

7652 Llangollen Road, Acrefair

Drainage Statement

Introduction

Gower Homes are proposing a residential development on a currently disused site off Llangollen Road, Acrefair. The site was previously part of the former Air products factory and this portion of the site was mainly used as a car parking area and offices. The site is currently vacant and covered in hardstanding's.

Existing site drainage

Gower Homes have undertaken a number of drainage surveys to determine how the site currently drains using a combination of CCTV camera surveys, dye tracing and trench excavations. The survey has identified positive connections from the car park area discharging into a highway drain that runs along the nearside footway in Llangollen Road. This has been traced further downstream and is understood to discharge to the Tref-Y-Nant brook ordinary watercourse.

Presumably there will have been historic foul connections from the former office building which will have discharged into the combined sewer in Llangollen Road. However, we are not aware of any live connections from the site.

There is a small area on the site identified as low / medium risk of surface water flooding. However, this is not taking any flows from off-site and is simply a low spot within the site.

Proposed Foul Drainage

We are proposing to discharge all foul flows into the public combined sewer in Llangollen Road subject to Welsh Water approval. All sewers will be designed and constructed in accordance with Sewers for Adoption 7th Edition and Welsh Ministers Standards and will be subject to a S104 Agreement.

Proposed Surface Water Drainage

Ground investigation trial pits have determined the site is generally made ground over clay and therefore soakaways will not be feasible to dispose of surface water flows from the development. Furthermore, recent infiltration tests have confirmed the underlying strata is impermeable and not suitable for infiltration to dispose of surface water flows from the proposed development.

A direct connection to Tref-Y Nant brook is not considered viable due to the distance from the site, so a connection into the highway drain located in the Llangollen Road eastern footpath along the site frontage is being proposed. Gower Homes have had initial discussions with Wrexham Highways demonstrating the advantages of the proposed SAB compliant drainage strategy. As drainage surveys have confirmed live connections from the site and the existing car park run off discharges directly onto the public highway the proposed attenuated SUDS scheme at greenfield run-off rates will provide a significant improvement on existing flow rates.

We are proposing to use a range of SUDS components within the development to reduce the amount of water being passed forward into the highway drain. These will provide benefits to the amenity, biodiversity and assist with improving the water quality.

The surface water drainage scheme will comprise of water butts on each property for garden re-use, permeable paving and a SUDS dry basin. This will be subject to SABS Adoption and will be in full compliance with Welsh Ministers Standards. We have received comments back from a SABS Pre-App which will be considered further when developing the drainage scheme during detailed design.

Conclusion

Both foul and surface water drainage gravity connections are achievable from the proposed development and will mimic the existing / former use situation.

Surface water flows will be restricted to greenfield run-off rates providing betterment on the existing situation.

A range of SUDS components will be incorporated to create a sustainable drainage network.

The surface water drainage network will be designed for a 100-year storm event + 40% climate change allowance

The small area of surface water flooding within the site is not considered significant and will be designed out during development regrading of site levels and a surface water drainage solution in accordance with SAB requirements and Welsh Ministers Standards.

Andy Jones

Senior Infrastructure Engineer

COOPERS

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