stomor
CIVIL ENGINEERING CONSULTANTS

North London Business Park,
Brunswick Park Road, London

Reference: ST-3013/211209-LLFA Response

Response to LLFA comments to Outline Planning Application 21/4433/OUT

Introduction

This document is prepared in support of a hybrid planning application for residential-led mixed used redevelopment of the North London Business Park, Brunswick Park Road, London. The document seeks to provide further information relating to the Lead Local Flood Authority's (LLFA) recommendation for refusal, dated 19th August 2021.

The comments provided by the LLFA and Stomor's related replies are as follows:

"The indicative drainage layout drawings provided in Appendix F of the Flood Risk Assessment (Ref: ST3013/FRA-2107) don't cover the entire site area. Drainage details for the eastern area of the site aren't available for review"

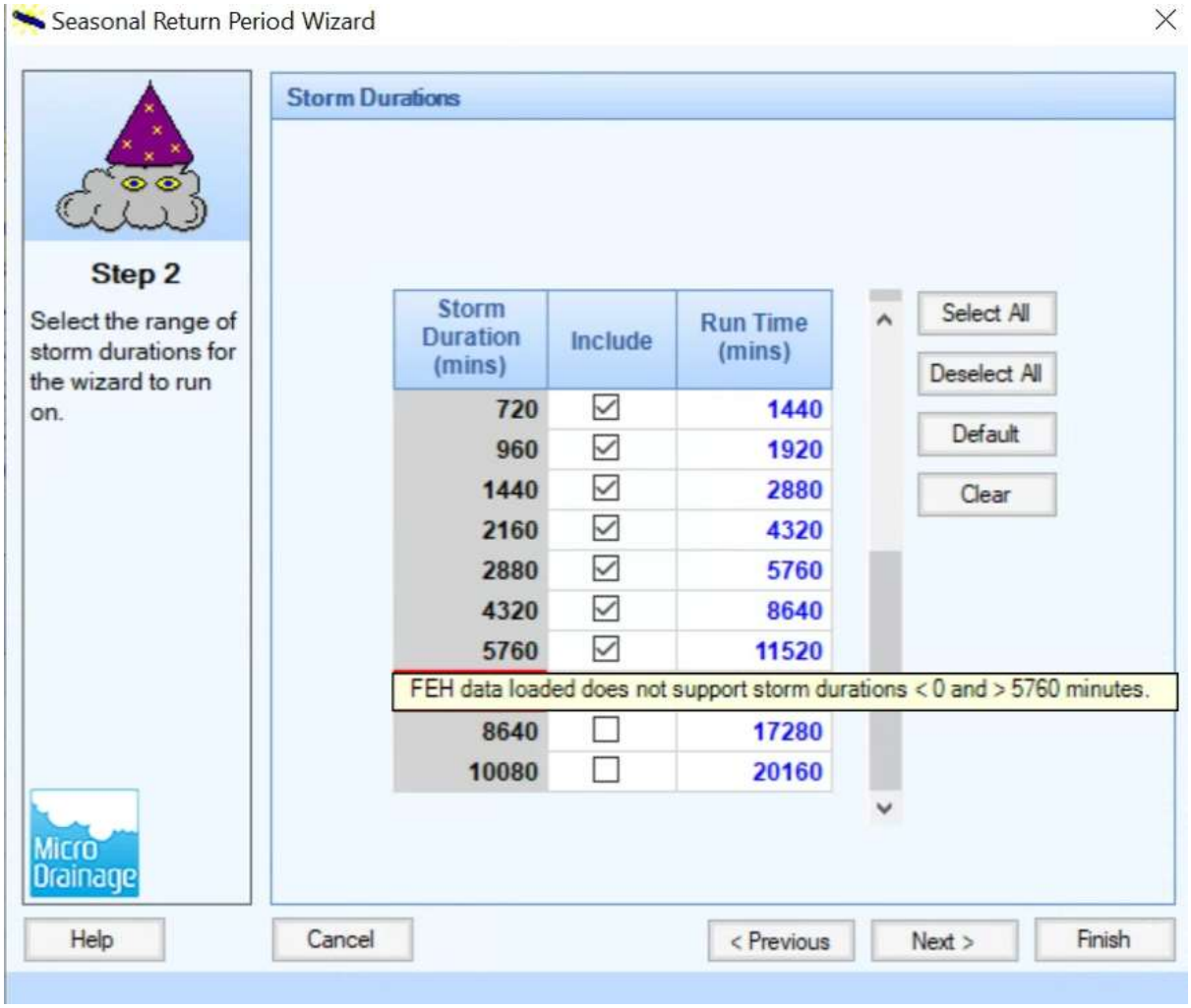
A copy of the Proposed Drainage Strategy for Phase 1 of the development, to the east of the site, has been prepared and has been added to Appendix F of the revised Flood Risk Assessment.

