

FloodSmart



Flood Risk Assessment

Site Address

Land at Cornford Road
Blackpool
FY4 4QQ

Date

2021-06-18

Report Status

FINAL

Grid Reference

333589, 433630

Site Area

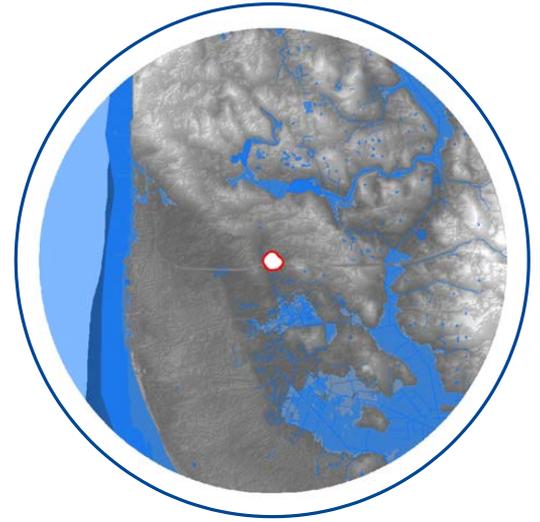
1.5 ha

Report Prepared for

Affordable Aluminium

Report Reference

74999.01R1



RISK - Very Low to Moderate

The Site is located within fluvial and tidal Flood Zone 1 (low probability) defined as a Very Low risk. The Site has a Very Low to Medium risk of surface water flooding and a Negligible risk of groundwater flooding. There is a risk of sewer flooding and a residual risk from the collapse or failure of culverts and bridges in proximity of the Site, although the risk associated with flooding from these features is considered to be low.

Report Author

Yvonne Riley
Consultant

Report Checker & Reviewer

Mike Piotrowski
Principal Hydrologist

GeoSmart Information Ltd
Suite 9-11, 1st Floor, Old Bank Buildings,
Bellstone, Shrewsbury, SY1 1HU
+44(0)1743 298 100
info@geosmartinfo.co.uk
www.geosmartinfo.co.uk

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 GeoSmart consultant. Baseline flood risk and residual risks that remain after the flood risk management and mitigation measures are implemented are summarised in the table below.

Site analysis

Source of Flood Risk	Baseline	After Mitigation
River (fluvial) and Sea (coastal/tidal) flooding	Very Low	N/A
Surface water (pluvial) flooding	Very Low - Medium	Very Low - Low
Groundwater flooding	Negligible	N/A
Other flood risk factors present	Yes ¹	Yes ¹
Is any other further work recommended?	Yes	(see below)

N/A = mitigation not required

¹ Risk of flooding from sewers and the collapse or blockage of culverts and bridges in proximity of the Site.

Summary of existing and proposed development

The Site is currently vacant land that is mostly occupied by soft standing with some existing hard standing areas. Development proposals comprise the construction of a new warehouse/distribution building as well as a large hard standing area.

Two surface watercourses (drains) are located within the Site, along the western and eastern boundary, both continue adjacent to the western and eastern boundaries of the Site. Additionally, a culvert is likely to be located beneath the Yeadon Way, adjacent to the southern Site boundary, this is anticipated to convey flow from the drains mapped along the western and eastern boundaries in a southerly direction.

Summary of flood risks

The flood risks from all sources have been assessed as part of this report and are as follows:

- According to the Environment Agency's (EA) Flood Map for Planning Purposes, the Site is located within a fluvial and tidal Flood Zone 1 (low probability).
- According to the EA's Risk of Flooding from Rivers and Sea (RoFRS) map, which considers the type, condition and crest height of flood defences, the Site 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/bridge located on the water course in the vicinity of the Site.
- 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 Medium.
 - During a 1% AEP (medium risk) event, flood depths could be up to 0.6 m but the majority of are up to 0.3 m towards the western boundary. Access to the Site is at risk where flood depths are up to 0.3 m. However, the proposed warehouse is not at risk.
 - During a 0.1% AEP (low risk) event, flood depths could be up to 1.2 m but the majority of are lower. The access and proposed warehouse are at risk where flood depths could be up to 0.6 m.
 - A surface water drainage strategy has been prepared separately by GeoSmart (ref: 74999) to ensure surface water runoff from the development can be managed effectively over its lifetime.
- 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.

Site specific assessment suggests groundwater levels are unlikely to reach the surface at the Site and the presence of local drainage features could intercept the groundwater.

The groundwater system is considered unlikely to be in continuity with the Site surface due to the presence of low permeability material overlying the Site, as indicated by BGS maps and boreholes.

- 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 (Blackpool Council, 2014 and 2020). This confirms that the area the Site is located is at risk of sewer flooding, confirming that in the South Blackpool

area which includes the Site: *“The main risk of flooding in this area is from the sewage network as the area is entirely reliant on sewers for foul and surface water removal”.*

A risk has been identified from sewers and potential failure/blockage of culverts. The level of risk could not easily be determined but based on the fact there have been some historic instances of surface water inundation recorded at the Site, but given the lesser vulnerability of the development, the risk is considered to be low/medium.

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 sea level rise, increases in river flooding and increased potential for surface water flooding. Site specific assessment indicates risk to the Site will increase 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:

- A Low to Medium flooding potential has been identified along the entrance in the north of the Site. it is recommended this area is kept clear at all times to avoid damage to possessions or displacement of flood waters. Vehicles should not be parked in this area as access may be affected during surface water flood events, which have a low potential of occurring.
- As the proposed warehouse is at Low risk of surface water flooding where flood depths could be up to 0.6 m, it may be appropriate to adopt a water exclusion strategy. 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);
 - 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.

- Use of low permeability building materials up to 0.3 m such as engineering bricks (Classes A and B) or facing bricks where appropriate;
- 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;
- Communications wiring: wiring for telephone, TV, Internet and other services should be protected by suitable insulation in the distribution ducts to prevent damage.
- It is recommended that ground levels should not be raised in areas mapped at risk of surface water flooding, as this may exacerbate flooding elsewhere. If ground levels are raised in areas that are at risk, ground level lowering should be considered elsewhere on the Site to compensate.
- The regular maintenance of any drains and culverts surrounding and, on the Site under the riparian ownership of the developer, should be undertaken to reduce the potential for blockages occurring which may potentially increase flood risks.
- Non-return flap valves should be considered on the proposed foul and surface water sewer lines to reduce the sewer flooding risks from backflow along the public sewer network at the Site.
- Permission may need to be sought from the Lead Local Flood Authority for development within 8 m of an ordinary watercourse as development in the immediate vicinity of any watercourses could be susceptible to flooding.

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 Blackpool Council Strategic Flood Risk Assessment (SFRA) (2014, 2020) and the Blackpool Council Local Plan: Core Strategy (2016) are 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	SFRA*	Environment Agency	OS Data
Historical	X	X	X	
Fluvial/tidal	X	X	X	
Surface water (pluvial)	X	X	X	

Source of flooding	Datasets consulted			
	Commercial Flood Maps	SFRA*	Environment Agency	OS Data
Groundwater	X	X		
Sewer		X		
Culvert/bridges		X		X
Reservoir		X	X	

*The SFRA and local guidance have been used to inform this report as referenced in Section 6.



