C
SEWER RECORDS

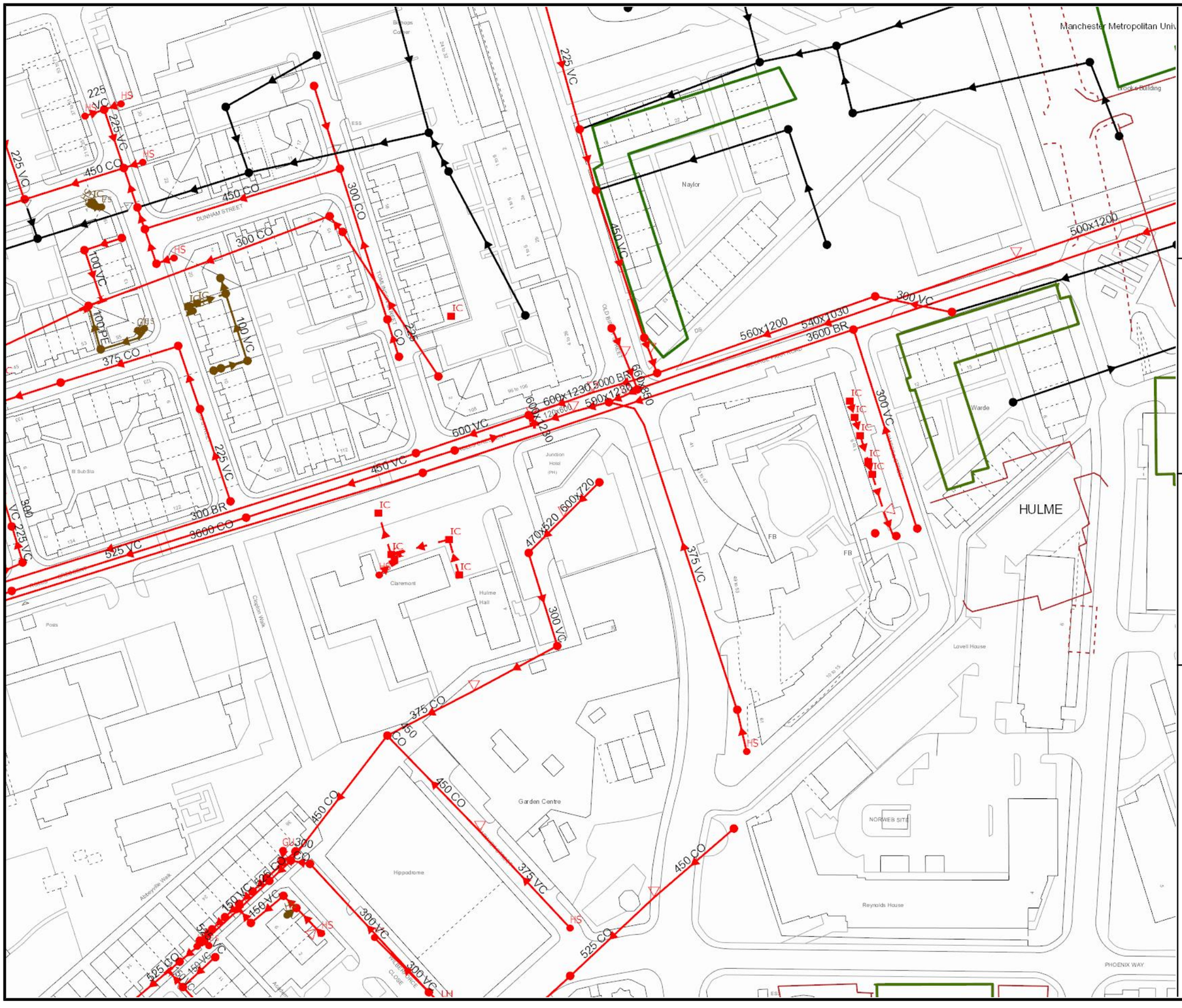
United Utilities
Water for the North West

Wastewater Symbology



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

- Manhole
- HS Head of System
- ES Extent of Survey
- RE Rodding Eye
- IN Inlet
- DP Discharge Point
- HY Vortex
- PE Penstock
- WO Washout Chamber
- VA Valve
- AV Air Valve
- NRV Non Return Valve
- SO Soakaway
- GU Gully
- CA Cascade
- FM Flow Meter
- HA Hatch Box
- OI Oil Interceptor
- SM Summit
- DS Drop Shaft
- OP Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- IC Inspection Chamber
- Bifurcation Chamber
- LH Lamp Hole
- T Junction / Saddle
- CA Catchpit
- VC Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- T Network Storage Tank
- V Sewer Overflow
- WwTW Ww Treatment Works
- Ww Pumping Station
- ST Septic Tank
- CK Control Kiosk
- DNM Network Monitoring Point
- Change of Characteristic



United Utilities

Water for the North West

SEWER RECORDS

Address or Site Reference

39 ROLLS CRESCENT,
MANCHESTER,
M15 5FT

Scale: 1:1250
Date: 04/03/2026

Printed by: Property Searches

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

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APPENDIX D
PROPOSED LAYOUT

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D
111B

C
111B

B
110B

A
110B

Internal layout to be determinded by tennant

Internal layout to be determinded by tennant

LIFT

DN

Junction Hotel Cycle Store

Junction Hotel External Amenity Space

Bin store (Commercial)

UP

Entrance to Junction Hotel Apartments

Cycle store 10 Cycles

Commercial unit 1

Staff Area

Staff Area

Commercial unit 2

Staff Area

Commercial unit 3

Staff Area

Commercial unit 4

Secure Roller Shutter

Cycle store 12 Cycles

Bin store (Residential)

