DRAINAGE & WASTEWATER MANAGEMENT PLAN

Dŵr Cymru Welsh Water

Introduction to the Drainage and Wastewater Management Plan

Strategic Context – Customer Overview

IN PARTNERSHIP WITH

rps ATKINS Member of the SNC-Lavalin Group wsp

“The CCW (Consumer Council for Water) in Wales welcomes the development and publication of this customer focussed work as an essential part in the preparation of Dwr Cymru Welsh Water’s DWMP.

In particular we would like to reinforce the intention of it being a long term plan based not only upon customers’, domestic and non-domestic, needs and expectations but also on affordability.

We look forward to it helping achieve significant reductions in flooding and pollution, the removal of surface water from networks and a widespread upgrading of what is an ageing asset.”

Consumer Council for Water (CCW)

The future of wastewater in Wales is in our hands

We all need and use water every day, for eating and drinking, taking a shower, washing our clothes, for recreation and for work. And a lot of that water is sent into the wastewater drainage and sewerage system. Welsh Water owns and operates 36,000km of sewers, which is enough to go from Amlwch to Auckland and back, collecting your wastewater before it is cleaned at your local treatment works and safely returned to the river or sea.

It’s important that this massive sewer system can continue to operate effectively every day, but it also needs to be able to cope with future pressures.

Things like climate change, urban creep[1] and population growth will all put a strain on the system so we need to start planning now.

Our Drainage and Wastewater Management Plan (DWMP - also referred to in this document as the Plan) aims to address these future issues by setting out a long-term strategy for managing sustainable solutions to protect our environment for future generations. Our Plan will cover the next 25 years, but we need your help to start today. **We hope you find this document useful and informative.**

We want to understand what you need and expect from our Plan and we value your feedback. You can leave your comments, enquiries and thoughts in our project inbox - ***DWMP@dwrcymru.com***

[1] Urban creep is the development of green areas in and around towns and cities which reduce the area of permeable ground.

Drainage and Wastewater Management Plan (DWMP)

This document is our Customer Strategic Context and has been created for our customers as a summary of what will be included in the Plan, why we are creating it and how. We hope this will help you recognise the need for it and be able to contribute to its development. The detailed aims and objectives can be found here.

The strategic context is the first stage of our DWMP process and this is also the first in a series of non-technical summaries which will form the draft plan which is due to go out for public consultation in 2022. For more details, please refer to page 8.

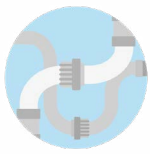
What is a DWMP?



This is a customer driven Plan that will set out how we intend to manage future challenges brought about by **population growth, urban creep and climate change.**

It will set out how we intend to **extend, improve and maintain drainage and wastewater systems** across Wales.

It plans for the **long-term**, setting out targets that are appropriate to the risks we face, but for a minimum period of **25 years** that covers both England and Wales.



It is a best practice approach built on processes already established such as **Water Resources Management Plans** and **Sustainable Drainage Plans**.

It demonstrates **greater transparency, robustness and line of sight** to investment decisions that affect our customers.

Developing this plan will help us work towards our **Welsh Water 2050 vision to "earn the trust of our customers everyday"** and to achieve our mission of becoming **"a truly world-class, resilient and sustainable service for the benefit of future generations".**

Wastewater affects everyone

One of the most important things that Welsh Water does is protect public health by taking away wastewater from homes, businesses and communities so it can be treated and safely returned to our rivers and the sea.

We all use clean water to drink, cook, clean, bathe and flush the toilet. Some enjoy living by the sea, fishing or relaxing by the canals and rivers. We also need clean water to run businesses and commercial activities. Without it, restaurants can't supply food and drinks, hospitals can't perform operations or clean vital equipment, fire services can't put out fires and green spaces in your community can't be maintained. It is also a vital part of agriculture and farming because without it, you can't grow grass and crops or clean and sustain livestock.

