Dear Mr Rickman

Town and County Planning (Development Management Procedure) (England) Order 2015

Land South of Broadland Gate, Adjacent to Postwick Interchange, Postwick, NR13 5NP

Thank you for your consultation on the above site, received on 27 January 2017. We have reviewed the application as submitted and wish to make the following comments.

The applicant has provided a Flood Risk Assessment (FRA) including a Proposed Drainage Strategy with outline design plans as part of their planning application.

We object to this planning application in the absence of an acceptable Drainage Strategy relating to:

- The management of surface water on the development. Insufficient information has been provided to demonstrate that the surface water system can accommodate the 1:1 and 1:30 rainfall events; that flooding does not occur during a 1:100 plus climate change allowance rainfall event in any part of a building (including a basement) or in any utility plant susceptible to water within the development; and can be discharged to the site via infiltration.

- In addition an alternative method of drainage has not been provided should infiltration rates in the location of the proposed soakaway prove to be unfavourable.

- Insufficient information has been provided regarding the future adoption and maintenance of the entire drainage system;

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Reason
To prevent flooding in accordance with National Planning Policy Framework paragraph 103 and 109 by ensuring the satisfactory management of local flood risk, surface water flow paths, storage and disposal of surface water from the site in a range of rainfall events and ensuring the surface water drainage system operates as designed for the lifetime of the development.

We will consider reviewing this objection if the following issues are adequately addressed.

- The applicant should provide detailed infiltration testing in accordance with BRE Digest 365 in the location and depth of proposed infiltration features;

- The applicant should provide an alternative strategy for the disposal of surface water from the site should infiltration rates be found not to be favourable in the location of the proposed cellular soakaway.

- The applicant should submit calculations to demonstrate that the surface water system can accommodate the 1:1 and 1:30 rainfall events and that flooding does not occur during a 1:100 plus climate change allowance rainfall event in any part of a building (including a basement) or in any utility plant susceptible to water within the development;

- Plans showing the routes for the management of exceedance surface water flow routes that minimise the risk to people and property during rainfall events in excess of 1 in 100 year return period.

- Information regarding the future adoption and maintenance of the entire drainage system.

Further detailed comments can be found in the attached Annex and further guidance on the information required by the LLFA from applicants can be found at https://www.norfolk.gov.uk/rubbish-recycling-and-planning/flood-and-water-management/information-for-developers.

If you, the Local Planning Authority review and wish to determine this application against our advice you should notify us, the Lead Local Flood Authority, by email at llfa@norfolk.gov.uk so that appropriate conditions can be placed on the development.

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Alternatively, if further information is submitted, we request we are re-consulted and we will aim to provide bespoke comments within 21 days of the formal consultation date.

Yours sincerely

Helen

Mrs Helen Underwood
Senior Flood Officer

Lead Local Flood Authority

Disclaimer
We have relied on the accuracy and completeness of the information supplied to us in providing the above advice and can take no responsibility for incorrect data or interpretation, or omissions, in such information. If we have not referred to a particular issue in our response, it should not be assumed that there is no impact associated with that issue.

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Annex: Norfolk County Council LLFA Additional Information to LPA

<table>
<thead>
<tr>
<th>LPA Application Ref: 20170095</th>
<th>LPA: Broadland District Council</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLFA Ref: FWP/17/7/4213</td>
<td>Applicant name: Monte Blackburn Ltd and Pigeon Investments Ltd</td>
</tr>
<tr>
<td>Site name/Description: Land South of Broadland Gate, Adjacent to Postwick Interchange, Postwick, NR13 5NP</td>
<td>Greenfield or Brownfield Development: Greenfield</td>
</tr>
<tr>
<td>Planning Stage: Full</td>
<td>Summary of Surface Water Drainage Proposed: Infiltration via geocell soakaways</td>
</tr>
</tbody>
</table>

**Local Flood Risk**: Summary of Local Flood risks in the vicinity of the site

- The Environment Agency updated Flood Map for Surface Water indicates the proposed site has a low risk of surface water flooding (<0.1% Annual Exceedance Probability (AEP)).
- There are no watercourses known to exist within or on the boundary of the site.
- The site does not lie within an Internal Drainage Board (IDB) area for the regulation of ordinary watercourses.
- The applicant states in their Flood Risk Assessment that geological maps show this area comprises sandy gravels, no map extract is provided.
- We are not aware of any records of sewer flooding, however this would need to be confirmed with Anglian Water.
- There are no known incidents of internal property flooding within 0.5Km. There is one known incident of internal property flooding within 2.5 Km as recorded by NCC since April 2012.

