
SURFACE WATER DRAINAGE STRATEGY

PROPOSED RESIDENTIAL DEVELOPMENT OFF
COWBIT ROAD, SPALDING, LINCS.

For Minster Property Group Ltd

January 2020

Ref: 36019

Introduction

- 1) New Planning Requirements make it necessary to consider Sustainable Drainage Systems (SuDS) with respect to planning applications of the size and number of dwellings in this instance.

- 2) It is recognised that the type and scale of this development is what the local planning department is supporting. This being relatively dense use of available land.

- 3) The site is located off Cowbit Road, which runs parallel with the River Welland. The main roadway is in an elevated position, with the site to be developed being approximately 2.0m below the road.

Discussion

With respect to SuDS, the introduction of a swale/filter drain along the road/pavement was considered. Due to the limited amount of available land and the relatively short length of road, these were considered to be impractical and unreasonable and therefore discounted. Furthermore, the high ground water table and flat topography towards the rear of the site make these features unfeasible. These challenges are highlighted in 'Lincolnshire Development Roads and Sustainable Drainage Design Approach, November 2017 Edition'.

Further thought/discussion was given to providing a permeable road surface throughout and an open stone road base with an impermeable membrane to direct water to the drainage system.

This was considered unworkable since there would be many penetrations in the membrane for the foul sewer and all services.

Furthermore, Lincolnshire County Council would not adopt a permeable road surface in this area due to the high ground water table.

The South Holland Internal Drainage Board has a maintained dyke, known as the Exeter Drain some distance from the site. A large riparian drain links the site to the maintained system.

With respect to the local plan, it is necessary to provide affordable housing. Consequently, on small sites, it is necessary to have a relatively dense development, giving limited available space for swales, lagoons etc.

Having considered the "Development Road and Sustainable Drainage Specification and Construction". May 2018 Edition, issued by Lincolnshire County Council Highway and Flood Authority, it is clear that the introduction of swales or filter drains, would not comply with the design requirements of the document.

Reference being made to Figure 5/8 Element 12 and Figure 5/11 element 9, where in the Fenland Area the maximum ground water level cannot be achieved, please refer to ground investigation information attached.

Design Proposal

Due to the proposed relatively dense development and likely poor infiltration rates of soil strata, there is insufficient available space on each plot to provide soakaways that will conform to Building Regulation requirements.

Therefore, it is proposed to provide a piped system for all properties that discharge into a new Anglian Water surface water system in the road.

The discharge from this system will then outfall into an attenuation system that complies with the IDB's requirements.

To comply with Anglian Water requirements the existing riparian watercourse will be upgraded in accordance with South Holland Internal Drainage Board's technical requirements, to become a maintained dyke.

Please refer to attached drawings No.d 36019/20, 21, 22 and 23 that show the topographical survey, plus design information to gain the IDB's formal approval.

Also attached is our drawing No.d 36019/10 showing surface water drainage upon the applicable site.

For and on behalf of **SIDEBOTTOM RICHARDSON CHENG LTD**

J A RICHARDSON | Eng AMIStructE

15th January 2020