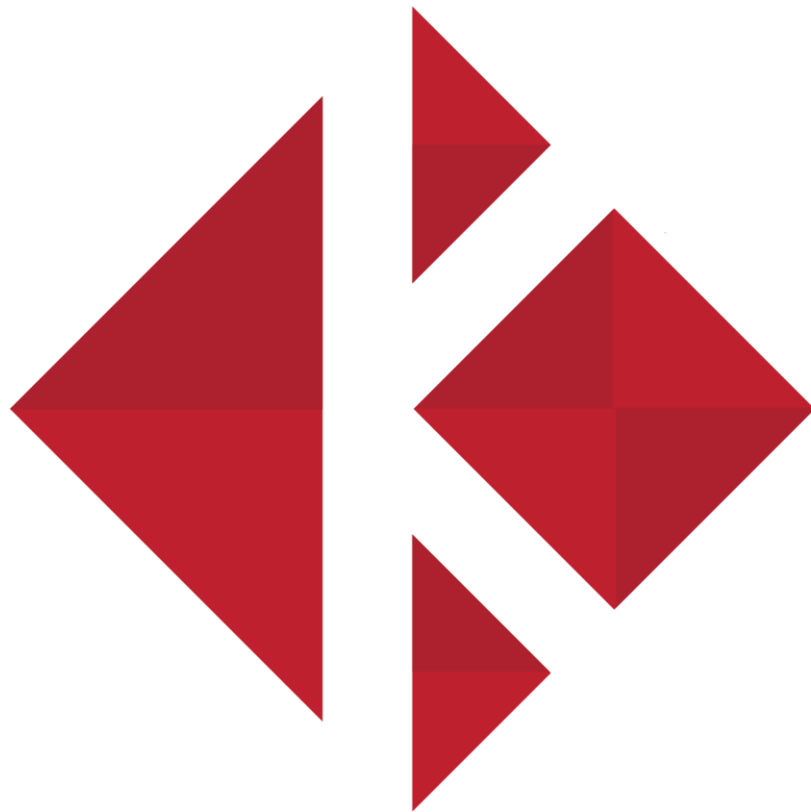




Flood Risk Assessment & Drainage Strategy

JD Sports Office, Bury

Client: JD Sports PLC Date: 27/5/2022

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1 Document History and Validation

1.1 Revision History

Revision	Issue Date	Reason for Issue
Rev-	27 May 2022	First Issue

1.2 Document Validation (Latest Issue)



Principal Author

ROB KENNEDY



Checked By

RICHARD BROWN



Verified By

DAN BRADLEY

2 Executive Summary

This Flood Risk Assessment (FRA) has been prepared for JD Sports PLC to inform the proposed development of their Proposed Campus Hub and Creche buildings. In addition to the Hub building, the site comprises of a new creche building, staff/visitor parking and soft landscaped gardens and recreational space.

This report has been written to meet the requirements of a site-specific FRA in accordance with the National Planning Policy Framework (NPPF) and its associated Planning Practice Guidance (PPG).

The development site lies adjacent to Pilsworth Road and directly west of Hollins Brook Way, Bury, BL9 8RR

The development will see the construction of a new four storey Hub building for JD Sports. It is also proposed to construct a two storey creche facility and plant room. A central feature of the development will be a MUGA pitch.

A review of the flood risk in the area has been carried out. It has been found that the development site is located within a Flood Zone 1 area.

This FRA has identified that the overall flood risk from all sources is low.

As with every development there are residual risks of flooding. With prudent design and construction and by enacting regular inspection and maintenance of infrastructure, these risks can be minimised. As it is proposed to restrict surface water flows off-site, the probability of flooding, both on site and downstream of the site will be reduced as a result of the proposed development.

Under these conditions, the flood risk posed to the development is deemed to be acceptable.

The infiltration tests discussed in Section 3.7.5 show rates of between 2.17×10^{-5} and 4.37×10^{-5} m/s. These infiltration rates are considered to be generally good for infiltration, and if proven to be representative of the overall site through further testing in accordance with BRE 365, the configuration of the site provides the opportunity to manage all surface water through infiltration.

Foul flows will discharge to the adjacent United Utilities sewers.

The proposed drainage systems will be subject to a maintenance plan which should be carried out by an appointed management company. This will ensure adequate maintenance of the infrastructure in the future.

3 Introduction

3.1 Reason for Report

This Flood Risk Assessment (FRA) has been prepared for JD Sports PLC to inform the proposed development of their Proposed Campus Hub and Creche buildings.. In addition to the Hub building, the site comprises of a new creche building, staff/visitor parking and soft landscaped gardens and recreational space.

This report has been produced to establish the risk of flooding to the proposed development location. It will also identify aspects requiring further study, if any.

3.2 Scope of Report

This report has been written to meet the requirements of a site-specific FRA in accordance with the NPPF 2021 Edition paragraphs 159-169, and its associated Planning Practice Guidance (PPG) and includes the following:

- An appraisal of the availability and adequacy of existing information on flood risk.
- An appraisal of the flood risk posed to the site, and potential impact of the development on flood risk elsewhere.
- An appraisal of the scope of possible measures to reduce the flood risk to acceptable levels, if necessary.

3.3 Policy Review

3.3.1 National Planning Policy Framework (NPPF)

The government's national policy on development and flood risk is covered by the latest NPPF edition: Ministry of Housing, Communities & Local Government, 2021 and the associated Planning Practice Guidance (PPG). The principal aim of the NPPF for flood risk is that:

"Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere." (Department for Communities and Local Government, 2012).

3.3.2 Development vulnerability classification

Table 2 of the PPG, enclosed in Appendix A (Department for Communities and Local Government, 2014), identifies the development vulnerability classification for various development types. Although the primary purpose of the development is to construct new offices which, under Table 2 would be classified as '*less vulnerable development*', the inclusion of a creche facility warrants that the site should be considered as a '*more vulnerable development*' as this represents the most onerous use for the development.

3.3.3 Sequential test

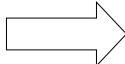
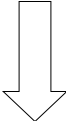
The sequential test aims to steer new development towards areas with the lowest probability of flooding. The sequential test matrix, enclosed in Appendix A (Department for Communities and Local Government, 2014), indicates '*more vulnerable*' developments are appropriate in Flood Zones 1 and 2. The development fulfils the sequential test, as the area considered for development lies within a Flood Zone 1.

3.3.4 Exception test

An exception test is carried out where a development does not meet the sequential test categories, requiring a demonstration that the benefits of the development outweigh the flood risk. An exception test is not required for this development as it is located within Flood Zone 1 and therefore fulfils the requirements of the Sequential test (refer to Table 3 enclosed in Appendix A).

3.4 Significance criteria

Risk is defined as the combination of the impact and probability of a flood event. The following significance criteria has been used in this report to quantify the severity of flood risk. If any sources of flooding are deemed to pose anything above a low risk to the site, the location and severity of the potential flooding will be examined in more detail to determine whether this is an acceptable risk or whether mitigation measures will be required to ensure that the risk is reduced.

RISK ASSESSMENT MATRIX				
	Impact 			
Probability of Event 		Low	Medium	High
	Low	Low	Medium-Low	Medium
	Medium	Medium-Low	Medium	Medium-High
	High	Medium	Medium-High	High

3.5 Local Literature

3.5.1 Bury Council Preliminary Flood Risk Assessment, May 2011

In May 2011, JBA Consulting produced a Preliminary Flood Risk Assessment (PFRA) on behalf of Bury Council. The report was produced to meet the council's duties, as a Lead Local Flood Authority (LLFA) in accordance with the NPPF, using the most up to date flood risk information and planning policy.

The document provides an overview of the historical flood data collated, as well as how existing and potential future flood risk has been assessed. This PFRA has been reviewed to identify key points relevant to the area local to the JD Sports site (PFRA 1km² tile location reference X381 Y408).

