2DRAINAGE STATEMENT

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Title	Drainage Statement		
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Introduction

This Drainage Statement has been prepared for STACK (Manchester) Limited to support the preparation and submission of a planning application for the site at Stack Manchester, Oxford Road, Manchester, M1 7ED.

It is expected that once the ongoing site investigations have concluded, a comprehensive Drainage Strategy will be developed for Lead Local Flood Authority's review.

In the interim, this Drainage Statement outlines the preliminary principles for the proposed surface and foul water drainage disposal, as well as reviews potential flood risk associated with the site.

Existing Site

The site is located in the south of Manchester city centre, approximately 300m south-east of Manchester Oxford Road train station.

The site is bound to the north a by a commercial building (Manchester Technology Centre). The east is Loverose Way and NCP Manchester Circle Square. The south is bound by Manchester Metropolitan University Student Union and the west is bound by Oxford Road, The is partly located beneath the Mancunian Way Viaduct to the southeast.

The site is currently occupied by HATCH, an urban street food market with shipping container units and associated seating within external areas.

Flood Risk

River Flooding

The Environment Agency's online flood maps have been reviewed and these show the site to be located entirely within Flood Zone 1 'Low Probability'. This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).

Surface Water Flooding

Environment Agency and Manchester City, Salford City and Trafford Councils Level 2 SFRA maps have been reviewed. These maps were developed to highlight areas at potential risk of flooding from surface water flows running across land which cannot enter the ground or drainage systems.

According to the Flood Risk Maps, localised areas at the site are considered to be at medium risk of surface water flooding (chance of flooding of between 1% and 3.3% each year). The remainder of the site is considered to be at low risk (chance of flooding of less than 0.1% each year).

It should be noted that the EA Mapping does not take into account any engineered drainage networks which may be serving the area. It is therefore a worst case scenario, given the sites location in a developed area. It is considered highly likely there will be a drainage network serving the surrounding area which would further mitigate any surface water flooding.

Following study of the surrounding area and topographical survey plans, highway levels indicate that should flooding occur within these areas the flood flows would be directed along the carriageway away from the proposed development site.

As such the site is concluded to be at low risk of flooding from surface water with the access route at a slightly increased risk.

Ground Water Flooding

Ground investigation works have yet to be completed however Hydrock have produced a Phase 1 Desk Study to assess potential geotechnical constraints to the development. The desk study information indicates a limited potential for risk of groundwater flooding at the site.

Existing Drainage

Public Sewers

United Utilities sewer records have been obtained which show the presence of public sewers win the vicinity of the site.

A 900 x 600 mm brick combined sewer and an 830 x 960 mm brick surface water sewer, both are located to the west of the site within Oxford Road flowing in a northerly direction.

A 375 mm concrete combined sewer is located beneath the Mancunian Way Viaduct to the southeast of the site flowing in a easterly direction.

Private Sewers

The investigation of the existing private sewers at the current HATCH site has yet to be finished. It is recommended that a survey and assessment be conducted to determine the current condition of the existing sewer system and particular sections of drainage within the site that may be affected or utilised as part of the proposed STACK development site.

Given survey information on the existing private sewers is currently unavailable, an evaluation of the publicly available information for the prior HATCH planning application 124502/FO/2019 has been carried out. Details on the previous Drainage Strategy that was to be implemented for the HATCH development have been found in the Drainage Statement and associated drawing produced by Curtins produced dated August 2019.

The strategy outlines how the site's foul drainage design was intended to drain behind the proposed units. The intention was for this foul drainage network to ultimately connect downstream to the United Utilities public combined sewer network, which is located to the southeast of the site.

The plan highlights the presence of an existing unidentified sized private surface water sewer to the north inside the site boundary which appears to flow westerly and connects downstream to the United Utilities public combined sewer network within Oxford Road.

As part of the HATCH strategy Curtin received confirmation from United Utilities that the surface water discharge from the site should be restricted to a maximum of 20 l/s.