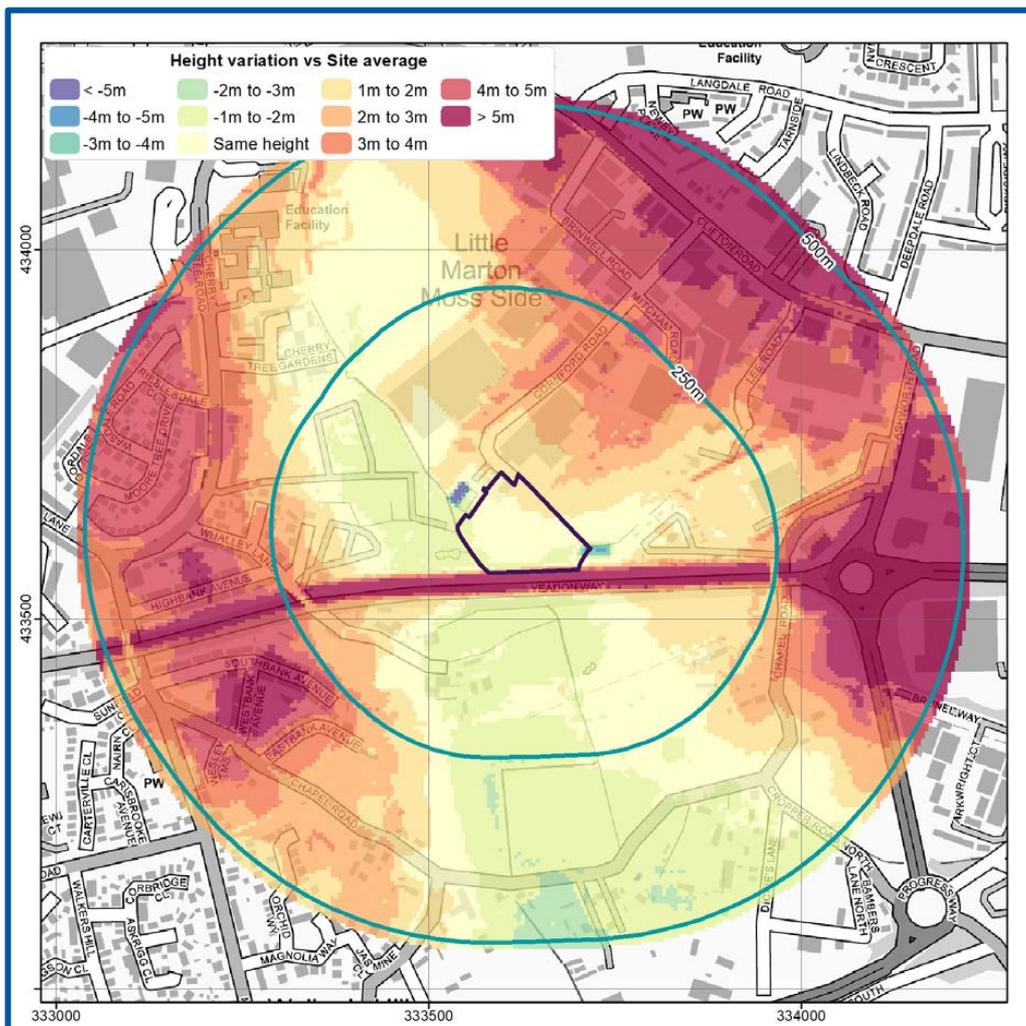
Site information

The Site is located in Blackpool in a setting of commercial land use at National Grid Reference SD 33589 33630. Site plans and drawings are provided in Appendix A.

According to OS data, using a 500 m buffer around the Site, the area is relatively flat (Figure 1). It is noted that to the north land rises to c. 15 m above Ordnance Datum (AOD). To the west land rises to c. 10 mAOD, to the east land rises to c. 10 mAOD and to the south falls to < 5 mAOD.

The general ground levels on the Site are between 3.84 mAOD to 7.13 mAOD with the Site falling gradually in an easterly and southerly direction. 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).

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



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Development

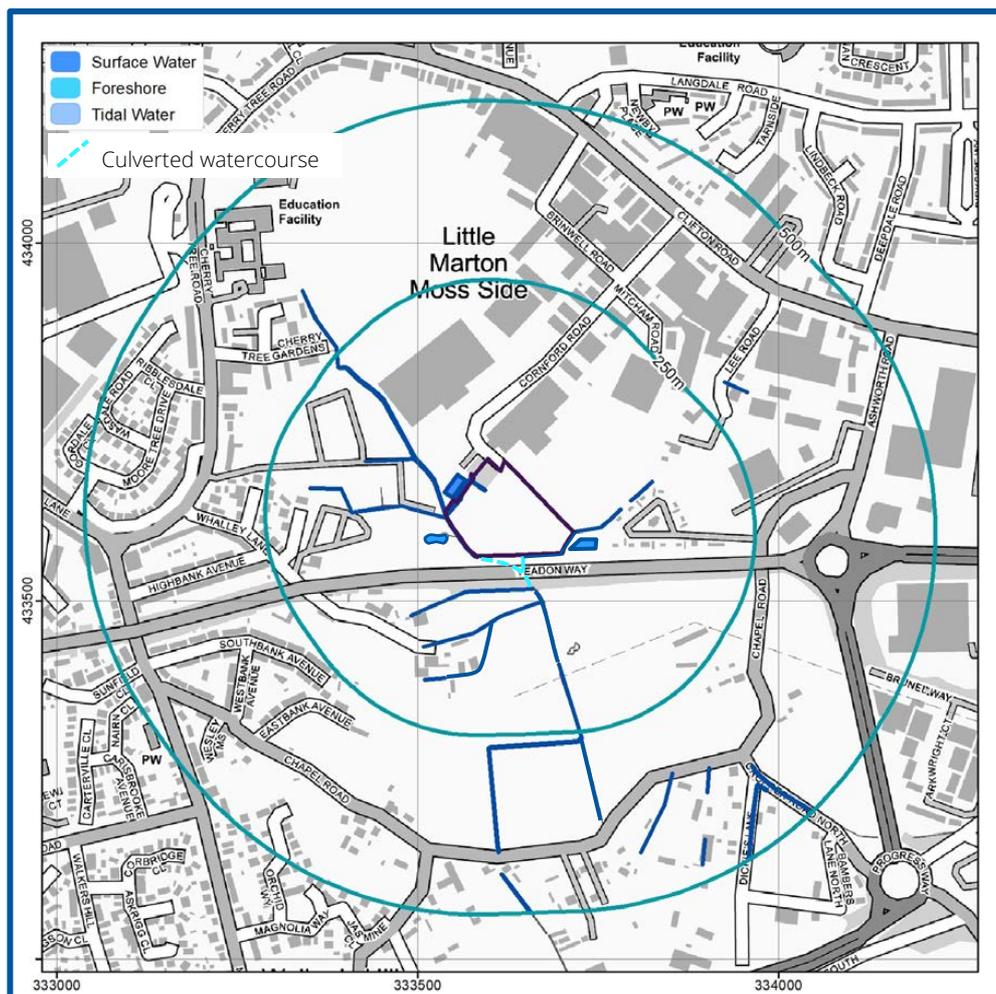
The Site is currently vacant land that is mostly occupied by soft standing with some existing hard standing areas. Development proposals comprise the construction of a new warehouse/distribution building as well as a large hard standing area. Site plans are included within Appendix A.

The effect of the overall development will result in an increase in number of occupants and/or users of the building 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

According to Ordnance Survey (OS) mapping included in the following figure, there are numerous surface water features within 500 m of the Site.

Figure 2. Surface water features (EA, 2021)



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Two surface watercourses (drains) are located within the Site, along the western and eastern boundary. Both these surface watercourses continue adjacent to the western and eastern boundaries of the Site.

A water feature associated with a sewage station is approximately 5 m to the west of the Site.

A water feature is approximately 10 m east of the Site (added to Figure 2).

A pond water feature is approximately 15 m west of the Site (added to Figure 2).

A surface watercourse is located 50 m south of the Site.

Proximity to relevant infrastructure

A culvert is likely to be located beneath the Yeadon Way, adjacent to the southern Site boundary, this is anticipated to convey flow from the drains mapped along the western and eastern boundaries in a southerly direction