- Bury Council is the lead local flood authority for the site. United Utilities are the Statutory Sewers Undertaker.
- The PFRA applies the Defra and WAG pre-determined thresholds criteria for human health and economic activity impacted by future flooding as follows:
 - 200 people at risk
 - 20 businesses at risk, or
 - 1 critical service at risk
- The site is located within an area whereby the above pre-determined thresholds have been exceeded; therefore, the development is classed as lying in a Flood Risk Area. The following exceedances have been recorded against the pre-determined threshold data:
 - Number of people at risk – 5 (205)
 - Number of Non-Residential Properties (businesses) at risk – 30 (50)
 - Number of critical services at risk - 0 (0)
- Flood risk maps contained within the PFRA indicate that the development area is in a Flood Zone 1.
- No United Utilities Sewer Incident Recording System (S.I.R.S) or Wastewater Incident Register System (W.I.R.S) records have been identified in the area.
- 1No United Utilities External DG5 property is recorded approximately 900m south of the development location.
- The Environment Agency identifies 49No areas of record flood events within the wider Bury Council. 2No of these incidents were attributed to flooding of drainage networks with the remainder being from Main Rivers or incidents with an unknown source.
- The Environment Agency, National Dataset, Areas Susceptible to Groundwater flooding (AStGWF) indicates the area is at the lowest risk of groundwater flooding (<25% Risk).
- United Utilities modelling data indicates the sewer discharge volume for a 30yr rainfall event within the developments 1km grid square is 5,297m³, representing a midrange volume within the dataset.
- The development site lies approximately 250m north of the east/west flowing Hollins Brook and approximately 400m east of the north/south flowing River Roch (each classed as Main Rivers).

- Hollins Brook and the River Roch converge approximately 800m west-west-south of the development. East of the River Roch, this convergence forms a localised Flood Zone 2 and 3 area remote of the development. This is the closest flood zone 2/3 to the development area.
- By the 2080s, it is plausible that the amount of rain in extreme storms (with a 1 in 5 annual chance, or rarer) could increase locally by 40%.

3.5.2 Bury Local Plan, Topic Paper 6, Flood Risk, October 2018

The Bury Topic Paper 6 document sets out key policies, plans and strategies relating to flood risk that form the framework for the development of the Local Plan current at the time of publication.

The intention of the Topic Paper is that it can be maintained as a live document that can be updated, if necessary to reflect the most up-to-date circumstances. It should be noted that the document contains more recent updates suggesting that the accuracy of information is being maintained.

The Topic Paper has been reviewed to identify key points applicable to the development site. These are summarised as follows:

- The Greater Manchester Surface Water Management Plan (SWMP), 2012 identified 37 hotspot areas in Bury, representing 8% of the Greater Manchester total. None of these hotspot locations are within the proximity of the development site.
- The Boxing Day 2015 severe flooding event did not affect any area within close proximity of the development site.
- The River Roch is one of two major watercourses in the borough.
- Many sewers discharge directly into open watercourses prone to flooding and in general there is insufficient capacity in the sewers and drainage network to accommodate increasing amounts of surface water. This is largely due to the hilly topology of Bury.

3.5.3 Bury, Rochdale and Oldham Strategic Flood Risk Assessment Volume II – Level 1 SFRA, November 2009

In November 2009, JBA Consulting produced a Level 1 Strategic Flood Risk Assessment (SFRA) for key urban areas within the Bury, Rochdale and Oldham.

The Level 1 SFRA has been reviewed to identify key points applicable to the development site. These are summarised as follows:

- According to the Greater Manchester sub-regional SFRA, the principal source of flood risk across the region is from fluvial flooding.
- Hollins Brook is identified as a smaller watercourse, but this is not discussed in greater detail in terms of flood risk.

- The development site is not within close proximity to the two main areas considered at risk from flooding as a result of the River Roch and associated tributaries catchment area.

3.5.4 Bury, Rochdale and Oldham Strategic Flood Risk Assessment Volume III – Level 2 SFRA, November 2009

In November 2009, JBA Consulting produced a Level 2 Strategic Flood Risk Assessment (SFRA) for key urban areas within the Bury, Rochdale and Oldham.

Following a review of this Level 2 SFRA, there is no information relating to the local area of the development site.

3.6 Correspondence with Local Authorities

At this time, no local authorities have been contacted.

3.7 Site Overview

3.7.1 Existing Site

The development site lies adjacent to Pilsworth Road and directly west of Hollins Brook Way, Bury, BL9 8RR

A satellite image showing the site location can be found enclosed in Appendix B.

The site has an area of approximately 1.672ha. This is made up of approximately 1.0ha of hardstanding (asphalt and concrete slabs). The warehouse building has been demolished as part of an enabling works package.

The remaining approximately 0.7ha of the Site comprises of rough vegetation/soft landscaping.

3.7.2 Surrounding Area

The site is bounded by Pilsworth Road to the north and Hollins Brook Way to the east. A small residential development lies adjacent to the site in the west and to the south lies Hollins Vale Local Nature Reserve.

Vehicular access is from Hollins Brook Way.

3.7.3 Topography

The topographical survey can be found enclosed in Appendix C.

The site falls generally from north east to south west with an approximate maximum level of 89.98m AOD along the north east boundary and a minimum level of 87.45m AOD in the south west corner.

3.7.4 Hydrogeology

There are no watercourses on site or directly adjacent to the development.

The closest river is the Hollins Brook located approximately 250m to the south.

A man-made lagoon/SuDS pond lies within the Hollins Vale Local Nature Reserve between Hollins Brook and the site in the north.

3.7.5 Geology

Phase 2 site investigation data issued in December 2021 by RoC Consulting for the proposed road widening of Hollins Brook Way suggests that the site comprises of a mean 0.75m thickness of made ground from former development.

Underlying the made ground are glacial deposits of sands and sandy/gravelly clays. No sources of ground contamination were encountered during the investigation.

No ground water was encountered during the investigation which involved drilling works to a maximum depth of 5.45m BGL.

A more comprehensive site investigation was undertaken in March 2022 by Groundtech Consulting Ltd which found that the made ground across the wider site was encountered generally to the same depths as previously reported, but in some areas, this was as deep as 1.8m BGL.

Natural superficial deposits in the form of soft to firm sandy clays and silty clayey sands were encountered below the made ground up to depths of between 15.5m BGL and 17.0m BGL. Below this, firm to stiff sandy slightly gravelly clay was encountered.

Sandstone bedrock was present at depths ranging between 23.5m and 27.3m BGL.

Unlike the initial RoC site investigation, groundwater was encountered by Groundtech at depths ranging between 1.6m and 6.5m BGL.

The Groundtech report concluded that the risk to controlled waters from the site was considered to be low and initial infiltration testing was carried out within the natural sands in accordance with BRE 365, which found infiltration rates ranging between 2.17×10^{-5} and 4.37×10^{-5} m/s which are considered good drainage conditions for the promotion of SuDS solutions.

3.7.6 Existing Drainage

A CCTV drainage survey has been carried out by Lanes for Drains in April 2022 which indicates that an existing private 300mm vitrified clay surface water network discharges to the north directly into a United Utilities adopted surface water sewer in Pilsworth Road via a Petrol Interceptor. A copy of the CCTV survey report excerpt plan and a copy of the United Utilities Sewer Records can be found enclosed in Appendix D.

3.7.7 Proposed Development

The development proposals can be found enclosed in Appendix E.

The development will see the construction of a new four storey headquarters office building for JD Sports. It is also proposed to construct a private two storey creche facility and plant room.

Externally, the development shall comprise of a series of pedestrian footpaths, internal circulation and parking provision. Access to the proposed site will be from both Hollins Brook Way in the east and Pilsworth Road in the north.

A central feature of the development will be a MUGA pitch.

The development will not affect the full site area. The MUGA pitch will have an area of approximately 0.15ha.

4 Flood Risk Assessment

4.1 Tidal & Fluvial

The EA Flood maps characterise the risk of flooding due to tidal and fluvial sources as follows:

- Flood Zone 1 – Land having less than 1 in 1,000 annual probability of river or sea flooding (low risk)
- Flood Zone 2 – Land having between a 1 in 100 and 1 in 1000 annual probability of river flooding, or, land having between a 1 in 200 and 1 in 1000 annual probability of sea flooding (medium risk)
- Flood Zone 3 – Land having a 1 in 100 or greater annual probability of river flooding, or land having a 1 in 200 or greater annual probability of sea flooding (High risk)

Due to the Site location, there is no risk of tidal flooding.

The flood maps, enclosed in Appendix F, shows that the entire development site is located in a Flood Zone 1.

The closest flood zone 2 and 3 areas are shown approximately 0.8km to the west-west-south of the site where the Hollins Brook and River Roch converge.

Due to the distance from the development location and the local topography, the risk of fluvial flooding is considered low.

Assessment of Impact: LOW

Assessment of Probability: LOW

The overall risk posed due to tidal and fluvial flooding is therefore considered **low**.