Having clean water supply depends heavily on the way we manage drainage and wastewater. As the demand for clean water rises, the amount of untreated sewage from homes, businesses and farms will rise too. The way we manage this will shape the future well-being of Wales and the environment we seek to protect. It will play a critical role in meeting growing water demands in rapidly expanding communities, improving industrial development and supporting sustainable agricultural practices.

Future challenges

As we are currently developing the first version of the Plan, it will focus on tackling the future challenges of growth, urban creep and climate change on our drainage and wastewater systems from 2025 to 2050.

Population Growth

- New housing developments
- Brownfield developments (renewing previously developed land)

Urban Creep

- Reduction in green spaces (e.g. parks, grass areas)
- Paving of driveways and gardens
- Building property extensions (e.g. conservatories)

Climate Change

- Increased storm intensity and frequency
- Longer dry periods
- Rising sea levels

If we don't act now to mitigate these challenges, the future implications could be

The network of pipes won't be large enough to contain all the wastewater.

Storm water storage (which are the pressure relief valves, to manage storm water in the network) will fill up more quickly and will not be able to transfer back into the network of pipes after the storm, in time for the next storm and will overflow.

Increasing storm intensity and frequency will put additional pressure on the storm tanks, which will remain fuller for longer and will overflow into the environment for longer periods of time.

In exceptional extreme storms, the capacity of sewers, overflows and storm tanks will be exceeded rapidly – **leading to overflows into rivers and streams or customers' homes** as sewage escapes from the network in an uncontrolled fashion.

Did you know?

Sometimes, after heavy rain or extreme storms, our tanks aren't large enough to contain the wastewater coming in. To make sure it doesn't back up into people's homes and businesses, our sewers are designed to overflow into watercourses (such as rivers or streams) to relieve the pressure on the system. However, the diluted overflowing wastewater has not been treated before it is released. This is called **Combined Sewer Overflow.**

We have permission for sewers to overflow via permits from our regulators, Natural Resources Wales (NRW) and the Environment Agency (EA). Rivers are assessed to determine whether they have the ability and capacity to dilute and disperse the overflow. This assessment is the foundation of the consent to overflow. This is a fundamental design of our current combined sewer system and is there to protect customers' properties from flooding. With the future challenges we face, we anticipate we need to redesign combined sewers and how they operate.

Our Plan will be looking into a variety of options to tackle future overflow challenges brought about by climate change, urban creep and population growth in order to protect our precious environment.

Combined Sewer Overflow

Why do we need a plan?

> The DWMP will ensure that we do the right thing for our customers and the environment for the long term.

Currently, the approach to long-term planning varies between water and sewerage companies (WaSCs), resulting in a lack of consistency and transparency across the UK wastewater sector. So, like other WaSCs, we have previously adopted the approach that works best for customers and the conditions that apply in our operating area[2]. This makes it difficult for Government to be satisfied and reassured that WaSCs have planned correctly. They need to be sure that the UK, as a whole, is secure and resilient to react and recover to sewage and drainage problems and can compare and consider plans from across the UK.

The Water UK DWMP Framework was created to bridge this gap.

Did you know?

A single wet wipe is enough to start a blockage in your sewer pipe and cause flooding in your home. Not only that, but wet wipes flushed down toilets contribute to the majority of sewer blockages in the UK. Sewer flooding costs millions to put right every year and causes damage to people's homes, businesses and the environment.

Many wet wipes, along with items such as sanitary products, contain microplastics which get released into the water system every day, eventually finding their way into the soil, air and the food chain.

[2] For example ground water flooding is a significant issue of concern in some parts of the south east of England but not in Wales.

Did you know?

Until the Victorian times, wastewater was thrown on to streets and into rivers untreated. This caused public health problems like water-borne diseases and cholera epidemics. In the 1850's action was taken to modernise the sewerage system across the UK. This involved directing all types of wastewater – foul and surface water – to a combined sewer system.

