

FloodSmart



Flood Risk Assessment

Site Address

Land adjacent to Exeter Airport
EX5 2BD

Grid Reference

E 300911 N 093482

Report Prepared for

Paragon BC
The Harlequin Building
65 Southwark Street
London
SE1 0HR

Date

2021-04-01

Report Status

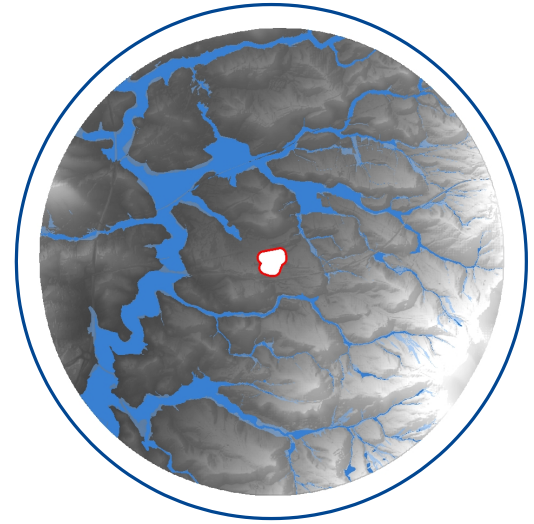
DRAFT

Site Area

77,975 m²

Report Reference

74640R1



Flood Risk Assessment

This report has been produced to support development proposals for new a commercial use (warehouse building or hard-standing) at the Site, with consideration of flooding from all sources and the impacts of climate change over the lifetime of the development.

Surface water flooding risks have been identified and appropriate flood mitigation measures are recommended within this report.

A separate Sustainable Drainage Scheme (SuDS) strategy has been prepared separately (74640.01) to ensure the Site and development proposals can be drained effectively over the development's lifetime.

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1. Executive summary

A review has been undertaken of national environmental data sets to assess the flood risk to the Site from all sources of flooding in accordance with The National Planning Policy Framework (NPPF) (2019) and National Planning Practice Guidance (NPPG) (2014). A site-specific flood risk assessment, to assess the flood risk to and from the development Site, is provided within this concise interpretative report written by an experienced team of consultant hydrologists. Baseline flood risks and residual risks that remain after the flood risk management and mitigation measures are implemented are summarised in the table below.

This report has been produced to support development proposals, including an assessment of both present day and future scenarios to assess flooding risks, including allowances for projected impacts of climate change.

Site analysis

Source of Flood Risk	Baseline	After Mitigation
River (fluvial) and Sea (coastal/tidal)	Very Low	N/A
Surface water (pluvial) flooding	High to Very Low ¹	Low to Very Low ²
Groundwater flooding	Negligible	N/A
Other flood risk factors present	No	N/A
Is any other further work recommended?	No	N/A

N/A = mitigation not required

¹The surface water flood risk is variable across the Site. The north eastern corner of the Site could experience flood depths of over 1.2 m during a storm event which has a High probability of occurring.

²There is the potential to reduce the risk to Low to Very Low for the development if it is placed sequentially in areas not modelled to flood during high frequency rainfall events.

Summary of existing and proposed development

The Site is currently undeveloped greenfield, used in an agricultural capacity. An Asphalt access road is located in the south west of the Site.

Development proposals are not fixed but are likely to be comprised of a large commercial unit or a large area of hard-standing, including associated access and landscaping.

Summary of flood risks

- According to the Environment Agency's (EA) Flood Map for Planning Purposes and Risk of Flooding from Rivers and Sea map, the Site is located within a fluvial Flood Zone 1 (Low probability) and has a Very Low risk of flooding from Rivers and the Sea.

The Site could potentially be at risk from flooding due to blockage or failure of a culvert located within the on-Site drainage ditch.

- According to the EA's Risk of Flooding from Surface Water (pluvial) flood mapping, the potential for flooding is variable, ranging from Very Low to High.
 - A Sustainable Drainage Strategy (SuDS) has been developed (74640.01) for effective management of surface water runoff over the lifetime of the proposed development.
- Groundwater Flood Risk screening data indicates there is a Negligible risk of groundwater flooding at the surface in the vicinity of the Site during a 1 in 100 year event.
- The risk of flooding from artificial (man-made) sources such as reservoirs, sewers and canals has been assessed:
 - The EA's Risk of Flooding from Reservoir map confirms the Site is not at risk of reservoir flooding.
 - Ordnance Survey (OS) data confirms there are no canals near to the Site.
 - A sewer flooding history search was undertaken using the Strategic Flood Risk Assessment (East Devon District Council, 2013). This confirms no recorded incidences of sewer flooding at or within the vicinity of the Site.

The risk of flooding from artificial sources is considered to be Low.

The risk to the development has been assessed over its expected 60 year lifetime, including appropriate allowances for the impacts of climate change. More extreme weather events could increase the risk to the Site from increased potential for surface water. Site specific assessment indicates risk to the Site will increase significantly and appropriate mitigation measures are proposed.

Recommendations / Next steps

Recommendations for flood mitigation are provided below, based upon the proposed development and the flood risk identified at the Site:

- The potential for flooding from surface water (pluvial) sources is high, particularly in the north east of the Site.

The best course of action is to avoid developing in these areas with the highest potential for flooding or at the very least by placing the least vulnerable areas of development in those areas with the highest potential for flooding.

- If development is proposed in the area mapped with a high potential for flooding, flood depths could be over 1.2 m in depth, as such the following mitigation measures are recommended:
 - SuDS features are increased to intercept the flooding, store (attenuate) and discharge the runoff at a restricted rate into the drainage ditch.
 - Finished Floor Levels (FFL) of built development should be set at least 0.3 m above the flooding in the 1 in 1000 year event where possible;
 - Where FFL's cannot be raised, the building should be allowed to flood and flood resilience measures incorporated into the design of the building, as well as storing any items of value well above the flood level;
 - Any buildings or ground level changes in the area mapped as flooding may displace flooding off-Site and floodplain compensation methods should be used (in order of preference):
 - Lowering of ground levels on a level for level and volume for volume basis in undeveloped areas of the Site, where ground levels can be re-profiled;
 - The use of voids beneath any proposed buildings, the underside of the void should ideally be set above the maximum flood level where possible.
 - Surrounding ground levels should aim to slope away from buildings. Ground levels should be designed to channel any overland flows from off-Site (to the south) away from the development and Site drainage systems.
 - Any crossings required across the mapped drainage ditches should be raised high enough so that the underside of the bridge is raised by at least 0.6m above the maximum water level, this will reduce the potential for blockages.

In addition, the regular maintenance of any drains and existing culverts surrounding/on the Site should be undertaken to reduce the flood risk. Where possible and in line with the EA's national policies, culverts should be removed to naturalise the state of the drainage ditches in the vicinity of the Site.

GeoSmart recommend the mitigation measures discussed within this report are considered as part of the proposed development where possible and evidence of this is provided to the Local Planning Authority as part of the planning application.

2. Introduction



Background and purpose

A site-specific flood risk assessment has been undertaken, to assess the flood risk to and from the development Site. This assessment has been undertaken by firstly compiling information concerning the Site and the surrounding area. The information gathered was then used to construct a 'conceptual site model', including an understanding of the appropriateness of the development as defined in the NPPF (2019) and the source(s) of any flood risk present. Finally, a preliminary assessment of the steps that can be taken to manage any flood risk to the development was undertaken.

This report has been prepared with reference to the NPPF (2019) and NPPG (2014).

"The National Planning Policy Framework set out the Government's planning policies for England and how these are expected to be applied" (NPPF, 2019).

The NPPF (2019) and NPPG (2014) promote a sequential, risk based approach to the location of development. This also applies to locating a development within a Site which has a variable risk of flooding.

"This general approach is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. The aim should be to keep development out of medium and high risk flood areas (Flood Zones 2 and 3) and other areas affected by other sources of flooding where possible" (NPPG, 2014).

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

Report scope

In accordance with the requirements set out within NPPG 2014 (Paragraph: 030 Reference ID: 7-030-20140306), a thorough review of a commercially available flood risk report and EA supplied data indicating potential sources of flood risk to the Site from rivers and coastal sources, surface run-off (pluvial), groundwater and reservoirs, including historical flood information and modelled flood extent. Appropriate measures are recommended to manage and mitigate the flood risk to the property.

Information obtained from the EA and a review of the East Devon District Council (DCC) Strategic Flood Risk Assessment (SFRA) (2013), and the Devon County Council Preliminary Flood Risk Assessment Report (PFRA) (2011) is used to ascertain local flooding issues and, where appropriate, identify information to support a Sequential and/or Exception test required as part of the NPPF (2019).

The existing and future flood risks to and from the Site from all flood sources is assessed in line with current best practice using the best available data. The risk to the development has been assessed over its expected lifetime, including appropriate allowances for the impacts of climate change. Residual risks that remain after the flood risk management and mitigation

measures are implemented, are considered with an explanation of how these risks can be managed to keep the users of the development safe over its lifetime.

An indication of whether the Site will potentially increase flood risk elsewhere is provided, including where the proposed development increases the building footprint at the Site. A drainage strategy to control runoff can be commissioned separately if identified as a requirement within this report.

Report limitations

It is noted that the findings presented in this report are based on a desk study of information supplied by third parties. Whilst we assume that all information is representative of past and present conditions, we can offer no guarantee as to its validity and a proportionate programme of site investigations would be required to fully verify these findings.

The basemap used is the OS Street View 1:10,000 scale, however the Site boundary has been drawn using BlueSky aerial imagery to ensure the correct extent and proportion of the Site is analysed.

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

Datasets

The following table shows the sources of information that have been consulted as part of this report:

Table 1. Datasets consulted to obtain confirmation of sources of flooding and risk

Source of flooding	Datasets consulted			
	Commercial Flood Maps	Local Council policy and guidance documents ¹	Environment Agency	OS Data
Historical	X	X	X	
Rivers (fluvial) / Sea (tidal)	X	X	X	
Surface water (pluvial)	X	X	X	
Groundwater	X	X		
Sewer		X		
Culvert / bridges		X		X
Reservoir		X	X	

¹Devon County Council Preliminary Flood Risk Assessment (PFRA) (2011), East Devon District Council Strategic Flood Risk Assessment (2013) and Surface Water Management Plan (Devon County Council, 2012).

