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Royal Borough of Windsor & Maidenhead
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Your ref: 17/00997/CONDIT
Our ref: 70022666
8 February 2018
PUBLIC

Dear Victoria:

Subject: Land to the North of Longlea Fifield Road Fifield Maidenhead - Response to Letter from Oakley Green, Fifield & District Community Association Ltd 05 December 2017

I refer to the Letter submitted by Oakley Green, Fifield & District Community Association Ltd (OGAFCA) dated 5 December 2017. We had not replied directly to it as we believed all the points were covered in our meeting with you and the Project Centre and our subsequent responses. However, as the OGAFCA was not party to the meeting and has raised a number of questions, we have provided this letter to explain how they have been addressed. We note that they have attempted to construct a model of how the drainage system would work, but this will not be a true representation of how a range of rainfall events pass through the drainage system using Micro Drainage, the industry standard drainage modelling computer programme which bases the rainfall events it analyses on a vast database of past events and predictions of climate change in the UK.

Comment 1

The letter from OGAFCA queries the volume of storage provided by the proposed surface water drainage system, indicating that the total volume of storage had reduced compared to earlier submissions. We note, however, that the original proposal included a basin near Fifield Road that was identified to be in an area shown to be at risk of flooding on the Environment Agency's Surface Water Flood Map, so it was taken out.

We were not party to all the previous calculations and whether they allowed for porosity (ie void ratio) in the granular subbase of the permeable pavements. However, Micro Drainage calculations have been carried out that simulate the dynamic movement and storage of runoff over the duration of a range of storm events and these indicate the performance of the surface water drainage system is acceptable in the 1 in 100 annual probability event, with a 30% additional allowance for climate change and a surcharged outfall. This has been reviewed and agreed by the Project Centre on behalf of the RBWM.

Comment 2

The letter from OGAFCA raises concerns regarding the groundwater levels beneath the Application Site and the implications this could have for performance of the surface water drainage system. It refers to the Geotechnical Survey that we have no reason to doubt and is a technical detail of the investigation and is intended to provide the level of information required by current guidance documents and standards. This is verified information on groundwater levels at the Application Site. BRD Environmental state that water in the boreholes reflects the accumulation of rainwater trapped in the monitoring wells which could not escape rather than showing the true groundwater level. Therefore there is no evidence from this investigation of significant groundwater. It should be noted that apparent high water table levels may be caused by surface water runoff

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or overland flow or the trapping of water in the topsoil above the clay. WSP has raised this point before and we and the Project Centre are satisfied that the Geotechnical Survey answers this point.

Comment 3

The surface water drainage system for this development is required to ensure that there is no increase in flood risk in comparison to the present day situation; it is not required to resolve flooding issues in the area. The system has been designed to discharge to the ditch at Greenfield Runoff rates to replicate the current natural runoff regime. This approach has been reviewed and accepted by The Project Centre as RBWM's technical reviewer and is in line with best practice for the design of surface water drainage systems. It should also be noted that the clay nature of the site means that most of significant rainfall events will currently runoff the site: the proposals provide significant onsite storage, which is the improvement noted compared to the existing situation. I also note that the predicted shallow (2-3mm) flooding of the car park shown in the model only occurs after an extreme 1 in 100year + climate change event: if that event occurred, many flood prone areas locally would be experiencing flooding.

Comment 4

In view of the concerns previously raised by the OGAFCA, the highly unusual assessment over 7 days with a surcharged outfall was undertaken. Given the small size of the catchment for the stream, it is considered implausible that a single event or series of events would prevent outflow continuously for this period. Furthermore, part of the proposed works would be to deepen and widen the existing ditch over a significant length to provide more capacity.

It should also be noted that in extreme events the current overland surface water flow route parallel to Fifield Road might still occur. As noted earlier we are not required to eliminate flooding, only to make sure it does not get worse as a result of the development and to protect the proposed development. It should also be noted that the flow route is to the north away from Fifield, so the site cannot affect existing flooding in Fifield or Coningsby Lane (either to make it worse or better). The gym floor level is set to prevent flooding of the building in extreme events.

Comment 5

The letter queries some details on the WSP drawings. It should be noted that these drawings are for planning purposes and not for construction and the exact arrangement will be affected by the amount of re-profiling of the existing ditch that can be achieved. It is confirmed that the box culvert will provide structural support to the access road as concluded in point 5a of the letter. Box culverts are designed to do this. The Project Centre has requested that the box culvert is wider than the existing ditch. The ditch will be widened at this location to accommodate the box culvert. The box culvert invert is intended to be at, or just below, the re-profiled ditch, with the top at a level to take the access road surfacing above it, whilst tying into Fifield Road.

Regarding point 5c, the flap valve will open whenever the proposed drainage system water level is higher than the re-profiled ditch water level. As noted in the response to comment 4 above, it is not considered likely that this would be prevented for a continuous period of more than 7 days.

Utility record drawings are notoriously inaccurate. Once excavations have confirmed the exact size, location and depth of the water main, the design can be adjusted accordingly by using a piped section to pass either over or under the water main or by providing structural protection to the main. The oversized pipe was previously accepted in the modelling, so if the length of the replacement ditch has to be changed to suit the pipeline, there will still be more storage than the previously accepted design. A shorter length of ditch will still achieve the objective of making it easy to observe water levels in the system.

Conclusion

With reference to the concerns raised by the OGAFCA that the proposed Gym Club would make the known flooding issues in the area worse, both WSP and the Project Centre on behalf of the RBWM has examined the proposed drainage system in considerable detail and concluded that the design meets the required standards

and will reduce existing flooding at and around the site. Furthermore, any runoff from the site in extreme events would flow northwards by gravity and cannot make flooding any worse in Fifield.

Yours sincerely,


Martin Wheeler
2018.02.08
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Martin Wheeler
Associate Director