4.2 Surface water

The GOV.UK Long Term Flood website map, enclosed in Appendix F, shows that the existing site is susceptible to minor, localised surface water flooding along the southern boundary of the site. In the existing case, this is most likely due to insufficient private drainage infrastructure along the low point of the site. Through the development of detailed design, any risk of surface water flooding will be mitigated by developing a levels strategy to ensure positive discharge of all surface water and a means of draining low points. Based on the small degree of localised flooding indicated, and considering that the site topology will be fully remodelled, the risk of surface water flooding is considered low.

Assessment of Impact: LOW

Assessment of Probability: LOW

The overall flood risk due to surface water is therefore considered **low**.

4.3 Groundwater

Groundwater flooding occurs when water levels in the ground rise above surface elevations. Groundwater flooding does not generally pose a significant risk to life due to the slow rate at which the water level rises.

As discussed in Section 3.5, the JBA Consulting preliminary flood risk assessment indicates that the location of the development is at low risk (less than 25%) of groundwater flooding.

The initial site investigation carried out adjacent to Hollins Brook Way did not encounter any groundwater following intrusive drilling works up to 5.45m BGL. The more comprehensive site investigation carried out by Groundtech Consulting did encounter groundwater at depths ranging from 1.6m and 6.5m BGL.

There are currently no plans to construct basements or partially buried areas as part of the development.

Based on the topography of the site, which is located several meters above the location of the River Roch to the west and Hollins Brook to the south, the probability and impact of any groundwater flooding occurring on site can be considered low.

Assessment of Impact: LOW

Assessment of Probability: LOW

The overall risk posed to the site due to groundwater flooding is therefore considered **low**.

4.4 Artificial drainage

Any private existing drainage within the site will be abandoned as part of the development. Therefore, there is no risk of flooding posed from this.

There are no records of historical flood events at the development location, within the reviewed literature. The adjacent adopted sewers should be adequately maintained by United Utilities and should therefore not pose a risk to the site flooding in the future.

Assessment of Impact: Low

Assessment of Probability: Low

The overall risk posed to the due to existing artificial drainage flooding is therefore **low**.

4.4.1 Proposed drainage

The proposed drainage strategy for the site will be designed in accordance with the relevant design standards, industry guidance and government guidance.

It is anticipated that the development will require the surface water discharge to be restricted to existing greenfield flowrates if possible. The use of SuDS will be necessary to attenuate and slow down surface water flows during storm events. By restricting existing flow rates, the flood risk downstream of the development will be reduced.

The capacity of any proposed drainage system will be set to ensure no flooding occurs in a 1 in 30 rainfall event and any flooding from a 1 in 100 (+40% allowance for climate change) rainfall event will be contained within the site boundary and will not flood any structures or properties.

Any discharge into public sewers will be agreed with United Utilities.

Additionally, a robust drainage maintenance strategy will ensure risk of flooding from any proposed drainage system will be low. Should the above action be taken, this will reduce the risk of flooding from the proposed drainage system.

Assessment of Impact: LOW

Assessment of Probability: LOW

The overall risk posed due to proposed drainage flooding is therefore considered **low**.

4.5 Infrastructure failure

4.5.1 Reservoir failure

The GOV.UK Long Term Flood Map (extract enclosed in Appendix F) shows that the site is not at risk of flooding from reservoir failure.

Assessment of Impact: LOW

Assessment of Probability: LOW

4.5.2 Canal failure

There are no canals near the site and it therefore safe to assume that there is a negligible risk of canal flooding on site.

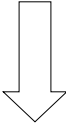
Assessment of Impact: LOW

Assessment of Probability: LOW

The overall risk posed to the site due to infrastructure flooding is therefore considered **low**.

4.6 Flood risk summary

A summary of the flood risks identified in Section 2 are shown in the table below.

RISK ASSESSMENT MATRIX				
	Impact 			
Probability of Event 		Low	Medium	High
	Low	A, B, C, D, E, F, G		
	Medium			
	High			

Key:

- A: Tidal and Fluvial Flooding – (Section 4.1)
- B: Surface Water/Pluvial/Overland Flow – (Section 4.2)
- C: Groundwater Flooding – (Section 4.3)
- D: Artificial Drainage: Existing Drainage: Existing Site Drainage – (Section 4.4.1)
- E: Artificial Drainage: Proposed Drainage – (Section 4.4.2)
- F: Infrastructure Failure: Reservoirs – (Section 4.5.1)
- G: Infrastructure Failure: Canals – (Section 4.5.2)

5 Flood Risk Analysis & Mitigation

5.1 Mitigation

Surface water flooding from all sources is considered to be low risk.

It should be noted that the type of development itself is 'more vulnerable', meaning the impact of flooding occurring will be greater on account of the development including the construction of a private creche.

Following a review of the CCTV drainage survey, the existing surface water drainage system appears to be functioning as intended, notwithstanding any minor defects such as pipe fractures which could easily be repaired in situ through relining (although this will not be necessary as the existing drainage is to be abandoned as part of the development works).

The proposed development comprises of car parking in excess of 50 spaces and therefore any proposals to maintain a positive surface water discharge agreement will require a new interceptor.

If the proposed drainage is designed correctly and maintenance/repairs carried out, then the development has done everything possible to reduce the risk of surface water flooding.

5.2 Residual Risk

Whilst the risk of flooding to the development is low, it should be acknowledged that there is potential for residual risks. The residual risk comes from the failure or blockage of site drains and sewers, or lack of maintenance of nearby infrastructure. Prudent design and planning will mitigate the potential impact these could have on the development. Enacting regular inspection and maintenance regimes and careful working practices should reduce the potential of failures of infrastructure. The utilisation of building finished floor levels above the surrounding area will prevent inflow into the buildings.

Designing in allowances for climate change provides extra capacity and so provides a level of future proofing in the drainage system for the potential changes to the climate over the design life of the development.

5.3 Access & Egress

Access and egress to the site should be properly managed in the event of flooding occurring on site, particularly on account that the development is considered 'more vulnerable' due to the proposed creche. External levels should be developed to ensure safe routes for site users even during extreme rainfall events.

6 Drainage Strategy

This section of report will provide information used in the development of the drainage design and the principles that were followed. The drainage strategy uses sustainable principles and will aim to promote approaches in keeping with the nature of the existing site and current legislation.

This section should be read in conjunction with proposed drainage layout enclosed in Appendix G.

6.1 Design standards and guidance

The following design standards, industry guidance, government guidance and literature are used in the development of this drainage strategy.

British Standards and European Norms (BS EN)

- BS EN 752: Drain and sewer systems outside buildings
- BS EN 12056: Gravity drainage systems inside buildings

Construction Industry Research and Information Association (CIRIA)

- C753: The SuDS manual

Department of Communities and Local Government (DCLG)

- Building Regulations Approved Document H: drainage and waste disposal published 2010
- National Planning Policy Framework (NPPF) published 2012
- Flood risk and coastal change Planning Policy Guidance, published 6 March 2014
- Climate Change Planning Policy Guidance, published 12 June 2014
- Water supply, wastewater and water quality Planning Policy Guidance, published 23 March 2015

Department of Environment, Food and Rural Affairs (DEFRA)

- Non-Statutory Technical Standards for Sustainable Drainage – Practice Guidance published 2015

Water Research Centre

- Sewers for Adoption 6th & 7th Edition

6.2 Proposed Surface Water Drainage

All proposed drainage systems should give preference to the SuDS hierarchy, which sets out that schemes should aim to mimic natural drainage as closely as possible, and that discharge of

surface runoff should be dealt with in the following ways (in order of preference) (Department for Communities and Local Government, 2014):

- Into the ground (infiltration).
- To a surface water body.
- To a surface water sewer, highway drain, or another drainage system.
- To a combined sewer.

The infiltration tests discussed in Section 3.7.5 show rates of between 2.17×10^{-5} and 4.37×10^{-5} m/s. These infiltration rates are considered to be generally good for infiltration, and if proven to be representative of the overall site through further testing in accordance with BRE 365, the configuration of the site provides the opportunity to manage all surface water through infiltration.

As discussed in Section 3.7.4, there are no waterbodies within the vicinity of the development.

Although United Utilities sewers are located within the vicinity of the development and these are currently utilised for receiving surface water flows from site, it is proposed to abandon this connection in favour of infiltration. This strategy would be subject to further infiltration testing to validate the initial testing already carried out by Groundtech, however as a minimum, the development proposals shall consider a maximum possible reduction of surface water discharge into the existing United Utilities sewer, with the aim to manage all surface water generated through infiltration.

