



Martin Grant Land

LONDON ROAD, HITCHIN

Flood Risk Assessment





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1 INTRODUCTION

1.1 CONTEXT

- 1.1.1. WSP UK Ltd (WSP) has been commissioned to produce a Flood Risk Assessment (FRA) and accompanying Surface Water Drainage Strategy on behalf of Martin Grant Land ('the Applicant'), in support of an outline planning application for the development of up to 41 residential properties, landscaping, drainage, and associated works (the 'Proposed Development').
- 1.1.2. This FRA has been carried out with reference to the National Planning Policy Framework (NPPF) and associated Flood Risk and Coastal Change Planning Practice Guidance (PPG), and the CIRIA Sustainable Drainage Systems (SuDS) Manual (C753, 2015).
- 1.1.3. The outcomes of pre-application consultation with key flood risk stakeholders, namely the Environment Agency, Anglian Water, North Hertfordshire District Council (NHDC), and Hertfordshire Country Council (as the Lead Local Flood Authority (LLFA)), are referenced throughout as appropriate.

1.2 SCOPE AND METHODOLOGY

SCOPE

- 1.2.1. This FRA comprises an assessment of the risk of flooding within the Site and surrounding area, assessing risks posed to and arising from the Proposed Development during its operation from all potential sources of flood risk.
- 1.2.2. The report also establishes the mitigation measures required to ensure the sustainability and safety of the Proposed Development.

METHODOLOGY

- 1.2.3. This FRA uses a source-pathway-receptor led approach for assessing flood risk, with the individual parts of that chain being defined as follows:
 - Sources - the potential source of flood risk to be assessed, such as direct rainfall, watercourses, the sea, groundwater or infrastructure (i.e. flood defence structures).
 - Pathways – the means by which the source of flood risk can impact potential receptors. A specific combination of sources and pathways is referred to as a flood mechanism, such as tidal overtopping of sea defences as a result of high tides and storm surge.
 - Receptors - comprise those persons or assets that could be vulnerable to the flood mechanisms identified.
- 1.2.4. The flood sources that have been assessed in this FRA include potential flooding from fluvial, tidal/coastal, surface water, groundwater, sewer and drainage infrastructure, and artificial sources (reservoirs and canals).
- 1.2.5. The receptors that have been assessed are the Proposed Development, users of and visitors to the Proposed Development, and other developments and people within the surrounding area.
- 1.2.6. The following sources of information have been used to inform this FRA:

- British Geological Survey (BGS) GeoIndex Onshore viewer¹;
- BGS Geology Viewer²;
- Department for Environment, Food and Rural Affairs (DEFRA) MAGIC Mapping³;
- Environment Agency Catchment Data Explorer⁴;
- Environment Agency Flood Map for Planning⁵;
- Environment Agency LiDAR Digital Terrain Model⁶;
- Environment Agency's online Long Term Flood Risk map⁷;
- Google Maps, Aerial Imagery⁸;
- Ordnance Survey Mapping (OSM)⁹; and
- UK Centre for Ecology and Hydrology's Flood Estimation Handbook (FEH) Web Service¹⁰.

1.3 ADVISORY INFORMATION

- 1.3.1. WSP UK Ltd has prepared this report in accordance with the instructions of our client, Martin Grant Land, for their sole and specific use relating to the above Site. Any person who uses any information contained herein does so at their own risk and shall hold WSP UK Ltd. harmless in any event. The conclusions and recommendations contained herein are limited by the availability of background information and the planned use for the Site.
- 1.3.2. Third party information has been used in the preparation of this report which WSP UK Ltd by necessity assumes is correct at the time of writing. Whilst reasonable checks have been made on data sources and the accuracy of the data, WSP UK Ltd accepts no liability in relation to the report should any data, information or condition be incorrect or have been concealed, withheld, misrepresented, or otherwise not fully disclosed to WSP UK Ltd. In any event, WSP UK Ltd. shall not be liable for any loss or damages arising under, or in connection to, the use of this report.
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- 1.3.4. WSP UK Ltd makes no warranties or guarantees, actual or implied, in relation to this report, or the ultimate commercial, technical, economic, or financial effect on the project to which it relates, and bears no responsibility or liability related to its use other than as set out in the contract under which it was supplied.

¹ [GeoIndex - British Geological Survey](#)

² https://geologyviewer.bgs.ac.uk/?_ga=2.241530178.1350753581.1760263341-745825928.1760263340

³ <https://magic.defra.gov.uk/MagicMap.aspx>

⁴ <https://environment.data.gov.uk/catchment-planning/>

⁵ <https://flood-map-for-planning.service.gov.uk/>

⁶ [Defra Survey Data Download](#)

⁷ [Technical map - Check your long term flood risk - GOV.UK](#)

⁸ <https://www.google.com/maps>

⁹ <https://osmaps.ordnancesurvey.co.uk>

¹⁰ [Map - FEH Web Service](#)

2 SITE BACKGROUND

- 2.1.1. The site is located in St Ippolyts, Hitchin, North Hertfordshire. The Ordnance Survey (OS) Grid Reference for the approximate centre of the site is TL19138 27480 and the nearest postcode is SG4 7NF. The site falls under the Hertfordshire County Council and North Hertfordshire District Council (NHDC) authority area. A site location plan is provided in Figure 2-1 below.

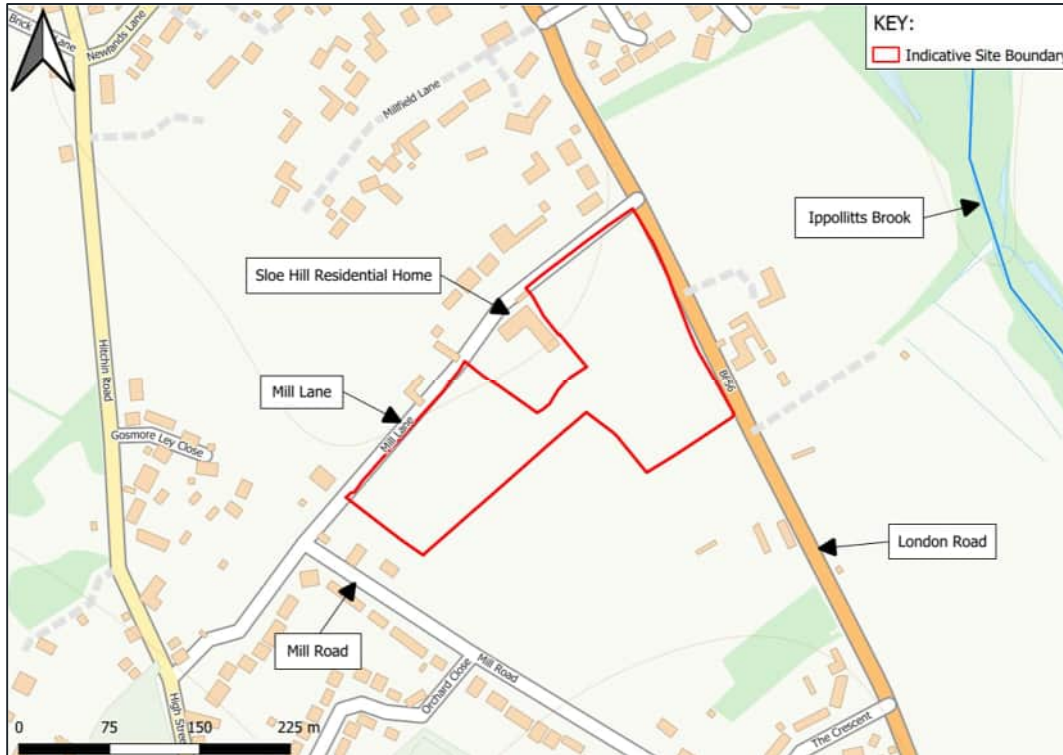


Figure 2-1 – Site Location Plan

2.2 SITE DESCRIPTION

- 2.2.1. The site encompasses approximately 3.3 hectares (ha) of greenfield land. Mill Lane runs along the northwestern boundary, Mill Road is situated to the southwest, and London Road (B656) borders the eastern edge. Residential and commercial areas of Hitchin town are directly to the north, while those of St Ippolyts are to the south and east. Greenfield areas are located to the south, east, and west. The site surrounds Sloe Hill Residential Home near its centre.

2.3 TOPOGRAPHY

- 2.3.1. Oak Surveys Limited undertook a topographical survey in 2019. The survey indicated that ground levels range from approximately 82 m AOD¹¹ to 74 m AOD, generally sloping from the northwest to the southeast. The lowest ground level of 74.95 m AOD is shown towards the southwest of the site and the highest ground level of 81.56 m AOD is shown towards the northern centre of the site. It is acknowledged that the survey is six years old but given the nature of the site (greenfield) it is very

¹¹ m AOD - metres Above Ordnance Datum

unlikely that any topographical changes would have occurred in the intervening period. A copy of the topographical survey can be found in Appendix A.

- 2.3.2. The Environment Agency's (EA) Light Detection and Ranging (LiDAR) 1 m Digital Terrain Model (DTM) 2022 data concur with the results from the topographical survey, as shown in Figure 2-2 below.

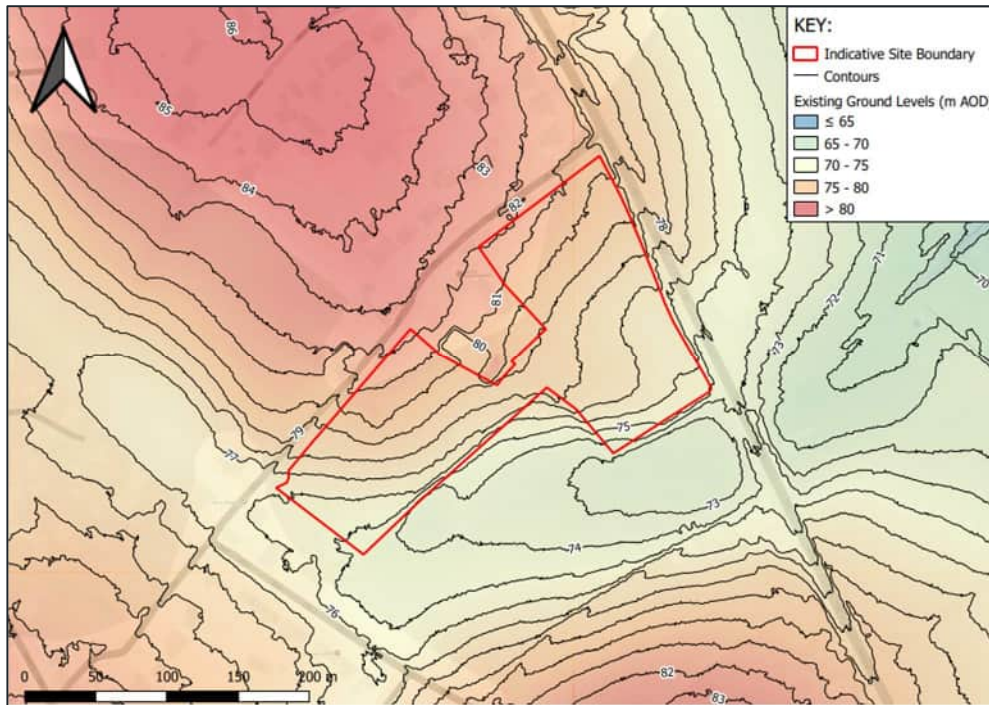


Figure 2-2 - Environment Agency Existing Ground Levels

2.4 GEOLOGY AND HYDROGEOLOGY

GEOLOGY

- 2.4.1. According to publicly available mapping produced by the British Geological Survey (BGS), the majority of the site, particularly towards the centre and eastern areas, is underlain by Zig Zag Chalk formation. The western portion of the site is characterised by West Melbury Marly Chalk Formation, also consisting of chalk, while the westernmost point is underlain by Gault Formation, comprising mudstone. An excerpt from the BGS bedrock geology mapping is presented in Figure 2-3 below.
- 2.4.2. BGS mapping shows that most of the site is underlain by superficial Glaciofluvial Deposits from the mid Pleistocene era, comprising sand and gravel. The southernmost area contains deposits of Head, which include clay, silt, sand, and gravel. An excerpt from the BGS superficial geology mapping is provided below in Figure 2-4.



Figure 2-3 - British Geological Survey – Bedrock



Figure 2-4 - British Geological Survey - Superficial Deposits

HYDROGEOLOGY

- 2.4.3. Based on DEFRA's Magic mapping, bedrock underlying the site is classified as being a Principal aquifer. BGS defines Principal aquifers as having a high permeability and significant water storage capacity. These aquifers are capable of supporting large-scale abstractions for public water supply.
- 2.4.4. The site's underlying superficial deposits are predominately Secondary A aquifers, which provide local water supplies and sometimes support river base flow. Along the southern and western edges, the land is classified as Secondary (Undifferentiated) aquifers, where rock characteristics make further classification unclear due to the variable characteristics.
- 2.4.5. MAGIC mapping indicates the site's eastern area falls within a Zone III Source Protection Zone (SPZ), where all groundwater flows to an abstraction point. The western area lies in a Zone II SPZ, defined as groundwater taking up to 400 days to reach the abstraction point, which helps protect against slowly degrading contaminants.
- 2.4.6. According to Cranfield Soils mapping, the site is covered entirely by freely draining, slightly acidic loamy soils. These soils allow water to pass through at a moderate rate, reducing risk of waterlogging.
- 2.4.7. During consultation, the Environment Agency indicated that groundwater below the site flows in an easterly direction, towards the Ippollits Brook, a minor watercourse located about 0.26 km east of the site.

EXISTING WATERBODIES

- 2.4.8. The River Purwell, classified as an EA Main River, is situated approximately 2.4 km north of the site. A chalk stream, it originates from subterranean springs within chalk bedrock, which initially give rise

to Ippollitts Brook. The brook flows northwards, increasing in size before it becomes designated as the River Purwell.

- 2.4.9. A pond is situated approximately 0.22 km northeast of the site and is likely to be hydrologically connected to Ippollitts Brook.
- 2.4.10. There is a field drain located approximately 0.5 km west of the site, along with three ponds located between approximately 0.6 km – 0.85 km west of the site. However, these do not appear to be hydraulically linked to the site.
- 2.4.11. There are no open watercourses within the site.