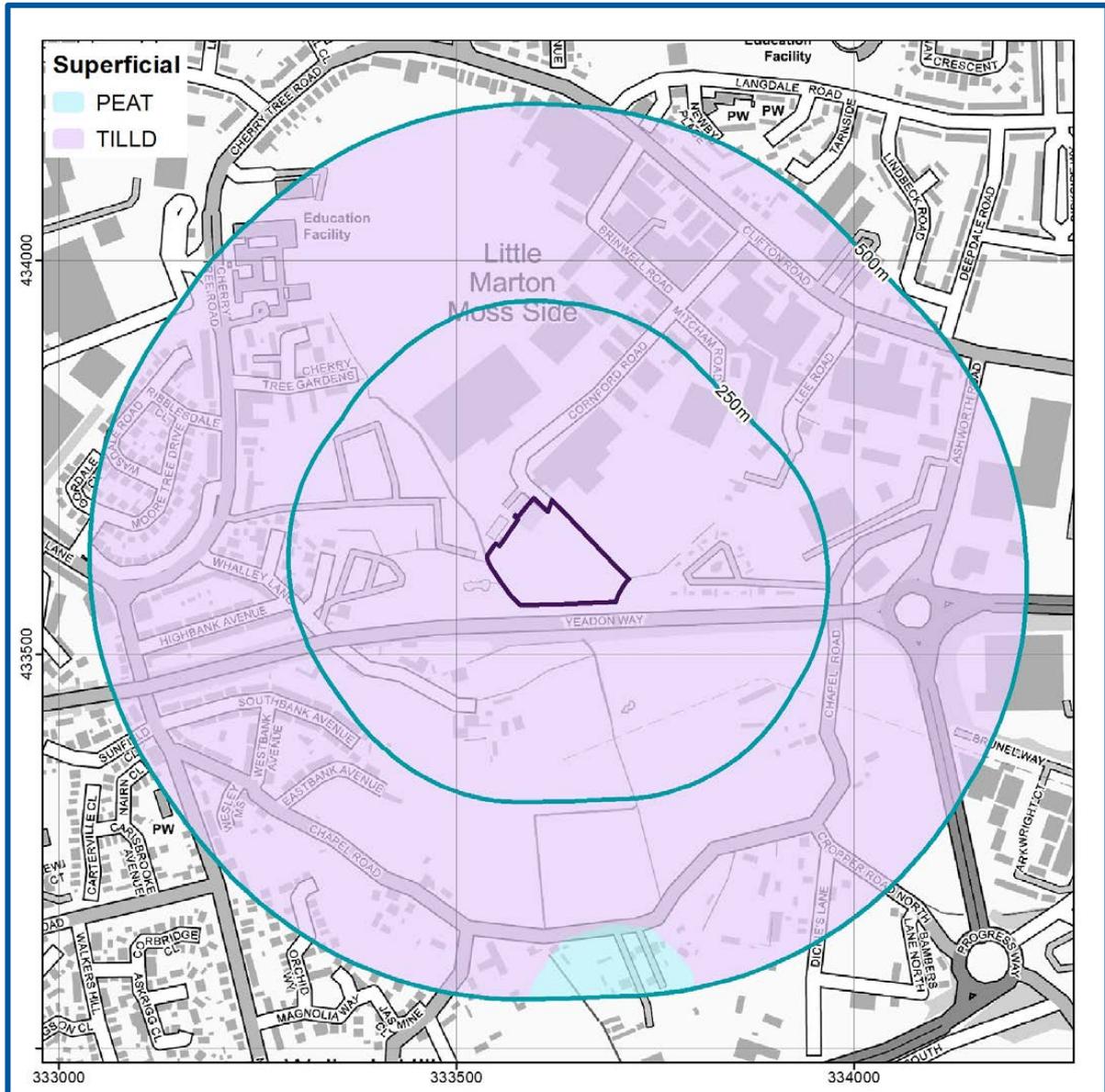
A vehicular bridge over the surface watercourse 65 m to the west of the Site.

A bridge over the surface watercourse 65 m to the south of the Site.

Hydrogeological features

British Geological Survey (BGS) mapping indicates the underlying superficial geology (Figure 3) consists of Till, Devensian - Diamicton (TILLD) (BGS, 2021) and is classified as a Secondary Undifferentiated Aquifer (EA, 2021).

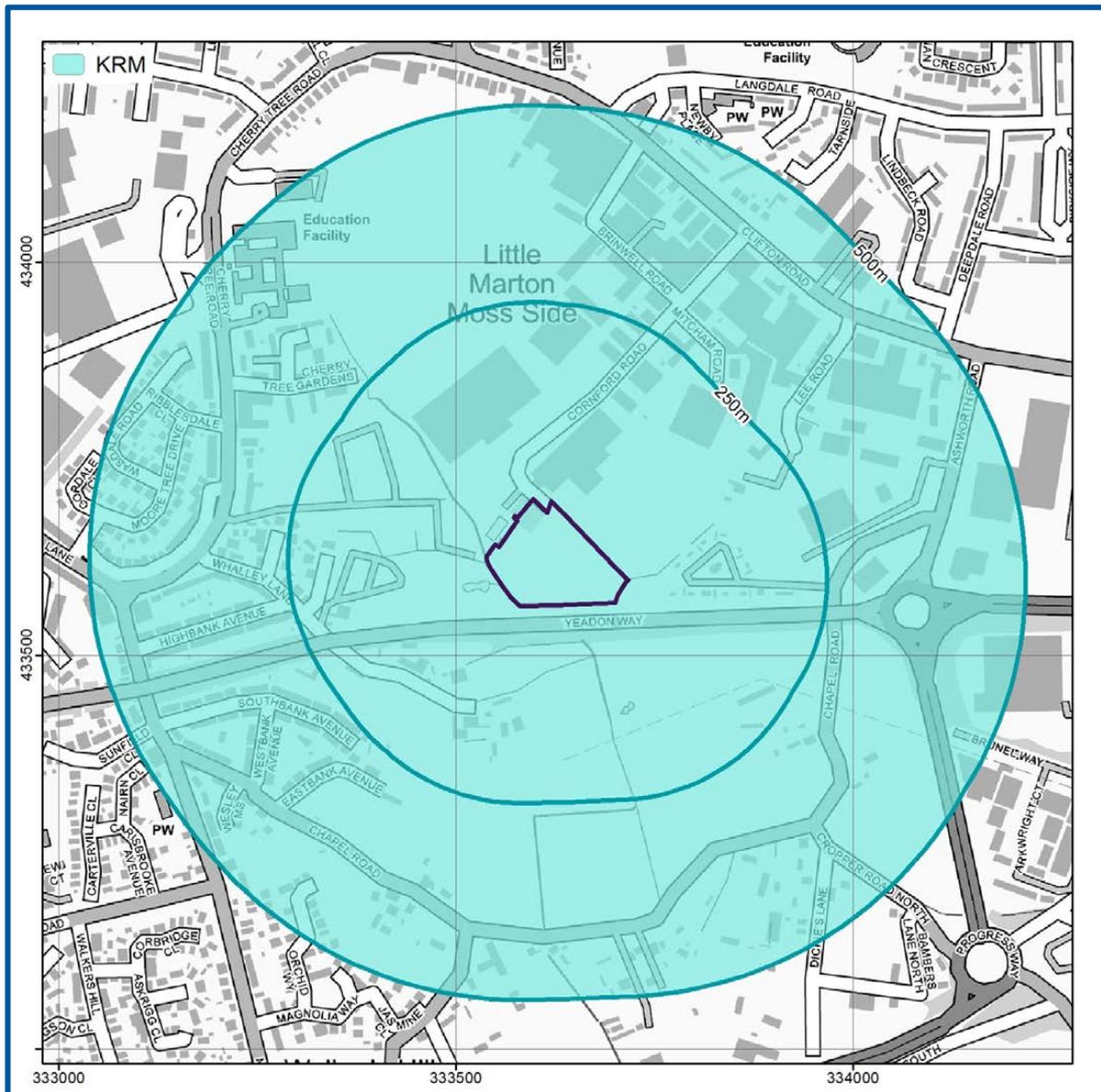
Figure 3. Superficial Geology (BGS, 2021)



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BGS mapping indicates the underlying bedrock geology (Figure 4) consists of the Kirkham Mudstone Member (KRM) (BGS, 2021) and is classified as a Secondary (B) Aquifer (EA, 2021).

Figure 4. Bedrock Geology (BGS, 2021)



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The Site does not lie within a groundwater Source Protection Zone (SPZ) (EA, 2021).

A review of the BGS borehole database (BGS, 2021) indicates the nearest and most relevant borehole (ref: SD33SW7) is 130 m to the north east of the Site boundary at an elevation of approximately 8 mAOD, and confirm the underlying geology is comprised of Boulder Clay to a depth of 9m below ground level (bgl) underlain by sand and clay to a depth of 14.5m bgl, clay to a depth of 16.6m bgl, red sand and clay to a depth of 17.2m bgl, red sand and clay with occasional pebbles to a depth of 20.4m bgl and brown clay to a depth of 21.9m bgl. Groundwater levels are not recorded.