18 Residential Parking Spaces Total
- 16 Electric Spaces
- 2 Disabled Spaces

Secure Roller Shutter

Cycle store 16 Cycles

UP

DN

POST

Access to car park and cycle storage

E

NORTH

roost architects.com

PROJECT
Junction Hotel Residential Development

TITLE
Proposed Ground Floor

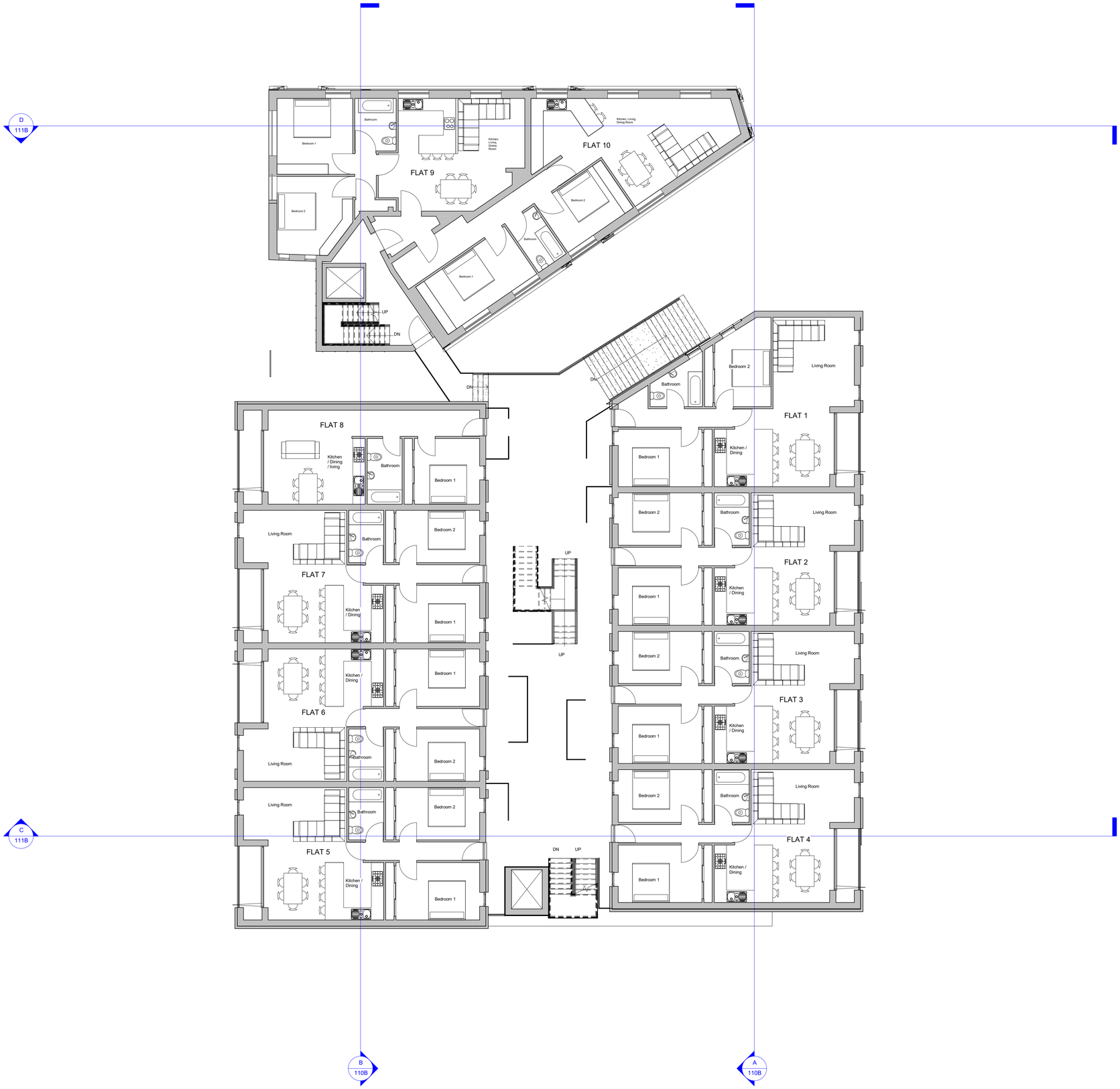
NUMBER
2018-056- 102G

SCALE (A1) 1 : 100

DATE 05/08/18

Wood.pdf\PROJECTS\2018\2018-056 Rolls Crescent\CAD Data\Model\2018-056_Junction Hotel Res Dev_200320.rvt

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NORTH

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PROJECT
Junction Hotel Residential Development

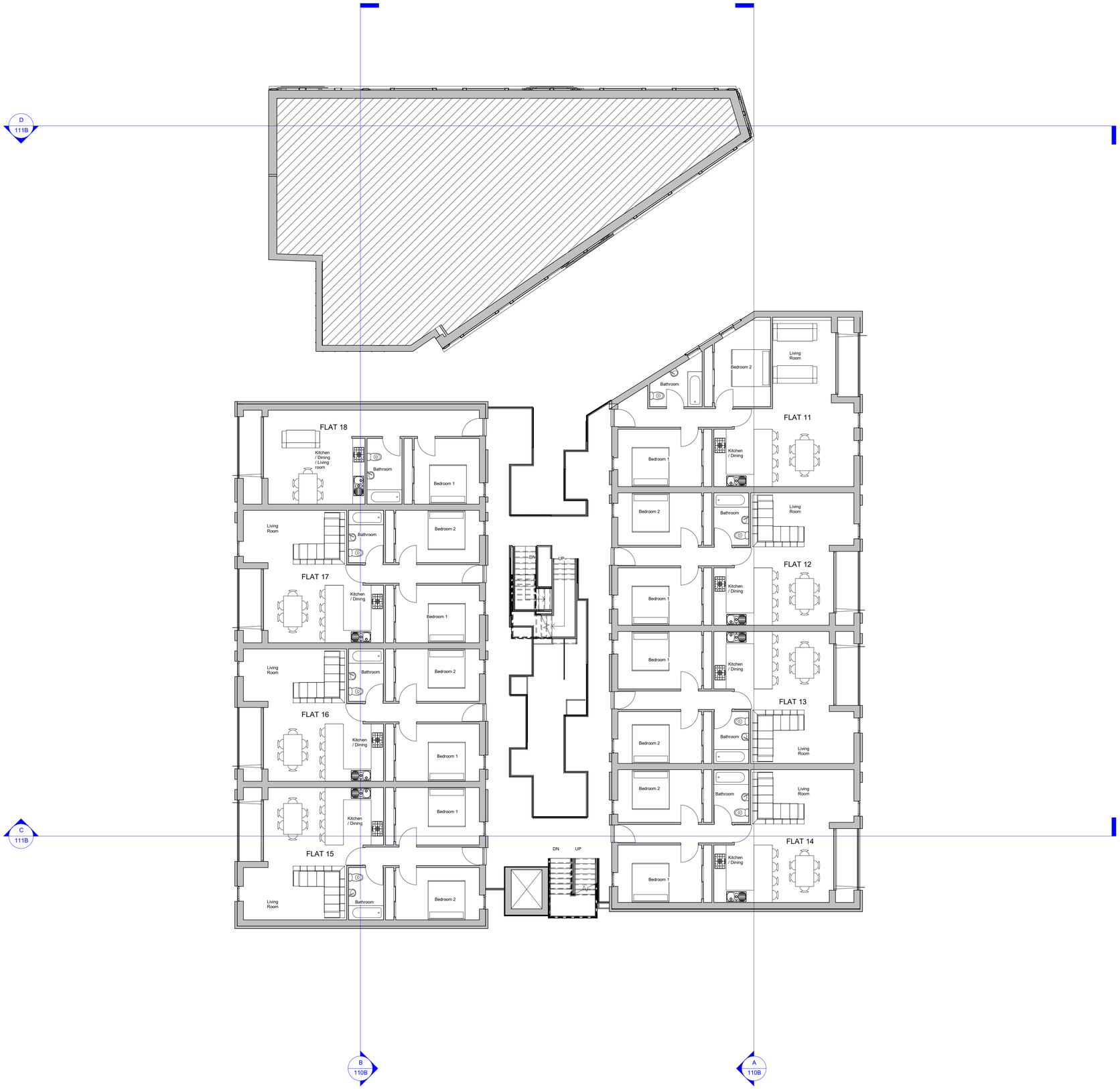
TITLE
Proposed First Floor

NUMBER
2018-056- 103F

SCALE (A1) 1 : 100 | DATE 08/29/19

\\Roost-pc\ARPROJECTS\2018\2018-056 Rolls Crescent\ACAD Data\Models\2018-056_Junction Hotel Res Dev_200320.rvt

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NORTH

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PROJECT	Junction Hotel Residential Development
TITLE	Proposed Second Floor
NUMBER	2018-056- 104E
SCALE (A1) 1 : 100	DATE 08/29/19

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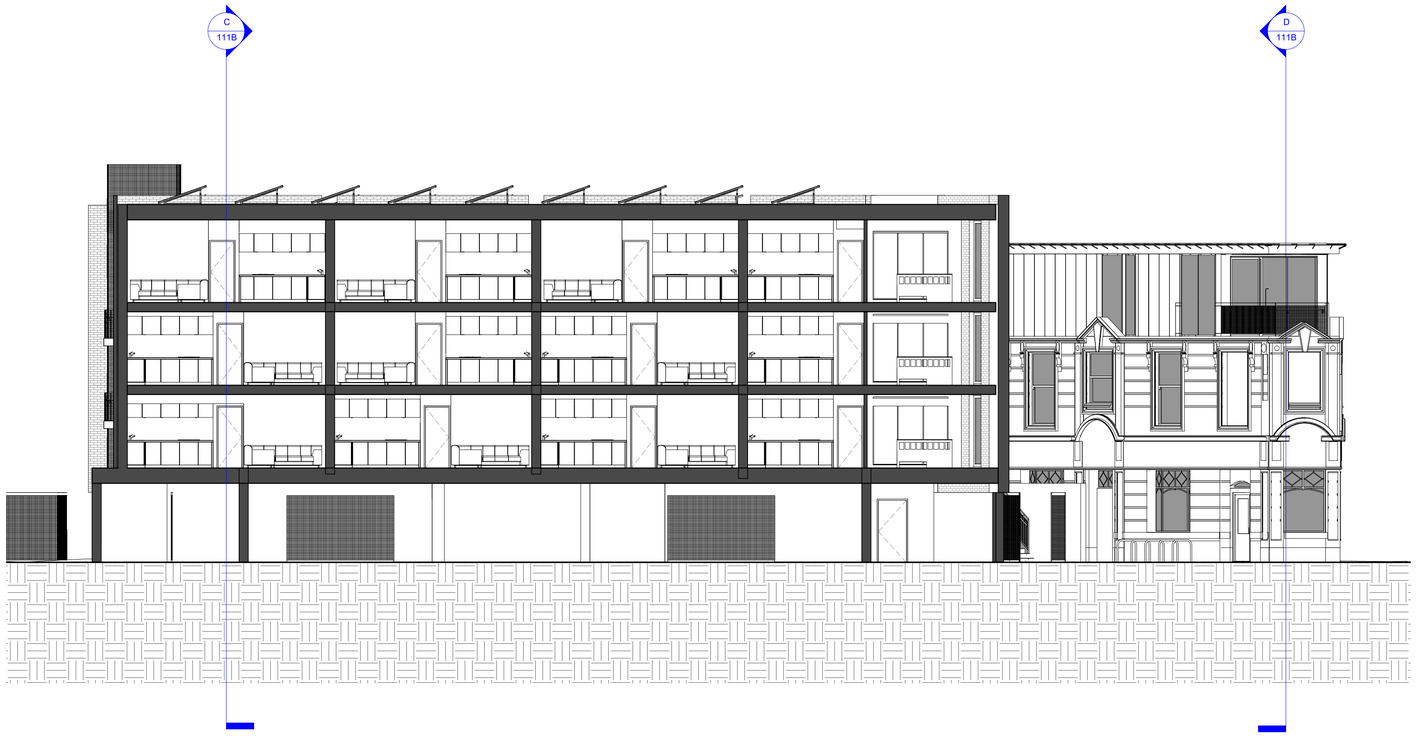


