

Our ref: 15047/pjs
Your ref.:

23 November 2015

Aleana Baird
Clerk
Churchill Parish Council
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Dear Ms Baird

LAND OFF PUDDING PIE LANE AND STOCK LANE LANGFORD OUTLINE PLANNING APPLICATION 15/P/1414/O FLOOD RISK AND DRAINAGE

This letter details my assessment of the flood risk and drainage issues related to an outline planning application to North Somerset Council for the erection of up to 141 residential units with all matters reserved aside from access, highway improvements to Stock Lane, safeguarding of land for community uses (D1 or D2) and associated works.

Clarkebond's Flood Risk Assessment and Drainage Strategy (Report No. WB03572: R003 dated March 2015) was submitted in support of the application with the intention of providing the Planning Authority and Environment Agency (EA) with information on flooding (and drainage) in order to determine the application. This document and the consultation reply from North Somerset Council's Flood Risk Management Team dated 1st July 2015 have been reviewed and commented on.

REFERENCE DOCUMENTS

The following documents have been referred to in formulating comments:

1. National Planning Policy Framework. Department of Communities and Local Government. March 2012.
2. Planning Practice Guidance available at <http://planningguidance.communities.gov.uk/>. This online guidance replaced National Planning Policy Framework: technical guidance which was withdrawn on 7 March 2014.
3. Sustainable Drainage Systems. Non-statutory technical standards for sustainable drainage systems. Department for Environment, Food and Rural Affairs. March 2015.
4. West of England Sustainable Drainage Developer Guide. Section 1. March 2015 – Issue Version 1. This document is published by 5 Council's including North Somerset.
5. West of England Sustainable Drainage Developer Guide. Section 2 North Somerset Sustainable Drainage Design Guidance. March 2015 – Issue Version 1. This document is published by North Somerset Council. It details variations from Section 1.
6. The SUDS Manual. CIRIA C697. 2007. Replaced by CIRIA C753. November 2015.

DISCUSSIONS AND SITE VISIT.

- A telephone conversation was held with Susan Munns, Principal Flood Risk Officer at North Somerset Council on 16th November 2015 to obtain clarification on Sections 1 and 2 of the West of England Sustainable Drainage Developer Guide and to discuss the consultation reply from North Somerset Council's Flood Risk Management Team dated 1st July 2015.
- A site inspection was carried out on 18th November 2015 accompanied by Mr Robin Jeacocke representing Churchill Parish Council. The inspection included the site from perimeter roads, Stock Lane to the east of the site, Jubilee Lane to the north of the site, Ladymead Lane at the western end of Jubilee Lane and Pudding Lane

COMMENTS

The comments are generally to do with the adequacy of the Clarkebond document bearing in mind that it is in support of an outline application and that drainage is a reserve matter.

Having reviewed the document and other sources I have no comment to make on the first 4 Sections of the document other than those related to increased surface water runoff. Flood risks and impacts are covered to a satisfactory degree and would present no reason to object to development of the site.

The information on surface water drainage to support the application has to be provided to demonstrate that surface water drainage of the site is feasible in accordance with current standards. This has to include the identification of an ultimate means of disposing of surface water from the site.

The report suggests 3 possible means of surface water disposal as follows:

Soakaways

The report assumes that soakaways will be the preferred method of surface water disposal but provides no measured data to demonstrate their feasibility. A percolation rate of 1×10^{-5} m/s has been used in the Clarkebond Report for soakaways in the superficial Head deposits. These deposits are Clay, Silt, Sand and Gravel formed from the material accumulated by down slope movements; they will probably be highly variable. The Soil Survey maps show the soils to be slowly permeable and subject to seasonal waterlogging. I would expect that percolation rates could range from 5×10^{-5} m/s to 1×10^{-7} m/s or lower (typical for poor infiltration media in Table 25.1 of CIRIA C753) showing that the percolation rate of 1×10^{-5} m/s in the Clarkebond report is far from conservative as stated. A rate lower than 1×10^{-6} m/s coupled with a Safety Factor of 5 (CIRIA C753 Table 25.2) has to be viewed as problematic and should lead to a conclusion that soakaways are probably not feasible.

Mr Robin Jeacocke has undertaken monitoring of the water level in a well (Bishops Well) in the north east corner of the site. This has shown that the level has varied between 0.24m and 1.47m below ground level over the last 2 years. This may not be typical of the level and variation across the site but as the only data available it does suggest that the water table will be high at times and will limit the feasible depth of soakaways.

Given that this is a large site with variable ground conditions and probably a high water table it is very surprising that no testing has been carried out to determine an initial range of percolation rates and the level of the water table. Without such testing there can be no confidence that soakaways will be feasible and therefore cannot be relied upon as a means of surface water disposal.

Attenuated Discharge to Highway Drain in Stock Lane.

The Clarkebond report suggests that a discharge could be made to the existing highway drainage in Stocks Lane although it is obvious from the report that other than observing gullies no attempt was made to obtain any information about this drainage.

During my site visit there was a short intense storm (about 1:30pm on 18th November 2015) following which I observed surcharging of a manhole in Stocks Lane. This would suggest that this highway drainage has limited capacity and brings into doubt its use to take a discharge from the site.

It should also be noted that North Somerset Council Flood Risk Management Team stated in their consultation response that "...North Somerset Council would not approve a design that outfalls to the highway drainage system..." This unequivocal statement seems to rule out this option.

Again it is very surprising that a basic investigation has not been carried out to determine that a discharge to this drainage would be feasible and what works would be required for this to be permitted by North Somerset Council or adopted by Wessex Water.

Attenuated Discharge to the sewer system connecting the development at Broadoak to the watercourse to the east of Ladymeade Farm.

This option will require a new sewer routed along Jubilee Lane to Ladymeade Lane. The lane is 600m long from end to end and the flow will need to be limited to QBAR (31.3l/s) to meet the volume control requirements of the Reference Documents 3, 4 and 5. This will require a 225mm sewer laid at a gradient of 1 in 250 which means that the new sewer will fall 2.4m along the lane. The sewer will need to be no less than 1.5m deep at the eastern end of the lane and, as the lane is flat (see OS maps); the sewer will be some 3.9m deep at Ladymeade Lane.

I measured the depth of the existing sewer to be a little over 1m deep in Ladymeade Lane just south of Jubilee Lane junction; a gravity connection is therefore not possible.

This option is therefore not feasible

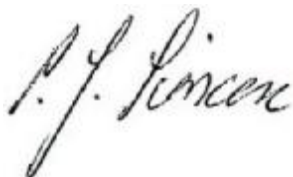
Summary

It is my opinion based on the assessment given above, that there can be no confidence that the means of surface water disposal from the developed site put forward in the Clarkebond document are feasible. I am surprised that North Somerset Council Flood Risk Management Team did not object on the grounds that a feasible means of surface water disposal had not been adequately established. This should be brought to the attention of the Council's planning department who should ask for further information from the applicant before determining the application.

Please note that further work may well establish that other means of disposal are available; if they are the feasibility needs to be checked.

Please do not hesitate to contact me if you have any queries

Yours sincerely



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