

Land At Colliers Holdings, Nelson, CF46 6PR
Indicative Drainage Design
Foul & Surface Water



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1.0 Introduction

1.1 Site Location

The site is located in the North Western part of the Caerphilly County Borough and forms part of the settlement of Nelson. Grid Ref: ST 12308 95406, (X) 312308 (Y) 195406

1.2 Site Description

The site measures 8.0ha in area and is situated adjacent to the A472 Caerphilly Road.

The site is enclosed by Caerphilly Road, and the National Cycle Route (47)

Agricultural land lies to the North and South of the site

1.3 Development Proposal

The site owner is seeking Planning Permission for the Change of Use from Agriculture to Tourism and Educational Land Based Facility

2.0 Existing Site Drainage Infrastructure

2.1 Foul Drainage

There is currently no Foul Drainage infrastructure directly connected to the development site.

2.2 Surface Water Drainage

There is currently no Surface Water Drainage infrastructure directly connected to the development site.

Surface water from the existing infrastructure discharges to ground via infiltration within the curtilage of the development site.

3.0 Proposed New Development Drainage Infrastructure

3.1 Foul Drainage

The developer proposes to discharge the Foul Drainage from the new development infrastructure by means of a packaged sewerage treatment plant with an associated drainfield soakaway within the curtilage of the development.

Package Treatment Plant

The package treatment plant will meet the requirements of BS EN 12566 (septic tanks and small sewage treatment plants)

The packaged treatment plant will be sized having regard to the information contained in British Waters Flows and Loads 4

Drainfield Soakaway

The Drainfield Soakaway will be designed to meet the requirements of BS6297:2007

The Drainfield Soakaway Location will be as detailed in Part H (H2) Building Regulations – Drainage and Waste Disposal 2002 edition -Packaged Sewage Treatment Works.

The developer will undertake infiltration testing as detailed in BRE365 (2016) to determine the site soil infiltration rate and the size of the soakaway drainfield required.

If the maximum daily volume of discharge is more than 2 cubic metres (2,000 litres) a day the developer will apply to NRW for a discharge permit,

3.2 Surface Water Drainage

Since the implementation of The Flood and Water Management Act 2010 (Schedule 3) on January 7th 2019 Surface Water from all new developments with a construction area of 100m² or more must be discharged in line with the requirements of the Welsh Ministers Statutory Standards for Sustainable Drainage Systems (SuDS).

The surface water discharge from the impermeable areas of the new building will be discharged in line with the hierarchy set out in the Welsh Ministers (SuDS) Standards.

The surface water discharge arrangements will be approved by Caerphilly County Borough Councils SAB (SuDS Awarding Body) prior to their construction.

4.0 SuDS Overview

The Welsh Ministers Statutory Standards for Sustainable Drainage Systems (SuDS) sets out Principles and Standards for the discharge of surface water from developments sites which must be complied with.

SuDS Principles

- SuDS schemes should aim to:
- Manage water on or as close to the source of the runoff as possible.
- Treat rainfall as a valuable natural resource.
- Ensures pollution is prevented at source, rather than relying on the drainage system to treat or intercept it.
- Manages rainfall to protect people from increased flood risk, and the environment from morphological and associated ecological damage resulting from changes to flow rates, patterns and sediment movement caused by the development.
- Take account of likely future pressures on flood risk, the environment and water resources such as climate change and urban creep.
- Use the SuDS management train as a basis for its design.
- Maximises the delivery of benefits for amenity and biodiversity.
- Make the best use of available land.
- Be designed to perform safely, reliably and effectively over the design life of the development taking into account the need for reasonable levels of maintenance.
- Avoids the need for pumping.
- Be affordable, taking into account both construction and long term maintenance costs and the additional environmental and social benefits afforded by the system.
- Have a maintenance plan.

Developments seeking SAB approval must demonstrate how they have complied with these principles or provide justification for any departure.

SuDS Standards

Standard S1 – Surface water runoff destination

Standard S2 – Surface water runoff hydraulic control

Standard S3 – Water Quality

Standard S4– Amenity

Standard S5– Biodiversity

Standard S6 – Design of drainage for construction, operation and maintenance.

Developments seeking SAB approval must demonstrate how they have complied with these Standards or provide justification for any departure.

Approval of a developments SuDS drainage scheme is governed by the local authorities SAB (SuDS Awarding Body)

5.0 Proposed SuDS compliant Surface Water Drainage Infrastructure

The development as designed proposes to meet the requirements of the Welsh Ministers Principles and Standards by discharging the site surface water in the following ways

5.1 Highway

There will be no change in surface water runoff destination for the existing site highway infrastructure

5.2 Car Parking

Surface water from the new car parking area will be discharged to ground within the curtilage of the development.

The new car parking area will be surfaced with a mixture of permeable and impermeable surface treatments.

Surface Water from the car parking impermeable area will be infiltrated to ground via the use of suitable designed Vegetated Swales.

Surface Water will also be discharged to the newly installed green infrastructure, tree pits and hedge rows as indicated on the landscaping plan

The developer will undertake infiltration testing as detailed in BRE365 (2016) to determine the site soil infiltration rate and the construction thickness of any permeable sub base required.

5.3 Coach Parking

Surface water from the new coach parking area will be discharged to ground within the curtilage of the development.

Surface Water from the coach parking area will be infiltrated to ground via the use of suitable designed vegetated Swales

Surface Water will also be discharged to the newly installed green infrastructure, tree pits and hedge rows as indicated on the landscaping plan

The developer will undertake infiltration testing as detailed in BRE365 (2016) to determine the site soil infiltration rate.

5.4 Building Impermeable Area

Surface water from the new building impermeable area will be discharged to ground within the curtilage of the development by means of infiltration.

Surface Water will also be discharged to the newly installed green infrastructure, tree pits and hedge rows as indicated on the landscaping plan

The developer will undertake infiltration testing as detailed in BRE365 (2016) to determine the site soil infiltration rate and the construction thickness of any permeable sub base required.

5.5 Amenity and Biodiversity

The development will include Swales, tree pits, rain gardens and landscaped areas as detailed on the landscaping plan

These will be planted with a biodiverse planting scheme

6.0 SuDS Design Consultation

Using appropriate SuDS compliant design and construction methods the developer will manage surface water within the development in line with the Principles and Standards as detailed in the Welsh Ministers Statutory requirements

The developer will consult with the Local Authority SAB by way of a Pre Application submission to agree a suitable drainage strategy for the development site.

7.0 Design Constraints

The indicative drainage design has been arrived at having regard to all information that is currently available.

The final drainage design may differ from the indicative design when consultation with the SAB and appropriate statutory bodies has been undertaken and a full final site specific drainage design has been agreed.

All works to the existing drainage and new site drainage will comply with current sewers for adoption edition 7, the Welsh Minister Statutory Standards and any other legislation that may apply at the time of construction

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Appendix A
Site Location Plan

Appendix B

Development Landscaping plan