

## **Drainage Response to Highways Comments:**

Drawing 303795-SWH-XX-XX-DR-C-0500 P05 and 303795-SWH-XX-XX-DR-C-0501 P05 shows the drainage strategy for the site and drawing 303795-SWH-XX-XX-DR-C-0502 P05 shows the manhole schedule. The Highway Authority have provided comments via the LLFA directly on any comments regarding future maintenance regarding the strategy. Whilst this is the case, there are several matters that should be addressed concerning the onsite drainage measures. These are as follows:

- Clarification is requested as to whether the grassland to the north of the site is to be classified as a SINC – should this be the case then this is likely to have future maintenance issues with any assets near the SINC, therefore ecological surveys and mitigation would be required.
  - SWH response – This will be answered by the ecology consultant. The Proposed attenuation basin SuDs feature is in this area and will be sensitive to 'blend in' with the natural landscape and provide additional biodiversity to the existing area.
- It should be ensured that attenuation basins can be accessed and maintained appropriately under the adoptable highway.
  - SWH response – As addressed below, the attenuation pond is outside of the adoptable highway rather than under it. However, access to the attenuation basin will be addressed under detailed design within the pre-commencement conditions.
- It is unclear what the purpose of the attenuation tanks are, and this should be clarified.
  - SWH response – The purpose of the attenuation tanks is to provide a betterment to the existing 1 in 1 year storm event created by the greenfield run-off rate. This is required to prevent flooding downstream away from the site in heavier storm events. This storage picks up rainwater pipes from the domestic drainage and connects onto the overall site wide surface water network via source control chambers. They have been designed and located in private areas so will be either adopted by the site wide domestic maintenance company or the water authority. Further discussions will be held at the pre-commencement stage.
- Clarification requested as to whether SWMH01 is 3.0m deep from the levels.
  - SWH response – It is confirmed the depth of SWMH01 is 3.0m from the cover level to the invert level.
- Depth of chambers should be provided on the manhole schedule; and
  - SWH response – Depths for each chamber were provided on the manhole schedule issued.
- Chambers 5.0m deep under the highway are a concern, therefore a drawing detail must be provided to ensure suitable maintenance can occur.
  - SWH response – Chambers between 3m and 6m are required on some parts of the drainage network due to the gradients within the development, these chambers are designed to sewers for adoption type 1. This has been updated on the latest manhole schedule. These will be included within the detailed design package to discharge any pre-commencement conditions.

The applicant should be mindful at the detailed design stage that it is the Highway Authority's intention to adopt the gullies and links proposed within the drainage strategy. Appropriate HCC Standard details should be used throughout the submitted documentation for adoptable drainage. All covers are to be Grade D within the highway boundary. It is noted that all pipes are to be 100mm. This should be reviewed and be in line with HCC requirements. SWH response – This is noted.

*It is understood that the highway boundary excludes tanks and ponds. The applicant should be made aware that private drainage will not be permitted to discharge into the highway drainage, so appropriate access points will need to be dealt with outside of the highway boundary. The applicant should be mindful of any easement requirements at the detailed design stage. SWH response – The proposed drainage network provided for the development will be adopted by the same water authority as the local existing drainage network under a S104 agreement and connect into the existing network via a S106 agreement, the drainage strategy provided caters for both the domestic and highway drainage which is normal for a development of this size. Any 'highway only' drainage outside of the adopted highway boundary will be subjected to a 6m wide easement to aid with maintenance and access in the future.*

*SuDS features are located a minimum of 5.0m from the adoptable highway and thus their location is considered acceptable. SWH response – This is noted.*

*The details of the drainage can be secured through an appropriate planning condition to be submitted prior to commencement. SWH response – This is noted.*

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