

**PROPOSED INDUSTRIAL
DEVELOPMENT
SKIMMINGDISH LANE, BICESTER**

**SITE SPECIFIC FLOOD RISK
ASSESSMENT AND
DRAINAGE STRATEGY**

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PROPOSED INDUSTRIAL DEVELOPMENT **SKIMMINGDALE LANE, BICESTER**

SITE SPECIFIC FLOOD RISK ASSESSMENT

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SKIMMINGDISH LANE, BICESTER

SITE SPECIFIC FLOOD RISK ASSESSMENT

1 DEVELOPMENT DESCRIPTION AND LOCATION

1a. *What type of development is proposed and where will it be located?*

The proposed Development is for a flexible mix of B1c, B2 and B8 uses with ancillary office space on land to the north east of Skimmingdish Lane.

Site coordinates are 223600n/460100e.

- Total Site Area = circa 14.45 ha
Building Area = 48,308 m²

1b. *What is its vulnerability classification?*

As an Industrial Development the property is classified as “less vulnerable”.

1c. *Is the proposed development consistent with the Local Development Documents?*

The proposed New building is wholly consistent with the Local Development Plan.

1d. *Please provide evidence that the Sequential Test or Exception Test has been applied in the selection of this site for this development type?*

The existing site lies within a Zone 1 Flood Zone as can be seen on the attached Environment Agency Flood Zone Maps therefore the “Sequential Test” is satisfied (see Environment Agency Product 4 Flood Zone Map attached).

2 DEFINITION OF THE FLOOD HAZARD

2a. *What sources of flooding could affect the site?(see Annex C PPS25).*

We have considered all sources of potential flooding as follows:-

Fluvial (Rivers)

- Inundation of floodplains from rivers and watercourses
- Inundation of areas outside the floodplain due to influence of bridges, embankments and other features that artificially raise water levels
- Overtopping of defences
- Breaching of defences
- Blockages of culverts
- Blockages of flood channels, or flood corridors.

Tidal

- Sea
- Estuary
- Overtopping of defences
- Breaching of defences
- Other flows (fluvial surface water) that could pond due to tide locking
- Wave action.

Surface Water

- Sheet run – off from adjacent land (urban or rural)
- Surcharged sewers (Combined, foul or surface water sewers).

Groundwater

- Water table rising after prolonged rainfall to emerge above ground level remote from a watercourse.
- Most likely to occur in low lying areas underlain by permeable rock (aquifers).
- Groundwater recovery after pumping has ceased for mining or industry.

Infrastructure Failure

- Reservoirs
- Canals
- Industrial processes
- Burst water mains
- Blocked sewers or failed pumping stations.

The site does not have a history of Flooding & only localised flooding could occur due to blocked or inadequate drainage facilities.

- 2b. *For each identified source, describe how flooding would occur, with reference to any historic records wherever these are available.*

The site is not known to have flooded.

- 2c. *What are the existing surface water drainage arrangements for the site?*

The site is currently open farmland falling gently towards Langford Brook which takes the surface water from the area.

3 PROBABILITY

- 3a. *Which flood zone is the site within?*

The site is in Flood Zone 1 (see attached Environment Agency Flood Zone Map).

- 3b. *If there is a Strategic Flood Risk Assessment covering this site, what does it show?*

A Product 4 FRA has been undertaken by the Environment Agency and is attached. There is a floodplain to each side of the river and the 0.1% AEP is 69.85m AOP.

- 3c. *What is the probability of the site flooding taking account of the contents of the SFRA and of any further site specific assessment?*

The probability of Flooding is less than 1 in 1000 (0.1%).

- 3d. *What are the existing rates and volumes of run-off generated by the site?*

The Site is presently undeveloped open farm land and has a total area of 14.45 ha.

The existing Greenfield run-off is assessed at 128.5 litres/sec using the Institute of Hydrology Report 124 methodology for the 1/100 Year Storm.

4 CLIMATE CHANGE

- 4a. *How is flood risk at the site likely to be affected by Climate Change?*

The Drainage Scheme is designed for a 100 year event + 30% for Climate Change. This is in accordance with current guidelines and represents a very significant improvement over the existing condition.

5 DETAILED DEVELOPMENT PROPOSALS

- 5a. *Please provide details of the development layout, referring to the relevant drawings.*

The proposed development is for 48,308 m² of buildings. See Chetwoods Plan 3830-11 Rev 21 attached. The surface water drainage scheme is to outfall to Langford Brook at Greenfield using on site retention tanks and swales – see BJH outline scheme plan, Drawing numbered S1230-D2B attached.

The Scheme will incorporate SUDS features to properly serve the site in a sustainable and maintenance-friendly manner.

Flexibility is sought within the outline planning permission however, in order to allow for a robust assessment to be carried out of the potential impacts a series of development parameters have been set relating to:

- (i) the maximum development area;
- (ii) the maximum area within which buildings can be located;
- (iii) the maximum floorspace;
- (iv) maximum building heights;
- (v) access zones;
- (vi) minimum landscape zones.

These are presented graphically on the parameters plans submitted with the application. One way in which the site could be developed (working within the parameters) is shown on the Illustrative Masterplan as above and appended.

- 5b. *Where appropriate, demonstrate how land-uses most sensitive to flood damage have been placed in areas within the site that are at least risk of flooding.*

There are no areas of the Scheme that are “more” sensitive to flooding as the whole of the site is located within Flood Zone 1.

6 FLOOD RISK MANAGEMENT MEASURES

- 6a. *How will the site be protected from flooding, including the potential impacts of climate change, over the development s lifetime?*

The Drainage Scheme is designed for a 100 year event + 30% for Climate Change.

7 OFF SITE IMPACTS

- 7a. *How will you ensure that your proposed development and the measures to protect your site from flooding will not increase flood risk elsewhere?*

The outflows from the site are restricted by use of the On Site Balancing swales/tanks and will not exceed the present Greenfield flow rates (10H report 124) and relating to Ground Conditions present.

Refer to illustrative Drainage Scheme Plan numbered S1230/D2B.

- 7b. *How will you prevent run-off from the completed development causing an impact elsewhere?*

As 7a.

8 RESIDUAL RISKS

- 8a. *What flood-related risks will remain after you have implemented the measures to protect the site from flooding?*

The Flood Risks are associated with Blocking Up / Silting of outlets.

- 8b. *How, and by whom, will these risks be managed over the lifetime of the development.*

These Risks can be controlled by a Condition requiring a scheme for the management/maintenance of the Proposed Drainage to be submitted and agreed with the Planning Authority.

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