3. Site analysis



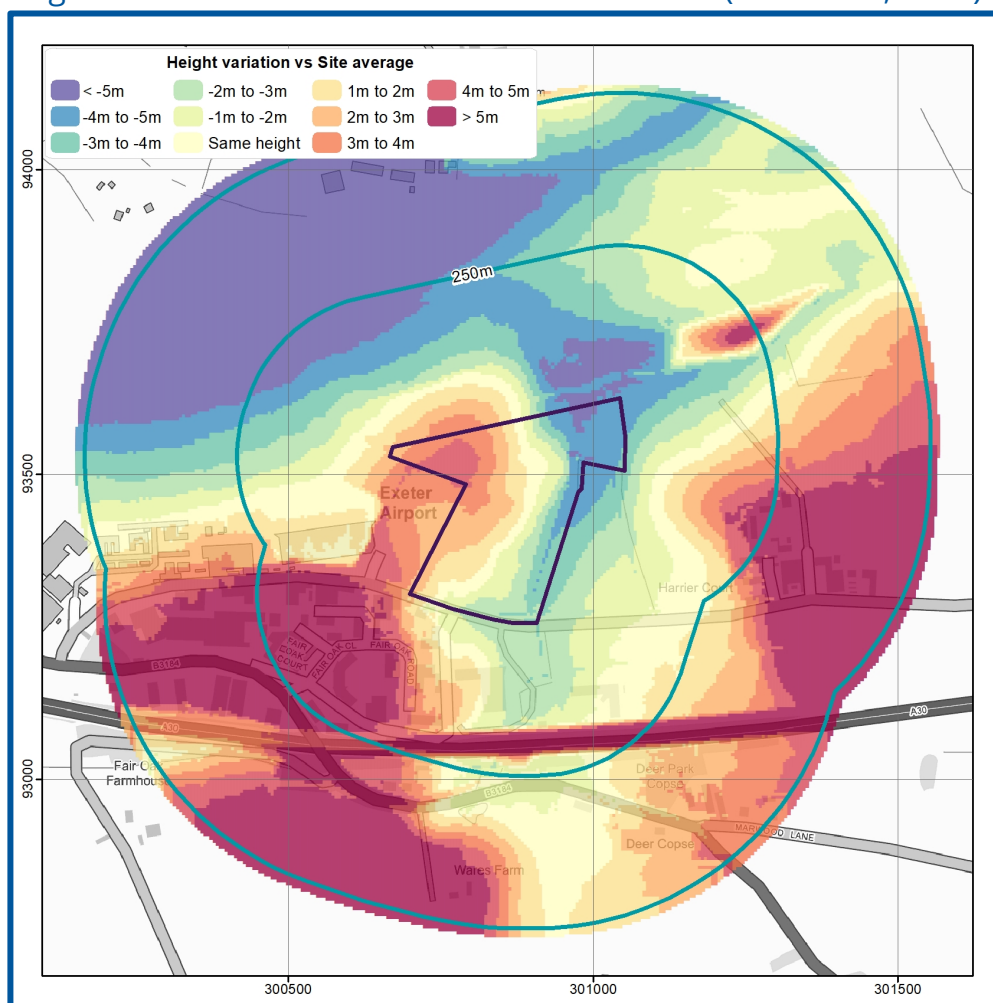
Site information

The Site is located east of Clyst Honiton in a setting of commercial and agricultural land use at National Grid Reference SY 00911 93482. Site plans & drawings are provided in Appendix A.

According to OS data, using a 500 m buffer around the Site, the area is on a gentle slope (Figure 1). It is noted that to the north land rises to c. 31.13 m above Ordnance Datum (AOD). To the west land falls to c. 28.13 mAOD, to the east land rises to c. 36.19 mAOD and to the south falls to c. 38.60 mAOD. This is based on EA elevation data obtained for the Site to a 1 m resolution with a vertical accuracy of ± 0.15 m (Appendix B).

A topographical survey undertaken for the Site by Geotechnical Engineering Ltd in February 2021 confirms the general ground levels at the Site are between 26.50 and 33.14 mAOD with the Site and surrounding ground elevations falling broadly in an easterly / north easterly direction (Appendix A).

Figure 1. Site Location and Relative Elevations (GeoSmart, 2021).



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Development

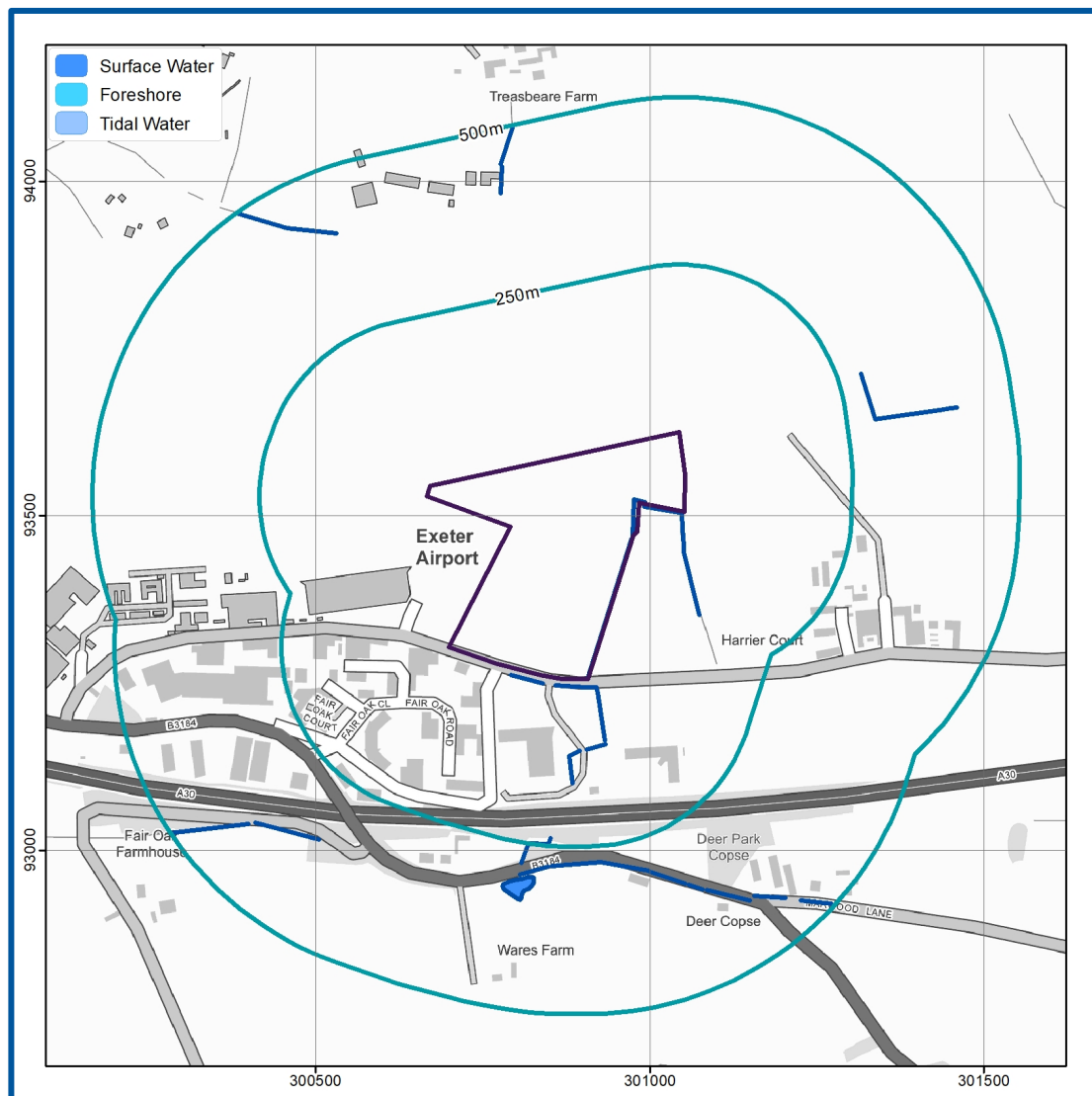
The Site is currently undeveloped greenfield, used in an agricultural capacity. An Asphalt access road is located in the south west of the Site.

Development proposals are not fixed but are likely to be comprised of a large commercial unit or a large area of hard-standing, including associated access and landscaping.

The effect of the overall development will result in an increase in number of occupants and/or users of the Site and will result in the change of use, nature or times of occupation. According to Table 2 of the NPPG (2014), the vulnerability classification of the existing development is Water Compatible and proposed development is Less Vulnerable. The estimated lifespan of the development is 60 years.

Hydrological features

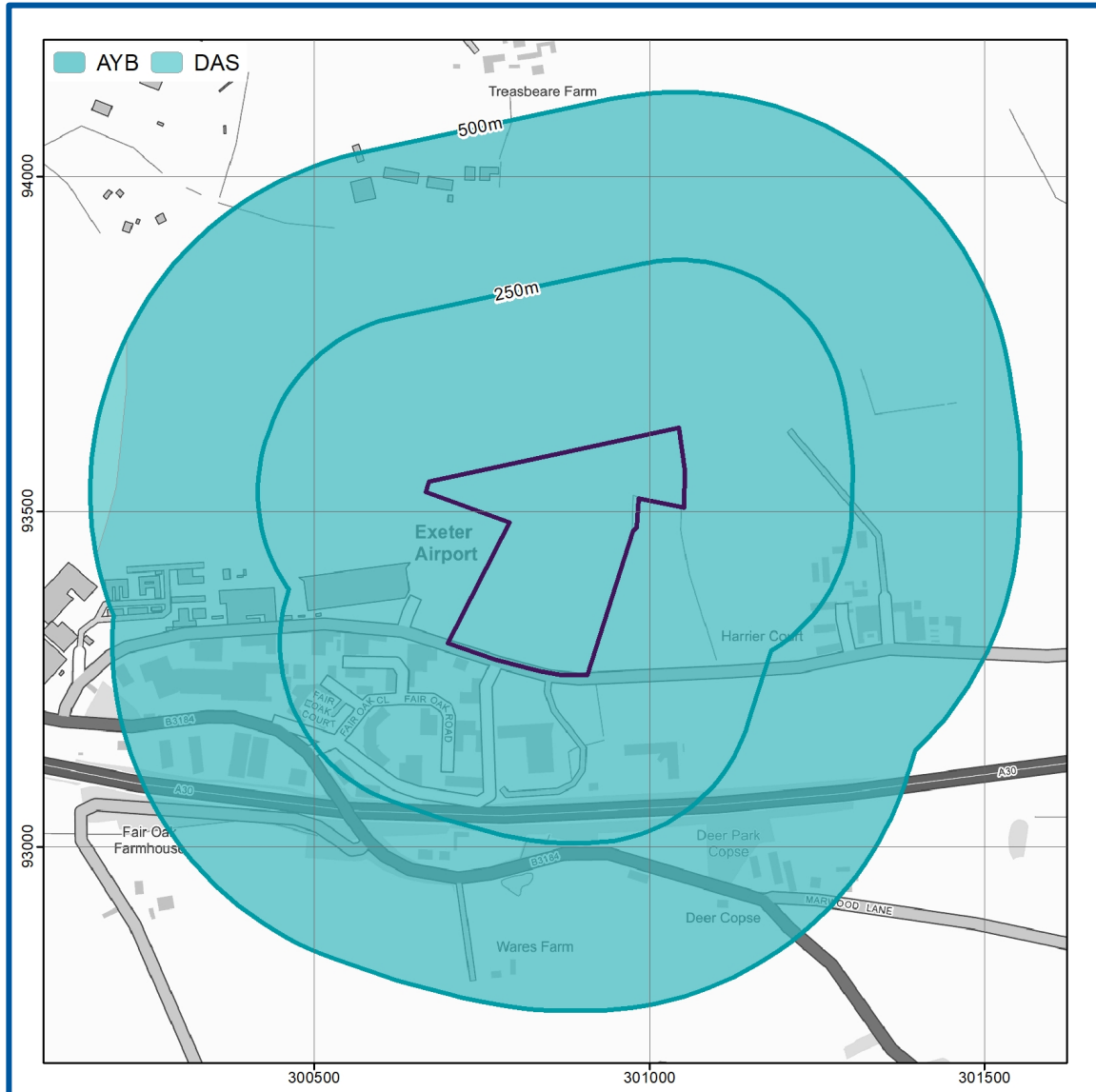
Figure 2. Surface water features (EA, 2021)



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BGS mapping indicates the underlying bedrock geology (Figure 4) consists of the Aylesbeare Mudstone Group (AYB) (mudstone) (BGS, 2021) and is classified as a Secondary (B) Aquifer (EA, 2021). The Site does not lie within a groundwater Source Protection Zone (SPZ) (EA, 2021).

