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CHARTERED ARCHITECTURAL SERVICES



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Land off Wham Street
Heywood
Rochdale

DRAINAGE STRATEGY

PROPOSED TWO STOREY REAR EXTENSION

10 DWELLINGS

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1 Introduction

Reference:

General principles:

- Drainage from new developments should incorporate storage where necessary, with residual discharge of surface water to the following networks in order of preference:
- Infiltration drainage (e.g. soakaways)
- Discharge to a watercourse
- Discharge to a public sewer
- Development should aim to deliver greenfield runoff on greenfield sites up to a 1:100yr rainfall event, considering climate change.
- Development should aim for a minimum reduction in surface water runoff rates of 50% for Brownfield sites on a 1:1yr rainfall event.
- Development should be designed so that there is no flooding to the development in a 1 in 30 year event, and so that there is no property flooding in the 1 in 100 year plus climate change event.

Purpose of Report:

To appraise the existing site and local drainage infrastructure, assess flood risk & the suitability of the proposed development, and to give recommendations for drainage design & management.

The report provides high level recommendations for approval, which are to be developed for construction in the detailed working design stage of the development.

1.1 Plans

1.1.1 Location Plan

The site is within a residential area predominantly surrounded by terraced dwellings.

The local area falls to the north towards the River Roch Valley. The River Roch is over 600m distant.

There are no watercourses in the local area.

1.1.2 Site Plan

The Site is currently a dilapidated commercial factory/warehouses with outbuildings and containers found among the yard area.

Buildings are located to the south and west sides, with a central yard where a large site entrance is located.

The existing Site is completely covered with impermeable hardstanding and has private FW & SW drainage infrastructure with connections to the UU sewer network.

Existing Site Areas:

Impermeable roof/driveway/paths) 995m²

Permeable lawn/soft landscaping 0m²

Total Site area 995m²

The proposed scheme comprises 10 No terraced dwellings with some small areas of hardstanding (centre alley & driveways).

Proposed Site Areas:
Impermeable roof/driveway) 529m²
Permeable lawn/soft landscaping 466m²
Total Site area 995m²

1.2 Surveys

1.2.1 Existing and Proposed Topography

A topographic survey of the Site has been undertaken. The site is approximately level with a gentle fall to the N.

1.2.2 Drainage Survey

A drainage survey has not yet been undertaken. However, a site reconnaissance has been undertaken noting an existing manhole to the W Site entrance with a 600mm deep IL, and connection to the existing sewer in Wham Street.

There are WCs in the building adjacent to Duke Street, which is assumed to be connected to the sewer in Duke Street.

Rainwater pipes around the building connect to surface water gullies.

1.2.3 Site Investigations

No investigations have yet been undertaken.

2 Assessments

2.1 Drainage Hierarchy

Following the guidance of hierarchy for disposal of surface water (SUDS):

- Ground conditions assessed from HR Wallingford Hydrological Data Maps indicate the Site is within an area of impermeable clay (soil type 4). Geology maps also indicate the Site to be within an area of impermeable clay. All boreholes within the local area indicate clay superficial deposits over coal measures. Due to the soil types identified the Site will be not be suitable for disposal of surface water via soakaway systems.
- There is no watercourse, or culvert locally within 600m of the site boundaries. Disposal via this method is not feasible.
- Sewer – There are only combined sewers in the local area, a 375dia to Wham Street, and a 225dia to Duke Street.

3 Recommendations

The Site has been assessed against national drainage hierarchy & CIRIA guidance and due to local conditions noted in the desk study, has found to be suitable for SUDS in the form of

surface water attenuation and flow control, before final discharge to the United Utilities public sewer.

In accordance with UU requirements for 50% reduction on brownfield sites, the peak flow should be restricted by an orifice flow control or similar device at a rate that should not exceed 5l/s. The attenuation type, size requirements & flow control will be finalised in the detailed design for final approval using this pass forward flow rate.

NOTE: Infiltration is not possible at the site due to ground conditions. However, when site buildings have been demolished and hardstandings removed, site investigations will be undertaken to confirm whether infiltration is feasible. If investigations prove that infiltration is viable, then surface water should be disposed of by soakaway.

Foul water systems will be required at the site and should connect into the existing site sewerage system subject to capacity & level checks.

A drainage survey should be undertaken when existing pipework is exposed to locate and check the suitability of existing connections to the public network.