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**PROPOSED RESIDENTIAL DEVELOPMENT AT NORMANDY
WAY, HINCKLEY LEICESTERSHIRE FOR**

BLOOR HOMES EAST MIDLANDS LTD

ADDENDUM FLOOD RISK ASSESSMENT



EXECUTIVE SUMMARY

- The site is at no quantifiable risk of flooding from tidal events or main river .
- The risk from the stream crossing the adjacent site does not extend to the proposed extents of the additional development site.
- The site is at no quantifiable risk of flooding from groundwater sources.
- The site is at no quantifiable risk of flooding from artificial sources.
- The site is unsuitable for plot specific infiltration style drainage systems due to, prevailing ground conditions.
- The site is at no quantifiable risk of flooding from over land flow
- The site is at no quantifiable risk of flooding from existing sewerage systems upstream of the development site.
- The site is at negligible risk of flooding from its own internal sewer systems (as is any), but this can be mitigated by small scale engineering considerations.
- The site will drain its surface water to new balancing facilities within the adjacent development and these are to be upsized accordingly upon detailed design.
- Document issue history

STATUS	REVISION	DATE	RECIPIENT

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1.00 SITE LOCATION

The development proposal is located at the west of Hinckley adjacent to the existing development of Normandy fields. The site comprises an irregular shaped area of land totalling some 2.4Ha or thereabouts, and fills in the gap between the existing consented development and the line of Normandy Way. The site is bounded by the Triumph factory to the south, Normandy Way to the East and the Normandy Fields development to the west and north (development under Outline planning consent number 15/00188/OUT. This document supports a proposed **outline** planning application for the additional land

1.01 SITE DESCRIPTION

The site falls generally from NE to SW with an elevational range of 101-96.5m and is currently set as agricultural land

1.02 SITE CONTEXT

The sites setting is in geographic terms in hydrological and hydro-geological context with the adjacent development and existing falls suggest that in both its existing and future sense, drains towards the currently consented development

The existing development benefits from a detailed flood risk assessment prepared by Peter Brett associates report reference 30667/4001 updated by a supplementary report 30667/4002 (Hereinafter referred to as the base report.) Due to its location and similarities this report serves as an expansion of the base report as all matters identified therein remain relevant to this additional parcel of land

1.03 DEVELOPMENT PROPOSAL

It is proposed to develop the additional site with up to **100** additional residential dwellings.

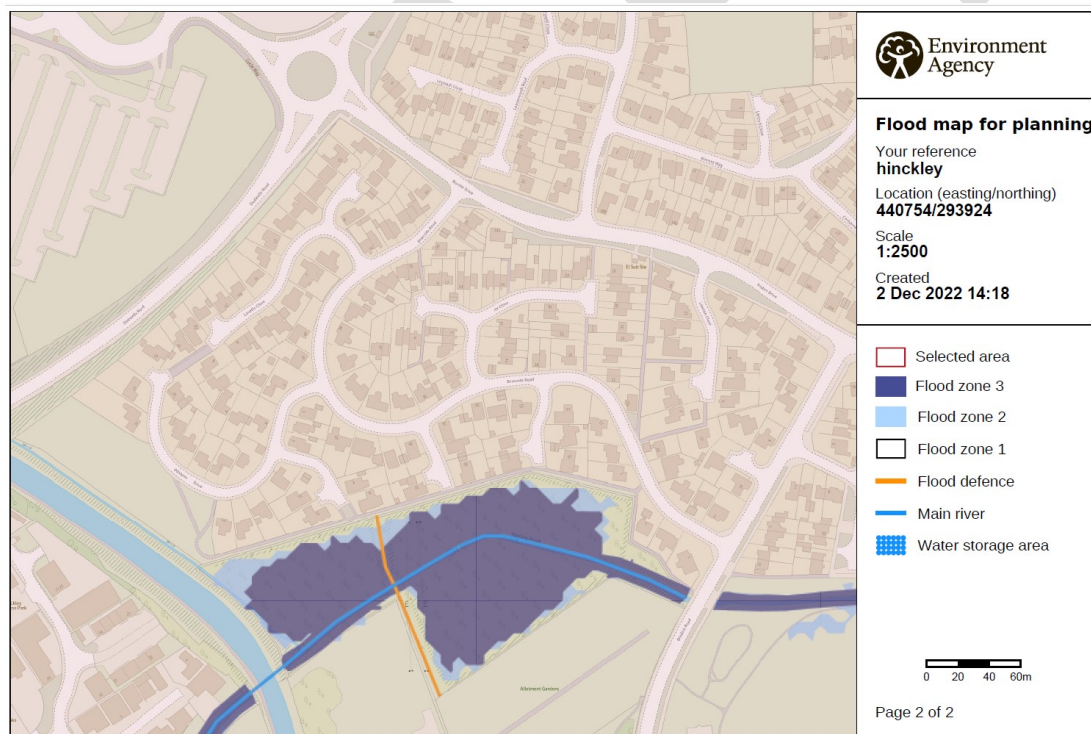
2.01 FLOODING DUE TO COASTAL OR TIDAL EFFECTS

