UKPC

UK PREMIER CONSULTANTS

PLANNING
BUILDING REGULATION
STRUCTURAL CALCUATION
PROJECT MANAGEMENT
PARTY WALL SURVEYOR

CONTENTS

APPENDICES

SITE ADDRESS: THE VIXENS, MILIFIELDS WAY, HAVERHILL, CB9 0JB

Chartered Institute of Architectural Technologists
the qualifying body in Architectural Technology

FPWS

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Grosvenor Architecture Limited is registered in England No. 08436870

1.0 INTRODUCTION

1.1 UK PREMIER CONSULTANTS have been appointed to provide a Sustainable Urban Drainage System

1.2 The purpose of this report is to explain the approach taken with regards to the
below ground drainage strategy. It evaluates the selection of SuDS devices and
highlights how the drainage disposal hierarchy has been followed.

1.3 This report has been prepared in accordance with the GOV.UK Sustainable
Drainage Systems: Non-statutory Technical Standards and Policy 5.13 – "Sustainable Drainage

2.0 EXISTING SITE

2.1 The existing site is located in Haverhill
2.2 The site consists of a detached pub which has been closed for few years
2.3 The existing ground floor plan area is 392 m2 and the proposal is for the rear extension of 14 m2 and front towards the square as 31 m2.

2.4 A Geology report from bgs has been carried out in the area and no boreholes has been found.

2.5 Review of the British Geological Survey Borehole logs in the nearby area show the area is underlain by chaulk.

3.0 EXISTING DRAINAGE

3.1 Sewer records have been obtained from Anglian Water to confirm the location,size and depth of the surrounding sewer network. The records confirm that the off site sewer network is separate foul and surface water sewers.

3.2 A 229mm diameter surface water sewer and 229mm diameter foul water sewer run in Millfield Way.

3.3 The sewer records confirm that there is only private combined drainage within the site boundary (no public sewers).

3.4 The surface water run off rates for the existing site have been calculated using the Modified Rational Method equation below (based on CIRIA C697) and are shown
in table 1:
Q = 2.78C.i.A
Where:
Q = Existing peak runoff (l/s),
C = non-dimensional runoff coefficient = 1.3,
I = Rainfall intensity (see Table 1, Appendix D), and
A = total catchment area being drained = 0.0721ha

Return Period	I = Rainfall intensity (mm/hr)	Q = Existing run-off (l/s)
1 year	32.3	8.4
30 year	79.1	20.6
100 year	102.8	26.8

Table 2 – Existing Surface Water Run-off Rates

(Note that the rainfall intensities used in the above calculations have been based
on average rainfall intensities for a 15-minute storm using Micro Drainage software.

4.0 PROPOSED DEVELOPMENT

4.1 The proposed development involves further digging to create a basement for car parking. Extension at Basement, Ground floor and first floor with a new second floor to create 9 sc flats and 3 commercial units.

5.0 PROPOSED DRAINAGE

5.1 This report has been prepared in accordance with GOV.UK Sustainable Drainage
Systems: Non-statutory Technical Standards and Policy 5.13 – "Sustainable Drainage" of the London Plan. The following drainage hierarchy has therefore been considered:

- Store rainwater for later use
- Use infiltration techniques, such as porous surfaces in non-clay areas
- Attenuate rainwater in ponds or open water features for gradual release
- Attenuate rainwater by storing in tanks or sealed water features for gradual release
- Discharge rainwater direct to a watercourse
- Discharge rainwater to a surface water sewer / drain
- Discharge rainwater to the combined sewer

5.2 The use of green roof areas to lower the runoff rate from the building have been
considered to not be feasible for this development due to the proposed traditional
pitched roof structure which is not conducive to the use of a green roof.

5.3 A rainwater harvesting system (RWH) sits as a standalone system from the main surface water drainage scheme. When considering rainwater re-use from a sustainability perspective (NPPF principles: environmental, social and economic) this basically translates as an order of priorities; reduce; re-use, recycle. Therefore it makes more sense to use less water (by using water efficient appliances) than it does to install a RWH system. Whilst the principles of RWH are endorsed, for this development, it is not considered to be the most environmentally friendly solution, and due to the additional complex drainage installation requirements, it is considered that this does not offset the limited quantity of water it removes from the surface water drainage system. Consequently, it would fail to meet the social, environmental and economic tests of the NPPF.

