

DWMP 28



Our Drainage and Wastewater Management Plan 2030-2055

Delivering for customers, communities and the environment

Performance Indicator Methodology - Bathing Water Quality

March 2026





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This methodology document is a working draft based on the requirements of the published DWMP guidance and informed by agreements made through the Water Industry Task and Finish Groups for each Performance Indicator (PI). As the DWMP stages for each PI progress, this methodology will be refined to reflect the practicalities of deployment and feedback from stakeholders. A final published methodology document will describe the detailed approach followed.



1. Introduction

1.1. This document provides a detailed description of the **Bathing Water Quality Performance Indicator** and its purpose and contribution to forming our Drainage and Wastewater Management Plan (DWMP). This Performance Indicator measures the impact that our operations have on the bathing waters (or possible future bathing waters) receiving discharges from our sewerage system.

Purpose of this document

1.2. The purpose of this document is to outline the methodology that will be used to establish the base year and future baseline forecasts for the Bathing Water Performance Indicator, as part of our DWMP for the 2030-2055 planning period. The base year is 2030 and it is our best estimate of expected performance for this indicator at the end of the current investment period (2025-2030) and reflects the outcome of schemes and maintenance activities planned for this period. We then forecast what is expected to happen to the indicator at baseline points in the future if no change in investment is made. These future points are set in the short term (2035), the medium term (2045) and the long term (2055). In addition, it sets out threshold values (if applicable) that will be used to summarise the level of risk and further guide the development of options for the 2030-2055 planning period.

1.3. The requirements for Performance Indicators are set out in Government guidance for DWMPs¹ and subsequent clarifications by the Environment Agency². To understand the general approach to our DWMP please also refer to our Strategic Context document on our website.

1.4. Assessment of the base year and future risks for each of our Performance Indicators is an important step in the development of our DWMP. It informs our understanding of how the drainage and wastewater system is able to meet legal obligations and meet the needs of customers and the environment. The DWMP approach requires completion of a risk assessment for the following Performance Indicators for each future planning horizon at the wastewater catchment scale:

- Internal flooding
- External (curtilage) flooding
- Storm overflow performance (England)[§]
- Treatment works compliance (numeric)[§]
- Treatment works compliance (descriptive at numeric sites)[§]
- Treatment works compliance (Dry Weather Flow (DWF))
- Treatment works compliance (Flow to Full Treatment (FFT))

¹ <https://www.gov.uk/government/publications/guidelines-for-statutory-drainage-and-wastewater-management-plans-dwmps>

² EA letters to water companies with feedback on performance indicators (02/10/2025), (23/03/2026) and reporting thresholds (17/10/2025).



- Good Ecological and/or Chemical status: Public sewerage
- Pollution incidents: serious^{\$}
- Pollution incidents: total
- **Bathing water quality**
- Shellfish water quality
- Surface water flooding (Shared responsibility)^β
- Good Ecological and/or Chemical Status: Urban and transport (Shared responsibility)^β
- Emergency overflow performance^{\$β}
- Treatment Works Compliance (descriptive)^β
- Groundwater pollution^β
- Groundwater infiltration^β

1.5. Performance Indicators marked \$ will use a nationally consistent suite of thresholds to describe the general level of risk^{3,4}. Performance Indicators marked β are considered more experimental in nature and are recognised as inherently difficult to forecast and will hence be trialled in DWMP28 as emerging Performance Indicators and then possibly refined for subsequent DWMPs³.

Background

- 1.6. Our region has many popular locations used for water-based recreational activities and eight designated bathing water sites, of which only three are where Thames Water assets may have an effect (directly or indirectly). Maintaining and improving the water quality at these, and future, bathing waters is important to us, our customers and our stakeholders. Our long-term ambition is for our sewerage systems to support the bathing waters in our region achieving the target 'Good' or 'Excellent' classifications so they can be enjoyed by our customers, communities and support local economies.
- 1.7. Bathing waters can be impacted by pollution from various sources including discharges from wastewater treatment works, storm overflows, properties with misconnected drains, leaking drainage systems, livestock, agricultural runoff and other wildlife.
- 1.8. The objectives of our DWMP bathing water Performance Indicator are:
- To test whether the performance of sewerage asset discharges contribute to a current, or future, designated bathing water failing its statutory planning classification of at least 'Sufficient' and the planning ambition of 'Good' or 'Excellent'.
 - To test whether the future performance of sewerage asset discharges would be responsible for a deterioration of bathing water classification from base year levels.