The most advantageous means of enabling full infiltration would be to channel all surface water drainage toward the proposed MUGA pitch area, and to construct a large infiltration area using shallow proprietary crates. These crates have a high void ratio which provides the best opportunity of ensuring the area of infiltration remains sufficiently elevated from the highest ground water levels.

For a site with such extensive parking, it would be typical to incorporate permeable vehicle bays however in this instance, the use of a large infiltration area beneath the MUGA pitch would lower the amount of maintenance required and would also allow for any flood plains beyond a 1 in 100 year event to be localised to the MUGA, leaving the car parking areas clear of surface water and therefore promoting safe access and egress during extreme rainfall events.

Any surface water drainage generated from the access roads and car parking bays should connect into a new interceptor before entering into the infiltration area. This will ensure the risk of contamination in the ground is managed responsibly.

The drainage system will be designed so that there is no flooding to the development in a 1 in 30-year event and so that there is no property or off-site flooding in a 1 in 100 year plus 40% climate change event. This also applies in the event that the existing positive surface water connection into United Utilities sewers needs to be maintained due to lower than anticipated infiltration rates being encountered after further testing.

6.2.1 Climate Change

In line with the NPPF and Bury Council planning guidance, climate change should be considered for all developments. In accordance with this guidance, a climate change factor of 40% will be assessed for the 1 in 100-year event for the proposed surface water drainage system.

6.2.2 MicroDrainage Models

During the development of the next stages of detailed design, Microdrainage models will be developed to demonstrate the proposed solution addresses the core issue of flooding.

Further infiltration testing will be carried out to allow for the Microdrainage calculations to be completed.

The results of the Microdrainage calculations will show that:

- No flooding occurs during any storm events up to 1in100 years + 40% climate change in duration.
- The surface water design is managed via full infiltration underneath the MUGA pitch or else by alternative means of infiltration as best can be achieved. Where infiltration results are less than anticipated, the Microdrainage model will demonstrate how surface water is managed using a part infiltration/part positive discharge solution.
- A very negligible volume of flooding occurs during the 1in100 year + 40% climate change events, this would not leave site or reach a building.

6.3 Proposed Foul Water Drainage

6.3.1 Strategy

A new drainage system will be constructed for the proposed development in accordance with BS EN 752 and Approved Document H. The foul flows will be collected in a separate gravity foul water drainage system. The pipework will be 150mm diameter and laid at falls to suit self-cleansing velocities.

It is proposed that the foul water will discharge into the new site foul water drainage. The exact discharge location for the existing drainage will be into the existing United Utilities 225mm/300mm combined sewer located in Pilsworth Road.

All connections will be subject to agreement with United Utilities, including a S106 agreement.

6.3.2 Proposed flow rates

The drainage system will be designed to achieve a target self-cleansing velocity of 0.75m/s, but as a minimum will have a gradient of no flatter than 1 in 40 when the peak flow is less than 1l/s and no flatter than 1 in 150 when there are at least 5No. toilets connected to the pipe, in accordance with Approved Document Part H.

Once the internal distribution and number of white goods has been determined through detailed design, peak foul water flows will be calculated using BS EN 12056-2 and the proposed foul fixtures within the building.

7 Maintenance

Maintenance of the foul and surface water drains for the development will fall under a private maintenance plan and be the responsibility of the site owner.

A maintenance regime should be enacted regularly as part of the normal facilities management duties. A maintenance schedule should be established following construction and updated as necessary throughout the lifetime of the building. A record maintenance log should be kept and updated accordingly.

The following schedule should be used as the basis of maintenance at the site.

Maintenance Activity		Frequency of activity (months)				
		1	3	6	12	A/R
	Manholes (General)					
1	Check cover is not damaged and fits securely			X		
2	Check inlet and outlet are free flowing and not obstructed			X		
3	Check security of fitting for all manhole ironmongery			X		
4	Check benching for scour or build-up of debris			X		
5	Check joints in construction for damage or inflow				X	
6	Record maintenance inspection in log book			X		
	Gullies & drainage channels					
7	Check grating is undamaged and fits securely	X				
8	Inspect internal gully/sump chamber, remove debris from traps and check outfall is clear and free flowing			X		
9	Record maintenance inspection in log book	X				
	Conveyance Pipes					
10	Carry out flow test between manholes to ensure free flow of system				X	
11	Jetting and clearance of blockages, debris or silt					X
12	Inspection by CCTV – should problem arise as a result of the flow test					X
13	Cutting of growth into pipe					X
14	Record maintenance inspection in log book				X	X
	Flow Controls					
15	Check flow control mount to ensure secure fitting		X			
16	Check inlet to flow control is free flowing and not obstructed		X			
17	Remove silt from the sump			X		

18	Record maintenance inspection in log book		X			
	Attenuation Structure					
19	Inspect inlet/outlet chambers for evidence of poor operation, and clear when necessary.			X		
20	Visual inspection of overflow pipes and vent pipes				X	
21	Remove sediment from pre-treatment sump chamber			X		
22	Monitor any inspection chambers. Check for water level and silt at base of tank				X	
23	Record maintenance inspection in log book			X		

8 Conclusion & Recommendations

8.1 Conclusion

This FRA has considered the flood risk posed to the site by tidal and fluvial sources, surface water, groundwater, artificial drainage and infrastructure sources. The FRA has identified that the overall flood risk is low.

The risk posed by the proposed drainage will be minimised by ensuring the site is adequately drained under controlled conditions and, where possible, ensure that the ground slopes away from any structures within the development to assist in mitigating flood risk from surface water exceedance flows.

Any proposed surface water drainage strategy for the site will be designed in accordance with the relevant design standards, industry guidance and government guidance. The new development will seek to utilise full infiltration if this is proven to be feasible following further soakaway testing, however where it is required to maintain the existing connection into the United Utilities sewer, the design will ensure the control of runoff rates into the existing system. A climate change factor of 40% will be applied to any surface water drainage system, in line with the NPPF and the PPG documents.

8.2 Further Recommendations

A full Microdrainage model is to be produced following the receipt of details levels design and further soakaway testing.

Further discussion should be had with the relevant authorities as design develops to ensure any proposed surface water drainage system, including flow rates, are acceptable by the LLFA (Bury Council), STW and the existing drainage asset management team.

Further soakaway testing should be carried out in accordance with BRE365 to further establish the infiltration rate at the development.

Appendix A – NPPF Technical Guidance

Table 2: Flood risk vulnerability classification

Essential infrastructure • Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. • Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood. • Wind turbines.
Highly vulnerable • Police stations, ambulance stations and fire stations and command centres and telecommunications installations required to be operational during flooding. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use³. • Installations requiring hazardous substances consent⁴. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as "essential infrastructure")⁵.
More vulnerable • Hospitals. • Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. • Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. • Non-residential uses for health services, nurseries and educational establishments. • Landfill and sites used for waste management facilities for hazardous waste⁶. • Sites used for holiday or short-let caravans and camping, <i>subject to a specific warning and evacuation plan</i>.⁷
Less vulnerable • Police, ambulance and fire stations which are <i>not</i> required to be operational during flooding. • Buildings used for shops, financial, professional and other services,

³ For any proposal involving a change of use of land to a caravan, camping or chalet site, or to a mobile home site or park home site, the Sequential and Exception Tests should be applied.

⁴ See Circular 04/00: Planning controls for hazardous substances (paragraph 18) at: www.communities.gov.uk/publications/planningandbuilding/circularplanningcontrols

⁵ In considering any development proposal for such an installation, local planning authorities should have regard to planning policy on pollution in the National Planning Policy Framework.

⁶ For definition, see *Planning for Sustainable Waste Management: Companion Guide to Planning Policy Statement 10* at

www.communities.gov.uk/publications/planningandbuilding/planningsustainable

⁷ See footnote 3.

restaurants and cafes, hot food takeaways, offices, general industry, storage and distribution, non-residential institutions not included in "more vulnerable", and assembly and leisure.

- Land and buildings used for agriculture and forestry.
- Waste treatment (except landfill and hazardous waste facilities).
- Minerals working and processing (except for sand and gravel working).
- Water treatment works which do *not* need to remain operational during times of flood.
- Sewage treatment works (if adequate measures to control pollution and manage sewage during flooding events are in place).

