RAMBOLL

TRANSPORT

Date 25/03/2021

MEMO

Project name **256 Gray's Inn Road**
Project no. **1620004664**
Client **UCL/ISG**

Prepared by **Engineer**
Checked by **Senior Engineer**
Approved by **Associate**

1 Introduction

Following submission of the planning application for 256 Gray's Inn Road WC1X 8LD, planning conditions have been stated with regards to the drainage strategy. The comments relate to Condition 36. Following receipt of these conditions, Ramboll has provided an applicant's responses to the items raised in the table below and provided the report section reference and page number where the relevant information can be found. (Doc ref. BEMP-RAM-P1-XX-RP-C-00-0022, rev 07, 09/12/2020)

2 Designers Responses

Condition 36 Comments	**Designers Response**	**Evidence Location**
Demonstrate that exceedance flows do not adversely impact development off site	To manage the risk of flow exceedance, it is proposed to design external area gradients to fall away from the building, so that any overland flow resulting from extreme events would be routed away from building entrances. A Flow Exceedance Plan (Drg no. BEMP-RAM-SW-00-DR-C-51-0101) prepared as part of the drainage strategy indicates the proposed levels and direction of falls around the building entrances.	Appendix 2, pg. 47
Demonstrate consent from Thames Water regarding capacity to receive foul and surface water flows	Following discussion with Thames Water, a response to the pre-development enquiry has been received confirming acceptance of proposed foul and surface water flows.	Appendix 6, pg. 107
Provide suitable connection for attenuation below paving and a statement as to why permeable paving has not been used instead	Drainage connection details have been provided within the appendix of the strategy report to outline the connection. The extensive basement footprint and door threshold levels have resulted in very limited build up depths for permeable paving across the site. Also, due to the natural stone surfacing paving block specified and the expected heavy loading along the access road and in the courtyard, a rigid concrete base is required to support the paving units. This has meant permeable paving has not been feasible for the majority of the site. In the courtyard between the Alexandra Wing and Plot 1, a series of channels and gullies connect into a sub-base replacement system to mimic a permeable paving arrangement as much as possible within the surfacing constraints. The sub-base crate system still attenuates below the paving units similar to permeable paving.	Appendix 2, pg. 49 & 50

Review and revise permeable paving standard details where necessary	Permeable paving depth and detail has been reviewed with the landscape architect and architect to ensure correct build up has been detailed. Construction build up detail has been provided within the appendices of the drainage strategy report.	Appendix 2, pg. 53
Update pro-forma with updated MicroDrainage calculations if they differ	Calculations remained the same, and so previous pro-forma is still valid.	Appendix 5, pg. 88
Provide alternative size or restriction method for the orifice given for Plot 3 (0.046m dia) as this may be prone to blockage	Plot 3 orifice has been increased in 0.060m dia, which reduces the risk of blockages. The orifice plates will be part of the blue roof outlet restrictor plate and will have a suitable maintenance regime to ensure no blockages occur. The outlets will also have an overflow mechanism to ensure the roof does not flood.	Appendix 3, pg. 64
Modify Permeable Paving MicroDrainage calculation to correspond with the construction cross-section given in drawing 'Pavement Build-Up Details BEMP-RAM-SW-XX-DR-C-97-0101'	Permeable paving MicroDrainage storage structure has been updated to correspond to the available cross section depth shown in the Pavement Build Up Details drawing.	Appendix 3, pg. 66
Such system shall be based on a 1:100 year event with 40% provision for climate change, demonstrating greenfield rates of runoff for the new-build parts of the site and 50% attenuation of all runoff for the refurbished parts. The drainage works and features approved shall be implemented in full prior to first discharge of foul or surface water from the site into the public system.	Hydraulic model has been developed for the proposed network to provide evidence the network is sized to ensure no flooding for the 1 in 100 year storm event plus 40% climate change. Total discharge rate for the site has been calculated by combining a 50% betterment for the refurbished area and greenfield for the new build plots. Further details are provided in the drainage strategy report.	Appendix 3, pg. 73 Section 4.1