³ <https://www.gov.uk/government/publications/guidelines-for-statutory-drainage-and-wastewater-management-plans-dwmps>

⁴ EA letters to water companies with feedback on performance indicators (02/10/2025), (23/03/2026) and reporting thresholds (17/10/2025).



Regulation, legislation and policy

- 1.9. The 2013 Bathing Water Regulations⁵ for England and Wales define the management of bathing waters in England and Wales. These regulations were updated in 2025 with the three core reforms recommended in the 2024 Review of Bathing Water Regulations⁶. A further three wider recommendations are currently being considered by the Government.
- 1.10. There are also requirements on storm overflows within set distances of bathing waters included within the 2021 Environment Act⁷ via the Storm Overflow Discharge Reduction Plan⁸. These requirements are not included within this Performance Indicator, being covered directly by the Storm Overflow Performance Indicator.
- 1.11. The UK policy document for wastewater treatment works deemed to be impacting bathing water sites (EPR 7.01 Discharges to bathing waters) has been withdrawn. The revised policy document, 'Setting disinfection requirements for sewage discharges to bathing and shellfish water_v4' is currently only available in draft issue and is subject to change.

Key definitions

- 1.12. Legally, a bathing water is an area of surface water, typically coastal or inland, where a "large number of people" are expected to bathe⁹. Within England, sites are designated by Government under the Bathing Water Regulations 2013 with the aim of protecting bathers' health.
- 1.13. Bathing waters are monitored by the Environment Agency (EA) who take up to 20 samples per bathing season, typically between 15th May and 30th September, testing for two faecal indicator organisms; Escherichia coliforms (E.coli) and Intestinal enterococci (IE). These organisms have been chosen as key parameters to be monitored and used for the classification of bathing waters because studies by the World Health Organisation have shown that their concentrations correlate with rates of gastrointestinal infection.
- 1.14. Bathing water quality classifications are updated annually based on statistical analysis of up to the last four years of data. There are four classifications: Excellent, Good, Sufficient and Poor. In relation to the definition of this Performance Indicator, the DWMP guidance states:

"The number of current and future (if known) inland and coastal bathing waters where the predicted performance of sewerage asset discharges will pose a risk to compliance with 'Sufficient' quality classification and not deteriorating from current standards, with a view to increasing the number of sites classified as 'Good' or 'Excellent'."

⁵ [The Bathing Water Regulations 2013](#)

⁶ [Consultation on Reform of the Bathing Water Regulations 2013 - Defra - Citizen Space](#)

⁷ Environment Act 2021 www.legislation.gov.uk/ukpga/2021/30/contents

⁸ www.gov.uk/government/publications/storm-overflows-discharge-reduction-plan

⁹ This definition is likely to be expanded to other immersive water-based activities (such as paddleboarders and surfers) following the UK 2024 Review of Bathing Water Regulations



1.15. This definition excludes bathing waters which are not impacted by sewerage asset discharges. The current designated bathing waters impacted by sewerage assets are Frensham Great Pond in Farnham, Wolvercote Mill Stream (River Thames) in Oxford and Wallingford Beach (River Thames) in Wallingford.

Interpretation

1.16. Where we believe the definitions could be interpreted in different ways, we have tried to provide additional clarifications to avoid any confusion or uncertainty. This includes:

- The number and location of 'current' (i.e., at the time of publication of this document) designated bathing waters within our region is defined by <https://environment.data.gov.uk/bwq/profiles/>
- Lists of potential future bathing waters are based on the full list included in the 2025 Environment Agency paper 'Exploring Recreational Water Use in England', which also include the two proposed new locations in our region which DEFRA consulted on until March 23rd, 2026¹⁰.
- The term 'Performance of sewerage asset discharges' includes both intermittent and continuous discharges.

¹⁰ <https://consult.defra.gov.uk/water/13-proposed-bathing-water-sites/>



2. Key assumptions

2.1. This section contains a description of the assumptions we will make in reporting the Performance Indicator and provides a commentary on alignment with the DWMP guidelines.

Assumptions

2.2. We have made the following key assumptions when preparing this Performance Indicator methodology:

- The 2024 Review of the Bathing Water Regulations has recommended three wider reforms, agreed by Department for Environment, Food and Rural Affairs (Defra), which have not yet been incorporated into UK Regulation. For the purposes of our DWMP we will assume that these three wider reforms will occur and therefore should be factored into our plan.
- We assume that the draft policy documents concerning disinfection of discharges to bathing waters will be published in due course and remain unchanged from current edits.
- Whilst the number of identified (or designated) bathing waters continues to rise we acknowledge we cannot predict the number or location of future applications with confidence. As advised by the EA this Performance Indicator will therefore consider potential locations as defined by the 2025 paper 'Exploring Recreational Water Use in England' and we will engage with relevant stakeholders in order to inform the assessment to determine the probability of, and timeframes for, potential future designations.

Alignment with Government DWMP guidelines

2.3. We have not made any exclusions or deviations from the current guidance when preparing this Performance Indicator methodology.



3. Data sources

3.1 This section includes a brief description of the datasets required to report on this Performance Indicator and any normalisation undertaken. We will also outline the process of assuring that data, to maintain accuracy in our understanding of catchment performance.

Main datasets and assurance

- The official four-year rolling bathing water classifications are published by Defra in Autumn every year following completion of the summer bathing season. This dataset will be used to report on the current status of bathing water quality.
- The bathing water sampling datasets are assured third party datasets with no normalisation or assurance required.
- The bathing water sampling datasets don't differentiate the impact of WaSC and non-WaSC pollution sources. Additional sampling datasets may need to be collected to understand WaSC impacts.
- Sites which are currently not designated as bathing waters will not have any data from which to baseline or assess bathing water quality. These sites will require model assessment (as per methodologies developed during price review).

3.2 The data sources we are expecting to make use of are presented in Table 1.

Table 1. Data Sources and Assurance

Dataset	Source	Assurance
SWIMFO (EA record of bathing water data)	Bathing water quality	Assured third party data
Exploring Recreational Water Use in England	Exploring recreational water use in England - GOV.UK	Assured third party data
Climate Change impact on River Flow	Hydroprojections	Assured third party data
Asset data, permit conditions & growth data	Internal Thames Water datasets	Assured internal data

4. Reporting thresholds and outputs

- 4.1. This section presents our initial view of reporting requirements, which we intend to further develop as more information becomes available, by the regulators or other stakeholders.

Reporting thresholds and planning horizons

- 4.2. We will be setting the thresholds in order to enable us forecasting compliance with the statutory 'Sufficient' classification, and the forecast position with regards to the ambition targets of 'Good' or 'Excellent'. However, at this stage of DWMP28 there are currently no commonly agreed thresholds for assessing the performance of this indicator. Therefore, this section presents our current proposal and, once the reporting methodology is finalised, we will then assess our overall forecast performance.

- 4.3. Our performance with regards to maintaining and improving bathing waters will be reported against the list of metrics below:

- We will report the number (and percentage) of currently designated and potential future designated bathing waters in the vicinity of any of our discharge points or abstractions, potentially impacted by our assets, either (i) not achieving the statutory standard of 'Sufficient' bathing water status and (ii) not achieving the ambition target of 'Good' or 'Excellent'.
- The number and quality of our bathing waters will be baselined against three different planning horizons: short (2035), medium (2045) and long term (2055) relative to a base year assessment from 2030.
- The number of bathing waters not achieving these standards will be reported at all levels, i.e., catchment scale (level 3), sub-regional catchment scale (level 2) and for the whole of Thames Water region (level 1). However, considering the likely increase of designated bathing waters in our region in the future, we identify that the key reporting level of this Performance Indicator is level 1 and therefore the thresholds below are devised at this level.
- The methodology of our reporting thresholds is aligned in concept with the approach set out by Ofwat for the AMP8 Common Performance Commitment for Bathing Waters¹¹.

- 4.4. The reporting approach is based on a weighted average of the classification of bathing waters. As such, we define:

$$\text{Overall score} = \frac{\sum_i \text{Score} \times \text{Number of Bathing Waters that meet the classification}}{\text{Total number of Bathing Waters}}$$

For each classification of bathing waters, we assign a score as follows:

- 0 for 'Poor' classification, colour-coded as **Orange**.
- 1 for 'Sufficient' classification (statutory standard), colour-coded as **Green**.