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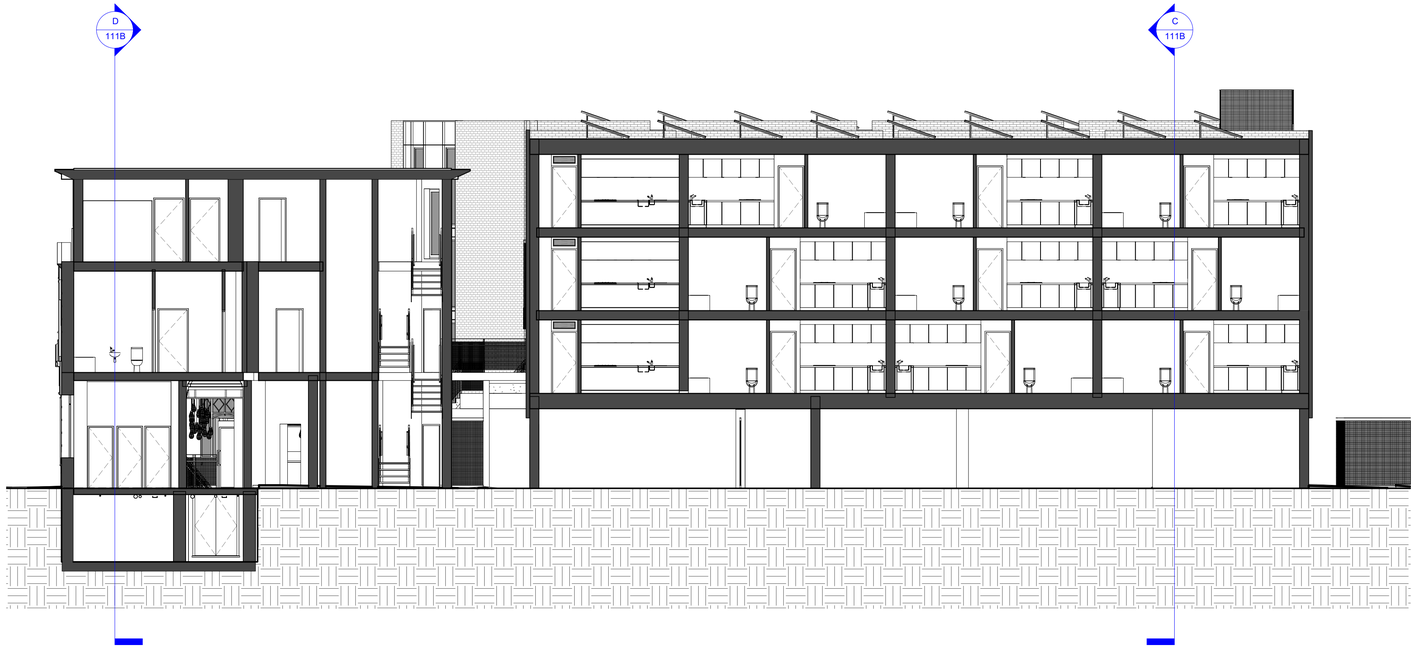
PROJECT	Junction Hotel Residential Development
TITLE	Proposed Third Floor
NUMBER	2018-056- 105E
SCALE (A1) 1 : 100	DATE 08/29/19

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Section A
1 : 100



Section B
1 : 100

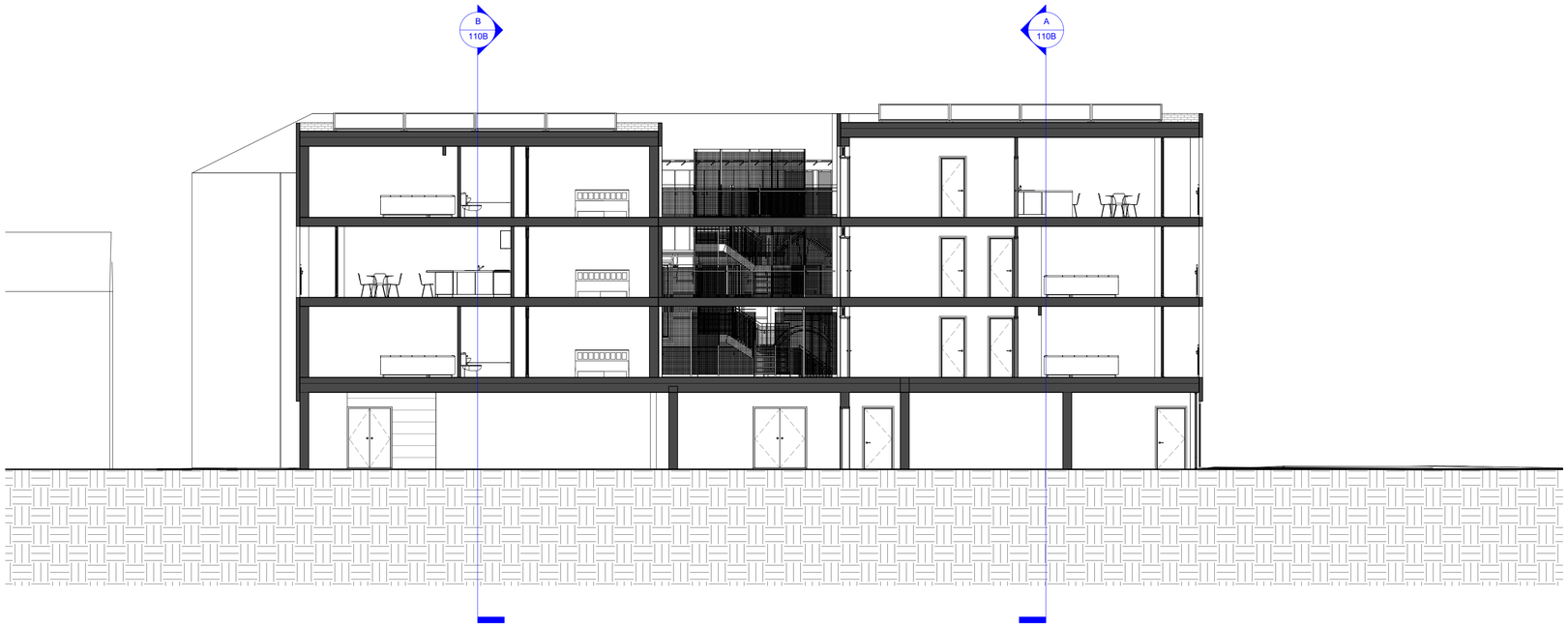
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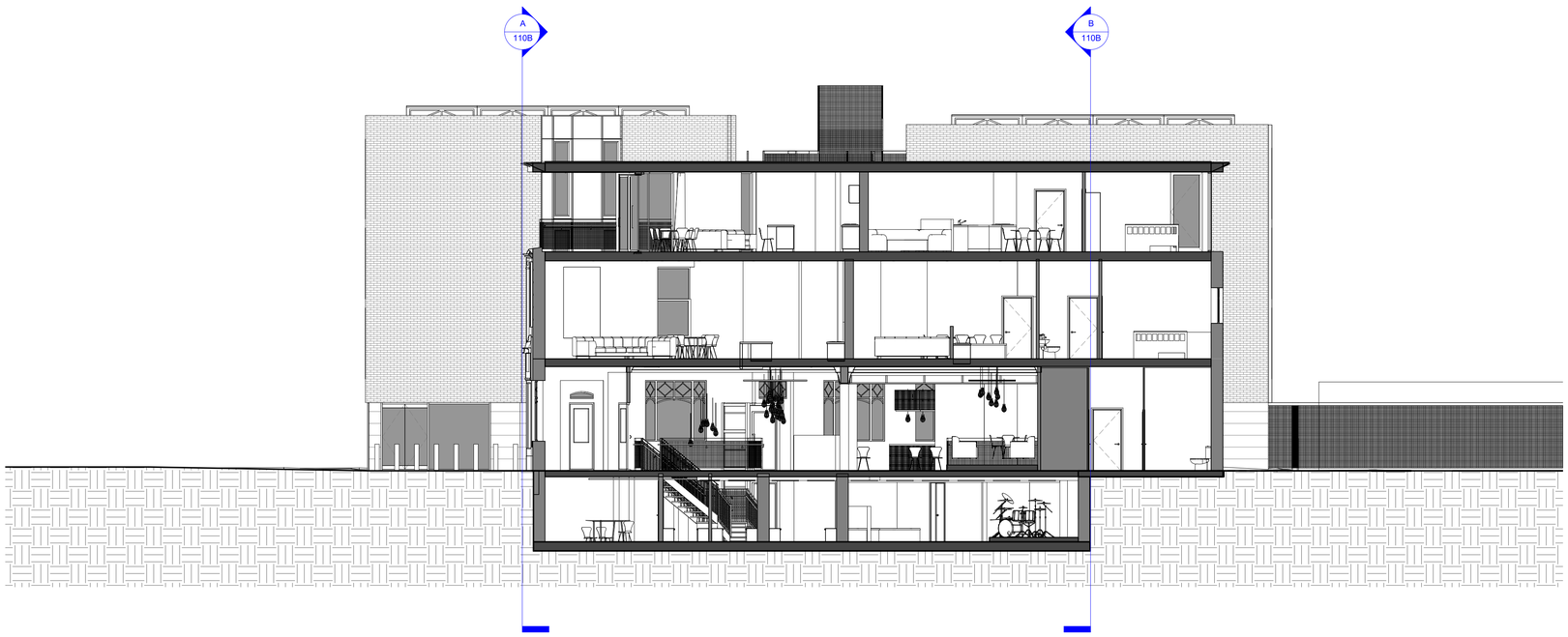
PROJECT	Junction Hotel Residential Development
TITLE	Section A and B
NUMBER	2018-056- 110B
SCALE (A1) 1 : 100	DATE 08/29/19