Figure 4. Bedrock Geology (BGS, 2021)



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A review of the BGS borehole database (BGS, 2021) indicates the nearest and most relevant borehole (ref: SY09SW111) is 180 m to the south of the Site boundary at an elevation of 31.67 mAOD. The borehole confirms topsoil (soft dark brown sandy silty clay) to 0.3 m below ground level (bgl), underlain by Valley Gravel (clayey fine to coarse gravel) to 1.15 m bgl, underlain by silty clay to 4.10 m bgl, underlain by mudstone to 6.00 m bgl where the borehole was terminated. Groundwater was not encountered.

The hydrogeological characteristics suggest there is unlikely to be a shallow groundwater table beneath the Site.

4. Flood risk to the development

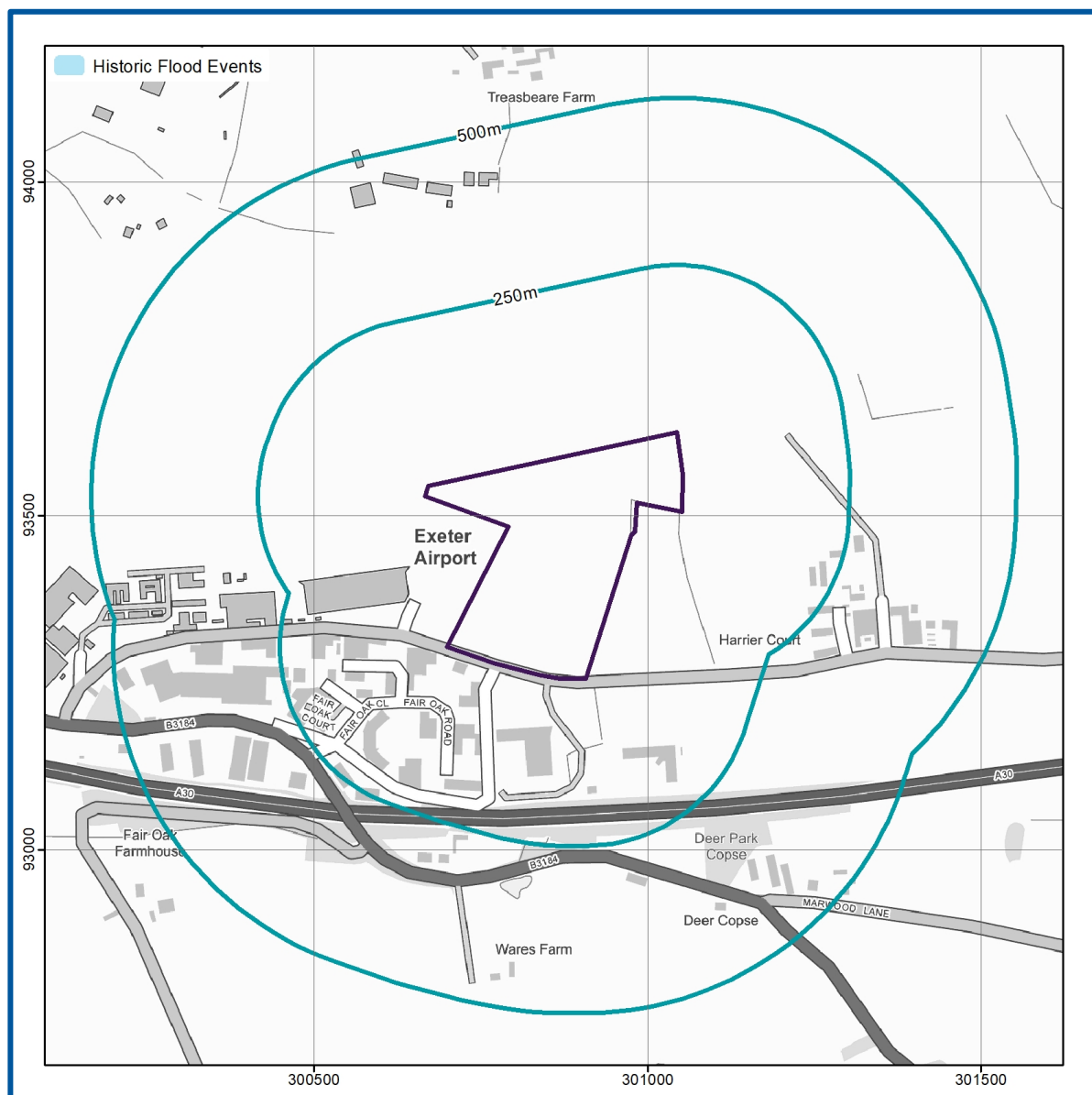


Historical flood events

According to the EA's historical flood map (EA, 2021) and the SFRA (East Devon District Council, 2013) no historical flood events have been recorded at the Site.

The purpose of historical flood data is to provide information on where and why flooding may have occurred in the past. The absence of any recorded events does not mean flooding has never occurred on-Site or that flooding will never occur at the Site.

Figure 5. Historical Flood Map (EA, 2021)

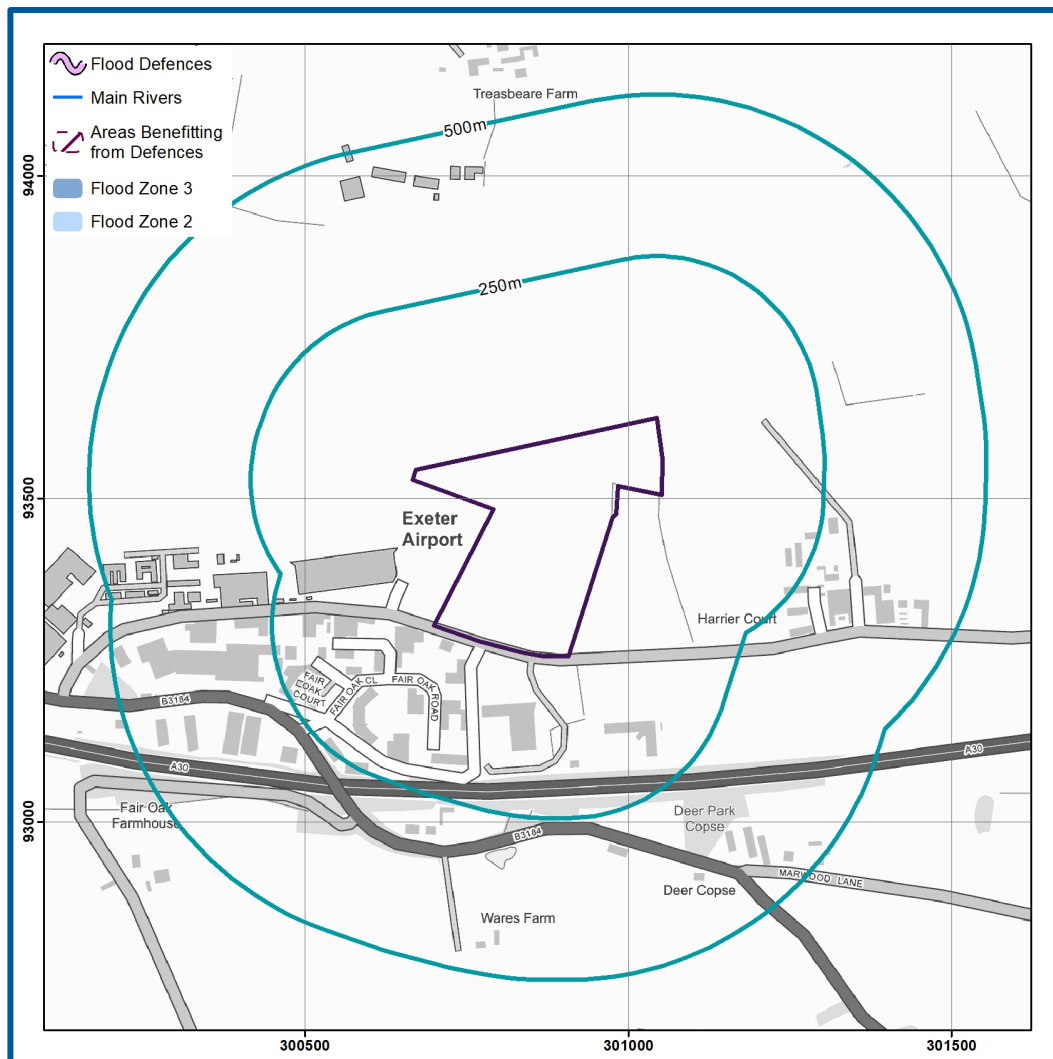


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Rivers (fluvial) / Sea (coastal/tidal) flooding

According to the EA's Flood Map for Planning Purposes (Figure 6), the Site is located within fluvial Flood Zone 1 and is therefore classified as having a Low probability of fluvial flooding. The Site lies approximately over 500 m to the north and east of the nearest land within Flood Zones 2 and 3.

Figure 6. EA Flood Map for Planning Purposes (EA, 2021)



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Guidance

As defined in the NPPF (2019):

Ignoring the presence of any defences, land located in a Flood Zone 1 is considered to have a Low probability of flooding, with less than a 1 in 1000 annual probability of fluvial or coastal flooding in any one year.