Groundwater levels may rise in the bedrock and superficial aquifer in response to high river and tidal events subject to hydraulic continuity between the driving water level, the groundwater system and the Site. Groundwater levels may also rise in the bedrock and

superficial aquifer in response to prolonged rainfall recharge which may cause an unusually high peak in groundwater levels during some years, subject to hydraulic continuity between the groundwater system and the Site. However, 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 no historical flood events have been recorded at the Site (EA, 2021). According to the SFRA (Blackpool Council, 2020), there have been several flooding incidences in the Marton Moss area due to incidental blockages in watercourses and operational failures during intense rainfall events, however it is not known if the Site was affected. The superseded SFRA (Blackpool Council 2014) identified that there had been historical incidences of surface water inundation at the Site, but there are no further details.

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.

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

According to the EA's Flood Map for Planning Purposes (Figure 5), the Site is located within fluvial and tidal Flood Zone 1 and is therefore classified as having a Low probability of fluvial and tidal (coastal) flooding.

According to the SFRA *"The main risk of flooding in this area is from tidal inundation but the coastline is protected by substantial coastal defences."* however *"In many locations there is a complex relationship between drainage systems, open watercourses and the sea. Consequently, it is not always easy to identify the exact source of flooding and flooding is frequently as a result of the interaction of a number of sources"* (Blackpool Council, 2020).

The Site lies c. 705 m to the north west of the nearest land within Flood Zones 2 and 3.

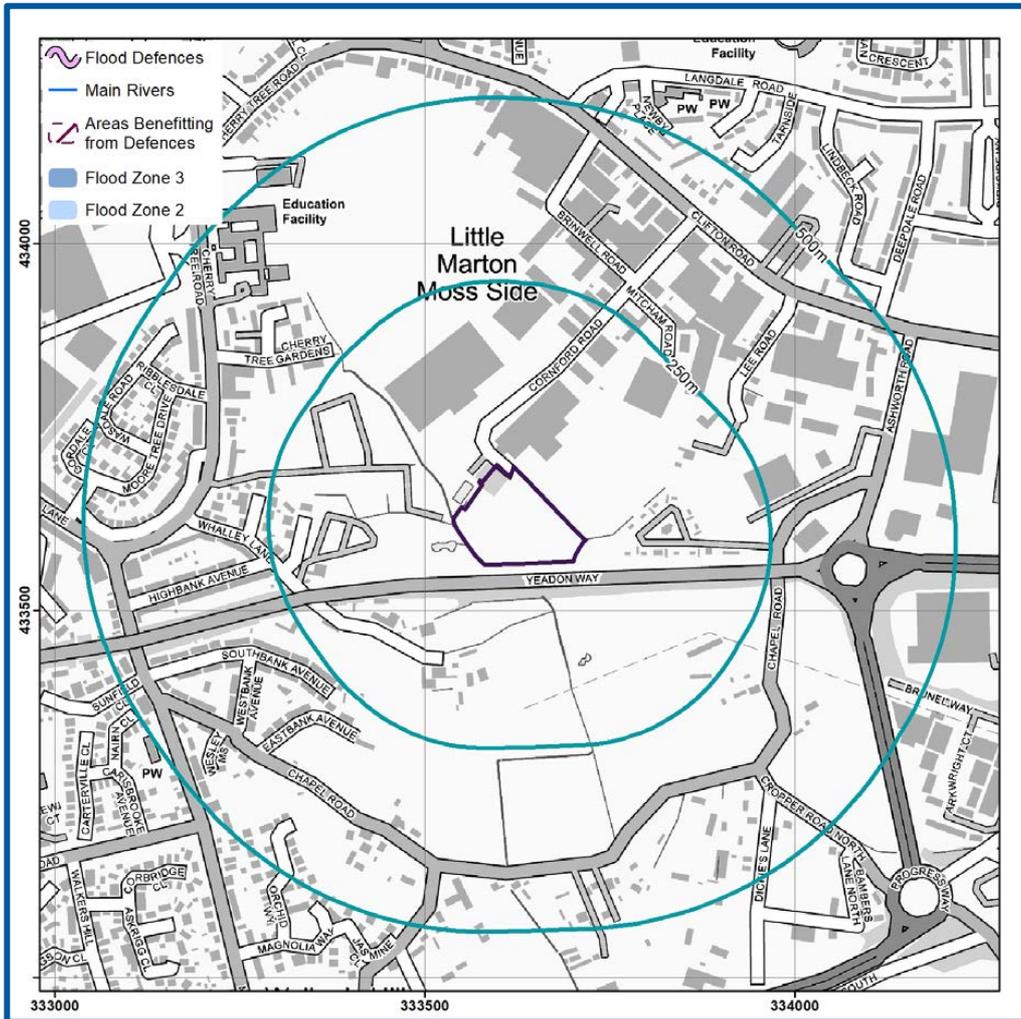
Guidance

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).

Figure 5. EA Flood Map for Planning Purposes (EA, 2021)



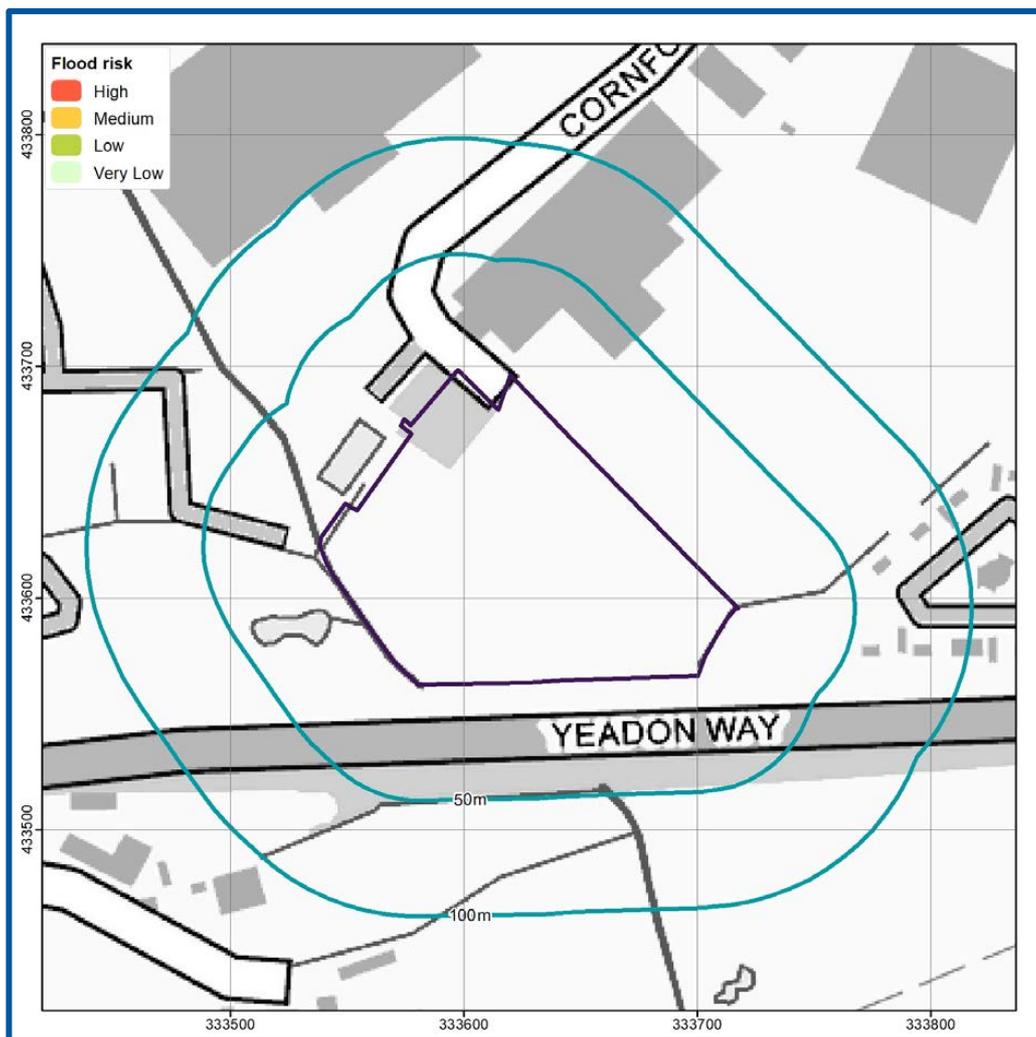
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Flood risk including the benefit of defences

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 6), which considers the crest height, standard of protection and condition of defences, the flood risk from Rivers and the Sea is Very Low.

Figure 6. 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 Medium.

Access to the Site is at Very Low to Medium risk of pluvial flooding.

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%).

