



Drainage Strategy For:

**CLDP PROPOSED RESIDENTIAL ALLOCATION
ON LAND ADJACENT TO TRAVELLER'S REST
CARMARTHEN WEST**

Prepared for:

Mentrus Developments Ltd

DATE OF REPORT

31st July 2018

REF: 7689-01

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Document Control

Project	CLDP Proposed residential allocation on land adjacent to Traveller's Rest, Carmarthen West - Drainage Strategy
Client	Mentrus Developments
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1.0 Introduction

Vale Consultancy were instructed by our client Mentrus Developments to undertake a Drainage Strategy Assessment, relating to CLDP Proposed residential allocation on land adjacent to Traveller's Rest, Carmarthen West, Llysonnen Road, Carmarthen, Carmarthenshire, SA33 5DR. The site is located at NGR: SN 38443 19342.

The candidate site is currently Greenfield and it is not known at this time if it has been previously developed.

This report has been produced with respect to the candidate site being offered for inclusion in the revised 2018-2033 Carmarthenshire Local Development Plan, and is part of a wide submission from other Consultants.

The report outlines the existing and proposed site drainage at a strategic level, summarising what would be provided for surface water and foul water schemes to satisfactorily manage the flow generated, with respect to the site and the surrounding area. A full drainage strategy will be required for any subsequent planning application.

In association with the drainage strategy, the report also outlines current flood risks and potential flood risks post development. A full Flood Consequence Assessment (FCA) may be required for any subsequent planning application.

2.0 Site Description and Context

2.1 Location, Description & Topography

The site is located on land north of Llysonnen Road and the A40 immediately further to the south. The site is slightly elevated above the road and the local topography has a pronounced fall and change in elevation towards to the south.

2.2 Proposed Development

The proposed development is shown on Connections Design drawing J18-02-P04, included in **Appendix A**, and comprises 63 dwellings and access road infrastructure. With access proved at a dedicated entrance onto Llysonnen Road.

3.0 Drainage Systems

3.1 Existing Drainage

The only existing site drainage identified is an adopted DCWW foul sewer, which crosses the southern part of the site in a south westerly direction to a pumping station located at the south west corner of the candidate site, refer to DCWW apparatus plan in **Appendix B**. It is understood that this sewer has been upgraded as part of the recent Persimmon residential development immediately to the east of the candidate site.

3.2 Proposed Drainage

From previous development and site investigation undertaken in the immediate vicinity of the site, it is expected that plot surface water (SW) can be managed, and contained on site via soakaways, however the underlying ground may not be suitable for soakaways to the northern part of the site and some conveyancing of water to large soakways in the lower part of the site may be required. If infiltration methods of SW disposal proves to be unviable, then other drainage strategies will have to be investigated. Specific site percolation tests will be required at the proposed locations for this to be validated. Highways SW will be managed by attenuating flows into the Highway sewer in Llysonnen Road, at a rate to be agreed with Carmarthenshire Council Highways Dept.

Foul discharge from the development will discharge into the adopted DCWW foul sewer which has been recently diverted as part of the adjacent Persimmon development, which is located to the east of the candidate site. The current DCWW apparatus record plan is included in **Appendix B**. The connection point to the existing adopted foul sewer will be in the site access road, and possibly with additional connection for the plots fronting onto Llysonnen Road. It is expected that the development will discharge to the foul sewer as a gravity system. The site layout provides the regulatory 6m easement to the adopted foul sewer, with the sewer located in either gardens, public open space or adopted highway land, with the required DCWW access to the sewer maintained.

The adopted foul sewer that crosses the site discharges to a pumping station at the south west corner of the site, the pumping station discharges via a rising main, in an easterly direction along Llysonnen Road. The pumping station and rising main are identified on the DCWW apparatus record plan. A Pre-App enquiry has been submitted to DCWW to determine the pumping stations capacity to receive additional flows from the new development. Or as an alternative, a specialist pump manufacturer could be commissioned to investigate pump capacities.