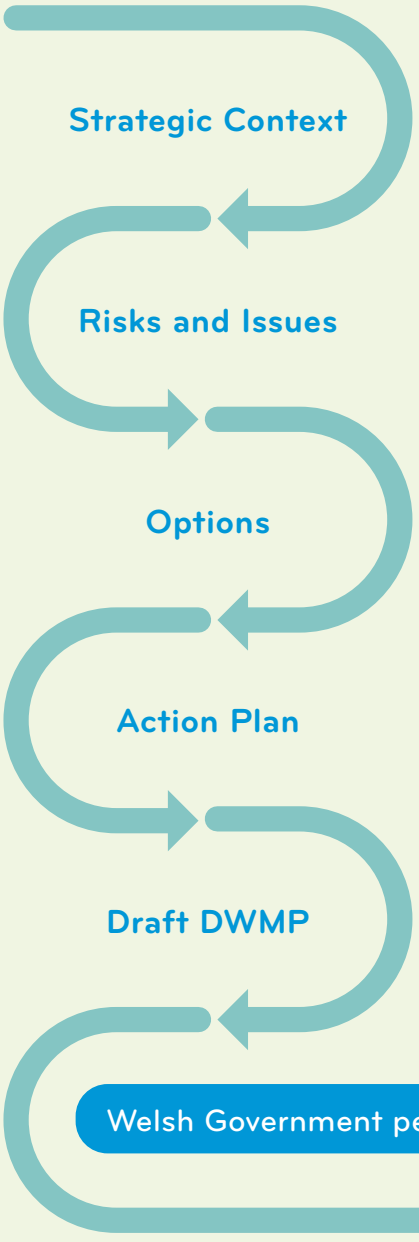
This ageing network is a major part of the sewer system we still use today!

Can you imagine our beautiful Teifi, Dee and Tywi rivers without a functioning sewerage system? But we can't take it for granted. The action we take now in developing our Plan will help prevent serious threats to the future of our national rivers and their sensitive environments.

Cartoon in The Times depicting the Great Stink of 1858 - "Michael Faraday giving his card to Father Thames." Source, Punch (1855).

Stages to creating a DWMP

Water companies have been asked to produce DWMPs for the first time, upon the guidance of the Water UK[3] DWMP Framework. This framework has been developed in collaboration with other regulating bodies[4] that serve to protect communities and the environment. More information can be found on the Water UK website or in the Water UK DWMP Framework[5].



Strategic Context
The first stage in the DWMP planning process which identifies the big issues faced now and, in the future, as well as actions to address them.

Risks and issues
This stage will outline information about drainage and wastewater issues that are already being experienced or have been identified. It will also analyse current and future risks and their causes.

Options Development
The options stage will outline the process of developing solutions to address the risks and their degree of uncertainty.

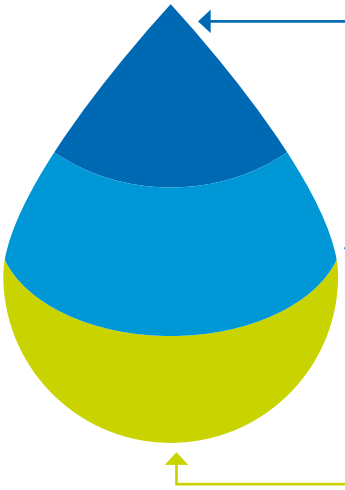
Action Plan
This stage will combine solutions into a plan that gives the best value to customers, communities, the environment, regulators and Welsh Government.

Publishing Draft DWMP for public consultation (2022)
Public consultation of the draft DWMP which will involve extensive public consultation with customers, stakeholder and regulators.

[3] Water UK works with governments, regulators and stakeholders to develop policy on water and the sustainable delivery of water services in the UK. [4] Water UK collaborated with Defra, Welsh Government, Ofwat, EA, NRW, Consumer Council for Water (CCW), ADEPT and Blueprint for Water in the creation of the DWMP Framework.
[5] Water UK DWMP Framework

What planning areas will they cover?