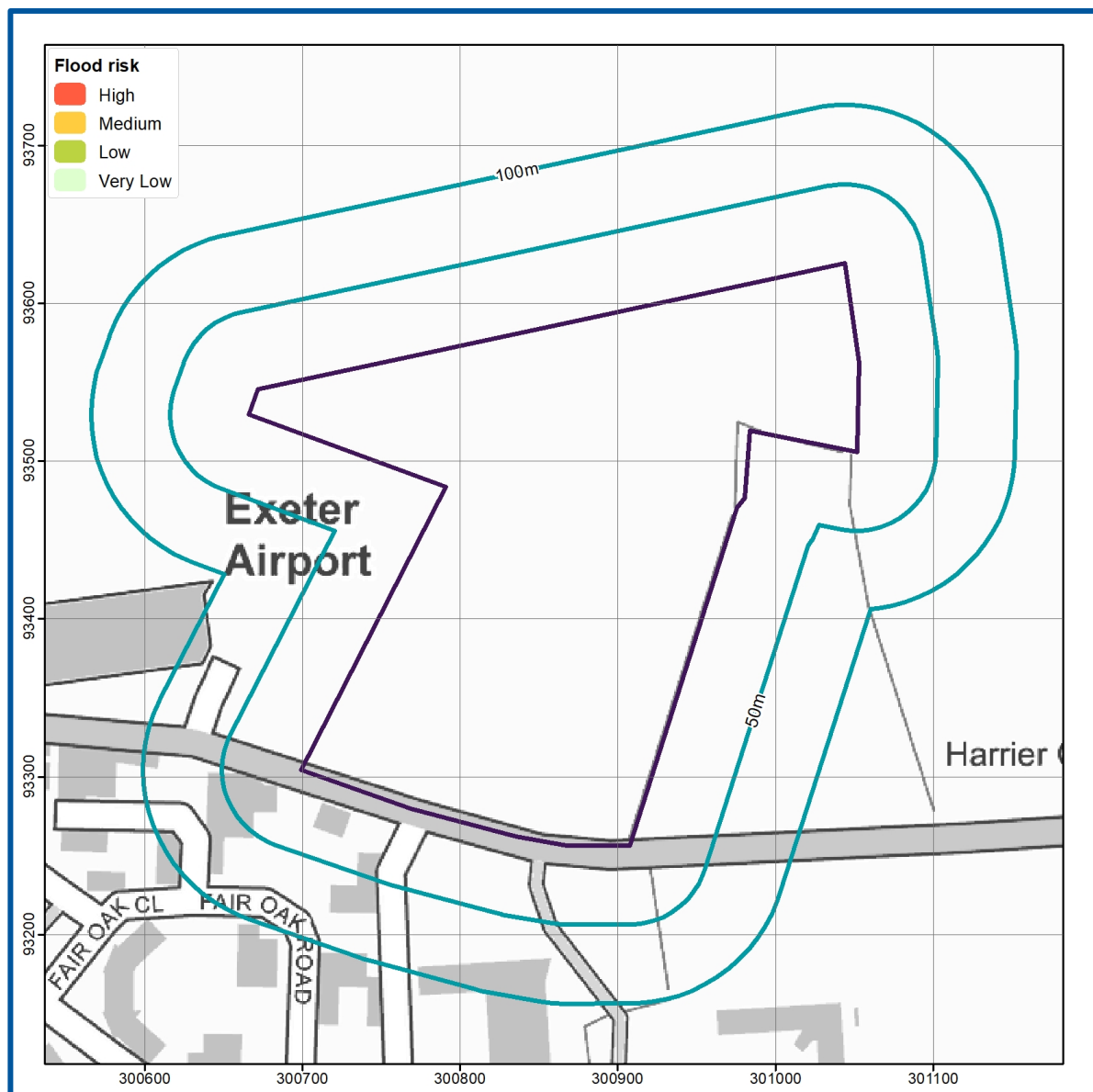
Development of all uses of land is appropriate in this zone (see glossary for terminology).

Flood risk including the benefit of defences

The type and condition of existing flood defences influence the 'actual' risk of fluvial flooding to the Site, albeit the long-term residual risk of flooding (ignoring the defences) should be considered when proposing new development.

According to the EA's Risk of Flooding from Rivers and the Sea (RoFRS) mapping (Figure 7), which considers the crest height, standard of protection and condition of defences, the flood risk from Rivers and the Sea is Very Low.

Figure 7. Risk of Flooding from Rivers and Sea map (EA, 2021)



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Surface water (pluvial) flooding

Surface water flooding occurs when intense rainfall exceeds the infiltration capacity of the ground and overwhelms the drainage systems. It can occur in most locations even at higher elevations and at significant distances from river and coastal floodplains.

According to the EA's Risk of Flooding from Surface Water (pluvial) flood mapping, the Site is at a variable risk of pluvial flooding ranging from Very Low to High.

The PFRA and SFRA do not indicate reported incidents of historical surface water flooding within 100 m of the Site and also confirm the Site is not located within a Critical Drainage Area (CDA)¹ (East Devon District Council, 2013; Devon County Council, 2011).

Guidance

According to EA's surface water flood risk map the Site is at:

- Very Low risk - chance of flooding of less than 1 in 1000 (0.1%).
- Low risk - chance of flooding of between a 1 in 1000 & 1 in 100 (0.1% and 1%).
- Medium risk - chance of flooding of between a 1 in 100 and 1 in 30 (1% and 3.3%).
- High risk - chance of flooding of greater than 1 in 30 (3.3%).

Low frequency event (0.1% annual chance of occurring / 1 in 1000 year)

During a Low frequency surface water event, flooding is mapped within the north eastern corner of the Site, flooding is also shown within the course of the drainage ditch. Flooding depths of 0.3 m to more than 1.2 m are shown in the areas where the topography is lowest, where ground levels are lower than 27 mAOD.

Separately, a shallow surface water flood flow route is mapped originating in the south west of the Site, flowing in a south easterly direction towards the Site entrance.

Analysis of OS mapping, ground elevation data and the EA's pluvial flow route mapping in the 1 in 1000 year event confirms the Site is located on a potential overland flow route during a Low risk scenario, although flows are generally retained within the drainage ditch along the eastern boundary.

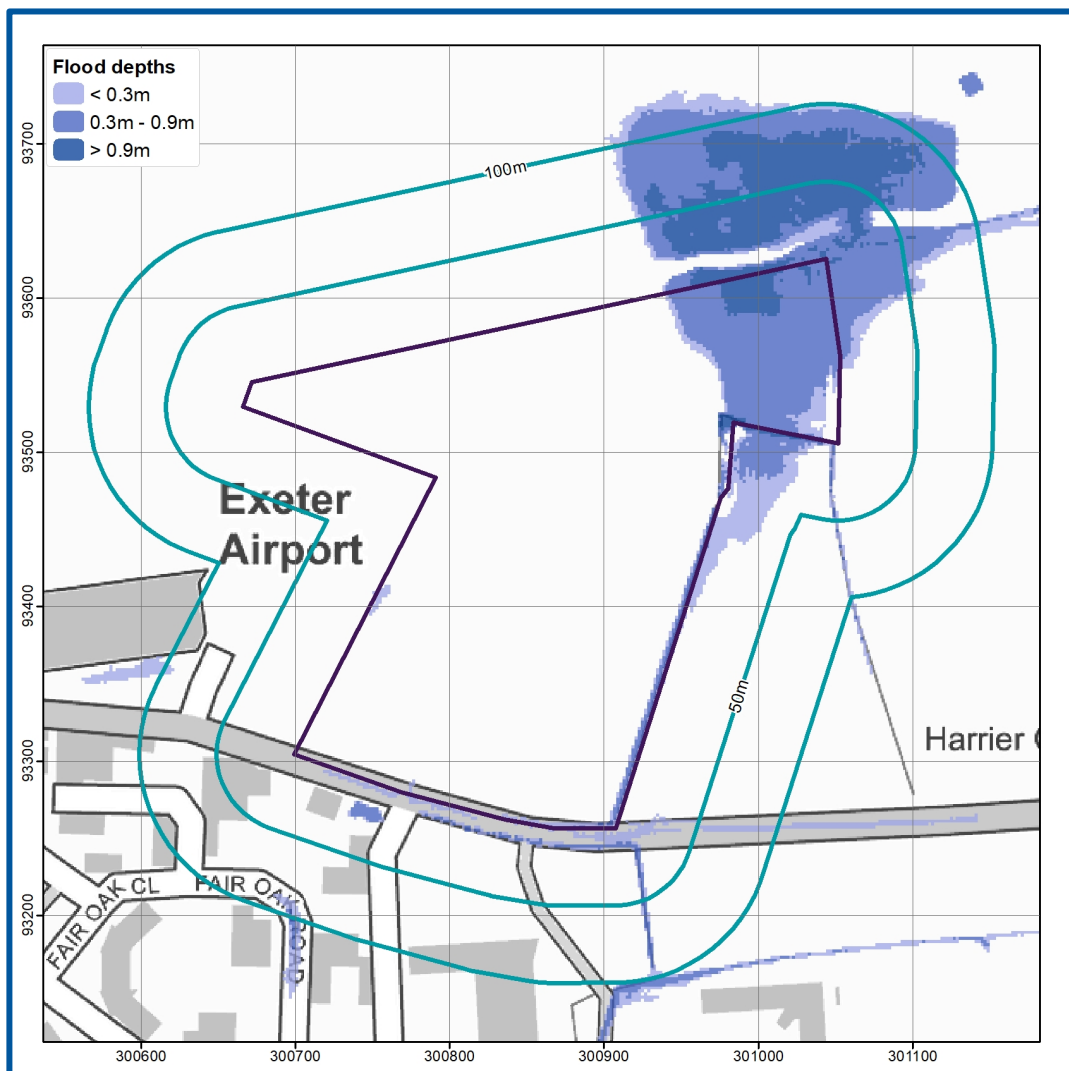
The majority of flow velocities are greater than 0.25 m/s. The flows could potentially affect the buildings and /or access routes to the Site. Water may flow onto the Site from adjacent land to the north and should be managed, in addition to run-off generated on-Site. The Site may potentially transmit overland flows off-Site in an easterly and north easterly direction.

¹ A Critical Drainage Area (CDA) is an area that has critical drainage problems and which has been notified to the local planning authority as such by the Environment Agency in line with the National Planning Policy Framework (NPPF, 2019). CDA's are specific to Flood Zone 1, defined as areas where runoff can and may have historically contributed to flooding downstream, although they are not necessarily areas where flooding problems may occur. Where a Site is located in Flood Zone 1 and within a CDA, a Flood Risk Assessment (FRA) is required and the Council may also request Sustainable Drainage Scheme (SuDS) features to be included within the proposed development.

Medium and High frequency event (1% annual chance of occurring / 1 in 100 year and 3.3% annual chance / 1 in 30 year)

Figure 8 confirms the extent and depth of flooding during a 1 % AEP (1 in 100 year - Medium risk) event. During a Medium event and High risk event (3.3 % AEP), the pluvial flooding is similar to that seen in a Low risk event, with the exception that the flow route to the south west is no longer present.