"Pipe numbering between MicroDrainage calculations and that shown on the indicative drainage layout drawings do not match. Hydraulic calculations cannot be reviewed. Additionally, the proposed volume for Tank 3 does not correspond with that shown on the drawing"

Pipe numbers have been reviewed and amended where necessary to match those identified within the MicroDrainage calculations. The annotation specifying Tank 3's dimensions and storage volume have been amended to reflect those shown in the MicroDrainage calculations. For clarification, Tank 3 is to be 22.5m x 15m x 1.75m deep, providing a total storage of 561m^3.

"FSR rainfall data has incorrectly been used for hydraulic calculations. Calculations to show the performance of the system for a range of summer and winter storm durations from 15 minutes up to the 10080 minute (7 day) should be undertaken. For storm durations less than 1 hour, Flood Studies Report (FSR) rainfall data should be used. For storm durations greater than 1 hour, Flood Estimation Handbook (FEH) rainfall data should be used."

FEH rainfall data has been obtained for the site, and the MicroDrainage model have been updated to include this revised data. However, as shown by the screenshot below, FEH rainfall data for the site does not appear to support storm durations greater than 5760 minutes within MicroDrainage. Therefore, output files have been amended to show how the network performs during storms up to and including the 5760 minute 1 in 100 year storm event + 40% Climate Change, based on FEH rainfall data.



The amended calculations have been appended to the revised Flood Risk Assessment for the site.

"A MADD factor of 4 has been used in the hydraulic calculations. Unless justification is provided, this value should be set to zero, noting that new developments will have a negligible area where surface water doesn't reach the drainage network. A value of zero should typically be used to avoid underestimating volumes entering the drainage network"

A MADD factor of 4 was implemented on this scheme to account for the significant amount of water that will be held within the private drainage network, road gullies and their connections, upstream of the manholes modelled within MicroDrainage. We believe setting the MADD factor to 0 will result in an over-engineered adoptable drainage system that fails to consider water held within private/upstream drainage infrastructure. With this in mind, the MicroDrainage calculations have been amended to include a MADD factor of 2m³/ha, which is still allows for

water to be held upstream of the manholes modelled within MicroDrainage, but offers a more conservative approach compared to previously.

"While there is limited scope for additional impermeable areas to result from the tower block residential developments, given the potential for areas of green open space to be redeveloped with additional impermeable areas. An urban creep allowance of 10% should be applied"

A 10% allowance for Urban Creep usually allows for incremental increases in impermeable area resulting from Permitted Development, including works such as impermeable surfacing of front gardens to provide additional parking spaces, or minor extensions to existing buildings.

As noted above, the areas of this development dedicated to residential use are confined to tower blocks and as such, increases in impermeable area due to Permitted Development will be limited. It is considered that any future increases to the proposed impermeable area will be subject to separate planning applications and therefore the 10% allowance for Urban Creep need not apply in this instance.

"While an indicative operation maintenance schedule has been provided, the drainage strategy does not specify who will be responsible for managing and maintaining the surface water drainage features during construction and once the development has been finalised"

During construction of the development, Opecprime Development Ltd will be responsible for managing and maintaining the surface water drainage features on site. Upon completion, the management and maintenance responsibilities will be transferred to Comer Property Management. Chapter 6 of the Flood Risk Assessment has been amended to clarify this matter.

"The proposed discharge rate still seems to be significantly high compared to the greenfield run off rates. It should be attempted to further reduce the discharge rates in the sewer system and Thames Water agreement should be attained"

As eluded to in our Flood Risk Assessment, a Flood Risk Assessment for the site was prepared by Awcock Ward Partnership (AWP) as part of an Outline Planning application for the site 2015, which was subsequently approved by LBB and granted planning permission in February 2020. As part of this application, AWP proposed discharge rates of 63.3l/s, 152.9l/s and 222.7l/s for the 1 in 2 year, 1 in 30 year and 1 in 100 year storm events respectively.

The drainage strategy submitted as part of this application proposes significant betterment on the rates previously approved by LBB.