NANNY MARR ROAD, DARFIELD, BARNSLEY

DRAINAGE STRATEGY

PARTNER CONSTRUCTION

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DEVELOPMENT AT NANNY MARR ROAD, DARFIELD

DRAINAGE STRATEGY

THE SITE:

The site is located off Nanny Marr Road, Darfield and occupies an area of approximatley 0.94 hectares. The site is part of a former comprehensive school and falls from the west (61.30m AOD) to the east (57.00m AOD.) The site is bounded by Nanny Marr Road to the west, existing housing to the north and east. The are to the south of the site is part of the old school site and is to be redeveloped (subject to planning consent.)

A location plan is shown in Appendix A

PROPOSED DEVELOPMENT:

Partner Construction are seeking to develop the site with 40 residential properties and associated infrastructure.

A site layout plan is shown in Appendix B

FLOOD ZONE LOCATION:

The Environment Agency flood map shows the site does not lie within flood zones 2 or 3. The site is therefore in flood zone 1 “low probability” where the annual risk of fluvial flooding is less than 0.1%. As there are no open watercourses that could affect the site there is no potential for fluvial flooding of the site.

DRAINAGE CONSIDERATIONS:

A copy of the public sewer record is included within Appendix C

There is a 225mm public combined sewer which crosses the proposed development. This sewer will require diverting through the development. Details of the diversion will be submitted to Yorkshire Water for approval prior to completion of a formal agreement under Section 185 of the Water Industry Act 1991.

Onsite drainage will be designed with separate systems for foul and surface water.

SURFACE WATER

Current best practise requires that a heirachical approach to surface water disposal is undetaken. These being in order of preference:-

1. Infiltration based or Sustainable drainage systems
2. Watercourses
3. Public sewer

Infiltration based systems: Infiltration testing in line with BRE Digest 365 has been carried out by Dunelm Geotechnical and Environmental Ltd and confirms that infiltration methods of drainage will be feasible. Test results can be seen in Appendix D.

Watercourses: There are no known watercourses in the immediate vicinity of the site.

Public Sewer: Yorkshire Water have confirmed in their pre development response that the sewers in the vicinity of the site don't have capacity to accept any additional surface water. A copy of the Pre development response can be seen in Appendix E.

FOUL WATER

Yorkshire Water have confirmed that foul water from the development can discharge to the public combined sewer crossing through the site. It is not proposed that a Section 104 agreement will be required.

DRAINAGE PROPOSALS:

SURFACE WATER

It is proposed that all surface water from the development is disposed of by Infiltration. Suitable soakaways should be designed in line with BRE Digest 365.

To comply with NPFF guidelines soakaways should be sized to cater for a 1 in 100 year storm event with a 30% allowance for climate change. The soakaway should half drain within a 24 hour period.

Domestic soakaways should be located a minimum of 5m from buildings. A proprietory cellular system would be favoured, as the void ratio is very high. A typical soakaway size based upon the infiltration results achieved, for a pair of semi detached properties with drives would be 4.0x1.0x0.8m. This would need to be confirmed at the detailed design stage. Given the layout of the development it may be necessary to utilise larger soakaways in certain areas to accommodate plots where a 5m stand off distance cannot be achieved.

Highway soakaways should be located outside the adoptable Highway footprint but in areas that can be readily accessed and maintained by the Highway Authority. It is advised that the Highway Authority are consulted at an early stage to agree suitable soakaway locations and designs.

A drainage strategy drawing can be found in Appendix F.