2.5 EXISTING SEWER AND DRAINAGE INFRASTRUCTURE

- 2.5.1. The site is currently classified as a greenfield site, draining via a combination of natural overland runoff and localised infiltration.
- 2.5.2. The site lies within the Ashbrook sewer catchment, which is managed by Anglian Water, the statutory sewerage undertaker for the site.
- 2.5.3. According to the Anglian Water Assets Plan (2019) provided in Appendix B, there is a 150 mm foul water sewer is located along the eastern section of Mill Lane. The plan also indicates the presence of a foul water sewer along Mill Road, as well as along the southern border of the field adjacent to the south of the site
- 2.5.4. Mapping for London Road and Mill Road indicates road gullies near the site boundary, though their connection to the public sewer network is unknown.
- 2.5.5. Any easements associated with the public sewer network should be incorporated into the detailed design of the Proposed Development as the project progresses.

3 PROPOSED DEVELOPMENT

3.1 DEVELOPMENT PROPOSALS

- 3.1.1. The Proposed Development will involve the erection of up to 41 residential homes, landscaping, drainage, and associated works. Figure 3-1 shows the Proposed Development drawing.



Figure 3-1 - Proposed Development at Hitchin (Source: CSA Environmental Drg. No. CSA/3922/122(D))

3.2 DEVELOPMENT LIFESPAN

- 3.2.1. This FRA has been written based on the Proposed Development having a lifespan of 100 years.

3.3 VULNERABILITY CLASSIFICATION

- 3.3.1. In accordance with Annex 3 (Flood risk vulnerability classification) of the National Planning Policy Framework (NPPF) Flood Risk and Coastal Change PPG, the Proposed Development is considered 'More Vulnerable' with respect to flood risk due to the proposed residential dwellings.

4 CONSULTATION, POLICY AND GUIDANCE

4.1 STAKEHOLDER CONSULTATION

- 4.1.1. Pre-application consultation has been undertaken with the following key flood risk stakeholders to inform this Flood Risk Assessment (FRA):
- Environment Agency (EA);
 - Anglian Water (AW);
 - Hertfordshire County Council (HCC); and
 - North Hertfordshire District Council (NHDC).
- 4.1.2. Consultation with HCC includes a post-submission meeting with members of Hertfordshire County Council's LLFA team to discuss points they made in their 18th December 2025 planning review response letter (refer to Appendix C). The meeting was attended by HCC, WSP and MGL and a way forward was agreed as to addressing the points.
- 4.1.3. A summary of the correspondence undertaken with the stakeholders identified above is given in Table 4-1 below, with full copies provided in Appendix C for reference. Where relevant, details from the responses have been used within this report.

Table 4-1 - Stakeholder Correspondence

Stakeholder Correspondence	Date of Consultation	Response
EA	May 2025	The EA confirmed that they hold no record of historic flood events recorded within the vicinity of the site. They stated that there are no EA defences within 500 m or which impact upon the site. The EA confirmed that there are currently no designated areas with critical drainage problems (ACDPs) that cover the site. The EA provided hydrogeological setting information, noting that an EA monitoring borehole (TL12/015), is located approximately 85 m southeast of the site and has average groundwater levels between 4.2 metres below ground level (m bgl) and 6.2 m bgl. They provided water quality requirements for surface water runoff, which are further discussed in the Surface Water Drainage Strategy (SWDS).
AW	April 2025	AW confirmed that there have been instances of flooding within the vicinity of the site, however, they could not provide information on the source, dates or extent of flooding.
HCC (Lead Local Flood Authority)	April 2025	HCC confirmed that they do not have any recorded reports of flooding within the site. The nearest reported flooding incident was to a property approximately 380 mm to the northwest. They are unaware of any flood defence structures at the site or in the surrounding area.

Stakeholder Correspondence	Date of Consultation	Response
		Further detail was provided on attenuation system requirements and water quality, and this is further discussed in the SWDS. Refer to HCC letter dated 18 December 2025 in Appendix C for a copy of their planning review response.
NHC	April 2025	NHC did not provide further details apart from what is available on their website and in the Local Plan. They suggested obtaining pre-application advice.

4.2 LEGISLATION, POLICY AND GUIDANCE

4.2.1. This FRA has been informed by, and makes reference to where appropriate, the following legislation, policy and guidance documents.

LEGISLATION

- Environment Act (2021)¹²;
- The Environment Permitting (England and Wales) Regulations (2016)¹³;
- Flood and Water Management Act (2010)¹⁴;
- The Flood Risk Regulations (2009)¹⁵;
- The Groundwater (Water Framework Directive) (England) Direction (2016)¹⁶;
- Land Drainage Act (1991)¹⁷;
- The Water Environment (Water Framework Directive) (England and Wales) Regulations (2017)¹⁸;
- Water Industry Act (1991)¹⁹; and,
- Water Resources Act (1991)²⁰.

NATIONAL POLICIES AND GUIDANCE

- Building Regulations Approved Document H, Ministry of Housing, Communities and Local Government (2015)²¹;
- Environment Agency Flood Risk Assessments: Climate Change Allowances guidance (2022)²²;
- National Planning Policy Framework (NPPF), Ministry of Housing, Communities & Local Government (2025)²³;

¹² <https://www.legislation.gov.uk/ukpga/2021/30/contents>

¹³ <https://www.legislation.gov.uk/uksi/2016/1154/contents>

¹⁴ <https://www.legislation.gov.uk/ukpga/2010/29/contents>

¹⁵ <https://www.legislation.gov.uk/uksi/2009/3042/contents/made?view=plain>

¹⁶ https://www.legislation.gov.uk/uksi/2015/1623/pdfs/uksiod_20151623_en.pdf

¹⁷ <https://www.legislation.gov.uk/ukpga/1991/59/contents>

¹⁸ <https://www.legislation.gov.uk/uksi/2017/407/contents>

¹⁹ <https://www.legislation.gov.uk/ukpga/1991/56/contents>

²⁰ <https://www.legislation.gov.uk/ukpga/1991/57/contents>

²¹ <https://www.gov.uk/government/publications/drainage-and-waste-disposal-approved-document-h>

²² <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

²³ <https://www.gov.uk/guidance/national-planning-policy-framework>

- National Standards for Sustainable Drainage Systems, Department for Environment, Food and Rural Affairs (DEFRA) (2025)²⁴ ;
- Planning Practice Guidance (PPG) Flood Risk and Coastal Change, Ministry of Housing, Communities & Local Government and Department for Levelling Up, Housing and Communities. (2022)²⁵; and
- The SuDS Manual (C753), CIRIA, (2015)²⁶.

LOCAL/REGIONAL POLICIES AND GUIDANCE

- Hertfordshire County Council Lead Local Flood Authority SuDS Policy Statement (2015)²⁷;
- Hertfordshire County Council Local Flood Risk Management Strategy 2 (2019)²⁸;
- Hertfordshire County Council Preliminary Flood Risk Assessment (PFRA) (2011)²⁹;
- Hertfordshire County Council Review of Hertfordshire's Local Flood Risk Management Strategy Issues & Options document (2016)³⁰;
- North Hertfordshire District Council Strategic Flood Risk Assessment Update (2016)³¹; and
- North Hertfordshire Local Plan 2011-2031 (2025)³².

4.3 CLIMATE CHANGE GUIDANCE

- 4.3.1. The Environment Agency's guidance on climate change allowances provides up to date predictions on the changes in peak river flows, peak rainfall intensities, and sea levels that are expected to occur as a result of climate change.
- 4.3.2. The allowances are considered as part of this assessment to ensure that the Proposed Development would remain safe and would not increase flood risk elsewhere over its intended design life in accordance with the requirements of the NPPF.
- 4.3.3. The Environment Agency confirmed during consultation that the assessment should follow East_Anglian_External Climate Change Allowances Guidance_March2022.
- 4.3.4. The anticipated impact of climate change on sea levels is not relevant to this assessment as the site is not located in the vicinity of the coast or a tidal estuary.

²⁴ <https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds>

²⁵ <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

²⁶ <https://www.calderdale.gov.uk/docs/planning/ciria-c753-the-suds-manual.pdf>

²⁷ <https://democracy.hertfordshire.gov.uk/Data/Cabinet/201503231400/Agenda/KolCNnV2fqB7TRmzIIMB8VYz8OUip.pdf>

²⁸ <https://www.hertfordshire.gov.uk/media-library/documents/environment-and-planning/water/flood-risk-management/lfrms-for-hertfordshire-non-technical-summary.pdf>

²⁹ <https://www.hertfordshire.gov.uk/media-library/documents/environment-and-planning/water/flood-investigations/archive-consultations/hcc-preliminary-flood-risk-assessment.pdf>

³⁰ <https://democracy.hertfordshire.gov.uk/Data/Environment,%20Planning%20and%20Transport%20Cabinet%20Panel/201606301000/Agenda/UPiLEZ5oiL9Jp0cUS32fZfT6yGMgG.pdf>

³¹ <https://www.north-herts.gov.uk/sites/default/files/NHE12a%20-%20North%20Hertfordshire%20District%20Council%20SFRA%20Update%202016%20%28p1-26%29.pdf>

³² <https://www.north-herts.gov.uk/north-herts-local-plan-2011-2031>

PEAK RAINFALL INTENSITY

- 4.3.5. The EA's climate change allowances for peak rainfall intensity are to be used for the design of surface water drainage infrastructure and for the assessment of surface water flood risk in small catchments with an area of less than five square kilometres.
- 4.3.6. The latest allowances for peak rainfall intensity for the Upper and Bedford Ouse Management Catchment, of which the site is located, are summarised in Table 4-2 below.

Table 4-2 - Upper and Bedford Ouse Management Catchment Peak Rainfall Allowances

Epoch	3.3% Annual Exceedance Rainfall Event		1% Annual Exceedance Rainfall Event	
	Central Allowance (%)	Upper end allowance (%)	Central Allowance (%)	Upper end allowance (%)
2050s	20	35	20	40
2070s	25	35	25	40

- 4.3.7. The Environment Agency's climate change guidance provides advice on the application of allowances for peak rainfall intensity for developments with an expected lifetime beyond 2100, stating that developments should use the upper end allowance for both the 1% and 3% annual exceedance probability (AEP) events for the 2070s epoch (between 2061 and 2125).

PEAK RIVER FLOW

- 4.3.8. The EA's allowances for peak river flow details the anticipated changes to peak flow by sub-catchments of river basin districts known as management catchments.
- 4.3.9. The latest allowances for peak river flow for the Upper and Bedford Ouse Management Catchment, in which the site is located, are summarised in Table 4-3 below.

Table 4-3 - Upper and Bedford Ouse Management Catchment Peak River Flow Allowances

Epoch	Central (%)	Higher Central (%)	Upper (%)
2020s	5	10	24
2050s	4	11	30
2080s	19	30	58

- 4.3.10. The EA's climate change guidance advises that the central allowance should be used for More Vulnerable developments (i.e. the Proposed Development) within Flood Zones 2 and 3a. Although no guidance is specifically given for More Vulnerable developments within Flood Zone 1, the central allowance will be used as a conservative approach. As the Proposed Development has a lifespan of at least 100 years, the 2080s epoch would be appropriate.

5 SEQUENTIAL AND EXCEPTION TEST

- 5.1.1. The purpose of the Sequential Test is to ensure that land use planning takes due regard of all sources of flood risks, to ensure that areas at low or no risk of flooding are developed in preference to areas at higher risk. The Sequential Test aims to steer development, if possible, towards areas at the lowest risk of flooding.
- 5.1.2. Table 2 (Flood risk vulnerability and flood zone 'incompatibility') of the NPPF Flood Risk and Coastal Change PPG identifies different land use vulnerabilities that are appropriate within each of the Flood Zones; this has been replicated in Table 5-1 below. This shows that 'More Vulnerable' developments are permitted within Flood Zone 1.

Table 5-1 - Flood risk vulnerability and flood zone compatibility

Flood Risk Vulnerability Classification	Flood Zone 1	Flood Zone 2	Flood Zone 3A	Flood Zone 3B
More Vulnerable	Development is appropriate	Development is appropriate	Exception Test required	Development is not permitted

- 5.1.3. While a Low risk of surface water exists to the south of the site, no development is proposed in this area. Accordingly, the Proposed Development can be considered to satisfy the Sequential Test requirements, and an Exception Test is not necessary.

6 ASSESSMENT OF FLOOD RISK

6.1 INTRODUCTION

- 6.1.1. The following section provides an overview of flood risk to the site, along with flood risk to and from the Proposed Development. An assessment has been undertaken for each source that could affect the Proposed Development in accordance with the NPPF Flood Risk and Coastal Change PPG.

6.2 HISTORIC FLOOD RISK

- 6.2.1. A review of the Environment Agency's (EA) Historic Flood Map shows that there are no historical records of flooding at the site or the surrounding area.
- 6.2.2. The EA confirmed that they do not hold any records of flooding within the site.
- 6.2.3. Hertfordshire County Council (HCC) confirmed that the nearest reported flood incident occurred at a property approximately 380 m northwest of the site. Anglian Water confirmed that there have been instances of flooding within the vicinity of the site, however, they were not able to provide the source, date or extent of the incident.

6.3 FLOOD RISK FROM TIDAL AND FLUVIAL SOURCES

- 6.3.1. The Proposed Development is not located in the vicinity of the coast or a tidal watercourse. The risk of coastal and tidal flooding to the site is negligible and the risk of the Proposed Development exacerbating this risk is also considered to be negligible. As a result, the risk of flooding detailed below is linked to fluvial sources.

FLOOD MAP FOR PLANNING

- 6.3.2. The EA's Flood Map for Planning presents the indicative flood risk to the Proposed Development from fluvial and tidal sources for an undefended, present-day scenario.
- 6.3.3. The flood zones are defined as follows:
- **Flood Zone 1** comprises land assessed as having a less than 1 in 1000 annual exceedance probability (AEP) of river or sea flooding in any year (<0.1%);
 - **Flood Zone 2** comprises land assessed as having between a 1 in 100 (1%) and 1 in 1000 (0.1%) AEP of river flooding; or between a 1 in 200 (0.5%) and 1 in 1000 (0.1%) AEP of sea flooding in any year; and
 - **Flood Zone 3** comprises land assessed as having a 1 in 100 (1%) or greater AEP of river flooding; or a 1 in 200 (0.5%) or greater AEP of sea flooding in any year.
- 6.3.4. An extract of the Flood Map for Planning is shown in Figure 6-1 below and Appendix D.
- 6.3.5. The mapping indicates that the entirety of the site is located within Flood Zone 1, indicating a Low risk of flooding from fluvial sources.