Our Plan will consist of three levels:



Level 1 - Company Operational Level

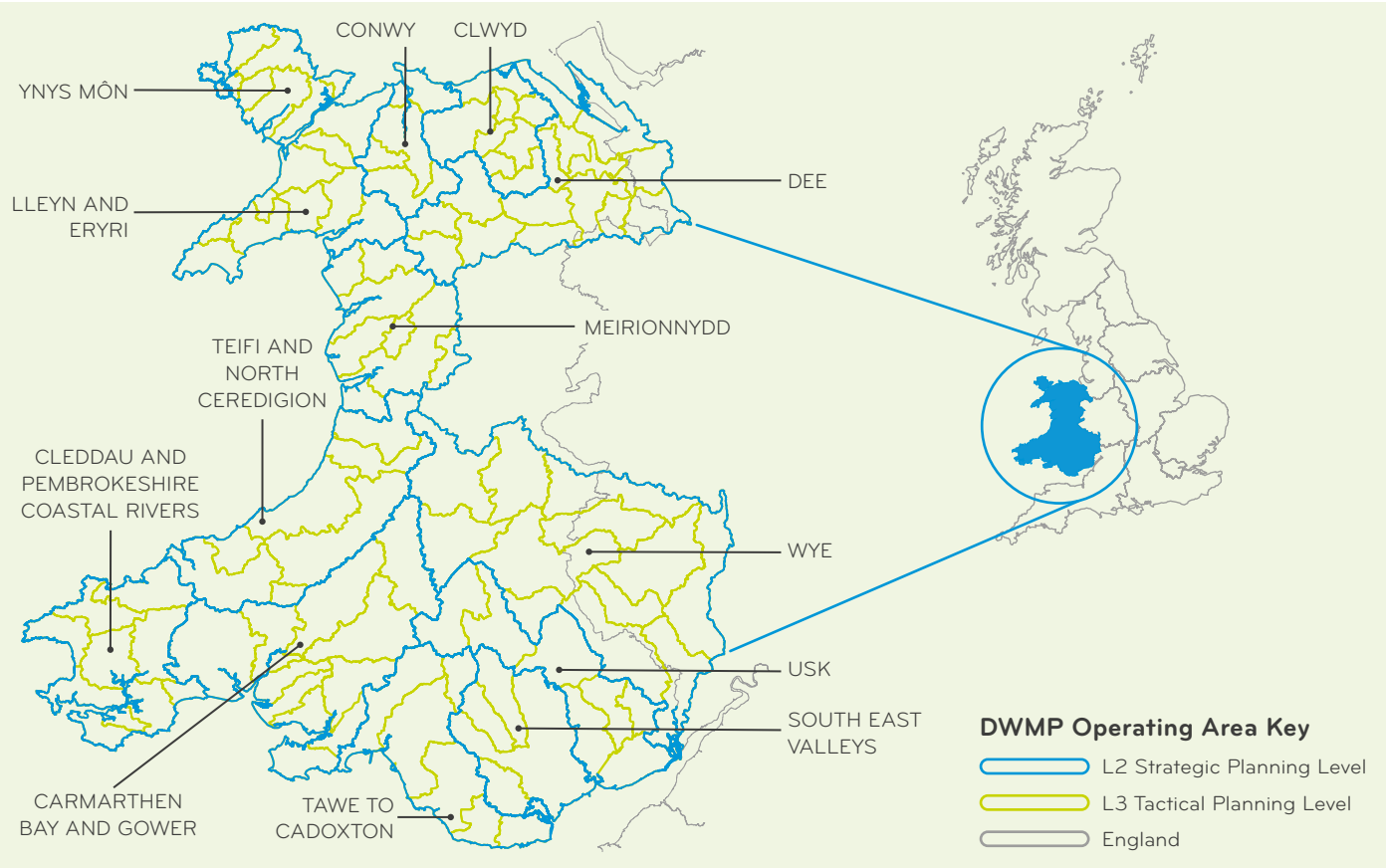
A company-level strategic layer that covers Welsh Water's whole operational area. Information at this level will combine data from levels 2 and 3 to show how we can address the future challenges and how we can achieve our long-term wastewater and drainage aims.

