

55 Fitzroy Park**Comments on Applicant Documents Uploaded 20/11/21****Introduction:**

FPRA have asked Alan Baxter to comment on the two documents uploaded by the applicant to the Camden Planning website on 20/11/21. These are titled:

- a) Network Simulation/Analysis, originally dated 2 June 2021, Rev. A 5 November 2021
- b) SuDS Proforma

It has not been made clear why these have been uploaded. The last document uploaded by the applicant that we reviewed was the LLFA Tracker, updated on 31/3/21, which we commented upon on 23/4/21. This included a 'Note to LLFA' produced by Metis (the LFFA's current advisors) which recommended that eight outstanding points raised by the previous advisors, Aecom, should be addressed prior to conditioning. Point 3) requested calculations to demonstrate the entire SuDS network. We assume that that the two documents uploaded on 20/11/21 are in response to this point. No documents appear to have been uploaded in response to the other seven points.

Comments on the Network Simulation/Analysis

- 1) The calculations are not in the normal Microdrainage format generally adopted within the industry, which we would expect to see.
- 2) The analysis has only been carried out for a single duration storm of 360 mins (for various return periods). We would expect the analysis to include a wide variety of storm durations to identify a worst case and better test the system.
- 3) The rainfall data has not been justified. It is stated that rainfall data from the Met Office has been used in the model, but this is not defined. It may be just a flat rate. Heavier intensity rainfall for shorter duration storms should also be considered.
- 4) The assumption of a 2 l/s/ha discharge from the green roofs in S3 (the storm water system proposed to feed into the infiltration trench) needs to be justified with supporting calculations/manufacturers details. In a higher intensity storm the discharge could very quickly become much higher than this.
- 5) The modelling does not appear to include the attenuation storage, flow control or infiltration trench which are important elements in controlling the flows leaving the site and how the system will back up with water. We would expect the analysis to be of the full model.
- 6) There is a warning message on page 13 of the calculations which has been blanked out/redacted. The analysis should be clear and transparent and a statement provided explaining what the warning is and how this is to be addressed.
- 7) The calculations in appendix C appear to be based on a calculation sheet from the UKSuDS website used for the preliminary estimation of attenuation volumes. The proposed attenuation should be based on the more detailed full analysis required as noted in 5) above.
- 8) The rate of discharge from systems S1 and S2, which feed into the combined sewer below Fitzroy Park is unclear. This will have to be agreed with Thames Water, but on a small site like this we would expect them to limit the discharge rate to 2 l/s, which might increase the size of the attenuation tank required for these two systems.
- 9) Overall the calculations uploaded do not provide us with any confidence that the system S3 will not overtop.

Comments on the SuDS Proforma

- 1) This is a standard proforma based upon the London Sustainable Drainage proforma.
- 2) Point 2 on page 2 states that Infiltration will be permitted but not relied upon. This is incorrect. System S3 relies entirely on the storm water infiltrating through the topsoil and fill from the infiltration trench below Millfield Lane and into the Nature Reserve on Hampstead Heath.
- 3) Point 3 on page 2 indicates that rainwater is to be attenuated in ponds or open water features for gradual release. As, there is no longer any suggestion that the pond is to be used for attenuation (as this would not be acceptable on ecological grounds), the current drawings indicate the swale to be a 'dry swale' and the infiltration trench is to be filled with a free draining material, we do not know what open water feature is proposed here.
- 4) Point 5 on page 2 indicates that rainwater will be discharged direct to a watercourse. This also appears incorrect, based on our understanding of the proposals.
- 5) It is unclear where the figures in tables 3a. and 3c. on page 3 have come from. No storage is indicated in swales, basins/ponds which contradicts point 3 on page 2 and supports our comments in 3) above.