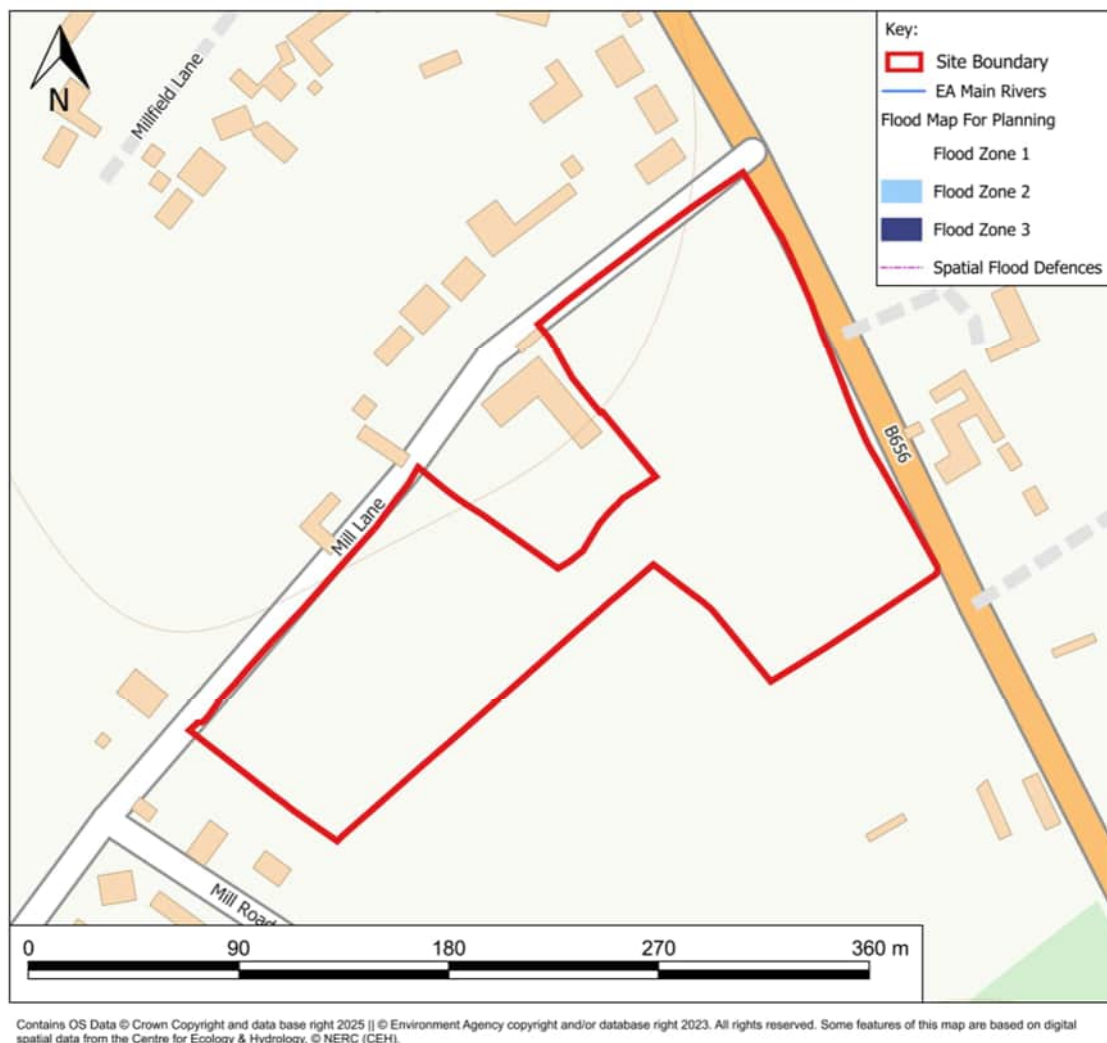


Figure 6-1 – EA Flood Risk Map for Planning (2025)

RISK OF FLOODING FROM RIVERS AND SEA

6.3.6. The EA's Risk of Flooding from Rivers and Sea mapping shows the chance of flooding from rivers and the sea to the site, taking into account the presence and condition of flood defences.

- The level of risk is displayed as one of four likelihood categories:
 - High – greater than or equal to 1 in 30 (3.3%) chance of flooding in any year
 - Medium – Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance of river flooding in any given year; or less than 1 in 30 (3.3%) but greater than or equal to 1 in 200 (0.5%) chance of sea flooding in any given year;
 - Low – Less than 1 in 100 (1%) chance of river flooding or less than in 200 (0.5%) chance of sea flooding, but greater than or equal to 1 in 1000 (0.1%) chance of flooding from rivers or sea in any given year; and
 - Very low – less than 1 in 1000 (0.1%) chance of flooding in any given year (not mapped).

6.3.7. Extracts of the EA's Risk of Flooding from Rivers and Sea mapping for the present-day scenario and the future baseline are provided in Figure 6-2 and Figure 6-3, respectively and Appendix D.

6.3.8. The mapping indicates that the site is at a Very Low risk of flooding from rivers and sea for both a present day and future scenario.

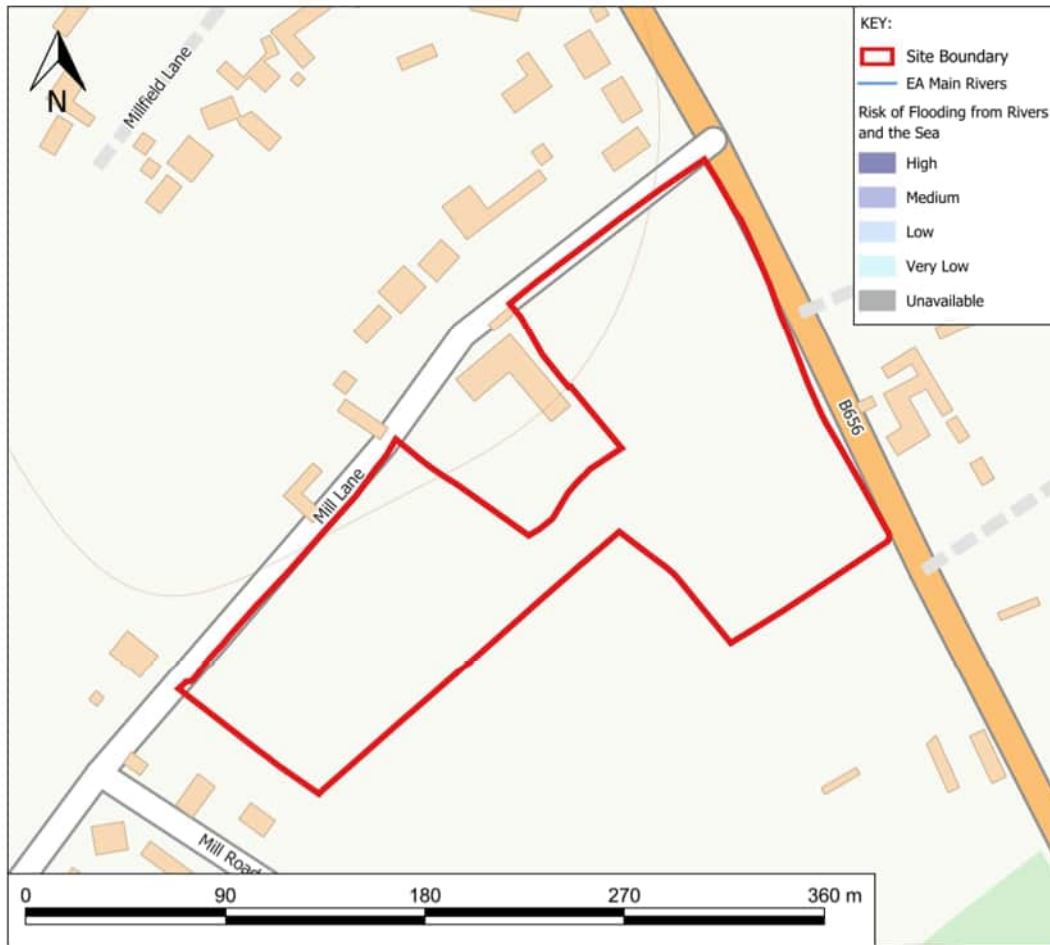
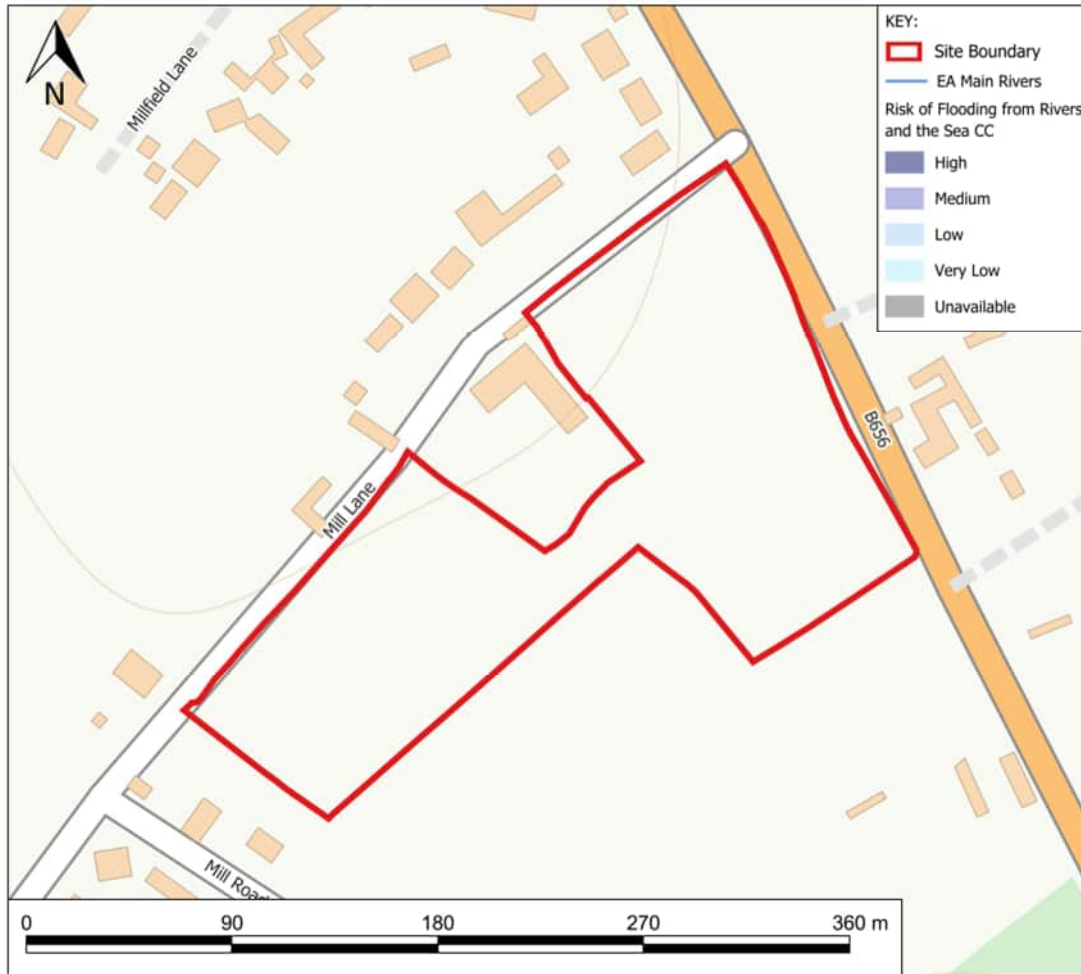


Figure 6-2 – EA Flood Risk from River and Sea (2025)



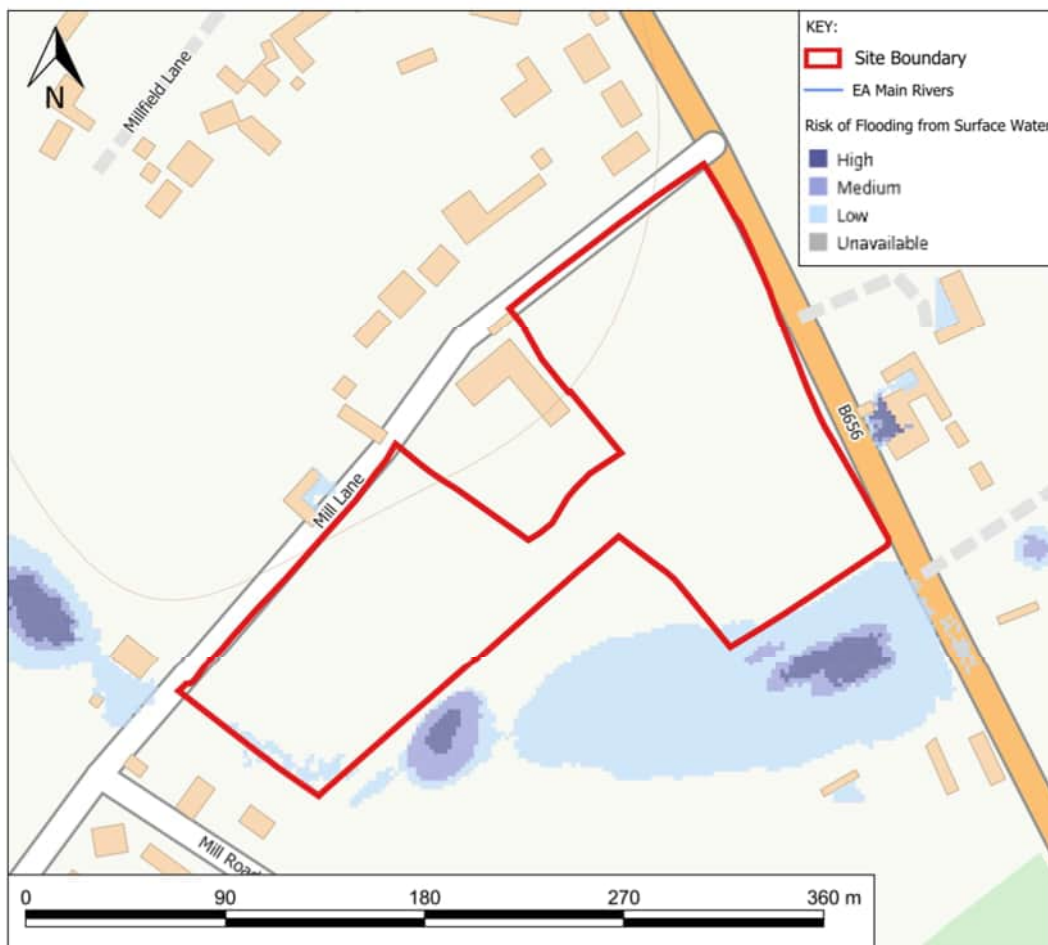
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Figure 6-3 – EA Risk of Flooding from Rivers and the Sea including Climate Change (2025)

6.4 FLOOD RISK FROM SURFACE WATER

- 6.4.1. During storm events rainfall may exceed the capacity of the underlying soil or drainage infrastructure provision, resulting in overland flows potentially leading to pluvial (surface water) flooding.
- 6.4.2. The EA's Risk of Flooding from Surface Water mapping categorises the results of their surface water modelling into one of four likelihood categories:
- High - greater than or equal to 1 in 30 (3.3%) chance of flooding in any year;
 - Medium – Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance of flooding in any given year;
 - Low – Less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) chance of flooding in any given year; and
 - Very Low – less than 1 in 1000 (0.1%) chance of flooding in any given year (not mapped).
- 6.4.3. An excerpt from the EA's Risk of Flooding from Surface Water mapping for a present-day scenario and the 2040 and 2060 scenario are provided in Figure 6-4 and Figure 6-5, respectively.