4.0 Dwr Cymru Welsh Water Infrastructure Capacities

A Pre-App enquiry has been submitted to DCWW, to determine the capacity in water supply, sewerage systems and waste water treatment works in the vicinity of the candidate site. It is noted that Pre-App enquiries are assessed at a high level without any detailed capacity modeling. As such the findings may not be conclusive, this is particularly the case in areas where there is the possibility of other candidate sites with Pre-App enquiries that may potentially make demands on the DCWW networks. The Pre-App response from DCWW is including in **Appendix C**.

4.1 Sewerage

The DCWW response states that it unlikely that sufficient capacity exists to accommodate the development of the candidate site without causing detriment to the existing services provided to customers, or in regard to protecting the environment.

DCWW recommend that they are instructed to undertake a Hydraulic Modeling Assessment of the local sewerage network. The assessment will examine the existing network and consider the impact of the introduction of flows from the candidate site upon its performance, and also if appropriate assessments made at points of connection to accommodate the candidate site within the system. DCWW will need to identify information on necessary upgrades to sewerage and water infrastructure along with cost, timing and inclusion in the rolling Asset Management Plan (AMP).

The DCWW response also provides recommendations regarding the timing of the Hydraulic Modelling Assessment in relation to any full planning application being submitted. Further details are given in the response included in **Appendix C**. The developer's requirement to introduce and contribute to SuDS will help to mitigate the demand on the sewerage system.

The response also highlights that the 3m easement from the centerline of the foul sewer and rising main has to be maintained, which has already been considered by the design team in the proposed site layout.

4.2 Sewerage Treatment

No problems are envisaged with the Waste Water Treatment Works for the treatment of domestic discharge from the site.

4.3 Water Supply

A water supply can be made available to service the development of the candidate site, the costs are requisitionable, in accordance with the Water Industry Act 1991.

5.0 Flood Risk

The Natural Resource Wales (NRW) development flood risk maps for the three main modes of flooding are included in **Appendix D**. These include risk of flooding from rivers and sea, surface water and reservoirs. As shown on the risk maps the only mode of flooding which causes a potential risk is surface water. Topography of the site forms a local depression at the lower part of the site, with the ground rising up to the footpath on Llysonnen Road. As such surface water ponding is a result of local topographic effects. This area has been assigned as planted public open space and rear gardens. The development will remove this local depression, with features to prevent surface water runoff onto the adopted footpath of Llysonnen Road. The overall current risk of flooding is deemed to be low.

Additional surface water runoff post development is expected to be managed via soakaways for private runoff and at attenuated rates into the highway sewer for new adoptable carriageway and footpath. The soakaways will be sized appropriately, based on specific site percolation tests at the proposed locations.

6.0 Conclusion

The above assessment describes the strategy for managing foul and surface water arising from the development and also the current and post-development flood risk.

It is concluded that following detailed design, the surface water discharge can be adequately managed. The DCWW response to the Pre-App enquiry for the capacity of the exiting pumping station and local foul infrastructure identifies that Hydraulic Modelling Assessments are required. The results of which will determine and infrastructure upgrading that will be required.

No problems are envisaged with the Waste Water Treatment Works for the treatment of domestic discharge from the site.

A water supply can be made available to service the development of the candidate site, the costs are requisitionable, in accordance with the Water Industry Act 1991, as set out in the DCWW Pre-App response letter included in **Appendix C**.

The flood risk to the site is currently low, with localised surface water flooding to the southern area of site, adjacent to Llysonnen Road. With the appropriate detailed drainage design and landscaping scheme the risk can be managed and the resulting flood risk to the candidate site and immediate surrounding area will remain low.

Further site specific investigations and assessments may be required as part of any future full planning application for this site.