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Section C
1 : 100



Section D
1 : 100

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PROJECT: Junction Hotel Residential Development
TITLE: Section C and D
NUMBER: 2018-056- 111B
SCALE (A1): 1 : 100
DATE: 08/29/19

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APPENDIX E
GREENFIELD CALCULATION

Greenfield runoff rate estimation tool

www.uksuds.com | Greenfield runoff rate estimation tool (https://www.uksuds.com/)

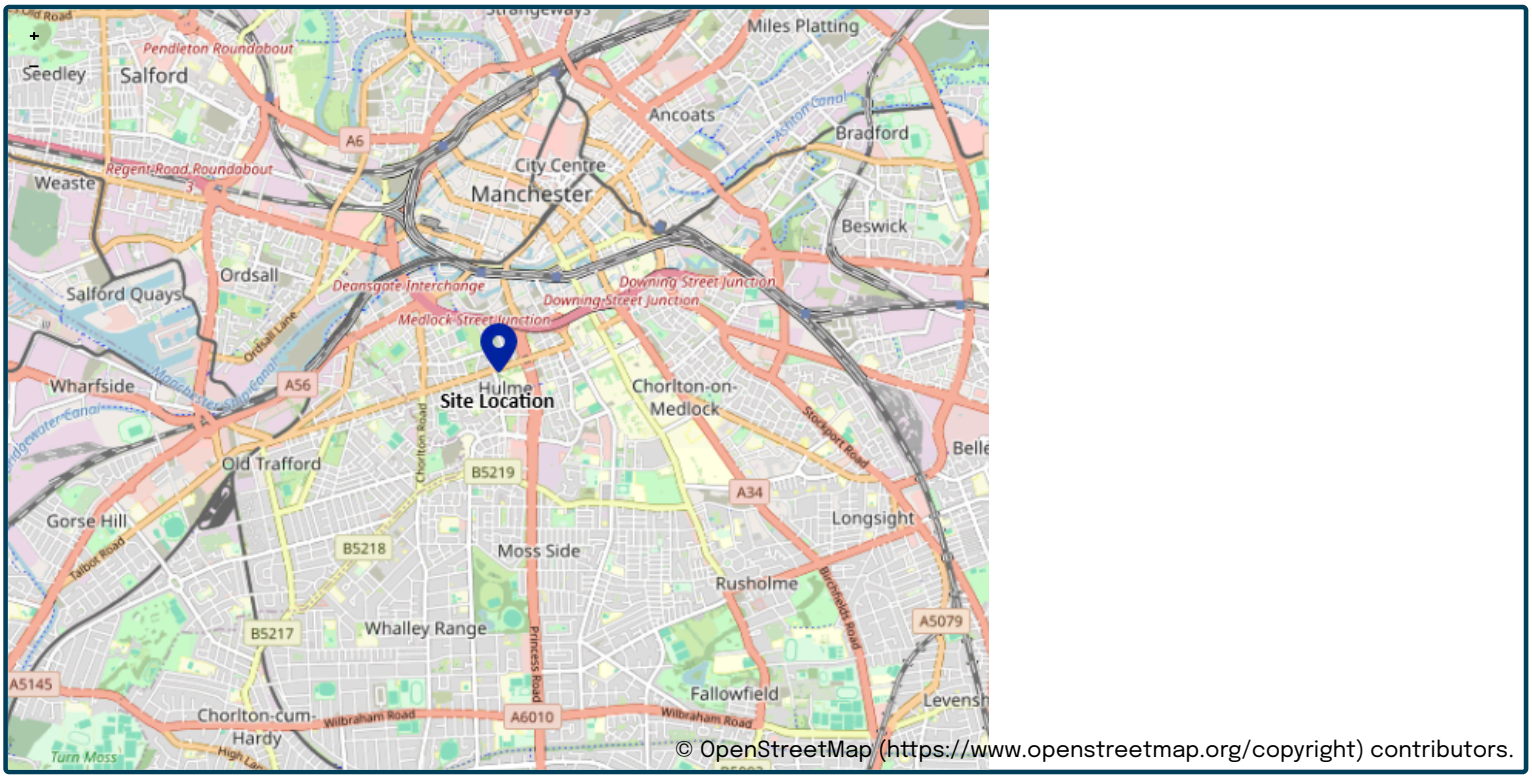
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	05/03/2026
Calculated by	Michael Micklethwaite
Reference	26013
Model version	2.2.3

Location

Site name	Junction Hotel
Site location	Manchester



Site easting (British National Grid)	383560
Site northing (British National Grid)	396568

Site details

Total site area (ha)	0.13 ha

Greenfield runoff

Method

Method	IH124

IH124

	My value		Map value
SAAR (mm)	869 mm		869
How should SPR be derived?	WRAP soil type		
WRAP soil type	4		4
SPR	0.47		
QBar (IH124) (l/s)	0.8 l/s		

Growth curve factors

	My value		Map value
Hydrological region	10		10
1 year growth factor	0.87		
2 year growth factor	0.93		
10 year growth factor	1.38		
30 year growth factor	1.7		
100 year growth factor	2.08		
200 year growth factor	2.37		

