

Your Ref:
Our Ref: B24120-JNP-XX-XX-CO-C-0001 P01/SLL

Chkd: NDT

Eliston Homes Ltd
Park Hall Manor
Park Hall Estate
Little Hayfield
High Peak
SK22 2NN

For the attention of Kris Clayton

25th May 2022

Dear Kris

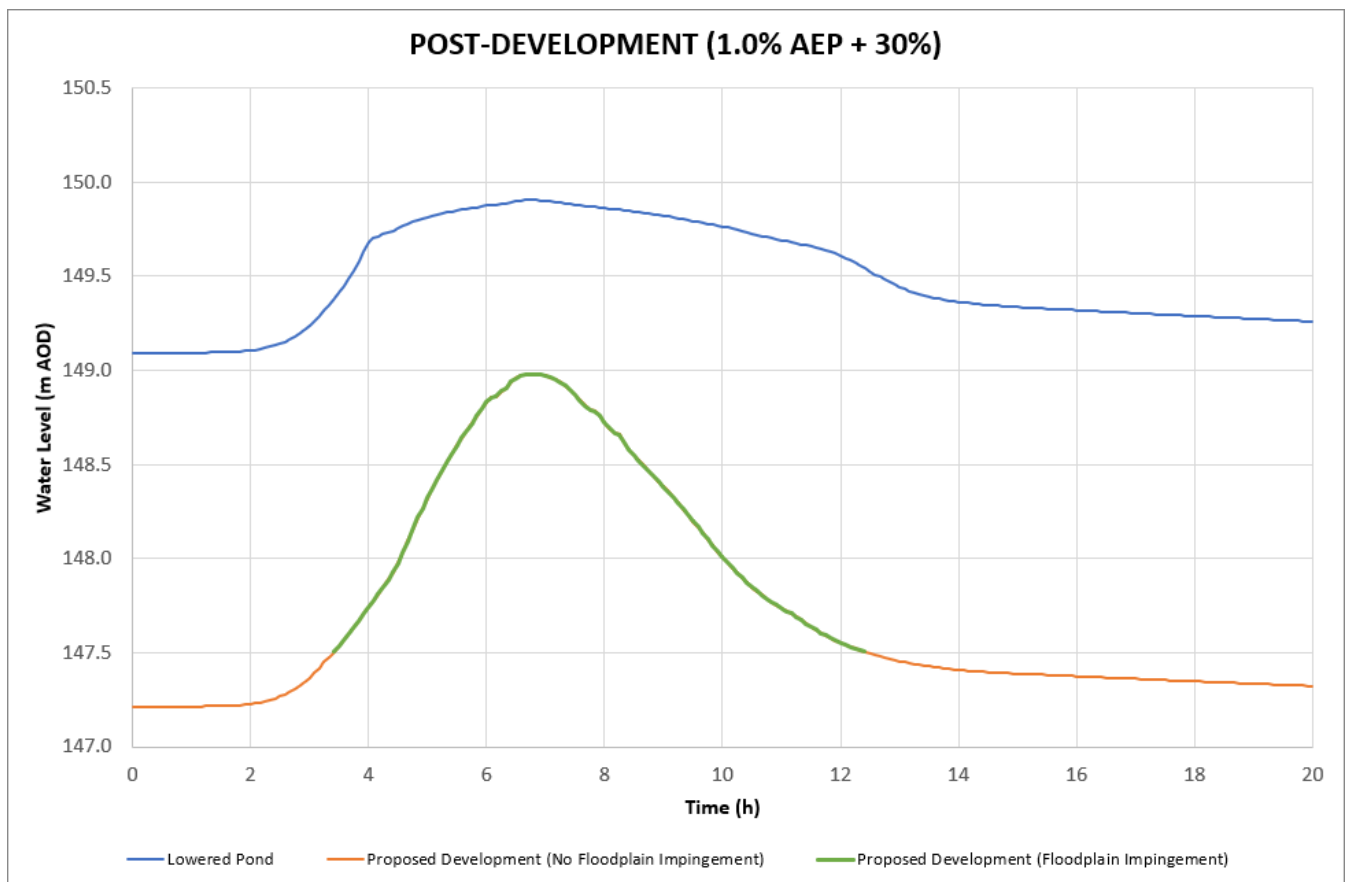
Re: Prickleden Mills, Holmfirth

Further to the comments received from Nick Beyer at the EA, dated 18th May 2022, below are our responses.