5.4 Due the granular ground conditions on site, the use of infiltration devices such as soakaways are perfectly suited for the proposed development. The soakaways will be sized to infiltrate all rainwater from the new building, and slowly discharge this into the ground, avoiding discharging any rainwater into the existing surface water sewer.
5.5 The remainder of the site will be covered in soft landscaping / grass, and permeable paving, so there will be no net surface water run-off from the site.
5.6 Therefore, no other SUDS techniques require consideration.
5.7 Soakaways cannot be used as the ground is chaulk

6.0 MAINTENANCE REQUIREMENTS

6.1 All drainage system will be maintained by the owner / occupier for the lifetime of the development in accordance with the SUDS Manual as summarised below:

Drainage pipe and fittings: gulleys, rain water down pipe

Maintenance Schedule	Required Action	Recommended Frequency
Regular	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, and then six monthly
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Remove sediment from pre-treatment structures.	Annually, or as required
Remedial Actions	Repair / rehabilitation of inlets, outlets, overflows and vents	As required
Monitoring	Inspect / check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually and after large storms or pump failure

Gullies / Linear Channels
6.2 Inspection and removal of debris from silt trap every 3 months; preferably after
leaf fall in the autumn (timeframe can be adjusted to suit actual site conditions).

Drainage Pipes, Manholes and Silt Traps
6.3 Inspect manholes & silt traps for build-up of silt and general debris (minimum of 6
monthly or to suit site requirements). If silt / debris is building up then clean with

jetting lorry / gulley sucker and inspect pipe (repeat cleaning if required). Note:
manhole covers can be heavy and suitable lifting equipment / procedures should be used. Where possible, personnel should not enter manholes to carry out maintenance.
6.4 Surface water from the site is collected in buried rainwater pipes, directed into the existing surface water sewer.

7.0 SUMMARY

7.1 In summary, following the advice of the Sustainable Urban Drainage System (SUDS) Strategy to accompany the planning application, but a soakaway cannot be used.