APPENDIX A

Proposed Development Plan



CONNECTIONS DESIGN

ARCHITECTURE & INTERIORS

Project
 CLDP Proposed Residential Allocation on land adjacent to Traveller's Rest, Carmarthen West

Drawing Title
 Proposed Site Plan

Scale
 1:1000 @ A3

Job No.
 J18/02

Dwg No.
 P04

Re
 FV

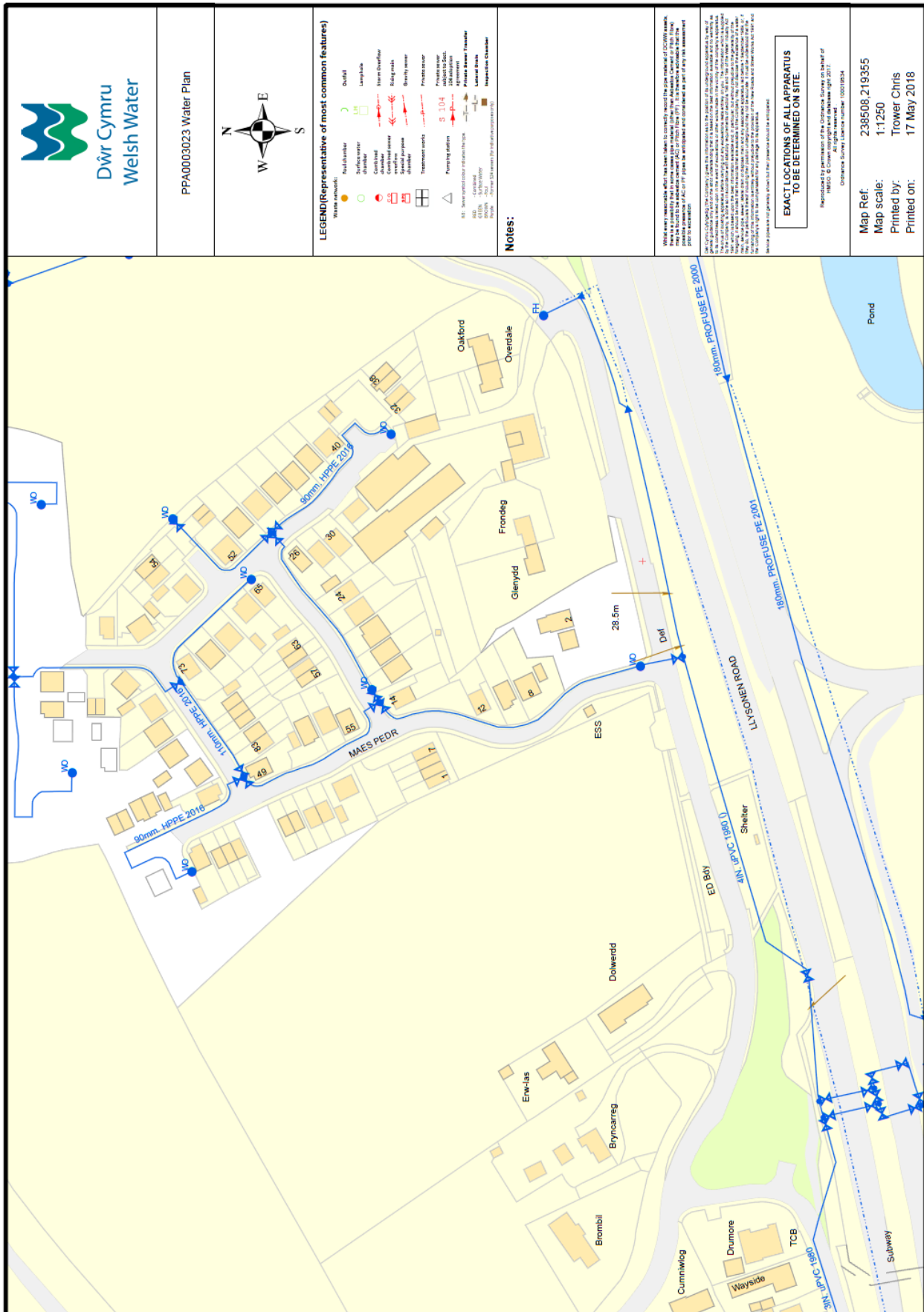
21 Penline Road, Whitchurch, Cardiff, CF14 2AA - Tel: 02920 626 521 - E-Mail: paul@connections-design.co.uk

PLANNING

APPENDIX B

DCWW Apparatus Record Plans





APPENDIX C

DCWW Pre-App Response



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Mr S.W. Owen,
Mentrus Developments,
6 Heol Glasnant,
Killay,
Swansea.
SA2 7BX

Date: 17/05/2018
Our Ref: PPA0003023

Dear Mr Owen,

Grid Ref: 238508 219355
Site Address: Llysonen Road Carmarthen
Development: Land at Llysonen Road

I refer to your pre-planning enquiry received relating to the above site, seeking our views on the capacity of our network of assets and infrastructure to accommodate your proposed development. Having reviewed the details submitted I can provide the following comments which should be taken into account within any future planning application for the development.