Results

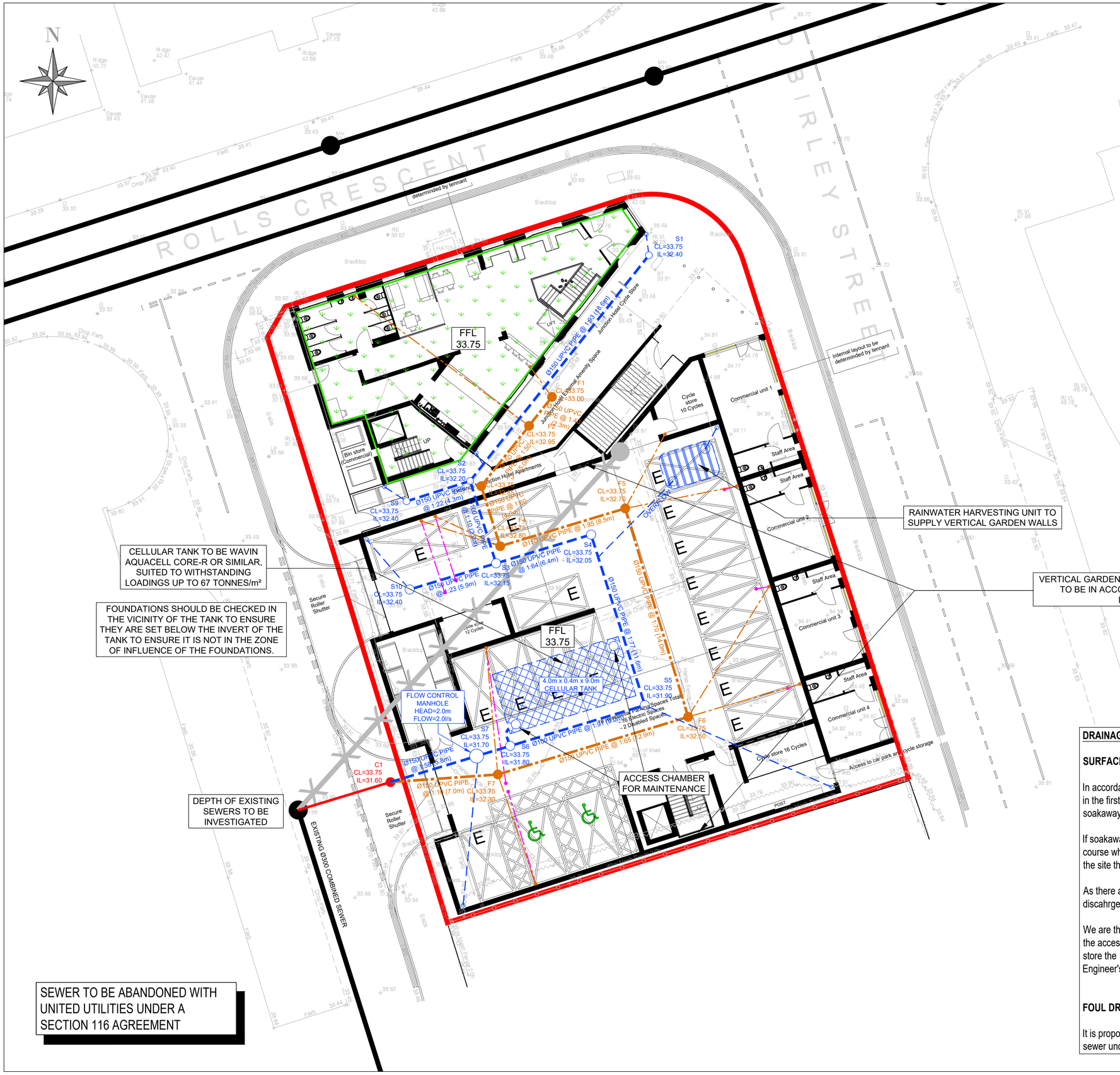
Method	IH124
Flow rate 1 year (l/s)	0.7 l/s
Flow rate 2 year (l/s)	0.8 l/s
Flow rate 10 years (l/s)	1.1 l/s
Flow rate 30 years (l/s)	1.4 l/s
Flow rate 100 years (l/s)	1.7 l/s
Flow rate 200 years (l/s)	1.9 l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent 'zero' figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.3) developed by HR Wallingford and available at uksuds.com (https://www.uksuds.com/). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (https://www.uksuds.com/terms-conditions). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

APPENDIX F
DRAINAGE LAYOUT



COVER AND INVERTS OF EXISTING SEWERS SHOULD BE CHECKED ON SITE PRIOR TO CONSTRUCTION

ALL RWP AND SVP'S TO BE CHECKED AGAINST ARCHITECTS LAYOUT PLANS

NOTES

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KEY

- EXISTING CW SEWER
- PROPOSED SW SEWER
- PROPOSED FW SEWER
- PROPOSED CW SEWER
- ATTENUATION TANK
- SEWER TO BE ABANDONED

DRAINAGE STRATEGY

SURFACE WATER

In accordance with the SuDS Hierarchy then infiltration should be considered in the first instance, due to site constraints it is not considered viable to use soakaways.

If soakaways do not work then the surface water should discharge to a water course wherever possible, as there are no watercourses within the vicinty of the site then this has been discounted.

As there are no surface water sewers in the vicinity then it is proposed to discahrge the surface water to the public combined sewer.

We are therefore proposing to discharge to the public combined sewer under the access Road, at a controlled rate of 2.0 l/s with attenuation on site to store the 1 in 100 Year + 45% climate change rainfall event. (Refer to Advant Engineer's Drainage Strategy Report)

FOUL DRAINAGE

It is proposed to discharge the foul drainage to the existing public combined sewer under the access road.

REV		BY	DATE
B	UPDATED TO LLFA COMMENTS	MJM	08.06.26
A	INITIAL ISSUE	MJM	04.03.26

FOR APPROVAL

STATUS		CHK'D
PRELIMINARY		MJM
FOR COMMENT		MJM
FOR APPROVAL		MJM
FOR CONSTRUCTION		
AS BUILT		

advant ENGINEERS
Unit 6 Benton Office Park, Bennett Avenue
Horbury, Wakefield, West Yorkshire, WF4 5RA
01924 654108
wakefield@advantengineers.co.uk

CLIENT
CREATEIT STUDIOS

CONTRACT
THE JUNCTION HOTEL,
ROLLS CRESCENT,
MANCHESTER, M15 5FT

TITLE
PROPOSED DRAINAGE LAYOUT PLAN

DRAWN	MJM	CHK'D	MJM
SCALE	1:125 @ A1	DATE	04.03.26

JOB No	DRG No	REV
26013	101	B

APPENDIX G
DRAINAGE CALCULATION

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Size (mm)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
S1	0.026	600	Unknown	33.750	32.400	1.200	-237.503	34.461
S9	0.011	600	Unknown	33.750	32.400	1.200	-253.196	18.536
S2	0.000	600	Unknown	33.750	32.200	1.400	-249.083	19.851
S10	0.019	600	Unknown	33.750	32.400	1.200	-252.999	12.829
S3	0.000	600	Unknown	33.750	32.150	1.450	-247.401	14.521
S4	0.020	600	Unknown	33.750	32.050	1.550	-241.251	16.381
S5	0.045	600	Unknown	33.750	31.900	1.700	-237.767	5.340
S6	0.000	600	Unknown	33.750	31.800	1.800	-246.486	2.704
S7	0.000	1200	Type B	33.750	31.700	1.900	-248.663	2.046
S8	0.000	600	Unknown	33.750	31.600	2.000	-254.239	0.361

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (mm)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.000	S1	32.400	S2	32.200	Circ	150	18.643	93	0.600	1.200	1.400
2.000	S9	32.400	S2	32.200	Circ	150	4.318	22	0.600	1.200	1.400
1.001	S2	32.200	S3	32.150	Circ	150	5.588	112	0.600	1.400	1.450
3.000	S10	32.400	S3	32.150	Circ	150	5.848	23	0.600	1.200	1.450
1.002	S3	32.150	S4	32.050	Circ	150	6.425	64	0.600	1.450	1.550
1.003	S4	32.050	S5	31.900	Circ	150	11.577	77	0.600	1.550	1.700
1.004	S5	31.900	S6	31.800	Rect	4000x400	9.109	91	0.600	1.450	1.550
1.005	S6	31.800	S7	31.750	Circ	150	2.275	45	0.600	1.800	1.850
1.006	S7	31.700	S8	31.600	Circ	150	5.825	58	0.600	1.900	2.000