1. *Your FRA addendum says that you will provide compensatory storage volume in the mill pond by lowering the outlet level by 400mm. That would result in a baseline water level of 149mAOD. That would mean that the storage volume will become available when flood waters reach and exceed 149mAOD. In other words the compensatory storage is provided above 149mAOD. You confirmed that the ground levels where the development is proposed are generally **lower** than 149mAOD. That means that when the development is in place, it will reduce floodplain storage volume at levels lower than 149mAOD. The concern here is that in a flood event, when water starts to rise in the channel, the site where the development is will flood earlier (at lower water levels) than the mill pond storage volume will start to fill up. This means that there could be a period of time where the loss of storage caused by development isn't actually compensated for and flood water could be transferred somewhere else.*

I understood that you said, that because the river is on a steep gradient, the 149mAOD level at the entrance to the mill pond might get exceeded either before or at the same time as the lower ground, where the development is proposed. If this is the case and can be evidenced, then we no longer have an issue. If this isn't the case, then I think, as a minimum, we are looking at you needing to show what the impact of the temporary shortfall in storage would be. i.e. where would the water end up, that currently goes where the buildings are proposed? The outcome of that would dictate our view on the proposal.

JNP response - The figure below (post-development scenario and 1.0% AEP + 30% climate change) confirms that flows get into the lowered pond throughout the period between 3 and 13 hours during which the proposed development causes floodplain impingement (i.e. flood level along site front > 147.5 m AOD), thus providing the necessary floodplain compensation.



2. *The FRA also says that because of the nature of the mill pond and its outlet, flood waters stored in the mill pond would recede slower than the equivalent natural floodplain. The concern here is that the storage might fill, then not be available for any potential subsequent storm event, shortly afterwards. For this, I think you will need to provide info on how long it will take for the levels in the mill pond to go back down to 149m AOD and justify that this is fast enough to not cause a problem.*

JNP response - The figure above also shows that the lowered pond empties fairly quickly, with more than half of the pond's total volume available for a subsequent flood within 6 hours of the end of the 1.0% AEP + 30% storm (design event).

It should be noted that the existing planning permission for the site does not include any flood plain compensation. This (existing planning permission) will be built if the current planning application is not approved. We therefore hope we can find a solution to achieve planning consent for the amended scheme as it has significant benefits over and above the previously approved scheme.

3. *It is proposed to raise the mill pond embankment level. The FRA recognises that there is a breach risk associated with the mill pond, but you have said that this can be managed through an inspection and maintenance plan. While this might be fine, I don't think that that statement alone is enough to make that risk acceptable. As a minimum, I would expect that inspection and maintenance plan to have been drawn up and agreed with the LLFA. Even better would be if you can also provide some technical information on the construction of the embankment to prove that it can withstand the hydrostatic*

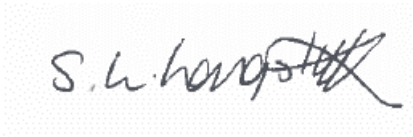
pressure it will experience. Ultimately here, our main role is to ensure that the LLFA has enough information to be able to make an informed decision over the level of risk posed.

JNP response - Proposed modifications to the outlet of the mill pond will require it to be drained. This will be an opportune time to inspect the pond structure and the embankment construction thoroughly. Investigation at the present time whilst the mill pond contains water will be compromised by logistical issues. A non-intrusive inspection has already been carried out which identifies visible defects which will be addressed as part of the development in conjunction with the outcome of the intrusive inspection and investigation works. Once details of the existing embankment are known, an assessment of the existing and proposed situation will be made and a scheme for the repair and strengthening works (if necessary) will be prepared and implemented. This will incorporate an ongoing inspection and maintenance regime.

It is therefore requested that this investigation, and the subsequent inspection and maintenance plan is conditioned, so it can be based on reliable information.

If you have further queries, please contact the undersigned.

Regards



Sarah Longstaff

BSc (Hons) MSc FGS

Principal Hydrogeologist