



DRAINAGE STRATEGY FOR:

Darcliffe Homes

ADDRESS:

Land Adjacent to
Sonning Golf Club
Pound Lane, Sonning,
Reading. RG4 6GG

R02 – 07/07/25

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APPENDICES

A. THAMES WATER – SEWER RECORDS

B. DRAWING H1342/400-1 &2 – SITE SURVEY

C. DRAWING H1342/430 – SCHEMATIC DRAINAGE LAYOUT

D. DRAWINGS H1342/432&433 – CONSTRUCTION DETAILS

E. MICRO DRAINAGE CALCULATIONS

F. SUDS MAINTENANCE PLAN

G. BRE365 SOAKAGE TEST RESULTS

1 Introduction

This report outlines the surface and foul water Drainage Strategy for the proposed development at land adjacent to Sonning Golf Club, Duffield Road, Sonning, Reading, RG4 6GJ. Proposals include the new build of 8 detached houses and a terrace of 5 houses with associated external works.

2 Public Sewer Records

Sewer records have been obtained from Thames Water which show a public foul sewer in Pound Lane at approximate depth of 1.8m. Refer to Appendix A – Thames Water Sewer Records.

3 Existing Drainage Network

The site is roughly rectangular in size of approximate dimensions 100x90m and is bounded by Pound Lane and Duffield Road to the west and the golf course to the east and south. The site is currently part of the golf course with a general slope from the north west to the south east. Approximate levels ranging from 54.00 to 53.50. The south west corner of the site is bounded by an existing ditch adjacent to the highway with a bed level of approximately 53.18m. Many trees are located at the western frontage and along the northern boundary. The approximate site area is 0.77Hec. The Golf course carpark to the south is served by soakaways. Refer to Appendix B – Drawing H1342/400-1 & 2 – Site Survey.

4 Ground Conditions

- TOPSOIL to depths of between 0.3m and 0.4m bgl.
- RIVER TERRACE DEPOSITS comprising variable units of gravelly, sandy SILT; silty, gravelly SAND and clayey, sandy GRAVEL proven to 3.5m bgl.

BRE365 Soakage testing dated 29/05/20 has confirmed suitable levels of infiltration ranging from 4.6×10^{-5} m/s to 5.0×10^{-6} m/s. For the purposes of design, a lower value of 3×10^{-6} m/s has been used.

5 SUDS Hierarchy

The hierarchical approach to SUDS selection has been used to help determine the most sustainable drainage technique for the site. Based on the topography of the site and the current proposed layout the following SUDS measures have been considered:

- Ponds – The size and nature of the site does not make the provision of a detention/retention pond a feasible element to include.

- Swales – The size of the site does not lend itself to the provision of swales.
- Ditches – The size of the site does not lend itself to the provision of a ditch.
- Soakaways – Based on soakage test results and local knowledge from building control, soakaways could be used for the disposal of surface water.
- Permeable surfacing – Based on soakage test results and local knowledge from building control, soakaways could be used for the disposal of surface water.
- Buried surface water storage systems – Aquacell storage could be used for the disposal of surface water.
- Discharge rainwater to a surface water sewer – No surface water sewers with a legal right to discharge are located within the vicinity of the site.
- Discharge rainwater to a foul/combined sewer – Not recommend and only considered as a last resort.

Having considered the above SUDS measures the following solutions are suggested:

Surface water is designed to drain to shallow infiltration blankets / trench soakaways and permeable paving based on an assumed infiltration rate of 3×10^{-6} m/s. Surface water drainage is designed for the 1:100year Storm + 40% for climate change.

6 Proposed Surface Water Strategy

Impermeable roof areas and paved areas are designed to drain by gravity to a combination of porous pavements and trench soakaways / infiltration blankets. Refer to Appendix C – Drawing H1342/430 – Site Layout & Drainage, Appendix D – Drawings H1342/432&433 – Construction Details.

Trench Soakaways and Permeable Paving has been calculated using Microdrainage Source Control, based on a 100year storm plus 40% for climate change. Refer to Appendix E – Microdrainage Calculations.

7 Proposed Foul Water Strategy

Foul water from the development can drain via gravity to the existing public sewer in Pound Lane. Refer to Appendix C – Drawing H1342/430 – Site Layout & Drainage.

8 SUDS Maintenance Plan

Refer to Appendix F – SUDS Maintenance Plan.