Figure 7 confirms the extent and depth of flooding during a 1% AEP (1 in 100 year - medium risk) event. This confirms areas of the Site towards the western boundary which are at Medium risk of surface water flooding where depths could be up to 0.6 m but the majority of flood depths are up to 0.3 m. The proposed warehouse is not at risk in this event, but access to the Site is at risk of flooding depths up to 0.3 m.

During a 0.1% AEP (1 in 1000 year - low risk) event, western and eastern areas of the Site are at High risk of surface water flooding where depths could be up to 1.2 m but the majority are lower. The access and part of the proposed warehouse are at risk where flood depths could be up to 0.6 m.

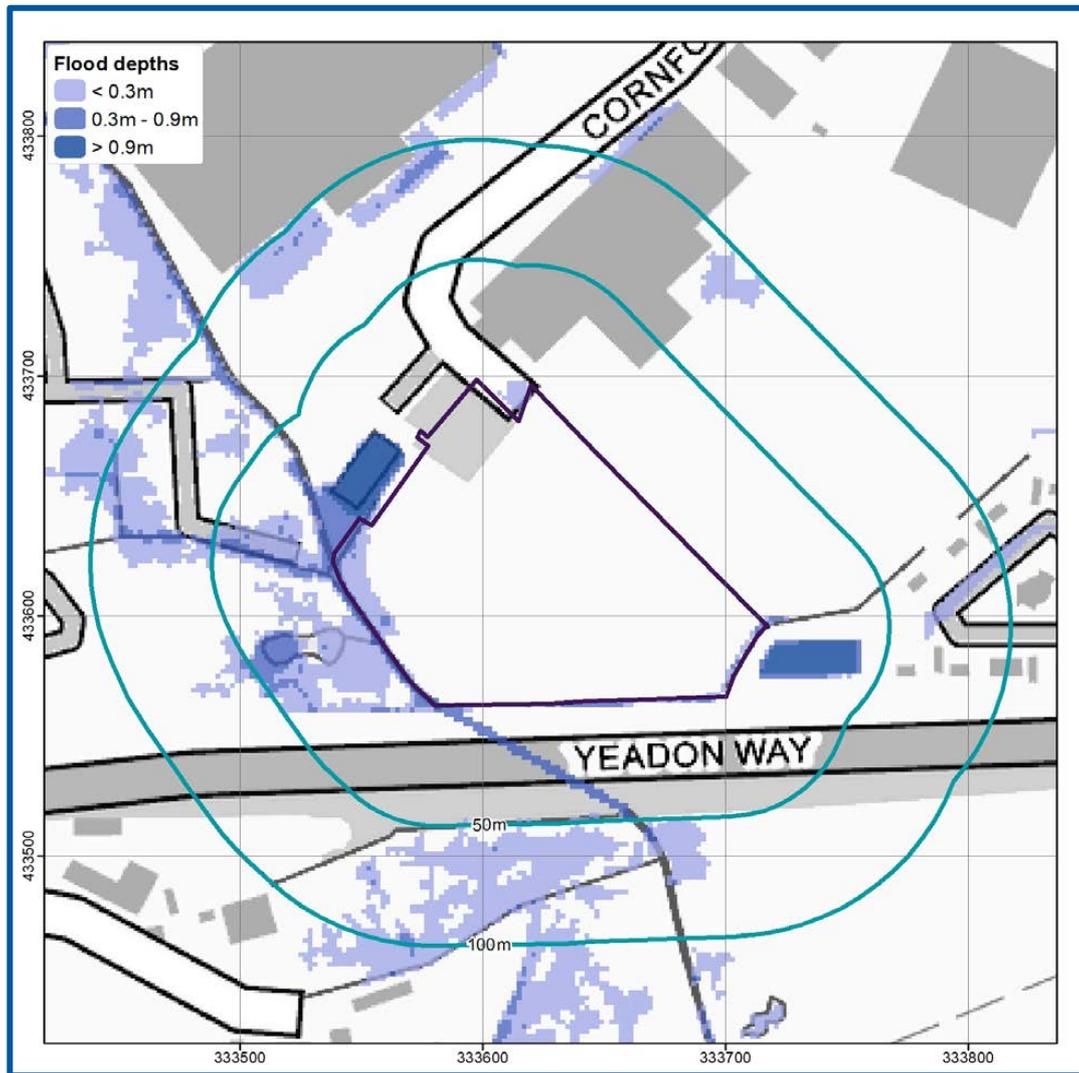
Guidance

According to EA's surface water flood risk map the following advisory guidance applies to the Site:

Flood Depth

- 0.15 to 0.3 m - Flooding would: typically exceed kerb height, likely exceed the level of a damp-proof course, cause property flooding in some areas
- 0.3 to 0.9 m - Flooding is likely to exceed average property threshold levels and cause internal flooding. Resilience measures are typically effective up to a water depth of 0.60m above floor level.

Figure 7. EA Medium surface water flood risk map (EA, 2021)



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Analysis of OS mapping, ground elevation data and the EA's pluvial flow route mapping confirms the west of the Site is located on a potential overland flow route in a Medium and High risk scenario.

During the Medium risk event, water may flow onto the Site from adjacent land to the south and should be managed, in addition to run-off generated on-Site. During this event the majority of flow velocities are less than 0.25 m/s.. The Site may potentially transmit overland flows off-Site in a north direction.

The flows during the Low risk event could potentially affect the buildings and/or access routes to the Site. Pooling may occur in the Site entrance.

During the Low risk event, water may flow onto the Site from adjacent land to the east, west and north (along the access road) and should be managed, in addition to run-off generated on-Site. The Site may potentially transmit overland flows off-Site in a east and west direction.

A review of the Site plans, topography and the EA's Risk of Flooding from Surface Water Direction mapping indicates some overland flows on the Site would be obstructed by the proposed development but the majority occur across nonessential areas of the Site.

According to the SFRA, the Site is not located within a Critical Drainage Area (CDA)¹ (Blackpool Council, 2020).

A surface water drainage strategy has been prepared separately by GeoSmart (ref: 74999) to ensure surface water runoff from the development can be managed effectively over its lifetime.

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.

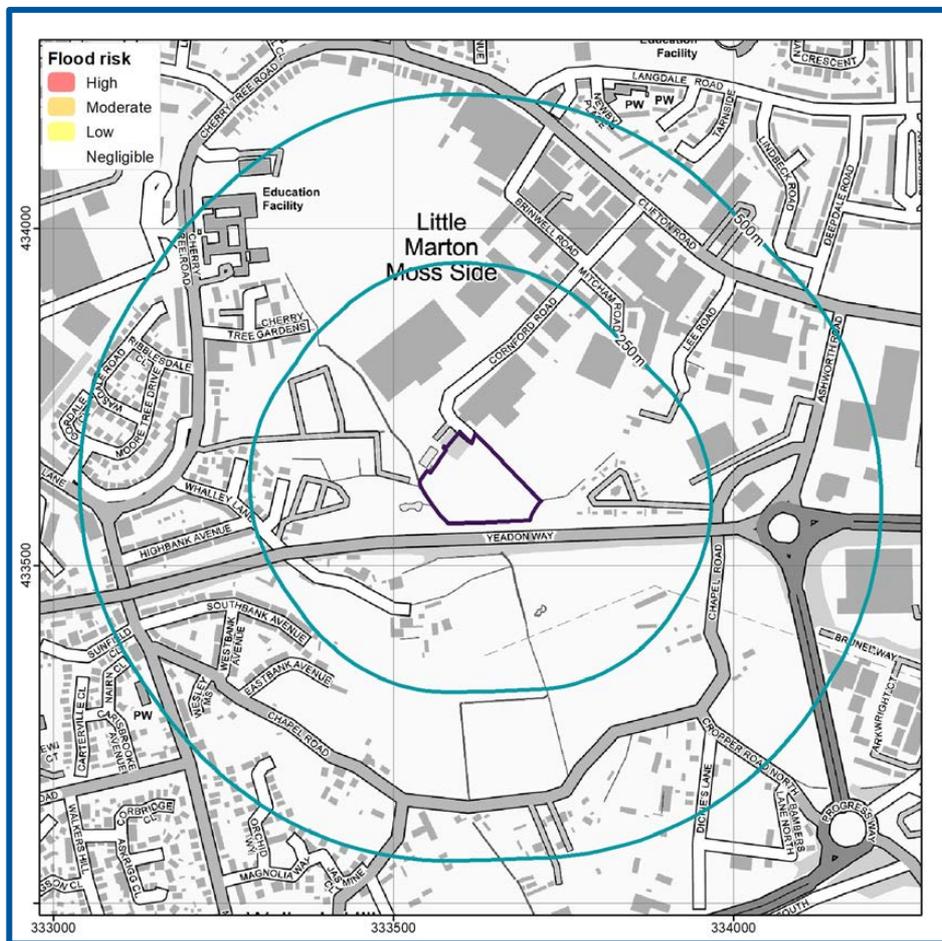
¹ A Critical Drainage Area (CDA) is an area that has critical drainage problems and which has been notified to the local planning authority as such by the Environment Agency in line with the National Planning Policy Framework (NPPF, 2019). CDA's are specific to Flood Zone 1, defined as areas where runoff 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.

