



REUBY & STAGG LTD.

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SURFACE WATER STRATEGY,
PROPOSED RESIDENTIAL DEVELOPMENT,
RUSTINGTON, LITTLEHAMPTON

Reuby & Stagg Ltd. has been instructed to provide a surface water drainage strategy for the proposed development at the Rustington Convalescent Home. This Strategy should be read in conjunction with the following documents that are included in the Appendices.

APPENDIX A –	Development Drainage Layout & Details
APPENDIX B –	Development Micro Drainage Calculations
APPENDIX C –	Convalescent Site Condition Discharge Report
APPENDIX D -	Flood Risk Assessment and Surface Water Drainage Strategy Odyssey Markides
APPENDIX E -	GE16334 Rustington Soakage Test Letter, Geo-Environmental.

EXISTING CONDITION

The proposed development includes the construction of 29 dwellings, associated roads, footways and parking areas on the development area of the previously submitted conversion of three existing two-storey buildings with impermeable roofs and permeable landscaped external areas.

The current impermeable surfaces of the site either discharge to existing soakaways or are directly connected to the adjacent Boating Lake. The existing surface water does not discharge into the local Southern Water surface water system.

DESIGN

As outlined in the Flood Risk Assessment, the site is mainly situated within Flood Zone 1 (based upon Environment Agency Flood mapping). All existing and proposed buildings are situated within Flood Zone 1.

An infiltration test has been undertaken in accordance with BRE365; the results of which are included as an appendix. The testing concluded that the sub-strata's encounter a worst-case soakage rate of 4.617×10^{-6} , which provides a suitable medium for infiltration.

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Ground water monitoring was undertaken between 19th April 2017 and 1st February 2018, which concluded the highest ground water level to be 2.26m below ground level. Soakaways have therefore been designed to be no deeper than 1.26m below ground level.

The redevelopment of the site will increase the impermeable area. Although the discharge flow and volume of water shall be greater as a result, the proposed soakaways have been designed in line with guidance set out in policy GEN7 and GEN9 of the Arun District Council Local Plan. The soakaways and associated drainage system have been designed and shall be constructed in accordance with Approved Document H of the Building Regulations and the recommendations of the SUDS Manual.

In brief, the proposed paving construction will include porous paving where usage permits and the new soakaways have been designed to accommodate the 100 Year storm event inclusive of climate change without flooding. All storm durations have been designed for, with the critical events of each soakaway highlighted in the Micro Drainage WinDes calculations included in the appendices.

In the event of sewer exceedance or drainage failure, the soakaways are situated in areas lower than the finished floor levels of the buildings and therefore the properties are not at risk of flooding. Flood water from sewer exceedance or drainage failure will flow south towards the proposed carriageway which will provide above ground storage and direct flows to the boating lake.

MAINTENANCE AND MANAGEMENT OF SUDS SYSTEM

The following table sets out the maintenance regime specific to each element of the drainage system. This regime should be followed throughout the lifetime of the development, to ensure proper functioning of the system and to limit the risk of flooding due to poor operation.

The financial management and arrangements for the replacement of major components at the end of the manufacturers recommended design life will be dealt with by the management company with ground rents collected from the owners to cover the replacement costs

Drainage Element	Inspection / Maintenance	Frequency	Remedial Action	Responsible Party
Roof Drainage	Clean gutters and downpipes	Annually	Repair as necessary	Home owners for dwellings, Management Company for flats
Below ground drainage runs and chambers	CCTV drain runs and jet wash. Inspect chambers for debris	Every 5 years Annually	Repair as necessary Remove debris and sediment as required	Home owners for dwellings, Management Company for flats and communal areas,
Silt Traps	Inspect silt traps	Monthly for 1 st year of operation and then annually thereafter	Remove sediment and debris as required	Home owners for dwellings, Management Company for flats and communal areas

Permeable Paving	Sweep and vacuum paving Inspect for evidence of poor performance	End of winter, mid-summer and end of autumn. 48hrs following heavy rainfall	Take up defective area of block paving and replace bedding layer and geotextile	Management Company
Infiltration Trenches	Inspect for buildup of debris/leaf litter etc.	End of winter, mid-summer and end of autumn.	Remove debris and sediment as required.	Home owners for dwellings, Management Company for flats and communal areas

Produced by
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APPENDIX