**Policy**: What we expect relating to site drainage and flood risk management.

National planning policy framework (NPPF) states in paragraph 103 "Local planning authorities should ensure flood risk is not increased elsewhere and only consider development appropriate in area at risk of flooding where informed by a site specific flood risk assessment … and give priority to the use of sustainable drainage systems".

Policy 1 (Addressing climate change and protecting environmental assets) of the Joint Core Strategy for Broadland, Norwich and South Norfolk (2011) states that, “Development will be located to minimise flood risk, mitigating any such risk through design and implementing sustainable drainage”.

Policy 20 (Implementation) of the Joint Core Strategy states that, “A co-ordinated approach will be taken to the timely provision and ongoing maintenance of infrastructure, services and facilities to support development… Infrastructure that is essential to secure sustainable development will include … sustainable drainage systems (SuDS).”

Applications which do not demonstrate how sustainable drainage has been taken into account in the design may be refused.

As Lead Local Flood Authority (LLFA), Norfolk County Council has recently adopted its Local Flood risk Management Strategy. Policy UC 10: Planning states that “the Lead Local Flood Authority will raise objection to any developments or plans that might lead to an increase in flood...”

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risks.” Policy UC 11: Securing Sustainable Drainage states that “the Lead Local Flood Authority shall, using all available legislative and regulatory measures, seek to secure the implementation of Sustainable Drainage Systems (SuDS).”

The government published a ministerial statement (HCWS161) on sustainable drainage systems on 18th December 2014 whereby decisions on planning applications relating to major development must ensure that sustainable drainage systems for the management of run-off are put in place, unless demonstrated to be inappropriate.

Additionally, the applicant must demonstrate that the proposed minimum standards of operation are appropriate and that there are clear arrangements in place for ongoing maintenance. The Planning Practice Guidance has been amended to support this policy change.

In drawing up their schemes developers should refer to the SUSDRAIN website (www.susdrain.org) and CIRIA Guidance (www.susdrain.org/resources/ciria-guidance), as this includes a wealth of detailed information on sustainable drainage to assist the developer in managing surface water drainage. Reference to the technical guidance in Defra/EA Rainfall Runoff Management for new Developments science report, Revision E provides applicants with advice on the management of surface water drainage and in particular to assist in sizing of storage elements for the control and treatment of surface water runoff. Applicants may also want to use the online tool from www.UKsuds.com to help derive preliminary calculations.

Assessment: Summary of assessment of flood risk and submitted drainage proposals

The Flood Risk Assessment and Proposed Drainage Strategy (Topping Engineers, Flood Risk Assessment Project No: 16325, November 2016) submitted with the planning application, has been assessed against the National Planning Policy Framework (NPPF), Planning Practice Guidance, the SuDS Non-Statutory Technical Standards (NSTS) (March, 2015) and the policies of the adopted Norfolk Local Flood Risk Management Strategy as follows:

- The drainage strategy relies on infiltration via a piped system to geocell soakaways and assumes that the ground conditions will be suitable. As infiltration testing results are not provided the applicant needs to also present a viable alternative option in case the measured infiltration rates on site are not favourable. Further detailed calculations are required.
- Further detail is required on the testing undertaken to show that the surface water system can accommodate the 1:1 and 1:30 rainfall events; that flooding does not occur during a 1:100 plus climate change allowance rainfall event in any part of a building (including a basement) or in any utility plant susceptible to water within the development. Further detailed calculations are required.
- Further details are also required on the exceedance routes in a flood event greater than 1 in 100 year, including details on how the risk to the buildings has been minimised. Layout plans indicating exceedance routes, and flow depths are required.
- No information has been provided to show how the surface water drainage features will be managed and maintained over the life of the development. Where SuDs are used, it must be established that these options are feasible, can be adopted (by the property owner, management company or relevant authority), properly maintained for the life of the development.