7.2 The existing and new rain water pipe will be connected to the existing surface sewer.

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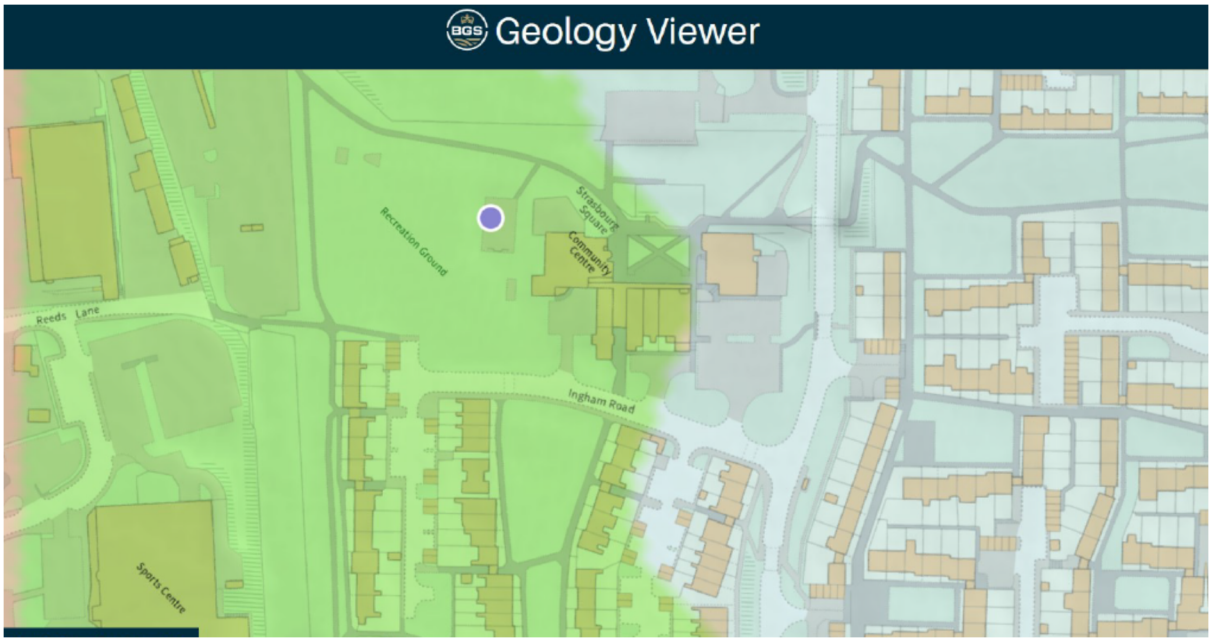
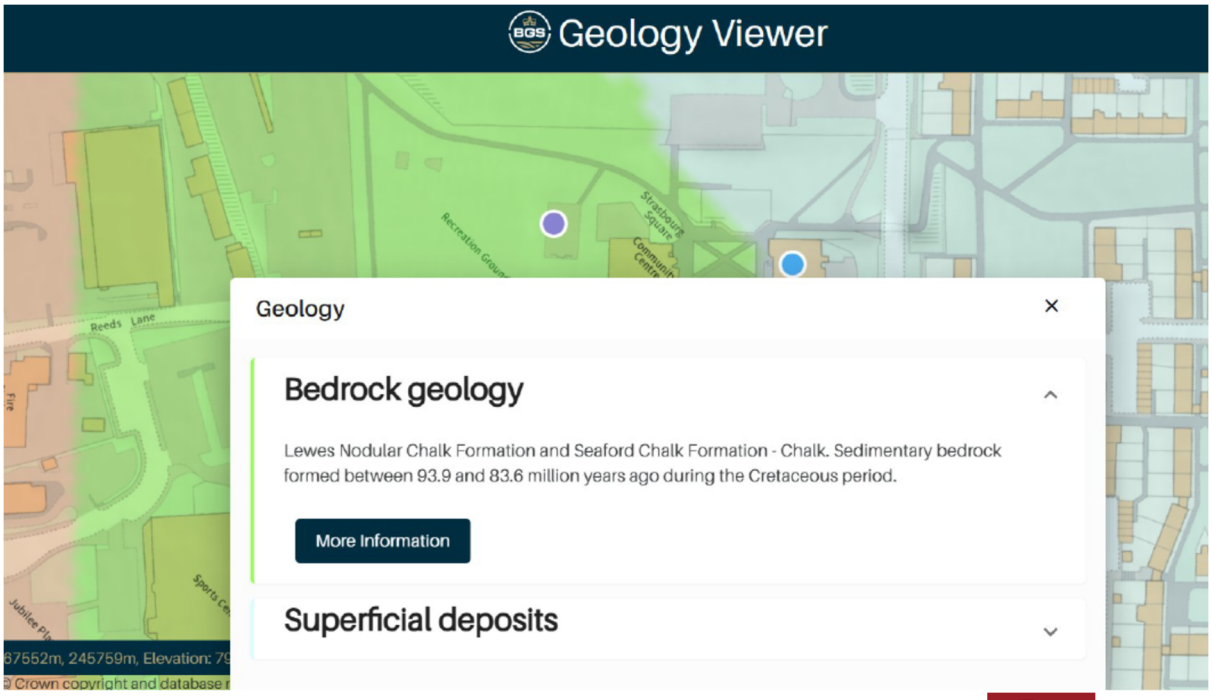
GEOLOGY





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Lewes Nodular Chalk Formation And Seaford Chalk Formation (Undifferentiated)

Computer Code:	LESE	**Preferred Map Code:**	notEntered
Status Code:	Index Level		
Age range:	Turonian Age (KT) — Santonian Age (KS)		
Lithological Description:	Chalk with subsidiary calcareous mudstone and flint.		
Definition of Lower Boundary:	*none recorded or not applicable*		
Definition of Upper Boundary:	*none recorded or not applicable*		
Thickness:	*none recorded or not applicable*		
Geographical Limits:	*none recorded or not applicable*		
Parent Unit:	White Chalk Subgroup (WHCK)		
Previous Name(s):	*none recorded or not applicable*		
Alternative Name(s):	*none recorded or not applicable*		

Stratotypes: