



**Dilworth Lane
Longridge**

Drainage Statement

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DRAINAGE STATEMENT

DILWORTH LANE **LONGRIDGE**

1.0 Introduction

Rowland Homes intends to undertake a residential development consisting of 49no. detached, semi-detached and terraced houses with associated access roads. The site is presently undeveloped and is covered in rough grass. The site is located to the east of Longridge centre, the site being formed by the intersection of Dilworth Lane to the north and Lower Lane to the south.

This report details the proposed drainage arrangements for the development and has been prepared in support of a planning application to Ribble Valley BC following reference to the sewer records and a site visit.

2.0 Sewer Records

The sewer records from United Utilities indicate a 225mm diameter foul sewer to the south west corner of the site adjacent to Lower Lane. The head of the sewer is manhole 1101 that has a cover level of 110.40m and an invert level of 108.90m. A private foul drain runs to this manhole, along the southern boundary from the Dilworth Court development.

There are no surface water sewers crossing or adjacent to the site; on the south side of Lower Lane a watercourse issues from a 300mm diameter culvert running from the site. The invert level at the outfall is 108.43m and the pipe invert just inside the Lower Lane boundary is 109.587m. From the site inspection, the culverted watercourse appears to run across the site from Dilworth Lane. There is also a surface water drain running south towards the site from Hoghton Road on the west boundary of the site.

3.0 Foul Drainage

It is intended to connect the foul drainage from the site into the existing 225mm diameter foul sewer at manhole 1101 to the south west of the site. As the levels generally fall to the Lower Lane boundary a gravity connection will be possible. As detailed previously, there is a private foul drain crossing the site and it is intended to connect this drain to the proposed foul drainage.

Sewers on the development are intended to be adopted under a Section 104 Agreement with United Utilities and will therefore be situated within adopted highway areas on the development where possible. This will not be possible for the connection to the existing sewer but as there is Public Open Space an easement across this area will be possible.

All new sewers will be constructed in accordance with the latest edition of Sewers for Adoption and the requirements of United Utilities.

4.0 Surface Water Drainage

Although there has been no formal consultation with United Utilities or the Environment Agency it is our experience the following will be required by both parties: -

- United Utilities will require the site to be served on a separate system with surface water directed to the watercourse.
- The Environment Agency will require flows from the site to the watercourse to be limited to Greenfield rates as determined by the IoH Report 124 or similar method. (ICP SUDS method)
- The attenuation will be required to limit all flows from the site to the watercourse in all events up to the 100 year event, including a 30% allowance for future climate change.

The site area has been determined as approximately 2.037ha and the existing flows determined as 11.5l/s in the 1 year event; 22.4l/s in the 30 year event and 27.5l/s in the 100 year event, when an allowance for climate change is applied the flow is 36.0l/s. It is therefore intended to limit the flows from the site to these figures in all events up to the 100 year event with an allowance for future climate change of 30%. For the proposed impermeable area on the development of approximately 0.946ha, the on-site attenuation has been calculated, using the quick storage estimate of Windes, as between 148 and 254m³ for the 30 year event and between 260 and 439m³ for the 100 year event plus climate change allowance. These volumes will be accommodated in oversized pipes underground for the 30 year event and in designated areas above ground for the 100 year event; the public open space area can accommodate underground storage and the above ground volumes.

From the attenuation, the surface water will then connect into the culverted watercourse either immediately to the north of Lower Lane or in Lower Lane itself, depending on the levels of the culvert. The connection arrangement will be similar to the foul and the sewers will be adopted by United Utilities under a Section 104 Agreement, all new sewers will be constructed in accordance with the latest edition of Sewers for Adoption and the requirements of United Utilities.

5.0 Recommendations

- Foul drainage to the existing manhole 1101.
- Existing foul drain connected to the proposed system.
- Surface water drainage to be attenuated to the existing run-off rates for events up to the 100 year event including climate change.
- Line of existing land drains and culverts crossing the site to be determined accurately.