Water-compatible development

- Flood control infrastructure.
- Water transmission infrastructure and pumping stations.
- Sewage transmission infrastructure and pumping stations.
- Sand and gravel working.
- Docks, marinas and wharves.
- Navigation facilities.
- Ministry of Defence defence installations.
- Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location.
- Water-based recreation (excluding sleeping accommodation).
- Lifeguard and coastguard stations.
- Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.
- Essential ancillary sleeping or residential accommodation for staff required by uses in this category, *subject to a specific warning and evacuation plan*.

Notes to table 2:

a. This classification is based partly on Department for Environment, Food and Rural Affairs and Environment Agency research on *Flood Risks to People (FD2321/TR2)*⁵ and also on the need of some uses to keep functioning during flooding.

b. Buildings that combine a mixture of uses should be placed into the higher of the relevant classes of flood risk sensitivity. Developments that allow uses to be distributed over the site may fall within several classes of flood risk sensitivity.

c. The impact of a flood on the particular uses identified within this flood risk vulnerability classification will vary within each vulnerability class. Therefore, the flood risk management infrastructure and other risk mitigation measures needed to ensure the development is safe may differ between uses within a particular vulnerability classification.

Table 3: Flood risk vulnerability and flood zone 'compatibility'

Flood risk vulnerability classification (see table 2)		Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood zone (see table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test required	✓	✓
	Zone 3a	Exception Test required	✓	×	Exception Test required	✓
	Zone 3b functional floodplain	Exception Test required	✓	×	×	×

Key: ✓ Development is appropriate.
 × Development should not be permitted.

Notes to table 3:

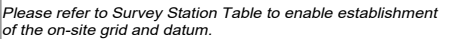
This table does not show:

- the application of the Sequential Test which guides development to Flood Zone 1 first, then Zone 2, and then Zone 3;
- flood risk assessment requirements; or
- the policy aims for each flood zone.

Appendix B – Site Location Plan



Appendix C – Topographical Survey



1	05.05.22	External road & post-demo	JC	GH1363
Rev	Date	Description	Drawn	Q. Ref



24 Riverside Studios
Amethyst Road
Newcastle Business Park
Newcastle
NE4 7YL
t. (0191) 273 6391
newcastle@greenhatch-group.co.uk
www.greenhatch-group.co.uk

Derby (Head Office)	St Albans	London
Rowan House Duffield Road Little Eaton Derby DE21 5DR	Unit B, The Courtyard Alban Park St Albans Hertfordshire AL4 0LA	27 Cornwall Terrace Mews Regents Park London NW1 5LL
t. (0133) 283 0044	t. (0172) 785 4481	t. (0207) 224 1806

CLIENT

AEW
Architects

PROJECT

**Former A-Plant Site
D Sports, Hollingsbrook Way
Bury, BL9 8RR**

TITLE

Topographical Survey

GALE

1: 500

DRAWN

JC

level datum

See notes

rid orientat

See notes

Job number:

42997

— 352 —

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97 T

Comments

This plan should only be used for its original purpose. Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.

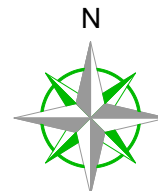
dimensions should be checked on site prior design and construction.

Drainage information (where applicable) has been visually inspected from the surface and therefore could be treated as approximate only.

otes:

Station Information:

Station	Easting (m)	Northing (m)	Level (m)
GH1	381483.164	408720.048	88.790
GH2	381577.831	408758.662	89.298
GH3	381617.360	408659.474	87.980
GH4	381522.390	408647.564	87.546



OS Note:
Some services may have been omitted due to parked vehicles.
The Ordnance Survey tile is to be used as a guide only.

OS Buildings Surveyed Buildings

This survey has been orientated to the Ordnance Survey (O.S.) National Grid OSGB36(15) via Global Navigational Satellite Systems (GNSS) and the O.S. Active Network (OS Net).

A true OSGB36 coordinate has been established near to the site centre via a transformation using the OSTN15GB & OSGM15GB transformation models.
The survey has been correlated to this point and a further one or more OSGB36 (15) points established to create a true O.S. bearing for angle orientation.

No scale factor has been applied to the survey therefore the coordinates shown are arbitrary & not true O.S. Coordinates which have a scale factor applied.

Please refer to Survey Station Table to enable establishment of the on-site grid and datum.

Legend:

Buildings	Overhead Cables	IC	Inspection chamber	Bd	Bedford
Wall	Overhead cable	Plw	Pipe insert	B	Buried bollard
Kerb line	Fence edge	Ry	Gully	Bn	Buried lat
Line marking	Glass window	Bq	Brick gully	Vp	Vent pipe
Drain back	Canopy/Overhang	Dp	Down pipe	Gd	Ground light
Centre line	Varge	Pipe	Pipe above ground	Lbox	Letter box
100,000	Tree / Bush / Slipping	MH	Manhole	Lr	Ladder
Area of Undergrowth	Woodland	Station Level	Water level	Sh	Site
Ridge Level	Ridge Level	FL	Flood light	IFL	Internal floor level
Eaves Level	Eaves Level	Lp	Lamp post	THL	Threshold level
Flat Roof Level	Flat Roof Level	Tp	Telegraph post	Sp	Sign post
TWL	Top of Wall Level	Ep	Electricity post	TH	Trench hole
Fence types:	Fence types:	TI	Traffic light	BH	Bonhole
Interwoven	Interwoven	Bus	Bus stop	ELC	Electric
IR	Iron Railings	Sv	Stop valve	BT	British Telecom
WM	Wire Mesh	St	Stop tap	Cbox	Control box
P&R	Post & Rail	Er	Earth out	TT	Tackle
PW	Post & Wire	G	Gate	Wm	Water meter
CL	Chain Link	Gas	Gas valve	CTR	Concrete paving slab
W	Wooden Panels	Air	Air valve	CWR	Cover
CP	Concrete Panels	ICU	Underside inspection	IC	Inspection chamber
SW	Stone Wall	W	Wash out	R/wall	Retaining wall
SW	Stone Wall	Re	Rodding eye	UTR	Unable to raise
SW	Stone Wall	BB	Ballistic beacon	TCL	Tree canopy level
SW	Stone Wall	CTV	Cable tv	G	Girth
SW	Stone Wall	Mkr	Marker post	MG	Multi grills
SW	Stone Wall	Gmr	Gas meter post	Smp	Tree Stump
SW	Stone Wall	So	Softs	CL	Cover level
SW	Stone Wall	So	Softs	CL	Cover level

1	05.05.22	External road & post-demo	JC	GH13638
Rev.	Date	Description	Drawn	Q. Ref.

☐ Topographical Surveys☐ Measured Building Surveys☐ Site Engineering☐ 3D Laser Scanning☐ Utility / CCTV Surveys☐ Revit & BIM Models

24 Riverside Studios
Amethyst Road
Newcastle Business Park
Newcastle
NE4 7YL
t. (0191) 273 6391
newcastle@greenhatch-group.co.uk
www.greenhatch-group.co.uk

Derby (Head Office) Rowan House Duffield Road Little Eaton Derby DE21 5DR t. (01333) 283 0044	St Albans Unit B, The Courtyard Alban Park St Albans Hertfordshire AL1 2LA t. (01773) 785 4481	London 27 Cornwall Terrace Mews Regents Park London NW1 5LL t. (0207) 224 1806
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CLIENT
AEW Architects

PROJECT
**Former A-Plant Site
JD Sports, Hollingsbrook Way
Bury, BL9 8RR**

TITLE
Topographical Survey

SCALE A2@ 1: 500	DATE 23.02.22
DRAWN JC	QUALITY REF GH12966

Level datum Grid orientation	See notes See notes
Job number Drawing No.	42997 42997_T

Rev.	1
------	---

Comments
This plan should only be used for its original purpose. Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.
All dimensions should be checked on site prior to design and construction.
Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.
Notes:

Station Information:

Station	Easting (m)	Northing (m)	Level (m)
GH1	381483.164	408720.048	88.790
GH2	381577.831	408758.662	89.298
GH3	381617.360	408659.474	87.980
GH4	381522.390	408647.564	87.546

Appendix D – Sewer Map

Kennedy Redford

**20
Market Street,
Altrincham,
WA141PF**

FAO:

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

**Your Ref: JD Sport
Our Ref: UUPS-ORD-353445
Date: 20/12/2021**

Dear Sirs

Location: JD Sports JD Sports Hollinsbrook Way, Bury, BL9 8RR

I acknowledge with thanks your request dated 16/12/2021 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