- 6.4.4. The mapping indicates that the site is predominantly located in an area of Very Low risk of surface water flooding with a small area of Low risk to the southwestern and southeastern edges of the site. This is relatively similar for the future scenario, with only a slight increase in the extent of flood risk to the southwestern edge, indicating that climate change does not substantially increase flood risk.
- 6.4.5. The mapping suggests surface water flood risk is associated with localised depressions in topography south of the site where there is a Low, Medium and High risk of flooding from this source.
- 6.4.6. The residential dwellings will be built in an area of Very Low risk of flooding from surface water. Therefore, it is considered that the Proposed Development will not be at risk of surface water flooding, and will not increase surface water flood risk to neighbouring property or land.



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Figure 6-4 – EA Flood Risk from Surface Water (2025)

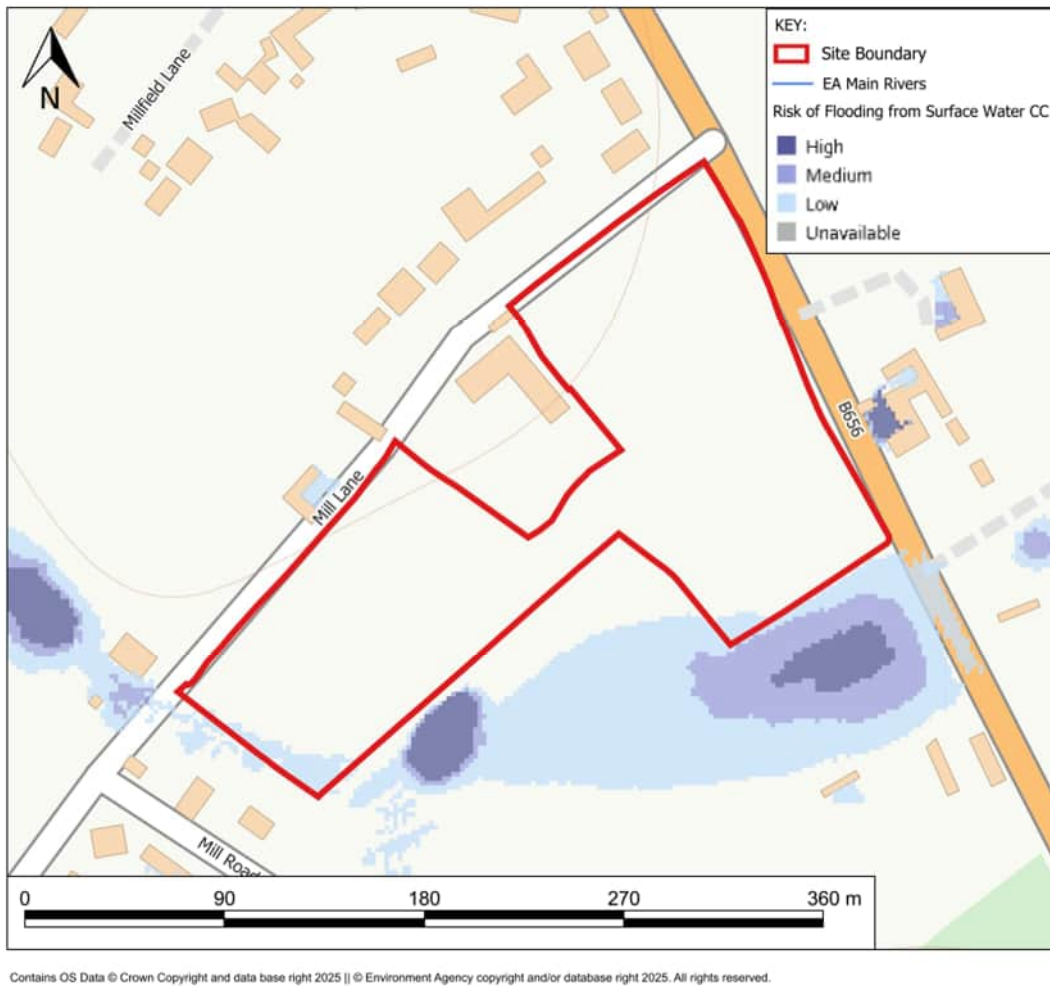


Figure 6-5 – EA Flood Risk from Surface Water including Climate Change (2025)

6.5 FLOOD RISK FROM GROUNDWATER

- 6.5.1. Groundwater flooding occurs when water emerges from underground, either at specific points or diffuse locations. Groundwater flooding typically happens after prolonged rainfall, which leads to increased infiltration and recharge into local aquifers, causing the water table to rise above normal levels.
- 6.5.2. The site's geology and soils suggest that flood risk from groundwater is low under normal conditions, but there is a potential for groundwater flooding during prolonged or extreme rainfall events, especially due to the high permeability of the Principal aquifer.

6.6 FLOOD RISK FROM SEWERS

- 6.6.1. Flooding from artificial drainage infrastructure occurs when flow entering a system exceeds the conveyance or discharge capacity. Exceeding the capacity of drainage infrastructure can cause surcharging or flooding from the system, therefore by leading to ponding or overland surface water flow.
- 6.6.2. As previously stated, Anglian Water confirmed that there have been instances of flooding within the vicinity of the site, however, they were unable to provide the source, date or extent of the incident.

- 6.6.3. As the asset location plan does not show there to be drainage infrastructure within the site, the risk of sewer flooding to the Proposed Development is considered to be low.

6.7 FLOOD RISK FROM ARTIFICIAL SOURCES

- 6.7.1. Artificial sources of flooding can include reservoirs, lakes and canals. The potential effects of flood risk management infrastructure and other structures need to be considered.

FLOOD RISK FROM RESERVOIRS

- 6.7.2. Reservoir flood maps have been created for over 2,000 reservoirs in England and Wales. These maps show the likelihood of flooding from large reservoirs that retain at least 25,000 cubic metres of water above natural ground level. The maps show the largest area that might be flooded if a reservoir were to fail in a credible worst-case scenario for both a dry day and a wet day (i.e. when the rivers are in flood) scenarios.
- 6.7.3. There are no reservoirs within close proximity to the site, with the closest reservoirs (Tring Reservoirs) being located approximately 28 km west of the site. Therefore, based on the information available, the overall flood risk from reservoirs is considered to be negligible.

FLOOD RISK FROM OTHER ARTIFICIAL SOURCES

- 6.7.4. There are no canals or pumped catchments within the vicinity of the site. Therefore, the overall flood risk from other artificial sources is considered to be negligible.

7 SURFACE WATER DRAINAGE

7.1 INTRODUCTION

- 7.1.1. The scope of the drainage section of this report is to provide a strategy for the management of surface water runoff from the Proposed Development, providing attenuation and restricting discharge to pre-development rates. With reference to Section 6.4, Flood Risk from Surface Water, the scope also covers how extreme rainfall events will be managed within the drainage system to ensure that the development does not increase flood risk either on-site or off-site.
- 7.1.2. Within this scope, the surface water drainage strategy addresses the direct impacts of the Proposed Development on a previously undeveloped site, where the introduction of impermeable surfaces will alter natural flow paths and reduce permeable areas.

7.2 EXISTING SURFACE WATER DRAINAGE

- 7.2.1. Data confirming the layout and levels of the surface water drainage network in the vicinity of the site are currently unavailable. Detailed information on the existing road network will be required to assess the potential for connectivity of exceedance flows from the proposed basins.
- 7.2.2. For the purposes of this report, it is assumed that surface water infrastructure exists to the east and west of the site along London Road and Mill Road, as indicated by road gullies visible on publicly available maps. The RSK report (RSK London Road 1920378-L01 (00), 2019) identifies a foul sewer network managed by Anglian Water and a distribution main network operated by Affinity Water. These datasets will be reviewed and incorporated during the detailed design stage to finalise the drainage design.
- 7.2.3. At present, there is no evidence of formal drainage infrastructure on the site, with runoff likely managed through natural infiltration, land drains, or naturally formed channels. As outlined in Section 6.4, Flood Risk from Surface Water, the site is subject only to minor areas of low risk in the south-west corner. Existing drainage on site is likely to be generally effective, although there may be areas of less efficient management within the defined low-risk zone.

7.3 DESIGN CRITERIA

PLANNING POLICY

- 7.3.1. The National Planning Policy Framework (NPPF) ensures that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding and to direct development away from areas of highest flood risk.
- 7.3.2. The National Standards for Sustainable Drainage Systems (SuDS) published by Department for Environment, Food & Rural Affairs (DEFRA) sets criteria for the assessment and design of surface water drainage systems for new developments.

DRAINAGE DESIGN OBJECTIVES

- 7.3.3. Sustainable drainage design is considered an integral part of managing flood risk in new developments. By adopting sustainable drainage solutions, the project will meet the objectives of the Hertfordshire County Council (HCC) SuDS Design Guidance, local strategy for flood risk management and national standards.

- 7.3.4. The SuDS design shall provide surface water runoff treatment to ensure mitigation of pollution hazards from the intended land use before infiltration to the ground.
- 7.3.5. The proposed SuDS design shall provide enhancement of biodiversity by creating beneficial habitats and contribute to the local amenity by providing opportunities for recreation.

7.4 PROPOSED SURFACE WATER DRAINAGE

- 7.4.1. Surface water runoff generated by the Proposed Development will be managed within the site boundary through a suitably designed surface water management strategy, prepared in line with the NPPF, the national standards and local drainage policies.
- 7.4.2. The surface water drainage strategy will ensure that the proposed development does not increase surface water flood risk downstream. All runoff arising from the site is intended to be contained within the site boundary with no discharge occurring through means other than that of exceedance flows in the event such conditions arise.
- 7.4.3. Part H of the Building Regulations: Drainage and Waste Disposal establishes a hierarchy for surface water disposal. This hierarchy stipulates that surface water runoff not collected for reuse must be discharged to one or more of the following in order of priority:
- Discharge into the ground (infiltration); or, where not reasonably practicable;
 - Discharge to a surface water body; or, where not reasonably practicable;
 - Discharge to a surface water sewer, highway drain, or another drainage system; or, where not reasonably practicable; and
 - Discharge to a combined sewer.
- 7.4.4. Discharge to ground is considered feasible owing to the high permeability of the underlying soils, as supported by the available geological information, trial pit records, and conservative assumptions regarding infiltration rates presented in this section.
- 7.4.5. The total impermeable catchment area associated with the proposed residential development, including access roads, recreational paths, cycle routes, and storage areas, has been identified as 1.44ha. To account for potential future urban creep, an additional 10% of the catchment area has been included in the assessment.
- 7.4.6. For the purposes of the outline drainage design, the catchment has been divided between two attenuation features. The first basin, located to the east, will receive runoff from a 1.10 ha catchment, while the second basin to the west will provide storage for runoff from a 0.34 ha catchment.
- 7.4.7. Based on indicative site levels, as shown in Section 2.3, Topography (Figure 1-2, LiDAR 1m DTM, EA 2022), the general flow of surface water is from the higher areas towards the proposed pond locations at the lower parts of the site.
- 7.4.8. In the eastern part of the site, surface water is expected to flow towards the south-eastern corner, where a conveyance swale, integrated into the landscaping can direct flows westwards to the basin. For the western catchment, surface water will be conveyed via a network of swales designed to direct runoff efficiently to the second basin located south of the proposed residential development.
- 7.4.9. It is envisaged that the spine road network through the site will be provided with traditional pipework carrier drainage as the primary means of surface water conveyance. Opportunities to integrate road

edge-collection measures with SuDS type features – such as roadside rain gardens and tree pits – will be explored further during the detailed design phase. Figure 7-1 provides a schematisation of the anticipated site-wide conveyance measures.



Figure 7-1 - Schematic of Primary Drainage Conveyance Measures

- 7.4.10. The figure below presents the locations of the two basins, with their size reflecting the results of the outline design and the footprint indicating the top surface area required. Corresponding dimensions are provided in Table 7-1.
- 7.4.11. The eastern basin (Infiltration Basin 1) is located immediately south of recreational paths and the residential development, while the western basin (Infiltration Basin 2) is positioned to the south of the residential development, between the development and recreational routes.
- 7.4.12. It is intended that the proposed SuDS features will also include source control measures for attenuation and water quality purposes - such as porous paving and green roofs, as effective means of run-off control. Such options would be explored during further stages of design development.
- 7.4.13. A designated area within the Proposed Development has been identified for the proposed surface water basins, intended to provide both storage and infiltration to ground. Two infiltration basins will receive stormwater runoff, delivering pollutant treatment and controlled discharge via infiltration.
- 7.4.14. The basins have been designed to manage the 1 in 100 probability storm event with a 40% allowance for climate change, ensuring the system remains resilient under future conditions and in accordance with Lead Local Flood Authority (LLFA) requirements. Based on guidance received from Hertfordshire County Council, the attenuation systems have been sized using FEH2013 rainfall data with the runoff coefficient (Cv) set to 1, in line with LLFA specifications. The results of the greenfield runoff assessment and storage calculations are shown in Appendix E.