SEWERAGE

We have considered the impact of the foul flows generated by the proposed development upon the local public sewerage system and concluded that it is unlikely that sufficient capacity exists to accommodate your development without causing detriment to the existing services we provide to our customers, or in regard to the protection of the environment. Accordingly, we are unable at this stage to provide you with a point of adequacy on the network.

In light of the above our recommendation is that you instruct us to undertake a Hydraulic Modelling Assessment of the local public sewerage network. This assessment will examine the existing network and consider the impact of the introduction of flows from your development upon its performance. Where required and appropriate, the assessment will then identify solutions and points of communication to ensure that your site can be accommodated within the system.



Welsh Water is owned by Glas Cymru – a 'not-for-profit' company.
Mae Dŵr Cymru yn eiddo i Glas Cymru – cwmni 'nid-er-ehw'.

We welcome correspondence in
Welsh and English

Dŵr Cymru Cyf, a limited company registered in
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Rydym yn croesawu gohebiaeth yn y
Gymraeg neu yn Saesneg

Dŵr Cymru Cyf, cwmni cyfyngedig wedi'i gofrestru yng
Nghymru rhif 2366777. Swyddfa gofrestredig: Heol Pentwyn
Nelson, Treheris, Morgannwg Ganol CF46 6LY.

Please note that we will seek to control the outcomes of the Hydraulic Modelling Assessment via appropriate planning conditions. However in the absence of known solutions to accommodate your site we not be able to support your development through the planning process. We therefore recommend that the Assessment is undertaken in advance of the planning application being submitted in order to avoid any subsequent delays. Further information on Hydraulic Modelling Assessments as well as any implications on the planning process is provided in the attached Advice & Guidance note.

The proposed development sites are crossed by public sewers with the approximate positions being marked on the attached Statutory Public Sewer Record. Under the Water Industry Act 1991 Dwr Cymru Welsh Water has rights of access to its apparatus at all times. No part of any building will be permitted within 3m metres either side of the centreline of the 150mm public foul only sewer, the 150mm foul rising main and the 100mm combined public sewer.

Our strong recommendation is that your site layout takes into account the location of the assets crossing the site and should be referred to in any master-planning exercises or site layout plans submitted as part of any subsequent planning application. Further information regarding Asset Protection is provided in the attached Advice & Guidance note.

SEWERAGE TREATMENT

No problems are envisaged with the Waste Water Treatment Works for the treatment of domestic discharges from this site.

WATER SUPPLY

A water supply can be made available to service this proposed development. Under Sections 40 - 41 of the Water Industry Act 1991 the above cost is requisitionable and, subject to us receiving your detailed site layout plan and your programme for construction, we would be able to provide a more accurate assessment of the developer's contribution. These details should be sent to the above address.

I trust the above information is helpful and will assist you in forming water and drainage strategies that should accompany any future planning application. I also attach copies of our water and sewer extract plans for the area, and a copy of our Planning Guidance Note which provides further information on our approach to the planning process, making connections to our systems and ensuring any existing public assets or infrastructure located within new development sites are protected.

Please note that our response is based on the information provided in your enquiry and should the information change we reserve the right to make a new representation. Should you have any queries or

wish to discuss any aspect of our response please do not hesitate to contact our dedicated team of planning officers, either on 0800 917 2652 or via email at developer.services@dwrcymru.com

Please quote our reference number in all communications and correspondence.

Yours faithfully,



Owain George
Planning Liaison Manager
Developer Services

***Please Note** that demands upon the water and sewerage systems change continually; consequently the information given above should be regarded as reliable for a maximum period of 12 months from the date of this letter.*

APPENDIX D

NRW Flood Risk Maps