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 8) indicates there is a Negligible risk of groundwater flooding at surface in the vicinity from the bedrock and superficial during a 1 in 100 year event.

Figure 8. 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.

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 and tidal 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:

- According to the SFRA the Site is classified as having Medium to Low risk of groundwater flooding (Groundwater Vulnerability Map – Defra's Magic Map) and that "there are no identified flood risks relating to ground water flooding and no historical evidence of ground water flooding has been identified in Blackpool" (Blackpool Council, 2020).
- Spring lines can give rise to groundwater seepage and overland flows, though in this instance a spring line has not been identified in the vicinity of the Site.
- Groundwater levels are unlikely to reach the surface at the Site and the presence of local drainage features, such as the drains described in Section 3 of this report, could intercept the groundwater and lower the risk of groundwater flooding at the Site further.
- The groundwater system is considered unlikely to be in continuity with the Site surface due to the presence of low permeability material overlying the Site, as indicated by BGS maps and boreholes.

On the basis of the site-specific assessment the groundwater flood risk is considered to be Negligible. The risks of groundwater flooding can be higher for basements, buried infrastructure and soakaway systems, although basements are not proposed and the risks to buried infrastructure are likely to be equally as low. If risks are identified, then drainage systems could be lined to prevent inflow from the surrounding geology.

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. Sea level rises of between 0.4m and 1m are predicted by 2100, leading to a rise in average groundwater levels in the adjacent coastal aquifer systems, and potential increases in water levels in the associated drainage systems. The 'backing up' of groundwater levels from both coast and tidal estuary locations may extend a

significant distance inland and affect infrastructure previously constructed above average groundwater levels.

The impact of climate change on groundwater levels beneath the Site is linked to the predicted risk in both peak river levels and sea levels and also the variation in rainfall recharge which is uncertain. Based on the available evidence the resulting increase to groundwater flood risk is not considered significant.

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 SFRA identifies that the area the Site is located is at risk of sewer flooding, confirming that in the South Blackpool area which includes the Site *"The main risk of flooding in this area is from the sewage network as the area is entirely reliant on sewers for foul and surface water removal. Operational failure during exceptional rainfall events may result in surcharged sewers and surface water flooding. Incidental problems are generally caused by inadequate or blocked watercourses or highway maintenance limitations."*

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.

Canal failure

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

Water supply infrastructure

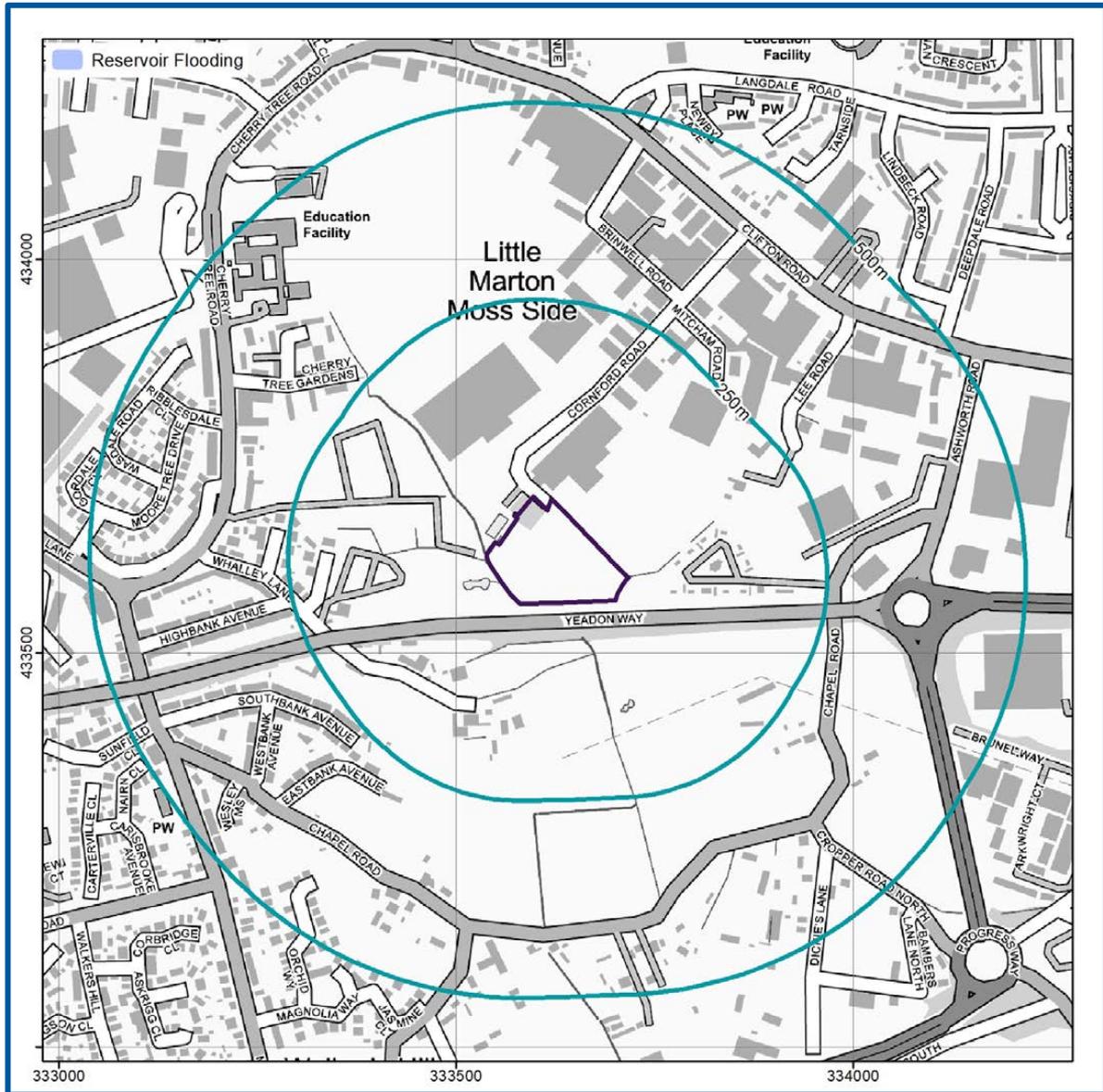
Water supply infrastructure is comprised of a piped network to distribute water to private houses or industrial, commercial or institution establishments and other usage points. In urban areas, this represents a particular risk of flooding due to the large amount of water supply infrastructure, its condition 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.

Reservoir flooding

According to the EA's Risk of Flooding from Reservoir mapping the Site is not at risk of flooding from reservoirs (Figure 9) (EA, 2021).

Figure 9. 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).

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 adjacent to the 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.

The Site lies adjacent of the infrastructure and could potentially be affected by flooding because of a blockage. Further assessment of local elevation data indicates the Site lies at a similar elevation to adjacent land and is therefore potentially at risk.

5. Flood risk from the development



Floodplain storage

As the development is located within Flood Zone 1, there would be no losses in floodplain storage as a result of the development. Although where ground level raising is proposed in areas which are currently affected by surface water flooding, this could cause displacement of flood water and ground level raising is either discouraged in these areas, or if it is required lowering of ground levels elsewhere on the Site to compensate for any losses in floodplain storage should be considered.

It is recommended that ground levels are not be raised in areas mapped at risk of surface water flooding, as this may exacerbate flooding elsewhere. If ground levels are raised in areas that are at risk, ground level lowering should be considered elsewhere on the Site to compensate.