Figure 7-2 - Drainage Catchments and Infiltration Basins

- 7.4.15. Table 7-1 below provides a summary of the required infiltration basin volumes (with supporting calculations included in Appendix E), calculated on the basis of a 1 in 3 side slope and a water depth of 2 metres under the 1% (1 in 100) event with climate change allowance. Incorporating a 0.5 metre freeboard, the total design depth of the basins is 2.5 metres.
- 7.4.16. For the purposes of this preliminary design, a 0.5 metre freeboard has been applied as a guiding parameter in determining the maximum indicative footprint of the basins. However, in line with the CIRIA SuDS Manual (C753), a freeboard of 0.3 metres is generally considered sufficient. At the detailed design stage, the risks associated with flooding and exceedance events will be assessed, and an appropriate solution will be developed both to manage exceedance flows and to determine whether a reduction in freeboard is feasible.

Table 7-1 - Drainage Attenuation Results Summary

Attenuation Type Proposed	Drainage Catchment Imp. Area Incl. 10% Urban Creep (ha)	Allowable Discharge Rate Qbar (l/s)	Infiltration Coefficient (m/hr)	Attenuation Volume Required (m³)
Infiltration Basin 1	1.215	0.59	0.0108	1368
Infiltration Basin 2	0.341	0.18	0.0108	380

- 7.4.17. Vegetated detention basins will provide interception, with no runoff occurring during the majority of small rainfall events. Water will be absorbed into the basin's topsoil layer and subsequently managed through evapotranspiration and infiltration.
- 7.4.18. There is strong evidence from the geological maps contained within the RSK site report undertaken in 2019 (RSK London Road 1920378-L01 (00)) that the site is predominantly underlain by chalk bedrock. This is supported by trial pit records, which indicate that for depths up to 3.5 m, the ground comprises glaciofluvial deposits of medium-dense, slightly gravelly sand, with no groundwater encountered at these levels. The RSK site report is provided in the Appendix F of this report, with exploratory hole records included in Appendix D of the RSK report.
- 7.4.19. A supplementary ground investigation – including infiltration testing – was undertaken in December 2025. The infiltration tests were not trial pit-based soakaway tests undertaken in accordance with BRE 365, rather falling head tests undertaken within window sample boreholes. However, the results did indicate infiltration rates in two out of the three tests were at least an order of magnitude above the practicable threshold set by the LLFA: 4×10^{-4} m/s and 3.51×10^{-5} m/s. The factual report associated with this phase of ground investigation and infiltration tests is included in this report as Appendix G.
- 7.4.20. On this basis, it is reasonable to assume that infiltration basins could be accommodated within the site, with these assumptions broadly consistent with the Infiltration to Ground section of the National Standards for Sustainable Drainage Systems (DEFRA). Paragraph 1.15 of the guidance indicates that the base of infiltration features should be at least 1 m above the maximum groundwater level. This assumption remains subject to the results of infiltration testing across the site.
- 7.4.21. It should be noted, however, that the trial pit investigations were limited to the western part of the Proposed Development and did not provide full coverage across the entire site. At this stage, it is assumed that the ground conditions in the remaining areas will not differ significantly from those recorded, although this will be subject to confirmation through further site-specific investigations at the detailed design stage.

7.5 WATER QUALITY

- 7.5.1. The C753 CIRIA manual has informed the pollution hazard assessment using the mitigation indices methodology, which confirms that infiltration basins are effective in mitigating pollution risks arising from residential development and associated access roads. As the site is located above a Principal Aquifer, careful consideration will be required in the design of the basins to ensure that water quality is appropriately safeguarded. In line with CIRIA guidance, and based on the nature of the proposed

development, the indices approach confirms that infiltration basins are suitable, provided their detailed design gives due regard to aquifer protection.

7.6 SUDS OPERATION AND MAINTENANCE

- 7.6.1. Maintenance arrangements should be incorporated into the planning and management of new developments from the outset. Long-term management of SuDS features must be considered during the early design stages to ensure their continued effectiveness.
- 7.6.2. Suitable access for maintenance activities should be provided and, where appropriate, integrated with public pathways. The maintenance requirements for the infiltration basin are summarised in Table 7-2 below and include regular grass cutting, sediment removal, and inspection of associated components. In some instances, sediment testing may be required prior to excavation to determine suitable disposal methods in accordance with environmental guidance and regulatory requirements.

Table 7-2 - Infiltration Basin –Operation and maintenance requirements

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Remove litter and debris.	Monthly
	Cut grass- for spillways and access routes.	Monthly (during growing season), or as required
	Cut grass – meadow grass in and around basin.	Half yearly (spring – before nesting season, and autumn)
	Manage other vegetation and remove nuisance plants.	Monthly (at start, then as required)
	Inspect inlets, outlets and overflows for blockages, and clear if required.	Monthly
	Inspect banksides, structures, pipework etc for evidence of physical damage.	Monthly
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies.	Monthly (for first year), then annually or as required
	Check any penstocks and other mechanical devices.	Annually
	Tidy all dead growth before start of growing season.	Annually
	Remove sediment from inlets, outlet and forebay.	Annually (or as required)
	Manage wetland plants in outlet pool – where provided.	Annually

Maintenance schedule	Required action	Typical frequency
Occasional maintenance	Reseed areas of poor vegetation growth	As required
	Prune and trim any trees and remove cuttings	Every 2 years, or as required
	Remove sediment from inlets, outlets, forebay and main basin when required.	Every 5 years, or as required (likely to be minimal requirements where effective upstream source control is provided)
Remedial actions	Repair erosion or other damage by reseedling or re-turfing	As required
	Realignment of rip-rap	As required
	Repair/rehabilitation of inlets, outlets and overflows	As required
	Relevel uneven surfaces and reinstate design levels	As required

SOURCE: CIRIA C753 SUDS MANUAL 2015

8 FLOOD RISK MITIGATION MEASURES

8.1 BRIEF CONSIDERATIONS

- 8.1.1. Following a review of the flood risks to the Proposed Development, the following section discusses the management measures proposed to ensure the Proposed Development remains safe over its lifetime and does not exacerbate flood risk to neighbouring property or land (including allowances for the effects of climate change).

8.2 PROPOSED MITIGATION MEASURES

SURFACE WATER FLOOD RISK

- 8.2.1. The southern sections of the site are subject to a low risk of surface water flooding during periods of intense rainfall. To mitigate this risk, the residential dwellings will be positioned away from the southern edges of the site where there is a slight risk of surface water flooding. In addition, all residential dwellings will be constructed with finished floor levels set at a minimum of 150 mm above adjacent ground levels.
- 8.2.2. Drainage basins have been proposed and designed to manage the 1% (1 in 100) storm event with a 40% allowance for climate change, ensuring the system remains resilient under future conditions and in accordance with Lead Local Flood Authority (LLFA) requirements.

GROUNDWATER FLOOD RISK

- 8.2.3. To protect against potential groundwater emergence, particularly during prolonged wet periods, the site will be designed to minimise deep excavations unless appropriate groundwater protection measures are implemented.

8.3 SAFE ACCESS AND EGRESS

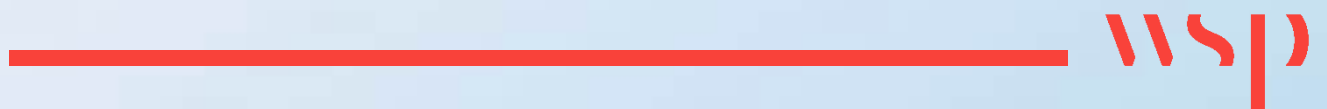
- 8.3.1. The main vehicular access to the Proposed Development will be to / from London Road, with another access being provided to / from Mill Lane. Both roads are located within Flood Zone 1 and have a very low risk of surface water flooding, and therefore, can be used to access and exit the site during times of fluvial and tidal flood events, as well as periods of intense rainfall.

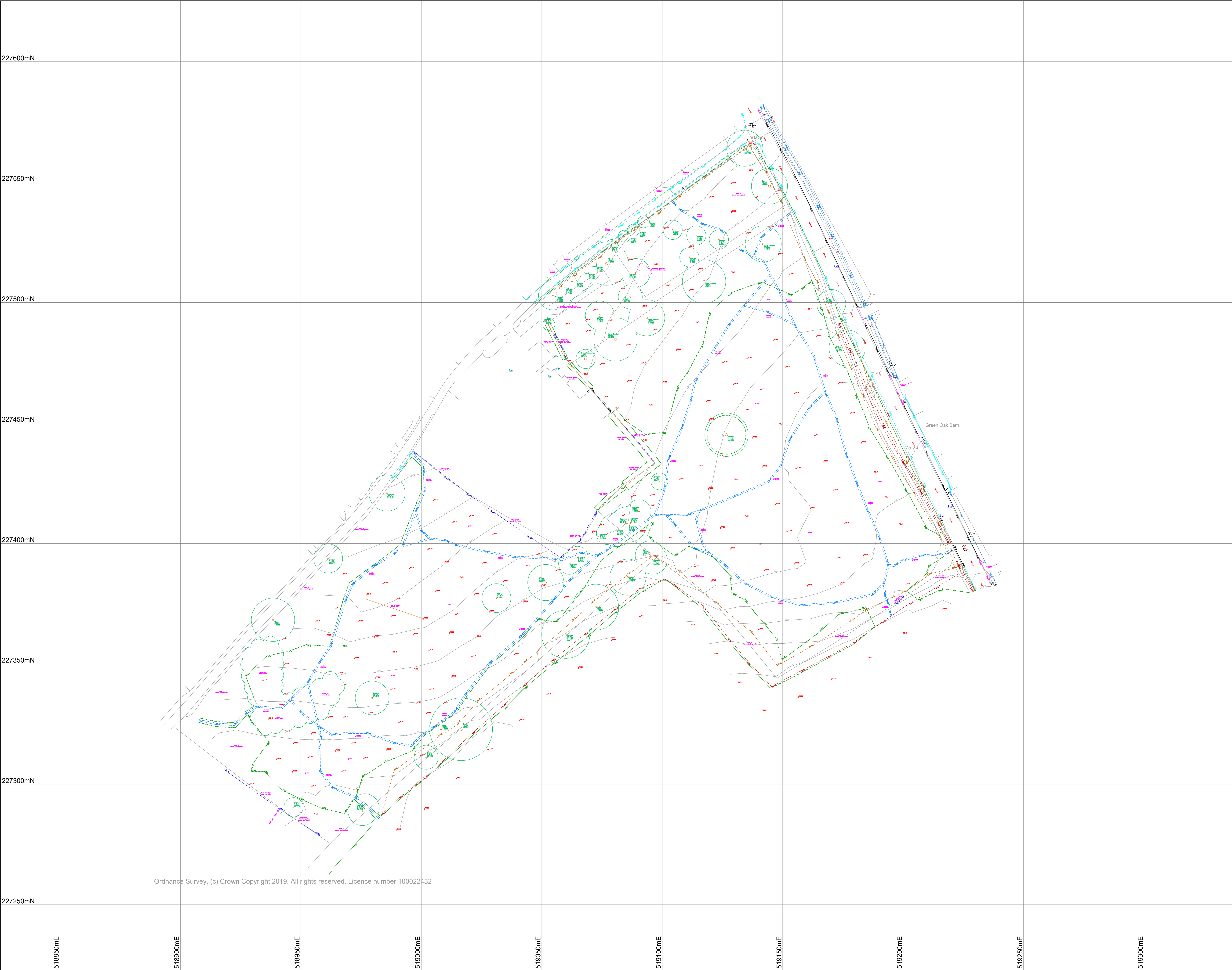
9 CONCLUSIONS

- 9.1.1. This Flood Risk Assessment (FRA) has been carried out with reference to the National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) – Flood Risk and Coastal Change, along with existing information available on the Environment Agency website, and local flood risk information available from North Hertfordshire District Council and Hertfordshire County Council (HCC) as the Lead Local Flood Authority (LLFA).
- 9.1.2. The Proposed Development is located entirely within Flood Zone 1, indicating an annual flood probability of less than 0.1% from rivers or the sea. Accordingly, the associated flood risk from these sources is classified as very low.
- 9.1.3. The Proposed Development is predominantly located in an area of very low risk of surface water flooding with localised areas of low risk to the southern edges of the site. Therefore, the overall flood risk from surface water is low.
- 9.1.4. The risk of groundwater flooding is considered low, based on site geology, soil characteristics, and available groundwater data. However, the potential for groundwater emergence during extreme rainfall events is acknowledged, and further site-specific infiltration and groundwater monitoring is recommended at the detailed design stage.
- 9.1.5. The risk of flooding from sewers is low, with no evidence of drainage infrastructure within the site. In addition, The risk from artificial sources (reservoirs, canals, etc.) is negligible, with no such features in proximity to the site.
- 9.1.6. A surface water drainage strategy has been designed in accordance with the National Standards for Sustainable Drainage Systems, and HCC's SuDS guidance.
- 9.1.7. Surface water runoff will be managed on-site via two infiltration basins, sized to accommodate the 1% (1 in 100) storm event plus a 40% climate change allowance, ensuring resilience to future conditions.
- 9.1.8. The drainage design incorporates SuDS features such as infiltration basins, swales, and provision for source control measures (e.g., permeable paving, green roofs), which will be further developed at the detailed design stage.
- 9.1.9. Finished floor levels for all dwellings will be set a minimum of 150 mm above adjacent ground levels to provide additional protection against surface water and groundwater emergence.
- 9.1.10. Safe access and egress will be maintained via London Road and Mill Lane, both of which are in Flood Zone 1 and at very low risk of flooding.