Level 2 - Strategic Planning Unit

This is where we combine the significant risks we have identified and consult with stakeholders across our 13 catchment areas. For example a collection of areas (e.g. The Wye, The Usk, Tawe, The Dee). We will be engaging customers at these levels.

Level 3 - Tactical Planning Unit

This level includes a collection of Waste Water Treatment Works, its catchments and associated river drainage areas. For example a collection of villages and towns that are linked by the nearest river.



DWMP themes and objectives

We have identified three themes for the Plan which are:

Water Quantity
Reduce the risk of (internal and external) flooding to communities

Water Quality
Management of our water quality, services and the environment

Resilience
Adaptiveness to change while maintaining critical services and protecting the environment

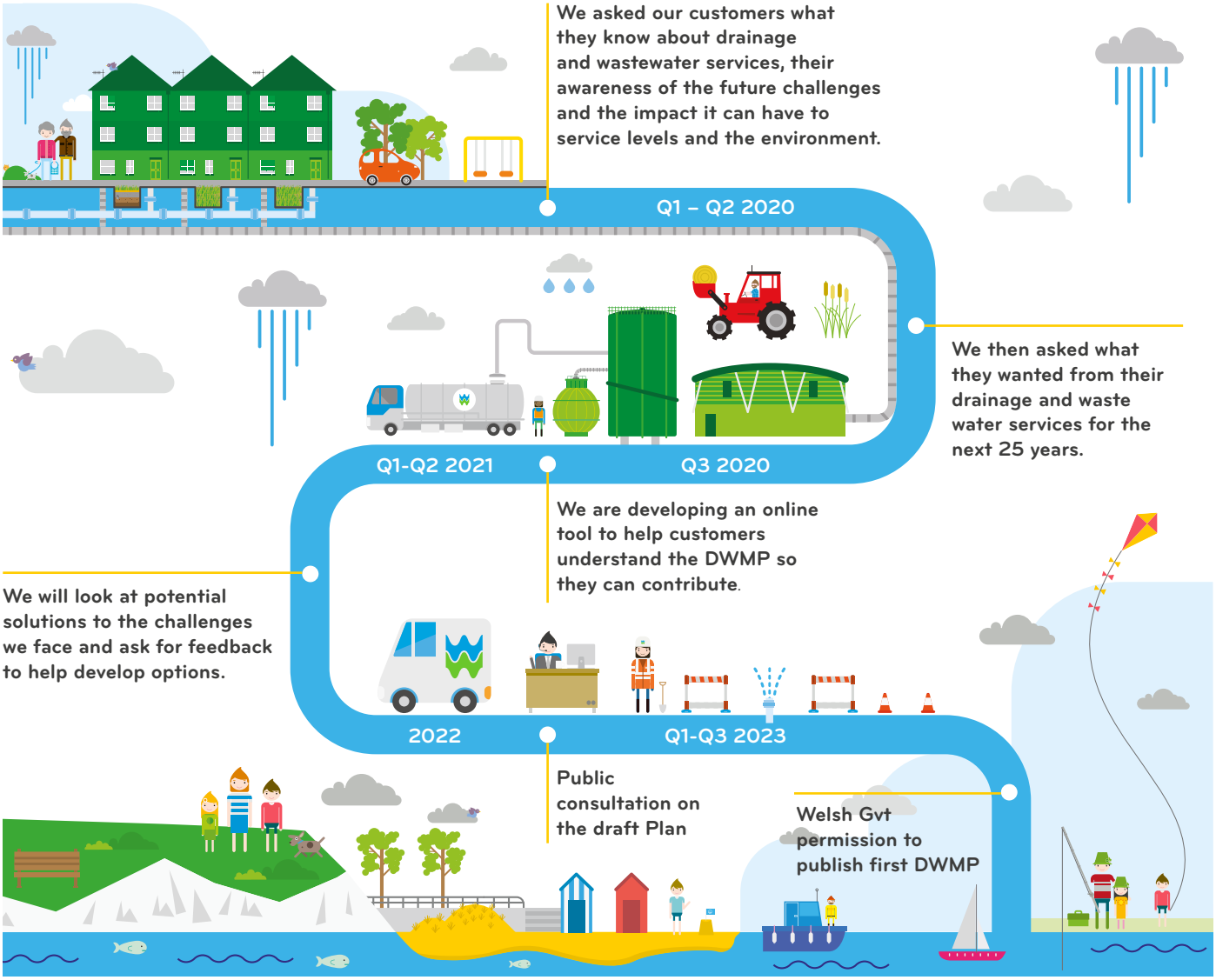
These high-level themes are underpinned by a set of national and local planning objectives we are working towards