¹¹ [Performance commitment definition - Bathing water quality](#)



- 2 for 'Good' classification, colour-coded as light Blue.
- 3 for 'Excellent' classification, colour-coded as Blue.

4.5. This methodology will be used to assess the 2030 base year performance and future baseline performance for 2035, 2045 and 2055.

4.6. We are expecting we will review these definitions and the thresholds in Table 2 for example based on stakeholders feedback, forecasted number of new bathing waters for future planning horizons, and evidence of customer support to achieve classification status higher than 'Sufficient'.

Table 2. Draft reporting thresholds for the bathing water Performance Indicator, considering the current Bathing Waters only, with status marked as Orange / Green / light Blue / Blue according to the colour-coding in paragraph 4.4.

Risk Planning Scenario	Planning horizons			
	Base year 2030	Short term 2035	Medium term 2045	Long term 2055
Number of Bathing Waters	3	3	3	3
Low risk / ambition	1.7	1.7	1.7	1.7
Medium risk / ambition	1.7	1.7	1.7	2.0
High risk / ambition	1.7	1.7	2.0	2.3

4.7. For clarity, the estimates of the 2030 base year in Tables 2 and 3 are obtained as follows:

$$Overall\ score = \frac{(1 \times 2) + (3 \times 1)}{3} = 1.7$$

Considering¹²:

- Frensham Great Pond at 'Excellent' classification.
- Wolvercote Mill Stream (River Thames) increasing from 'Poor' to 'Sufficient' classification by 2030.
- Wallingford Beach (River Thames) remaining at 'Sufficient' classification in 2030.

4.8. We expect a significant increase in the number of bathing waters in our region between the base year and the 2055 planning horizon. For example, there are two potential new Bathing Waters in our region for which the designation has recently been consulted on. Their designation and classification would likely impact the thresholds, also including the base year thresholds, in Tables 2 and 3. However, at the time of publication of this document there are no clear publicly available plans on the designation of new bathing waters in our region. Therefore, we will engage with relevant stakeholders in order to inform the

¹² [Bathing water classifications 2025 - GOV.UK](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/444444/bathing_water_classifications_2025.pdf)



assessment to determine the probability of, and timeframes for, potential future designations.

4.9. We will develop an assessment on the number of designated Bathing Waters in our region. Table 3, below, illustrates the draft reporting thresholds for the bathing water Performance Indicator according to an arbitrary number of Bathing Waters.

4.10. The overall score is used to summarise the forecast performance in meeting the statutory target in which all Bathing Waters in our region would meet the statutory ‘Sufficient’ status (low risk / ambition), and our long-term ambition to support bathing waters in our region achieving ‘Good’ or ‘Excellent’ classifications (medium and high risk / ambition), according to the following definitions of performance:

- When we maintain the predicted 2030 classification of the current bathing waters and all other bathing waters are at ‘Sufficient’ classification, the overall performance is described as low risk / ambition.
- When we maintain the predicted average 2030 classification of the current bathing waters and improve half of the Bathing Waters to ‘Good’ classification, the overall performance is described as medium risk / ambition.
- When we achieve ‘Excellent’ classification for one third of our Bathing Water and ‘Good’ classification for at least one third of our Bathing Waters, with all other Bathing Waters at ‘Sufficient’ classification, the overall performance is described as high risk / ambition.

Table 3. Illustrative draft reporting thresholds for the bathing water Performance Indicator, considering both current and future bathing waters with status marked as Orange / Green / light Blue / Blue according to the colour-coding in paragraph 4.4.

Risk Planning Scenario	Planning horizons			
	Base year 2030	Short term 2035	Medium term 2045	Long term 2055
Assumed number of Bathing Waters	5 ¹³	10	15	20
Low risk / ambition	1.4	1.2	1.1	1.1
Medium risk / ambition	1.4	1.7	1.7	1.6
High risk / ambition	1.4	2.0	2.1	2.1

4.11. Our methodology is currently focussed on identifying potential impacts from our assets. However, it is important to note that various sources of pollution could impact the quality and classification of Bathing Waters, sometimes in a much more significant way than our assets do. Therefore, Bathing Water quality typically requires a coordination of actions to

¹³ This assumes that two new locations will be designated in our region by 2030, for example the two recently consulted on by DEFRA.