The base report clarifies that the site is remote from coastal and tidal effect and therefore is not at flood risk from that source

2.02 FLOODING DUE TO FLUVIAL EVENTS

MAJOR RIVER SYSTEMS

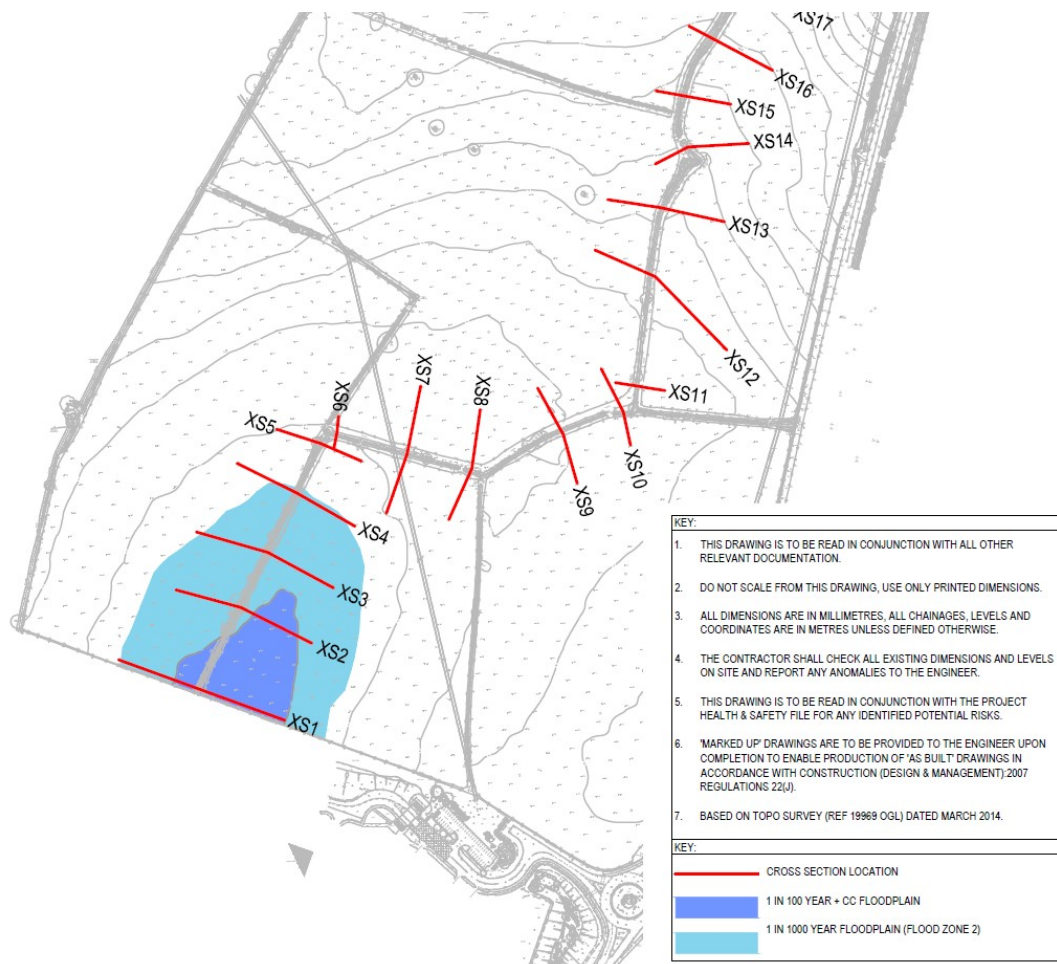
The site lies in the greater catchment of the River Anker. The nearest enmainned watercourse is the Battling brook 200m south of the site. As per the base report the site is free from flood risk from main river systems with the nearest recorded flooding indicated on the Battling brook to the south of the site.