Outfall Details

Outfall Manhole S8 : Free Discharge

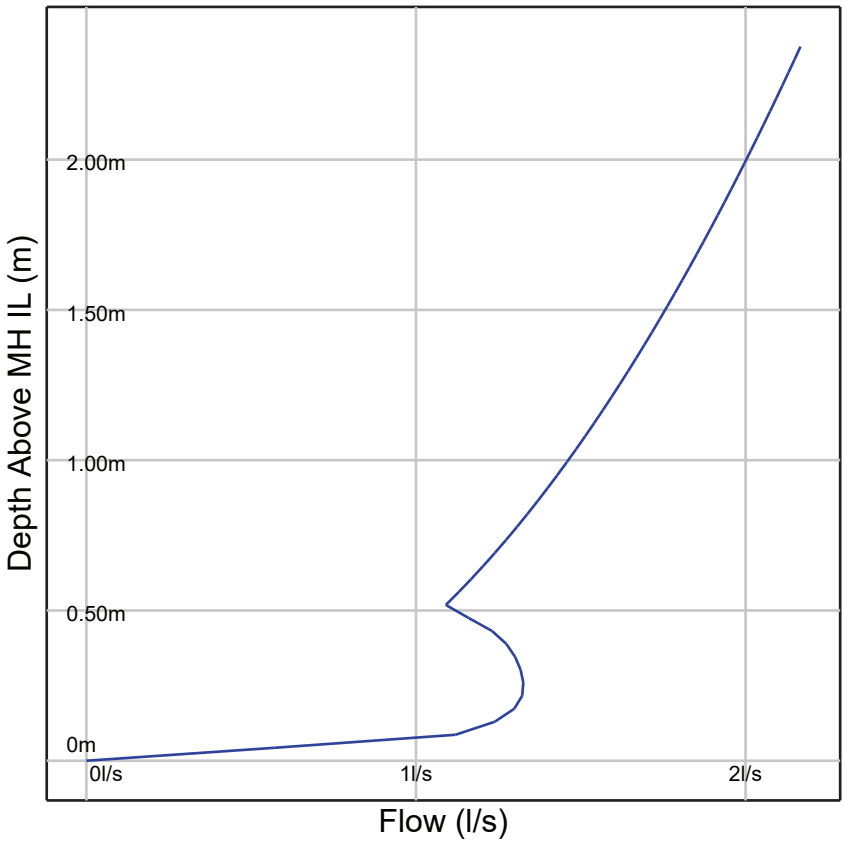
Flow Control Details

Controls within Manhole S7

Hydro-Brake® Optimum Control

Model Ref	Design Depth (m)	Design Flow (l/s)	Invert Offset (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0057-2000-2000-2000	2.000	2.000	0.000	0.247	1.326	0.507	1.080

Hydro-Brake® Optimum Control from S7 to S8



Simulation Settings

FSR: M5-60=18.00, R=0.36, Locale=England and Wales

Summer (Cv: 1.00), Winter (Cv: 1.00)

Global Time of Entry: 5.0 mins

Durations (mins): 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080

Return Periods (yrs) + Climate Change: (1, +0%), (30, +0%), (100, +0%), (100, +45%)

Manhole Flood Risk Freeboard: 0.300m

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Item Volume Continuity Errors
1Yr 15Min Winter	31.890	0.00	0.00	
1Yr 15Min Summer	31.890	0.00	0.00	
1Yr 30Min Winter	20.563	0.00	0.00	
1Yr 30Min Summer	20.563	0.00	0.00	
1Yr 60Min Winter	12.828	0.00	0.23	
1Yr 60Min Summer	12.828	0.00	0.20	
1Yr 120Min Summer	7.878	0.00	0.00	
1Yr 120Min Winter	7.878	0.00	0.15	
1Yr 180Min Winter	5.911	0.00	0.00	
1Yr 180Min Summer	5.911	0.00	0.00	
1Yr 240Min Winter	4.824	0.00	0.00	
1Yr 240Min Summer	4.824	0.00	0.00	
1Yr 360Min Summer	3.628	0.00	0.00	
1Yr 360Min Winter	3.628	0.00	0.00	
1Yr 480Min Winter	2.960	0.00	0.00	
1Yr 480Min Summer	2.960	0.00	0.00	
1Yr 600Min Winter	2.527	0.00	0.00	
1Yr 600Min Summer	2.527	0.00	0.00	
1Yr 720Min Winter	2.221	0.00	0.00	
1Yr 720Min Summer	2.221	0.00	0.00	
1Yr 960Min Summer	1.812	0.00	0.00	
1Yr 960Min Winter	1.812	0.00	0.00	
1Yr 1440Min Summer	1.360	0.00	0.00	
1Yr 1440Min Winter	1.360	0.00	0.00	
1Yr 2160Min Summer	1.021	0.00	0.00	
1Yr 2160Min Winter	1.021	0.00	0.00	
1Yr 2880Min Winter	0.834	0.00	0.00	
1Yr 2880Min Summer	0.834	0.00	0.00	
1Yr 4320Min Summer	0.627	0.00	0.00	
1Yr 4320Min Winter	0.627	0.00	0.00	
1Yr 5760Min Summer	0.512	0.00	0.00	
1Yr 5760Min Winter	0.512	0.00	0.00	
1Yr 7200Min Winter	0.438	0.00	0.00	
1Yr 7200Min Summer	0.438	0.00	0.00	
1Yr 8640Min Summer	0.386	0.00	0.00	
1Yr 8640Min Winter	0.386	0.00	0.00	
1Yr 10080Min Summer	0.346	0.00	0.00	
1Yr 10080Min Winter	0.346	0.00	0.00	
30Yr 15Min Summer	65.624	0.00	4.64	
30Yr 15Min Winter	65.624	0.00	4.03	
30Yr 30Min Summer	43.507	0.00	15.63	S6 9.52m3, S5 7.97m3, S4 0.30m3, S2 0.25m3, S3 0.21m3
30Yr 30Min Winter	43.507	0.00	15.82	S6 9.66m3, S5 8.01m3, S4 0.30m3, S2 0.25m3, S3 0.21m3
30Yr 60Min Summer	27.653	0.00	24.74	S6 11.13m3, S5 9.85m3, S2 0.39m3, S4 0.39m3, S3 0.30m3
30Yr 60Min Winter	27.653	0.00	24.85	S6 11.25m3, S5 9.86m3, S2 0.39m3, S4 0.39m3, S3 0.30m3
30Yr 120Min Summer	17.088	0.00	16.36	S6 10.55m3, S5 9.20m3, S4 0.35m3, S2 0.34m3, S3 0.27m3
30Yr 120Min Winter	17.088	0.00	16.64	S6 10.71m3, S5 9.23m3, S4 0.36m3, S2 0.34m3, S3 0.27m3
30Yr 180Min Summer	12.763	0.00	6.34	S6 8.88m3, S5 7.47m3, S2 0.21m3
30Yr 180Min Winter	12.763	0.00	6.74	S6 9.02m3, S5 7.55m3, S2 0.22m3
30Yr 240Min Summer	10.331	0.00	0.64	
30Yr 240Min Winter	10.331	0.00	0.87	
30Yr 360Min Winter	7.624	0.00	0.06	
30Yr 360Min Summer	7.624	0.00	0.06	
30Yr 480Min Summer	6.146	0.00	0.00	
30Yr 480Min Winter	6.146	0.00	0.00	