Figure 8. EA 1% annual chance (medium chance) surface water flood depth map



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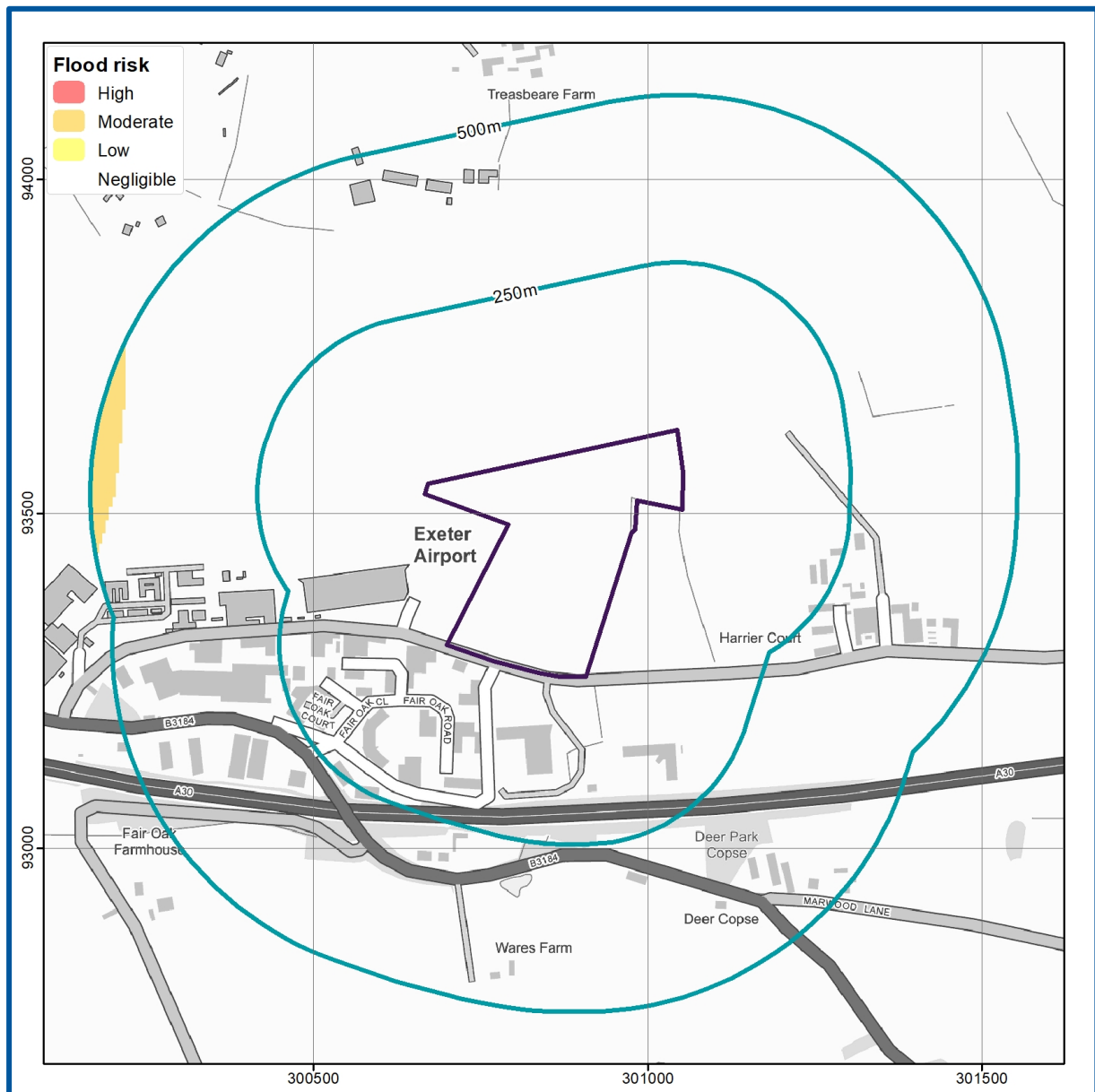
Climate change may lead to an increase in rainfall intensity which affects river levels, land and urban drainage systems. Rainfall intensity for small and urban catchments may increase from 5 to 20 % (central estimate) or 10 % to 40 % (Upper estimate) over the period to 2115 (EA, 2021). The Site is susceptible to overland flow and/or surface water flooding which may be increased as a result of climate change, this is likely to be best represented by the 1000 year event, which could be used as a proxy for the 100 year event allowing for climate change. On-Site surface water drainage systems should be designed appropriately to manage run-off.

Groundwater flooding

Groundwater flooding occurs when sub-surface water emerges from the ground at the surface or into Made Ground and structures. This may be as a result of persistent rainfall that recharges aquifers until they are full; or may be as a result of high river levels, or tides, driving water through near-surface deposits. Flooding may last a long time compared to surface water flooding, from weeks to months. Hence the amount of damage that is caused to property may be substantially higher.

Groundwater Flood Risk screening data (Figure 9) indicates there is a Negligible risk of groundwater flooding at surface in the vicinity from permeable bedrock and superficial during a 1 in 100 year event.

Figure 9. GeoSmart GW5 Groundwater Flood Risk Map (GeoSmart, 2021)



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Mapped classes combine likelihood, possible severity and the uncertainty associated with predicting the subsurface system. The map is a national scale screening tool to prompt site-specific assessment where the impact of groundwater flooding would have significant adverse consequences. Mapping limitations and a number of local factors may reduce groundwater flood risk to land and property even where it lies within mapped groundwater flood risk zones, which do not mean that groundwater floods will occur across the whole of the risk area.

The PFRA and SFRA do not indicate reported incidents of historical ground water flooding within 20 m of the Site (East Devon District Council, 2013; Devon County Council, 2011).

A site-specific assessment has been undertaken to refine the groundwater risk screening information on the basis of site-specific datasets (see Section 3) including BGS borehole data and the EA's fluvial floodplain data (where available) to develop a conceptual groundwater model. The risk rating is refined further using the vulnerability of receptors including occupants and the existing and proposed Site layout, including the presence of basements and buried infrastructure. The presence of any nearby or on-Site surface water features such as drainage ditches, which could intercept groundwater have also been considered.

Site specific assessment suggests that groundwater levels are unlikely to reach the surface at the Site. The local topography is such that the development threshold is likely to be higher than the area where groundwater emerges in adjacent low points.

On the basis of the site-specific assessment the groundwater flood risk is considered to be Negligible. The risks are higher for buried infrastructure and soakaway systems which may be affected by high groundwater levels.

Guidance

Negligible Risk - There will be a remote possibility that incidence of groundwater flooding could lead to damage to property or harm to other sensitive receptors at, or near, this location.

Climate change predictions suggest an increase in the frequency and intensity of extremes in groundwater levels. Rainfall recharge patterns will vary regionally resulting in changes to average groundwater levels. A rise in peak river levels will lead to a response of increased groundwater levels in adjacent aquifers subject to the predicted climate change increases in peak river level for the local catchment.

The impact of climate change on groundwater levels beneath the Site is linked to the variation in rainfall recharge which is uncertain. Based on the available evidence the resulting increase to groundwater flood risk will be mitigated by the proposed measures.

Flooding from artificial sources

Artificial sources of flood risk include waterbodies or watercourses that have been amended by means of human intervention rather than natural processes. Examples include reservoirs (and associated water supply infrastructure), docks, sewers and canals. The flooding mechanism associated with flood risk from artificial sources is primarily related to breach or failure of structures (reservoir, lake, sewer, canal, flood storage areas, etc.)

Sewer flooding

The PFRA and SFRA do not state that the area surrounding the Site is at risk from sewer flooding (East Devon District Council, 2013; Devon County Council, 2011).

Guidance

Properties classified as “at risk” are those that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system either once or twice in the ten year reference period. Records held by the sewage utility company provide information relating to reported incidents, the absence of any records does not mean that the Site is not at risk of flooding.

Culverts and bridges

The blockage of watercourses or structures by debris (that is, any material moved by a flowing stream including vegetation, sediment and man-made materials or refuse) reduces flow capacity and raises water levels, potentially increasing the risk of flooding. High water levels can cause saturation, seepage and percolation leading to failure of earth embankments or other structures. Debris accumulations can change flow patterns, leading to scour, sedimentation or structural failure.

A culvert has been identified on-Site comprising a covered channel or pipe that is used to continue a watercourse or drainage path under an artificial obstruction. Culverts range in size and capacity and require appropriate maintenance to function. Screens may be installed across openings to prevent entry and reduce the risk of blockage inside the culvert. However, they can cause flooding when they are poorly maintained or trap large amounts of debris in times of high flow.

It is likely the land owner is responsible for maintenance of the infrastructure. It is recommended that an appropriate maintenance regime is put in place to maintain effective operation of the culvert.

The PFRA and SFRA have not identified any historic drainage issues within the Site area (East Devon District Council, 2013; Devon County Council, 2011).

Reservoir flooding

According to the EA's Risk of Flooding from Reservoir mapping the Site is not at risk of flooding from reservoirs (Figure 10) (EA, 2021).

Figure 10. EA Risk of Reservoir Flooding (EA, 2021)



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Guidance

The risk of reservoir flooding is related to the failure of a large reservoir (holding over 25,000 m³ of water) and is based on the worst-case scenario. Reservoir flooding is extremely unlikely to occur (EA, 2021).

Canal failure

According to Ordnance Survey (OS) mapping, there are no canals within 500 m of the Site.

Water supply infrastructure

Water supply infrastructure is comprised of a piped network to distribute water to private houses or industrial, commercial or institution establishments and other usage points. In urban areas, this represents a particular risk of flooding due to the large amount of water supply infrastructure, its condition and the density of buildings. The risks of flooding to properties from burst water mains cannot be readily assessed.

If more information regarding the condition and history of the water supply infrastructure within the vicinity of the Site is required, then it is advisable to contact the local water supplier (South West Water).

5. Flood risk from the development



Floodplain storage

The development is located within Flood Zone 1 but areas of the Site in the northeast have a high potential for surface water flooding, which follow the route of the drainage ditch.

Any buildings or ground level changes in the area mapped as flooding may displace flooding off-site and the following floodplain compensation methods should be used (in order of preference):

- Lowering of ground levels on a level for level and volume for volume basis in undeveloped areas of the Site, where ground levels can be re-profiled;
- The use of voids beneath any proposed buildings, the underside of the void should ideally be set above the maximum flood level where possible.

Any losses in floodplain storage as a result of the development could impact flooding downstream of the Site.

Drainage and run-off

The proposed development involves an increase in the coverage of impermeable surfaces at the Site. As a result the rate and volume of runoff from the development is likely to increase over its lifetime. Therefore, an estimation of run-off is required to permit effective Site water management and prevent any increase in flood risk to off-Site receptors from the Site, over the lifetime of the proposed development. A Sustainable Drainage Scheme (SuDS) strategy has been produced separately by GeoSmart (74640.01, 2021).

The NPPF (2019) recommends the effects of climate change are incorporated into FRA's and the recently updated climate change guidance (published in 2016 and updated in 2019) confirms the requirements for inclusion within drainage strategies.

Table 2. Climate change rainfall allowances

Applies across all of England	Total potential change anticipated for 2010 to 2039	Total potential change anticipated for 2040 to 2059	Total potential change anticipated for 2060 to 2115
Upper end	10%	20%	40%
Central	5%	10%	20%

It is assumed that any changes to the existing drainage system will be undertaken in accordance with best practice and that care will be taken to ensure the new development does not overload/block any existing drainage or flow pathways to/from the Site.

6. Suitability of the proposed development



The information below outlines the suitability of proposed development in relation to national and local planning policy.

National policy and guidance

The aims of the national planning policies are achieved through application of the Sequential Test and in some cases the Exception Test.

Guidance

Sequential test: The aim of this test is to steer new development towards areas with the lowest risk of flooding (NPPF, 2019). Reasonably available sites located in Flood Zone 1 should be considered before those in Flood Zone 2 and only when there are no reasonably available sites in Flood Zones 1 and 2 should development in Flood Zone 3 be considered.

Exception test: In some cases, this may need to be applied once the Sequential Test has been considered. For the exception test to be passed it must be demonstrated that the development would provide wider sustainability benefits to the community that outweigh flood risk and a site-specific FRA must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

Suitability of the proposed development, and whether the Sequential and Exception Tests are required, is based on the Flood Zone the Site is located within and the flood risk vulnerability classification of the existing and proposed development. Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

This report has been produced to assess all development types, prior to any development. The vulnerability classification and Flood Zones are compared within Table 3 overleaf (Table 3 of the NPPG (2014)).

As the Site is located within Flood Zone 1, all types of development listed within the Table overleaf are acceptable according to National Policy. The Sequential Test is not required.