Appendix A

TOPOGRAPHICAL SURVEY





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519350mE

519400mE

LEGEND

CATV	CABLE TELEVISION COVER	BO	BACK DROP
EIC	ELECTRIC INSPECTION COVER	BL	BASE/RED LEVEL
EJB	ELECTRIC JUNCTION BOX	CL	COVER LEVEL
EP	ELECTRICITY POLE	CP	CATCH PIT
ER	EARTHING ROD	DC	DRAINAGE CHANNEL
FH	FIRE HYDRANT	DP	DOWN PIPE
GJB	GAS JUNCTION BOX	G	GULLY
GV	GAS VENT	IC	INSPECTION COVER
JB	JUNCTION BOX	IL	INVERT LEVEL
MKE	SERVICE MARKER (ELECTRIC)	IMVC	MANHOLE (COMBINED)
MKG	SERVICE MARKER (GAS)	MMV	MANHOLE (FOUL)
MKW	SERVICE MARKER (WATER)	MPS	MANHOLE (SURFACE WATER)
OWH	OVERHEAD WIRE	RE	RODGING EYE
SCD	STOP COCK (GAS)	RWP	RAIN WATER PIPE
SCW	STOP COCK (W)	SEG	SIDE ENTRY GULLY
STAY	SUPPORT FOR TELEPHONE POLE	SVP	SOL VENT PIPE
SV	STOP VALVE	UTL	UNABLE TO LIFT
BT	TELEPHONE INSPECTION COVER	VP	VENT PIPE
TJB	TELEPHONE JUNCTION BOX	WO	WASH OUT
TP	TELEPHONE POLE	B	BOLLARD
WC	WATER INSPECTION COVER	BR	BONE HOLE
WM	WATER METER	BP	BRICK PILLAR
DPC	DAMP PROOF COURSE	BS	BUS STOP
THL	THRESHOLD LEVEL	CPS	CONCRETE PAVING SLABS
T.O.W	TOP OF WALL	FB	FLOWER BED
WL	WATER LEVEL	LB	LITTER BIN
CLG	CEILING LEVEL	LC	LIGHTING COLUMN
DHL	DOOR HEAD LEVEL	P	POST
FL	FLOOR LEVEL	PB	POST BOX
SCLG	SUSPENDED CEILING LEVEL	RNP	ROAD NAME PLATE
US	UNDERBRIDGE	RS	ROAD SIGN
USB	UNDERSIDE OF BEAM	RW	RETAINING WALL
WCL	WINDOW CILL LEVEL	SP	SIGN POST
WHL	WINDOW HEAD LEVEL	SU	STEPS/UP
		TCB	TELEPHONE CALL BOX
		TS	TREE STUMP

OSBM

ORDNANCE SURVEY BENCH MARK

STN

SURVEY STATION

TBM

TEMPORARY BENCH MARK

TREE

Species

Trunk

Crown

Height

SURVEY STATION

GATE - GATES

FENCE

BUILDING

OVER HEAD BUILDING LINE

FACE OF WALL

CHANGE OF SURFACE

EDGE OF UNDERGROWTH

TREE LINE/HEDGE ROOT LINE

TOP OF BANK

BOTTOM OF BANK

KERB

DROP KERB

CONTOUR WITH VALLE

OVER HEAD CABLE

FOOTPATH LINE

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Site

LAND OFF LONDON ROAD, HITCHIN

Drawing

TOPOGRAPHICAL SURVEY

Drawn by

C.H.

Date

27/05/19

Drawing No.

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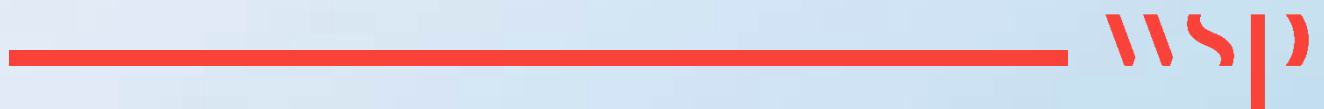
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Revision

Appendix B

ANGLIAN WATER ASSET PLAN





TECHNICAL NOTE

DATE:	21 November 2019	CONFIDENTIALITY:	Confidential
SUBJECT:	Utilities Constraints Overview	PROJECT NUMBER:	70056409
PROJECT:	Land at London Road, Hitchin	AUTHOR:	Toby Scott
CHECKED:	Luke Beeching	APPROVED:	Luke Beeching

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BACKGROUND

WSP has been instructed by Martin Grant Homes to produce a summary technical note of possible utility constraints for a proposed development of up to 50 dwellings on land at London Road, Hitchin.

To produce this note, we have ordered a comprehensive set of utility records and advised on possible constraints based on our professional judgement. Utility companies should be contacted at a later stage to ascertain whether there is capacity in existing local distribution systems and the likely connection points for the proposed development.

The known utility providers with apparatus located near to the development are summarised below:

- Affinity Water (Water supply)
- Anglian Water (Foul/surface water drainage)
- Cadent Gas (Gas supply)
- ESP Utilities (Telecommunications)
- GTC (Gas and electricity supply)
- Hertfordshire County Council (Street lighting)
- Openreach (Telecommunications)
- UK Power Networks (Electricity)
- Virgin Media (Telecommunications)

LIMITATIONS

The utility records were provided by third parties and have not been independently verified. Their accuracy is normally considered suitable for outline masterplanning, but exact location of utilities should be determined before detailed design or construction.

WSP makes no warranties or guarantees, actual or implied, in relation to this report, or the ultimate commercial, technical, economic, or financial effect on the project to which it relates, and bears no responsibility or liability to its use other than as set out in the contract under which it was supplied.



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MAJOR HAZARDS/PLANT

Consultation with the HSE has shown that the site does not lie within the consultation distance of a major hazard site or major accident hazard pipeline (e.g. high pressure gas mains, oil storage depots, nuclear equipment etc), and so would not need to be consulted regarding development on the site.

DIVERSIONS

Where the access road to the development is proposed to cross over services that are located in the footway/verge, companies generally request that the cover is increased to their services, which would now be subject to carriageway loadings. In addition, services providers prefer utilities to cross carriageways at 90 degrees, so may dictate utility crossings be relocated further within the bellmouth where the road width narrows.

We have identified two utilities that may require diversionary/protection works, listed below. These are all affected specifically by the access works:

- UK Power Networks underground Low Voltage (LV) electricity cable
- Affinity Water 4-inch diameter water main

Additional information on diversions is included under each utility heading.



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UTILITY SUPPLY

Electricity

EXISTING APPARATUS

The electricity Distribution Network Operator (DNO) for the area is UK Power Networks (UKPN).

UKPN records show an underground Low Voltage (LV) cable located in the eastern verge of Mill Lane and an underground LV cable located in the western verge of London Road. There is a further LV cable located in the southern footway of Mill Road.

The nearest 11kV HV supply appear to comprise: one secondary substation located approximately 120m south-south-east of the site, and one secondary substation located approximately 245m to the south-west of the site boundary on the western side of High Street. We consider it likely that there is additional HV infrastructure to the north, from the direction of central Hitchin, but the record plans do not extend far enough to show any evidence of this.

The UKPN records appear to be dated, and therefore we recommend that they are treated with caution.

ELECTRICITY SUPPLY FOR 50 PROPOSED DWELLINGS

A conservative estimate of peak loadings of the site could be estimated at 2kVA/dwelling, yielding a total demand of 100kVA. We consider that the existing LV supplies are unlikely to be appropriate to connect the site to. It may be feasible to connect into either of the substations to the south-east or south-west. The existing substation may require an upgrade to cater for the higher load. In the unlikely event that the additional 100kVA is above the maximum capacity of either substation, a connection could also be sought to the north or an 11kV cable could be brought to site from the point at which there is capacity, and a new secondary substation built on site.

DIVERSIONS

It is likely that the LV underground cable would be affected at the location where the site access is proposed, and may require diverting/lowering.

OTHER CONSIDERATIONS

GOVERNMENT FUTURE HOMES STANDARD

In Spring 2019, the Government announced a consultation including whether gas heated homes should be phased out for newbuilds built from 2025. The detail for this has not emerged in the current political climate, however all prominent political parties have committed to similar (or more ambitious) goals at some point, so we consider it likely that gas heated new-builds will be phased out in the coming years.



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If this policy is enacted, then new gas boilers would probably be replaced with electric equivalents, such as air source heat pumps. A recent WSP study found that heat pumps could approximately double the average peak electric demand per house, which could slightly increase any reinforcement works required.

ELECTRIC VEHICLES

Another development which may affect the electrical infrastructure is the emergence of Electric Vehicles (EVs). If conventional requirements for charging points were to be required in the future, we consider that it is unlikely that this will require any additional reinforcement to the existing UKPN electricity network or extensive future-proofing. This is because, although accurately predicting future peak demands of electric vehicle charging is not currently possible, 'smart charging' technologies may mean negligible peak load increase. It is worth noting however that we have had experience elsewhere where local council policy proposals for EV charging would have resulted in unnecessary and expensive requirements for electricity infrastructure upgrades – in that situation, we have fed back into the council's strategy and the policy has been temporarily withdrawn while it is reviewed.

Some local authorities have introduced requirements for new-build developments to include the infrastructure needed to retrofit EV charging points, if later required. For this site, North Hertford District Council (NHDC) do not appear to have any clear requirements for new developments to include electric vehicles. Hertfordshire County Council (HCC) have proposed changes to their Local Transport Plan Policy to '*Ensure that any new parking provision in new developments provides facilities for electric charging of vehicles, as well as shared mobility solutions such as car clubs and autonomous vehicles.*¹' Despite a recent technical paper that has been released by HCC on Electric Vehicles², currently there doesn't appear to be any quantified requirements for electric vehicle charging, and any requirements added at planning seem to be at an ad-hoc nature³.

Should HCC or NHDC add any EV, sustainability or other trending requirements at any stage of planning, WSP are well placed to advise on the potential risks, opportunities and impacts to the site's infrastructure.

MULTI-UTILITY OPTION

The past decade has seen a large increase in the number of independent Distribution Network Operators (iDNOs). iDNOs generally build, maintain and operate smaller networks connected to the DNO's larger network. iDNOs often provide multiple utilities (e.g. gas, telecommunications) and usually can provide

¹ Hertfordshire County Council LTP4-2018-consultation-report (<https://www.hertfordshire.gov.uk/media-library/documents/highways/transport-planning/local-transport-plan-live/lt4-2018-consultation-report-v2.pdf>)

² <https://www.hertfordshire.gov.uk/media-library/documents/environment-and-planning/planning/ev-technical-paper.pdf>

³ <https://www.hertfordshire.gov.uk/media-library/documents/environment-and-planning/planning/lt4-annual-progress-report-2019.pdf>



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savings to the developer. We would recommend approaching an iDNO in parallel with any continuing discussions with UKPN to provide a benchmark for any costs.

GOING FORWARD

We would recommend undertaking a more formal utilities appraisal and liaise with UKPN via a Budget Estimate request, to gauge the scope of any necessary reinforcement works and put the project on UKPN's radar for future resource allocation.



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Gas

EXISTING APPARATUS

The Gas Distribution Network Operator (GDNO) for the area is Cadent Gas (CG).

CG record plans indicate a 4-inch Stainless Steel Tube Low Pressure Gas Main (LPGM) located in London Road. There is also a 4-inch diameter Cast Iron LPGM shown in Mill Lane to the west of the site and in Mill Road to the south-west of the site.

GAS SUPPLY FOR 50 PROPOSED DWELLINGS

CG will need to model the effect of the development on their network to determine whether there is capacity in the existing system. The larger mains originate from the direction of Hitchin town centre, so if any reinforcement is required in the existing network, it would likely originate from the north-west. The cost of upgrades to the existing network is subject to an economic test and CG will offset the cost of this against expected future income. In practice this means that developers often pay little or no contribution to gas network upgrades.

DIVERSIONS

CG record plans suggest that the 4-inch LPGM is located in the eastern verge of London Road. Based on the current proposals of the site access, we consider it unlikely that this LPGM would be affected by the proposed access works.

OTHER CONSIDERATIONS

GOVERNMENT FUTURE HOMES STANDARD

In Spring 2019, the Government announced a consultation including whether gas heated homes should be phased out for newbuilds built from 2025. The detail for this has not emerged in the current political climate, however all prominent political parties have committed to similar (or more ambitious) goals at some point, so we consider it likely that gas heated new-builds will be phased out in the coming years.

Depending on the timescale of the development, engaging with a gas supplier may not then be necessary.

MULTI-UTILITY OPTION

The past decade has seen a large increase in the number of independent Gas Distribution Network Operators (iGDNOs). iGDNOs generally build, maintain and operate smaller networks connected to the GDNO larger network. iGDNOs often provide multiple utilities (e.g. electricity, telecommunications) and usually can provide significant savings to the developer. We would recommend approaching an iGDNO in parallel with any continuing discussions with CG to provide a benchmark for any costs.



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GOING FORWARD

We would recommend undertaking a more formal utilities appraisal and liaise with CG via a Budget Estimate request, to gauge the scope of any necessary reinforcement works and put the project on CG's radar for future resource allocation.

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Water Supply

EXISTING APPARATUS

Affinity Water (AfW) is the water supplier for the area.

AfW records show a 4-inch diameter Cast Iron/Spun Iron (CI/SI) pipe located in the western verge of London Road. There is also a 3-inch diameter CI/SI main shown in Mill Lane to the west of the site and in Mill Road to the south-west of the site. The larger water mains originate from the direction of Hitchin town centre, so if any reinforcement is required in the existing network, it would likely originate from the north-west.

WATER SUPPLY FOR 50 PROPOSED DWELLINGS

The Water Company charging regulations implemented in April 2018 mean that Water Companies are responsible for the delivery of any necessary offsite reinforcements beyond the Point of Connection. Their costs for this are recovered through a fixed 'infrastructure charge' made when each property connection is made – i.e. when the site is built. In practice, this means that developers pay a fixed price covering reinforcement to the existing network. In addition, developers effectively have the right to connect to any pipe which is the same diameter or larger than the pipe leaving the site, and the specific costs for offsite reinforcements are paid by the Water Company.

The AfW infrastructure charge per property for 2019/2020 for Water Supply is £375, and AfW has also confirmed this rate for 2020/2021⁴. The charge can change every year, however there are controls managed by OfWAT to prevent large fluctuations.

Hertfordshire County Council recognise that Hertfordshire is one of the driest counties, while at the same time its inhabitants use more water than any other county⁵. Therefore, should additional water controls be added at planning, AfW are considering a lower infrastructure charge of £310 per property if a stricter water efficiency standard is adhered to. We can find no reference of this requirement for North Hertfordshire District Council, but it is feasible that stricter controls could be enforced in the future.