Extract from Environment Agency on line flood map showing the site in context to the mapped flood outlines

MINOR WATERCOURSE SYSTEMS

A minor watercourse bisects the existing Normandy Fields development and passes beneath the Triumph factory. The matter is fully discussed in the base report including a full hydraulic model. The exercise covers all matters including culvert blockage and identifies the flood risk zones associated with this risk



Extract from the watercourse model contained within the base report

The 1 in 100 year flood extent plus an allowance for climate change is bounded approximately by the 94m contour. The site has a lowest ground level of 96.5 and we would suggest a minimum floor level of 96.8 .. The hydraulic model predicts that the 1 in 1000 year flood event level would be 94.6m and a 90% culvert blockage scenario level would be up to 94.93m adjacent to the proposed site, which still affords more than 1.8m of freeboard to proposed floor levels. As such we conclude that the additional development site is comfortably free from this source of flooding

2.04 FLOODING DUE TO GROUNDWATER

The base report addresses this issue and concludes that the site is free from this source of flooding

2.05 FLOODING DUE TO OVERLAND RUN OFF FROM ADJACENT AGRICULTURAL LAND

The additional development site is surrounded by extensive development and as such is isolated from flooding from this source

2.06 FLOODING DUE TO EXISTING SEWERAGE

There are no existing sewers crossing the proposed additional development land. Any escapes would be restricted to systems in Normandy Way which would route to the south between kerbs with the existing land fall. Sewers within the current development fall into the site towards attenuation basins and the mains stream through that site. These falls are away from the additional land and anticipated to route within the roadways of the existing development in the event of exceedance

2.07 FLOODING FROM ARTIFICIAL SOURCES

The Ashby De La Zouch canal is located to the west of the site but is remote from it and separated by a small ridge of higher ground. Land falls adjacent to the canal fall into the canal so any additional flow would be contained within the canal corridor. To the south of the site the canal turns towards the east but the land is topographically below the site so can pose no risk The base report addressed the risk from reservoir failure and concluded that there was no risk from this source.

2.08 CULVERT BLOCKAGE SCENARIO

There issue of culvert blockage was fully addressed in the base report and the predicted water levels in such an event do not affect the site

2.09 FLOOD PLAIN IMPACT AND VOUMETRIC CHANGE

The site is remote from any floodplain so there is no impact on available flood plain volumes

3.00 DRY ESCAPE

Principal highway access routes into the additional land remain remote and vertically clear if flood levels throughout the site as predicted in the hydraulic model of the base report

4.00 DEVELOPMENT DRAINAGE

The base report has determined that the prevailing soil types are not suitable for infiltration drainage on this site and have concluded that a controlled discharge into the cross site watercourse within the existing development was the best solution

The additional development site has falls towards the existing development site and as such, it is proposed to drain development surface water into the sewers of the existing development and upsize the proposed attenuation basins to suit

Preliminary assessment suggests that overall, approximately 1000m³ of additional storage will be required and will be distributed between the two proposed basins that abut the site. The exact distribution of flows will depend upon the detailed design of the highways and sewers within the new site area and can be finalised at the appropriate stage as was also the conclusion of the base report. The proposal remains as per the draft surface water drainage strategy contained within the base report

4.01 FLOOD RISK FROM PROPOSED SEWERS

There is a low level risk with any sewerage system that a blockage may occur, and that this may pose a residual flooding risk.

Means that can be taken to avoid this risk from basic good practice and include:

- General routing of sewers downhill with topographic slopes
- Setting of minimum finished floor levels above adjacent manhole cover levels and a minimum 300mm above existing ground level

All of the above will be incorporated in the proposed surface water sewer system for the above development in order to minimise risk.

The sewer system will be designed in accordance with WIA publication “ Design and Construction Guidance to a 1 in 30 year no flood scenario. The proposed system will be analysed to the 1 in 100 year plus 30% scenario to exhibit a no flood scenario at this level for all events from the 30 minute duration onwards, together with consideration of overland flow routes for exceedance events.

All opinions expressed herein, including any conclusions are based on the Information openly available to the author at the date of this report The conclusions drawn from this information could therefore differ if the information is found to be inaccurate, or otherwise incomplete or out of date . The author can therefore accepts no liability should this prove to be the case

The process of fluvial flooding is complex, and data supplied by the Environment Agency contains significant caveats regarding its origin and accuracy. The users attention is therefore drawn to the limitations of the data supplied by the Agency as the same limitations, by definition, apply to the reporting of the same

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