Table 3. Flood risk vulnerability and flood zone 'compatibility (taken from NPPG, 2014)

Flood risk vulnerability classification		Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood Zone	Zone 1 – low probability	✓	✓	✓	✓	✓
	Zone 2 – medium probability	✓	✓	Exception test required	✓	✓
	Zone 3a - high probability	Exception test required	✓	X	Exception test required	✓
	Zone 3b – functional flood plain	Exception test required	✓	X	X	X

Local policy and guidance

For this report, several documents have been consulted for local policy and guidance and relevant information is outlined below:

Preliminary Flood Risk Assessment Report (Devon County Council, 2011):

"4.1.3 Sewer Flooding

Sewer flooding is often caused by excess surface water entering the drainage network. In the historic records analysed, sewer flooding is only occasionally recorded as the main or additional source of flooding. South West Water has provided GIS data points of sewer hydraulic overload spots from the past two decades which have been used to support and verify other historic information and surface water models. However, due to data sharing agreements, these data points are not published in this report. There are 2 significant historic flood events in Annex 1 with sewers listed as an additional source of the flooding, occurring in Ottery St Mary and North Devon."

Table 4.4 of the PFRA confirms 334 properties were flooded on the 29th October 2008 within East Devon, with surface runoff listed as the main source.

"5.3.3 Implications for Flood Risk

Climate changes can affect local flood risk in several ways. Impacts will depend on local conditions and vulnerability. Wetter winters and more of this rain falling in wet spells may increase river flooding. More intense rainfall causes more surface runoff, increasing localised flooding and erosion. In turn, this may increase pressure on drains, sewers and water quality. Storm intensity in summer could increase even in drier summers, so the unexpected must be prepared for.

Rising sea or river levels may increase local flood risk inland or away from major rivers because of interactions with drains, sewers and smaller watercourses.

There is a risk of flooding from groundwater. Recharge may increase in wetter winters, or decrease in drier summers.

Where appropriate, local studies need to be conducted to understand climate impacts in detail, including effects from other factors like land use. Sustainable development and drainage will help with adapting to climate change and manage the risk of damaging floods in future."

Table 6.2 of the PFRA confirms 10,619 people are at risk of surface water flooding within Exeter.

"8.5 Development and Planning

Surface water runoff from hard surfaced areas increases peak flow and therefore the incorporation of SuDS in a development should ensure impact is minimised to green field run off rates. This needs consideration early in the planning process to ensure the SuDS principles can be applied on development sites without contributing to problems in the surrounding areas. Therefore planning applications should clearly include these drainage options."

Surface Water Management Plan (Devon County Council, 2012):

"3.4.3 East Devon

East Devon is predominantly an agricultural area, however the population is set to increase significantly with planned new development (see Section 8). Key characteristics are:

- Permeability of the underlying geology decreases eastwards until the Axe and Lim Catchments, which are highly permeable.*
- There are four Special Areas of Conservation, a Special Protection Area, a National Nature Reserve and numerous Sites of Special Scientific Interest (see Section 4), 133 historic monuments and over 3000 listed buildings, with Ottery St. Mary having 118 scheduled monuments.*
- High water tables and small frequent flooding (without risk to life or property) in low-lying areas benefits the local ecology and agriculture.*

Surface water flooding is identified as a problem in the catchment, often caused by runoff from agricultural land and exacerbated when the capacity of drainage systems is insufficient or when blockages occur. Records of flooding from local sources are mapped, with locations including Exmouth and Ottery St Mary being highlighted.

The conditions for infiltration-based SuDS are relatively favourable in some locations due to the underlying permeable Permo-Triassic sandstones. However, bodies of impermeable mudstone also occur locally which must be carefully considered."

"8.2 Proposed Development in East Devon

The south-eastern part of Devon, centred on the City of Exeter and surrounding areas, has seen substantial development and strong economic performance in recent years. This overall growth pattern is set to continue, with development in the West End of East Devon playing a key part. Therefore the Core Strategy sets the overall preferred approach as focussing major development in East Devon's West End, although growth is also planned for the towns of East Devon. The overall strategy for development in East Devon is for 16,400 homes and 168 hectares of employment land to be provided in the period to 2026.

The following observations are made in relation to the potential high risk locations that are the focus of this Phase 1 SWMP:

- Whilst much of the West End development will be between the A30/M5 and the railway around Exeter Airport, the proposed development area which has most Devon SWMP – Phase 1 Strategic Assessment 39 relevance to this SWMP study is Pinhoe, where mixed use, residential led development is planned. It will be important that the proposed 800 new homes and 3 hectares of employment land around Pinhoe respects natural flow routes, takes appropriate account of flooding which has occurred in the past and the risk which may be better understood through detailed SWMP study.*
- The proposed development between the A30/M5 and the railway around Exeter Airport is downstream (along the Main River Cranny) of Whimble where flooding has occurred in the past. Therefore, management approaches taken in Whimble should not increase flood risk further downstream.*
- Proposed development at Goodmores Farm on the northern perimeter of Exmouth could provide an opportunity to limit runoff into the watercourse which is a tributary of the Withycombe Brook.*
- The 250 homes and 3 hectares of employment land proposed for Ottery St Mary must take appropriate account of flooding which has occurred in the past and ongoing works to better manage the risk.*

A Water Cycle Study undertaken by South West Water (SWW) for the Exeter and East Devon Growth Point area identified no critical constraints to growth at the scale planned with respect to wastewater collection and treatment. The water cycle study has identified no absolute environmental constraints to the proposed scale of growth in Exeter and East Devon. Detailed analysis will be undertaken by SWW in order to determine the most appropriate infrastructure solutions for new development. However SWW is confident that, given appropriate consultation, it will be able to provide or requisition infrastructure capacity within the normal planning timetable."

Strategic Flood Risk Assessment (Devon County Council, 2013):

*"8.18 When considering the use of SuDS in the management of surface water at mineral sites, regard should be had to the scope for both positive and negative impacts on other interests. While SuDS may achieve an enhancement of a site's biodiversity by providing a wetland habitat, **care should be taken in the vicinity of an airport or associated flightpaths not to create an increased risk of birdstrike** arising from water features that may attract birds."*

Guidance

Strategic Flood Risk Assessments are carried out by local authorities, in consultation with the Environment Agency, to assess the flood risk to the area from all sources both now and in the future due to climate change. They are used to inform planning decisions to ensure inappropriate development is avoided (NPPF, 2019).

Pre-application advice

The Devon County Council Flood Risk Management Team offer pre-application advice for developers specific to SuDS and flood risk for major developments (over 1,000 m² commercial floor space), available on:

<https://www.devon.gov.uk/floodriskmanagement/planning-and-development/pre-application-advice/>

7. Resilience and mitigation



Based on the flood risk identified at the Site, the national and local policies and guidance and proposed development, the mitigation measures outlined within this section of the report are likely to help protect the development from flooding.

Sea (coastal/tidal) flood mitigation measures

As the Site is not identified as being at risk of flooding from the sea, mitigation measures are not required.

Rivers (fluvial) flood mitigation measures

As the Site is not identified as being at risk of flooding from fluvial sources, mitigation measures are not required.

Surface water (pluvial) flood mitigation measures

A variable potential for surface water (pluvial) flooding has been identified at the Site, ranging from High to Very Low; with flood depths anticipated of over 1.2 m in the areas at highest risk in the northeast of the Site.

In order to ensure the development includes sufficient flood mitigation measures to reduce the risk of pluvial flooding over its lifetime, the flood depths, levels and appropriate mitigation measures are summarised below:

- The best course of action is to avoid developing in the areas with the highest potential for flooding or at the very least by placing the least vulnerable areas of development in those areas with the highest potential for flooding.
- If development is proposed in the area mapped with a high potential for flooding, flood depths could be over 1.2 m in depth, as such the following mitigation measures are recommended:
 - SuDS features are increased to intercept the flooding, store (attenuate) and discharge the runoff at a restricted rate into the drainage ditch.
 - Finished Floor Levels (FFL) of built development should be set at least 0.3 m above the flooding in the 1 in 1000 year event where possible;
 - Where FFL's cannot be raised, the building should be allowed to flood and flood resilience measures incorporated into the design of the building, as well as storing any items of value well above the flood level;
 - Any buildings or ground level changes in the area mapped as flooding may displace flooding off-site and floodplain compensation methods should be used:

- Lowering of ground levels on a level for level and volume for volume basis in undeveloped areas of the Site, where ground levels can be re-profiled;
 - The use of voids beneath any proposed buildings, the underside of the void should ideally be set above the maximum flood level where possible.
- Surrounding ground levels should aim to slope away from buildings. Ground levels should be designed to channel any overland flows from off-Site (to the south) away from the development and Site drainage systems.
 - Any crossings required across the mapped drainage ditches should be raised high enough so that the underside of the bridge is raised by at least 0.6m above the maximum water level, this will reduce the potential for blockages.

Where buildings are proposed and the FFL's cannot be set at the recommended elevation, the floor levels should be set as high as possible and the following flood resilience measures included:

Additional Mitigation

It is also appropriate to adopt a water exclusion strategy for flood depths up to 0.3 m in line with the EA's Standing Advice. A water exclusion strategy, using avoidance and resistance measures, is appropriate where floods are expected to last for short durations. Potential water exclusion strategies include:

- Passive flood door systems;
- Temporary flood barriers;
- Air brick covers (manual or automatic closing); and
- Non-return flap valves on sewer outfalls.

Avoidance and resistance measures are unlikely to completely prevent floodwater entering a property, particularly during longer duration flood events. Therefore, it is recommended that the following flood resilience measures are also considered.

- Flood resilient materials and designs:
 - Use of low permeability building materials up to 0.3 m such as engineering bricks (Classes A and B) or facing bricks;
 - Hard flooring and flood resilient metal staircases;
 - The use of internal lime plaster/render or where plasterboards are used these should be fitted horizontally instead of vertically and/or using moisture resistant plasterboard at lower levels;
 - Water, electricity and gas meters and electrical sockets should be located above the predicted flood level; and

- Communications wiring: wiring for telephone, TV, Internet and other services should be protected by suitable insulation in the distribution ducts to prevent damage.

A surface water drainage strategy has been prepared separately (ref: 74640.01R1) to ensure surface water runoff can be managed effectively over the lifetime of the proposed development.

In addition, the regular maintenance of any drains and existing culverts surrounding/on the Site should be undertaken to reduce the flood risk. Where possible and in line with the EA's national policies, culverts should be removed to naturalise the state of the drainage ditches in the vicinity of the Site.

If these mitigation measures are implemented this could reduce the flood risk to the development from High to Very Low to Low to Very Low.

Groundwater flood mitigation measures

As the Site is not identified as being at risk of groundwater flooding, mitigation measures are not required.

Reservoir flood mitigation measures

The Site is not a risk of flooding from reservoirs; therefore, mitigation measures are not required.

Other flood risk mitigation measures

As the Site is not identified as at risk from other sources, mitigation measures are not required.

Residual flood risk mitigation measures

The risk to the Site has been assessed from all sources of flooding and appropriate mitigation and management measures proposed to keep the users of the development safe over its lifetime. There is however a residual risk of flooding associated with the potential for failure of mitigation measures if regular maintenance and upkeep isn't undertaken. If mitigation measures are not implemented or maintained, the risk to the development will remain as the baseline risk.

