

HAMPTON PARK, LITTLEHAMPTON

DRAINAGE STATEMENT PURSUANT TO PLANNING APPLICATION

INTRODUCTION

1. This Drainage Statement is prepared in support of the submission of a Reserved Matters Application to Arun District Council for the residential development of 117 units on Parcels B3 and B5 in the North Littlehampton Strategic Development area, located to the north of Toddington Lane.
2. The proposed development consisting of 117no. dwellings will comprise a mix of 2, 3 and 4 bedroom properties with associated access roads, parking areas and private gardens.
3. Parcels B3 and B5 are broadly square and total approximately 2.68ha in area. The site currently comprises a former horticultural nursery and derelict greenhouses. The northern and western boundaries of the site adjoin further greenhouses and to the east will be the Lyminster Bypass that is to be delivered as part of the wider masterplan. To the south are four existing residential dwellings and the main Toddington Lane.
4. The overall development benefits from Outline Planning permission for a mixed use development under reference number LU/47/11 dated January 2013.
5. This strategy develops the Drainage Strategy Report (February 2011) by WYG Engineering which was submitted and approved as part of the outline application for the whole development.
6. A Flood Risk Assessment dated February 2011 by Peter Brett Associates has been approved as part of the outline planning submission.
7. The topographical survey indicates that the site generally falls from south to north at approximately 1 in 50.

Foul Water

Existing Foul Water drainage

8. The overall development site is not currently served by public foul water sewers so it is assumed that the existing properties on the development drain to cess pits or septic tanks.
9. As stated in previous drainage strategy reports there are a number of sewer networks within the vicinity of the development. There is a 225mm gravity sewer within Toddington Lane beyond the railway line to the south of the development. Additionally a 150mm sewer is situated in Mill Lane to the west of

the site. It is understood that both of these gravity networks join and then drain to a pumping station on the eastern side of the River Arun. The flow from this pumping station is subsequently discharged to a waste water treatment plant in Ford.

10. The waste water treatment plant at Ford has been designed to accept flows from new developments such as that proposed for the North Littlehampton Strategic Development area. Consequently, it is not expected that any upgrades to this facility will be required.

Proposed overall development foul water strategy

11. A capacity assessment undertaken by Southern Water has identified that significant sewer upgrade works will be required to the existing foul water system to provide sufficient capacity for the whole development. Consequently it will be necessary to either upgrade the existing foul water sewers or provide parallel sewers to take the foul drainage from the site to a point where capacity may be available.
12. Within the development it is proposed that 2no. foul water pumping stations, one located within the eastern residential area and the other within the western commercial area will be constructed by Persimmon Homes. The eastern pumping station will discharge to the western pumping station and the foul flow subsequently discharged via a single rising main to a connection point agreed with Southern Water.

Parcels B3 & B5 foul water drainage strategy

13. The overall development infrastructure (roads & drainage) to service the land parcels is to be provided by Persimmon Homes.
14. It has been agreed with Persimmon Homes that 3no. connection points onto the infrastructure sewers will be provided. 2no. connections are located on the northern boundary of the development parcel and the other is located on the western boundary.
15. The on-site development drainage system will be constructed in accordance with the requirements of Southern Water & Part H of the Building regulations.
16. A copy of the drainage strategy for Parcels B3 & B5 is available under drawing reference LITL-DS.

Surface Water

Existing surface water strategy

17. From review of the Southern Water sewer records it is evident that there are no public surface water sewers within the vicinity of the development.

18. It is assumed that the surface water run-off from the existing hardstanding either infiltrates into the surrounding pervious ground or discharges to the existing open ditches located within the development.
19. There are 2no. main ditches located within the development which connect into a watercourse known as the Black Ditch. The Black ditch is a tributary of the river Arun and is located approximately 400m north of the overall development and flows in an east-west direction.
20. A Strategic Flood Risk Assessment has been prepared by Capita Symonds on behalf of Arun District Council and was released in February 2008. This indicated that land adjacent to the Black Ditch is at high probability of fluvial/tidal flooding (Flood Zone 3) with part being functional site plain. The land to the south of the site where Parcels B3 & B5 are located is at low probability of flooding (Flood Zone 1).
21. British Geological Survey mapping indicates that the geology underlying the site comprises river terrace deposits over chalk.

Proposed overall development surface water strategy

22. The drainage strategy developed by WYG has been designed to lead to a reduction in surface water runoff from the site.
23. The Environment Agency has requested that SUDS be implemented within the development for surface water management and the most suitable solution is to use a combination of infiltration drainage (soakaways and permeable pavements), attenuation techniques (geocellular storage / ponds with controlled outfalls) and swales supplemented by piped systems.
24. All SUDS will be designed in accordance with CIRIA Report C697 'The SUDs Manual' (2007) and to the emerging National Standards produced in support of the Flood and Water Management Act 2010. Consequently the SUDS will be designed to accommodate run-off from the 1 in 100 year rainfall event including an additional 30% increase in rainfall as allowance for the potential effects of climate change.
25. It is estimated that the total attenuation requirement for the overall development to provide a betterment of existing ground conditions is 16,564m³ which is based on the calculated brownfield run off rate.

Parcels B3 & B5 surface water drainage strategy

26. The ground conditions identified as part of the soil report for Land Parcels B3 and B5 comprise topsoil over sand and subsequently chalk.
27. Groundwater monitoring was undertaken between July 2008 and July 2009 by WYG Engineering. Groundwater was encountered at variable depths of between 1.20 & 3.10m below existing ground level across the parcels.

28. The Environment Agency require the base of infiltration features to be set at a minimum of 1m above maximum groundwater levels which limits the depth for locating the base of proposed infiltration structures to the top of the sand layer. This limits the possibility of infiltration through the sides and subsequently reduces their performance.
29. Given that intrusive investigations have indicated that infiltration is unlikely to be practicable across much of the site it is the intention to discharge surface water from the development into the infrastructure sewers provided by Persimmon Homes. These sewers will then discharge into the overall development SUDS facilities.
30. It has been agreed with Persimmon Homes that 2no. connection points onto the infrastructure sewers will be provided. These connections are located on the northern boundary of the development parcel.
31. The on-site development drainage system will be constructed in accordance with the requirements of Southern Water & Part H of the Building regulations.
32. A copy of the drainage strategy for Parcels B3 & B5 is available under drawing reference LITL-DS.