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

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



Karen McCormack
Property Searches Manager

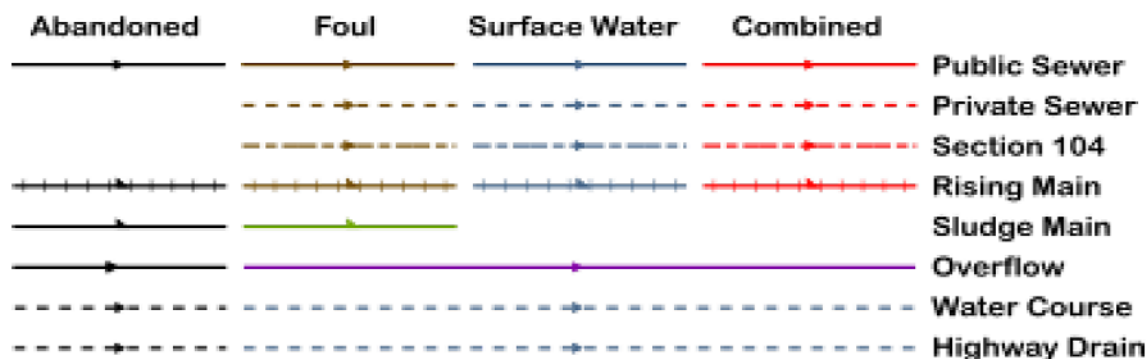
TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

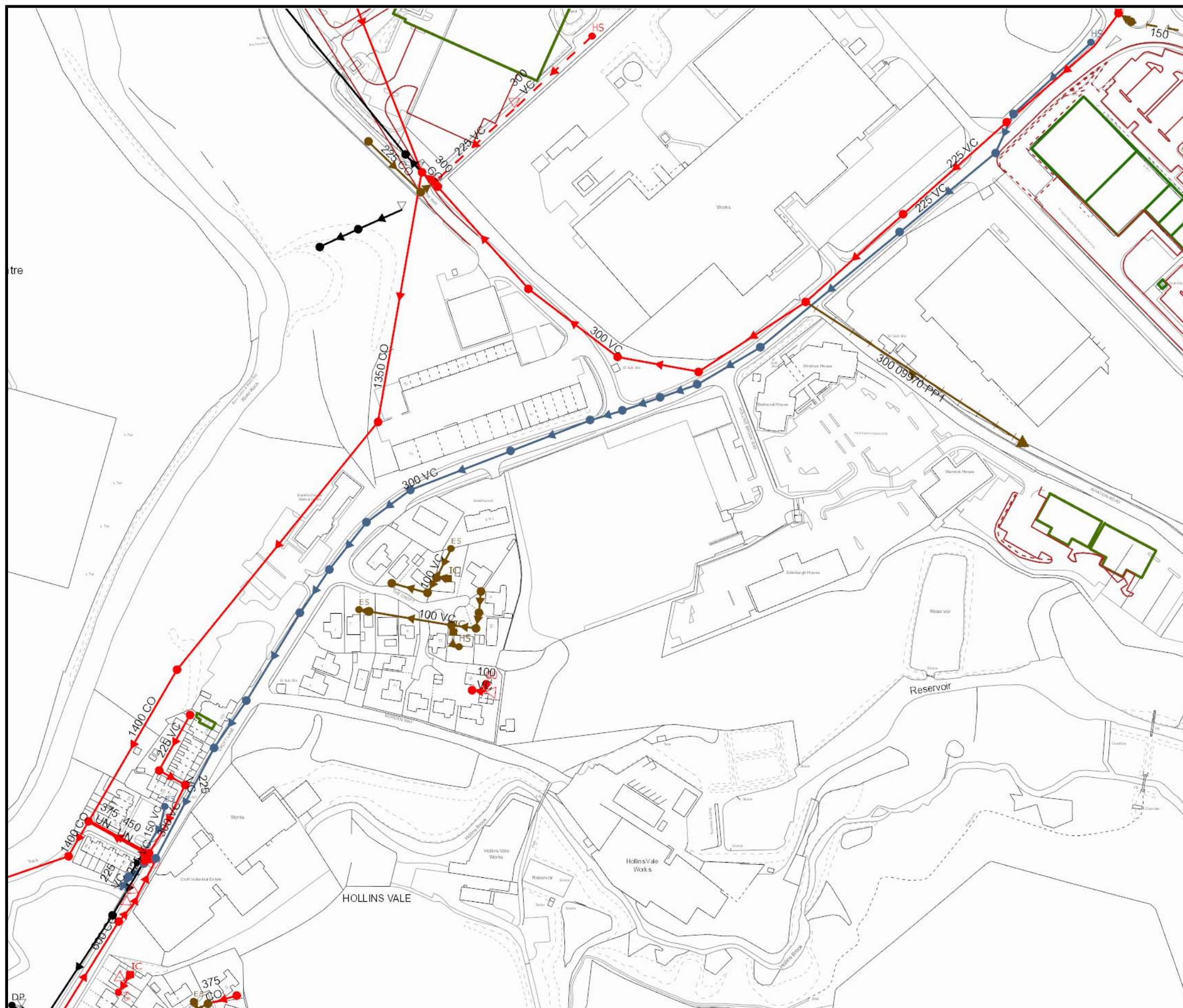
- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

Wastewater Symbolology



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	



Water for the North West

SEWER RECORDS

Address or Site Reference

JD Sports JD Sports Hollinsbrook
Way,
Bury,
BL9 8RR

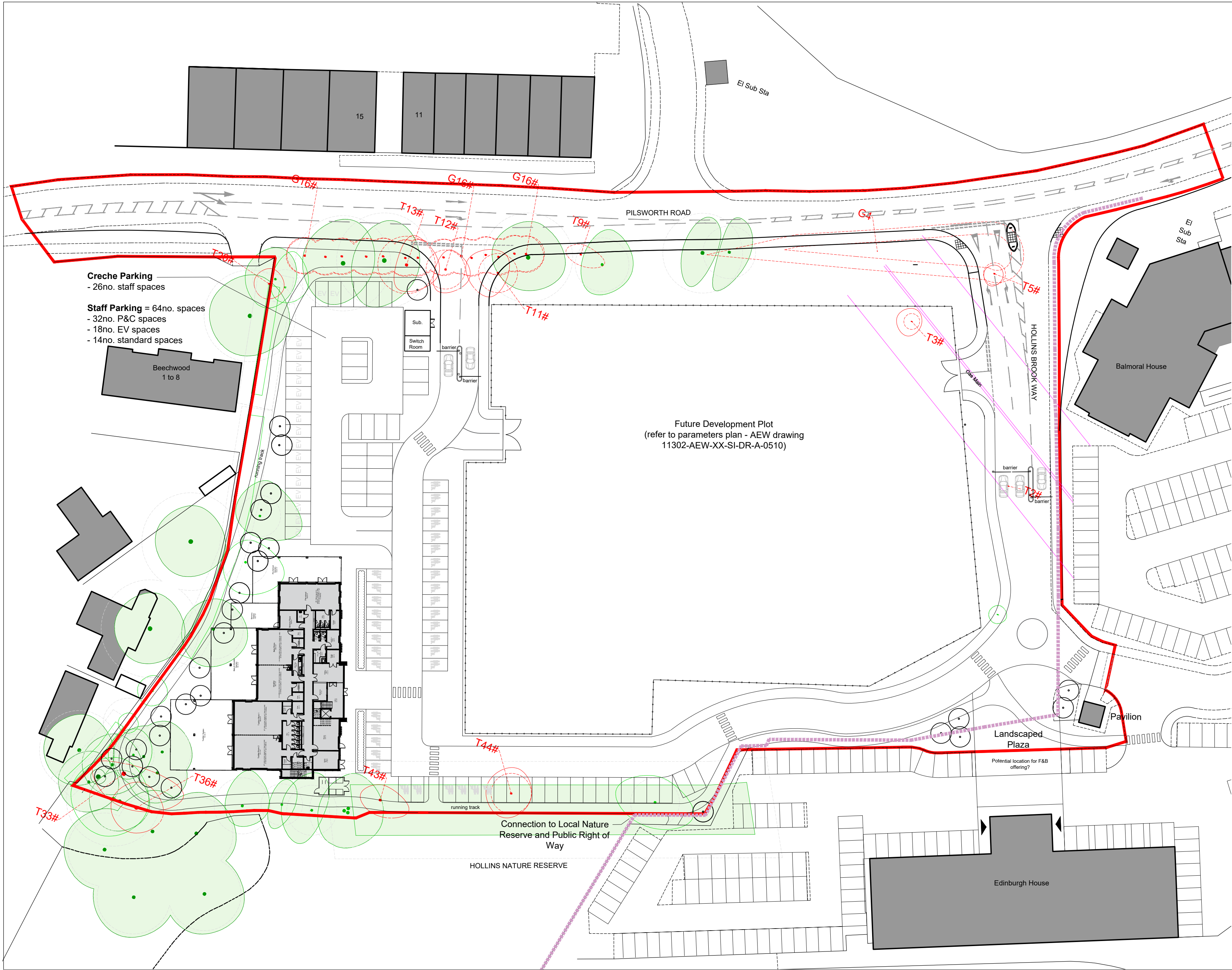
Scale: 1:2500
Date: 20/12/2021

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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Ordnance Survey 100022432. Unauthorised
reproduction will infringe these copyrights.