Further flood mitigation information

More information on flood resistance, resilience and water entry can be found here: http://www.planningportal.gov.uk/uploads/br/flood_performance.pdf

www.knowyourfloodrisk.co.uk

8. Conclusions and recommendations



Table 4. Risk ratings following implementation and subsequent maintenance of mitigation measures

Table 5. Source of Flood Risk	Baseline	After Mitigation
River (fluvial) and Sea (coastal/tidal)	Very Low	N/A
Surface water (pluvial) flooding	High to Very Low ¹	Low to Very Low ²
Groundwater flooding	Negligible	N/A
Other flood risk factors present	No	N/A
Is any other further work recommended?	No	N/A

N/A = mitigation not required

¹The pluvial flood risk is variable across the Site, with the north eastern corner and a drainage ditch on-Site anticipated to experience flood depth of over 1.2 m during High, Medium and Low frequency events.

²There is the potential to reduce the risk to Very Low for the development if it is placed sequentially in areas not modelled to flood during high rainfall events.

The table below provides a summary of where the responses to key questions are discussed in this report. Providing the recommended mitigation measures are put in place it is likely that flood risk to this Site will be reduced to an acceptable level.

Table 6. Summary of responses to key questions in the report

Key sources of flood risks identified	Yes, pluvial (see Section 4).
Are standard mitigation measures likely to provide protection from flooding to/from the Site?	Yes (see Section 7).
Is any further work recommended?	No
Recommendations for flood mitigation are provided below, based upon the proposed development and the flood risk identified at the Site:	

- The potential for flooding from surface water (pluvial) sources is high, particularly in the north east of the Site.

The best course of action is to avoid developing in these areas with the highest potential for flooding or at the very least by placing the least vulnerable areas of development in those areas with the highest potential for flooding.

- If development is proposed in the area mapped with a high potential for flooding, flood depths could be over 1.2 m in depth, as such the following mitigation measures are recommended:
 - SuDS features are increased to intercept the flooding, store (attenuate) and discharge the runoff at a restricted rate into the drainage ditch.
 - Finished Floor Levels (FFL) of built development should be set at least 0.3 m above the flooding in the 1 in 1000 year event where possible;
 - Where FFL's cannot be raised, the building should be allowed to flood and flood resilience measures incorporated into the design of the building, as well as storing any items of value well above the flood level;
 - Any buildings or ground level changes in the area mapped as flooding may displace flooding off-site and floodplain compensation methods should be used:
 - Lowering of ground levels on a level for level and volume for volume basis in undeveloped areas of the Site, where ground levels can be re-profiled;
 - The use of voids beneath any proposed buildings, the underside of the void should ideally be set above the maximum flood level where possible.
 - Surrounding ground levels should aim to slope away from buildings. Ground levels should be designed to channel any overland flows from off-Site (to the south) away from the development and Site drainage systems.
 - Any crossings required across the mapped drainage ditches should be raised high enough so that the underside of the bridge is raised by at least 0.6m above the maximum water level, this will reduce the potential for blockages.

In addition, the regular maintenance of any drains and existing culverts surrounding/on the Site should be undertaken to reduce the flood risk. Where possible and in line with the EA's national policies, culverts should be removed to naturalise the state of the drainage ditches in the vicinity of the Site.

GeoSmart recommend the mitigation measures discussed within this report are considered as part of the proposed development where possible and evidence of this is provided to the Local Planning Authority as part of the planning application.

9. References and glossary



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Glossary

General terms

BGS	British Geological Survey
EA	Environment Agency
GeoSmart groundwater flood risk model	GeoSmart's national groundwater flood risk model takes advantage of all the available data and provides a preliminary indication of groundwater flood risk on a 50m grid covering England and Wales. The model indicates the risk of the water table coming within 1 m of the ground surface for an indicative 1 in 200 year return period scenario.
Dry-Island	An area considered at low risk of flooding (e.g. In a Flood Zone 1) that is entirely surrounded by areas at higher risk of flooding (e.g. Flood Zone 2 and 3)
Flood resilience	Flood resilience or wet-proofing accepts that water will enter the building, but through careful design will minimise damage and allow the re-occupancy of the building quickly. Mitigation measures that reduce the damage to a property caused by flooding can include water entry strategies, raising electrical sockets off the floor, hard flooring.
Flood resistance	Flood resistance, or dry-proofing, stops water entering a building. Mitigation measures that prevent or reduce the likelihood of water entering a property can include raising flood levels or installation of sandbags.
Flood Zone 1	This zone has less than a 0.1% annual probability of river flooding
Flood Zone 2	This zone has between 0.1 and 1% annual probability of river flooding and between 0.1% and 0.5 % annual probability sea flooding
Flood Zone 3	This zone has more than a 1% annual probability of river flooding and 0.5% annual probability of sea flooding
Functional Flood Plain	An area of land where water has to flow or be stored in times of flood.
Hydrologic model	A computer model that simulates surface run-off or fluvial flow. The typical accuracy of hydrologic models such as this is $\pm 0.25\text{m}$ for estimating flood levels at particular locations.
OS	Ordnance Survey
Residual Flood Risk	The flood risk remaining after taking mitigating actions.
SFRA	Strategic Flood Risk Assessment. This is a brief flood risk assessment provided by the local council

SuDS	A Sustainable drainage system (SuDS) is designed to replicate, as closely as possible, the natural drainage from the Site (before development) to ensure that the flood risk downstream of the Site does not increase as a result of the land being developed. SuDS also significantly improve the quality of water leaving the Site and can also improve the amenity and biodiversity that a Site has to offer. There are a range of SuDS options available to provide effective surface water management that intercept and store excess run-off. Sites over 1 Ha will usually require a sustainable drainage assessment if planning permission is required. The current proposal is that from April 2014 for more than a single dwelling the drainage system will require approval from the SuDS Approval Board (SABs).
------	--

Aquifer Types

Principal aquifer	These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.
Secondary A aquifer	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.
Secondary B aquifer	Predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.
Secondary undifferentiated	Has been assigned in cases where it has not been possible to attribute either category A or B to a rock type due to the variable characteristics of the rock type.
Unproductive Strata	These are rock layers or drift deposits with low permeability that has negligible significance for water supply or river base flow.

NPPF (2019) terms

Exception test	Applied once the sequential test has been passed. For the exception test to be passed it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk and a site-specific FRA must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
Sequential test	Aims to steer new development to areas with the lowest probability of flooding.
Essential infrastructure	Essential infrastructure includes essential transport infrastructure, essential utility infrastructure and wind turbines.

Water compatible	Water compatible land uses include flood control infrastructure, water-based recreation and lifeguard/coastal stations.
Less vulnerable	Less vulnerable land uses include police/ambulance/fire stations which are not required to be operational during flooding and buildings used for shops/financial/professional/other services.
More vulnerable	More vulnerable land uses include hospitals, residential institutions, buildings used for dwelling houses/student halls/drinking establishments/hotels and sites used for holiday or short-let caravans and camping.
Highly vulnerable	Highly vulnerable land uses include police/ambulance/fire stations which are required to be operational during flooding, basement dwellings and caravans/mobile homes/park homes intended for permanent residential use.

Data Sources

Aerial Photography	Contains Ordnance Survey data © Crown copyright and database right 2021 BlueSky copyright and database rights 2021
Bedrock & Superficial Geology	Contains British Geological Survey materials © NERC 2021 Ordnance Survey data © Crown copyright and database right 2021
Flood Risk (Flood Zone/RoFRS/Historic Flooding/Pluvial/Surface Water Features/Reservoir/ Flood Alert & Warning)	Environment Agency copyright and database rights 2021 Ordnance Survey data © Crown copyright and database right 2021
Flood Risk (Groundwater)	GeoSmart, BGS & OS GW5 (v2.4) Map (GeoSmart, 2021) Contains British Geological Survey materials © NERC 2021 Ordnance Survey data © Crown copyright and database right 2021
Location Plan	Contains Ordnance Survey data © Crown copyright and database right 2021
Topographic Data	OS LiDAR/EA Contains Ordnance Survey data © Crown copyright and database right 2021 Environment Agency copyright and database rights 2021

10. Appendices



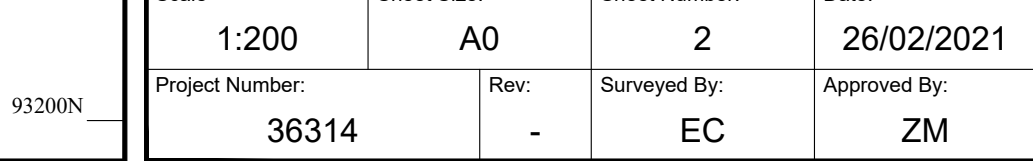
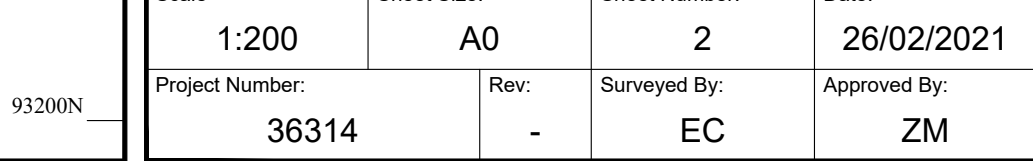
Appendix A

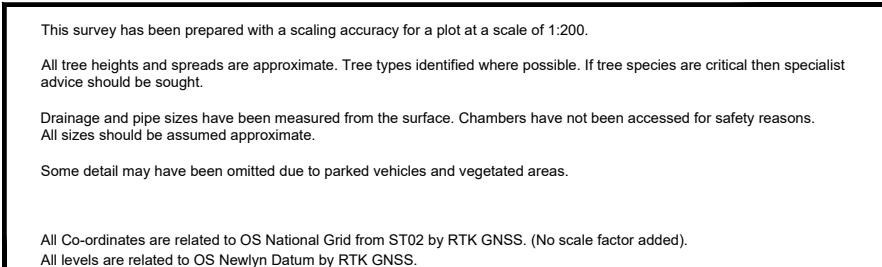
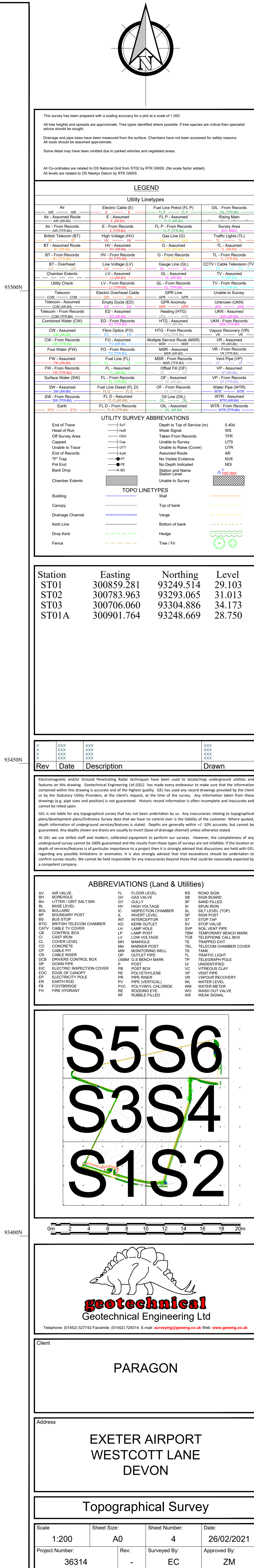