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 surface water drainage (SUDS) strategy has been prepared separately by GeoSmart (ref: 74999) to ensure surface water runoff can be managed effectively over the lifetime of the proposed development.

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 2020) confirms the requirements for inclusion within FRA's.

As the proposed development is commercial, the lifespan of the development and requirements for climate change should allow up to the 2115 scenario.

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.

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:

Blackpool Local Plan, Part 1: Core Strategy (2012-2017) (Blackpool Council, 2016):

Blackpool is an area of relatively flat, low lying land that is protected from coastal erosion and tidal inundation by modern sea defences and a number of smaller inland defences. In general, risk of flooding from rivers (fluvial) and coastal waters (tidal) across the Borough is relatively low; however, there are known issues in relation to surface water flooding, the capacity of the combined sewer network and bathing water quality.

The risk of flooding is influenced by physical factors such as the relief of the land, but also factors such as climate change and human activities. Rising sea levels and more frequent and intense storm events are increasing the risk of flooding, particularly in a coastal location such as Blackpool. It is important that any new development is appropriately flood resilient and resistant, provides necessary protection for existing and future users, and will not increase the overall risk of flooding.

Policy CS9: Water Management

1. To reduce flood risk, manage the impacts of flooding and mitigate the effects of climate change, all new development must:

- a. Be directed away from areas at risk of flooding, through the application of the Sequential Test and where necessary the Exception Test, taking account of all sources of flooding;
- b. Incorporate appropriate mitigation and resilience measures to minimise the risk and impact of flooding from all sources;
- c. Incorporate appropriate Sustainable Drainage Systems (SuDS) where surface water run-off will be generated;
- d. Where appropriate, not discharge surface water into the existing combined sewer network. If unavoidable, development must reduce the volume of surface water run-off discharging from the existing site in to the combined sewer system by as much as is reasonably practicable;
- e. Make efficient use of water resources; and
- f. Not cause a deterioration of water quality.

2. Where appropriate, the retro-fitting of SuDS will be supported in locations that generate surface water run-off.

Blackpool Council Level 1 Strategic Flood Risk Assessment (Blackpool Council, 2020):

Development near water

Development in the immediate vicinity of any watercourses could be susceptible to flooding and therefore development would not normally be allowed within 8m of a statutory main river (permission would need to be sought from the Environment Agency) or an ordinary watercourse (permission would need to be sought from the Lead Local Flood Authority).

Framework for Development within flood zone 1 - Low Risk

This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%) and land uses are appropriate in this zone.

For development proposals on sites comprising one hectare or above the vulnerability to flooding from other sources as well as from river and sea flooding, and the potential to increase flood risk elsewhere through the addition of hard surfaces and the effect of the new development on surface water run-off, should be incorporated in a flood risk assessment (FRA). This need only be brief unless the factors above or other local considerations require particular attention.

Blackpool Council Level 1 Strategic Flood Risk Assessment (Blackpool Council, 2014):

The SFRA identifies the Site as a key development area and has considered the flood risk for each of this area.

Cornford Road

Located in flood zone 1 – Low probability of flooding

This area in the south of the Borough lies within Flood Zone 1. There are **no known sources of flooding or constraints on the development of this site**. There is an existing surface water pumping station operated by United Utilities who should be consulted regarding any future proposals which may increase run-off to this station.

There are no tidal flood issues in this site which is in Flood zone 1, therefore there should not be any restriction on tidal flooding grounds for development of all types within this area, however the **enforced maintenance and integration of peripheral watercourses is critical to avoid historical and periodic inundation of surface water**. All proposed developments of 1 hectare or greater in Flood Zone 1 should be supported by a FRA. Technical Assessment of surface water runoff should be given in all cases to prevent inundation of the on-site surface water pumping station and consideration of SuDS or on-site retention must be given in all cases.

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).

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 Medium surface water (pluvial) flooding risk has been identified at the Site. However, this occurs across the proposed operational hardstanding area of the Site and is not mapped to affect the proposed warehouse.

A Low to Medium flooding potential has been identified along the entrance in the north of the Site. It is recommended this area is kept clear at all times to avoid damage to possessions or displacement of flood waters. Vehicles should not be parked in this area and access may be affected during low and medium surface water risk events.

It is recommended that ground levels should not be raised in areas mapped at risk, as this may exacerbate flooding elsewhere.

As the proposed warehouse is at Low risk of surface water flooding where flood depths could be up to 0.6 m, it may be appropriate to adopt a water exclusion strategy. 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);
- 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.

- Use of low permeability building materials up to 0.3 m such as engineering bricks (Classes A and B) or facing bricks where appropriate;
- 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;
- 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 by GeoSmart (ref: 74999) 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 culverts surrounding and, on the Site, should be undertaken to reduce the flood risk.

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

Non-return flap valves on the proposed foul and surface water sewer lines will reduce the sewer potential for sewer flooding at the Site.

The Site has a residual risk of flooding associated with the collapse or failure of culverts and bridges in the vicinity of the Site, although the condition and capacity of these features is not available, and the risks could not easily be determined.

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

Source of Flood Risk	Baseline	After Mitigation
River (fluvial) and Sea (coastal/tidal) flooding	Very Low	N/A
Surface water (pluvial) flooding	Very Low - Medium	Very Low - Low
Groundwater flooding	Negligible	N/A
Other flood risk factors present	Yes ¹	Yes ¹
Is any other further work recommended?	Yes	(see below)

N/A = mitigation not required

¹ Risk of flooding from sewers and the collapse or blockage of culverts and bridges in proximity of the Site.

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 5. Summary of responses to key questions in the report

Key sources of flood risks identified	Surface water, sewers and culverts/bridges (see Section 4).
Are standard mitigation measures likely to provide protection from flooding to/from the Site?	See Section 7
Is any further work recommended?	Yes
Recommendations for flood mitigation are provided below, based upon the proposed development and the flood risk identified at the Site:	

- A Low to Medium flooding potential has been identified along the entrance in the north of the Site. It is recommended this area is kept clear at all times to avoid damage to possessions or displacement of flood waters. Vehicles should not be parked in this area as access may be affected during surface water flood events, which have a low potential of occurring.
- As the proposed warehouse is at Low risk of surface water flooding where flood depths could be up to 0.6 m, it may be appropriate to adopt a water exclusion strategy. 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);
 - 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.

- Use of low permeability building materials up to 0.3 m such as engineering bricks (Classes A and B) or facing bricks where appropriate;
 - 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;
 - Communications wiring: wiring for telephone, TV, Internet and other services should be protected by suitable insulation in the distribution ducts to prevent damage.
- It is recommended that ground levels should not be raised in areas mapped at risk of surface water flooding, as this may exacerbate flooding elsewhere. If ground levels are raised in areas that are at risk, ground level lowering should be considered elsewhere on the Site to compensate.
 - The regular maintenance of any drains and culverts surrounding and, on the Site under the riparian ownership of the developer, should be undertaken to reduce the potential for blockages occurring which may potentially increase flood risks.
 - Non-return flap valves should be considered on the proposed foul and surface water sewer lines to reduce the sewer flooding risks from backflow along the public sewer network at the Site.

- Permission may need to be sought from the Lead Local Flood Authority for development within 8 m of an ordinary watercourse as development in the immediate vicinity of any watercourses could be susceptible to flooding.

