DEVELOPMENT OF LAND AT DODWORTH ROAD, BARNSLEY

PROPOSED DRAINAGE SOLUTIONS

THE SITE :

The site is currently occupied by the buildings and hardstandings of the former S R Gent PLC Company and a petrol filling station. It occupies an area of 4.30 hectares approx excluding parts of the steep rock face along the eastern boundary.

TOPOGRAPHY :

The site generally slopes gradually away from Dodworth Road towards the southeast corner, but then climbs up steeply in this area and includes a quarry face which at its steepest is some 6m in height.

The existing buildings and hardstandings occupy approximately 3.20 hectares, not including the petrol filling station. The hardstandings in this figure are drained to the existing live drainage system utilising an extensive number of gullies spread across the tarmac areas.

PROPOSED DEVELOPMENT :

Barratt Homes Sheffield Division have purchased the site with the intention of constructing of a range of detached, semi-detached, terraced and apartment units, served by associated highway and drainage infrastructure works in accordance with the necessary standards to ensure adoption by the Local Highways and Drainage Authorities.

DRAINAGE CONSIDERATIONS :

General :

There are two public sewers recorded to be crossing the site. The largest is a 525mm diameter surface water sewer, which, in addition to providing an outfall for the development site, also collects run-off from the adjacent housing developments to the west. It is proposed that this sewer be diverted during the construction of the new infrastructure works for the site.

The smaller sewer is a 225mm dia combined sewer running along the site frontage and it is not anticipated that the proposed works will affect it.

Foul Water :

Yorkshire Water have confirmed that foul from the new development can drain to the existing 225mm dia combined sewer referred to above. Due to site topography a pumping station will be required to be located in a suitable position on the site so as to minimise depth of drainage runs. It is likely that the rising main serving the pumping station will discharge to a new gravity sewer prior to connecting onto the existing 225mm combined sewer. Subject to levels and to reduce the amount of emergency storage within the pumping station, as many plots as possible will be drained to the new gravity sewer.

Surface Water :

Yorkshire Water Planning Team have confirmed that surface water generated by the development can drain to the existing public surface water sewer currently utilised for the site as long as the existing discharge is not exceeded.

The site survey shows that the existing buildings and hardstandings are drained via a live drainage system, with an extensive series of road gullies and rainwater pipes ultimately connecting to the public sewer network. The existing impermeable area has been measured at 3.20 hectares.

The proposed impermeable area is estimated as 2.15 hectares, being the normal or thereabouts 50% of the total site area and as such will significantly reduce the loading on the public system. It will not therefore be necessary to provide a balancing system to store surface water on site.

CONCLUSION :

Both foul and surface water systems will be designed to drain into the existing public sewer network at rates allowed by Yorkshire Water. The use of SUDS techniques may be used where appropriate to drain domestic curtilages if the ground conditions are suitable.