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Item Volume Continuity Errors
30Yr 600Min Summer	5.196	0.00	0.00	
30Yr 600Min Winter	5.196	0.00	0.00	
30Yr 720Min Winter	4.528	0.00	0.00	
30Yr 720Min Summer	4.528	0.00	0.00	
30Yr 960Min Summer	3.643	0.00	0.00	
30Yr 960Min Winter	3.643	0.00	0.00	
30Yr 1440Min Summer	2.677	0.00	0.00	
30Yr 1440Min Winter	2.677	0.00	0.00	
30Yr 2160Min Summer	1.965	0.00	0.00	
30Yr 2160Min Winter	1.965	0.00	0.00	
30Yr 2880Min Summer	1.577	0.00	0.00	
30Yr 2880Min Winter	1.577	0.00	0.00	
30Yr 4320Min Summer	1.155	0.00	0.00	
30Yr 4320Min Winter	1.155	0.00	0.00	
30Yr 5760Min Summer	0.925	0.00	0.00	
30Yr 5760Min Winter	0.925	0.00	0.00	
30Yr 7200Min Summer	0.778	0.00	0.00	
30Yr 7200Min Winter	0.778	0.00	0.00	
30Yr 8640Min Winter	0.676	0.00	0.00	
30Yr 8640Min Summer	0.676	0.00	0.00	
30Yr 10080Min Summer	0.600	0.00	0.00	
30Yr 10080Min Winter	0.600	0.00	0.00	
100Yr 15Min Summer	84.724	0.00	18.68	S6 10.76m3, S5 8.30m3, S4 0.32m3, S2 0.26m3, S3 0.23m3
100Yr 15Min Winter	84.724	0.00	17.46	S6 9.24m3, S5 8.13m3, S4 0.31m3, S2 0.25m3, S3 0.22m3
100Yr 30Min Summer	56.724	0.00	31.39	S6 12.19m3, S5 10.93m3, S4 0.45m3, S2 0.44m3, S3 0.36m3
100Yr 30Min Winter	56.724	0.00	31.50	S6 12.70m3, S5 10.97m3, S4 0.45m3, S2 0.45m3, S3 0.36m3
100Yr 60Min Summer	36.294	0.00	38.72	S6 15.25m3, S5 13.67m3, S2 0.59m3, S4 0.58m3, S3 0.50m3
100Yr 60Min Winter	36.294	0.00	38.79	S6 14.79m3, S5 13.65m3, S2 0.59m3, S4 0.58m3, S3 0.50m3
100Yr 120Min Summer	22.477	0.00	30.79	S6 14.82m3, S5 13.56m3, S2 0.59m3, S4 0.58m3, S3 0.49m3
100Yr 120Min Winter	22.477	0.00	30.99	S6 14.88m3, S5 13.58m3, S2 0.59m3, S4 0.58m3, S3 0.49m3
100Yr 180Min Summer	16.761	0.00	21.52	S6 13.32m3, S5 12.00m3, S2 0.51m3, S4 0.50m3, S3 0.41m3
100Yr 180Min Winter	16.761	0.00	21.85	S6 13.29m3, S5 12.06m3, S2 0.51m3, S4 0.50m3, S3 0.41m3
100Yr 240Min Summer	13.528	0.00	12.94	S6 11.41m3, S5 9.96m3, S2 0.39m3, S4 0.39m3, S3 0.30m3
100Yr 240Min Winter	13.528	0.00	13.30	S6 11.35m3, S5 10.05m3, S2 0.40m3, S4 0.40m3, S3 0.31m3
100Yr 360Min Summer	9.916	0.00	0.44	
100Yr 360Min Winter	9.916	0.00	0.66	
100Yr 480Min Summer	7.959	0.00	0.04	
100Yr 480Min Winter	7.959	0.00	0.04	
100Yr 600Min Summer	6.706	0.00	0.00	
100Yr 600Min Winter	6.706	0.00	0.00	
100Yr 720Min Summer	5.827	0.00	0.00	
100Yr 720Min Winter	5.827	0.00	0.00	
100Yr 960Min Summer	4.665	0.00	0.00	
100Yr 960Min Winter	4.665	0.00	0.00	
100Yr 1440Min Summer	3.403	0.00	0.00	
100Yr 1440Min Winter	3.403	0.00	0.00	
100Yr 2160Min Summer	2.477	0.00	0.00	
100Yr 2160Min Winter	2.477	0.00	0.00	
100Yr 2880Min Summer	1.975	0.00	0.00	
100Yr 2880Min Winter	1.975	0.00	0.00	
100Yr 4320Min Summer	1.433	0.00	0.00	
100Yr 4320Min Winter	1.433	0.00	0.00	
100Yr 5760Min Summer	1.140	0.00	0.00	
100Yr 5760Min Winter	1.140	0.00	0.00	
100Yr 7200Min Summer	0.954	0.00	0.00	
100Yr 7200Min Winter	0.954	0.00	0.00	
100Yr 8640Min Summer	0.824	0.00	0.00	
100Yr 8640Min Winter	0.824	0.00	0.00	
100Yr 10080Min Summer	0.729	0.00	0.00	
100Yr 10080Min Winter	0.729	0.00	0.00	
100Yr+45% 15Min Summer	122.849	0.00	39.06	S6 14.24m3, S5 12.65m3, S4 0.54m3, S2 0.53m3, S3 0.45m3
100Yr+45% 15Min Winter	122.849	0.00	38.25	S6 12.71m3, S5 12.41m3, S4 0.53m3, S2 0.51m3, S3 0.44m3
100Yr+45% 30Min Summer	82.249	0.00	48.35	S6 18.18m3, S5 16.65m3, S4 0.74m3, S2 0.73m3, S3 0.66m3
100Yr+45% 30Min Winter	82.249	0.00	48.44	S6 18.65m3, S5 16.65m3, S4 0.74m3, S2 0.74m3, S3 0.65m3
100Yr+45% 60Min Summer	52.627	0.00	53.31	S6 22.63m3, S5 20.97m3, S2 0.96m3, S4 0.95m3, S3 0.87m3
100Yr+45% 60Min Winter	52.627	0.00	53.34	S6 22.12m3, S5 20.90m3, S2 0.96m3, S4 0.95m3, S3 0.87m3
100Yr+45% 120Min Summer	32.592	0.00	46.13	S6 23.33m3, S5 22.00m3, S2 1.02m3, S4 1.01m3, S3 0.92m3
100Yr+45% 120Min Winter	32.592	0.00	46.23	S6 23.22m3, S5 21.98m3, S2 1.02m3, S4 1.01m3, S3 0.92m3

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Item Volume Continuity Errors
100Yr+45% 180Min Summer	24.304	0.00	38.07	S6 21.93m3, S5 20.81m3, S2 0.96m3, S4 0.95m3, S3 0.86m3
100Yr+45% 180Min Winter	24.304	0.00	38.23	S6 22.00m3, S5 20.82m3, S2 0.96m3, S4 0.95m3, S3 0.86m3
100Yr+45% 240Min Summer	19.616	0.00	30.32	S6 20.01m3, S5 18.75m3, S2 0.85m3, S4 0.84m3, S3 0.75m3
100Yr+45% 240Min Winter	19.616	0.00	30.53	S6 19.95m3, S5 18.78m3, S2 0.86m3, S4 0.85m3, S3 0.75m3
100Yr+45% 360Min Summer	14.378	0.00	16.43	S6 14.93m3, S5 13.76m3, S2 0.60m3, S3 0.50m3
100Yr+45% 360Min Winter	14.378	0.00	16.70	S6 15.23m3, S5 13.84m3, S2 0.61m3, S3 0.50m3
100Yr+45% 480Min Summer	11.541	0.00	5.43	S6 10.07m3, S5 8.92m3
100Yr+45% 480Min Winter	11.541	0.00	5.73	S6 10.33m3, S5 9.04m3
100Yr+45% 600Min Summer	9.724	0.00	0.09	
100Yr+45% 600Min Winter	9.724	0.00	0.09	
100Yr+45% 720Min Summer	8.449	0.00	0.00	
100Yr+45% 720Min Winter	8.449	0.00	0.00	
100Yr+45% 960Min Summer	6.764	0.00	0.00	
100Yr+45% 960Min Winter	6.764	0.00	0.00	
100Yr+45% 1440Min Summer	4.934	0.00	0.00	
100Yr+45% 1440Min Winter	4.934	0.00	0.00	
100Yr+45% 2160Min Summer	3.592	0.00	0.00	
100Yr+45% 2160Min Winter	3.592	0.00	0.00	
100Yr+45% 2880Min Summer	2.864	0.00	0.00	
100Yr+45% 2880Min Winter	2.864	0.00	0.00	
100Yr+45% 4320Min Summer	2.078	0.00	0.00	
100Yr+45% 4320Min Winter	2.078	0.00	0.00	
100Yr+45% 5760Min Summer	1.653	0.00	0.00	
100Yr+45% 5760Min Winter	1.653	0.00	0.00	
100Yr+45% 7200Min Summer	1.383	0.00	0.00	
100Yr+45% 7200Min Winter	1.383	0.00	0.00	
100Yr+45% 8640Min Summer	1.196	0.00	0.00	
100Yr+45% 8640Min Winter	1.196	0.00	0.00	
100Yr+45% 10080Min Winter	1.056	0.00	0.00	
100Yr+45% 10080Min Summer	1.056	0.00	0.00	

Simulation Results

Return Period (yrs) + Climate Change (%):

1yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S1	15 min Summer	8	32.452	0.052	4.886		OK
S9	15 min Summer	8	32.422	0.022	1.990		OK
S2	15 min Summer	8	32.270	0.070	6.838		OK
S10	15 min Summer	8	32.430	0.030	3.497		OK
S3	15 min Summer	8	32.226	0.076	10.253		OK
S4	60 min Winter	57	32.155	0.105	0.808		OK
S5	60 min Winter	57	32.154	0.254	1.251		OK
S6	60 min Winter	57	32.154	0.354	1.241		Surcharged
S7	60 min Winter	57	32.154	0.454	1.232		Surcharged
S8	480 min Winter	261	31.623	0.023	1.326		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	S1	S2	0.061	0.717	4.857	0.264	OK
2.000	15 min Summer	8	S9	S2	0.046	0.503	1.981	0.052	OK
1.001	15 min Summer	8	S2	S3	0.073	0.792	6.767	0.404	OK
3.000	15 min Summer	8	S10	S3	0.053	0.768	3.485	0.094	OK
1.002	15 min Summer	8	S3	S4	0.086	0.993	10.203	0.460	OK
1.003	60 min Winter	57	S4	S5	0.127	1.655	6.439	0.319	OK
1.004	60 min Winter	57	S5	S6	0.304	0.068	7.917		Surcharged
1.005	240 min Summer	115	S6	S7	0.150	0.730	6.479	0.245	Surcharged
1.006	480 min Winter	261	S7	S8	0.023	0.750	1.326	0.057	OK

Return Period (yrs) + Climate Change (%):

30yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S1	180 min Winter	165	32.666	0.266	0.309		Surcharged
S9	180 min Winter	165	32.666	0.266	0.126		Surcharged
S2	180 min Winter	165	32.666	0.466	0.436		Surcharged
S10	180 min Winter	165	32.666	0.266	0.221		Surcharged
S3	180 min Winter	165	32.666	0.516	0.657		Surcharged
S4	180 min Winter	165	32.666	0.616	0.892		Surcharged
S5	180 min Winter	165	32.665	0.765	1.426		Surcharged
S6	180 min Winter	165	32.665	0.865	1.424		Surcharged
S7	180 min Winter	165	32.665	0.965	1.422		Surcharged
S8	180 min Winter	165	31.624	0.024	1.422		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	60 min Winter	50	S1	S2	0.150	0.713	4.817	0.262	Surcharged
2.000	60 min Winter	50	S9	S2	0.150	0.427	1.962	0.051	Surcharged
1.001	15 min Winter	9	S2	S3	0.150	0.837	11.571	0.690	Surcharged
3.000	60 min Winter	50	S10	S3	0.150	0.652	3.447	0.093	Surcharged
1.002	15 min Winter	8	S3	S4	0.150	1.027	17.004	0.767	Surcharged
1.003	15 min Winter	9	S4	S5	0.150	2.227	22.217	1.099	Surcharged
1.004	15 min Winter	13	S5	S6	0.400	0.140	21.426		Surcharged
1.005	15 min Winter	6	S6	S7	0.150	0.971	6.658	0.252	Surcharged
1.006	180 min Winter	165	S7	S8	0.024	0.765	1.422	0.061	OK

Return Period (yrs) + Climate Change (%):

100yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S1	240 min Winter	214	32.972	0.572	0.351		Surcharged
S9	240 min Winter	214	32.972	0.572	0.143		Surcharged
S2	240 min Winter	214	32.972	0.772	0.495		Surcharged
S10	240 min Winter	214	32.972	0.572	0.251		Surcharged
S3	240 min Winter	214	32.972	0.822	0.746		Surcharged
S4	240 min Winter	214	32.972	0.922	1.012		Surcharged
S5	240 min Winter	214	32.971	1.071	1.620		Surcharged
S6	240 min Winter	214	32.971	1.171	1.617		Surcharged
S7	240 min Winter	214	32.971	1.271	1.614		Surcharged
S8	240 min Winter	215	31.625	0.025	1.614		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	9	S1	S2	0.150	0.820	10.986	0.598	Surcharged
2.000	15 min Winter	9	S9	S2	0.150	0.531	4.547	0.118	Surcharged
1.001	15 min Winter	7	S2	S3	0.150	0.835	12.567	0.750	Surcharged
3.000	15 min Winter	10	S10	S3	0.150	0.897	8.008	0.217	Surcharged
1.002	15 min Winter	8	S3	S4	0.150	1.034	18.152	0.818	Surcharged
1.003	15 min Winter	8	S4	S5	0.150	2.191	25.566	1.265	Surcharged
1.004	15 min Winter	11	S5	S6	0.400	0.150	30.654		Surcharged
1.005	30 min Summer	10	S6	S7	0.150	1.037	7.443	0.282	Surcharged
1.006	240 min Winter	215	S7	S8	0.026	0.794	1.614	0.069	OK

Return Period (yrs) + Climate Change (%):

100yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S1	240 min Winter	227	33.582	1.182	0.430		Flood Risk
S9	240 min Winter	227	33.582	1.182	0.175		Flood Risk
S2	240 min Winter	227	33.582	1.382	0.605		Flood Risk
S10	240 min Winter	227	33.582	1.182	0.307		Flood Risk
S3	240 min Winter	227	33.582	1.432	0.911		Flood Risk
S4	240 min Winter	227	33.582	1.532	1.237		Flood Risk
S5	240 min Winter	228	33.581	1.681	1.924		Flood Risk
S6	240 min Winter	228	33.581	1.781	1.929		Flood Risk
S7	240 min Winter	228	33.581	1.881	1.933		Flood Risk
S8	240 min Winter	228	31.628	0.028	1.933		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	9	S1	S2	0.150	0.831	13.960	0.760	Surcharged
2.000	15 min Winter	7	S9	S2	0.150	0.494	5.197	0.135	Surcharged
1.001	15 min Winter	10	S2	S3	0.150	0.895	15.814	0.944	Surcharged
3.000	15 min Winter	7	S10	S3	0.150	0.907	9.262	0.251	Surcharged
1.002	15 min Winter	10	S3	S4	0.150	1.302	23.008	1.037	Surcharged
1.003	15 min Winter	10	S4	S5	0.150	2.152	32.189	1.592	Surcharged
1.004	15 min Winter	9	S5	S6	0.400	0.160	32.945		Surcharged
1.005	15 min Winter	5	S6	S7	0.150	1.125	7.425	0.281	Surcharged
1.006	240 min Winter	228	S7	S8	0.028	0.835	1.933	0.083	OK

APPENDIX H
FLOOD EXCEEDANCE PLAN



COVER AND INVERTS OF EXISTING SEWERS SHOULD BE CHECKED ON SITE PRIOR TO CONSTRUCTION

ALL RWP AND SVP'S TO BE CHECKED AGAINST ARCHITECTS LAYOUT PLANS

NOTES

1. THIS DRAWING IS PRODUCED FOR USE IN THIS PROJECT ONLY AND MAY NOT BE USED FOR ANY OTHER PURPOSE. THE CONSULTING ENGINEERS ACCEPT NO LIABILITY FOR THE USE OF THIS DRAWING OTHER THAN THE PURPOSE FOR WHICH IT WAS INTENDED IN CONNECTION WITH THIS PROJECT AS RECORDED ON THE TITLE BLOCK FIELDS 'PURPOSE FOR ISSUE' AND 'FILE STATUS CODE'.
2. THIS DRAWING MAY NOT BE REPRODUCED IN ANY FORM WITHOUT PRIOR WRITTEN AGREEMENT FROM ADVANT ENGINEERS.
3. DO NOT SCALE FROM THE DRAWING, USE WRITTEN DIMENSIONS ONLY.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
5. DISCREPANCIES MUST BE REPORTED BACK TO THE ENGINEER PRIOR TO CONSTRUCTION.
6. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ADVANT ENGINEERS DRAWINGS AND SPECIFICATIONS.

KEY

FLOOD EXCEEDANCE EVENT

FLOOD FLOW PATH

REV		BY	DATE
A	INITIAL ISSUE	MJM	04.03.26
REV	AMENDMENTS	BY	DATE

FOR COMMENT

STATUS		CHK'D
PRELIMINARY		MJM
FOR COMMENT	✓	MJM
FOR APPROVAL		
FOR CONSTRUCTION		
AS BUILT		

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CLIENT
CREATEIT STUDIOS

CONTRACT
THE JUNCTION HOTEL,
ROLLS CRESCENT,
MANCHESTER, M15 5FT

TITLE
FLOOD EXCEEDANCE
LAYOUT PLAN

DRAWN	MJM	CHK'D	MJM
SCALE	1:125 @ A1	DATE	04.03.26

JOB No	DRG No	REV
26013	102	A



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