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. Further information



The following table includes a list of additional products by GeoSmart:

Additional GeoSmart Products		
✓	<p>Additional assessment: EnviroSmart Report</p>	<div style="text-align: center;">  </div> <p>Provides a robust desk-based assessment of potential contaminated land issues, taking into account the regulatory perspective.</p> <p>Our EnviroSmart reports are designed to be the most cost effective solution for planning conditions. Each report is individually prepared by a highly experienced consultant conversant with Local Authority requirements.</p> <p>Ideal for pre-planning or for addressing planning conditions for small developments. Can also be used for land transactions.</p> <p>Please contact info@geosmartinfo.co.uk for further information.</p>



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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
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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

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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

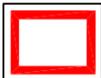
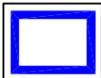
11. Appendices

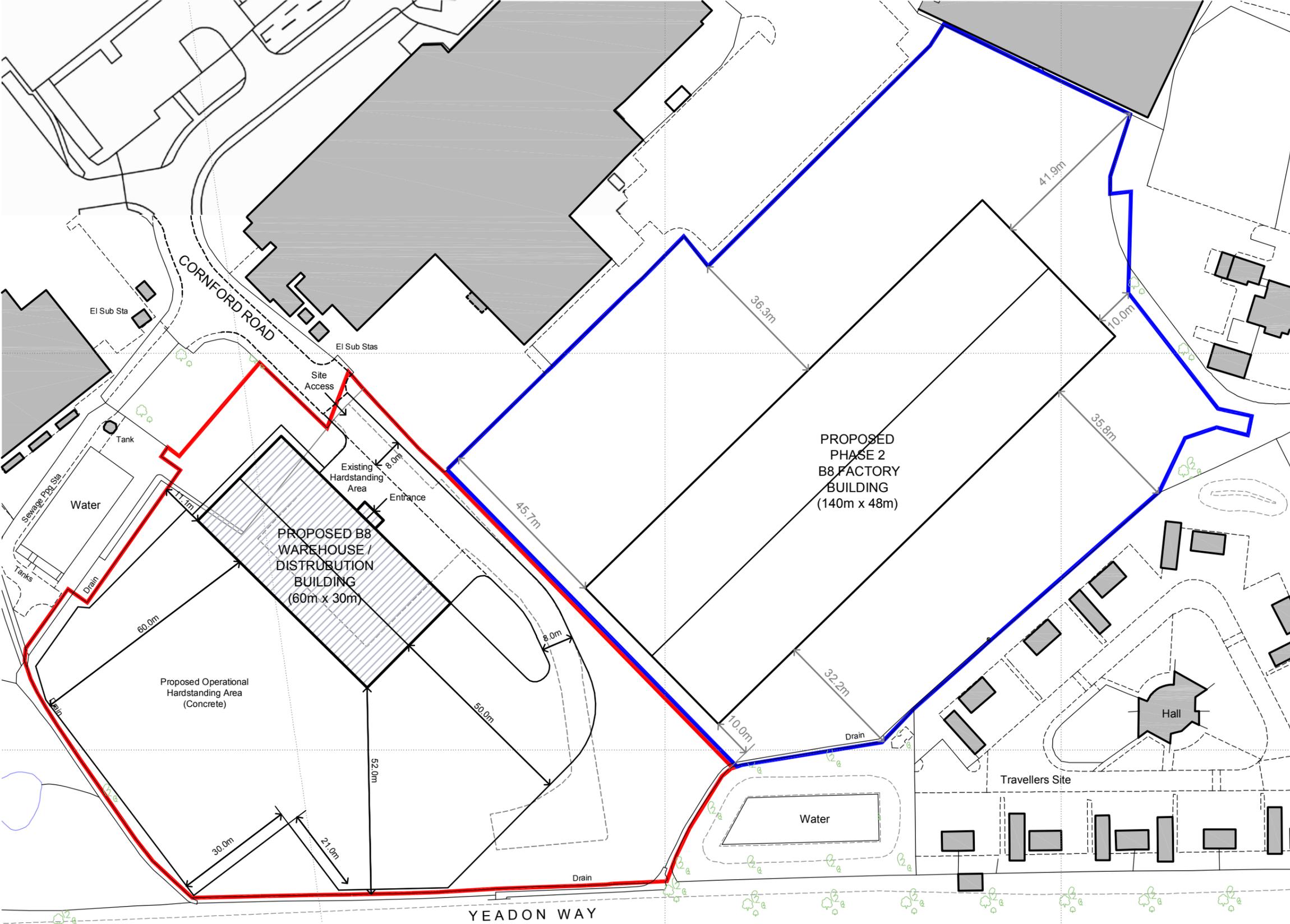




Site plans

KEY

-  Application Plot (14940m²). Phase 1
-  Other Land Owned by Applicant. Phase 2



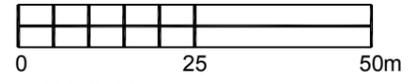
Job Title:
PHASE 1
Proposed B8 Warehouse / Distribution Building.
Land at Cornford Road, Blackpool FY4 4QQ.

Client:
Affordable Windows

Plan Title:
Site Plan as Proposed.

Scale: **1:1000 @ A3** Date: **May 2021**

Plan No: **NCR/JC/CORN/03** Revision:

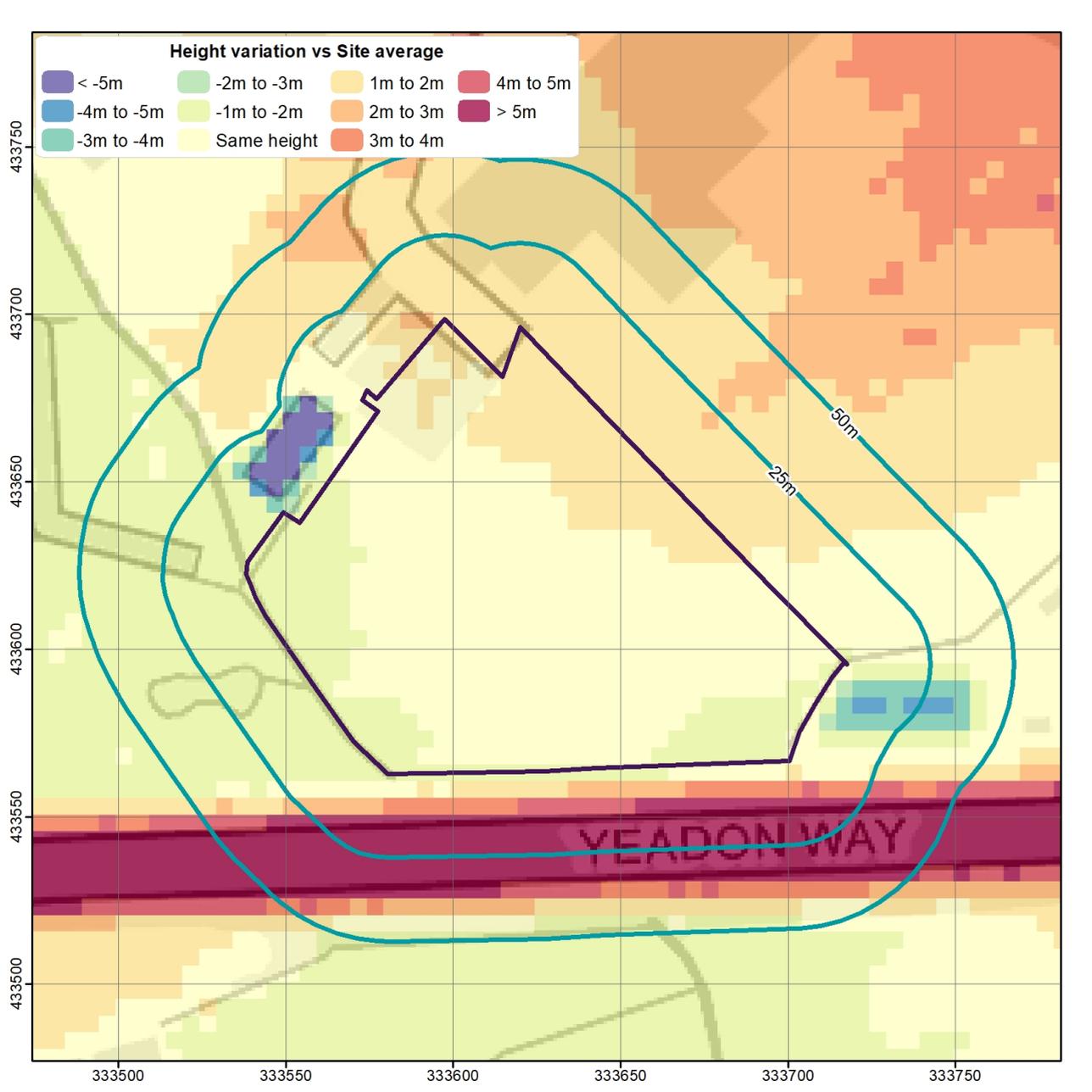




Environment Agency LiDAR ground elevation data

Height variation vs Site average

- < -5m
- 4m to -5m
- 3m to -4m
- 2m to -3m
- 1m to -2m
- Same height
- 1m to 2m
- 2m to 3m
- 3m to 4m
- 4m to 5m
- > 5m



333500

333550

333600

333650

333700

333750

433750

433700

433650

433600

433550

433500

YEADON WAY

50m

25m

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Tel: 01743 298 100

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- 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

12. 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/>