For a development this size, we expect that a pipe with a diameter of between 80-100mm would be sufficient for the full site, so a connection would be feasible with the 4-inch water main located in London Road. It is likely that reinforcement in the existing network would be required to connect the site here, however this would predominantly be a concern for AfW, provided they have sufficient notice.

We expect that the proposed development would be too small to be of interest to an independent water company.

⁴ <https://www.affinitywater.co.uk/docs/developer/Developer-Services-Consultation-Charging-Arrangements-2020.pdf>

⁵ <https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/water/preserving-our-water-resources/preserving-our-water-resources.aspx>



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DIVERSIONS

It is possible that the 4-inch CI/SI water main would require diversion/protective works at the location where the site access is proposed.

GOING FORWARD

We would recommend undertaking a more formal utilities appraisal and liaise with AfW via a Pre-Planning Enquiry, to gauge the scope of any necessary reinforcement works and put the project on AfW's radar for future resource allocation.



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Telecommunications

EXISTING APPARATUS

Virgin Media and Openreach are the main providers of telecommunication infrastructure in the area. ESP Utilities also serve a single cluster of properties to the south.

Openreach record plans show an underground telecommunications cable located in the eastern verge of London Road. The plans also show an overhead telecommunications line in the north-western verge of Mill Lane and the southern verge of Mill Road to the south of the site.

Virgin Media records show an underground cable located in the eastern verge of London Road, which forms the extremity of the Hitchin network.

A search of telecommunication mast mapping software showed no telecommunication basestations within the site boundary. This finding is consistent with the lack of existing connections observed of telecoms and electricity to the site.

TELECOMMUNICATIONS PROVISION FOR 50 PROPOSED DWELLINGS

Openreach provide Fibre to the Premises (FTTP) for free for new developments with 30 or more premises, which supports broadband speeds of potentially up to 1Gbps. Virgin Media also usually provide FTTP free for developments of this size. Both companies already operate Fibre services in this area.

Multi-utility companies such as GTC can offer to pay the developer to provide Fibre to properties.

DIVERSIONS

All telecommunications cables are shown on the opposing side of the road to the site access, and no assets are known to be within the site boundary. Therefore, we do not expect diversionary works to be required for any telecommunications equipment.



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Surface Water and Foul Drainage

EXISTING APPARATUS

Anglian Water (AnW) is the sewerage undertaker for the area.

Record plans indicate a 150mm diameter Vitrified Clay (VC) foul sewer located in Mill Lane to the north of the site. This falls towards London Road, before falling North towards central Hitchin. Plans also show a separate foul sewer located in the southern verge of Mill Road, which falls to the south-east. This sewer falls to the road junction with Orchard Close, before appearing to pass north-east through the field to the south of the site. This branch is shown to continue north-east to a pumping station which is located approximately 150m to the east of the site.

The AnW records give limited information on the Invert Levels (ILs) and pipe diameters of the existing foul drainage system. Further liaison is needed with AnW to understand why this information is missing.

AnW records do not show any surface water sewers. This could indicate that the surrounding properties drain to soakaways, and that the highway drainage is maintained by the Highway Authority. It is unlikely that records are available for Highway Authority drainage systems.

A brief look at historic maps do not indicate any historic watercourses, so we consider it unlikely that any significant culverts cross the site.

FOUL DRAINAGE STRATEGY FOR 50 PROPOSED DWELLINGS

In order to confirm a potential point of connection, we recommend undertaking a more detailed foul drainage strategy design, with additional liaison with AnW.

Sewers for Adoption proposes a design peak foul flow rate of 4000l/day. For 50 houses this given a corresponding design peak flow of 2.3l/s for the whole site.

Based on the masterplan received, the proposed development will fall to the south-east and we would anticipate that a connection would be made to the existing foul sewer network in this direction. Whether this can be achieved via gravity or whether a pumped solution is required would depend on an initial drainage strategy including a review of ground levels and the existing sewer levels. We would anticipate that the scale of development would mean that offsite sewer reinforcement works beyond the Point of Connection would be carried out by AnW. The developer's contribution would be via the standard per plot infrastructure charge (currently £370/plot).

DIVERSIONS

No foul sewers are shown within proximity of the site access, and no assets are known to be within the site boundary. Therefore, we do not expect diversionary works to be required for any foul drainage.



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London Road appears to drain to a highway ditch/the verge, so we do not expect diversionary works to be required for any surface water drainage based on the limited information currently available.

Appendix

UTILITY RECORD PLANS



Appendix C

CONSULTATION



Shannon Harris

shannon.harris@wsp.com

Our ref: EIR2025/05925

Your ref:

Date: 8 May 2025

Dear Shannon Harris,

RE: Environmental Information Regulations: EIR2025/05925

Thank you for your request for information regarding information relating to Hitchin, London road, Hertfordshire, which we received on 14 April 2025.

We respond to requests for information that we hold under the Environmental Information Regulations 2004 (EIR). The Regulations requires that we respond to requests by advising you whether information is held or not, and if so by providing you with that information.

Information provided

Flood map for planning

We do not hold any Product 4 data, please see "information not held" below.

The model which has been used to produce the Flood Map for Planning (Rivers and Sea) only has 1% and 0.1% AEP undefended outlines. Therefore, this is our best available information. The flood zones are the result of 2D only modelling from the Environment Agency's New National Model.

The Flood Map for Planning (Rivers and Sea) can be viewed on GOV.UK by following this link: <https://flood-map-for-planning.service.gov.uk>

The outlines from the Flood Map for Planning can also be downloaded from the Defra Data Services Platform using the following links:

[Flood Map for Planning - Flood Zones](#)

[Flood Map for Planning – Present day extents \(defended and undefended\)](#)

[Flood Map for Planning – 3.3% AEP defended \(present day\)](#)

[Flood Map for Planning – 3.3% AEP defended \(Climate Change\)](#)

[Flood Map for Planning – Climate Change Extents \(defended and undefended\)](#)

Long term flood risk mapping including: **Risk of Flooding from Rivers or the Sea**, **Flood Risk from Surface Water** and **Flood Risk from Reservoirs** can be viewed on GOV.UK:
[Check the long term flood risk for an area in England - GOV.UK](#)

Historical records of flooding

We have no historic flood event information for this area. It is possible that other flooding may have occurred that we do not have records for, and other organisations such as local authorities or IDBs may have records.

Flood defences

There are no Environment Agency defences within 500m or which impact upon the area of interest.

Water quality requirements for surface water runoff

Regarding the question about specific water quality requirements for surface water runoff, SuDS could be used. Here is the guidance about SuDS:

Advice to Applicant / LPA Sustainable Drainage Systems (SuDS) Informative:

1. Infiltration sustainable drainage systems (SuDS) such as soakaways, unsealed porous pavement systems or infiltration basins shall only be used where it can be demonstrated that they will not pose a risk to the water environment.
2. Infiltration SuDS have the potential to provide mobilise pollutants and must not be constructed in contaminated ground. They would only be acceptable if a site investigation showed the presence of no significant contamination.
3. Only clean water from roofs can be directly discharged to any soakaway or watercourse. Systems for the discharge of surface water from associated hard-standing, roads and impermeable vehicle parking areas shall incorporate appropriate pollution prevention measures and a suitable number of SuDS treatment train components appropriate to the environmental sensitivity of the receiving waters.
4. The maximum acceptable depth for infiltration SuDS is 2.0 m below ground level, with a minimum of 1.2 m clearance between the base of infiltration SuDS and peak seasonal groundwater levels.
5. Deep bore and other deep soakaway systems are not appropriate in areas where groundwater constitutes a significant resource (that is where aquifer yield may support or already supports abstraction).
6. SuDS should be constructed in line with good practice and guidance documents which include the SuDS Manual (CIRIA C753, 2015) and the Susdrain website.

For further information on our requirements regarding SuDS, see our Groundwater protection position statements (2018), particularly G1 and G9 – G13 available at: Groundwater protection position statements - GOV.UK (www.gov.uk)

Our groundwater quality data is available to the public through Open Data. Full details of supporting information and licensing are available when you access the data: [Open WIMS data](#).

Groundwater levels

The hydrogeological setting of the site is on a Principal Chalk Aquifer of the Zig Zag Chalk Formation, overlain by glaciofluvial superficial deposits primarily composed of sands and gravels designated a Secondary A Aquifer. The preferential groundwater flow direction easterly, towards the Ippollitts Brook, 300m from the NGR provided.

There is an Environment Agency monitoring borehole (reference TL12/015, NGR: TL1923227394), located approximately 85m south east of the NGR provided. This borehole shows average groundwater levels to be between 4.2mbgl and 6.2mbgl. This site is also overlain by the superficial deposits described above.

There is also an Environment Agency monitoring borehole (reference TL12/129A, NGR: TL1867527596), situated approximately 500m north west of the NGR provided. This borehole shows average groundwater levels to be between 7.75mbgl and 10.2mbgl, deeper than the borehole closer to the site. This borehole is located on the boundary between the Principal Chalk Aquifer bedrock (of the West Melbury Formation) and unproductive strata of the Gault Clay Formation. There are undifferentiated superficial deposits comprised of clays, silts, sands, and gravels.

In addition, the customer may also find groundwater level information on the British Geological Survey website:

- Scanned hydrogeology maps - [Viewer for scanned hydrogeology maps of the UK | British Geological Survey \(BGS\)](#)

Onshore borehole records - [Geology of Britain viewer | British Geological Survey \(BGS\)](#)

Critical drainage areas

There are currently no designated areas with critical drainage problems (ACDPs) that cover the development site. However, you should check with your local authority (it may be in their local plan) whether there are any local surface water designations.

Please read the Open Government Licence: www.nationalarchives.gov.uk/doc/open-government-licence/version/3/ which explains the permitted use of this information.

Data Available Online

Many of our flood datasets are available online:

- Flood Map For Planning ([Flood Zone 2](#), [Flood Zone 3](#), [Flood Storage Areas](#), [Flood Defences](#), [Areas Benefiting from Defences](#))
- [Risk of Flooding from Rivers and Sea](#)
- [Historic Flood Map](#)
- [Current Flood Warnings](#)

What's In Your BackYard (WIYBY) is no longer available

Most of the data is still available via other sharing services such as [DATA.GOV.UK](#), [MAGIC map](#) and new [GOV.UK digital services](#). Where the datasets are no longer available as maps, you will be able to download and use within specialist applications.

To find out all the services the Environment Agency have available, please click [here](#).

Additional information

Please be aware that we now charge for planning advice provided to developers, agents and landowners. If you would like advice to inform a future planning application for this site then please complete our <https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion> and email it to our Sustainable Places team at: planning.eastanglia@environment-agency.gov.uk. They will initially provide you with a free response identifying the following:

- the environmental constraints affecting the proposal;
- the environmental issues raised by the proposal;
- the information we need for the subsequent planning application to address the issues identified and demonstrate an acceptable development;
- any required environmental permits.

If you require any further information from them (for example, a meeting or the detailed review of a technical document) they will need to set up a charging agreement. Further information can be found on our [website](#).

Climate Change Allowances

For information on the use climate change allowances in Flood Risk Assessments, please see the attached document - **East_Anglian_External Climate Change Allowances Guidance_March2022.pdf**.

The guidance provides climate change allowances for peak river flow, peak rainfall, sea level rise, wind speed and wave height. The guidance provides a range of

allowances to assess fluvial flooding, which varies depending on which management catchment a site lies within. It advises on which allowances to use for assessing the impact of climate change on fluvial flood risk based on vulnerability classification, flood zone and development lifetime.

If you want to discuss this please call our Sustainable Places team on 020 8474 5242.

Information not held

EIR Regulation 3(2) states that information is held if it is in our possession and has been produced or received by us, or it is held by another person on our behalf at the time the request is received.

In this case, the Product 4 information you have requested is not held by the Environment Agency, and we are therefore refusing your request on the grounds that there is no information we can provide.

Where a request is for environmental information, the Regulations allow us to refuse to disclose it if the exception at EIR Regulation 12(4)(a) applies. The regulation states that a public authority may refuse to disclose environmental information to the extent that it does not hold that information when an applicant's request is received.

It is not possible for us to conduct a public interest balancing test because the reason for non-disclosure is that the information is not held.

Rights of appeal

If you are not satisfied with our decision, you can contact us within two calendar months to ask for the decision to be reviewed. We will then conduct an internal review of our response to your request and give you our decision in writing within 40 working days.

If you are not satisfied with the outcome of the internal review, you can then make an appeal to the Information Commissioner Office, the statutory regulator for EIR and the Freedom of Information Act 2002. The address is: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire. SK9 5AF.

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for people and wildlife



Tel: 0303 123 1113 (local rate) or 01625 545 745 (national rate) | Fax: 01625 524
510 Email: casework@ico.org.uk | Website: www.ico.org.uk

Yours sincerely,

Sam Clemens
EAN Area Customers & Engagement Team

Quinnell, Mat

From: Maryam Daniyan <Maryam.Daniyan@hertfordshire.gov.uk>
Sent: 02 February 2026 14:36
To: Quinnell, Mat
Cc: Anne McDonald; David Uncle
Subject: RE: 25/02885/OP - London Road, Hitchin

Dear Mat,

Thank you for your email and the further clarification.

Although a drainage layout was provided, it was unclear and difficult to read. With reference to Section 7 of the FRA, I would appreciate it if a clear and legible drainage layout could be submitted. We are seeking more information on the drainage strategy, which we acknowledge will be outline-level, to confirm the following:

- BRE Digest infiltration test results should also be included. Where these cannot be provided, a suitable fallback (Plan B) should be identified. Hydraulic calculations will also need to be submitted. This would allow infiltration testing in support of Plan A to be conditioned, with a viable fallback (Plan B) in case infiltration rates are not sufficient.

David and I are available for a Teams call on Tuesday, 10 February 2026, if that works for you.

