

The surface water drainage scheme assessment

Land Adjacent to 12 Rochdale lane OL10 1PF

Summary:

We have requested Con 29 drawings from United Utilities and the record shows there is only *combined sewer* servicing the area. Therefore, any runoff from rain fall from the land at its current state is discharging to highway gullies which is then discharged to combined sewer.

The proposed development **does not** introduce any additional rain run off area. The roof is a flat roof approx. 45m² of the total land area 128m². Therefore, the volume of discharge form the roof is not significant.

The proposed development benefits from a new garden area with permeable subbase which will capture the runoff from the back yard area. Which in effect, the proposed development will be reducing the volume of the runoff in comparison to its current state.

A surface water drainage scheme assessment is undertaken to identify the most practical option for a minor development and ensuring consideration given to all drainage options in accord with the Non-Statutory Technical Standards for Sustainable Drainage Systems and National Planning Practice Guidance.

Rainfall Calculatuion:

Proposed Roof area which captures rainfall: 45 m²

Average Rain fall Rochdale in a year: 1197mm

Rain fall in Worst month; 139mm falls in **1 Month** (in December):
Total Rain run off volume: = $0.139 \times 45 = 6,210$ L/month
(equivalent to 0.005 L/S)

Event 1 in 100 years: One month of Rainfall (139 mm) falls in **1 Day**
6,210 Lter in 1 day (equivalent to 0.07 L/S)

Extreme rare case : One month of Rainfall (139 mm) falls in **1 Hour**
6,210 Lter in 1 Hour (equivalent to 1.7 L/S)

In all cases the limit is less than 5 L/S

Average tables

Average graphs

Location comparison

Average maps

Climate period:

1991-2020

Station: Rochdale

Month	Maximum temperature (°C)	Minimum temperature (°C)	Days of air frost (days)	Sunshine (hours)	Rainfall (mm)	Days of rainfall ≥1 mm (days)	Monthly mean wind speed at 10 m (knots)
January	6.93	1.50	10.16	32.16	119.19	17.05	4.54
February	7.45	1.41	9.32	49.83	97.11	13.69	4.67
March	9.57	2.51	6.06	98.86	89.91	13.41	5.10
April	12.47	4.55	2.33	152.72	68.36	11.75	5.14
May	15.60	7.19	0.28	175.45	65.67	10.95	4.82
June	18.24	10.13	0.00	152.85	82.87	12.59	4.18
July	20.01	11.94	0.00	170.77	96.90	13.11	3.61
August	19.55	11.77	0.00	153.52	100.22	14.77	3.36
September	17.11	9.55	0.00	116.33	97.80	13.23	3.44
October	13.39	6.85	1.07	78.66	116.78	15.35	3.88
November	9.70	3.86	5.05	41.64	123.53	17.22	4.18
December	7.18	1.50	10.10	42.69	138.88	17.63	3.99
Annual	13.13	6.09	44.37	1265.48	1197.22	170.75	4.24

* Source Met office website: <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gcw2ymd6s>

The surface water drainage scheme assessment for Land Adjacent to 12 Rochdale lane OL101PF as per hierarchy of drainage options in the National Planning Practice Guidance and an assessment of the site conditions and accord with the Non-Statutory Technical Standards for Sustainable Drainage Systems.

Priority Level 1: Surface water runoff is collected for use;

Priority Level 2: Surface water runoff is infiltrated to ground;

Priority Level 3: Surface water runoff is discharged to a surface water body;

Priority Level 4: Surface water runoff is discharged to a surface water sewer, highway drain, or another drainage system;

Priority Level 5: Surface water runoff is discharged to a combined sewer.

Surface Water Discharge destination assessment In accordance with the hierarchy of drainage options

Priority level	Description	Assessment
Level 1	Rainwater collected for use	Discounted. No Negative impact. 1- Worst rainfall is in Winter with 139mm in Dec. The runoff volume from such small roof is considered negligible in a month. 2-There is no foreseeable demand for non-potable water for the development. The size of the Garden is approx. 4.5 x6 m which does not require watering throughout the year as the rain fall in Rochdale is ample for a such small garden area.
Level 2	Surface water runoff is infiltrated to ground	Discounted. No Negative impact. 1- Worst rainfall is in Winter with 139mm in Dec. The runoff volume from such small roof is considered negligible in a month. 2- The development ground, under the roof will be compacted to provide ground stability and prevent future settlement. As a result, the use of infiltration drainage is not practicable due to the lack of permeability of the soil for disposing of runoff. The garden area only has sufficient capacity to capture any runoff from the back yard.
Level 3	Discharge to a surface water body	Discounted. Not applicable. No nearby water body. It is not reasonably practicable to convey the surface runoff to the water body. (please refer to page 5 for con27 drainage drwg)
Level 4	Discharge to a surface water sewer or highway drain	Discounted. Not applicable. Access: It is not reasonably practicable to convey the surface runoff to a surface water sewer as United utilities do not have highways drainage in the area. Adjacent properties discharge to the road gullies on Rochdale lane. United utilities to advise if this is an acceptable discharge method. (please refer to page 5 for con27 drainage drwg)
Level 5	Discharge to a combined sewer	Preferred option. The risks associated with surface water runoff entering the combined sewer considered very low due to volume of the expected run off water from the roof. 1 in 100 year, 6 hour rainfall event does not exceed the site runoff volume for the same event. The proposed development is reducing the risk of excessive water runoff compared to its current state by introducing a permeable garden.

CON 27 drainage identifies there are two combined sewer are located adjacent to the site.



Figure 1