Appendix E – Proposed Site Plan



Creche Parking
- 26no. staff spaces

Staff Parking = 64no. spaces
- 32no. P&C spaces
- 18no. EV spaces
- 14no. standard spaces

Beechwood
1 to 8

Future Development Plot
(refer to parameters plan - AEW drawing
11302-AEW-XX-SI-DR-A-0510)

Connection to Local Nature
Reserve and Public Right of
Way

HOLLINS NATURE RESERVE

Edinburgh House

Pavilion

Landscaped
Plaza

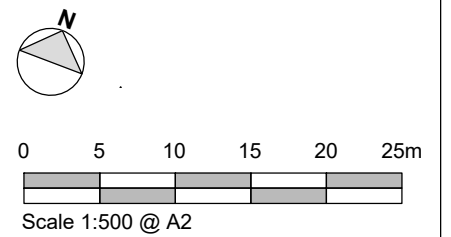
Potential location for F&B
offering?

NOTES

- All dimensions and levels are to be checked on site.
- Any discrepancies are to be reported to the architect before any work commences.
- This drawing shall not be scaled to ascertain any dimensions. Work to figured dimensions only.
- This drawing shall not be reproduced without express written permission from AEW.
- Title overlay drawings and ownership boundaries are produced using all reasonable endeavors. AEW cannot be responsible for the accuracy or scale discrepancy of base plans supplied to them.
- All works are to be undertaken in accordance with Building Regulations and the latest British Standards.
- All proprietary materials and products are to be used strictly in accordance with the manufacturers recommendations.

CDM 2015

Client notified of duties: 19/01/2022
Principal Designer: David M. Eagle Ltd.
Unless noted below, all known hazards have been highlighted on the drawing:



- Key:**
- Application Boundary
 - Existing Buildings
 - Proposed Buildings
 - Public Right of Way
 - Gas Main
 - Existing Trees to be retained
 - Existing Trees to be removed

P01	26/04/2022	RP	PBH
Initial Issue			
REV	Date	Drawn by: -	Checked by: -
Status	Purpose of Issue		
S2	For Approval		
drawing stage	Planning		
client			
JD Sports PLC			
project			
JD Sports Campus Hub (Former A-Plant Site)			
drawing title			
Proposed Site Plan			
date			
24/04/2022	drawn	RP	
scale@A2	1:500	checked	PBH

Appendix F – Flood Plans



Flood map for planning

Your reference
JD Sports

Location (easting/northing)
381524/408676

Created
26 May 2022 18:57

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- **In an area with critical drainage problems as notified by the Environment Agency**
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

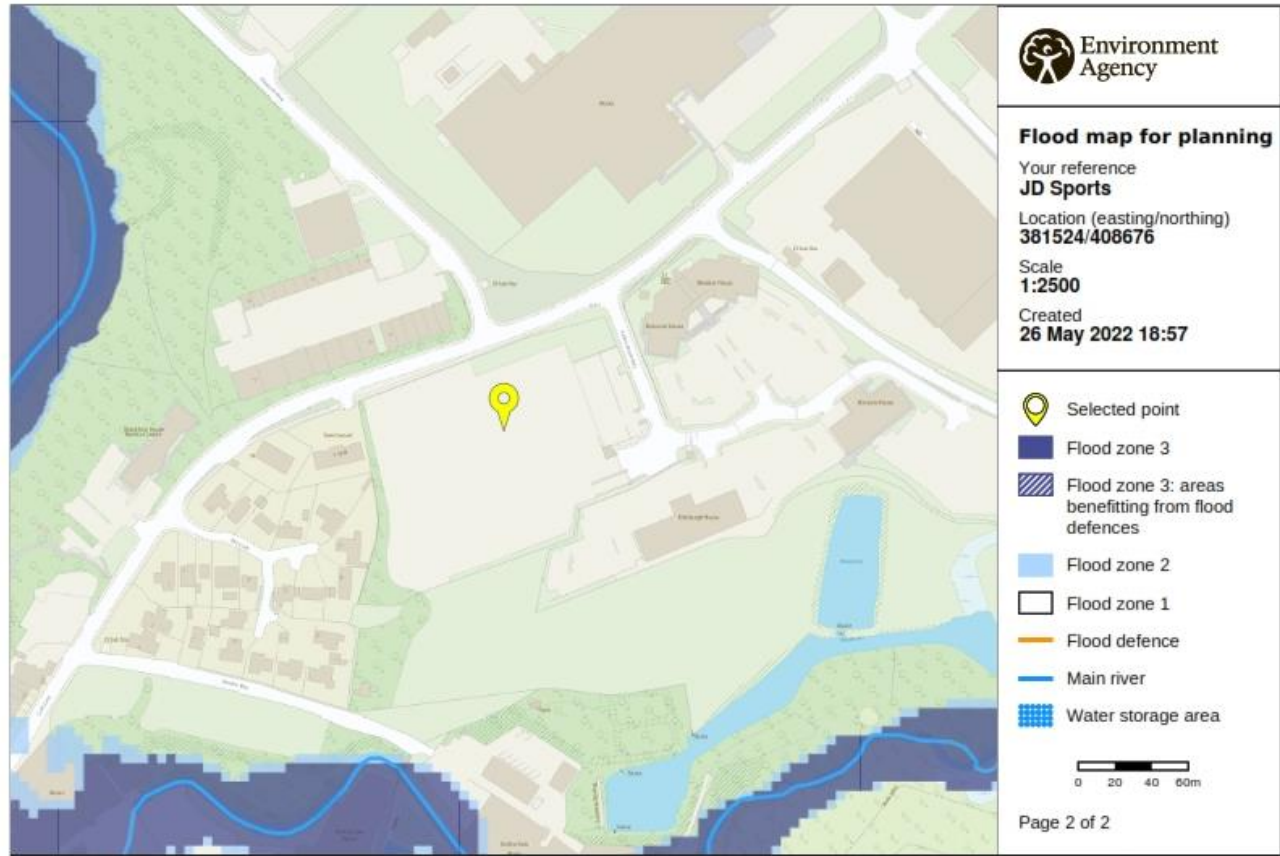
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence **which** sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2021 OS 100024198. <https://flood-map-for-planning.service.gov.uk/os-terms>



