



**DEVELOPMENT AT  
OLCHFA SCHOOL SITE  
SKETTY  
SWANSEA**

**FOUL AND SURFACE WATER DRAINAGE STRATEGY**

**PREPARED BY :**

SMART ASSOCIATES  
32 LAMBOURNE CRESCENT  
CARDIFF BUSINESS PARK  
LLANISHEN  
CARDIFF  
CF14 5GG

**SMART ASSOCIATES**  
Consulting Civil & Structural Engineers



# FOUL AND SURFACE WATER DRAINAGE STRATEGY

## 1.0 FOUL WATER DRAINAGE

The foul water drainage for the proposed development is to be designed in accordance with the specifications and criteria set out in Sewers for Adoption 7<sup>th</sup> Edition.

All foul water sewers which require adoption under SFA7 will be subject to a Section 104 Agreement with Dwr Cymru/Welsh Water.

A search of the public sewer records confirms there is an existing foul water sewer located within the southern part of the site development adjacent to Aneurin Way ( manhole reference SS61923701 ) at location '1' shown on the accompanying scheme layout. This has been confirmed by drainage surveys carried out by Draintech and to be concluded week commencing 20<sup>th</sup> December 2021, with the physical location of the nearest manhole. It is therefore proposed to connect the development drainage to this existing system, subject to the approval from DCWW and a Section 106 sewer connection agreement.

## 2.0 SURFACE WATER DRAINAGE

It should be noted that the conclusions reached are based on the Geotechnical and Geoenvironmental Site Investigation Report by Terra Firma ( Wales ) Limited, ref 14851 undertaken in September 2018.

It should be noted that insufficient infiltration was recorded to consider a soakaway solution for this site, however, further infiltration testing is being commissioned to BRE365 to confirm previous results.

In accordance with Standard S1 of the SuDS for Wales the surface water drainage hierarchy aims to ensure that the surface water runoff is treated as a valuable resource and in turn managed in a way that minimises flood risk to the development site and addresses the issue of water quality and associated ecology. The hierarchy of options needed to be investigated is as follows:

### Priority Level 1

Surface water runoff is collected for re-use.

### Priority Level 2

Surface water runoff is infiltrated to ground.

### Priority Level 3

Surface water runoff is discharged to a surface water body.

### Priority Level 4

Surface water runoff is discharged to a surface water sewer.

### Priority Level 5

Surface water runoff is discharged to a combined sewer.

## 2.1 COMPLIANCE WITH POLICY

With reference to the hierarchy outlined in paragraph 2.0, the discharge of surface water has been investigated and outlined as follows:

### Priority Level 1

It is intended that some rain water is to be collected by water butts at the proposed plots for the watering of gardens, however, this will not be sufficient for the management of surface water runoff for most rainfall events. The use of rainwater harvesting systems has not been considered by the client on cost grounds ( initial construction costs and ongoing maintenance costs ). Morganstone will provide supporting documentation to address this.

### Priority Level 2

The geotechnical & geoenvironmental report by Terra Firma (Wales) Limited confirms that infiltration to ground is not likely to be a viable option for this development site. However, BRE Digest 365 soakaway tests are scheduled for week commencing 20<sup>th</sup> December 2021, and the results of this will be factored into the design.

Depending on results, this may allow a reduction in storage volumes required and may also help with meeting interception criteria.

### Priority Level 3

There are no open water features ( rivers etc ) within 200m of the proposed development site. The nearest river is the Nant Yr Olchfa located some 250m-300m west of the site and any potential drainage route would be significantly hampered by existing development and heavily wooded third party land.

### Priority Level 4

The topographical and CCTV surveys have identified two viable discharge points.

i There is an existing surface water manhole to the south of the development located within the existing grassed verge to Aneurin Way, see location '2' on the accompanying scheme layout. It is intended to discharge a proportion of the development surface water drainage here via suitable attenuation and appropriate SuDS features.

ii There is also an existing surface water culvert located to the eastern part of the development site adjacent to the existing car park on Park Way, see location '3' on the accompanying scheme layout. Again, a proportion of the development surface water drainage will discharge here via suitable attenuation and appropriate SuDS features.

### Priority Level 5

As it is intended to discharge the surface water drainage to existing surface water sewers, this option is not being considered.

## 2.2 SUDS & WATER QUALITY

An onsite scheme incorporating a variety of SuDS features, such as swales, rain gardens, permeable paving, filter strips / drains and vegetated detention basins are proposed to address water quality / quantity matters. These features will be strategically located within the development site to complement the surface water drainage. A landscape designer will progress a scheme to supplement the SuDS and provide an environment that is not only functional but will provide amenity and bio diversity benefits for future residents. The inclusion of these SuDS features would therefore address quantity, quality, amenity and bio-diversity.

Preliminary discussions have been held with Swansea SAB in consultation with highways. The comments made during these meetings will be taken on board and it is planned to submit a SAB Pre-App submission as soon as possible following the results of the soakaway tests being known.

The maintenance and operation of all on-site surface water drainage and associated SUDS features would be the responsibility of the future home owners, Swansea City SAB and Swansea City highways for the proposed adoptable access roads ( adoption will be progressed under a Section 38 Agreement ). The exact breakdown of future maintenance liabilities will need to be discussed during the SAB submission process.

Design, installation, operation and maintenance of the surface water system will be in accordance with the SUDS manual and the requirements of the SAB. A SAB application will be made in due course. It is hoped that an on-line consultation with the SAB will be permitted ahead of the SAB submission to inform the design.