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development and would not lead to any other environmental problems. **Further information is required.**

- The choice of a using a piped system to geocell soakaways is less sustainable in terms of biodiversity than other SuDS options. Ideally information would be provided on reasons why alternatives such as living roofs, swales etc cannot be used at this site. **We would like to see further information on alternative SuDS options.**

<table>
<thead>
<tr>
<th>SuDS Standards: Summary of alignment to relevant Non-Statutory Technical Standards for Sustainable Drainage systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S2</strong> - No information has been provided to show that runoff rates will not increase post-development for the 1 in 1 and 1 in 100 year rainfall events.</td>
</tr>
<tr>
<td><strong>S4/S6</strong> – no information has been provided to show that runoff volumes will not increase post-development.</td>
</tr>
<tr>
<td><strong>S9</strong> – The applicant has not identified exceedance routes for flows in excess of a 1 in 100 year rainfall event? Consideration should be given to the expected depth/velocity of flood water to quantify any potential risks to people and property in the event of exceedance of the drainage inlets.</td>
</tr>
</tbody>
</table>
Planning Administration

From: Lead Local Flood Authority <llfa@norfolk.gov.uk>
Sent: 09 February 2017 16:13
To: Planning Administration
Subject: RE: Land South of Broadland Gate, Adjacent to Postwick Interchange, Postwick, NR13 5NP - 20170095 [ME-170209-198241]
Attachments: FWP_17_5_4213_Response.pdf

Dear Mr Rickman,

Further to my email below, I'd be grateful if you could disregard the previous response and replace it with the response attached dated 9 February 2017.

I do apologise for the inconvenience.

Yours sincerely

Helen Underwood
Flood Risk Officer
Lead Local Flood Authority

Email: llfa@norfolk.gov.uk for any planning enquiries or statutory planning consultations
Email: water.management@norfolk.gov.uk for any reports of flooding, watercourse regulation or general enquiries.
Web: www.norfolk.gov.uk

Norfolk County Council
General enquiries: 0344 800 8020 or information@norfolk.gov.uk

----- Original Message ----- 
From: Lead Local Flood Authority
Sent: 09 February 2017 14:47
To: 'planning.administration@broadland.gov.uk' <planning.administration@broadland.gov.uk>
Subject: RE: Land South of Broadland Gate, Adjacent to Postwick Interchange, Postwick, NR13 5NP - 20170095

Dear Mr Rickman,

Please find attached our response to the above application.

Kind regards

Helen Underwood
Flood Risk Officer
Lead Local Flood Authority

Email: llfa@norfolk.gov.uk for any planning enquiries or statutory planning consultations
Email: water.management@norfolk.gov.uk for any reports of flooding, watercourse regulation or general enquiries.
Web: www.norfolk.gov.uk

Norfolk County Council
General enquiries: 0344 800 8020 or information@norfolk.gov.uk
-----Original Message-----
From: planning.administration@broadland.gov.uk [mailto:planning.administration@broadland.gov.uk]
Sent: 27 January 2017 10:31
To: Lead Local Flood Authority <lfa@norfolk.gov.uk>
Subject: Land South of Broadland Gate, Adjacent to Postwick Interchange, Postwick, NR13 5NP - 20170095

You have received this email from Broadland District Council (Planning Service) in relation to a planning matter at Land South of Broadland Gate, Adjacent to Postwick Interchange, Postwick, NR13 5NP.

The attached correspondence contains important information; please retain it for your records.

If you would like to respond, please reply to planning@broadland.gov.uk

In any correspondence, please quote the Council reference number, which is included in the attached letter.

If you have received this email in error, please forward it to planning@broadland.gov.uk

If you cannot open the attachment you can download the following software free of charge:
- Microsoft Word Viewer for Word attachments.
- Adobe Reader for PDF attachments.

To see our email disclaimer click here <a href="http://www.norfolk.gov.uk/emaildisclaimer">http://www.norfolk.gov.uk/emaildisclaimer</a>