

LB/9762

29th October 2021

Former Mather & Platt Foundry, Grimshaw Lane, Manchester, M40 2BA
Planning Application Number: 129444/FO/2021

Please find below responses and accompanying information in relation to planning condition 6 on surface water drainage.

Planning Condition 6

6) Notwithstanding the Flood Risk and drainage strategy prepared by Ridge stamped as received by the City Council, as Local Planning Authority, 1 June 2021, (a) the development shall not commence until a scheme for the drainage of surface water for the development has been submitted for approval in writing by the City Council as the Local Planning Authority. This shall include:

- It is suggested within the FRA that permeable paving is potentially feasible if not discharging via infiltration. Permeable paving or other non-infiltrating SuDS features should be maximised wherever possible, to assist in storm water attenuation and to provide betterment to the water quality."

The enclosed drainage drawings include permeable paving within car parking areas which are not subject to possible HGV overrun. Due to ground conditions, the permeable paving will not be able to infiltrate and so will include an impermeable membrane with the SW connected into the main drainage network.

"- The existing run-off rates should not include an additional 40% allowance for climate change, this offsets the 50% betterment. It is not permissible for any area of the site draining freely into the public combined sewer, even if this is as existing. Therefore, the proposed discharge rates should be recalculated."

The design has been updated to attenuate the whole site including access road. The proposed discharge rate of 187 l/s provide a 50% betterment from the existing impermeable areas run off rates excluding climate change. The existing and proposed discharge rates are as per the below table:

Surface Water Runoff Rates \ Rainfall Periods	1 in 1 year		1 in 100 years		1 in 100 + 40% Climate Change applied to proposed discharge only	
	Imp. Areas	Green Areas @ greenfield runoff rates	Imp. Areas	Green Areas @ greenfield runoff rates	Imp. Areas	Green Areas @ greenfield runoff rates
Existing	302 l/s	36 l/s	951 l/s	87 l/s	951 l/s	87 l/s
	338 l/s		1038 l/s		1038 l/s	
Proposed	151 l/s 50% reduction on existing impermeable areas runoff rate	36 l/s	187 l/s 82% reduction		187 l/s 82% reduction	
	187 l/s 45% reduction					

" - Details of surface water attenuation that offers a reduction in surface water runoff rate in line with the Manchester Trafford and Salford Strategic Flood Risk Assessment, i.e. at least a 50% reduction in runoff rate compared to the existing rates, as the site is located within Conurbation Core Critical Drainage Area;"

The proposed drainage design currently allows for a 50% reduction in existing impermeable areas run off rate to adhere to the Manchester Trafford & Salford SFRA. See enclosed proposed drainage drawings and surface water MicroDrainage modelling results.

" - Runoff volume in the 1 in 100 year, 6 hours rainfall shall be constrained to a value as close as is reasonable practicable to the greenfield runoff volume for the same event, but never to exceed the runoff volume from the development site prior to redevelopment;"

The enclosed site investigation report shows the existing ground conditions to be made ground overlaying stiff clay which will have very poor permeability. Infiltration is therefore not feasible meaning it's not possible to achieve this requirement.

" - Evidence that the drainage system has been designed (unless an area is designated to hold and/or convey water as part of the design) so that flooding does not occur during a 1 in 100 year rainfall event with allowance for 40% climate change in any part of a building;"

The enclosed MicroDrainage surface water modelling calculations demonstrate that the site has been designed to the 1:100 year rainfall events with allowance for 40% climate change without flooding.

" - Assessment of overland flow routes for extreme events that is diverted away from buildings (including basements). Overland flow routes need to be designed to convey the flood water in a safe manner in the event of a blockage or exceedance of the proposed drainage system capacity including inlet structures. A layout with overland flow routes needs to be presented with appreciation of these overland flow routes with regards to the properties on site and adjacent properties off site. There will be no free flowing of surface water from the site into Grimshaw Lane, all surface water flows should be controlled on site."

All surface water runoff resulting from the rainfall events within the design parameters (1:100 yr +40%cc) will be maintained and attenuated within the site. The exceedance flows (beyond the design conditions) or in the event of drainage system malfunction, will be redirected into Grimshaw Lane. Refer to enclosed drawing 9762-PTA-ZZ-XX-DR-C-8190 for exceedance flow paths.

"- Details of the build-up of the proposed mound located within the South Eastern corner of the site should be submitted and an assessment of the overland flows should be produced, run-off from this area of the site should be prevented from entering the surrounding developments and highways."

The mound in the eastern corner of the site is existing and will remain in its current condition, apart from the section which sites with Unit 5 footprint which will be removed for this building construction. Runoff from this mound therefore mimics the existing condition and falls towards soft landscaped areas.

"- Where surface water is connected to the public sewer, agreement in principle from United Utilities is required that there is adequate spare capacity in the existing system taking future development requirements into account. An email of acceptance of proposed flows and/or new connection will suffice."

Enclosed is the response from United Utilities with reference to preplanning enquiry regarding the proposed surface water discharge to the combined public sewer within Grimshaw Lane stating that a discharge can be made if the hierarchy to the proposed method of surface water discharge is followed. A hierarchy analysis was used to the proposed surface drainage at the planning stage which discarded all the methods of discharge surface water higher within this hierarchy. Furthermore, a S106 application to United Utilities will be made prior to the development foul and surface water connections into the combined public sewer.

"- A justification on why bypass separators have been used on site and not full retention separators, as this site is considered to have a high contamination risk."

The design has been revised to include a full retention oil interceptor, see updated drawings enclosed.

"- Hydraulic calculation of the proposed drainage system;"

See enclosed Microdrainage hydraulic calculations results.

- Construction details of flow control and SuDS elements.

See enclosed Drainage Construction Details for flow control and SuDS elements.

(b) The development shall then be constructed in accordance with the approved details, within an agreed timescale.

Reason - To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution pursuant to policies SP1, EN14 and DM1 of the Manchester Core Strategy (2012).

Yours sincerely,

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