achieve the desired status, especially for inland bathing waters. The Independent Water Commission¹⁴ identified gaps on a system-wide approach to water planning. Therefore, it recommended the creation of regional water system planning authorities to deliver integrated, holistic, cross-sector water planning. More recently, Defra broadly adopted the Commission's conclusions in their 'A new vision for water' White Paper¹⁵, proposing to consolidate existing planning processes into two integrated frameworks (water supply and water environment) supported by a strengthened regional water planning function to improve coordination across sectors and align national, regional and local priorities. The White Paper outlines how this approach will be trialled and shaped, and in our opinion such regional water planning function could be an enabler to deliver on the ambition of this Bathing Water quality Performance Indicator.

Assessing the value of performance

- 4.12. Alongside publication of this Performance Indicator methodology, there is a requirement to value performance outcomes using our Value Framework. This step will be completed during the Options Development and Appraisal (ODA) stage, once the framework has been fully defined and agreed following consultation with stakeholders.

¹⁴ [Independent Water Commission - GOV.UK](#)

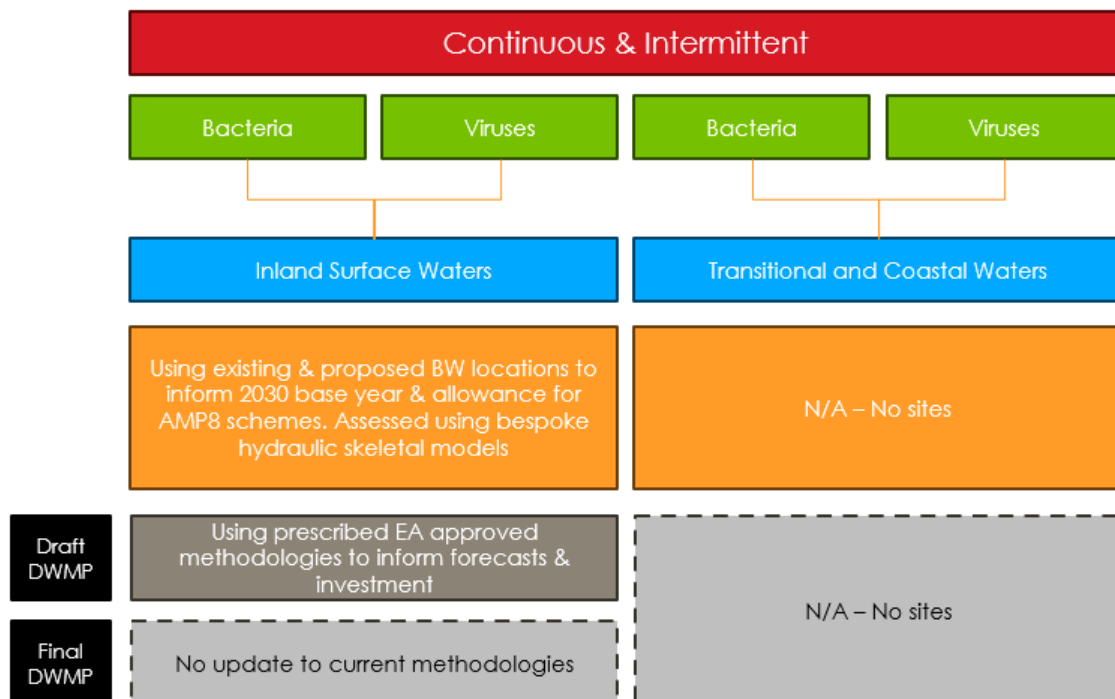
¹⁵ [A new vision for water: white paper - GOV.UK](#)



5. Performance Indicator methodology

- 5.1. The following sections outline the proposed methodology for assessing the Performance Indicator against a 2030 baseline and the future planning horizons. It is proposed to undertake Level 3 (site based) water quality modelling for all designated or potential bathing water locations.
- 5.2. To develop a systematic approach to identifying potential future bathing water sites we propose to use the EA Chief Scientist Group publication 'Exploring recreational water use in England'¹⁶. This study explores the extent of recreational use of environmental waters across England, using data from 2017 to 2024. It brings together insights from 17 organisations, including government bodies, national governing bodies, and community sources and provides the best available understanding of where, when, and how surface waters are used for recreation.
- 5.3. Once all existing and proposed bathing water locations have been identified the following methodologies shown in Figure 1 will be applied to each location. We previously used the approach of developing bespoke hydraulic skeletal models during the last price review and we are intending to adopt it for the development of our DWMP.