Site plans (boundary and topography)



Title: Site Location Plan



[illegible]

UTILITY SURVEY ABBREVIATIONS			
End of Trace	—●—	Depth to Top of Service (in)	0-600
Head of Trace	—○—	Waste Signal	WGS
Off Survey Area	—G—	Taken From Records	TFR
Unknown	—X—	No Unders Evidence	NUE
Unable to Trace	—3—	Unable to Locate (Cover)	ULTR
End of Records	—	Assumed Loss	AL
TF - Tap	—T—	No Unders Evidence	NUE
Pin End	—●—	No Depth indicated	NDI
Close-Stop	—●—	Spliced and Unable to Survey	ASUS
Chamber Entries		Unable to Survey	US
TOPO LINE TYPES			
Building	—	Wall	—
Canopy	—	Top of bank	—
Drainage Channel	—	Verge	—
Kerb Line	—	Bottom of bank	—
Drop Kerb	—		
Fence	—	Top / Fill	

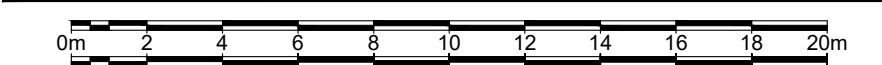
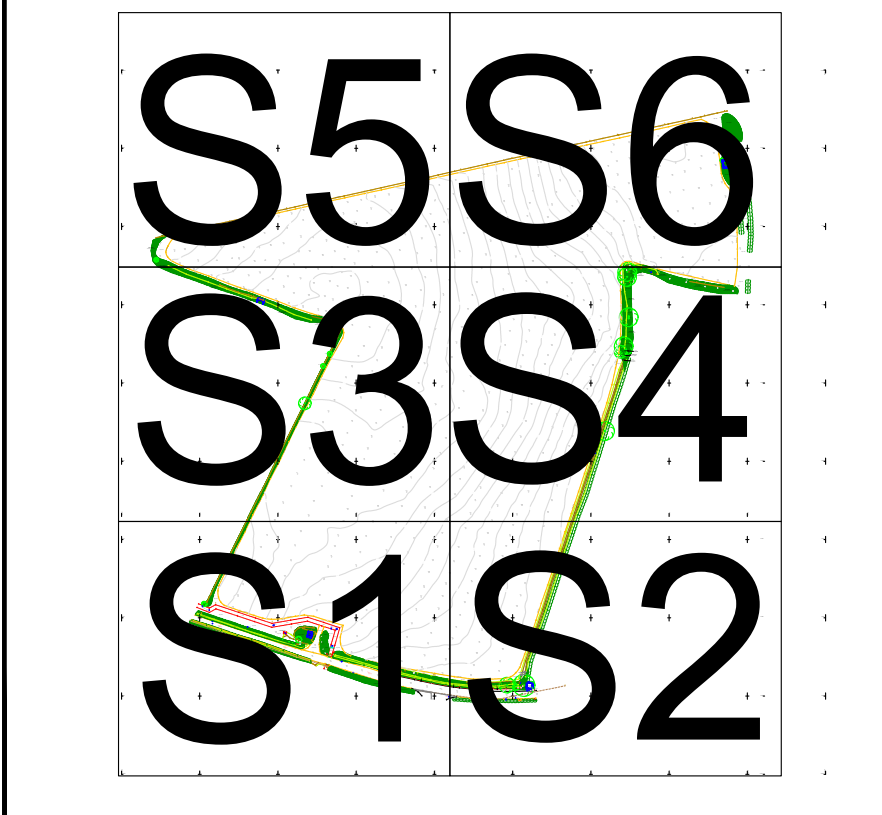
Station	Easting	Northing	Level
ST01	300859.281	93249.514	29.103
ST02	300783.963	93293.065	31.013
ST03	300706.060	93304.886	34.173
ST01A	300901.764	93248.669	28.750

X	XXX	XXX	XXX
X	XXX	XXX	XXX
X	XXX	XXX	XXX
X	XXX	XXX	XXX
Rev	Date	Description	Drawn

Electromagnetic and/or Ground Penetrating Radar techniques have been used to locate/map underground utilities and features on this drawing. Geotechnical Engineering Ltd (GEL) has made every endeavor to make sure that the information contained within this drawing is accurate and of the highest quality. GEL has used any record drawings provided by the client or by the Statutory Utility Providers, at the client's request, at the time of the survey. Any information taken from these drawings [e.g. pipe sizes and position] is not guaranteed. Historic record information is often incomplete and inaccurate and cannot be relied upon.

GSL is not liable for any topographical information that has not been undertaken by us. Any inaccuracies relating to biogeological surveys/development plans/Occurrence Survey data that we have no control over is the liability of the customer. Where quoted, depth information of underground services/features is stated. Depths are generally within +/- 10% accurate, but cannot be guaranteed. Any depths shown are drains are usually to invert (base of drainage channel) unless otherwise stated.

All GGL we use skilled staff and modern, calibrated equipment to perform our surveys. However, the completeness of any underground survey cannot be 100% guaranteed and the results from these types of surveys are not infallible. If the location or depth of services/features is of particular importance to a project then it is strongly advised that excavators be hired with GGL regarding any possible limitations or anomalies. It is also strongly advised that trial excavations should be undertaken to confirm survey results. We cannot be held responsible for any inaccuracies beyond those that could be reasonably expected by a competent company.

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Client _____

PARAGON

Address

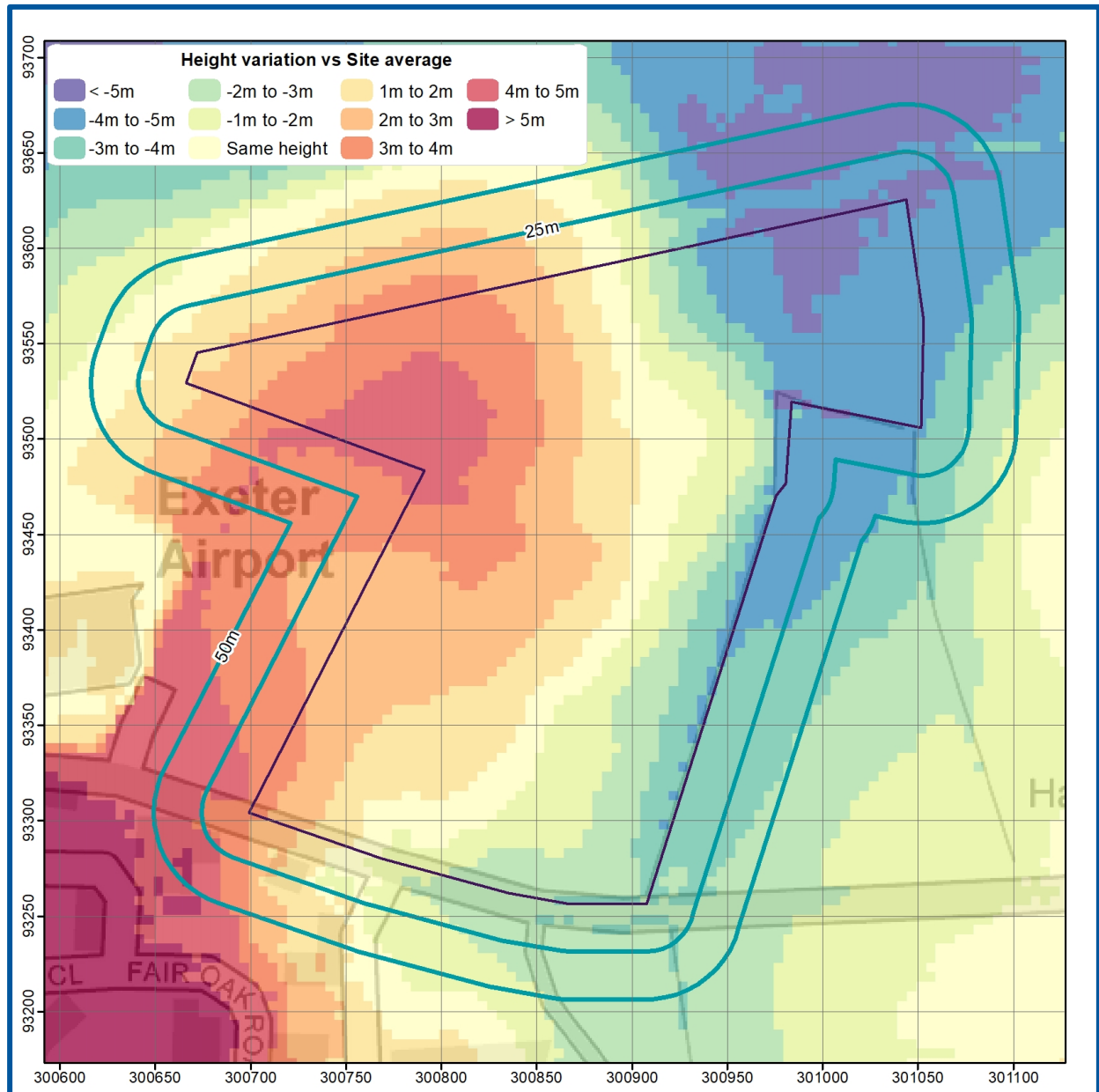
EXETER AIRPORT
WESTCOTT LANE
DEVON

Topographical Survey

Scale 1:200	Sheet Size: A0	Sheet Number: 4	Date: 26/02/2021
Project Number: 36314	Rev: -	Surveyed By: EC	Approved By: ZM



Environment Agency LiDAR ground elevation data



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Important consumer protection information

This search has been produced by GeoSmart Information Limited, Suite 9-11, 1st Floor, Old Bank Buildings, Bellstone, Shrewsbury, SY1 1HU.

Tel: 01743 298 100

Email: info@geosmartinfo.co.uk

GeoSmart Information Limited is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom.
- sets out minimum standards which firms compiling and selling search reports have to meet.
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals.
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.
- By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports.
- act with integrity and carry out work with due skill, care and diligence.
- at all times maintain adequate and appropriate insurance to protect consumers.
- conduct business in an honest, fair and professional manner.
- handle complaints speedily and fairly.
- ensure that products and services comply with industry registration rules and standards and relevant laws.
- monitor their compliance with the Code.

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs contact details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

Please ask your search provider if you would like a copy of the search code

Complaints procedure

GeoSmart Information Limited is registered with the Property Codes Compliance Board as a subscriber to the Search Code. A key commitment under the Code is that firms will handle any complaints both speedily and fairly. If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk.

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision. Complaints should be sent to:

Alan White

Operations Manager

GeoSmart Information Limited

Suite 9-11, 1st Floor,

Old Bank Buildings,

Bellstone, Shrewsbury, SY1 1HU

Tel: 01743 298 100

alanwhite@geosmartinfo.co.uk

11. Terms and conditions, CDM regulations and data limitations



Terms and conditions can be found on our website:

<http://geosmartinfo.co.uk/terms-conditions/>

CDM regulations can be found on our website:

<http://geosmartinfo.co.uk/knowledge-hub/cdm-2015/>

Data use and limitations can be found on our website:

<http://geosmartinfo.co.uk/data-limitations/>