

INTERNAL MEMORANDUM

FROM: Flood Risk Management Team

Date: 23/12/2021

Application: Outline application for the erection of up to 62no. dwellings (30% affordable housing) with accesses off Church Lane and Front Street, landscaping and other associated works; access for approval with matters of appearance, landscaping, layout and scale reserved for subsequent approval

Reference Number: 21/P/2049/OUT

Location: Land To The East Of Church Lane And North Of Front Street Churchill

Formal comments regarding the above. The Flood Risk Management (Drainage) Team have the following response to make to further commentary made by the applicant:

Applicant comment:

Site Location – The impermeable areas have been traced from the submitted layout.

LLFA – Please supply a catchment plan so this can be verified. Further information is required prior to determination.

Applicant comment:

Baseline Geological Assessment and Infiltration Testing – We have advised on nearby developments and used this knowledge, desk study investigation and site intrusive investigations in conjunction with considering local knowledge as part of a responsible and professional assessment about groundwater and the wider site characteristics. This has led to our precautionary approach related to groundwater levels.

Water levels can be monitored as part of preparation for the detail design and the subject of a planning condition, but there is no reason why any particular groundwater level should change the design approach adopted.

The site has always been in agriculture according to the historical maps and therefore a has low risk of contamination, and a geocontamination investigation can be the subject of planning conditions, as is customary, to ensure any potential hotspots are treated.

We have adopted a precautionary approach, which allows infiltration, but is designed to operate through attenuation. This complies with the SuDS Manual guidance and hits the highest target in the SuDS hierarchy.

LLFA – Any desk-based assessment should be corroborated with suitable onsite investigations. Insufficient monitoring has been undertaken to fully form a judgement on the use of infiltration. 12 months of groundwater monitoring is common practice when assessing sites of this size to determine the seasonably highest recorded groundwater level. More detail information from other sources should be provided on which 'local knowledge' is based. Further information is required prior to determination.

Applicant comment:

Evaluation of Flood Risk – The existing catchment surface water risk is purposely separated from the site drainage system and managed safely through the development in accordance with CIRIA

635, *Designing for Exceedance*. We have shown a designated route for the 1 in 1000 year illustrated flows, and also provided a cut-off swale to intercept potential flows from higher ground which are not shown on the Agency flood maps, adopting the precautionary principle. The Environment Agency surface water flood maps were developed from hydrological modelling and a precautionary approach has been adopted by directing potential offsite surface water through green infrastructure and public areas in accordance with CIRIA 635 *Designing for Exceedance*. Property levels will be raised above the surrounding ground in accordance with good practice and CIRIA 635, and will be defined as part of the detail design – this can be conditioned. Complying with CIRIA 635 would not require a change to the development strategy.

LLFA Response – The EA surface water flood maps are an indicator of risk at a high level. Development scale modelling is required to more accurately determine the risk and the suitability of mitigation. The swale appears to be too small compared to the potential flows and location on the wrong part of the site. The development is an opportunity to reduce downstream flood risk. This should be demonstrated through appropriate 2D hydraulic modelling. Further information is required prior to determination.

Applicant comment:

Site-specific approach to Surface Water Drainage – We are surprised by the comment about water quality improvements, when the submitted layout includes 2 main ponds, low flow channel and a long ripple swale through the spine of the site to improve runoff water quality. The ponds can be readily over-deepened to provide additional settlement/water improvement, which was discussed with the design team, but as this is a readily included detail and an outline application, it would be integrated with the landscape and ecology at detail design stage, as recommended by the SuDS Manual, and this can be covered by a general condition on SuDS if necessary.

LLFA Response

The simple index approach should be undertaken to determine the level of water quality treatment required. The proposals as it stand are dry features and these do not provide sufficient treatment for the likely Total Suspended Solids that will be generated by the development proposals. Not all the highway water passes through all of the features and therefore there will be elements of the site that will not receive the required levels of treatment. Further information is required prior to determination.

Applicant comment:

Hydraulics – An assessment of the greenfield runoff from the impermeable area only (as requested) shows a requirement for an additional 400m³ attenuation storage. It can be seen that Tank 1 could readily be increased in size to accommodate this (it already manages 500m³). In reality the detail design would balance the storage requirement in Pond 1 and Tank 1, and potentially step up the runoff rate from the 1 in 30 year event thus requiring less than the 400m³ storage. This would be part of the detail design and the plan shows it is readily achievable. The preliminary calculations ignore the attenuation and virtues of the long spine swale, showing that a precautionary approach has been adopted in the strategy.

LLFA Response

The report and drawings should be updated to reflect the additional level of attenuation required, to ensure that it follows through to detailed design.

Applicant comment:

Consideration of Operation and Maintenance – tree planting is clearly a virtue and enhances biodiversity. Access for maintenance to the drainage features will form part of the detail drainage design with the integrated landscaping and ecology design. Its an outline application, and careful consideration will be made to the benefits of trees, the canopies and trunks to ensure safe maintenance provision. There will be no trees over the geocellular crates.

LLFA Response – maintenance access should be incorporated into the design proposals as an allowance for sufficient space is required to ensure that detailed site layout and landscape designs take this into consideration. This is a key part of the NPPF paragraph 165. Further information is required prior to determination.

Applicant comment:

Agreement in Principle from third parties required and Demonstrated – The proposal is to discharge to the receiving watercourse. The point of connection is not finalised, but could be to the watercourse within the public highway or within third party land, in which case the Client could seek agreement or Requisition a sewer through Wessex Water.

LLFA Response – Further clarification and certainty over the outlet location is required at the outline design stage as it demonstrates the viability of the site and that a suitable discharge location can be identified. Further information is required prior to determination.

Applicant comment:

These responses demonstrate that the proposals are precautionary and safe, and the detail design can address these satisfactorily within the submitted outline layout and will comply with the relevant design guidance.

LLFA Response – There are fundamental changes and additional information that is required to demonstrate that the proposals meet the requirements of NPPF paragraphs 163 and 167, NSC Core strategy policy CS3 and the Creating sustainable buildings and places SPD and do not increase flood risk elsewhere.

ADVISORY NOTE: The implementation of Sewerage Sector Guidance will allow Wessex Water to adopt more sustainable drainage features, therefore we recommend that a discussion with Wessex Water takes place at an early stage.