Figure 1. Outline Performance Indicator methodology



¹⁶ [Exploring recreational water use in England - GOV.UK](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/781112/Exploring_recreational_water_use_in_England.pdf)



Base year performance – 2030

- The base year assessment will use the EA planning classifications issued to water companies during the Price Review process, including those assessed as being ‘at risk’ and update this to include assessments of AMP8 improvements. Where data may not be available on a planning class, actual performance data will be utilised as published by the EA on Swimfo.¹⁷ For potential future bathing water sites predictive assessments will be required.
- If a suitable bathing water quality model exists, the proportionate contribution of water company assets to the overall water quality classification will be quantified.
- Where no suitable bathing water model exists, we will build simple catchment models using default bacterial concentrations and permitted flows to assess the impact of water company discharges. This is in line with methodologies used during the price review process.

Future baseline performance – 2035-2055

- 5.4. The impact of our assets on future bathing water performance will be undertaken for various planning horizons and risk bands as previously discussed.
- 5.5. The planning horizon and risk band forecasting will be developed by changing baseline modelling parameters such as:
- The impact of flows coming from the assets will be assessed by examining the growth forecasts through the different planning horizons. For example, there could be an increase in the amount of flow (and quality/concentration) coming from an asset over time as the growth in the sewerage catchment increases, or water usage decreases. This assessment will be closely aligned to the dry weather flow (DWF) permit compliance Performance Indicator through which all predictions of future flows and loads are established.
 - The impact of climate change will be assessed by varying the predicted flows in the river system across the planning horizons as described in Table 4, below. For example, various climate change prediction models are available which show that the mean and low flow values of the rivers will change over time.
- 5.6. Where there is a range due to uncertainty in the forecastable future input data for the Performance Indicator, then a scenario planning approach will be adopted here and throughout the DWMP. This is to inform our understanding of the sensitivity of our forecasts to uncertainty in input parameters and ultimately support the development of an adaptive pathway to dealing with the risk.
- 5.7. For 2030, 2035 and 2045 a central estimate for our input parameters is adopted as being the most likely future condition (Scenarios A and B in Table 3). For 2055 a more

¹⁷ [Bathing water quality](#)



conservative estimate is made (scenario C) so that the 'worst case' outcome can be forecast."

Table 4. Scenario planning approach

Scenario	Description	Likely occurrence within	Low estimate	Central estimate (most plausible)	High estimate (conservative)
A	5-year Medium – most plausible for short-term planning	Approximately 5 years (2030 Planning Year)	Not Applicable	✓	Not Applicable
B	Core scenario – high likelihood for long-term planning.	10 to 20 years (2035, 2045 Planning Year)	Not Applicable	✓	Not Applicable
C	25-year High – conservative for long-term planning	Greater than 25 years (2055 Planning Year)	Not Applicable	Not Applicable	✓

Assessment

- 5.8. The approach described here will be used to forecast the number of bathing water failures (and deteriorations) resulting from Thames Water activities through the planning periods. This will highlight the degree to which historical and current investments go towards eliminating bathing water non-compliance by 2030 and guide where the DWMP needs to plan for further improvements to keep pace with population and climate trends through to 2055.



6. Next steps

- 6.1. In order to be able to progress to the Options Development and Appraisal (ODA) part of DWMP28 we need to first update our understanding with regards to all known and proposed bathing water applications across our region and whether these locations are likely to be impacted by our drainage systems.
- 6.2. In discussions with the community groups and organisations making the applications, as well as the Environment Agency who manage the current designations, we will also seek to understand if any of the existing or proposed sites are likely to be given extended bathing seasons as set out by the 2024 Review of Bathing Water Regulations.



We welcome your views on this technical methodology. Please share them with us by emailing DWMP@thameswater.co.uk.



Our Drainage and Wastewater Management Plan 2030–2055 will include a number of technical methodologies, like this one. They will all provide detailed information on specific topics featured in our draft Plan such as climate change and sustainable approaches to drainage. You will be able to access all of the technical methodologies on our DWMP webpage.



For more DWMP28 information please visit our DWMP webpage and portals on our website.