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Flood risk

Extent of flooding

Location

BL9 8RR



Extent of flooding from surface water

High
 Medium
 Low
 Very low
 Location you selected

Flood risk

Location

Extent of flooding

BL9 8RR

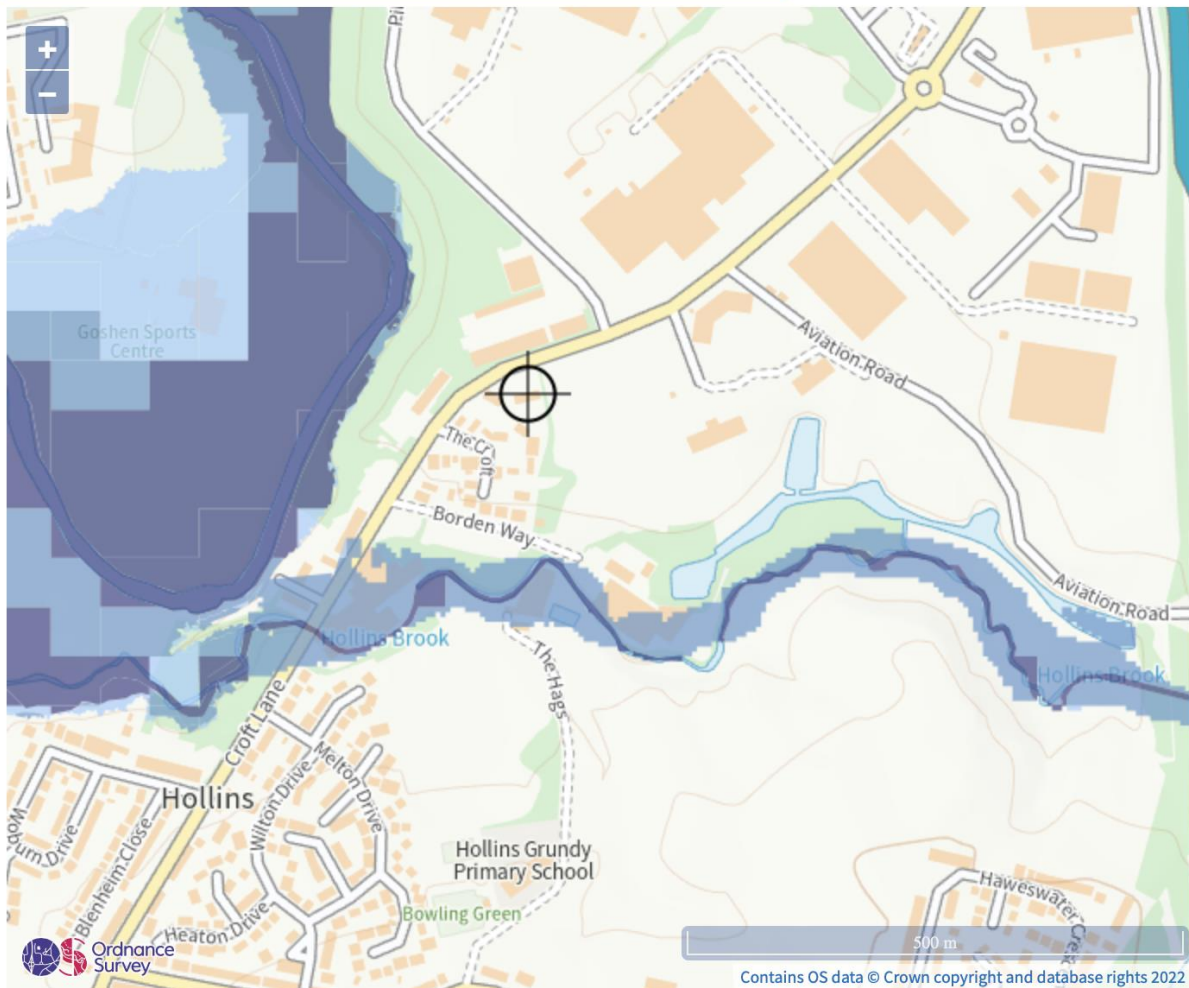


Flood risk

Location

Extent of flooding

BL9 8RR



Extent of flooding from rivers or the sea

[High](#)
 [Medium](#)
 [Low](#)
 [Very low](#)
 Location you selected

Appendix G – Proposed Drainage Layouts

KEY

EXISTING SURFACE WATER SEWER

EXISTING COMBINED WATER SEWER

EXISTING SURFACE WATER DRAIN

ABANDONED EXISTING DRAINAGE

PROPOSED SURFACE WATER DRAIN

PROPOSED FOUL WATER DRAIN

PROPOSED SUMP MANHOLE

PROPOSED POLYPROPYLENE INSPECTION CHAMBER

EXISTING GULLY

RED LINE BOUNDARY

PHASE 2 BOUNDARY

NOTES

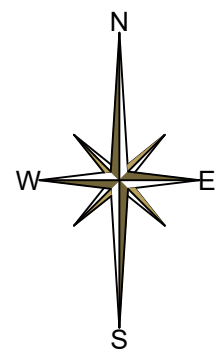
1. THIS DRAINAGE DESIGN IS BASED ON AN INFILTRATION RATE OF 2.17 x 10⁻⁵ m/s AS TAKEN FROM THE GROUNDTECH REPORT. FURTHER SOAKAWAY TESTS WILL BE REQUIRED TO FINALISE THE DRAINAGE STRATEGY.

2. COVER LEVELS ARE CURRENTLY BASED ON THE EXISTING LEVELS ONLY.

3. DRAINAGE LAYOUT SUBJECT TO CHANGE DEPENDING ON:

- RWP AND FOUL CONNECTION LAYOUT
- PROPOSED LEVELS
- EXISTING DRAINAGE LEVELS
- INFILTRATION RATE

4. FOUL WATER DISCHARGE RATE AND CONNECTION SUBJECT TO AGREEMENT WITH BURY COUNCIL AND UNITED UTILITIES.



- NOTES
1. THIS DRAWING IS PRELIMINARY AND IS SUBJECT TO CHANGE DEPENDING ON FURTHER DEVELOPMENT OF THE S.I.A. SITE LAYOUT, PROPOSED LEVELS, INFILTRATION RATES, RWP LAYOUT AND FOUL CONNECTION LOCATIONS.

2. THIS DRAWING IS BASED ON THE AEW ARCHITECTS PROPOSED SITE PLAN, DRAWING NO 11302-AEW-XX-SI-DR-A-0004 REV P03.

3. TO BE READ IN CONJUNCTION WITH ALL RELEVANT KENNEDY REDFORD DRAWINGS.

4. PRIVATE DRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH BUILDING REGULATIONS.

5. EXISTING SEWER AND DRAINAGE LOCATIONS AND LEVELS TO BE CONFIRMED BY CONTRACTOR ON SITE, PRIOR TO WORK COMMENCING.

6. ALL MANHOLE AND PIPE POSITIONS ARE APPROXIMATE AND MAY BE UPDATED FOLLOWING FURTHER DISCUSSIONS WITH THE RELEVANT AUTHORITIES.

7. ALL MANHOLE SIZES ARE 1200D UNLESS INDICATED OTHERWISE.

8. ALL INSPECTION CHAMBERS ARE 475D UNLESS INDICATED OTHERWISE.

9. UNLESS INDICATED OTHERWISE ALL PIPES TO BE LAD SORTIT TO SORTIT.

10. WHERE PROPOSED DRAINS ARE IN PROXIMITY TO PROPOSED FOUNDATIONS, THE FOUNDATIONS SHALL BE TAKEN DEEPER TO BELOW THE DRAINS OR THE DRAIN SHOULD BE PROTECTED WITH A FULL CONCRETE SURROUND.

11. PROPOSED PIPEWORK WITH LESS THAN THE FOLLOWING DEPTHS TO SORTIT REQUIRES A CONCRETE SURROUND:
 - 1.2m IN ROADS
 - 0.6m UNDER FOOTPATHS AND UNDER BUILDINGS.

12. SETTING OUT OF RAINWATER PIPES AND FOUL CONNECTION LOCATIONS UNKNOWN AT PRESENT.

13. RAINWATER PIPE AND FOUL CONNECTION LOCATIONS UNKNOWN AT PRESENT.

14. LINEAR DRAIN AND GULLY LOCATIONS SUBJECT TO DETAILED LEVELS DESIGN AND NOT SHOWN AT THIS TIME.

15. DISCHARGE RATE AND CONNECTION TO SEWER SUBJECT TO AGREEMENT WITH BURY COUNCIL AND UNITED UTILITIES.

16. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY WORKS AND CONSTRUCTION PROCEDURES.

17. CONTRACTOR TO APPLY FOR SEWER PERMITS AND ROAD OPENING PERMITS AS NECESSARY FROM THE APPROPRIATE AUTHORITIES, PRIOR TO COMMENCING WORKS.

18. THE CONTRACTOR SHALL ALLOW FOR ALL TRAFFIC MANAGEMENT IN CONNECTION WITH ROAD AND SEWER WORKS.

19. AT LEAST ONE SOIL PIPE AT THE HEAD OF EACH FOUL RUN SHALL VENT TO THE ATMOSPHERE.

PO2	27.05.22	UPDATED DRAINAGE LAYOUT	M.M.	R.B.	R.K.
PO1	10.05.22	PRELIMINARY ISSUE	R.B.	D.B.	R.K.
REV	DATE	DESCRIPTION	DRN	CHK	APP
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CLIENT
JD SPORTS PLC

PROJECT NAME
JD SPORTS OFFICE BURY

DRAWING TITLE
PROPOSED DRAINAGE LAYOUT
PHASE 1

DATE	SCALE	SHEET SIZE	REV
10.05.22	1:250	A0	P02

DRAWING STATUS

S1 - ISSUED FOR INFORMATION

DRAWING NUMBER

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