



## Summary – Drainage & Utility Appraisal

**Site name:** Land at Stocks Lane CM15 0BN and Brizes Corner, Blackmore Road CM15 0AR Kelvedon Hatch Essex

This Technical Summary has been prepared to inform the delivery strategy for the development of the Land at Stocks Lane & the Land at Blackmore Road. The summary is based on: -

1. Topographical survey by Survatec.
2. Ardent Engineers drainage appraisal.
3. Landmark Utilities Report.
4. GEMCO Stocks Lane Infiltration Report.
5. GEMCO Stocks Lane Phase I Geoenvironmental Assessment.
6. GEMCO Blackmore Road Infiltration Report.
7. GEMCO Blackmore Road Phase I Geoenvironmental Assessment Report.

### 1. Site Description

The Stocks Lane site is an agricultural field with no built form and is centered upon approximate National Grid Reference (NGR) 557873, 198340. It is roughly square in shape and measuring approximately 150m x 120m, occupying an area of approximately 2.15 Ha. The site is bound by agricultural land to the east and south with trees, hedges and a ditch to the south, with housing to the north and west. The site slopes from Stocks Lane to the southern ditch and a public footpath runs from the housing scheme across the site from east to west. A UKPN overhead cable runs along the eastern hedge with metal cable stays into the site from one pole.

The Blackmore Road site is an agricultural field centered upon approximate National Grid Reference (NGR) 557410, 198350. No built structures are present, and the site is topographically flat. It comprises a large area of soft standing (grasses) in the center surrounded by a hedge row along the southwestern perimeter and dense vegetation consisting of brambles, bushes and trees along the remaining site perimeter. The surrounding area is primarily residential to the north and west with a small area of woodland around 120 south-west of the site. Agricultural land surrounded the remaining areas of the site and the wider area.

### 2. Foul Water Disposal

**The sites are both served by foul sewers and can be connected to the existing foul water network on both Stocks Lane & Blackmore Road.**

#### Stocks Lane

Foul drainage is located within Stocks Lane and is approx. 3m deep. The site falls away from the road to the back of the site (south). Most of the site will drain by gravity into the main road and although ground levels can be raised slightly (approx. 300mm) to the rear, a foul pump will be required for houses within the bottom 25m of the site. The pump and rising main will remain within the site and connect to the nearest manhole.

The foul pump will be adopted along with the sewer system under a S104 application.

### Blackmore Road

Foul drainage is located within Blackmore Road and is approx. 2.8m deep. The site falls away from the road to the back of the site (south west). The front of the site could be fed by gravity into the main road but a foul pump will be required at the bottom of the site.

The foul pump will be adopted along with the sewer system under a S104 application.

### **3. Surface Water Disposal**

**The sites are capable of accommodating surface water drainage in line with SuDS principles.**

#### Stocks Lane

There is no surface water drainage within the existing road. The site falls from the road to the rear of the site where there is an existing ditch. This site has good infiltration to most of the site except the north western corner. It is proposed that surface water will follow SUD's principles with soakaways in rear gardens located 5m from buildings, with restricted parts of the site draining to an infiltration basin located at the south east of the site with and overflow into the adjacent ditch. All drainage will be offered for adoption.

Highway drainage will drain in a similar way using a separate system.

#### Blackmore Road

A surface water sewer sits within the existing road and is approx. 2m deep. However as there is a viable SUDS solution we will not be connecting to this system.

The site currently falls from the road to the north to the south of the site with surface water running off to existing ditches and ponds outside the developable area to the south. As soil infiltration is poor it is proposed to use swales along the spine roads connected to an infiltration basin, which in turn drains to ponds off site.

Soakaway drainage is considered unsuitable for this site.

### **4. Flood Risk and Hydrology**

**The sites are both located within Flood Risk Zone 1 – the lowest risk of flooding.**

#### Stocks Lane

The site is not located within an area at risk of flooding from rivers or the sea. The Environment Agency Flood Map for Planning Service (R.9) indicates that the site is within a Flood Zone 1 – Low probability of flooding.

Both the superficial Stanmore Formation and Bagshot bedrock are designated as Secondary 'A' Aquifers.

The site is not within a Source Protection Zone (SPZ).

#### Blackmore Road

The site is not located within an area at risk of flooding from rivers or the sea. The Environment Agency Flood Map for Planning Service (R.9) indicates that the site is within a Flood Zone 1 – Low probability of flooding.

Both the superficial Stanmore Formation and Bagshot bedrock are designated as Secondary 'A' Aquifers.

The site is not within a Source Protection Zone (SPZ).

## **5. Statutory Utilities**

**A thorough investigation has been undertaken with statutory service providers, which confirms that development can be accommodated appropriate services \* utilities.**

### **Electricity**

#### Stocks Lane

UKPN operate low voltage underground cables in Stocks Lane, which should have the capacity to deliver electricity to the site.

#### Blackmore Road

UKPN operate low voltage underground cables in Blackmore Road, which should have the capacity to deliver electricity to the site.

### **Gas**

#### Stocks Lane

Cadent Operate an existing 90mm LP gas network in Stocks Lane, that may have capacity to serve the development.

#### Blackmore Road

Cadent Operate an existing 4" LP gas network in Blackmore Road, that may have capacity to serve the development.

### **Water Supply**

#### Blackmore Road

Affinity Water have an existing 200mm DI main in Blackmore Road, which is believed to have capacity to serve the site.

#### Stocks Lane

Water have an existing 4" DI main in Stocks Lane, which is believed to have capacity to serve the site. This main may require diversion across the proposed entrance.

### **Telecoms/BT**

#### Blackmore Road

Openreach have network crossing the site frontage that will probably require lowering to allow the formation of the bellmouth.

#### Stocks Lane

Openreach have overhead network crossing the site frontage that will probably require lowering to allow the formation of the bellmouth.

### **Cable/Fibre**

#### Blackmore Road

The report states that Instalcom, Telent, Virgin Media and Zayo are affected by the works. On closer inspection these telecom/isp's share a duct route within Ongar Road and as such should not be affected by the development. BT Openreach will charge for serving the site.

#### Stocks Lane

Fibre to the development will be provided free of charge.