As part of developing the Plan's themes and objectives, Welsh Water must explore measures that meet company objectives, the objectives of our partners/ stakeholders and the expectations of our customers. This can only be done through partnership working. More information about this can be found on the DWMP website.

Working together towards a common goal

We are working closely with our customers in a series of research groups to determine their awareness, expectations and support around DWMP management options and wastewater services. The research is developed in collaboration with our Customer Challenge Group, where consumer bodies such as CCW act as a critical friend to Welsh Water. This will help ensure that the Plan is developed in the best interest of existing customers, and the future generations who will benefit from it. Our findings so far have suggested that customer priorities – which include planning for the long term, acting in an environmentally friendly way and providing value for money – clearly align with the Company's objectives for the Plan.

The DWMP customer research journey



Coming soon: DWMP E-learning tool

A tool which helps customers learn more about the DWMP in an interactive way and at their own time. Customers will learn about the historic development of our drainage network and how it impacts the way it works today. They will also learn more about the impacts of future challenges to the system. By explaining this, we hope to provide people with enough information so that they can contribute to the Plan and explore solutions to tackle future challenges together.

Ongoing stakeholder engagement

Ongoing engagement will involve collaboration with stakeholders at the Company Operational (Level 1), Strategic Planning (Level 2) and Tactical Planning (Level 3) in the UK and Wales. The Plan will ultimately reflect the common goals and objectives we share with our key stakeholders at each level. Through our engagement with them to date, we have been asked to consider various frameworks, guidelines, principles and plans as part of the development of the Plan. We have captured these requests and we will continue to record them as we engage with more stakeholders at varying levels. We will outline how we have taken each recommendation into consideration and provide more details of the outcomes of our engagement with stakeholders as the DWMP process progresses.

Some of the stakeholders we are working with to develop the Plan include:

- Welsh Government
- Senedd memers/MPs
- Department for Environment, Food and Rural Affairs (Defra)
- Industry regulators (e.g. EA, NRW, Ofwat)
- Consumer bodies and member organisations (e.g. CCW and National Farmers Union)
- Local Councils
- Lead Local Flood Authorities
- Local Planning Authorities
- Highway Authorities
- National Parks
- Environment groups (e.g. Canal and River Trust)
- Interest groups (North Wales Wildlife Trust, the Royal Society for the Protection of Birds)
- Communities.

Outcomes of engagement

The outcomes of our engagement with customers and stakeholders will be used to influence the development of subsequent stages of the Plan such as:

- Identifying preferred options to address future challenges in drainage and waste water management
- Timing of improvements
- The need for reviewing the DWMP drivers for the next plan.

The decisions made here will in turn shape the direction of the Company's next business plan.

We want to hear from you and invite you to leave your comments, thoughts and feedback at ***DWMP@dwrcymru.com***

Glossary of Acronyms

EA	Environment Agency
DWMP	Drainage Wastewater Management Plan
CCW	Consumer Council for Water
Defra	Department for Environment, Food and Rural Affairs
NRW	Natural Resources Wales
WaSCs	Water and Sewerage Companies

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www.dwrcymru.com/dwmp