Kind regards



Maryam Daniyan
Flood and Water Project Officer | Lead Local Flood Authority
Growth and Environment
Hertfordshire County Council
Farnham House, Six Hills Way, Stevenage, SG1 2ST
E: Maryam.Daniyan@hertfordshire.gov.uk
T: 01992556511 (Internal: 26511)
Working hours: 08:00 – 16:00 Monday - Friday



From: Quinnell, Mat <Matthew.Quinnell@wsp.com>
Sent: 16 January 2026 11:16
To: FRMConsultations <frmconsultations@hertfordshire.gov.uk>; anne.mcdonald@north-herts.gov.uk
Cc: Dixon, David <David.Dixon@wsp.com>; Burke, Steven <Steven.Burke@wsp.com>
Subject: Ref: 25/02885/OP - London Road, Hitchin

Dear Maryam

Apologies for the direct approach but I'm emailing in respect of your consultation response dated 18/12/25 on the above application (please see attached copy) and would be grateful for the chance of a meeting to discuss your comments and, hopefully, address them.

Hi @anne.mcdonald@north-herts.gov.uk, I'm cc'ing you for information and am hoping that you'd be able to attend the call too.

As a precursor to the call, we've made some brief responses, in blue, to your comments which you'll find below. Perhaps when you've read these we could set something up?

- *Surface Water Drainage Statement (SWDS) is referred to in the Flood Risk Assessment, but a document with this title is not available on the planning portal. We request that this is submitted as it may resolve concerns listed below*

There's a referencing error here. Surface water drainage was dealt with in Section 7 of the FRA rather than a separate document. References to be updated.

- *An outline drainage strategy which includes a commitment to providing appropriate SuDS in line with the National Standards for SuDS*

This is included in Section 7 of the report. Possibly a result of the above referencing error?

- *This should include a drainage plan including location of SuDS features, showing the strategic infiltration basins and main surface water conveyance measures for the scheme.*

The principal SuDS features (infiltration basins and conveyance swales) have been indicated on Figure 7-1 in the main body of the FRA report. Given the nature of the submission at outline stage, the detailing of drainage on-plot has not been considered at this time. Hence source control measures have not been indicated on any drawing. Section 7.4.11 does however commit to integrating source control measures during future phases of the drainage design.

- *We welcome the reference to source control SuDS such as permeable paving and green roofs. The drainage strategy should explore the use of source control measures throughout the site, such as rain gardens, swales, SuDS planters and tree pits.*

Please see response to the above comment.

- *Where infiltration is proposed, evidence of ground conditions/ underlying geology and permeability including BRE Digest 365 compliant infiltration tests should be provided.*

Being discussed with project team.

- *Calculations of greenfield runoff rates and post development calculations and/or modelling in relation to surface water are to be carried out for all rainfall events up to and including the 1 in 100 years including an allowance for climate change.*

Calculations to determine greenfield runoff rates are presented in Appendix E of the FRA. Table 7-1 of the report presents the results of the volumetric attenuation analysis. Does the LLFA want us to include the supporting calculations for this in Appendix E also?

I trust the above is clear but please let me know if you've any queries.

Many thanks, Mat

Mat Quinnell

Associate – Sustainable Water Management

T+ 44 (0) 1256 318786

wsp.com



From: Dixon, David <David.Dixon@wsp.com>
Sent: 22 December 2025 15:18
To: Blacker, Andrew <Andrew.Blacker@wsp.com>; Quinnell, Mat <Matthew.Quinnell@wsp.com>
Subject: Fw: London Road, Hitchin

Mat, comments on the drainage strategy here as well.

David

Sent from [Outlook for Android](#)

From: Derry, Paul <paul.derry@stantec.com>
Sent: Monday, December 22, 2025 12:27:13 PM
To: Dixon, David <David.Dixon@wsp.com>; Blacker, Andrew <Andrew.Blacker@wsp.com>
Cc: Alice Lack <alice.lack@martingranthomes.co.uk>; maisie.mannion <maisie.mannion@stantec.com>; Ryan Conlon <ryan.conlon@csaenvironmental.co.uk>
Subject: London Road, Hitchin

Good afternoon David

- Drainage – The LLFA has objected and are again seeking further information, clearly set out in the 6 bullets of the attached. Again, can you review and set out what we can do to overcome. I also attach comments from the various water companies for your information.

Regards

Paul Derry

Planning Associate

Direct: +44 1223 802971
Mobile: +44 7467 482274
paul.derry@stantec.com

Stantec
3rd Floor, 50-60 Station Road
Cambridge CB1 2JH



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Harris, Shannon

From: FRMConsultations <FRMConsultations@hertfordshire.gov.uk>
Sent: 14 April 2025 16:38
To: Harris, Shannon; FRMConsultations
Cc: Quinnell, Mat
Subject: RE: Flood Risk Assessment – Enquiry

Dear Shannon

Thank you for your email. Please find responses below in **red**.

- Historic records of flooding at the site or in close proximity to the site **We have no recorded reports of the site flooding. The nearest reported property flooding incident is approximately 380mm north west of the site.**
- Details of any flood defence structure at the site or in the surrounding area **None known**
- Drainage and water quality requirements (see below)

Please could Hertfordshire County Council provide advice on how they would expect the Climate Change guidance to be applied with regards to surface water attenuation requirements? Typically, we have been designing attenuation systems for the 100 year + 20%CC event and testing for the 100 year + 40%CC event. **Please design for a 1:100 year + 40% climate change event. A +35% allowance should also be applied to the 1:30 year event.**

Please could Hertfordshire County Council provide us with any specific SuDS guidance which is not already available on the website? Please could Hertfordshire County Council confirm whether they have any specific water quality requirements for surface water run off? **Please see proforma and validation checklist available on our website to see information we ask to be submitted with the application. Please note we also expect calculations to use FEH2013 or 2022 rainfall data, with CV set to 1. A source control approach to the SuDS design should be taken from the outset.**

Regarding water quality, the site is split between groundwater Source Protection Zones 2 and 3. Accordingly, robust treatment should be provided. The CIRIA Simple Index Approach is an acceptable method to demonstrated water quality benefits, however care should be taken in the design to ensure that all areas that may be contributing pollutants (highways etc) benefit from the treatment train. Treatment should be provided through open/near-surface SuDS as far as possible, with proprietary products such as oil interceptors being used as a residual last resort only (if at all).

Best wishes,

David Uncle
Senior Flood Risk Officer | Lead Local Flood Authority
Growth and Environment
Hertfordshire County Council
Farnham House, Six Hills Way, Stevenage, SG1 2ST
E: David.Uncle@hertfordshire.gov.uk
T: 01992 555839 (**Internal:** 25839)
Working hours: 08:00 – 16:00 Monday - Friday



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We improve
Residents' lives

We work with
Integrity

We act
Sustainably

We champion
Equality & fairness

Leave arrangements: 22 May – 02 June, 04 June – 06 June

From: Harris, Shannon <shannon.harris@wsp.com>
Sent: 14 April 2025 15:58
To: FRMConsultations <FRMconsultations@hertfordshire.gov.uk>
Cc: Quinnell, Mat <Matthew.Quinnell@wsp.com>
Subject: Flood Risk Assessment – Enquiry

You don't often get email from shannon.harris@wsp.com. [Learn why this is important](#)

Dear Sir / Madam,

London Road, Hitchin, Hertfordshire

Flood Risk Assessment – Enquiry

We have been instructed by our client to carry out an assessment of flood risk at the above site.

We are writing to request any flood risk and flood defence data and information with respect to the above site and any other pertinent information or opinion regarding development at the application site.

From a review of data on the Environment Agency's Website we understand the site lies within Flood Zone 1. The OS grid reference for the site is 519151, 227436 and the nearest post code is SG4 7NF. Please find enclosed a location map for your reference.

Please can you provide us with the following:

- Historic records of flooding at the site or in close proximity to the site
- Details of any flood defence structure at the site or in the surrounding area
- Drainage and water quality requirements (see below)

Please could Hertfordshire County Council provide advice on how they would expect the Climate Change guidance to be applied with regards to surface water attenuation requirements? Typically, we have been designing attenuation systems for the 100 year + 20%CC event and testing for the 100 year + 40%CC event.

Please could Hertfordshire County Council provide us with any specific SuDS guidance which is not already available on the website? Please could Hertfordshire County Council confirm whether they have any specific water quality requirements for surface water run off?

We trust the above to be satisfactory, however, should you have any queries or require any further information from WSP to be able to answer the above queries, please do not hesitate to get in contact.

Kind Regards,

Shannon

WSP
Davidson House (Floor 2)
Forbury Square
Reading. RG1 3EU
United Kingdom
wsp.com



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Harris, Shannon

From: Planning Liaison <planningliaison@anglianwater.co.uk>
Sent: 12 May 2025 14:59
To: Harris, Shannon
Subject: RE: Flood Risk Assessment – Enquiry

Good afternoon,

This is not information that can be provided.

Kind Regards
Planning Liaison

From: Harris, Shannon <shannon.harris@wsp.com>
Sent: 08 May 2025 15:18
To: Planning Liaison <planningliaison@anglianwater.co.uk>
Subject: RE: Flood Risk Assessment – Enquiry

EXTERNAL MAIL - Please be aware this mail is from an external sender - THINK BEFORE YOU CLICK

Hi Maks,

Are Anglian Water able to provide further detail on the source, date and extend of flooding within the vicinity of the proposed development?

Thanks,
Shannon

WSP
Davidson House (Floor 2)
Forbury Square
Reading. RG1 3EU
United Kingdom
wsp.com



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From: Planning Liaison <planningliaison@anglianwater.co.uk>
Sent: 15 April 2025 09:13
To: Harris, Shannon <shannon.harris@wsp.com>
Cc: Quinnell, Mat <Matthew.Quinnell@wsp.com>
Subject: RE: Flood Risk Assessment – Enquiry

Good Afternoon,

Anglian Water are able to confirm that there have been instances of flooding within the vicinity of the proposed development. It is also possible that other flooding may have occurred that we do not have records of, other organisations such as the Local Authority, Internal Drainage Board or the Environment Agency may have records.

We recommend you submit a pre planning application form to enable Anglian Water to advise you of any suitable connection points for the proposed development and identify any mitigation that would be required. Further details including the application form can be found on our website.

Kind regards

Maks Zdunek
Pre Development Engineer
Mobile: 07811 581 562
Team: 07929 786 955



For further information please email us at planningliaison@anglianwater.co.uk or visit our website at:
<https://www.anglianwater.co.uk/developing/planning--capacity/planning-and-capacity/>

From: Harris, Shannon <shannon.harris@wsp.com>
Sent: 14 April 2025 15:31
To: Planning Liaison <planningliaison@anglianwater.co.uk>
Cc: Quinnell, Mat <Matthew.Quinnell@wsp.com>
Subject: Flood Risk Assessment – Enquiry

EXTERNAL MAIL - Please be aware this mail is from an external sender - THINK BEFORE YOU CLICK

Dear Sir / Madam,

London Road, Hitchin, Hertfordshire

Flood Risk Assessment – Enquiry

WSP has been commissioned to carry out an assessment of flood risk at the above site.

We are writing to request historic sewer records and flood risk and defence information with respect to proposed development at the above site.

The OS grid reference for the site is 519151, 227436 and the nearest postcode is SG4 7NF. Please find enclosed a location map for your reference.

Please could Anglian Water provide the following data:

- Historic Records of flooding within the vicinity of the proposed development.
- Historic sewer records within the vicinity of the proposed development.

Please could Anglian Water also provide rates that we could discharge runoff to the nearest sewer connection point if other surface water discharge options prove unviable at the site.

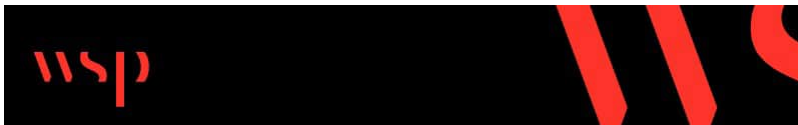
Once a quotation has been received, I will arrange payment for the above, if required.

We trust the above to be satisfactory, however, should you have any queries or require any further information from WSP to be able to answer the above queries, please do not hesitate to contact the undersigned.

Kind Regards,

Shannon

WSP
Davidson House (Floor 2)
Forbury Square
Reading. RG1 3EU
United Kingdom
wsp.com



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Harris, Shannon

From: Sam Dicocco <Sam.Dicocco@north-herts.gov.uk>
Sent: 24 April 2025 13:22
To: Harris, Shannon
Subject: FW: Flood Risk Assessment - Enquiry
Attachments: Site Location.pdf

Good Afternoon Shannon,

I have no information to provide beyond that published on our website in the development of our Local Plan –

[Local Plan 2011-2031 | North Herts Council](#)

I suggest engaging the Environment Agency and Lead Local Flood Authority.

If an application for development is forthcoming on the site, I would recommend pre-application advice, for which information can be found on the below link –

[Check if you need planning permission | North Herts Council](#)



Sam Dicocco
BSc(Hons) MSc MRTPI
Principal Planning Officer
(Major Sites)
01462 474169

www.north-herts.gov.uk

From: Harris, Shannon <shannon.harris@wsp.com>
Sent: 24 April 2025 09:38
To: Planning Control <planning.control@north-herts.gov.uk>
Subject: Flood Risk Assessment - Enquiry

Dear Sir / Madam,

London Road, Hitchin, Hertfordshire

Flood Risk Assessment – Enquiry

We have been instructed by our client to carry out an assessment of flood risk at the above site.

We are writing to request any flood risk and flood defence data and information with respect to the above site and any other pertinent information or opinion regarding development at the application site.

From a review of data on the Environment Agency's Website we understand the site lies within Flood Zone 1. The OS grid reference for the site is 519151, 227436 and the nearest post code is SG4 7NF. Please find enclosed a location map for your reference.

Please can you provide us with the following:

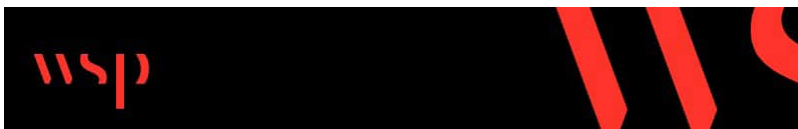
- Historic records of flooding at the site or in close proximity to the site
- Details of any flood defence structure at the site or in the surrounding area

We trust the above to be satisfactory, however, should you have any queries or require any further information from WSP to be able to answer the above queries, please do not hesitate to get in contact.

Kind Regards,

Shannon

WSP
Davidson House (Floor 2)
Forbury Square
Reading. RG1 3EU
United Kingdom
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