
From: Whittaker, Roberta (EXT)
Sent: 31 August 2022 16:36
To: Johnston, Christopher
Cc: Planning (SMDC)
Subject: SMD/2021/0491 - Land off Tenford Lane - LLFA Response (Rev 7)

Categories:

Hi Chris,

Thank you for reconsulting us on the RM application SMD/2021/0491 – Land off Tenford Lane. We note this application keeps going backwards and forwards without the required level of detailed design so we request that the application is not sent back to us for consultation until a detailed design has been produced.

Staffordshire County Council Flood Risk Management Position

We have reviewed the submitted information and there is still some information required to fully demonstrate that an acceptable drainage strategy is proposed. Where necessary or context we have included comments in the format: LLFA Rev 6, [Response](#), [LLFA Rev 7](#).

Please note this tends to be an iterative process where we require certain baseline details (i.e. a detailed drainage strategy) before we can review the more technical aspects and everything provided under Appendix A. Please also note that new documents often raise further questions so any list of requirements we provide may not be exhaustive. The list of current issues is below:

Drainage Strategy

- We need a clear written explanation of how the microdrainage relates to what is shown on plan as there are a number of elements in the model e.g. weirs and pumps that are not shown in the plan.
- We do not have all the pipe labels and certain key manhole locations are also missing. We repeat the request for a detailed design plan for the finalised SuDS features and labelled detailed network plan to allow us to cross check the MicroDrainage calculations with the drainage plan i.e. pipe lengths, invert levels, slopes and diameters, we also need detailed designs of the swales and ponds to include levels and designed cross sections – especially to explain the basin/cellular storage arrangements in Basin C.

• Network 3

- We're unsure what's being modelled here, it would be helpful to have a written explanation supported by a labelled plan and cross sections.
- Please also explain the purpose of the additional cellular storage that has been added in this revision and how this will be accessed for maintenance.
- 3.009 appears to have an overflow in the model, can you explain what it is that's overflowing and where it overflows into. Can you also explain if this is just for the purpose of the modelling or in reality?

- We repeat our request for the GI report as we need this to assess the design of the infiltration basins and swales.

Calculations

- To confirm we are satisfied with your choice of infiltration rate given that a safety factor of 10 has been used in the infiltrating structures.
- Please confirm the reason for the pump in the microdrainage and where this features in your network.
 The pump has been used for modelling purposes only to ensure that no flow leaves the system and that discharge is via infiltration.
 As per the above points we need more explanation on the network in the vicinity of the pump/weir structures in the MD. If the pumps are required in the modelling, we need to understand about where the water could be leaving the system other than through the infiltration basins if there is no infiltration coefficient on the swales and if this is occurring in reality or not?
- The calculations should show the half drain time of the network.
 Now added
 The model doesn't show the half drain time of the basins and also has warnings that the half drain time can't be calculated because the structures are too full, even in the 1year event.

 WARNING: Half Drain Time has not been calculated as the structure is too full.
- Impermeable area representations in the model are still not correct. I've copied the information in your report for reference below:

The proposed impermeable areas can be divided into a number of areas as shown in the proposed impermeable area plan included within Appendix H with a summary being provided in Table 2 below.

Table 2: Summary of proposed impermeable areas

Area	Road (m ²)	Buildings (m ²)	Total (m ²)
A	1070	0	1070
B	2760	3279	6039
C	599	1874	2473
Total (m²)	4429	5153	9582

Source: Proposed impermeable area plan

Staffordshire County Council Design guidance states that the impermeable area should be increased by the following areas to allow for Urban Creep:

- <=25 dwellings per ha = 10%
- 30 dwellings per ha = 8%
- 35 dwellings per ha = 6%
- 45 dwellings per ha = 4%

Currently the site area that is being developed is approximately 4.3ha with the current proposal showing 40 residential units. This results in 9.3 houses per ha. It has been assumed that the area of the road network will not increase and if it does a separate drainage system will need to be designed. As such the impermeable areas with allowances for 10% urban creep for the individual houses only can be calculated as follows:

- Area B = 3607m²
- Area C = 2061m²

According to your report there should be an impermeable area of:

Area A – 1070m²

Area B – 3607m²

Area C – 2061m²

In the modelling it is not clear exactly how these areas related to the IA areas so even taking a combined approach, the report states that 6738m² of IA should be included but the model only shows 4630m².

Exceedance

- We need to know the volumes of water that could be expected in an exceedance event will be stored in the emergency overflow space and how this is expected to drain. I.e. we need to see drawings and calculations for the provision of this space.
- We also need to see where the water from the POS is expected to be routed and an understanding of exceedance in the bottom left hand corner of the site in the vicinity of Basin A as we need to ensure that any additional runoff can be safely contained within the site.
- We also need to see further details on the landscape bund or fencing on the Tenford Lane boundary and the exceedance arrangements here for the same reasons as above.

Swale Design

- The report says the swales are to be unlined, if the swales are conveyance only in order to ensure 2 levels of treatment, how will you be ensuring they are not infiltrating?

- Please could you also complete the attached swale design proforma from the SuDS Manual to ensure the swales are suitably designed as we have not been provided with the details to complete the assessment ourselves.

Advice to LPA

Please re-consult us when amended details are received. If you are minded to approve the application contrary to this advice, we request that you contact us again to allow further discussion.

Kind Regards
Roberta

Please note my working days are Monday to Wednesday.



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