To achieve the surface water restriction imposed by United Utilities a flow control manhole with a 95mm orifice plate on the outlet was proposed. Surface water attenuation is highlighted as being contained within a 750 mm diameter oversized attenuation pipe for flood events for up to the 1 and 30 year return periods.

The drainage strategy was assessed for the critical 100-year storm, with a 10% climate change allowance which indicated a small flood volume of approximately 2.47m3 to be contained within the site,

Proposed Site

The proposal provides for a retail/leisure mixed use development on the site of HATCH Manchester. As the previous scheme, the proposals are to be constructed predominantly from shipping containers.

Surface Water Drainage

The proposed surface water drainage scheme should seek to meet the requirements of National Planning Policy Framework (NPPF) and the current Building Regulations Part H and follow the selection hierarchy. Consideration should be given firstly to infiltration techniques (to ground), to watercourse and then to sewer.

Ground investigation works have yet to be completed however Hydrock have produced a Phase 1 Desk Study to assess potential geotechnical constraints to the development which states Hydrock would recommend that soakaway drainage is not included as a water management methodology. At this stage a positive drainage solution should be designed.

The River Medlock is the closest named watercourses to the site. However the river is located approximately 130m north of the site with no viable means of connection as this would require an extensive outfall through third party land.

Considering the river is located 130m north of the site with no viable means of connection the disposal of surface water generated by the proposed development to river has been deemed unfeasible.

It is therefore proposed that surface water flows generated by the proposed development will be connected to the existing private surface water sewer network that served the former HATCH site. The surface water sewer connects downstream to the United Utilities public combined sewer network within Oxford Road.

The STACK proposals endeavour to re-use as much of the existing accommodation as possible, to increase the sustainability of development. A connection to the Untitled Utilities public sewer water sewer located within Oxford Road has therefore not be considered viable, as the existing structures prevent a route through to the public sewer.

In accordance with NPPF Technical Guidance the runoff from the proposed development should be restricted to the equivalent Greenfield runoff Qbar rate.

However as noted above the proposals intend to re-use as much of the existing accommodation as possible, and the estimated impermeable area of the site is to be comparable to the current HATCH site. Taking this into account, the STACK proposals aim to utilise the private surface water drainage networks, including flow control and attenuation, with a discharge restriction of 20 l/s in accordance with the previous planning approval.

A pre development enquiry was submitted to United Utilities to determine the proposed connection point for surface water drainage from the site. Their response dated March 2024 states United Utilities has no objections in principal to the previously approved flow rate of 20 l/s as documented within the Drainage Statement prepared by Curtains.

Sustainable Drainage Systems

Sustainable Drainage Systems (SuDS) should also be used wherever possible to mimic as far as practicable the natural run off regime, improve water quality, reduce run-off volume and attenuate peak flows.

SuDS options will be reviewed for the proposed development, these should be designed in accordance with the current guidance, The SuDS Manual (CIRIA C753) and should meet the required treatment indices levels in line with this guidance.

Surface water drainage works need to be designed in accordance with Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacement national standards should be submitted to ensure proper drainage and to manage the risk of flooding and pollution".

Surface Water Attenuation

All proposed surface water systems should be designed to accommodate the worst case 1 in 30 year storm event without flooding. Furthermore, the worst case 1 in 100 year plus climate change storm event should also be retained on site in an area that will not cause flooding to any existing or proposed buildings.

In accordance with the updated NPPF Technical Guidance a climate change uplift should be applied to all rainfall estimates and proposed run-off calculations.

A lifespan of approximately 15 years is estimated based on the nature of the development. Therefore, based on the Environment Agency's revised climate change allowances for peak rainfall intensities, it is proposed that 25% for the central allowance 2050's epoch (2040 to 2059) be taken into consideration.

Therefore, in order to account for the increase in climate change allowance, surface water attenuation on site needs to be taken into consideration. The current drainage network that is to be re-used will be assessed as part of the future drainage strategy, but it's likely that additional attenuation will be needed in order to cope with the rise in climate change.

Foul Water Drainage

It is proposed that foul water flows generated by the proposed development will utilise the existing private foul drainage network, which ultimately connects downstream to the United Utilities public combined sewer network located southeast of the site.