
Land to the north of Maes Meurig Meliden Water Conservation Statement

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1.0 Introduction

- 1.1 This Water Conservation Statement has been prepared in support of a full planning application for residential development comprising 35 dwellings, arranged as a mixture of one bedroom cottage flats and two/ three bedroom dwellings (Class C3), including car parking, landscaping and a new access ('the Proposed Development') on 2 acres of land to the north of Maes Meurig, Meliden ('the Application Site'), in accordance with Policy VOE6 of the Denbighshire Local Development Plan.
- 1.2 **Policy VOE6** (Water Management) states that all development will be required to incorporate water conservation measures, where practicable. Major development proposals (greater than 1,000 sqm floorspace or 10 dwellings) should be accompanied by a Water Conservation Statement. All development will be required to eliminate or reduce surface water run-off from the site, where practicable. The run-off rates from the site should maintain or reduce pre-development rates.
- 1.3 The Application is accompanied by a Flood Consequence Assessment and Drainage Strategy which provides further details on the proposed management of surface water runoff from the Proposed Development.
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2.0 Surface Water Management

- 2.1 As part of the Welsh Government Standards the management of surface water runoff from developments should be prioritised with reference to the choice of discharge destinations. The priority hierarchy is listed below:
1. Collect for re-use;
 2. Infiltrate to ground;
 3. Discharge to a surface water body;
 4. Discharge to a surface water sewer and/or highway drain; and
 5. Discharge to a combined sewer.
- 2.2 The proposed development is for 35 x one- three bedroom units. Whilst the first priority is rainwater harvesting (for re use). As part of the drainage strategy on site, a rainwater harvesting system could be considered to collect non-potable water for reuse where possible. This could include the installation of water butts at individual dwellings, which would reduce demand on potable water supplies. However, the incorporation of rainwater harvesting systems within the dwelling will require pumped systems. In accordance with the principles of the Statutory Standards for SuDS, the use of pumping should be avoided where possible. Therefore, Priority Level 1 has been discounted as the primary method for disposal of surface water.
- 2.3 The second priority is to consider infiltration of surface water runoff into the ground. The site generally falls from the South to the North, falling towards the wetland to the north.
- 2.4 The site is also underlain by soils with impeded drainage. As such, the disposal of surface water via infiltration is unlikely to be feasible; however, infiltration tests have not been undertaken at this stage. Such tests may be undertaken at the detailed design stage in accordance with the guidelines in BRE36510.
- 2.5 The third priority is to consider discharge to a surface water body. In the event that infiltration is not a practicable method for the disposal of surface water (Priority Level 2), it is subsequently proposed to direct all runoff from the developed site to Drain B, see the Flood Consequence Assessment and Drainage Plan for reference, in accordance with Priority Level 3.
- 2.6 Discharge to surface water sewers/highway drains or combined sewers has not been considered.
- 2.7 As outlined above, initial Phase 1 ground investigations indicate that infiltration drainage as primary management is not feasible and therefore discharge to the watercourse at Greenfield runoff rates is the proposed method of managing the flow off the site. In order to manage the discharge from the site it is proposed to attenuate surface water runoff generated by the proposed roofs and hardstanding within an attenuation basin.
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- 2.8 The proposed surface water drainage system has been modelled using Causeway Flow (Appendix G of the FCA) and has been sized to store the 1 in 100 AEP rainfall event including a 40% increase in rainfall intensity to allow for climate change in accordance with Welsh Government guidance.
- 2.9 Assuming a peak discharge rate of 2.2 l/s, a total storage volume of 623 m³ would be required. The storage volume could be accommodated within an attenuation basin with an area of 874 m².
- 2.10 A preliminary surface water drainage layout is provided in Appendix H (of the FCA).
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3.0 Foul Water Discharge

Existing Assets

3.1 An extract of the public sewer records obtained from Dŵr Cymru Welsh Water (DCWW) is provided in Appendix I (of the FCA) and a drainage survey undertaken by Invek Surveys is provided in Appendix J (of the FCA). This indicates that the following wastewater assets are present within the site boundary:

- 225 mm diameter public combined sewer flowing east
- 225 mm / 375 mm diameter public combined sewer flowing north

New Connections

3.2 The anticipated domestic foul loading from the site has been calculated in accordance with Design and Construction Guidance¹³. The expected total peak flow rate from the development is 1.6 l/s.

3.3 DCWW has advised, by way of a pre-planning sewerage enquiry response (Appendix K of the FCA), that there is capacity in the local foul sewerage network to receive and treat domestic foul water from the proposed development, and that foul water can discharge without restriction into the 225 mm/ 300 mm diameter combined sewer located at the site.

3.4 A preliminary foul water drainage layout is provided in Appendix H (of the FCA).
