

TECHNICAL NOTE

JBA Project Code	2025s0951
Contract	Tonbridge and Malling Borough Council Level 1 SFRA
Client	Tonbridge and Malling Borough Council
Date / version	October 2025 / Version 3
Author	Abigail Betts and Hannah Booth
Reviewer / Sign-off	Ed Hartwell
Subject	Review of Thames Water's DWMP 2025



1 Introduction

Water companies were required to publish Drainage Water Management Plans (DWMPs) for river basin catchments across England as part of the Environment Act. Thames Water published their DWMP in 2023. This provides a wider geographical extent of information on sewer flood risk than has previously been available. In doing this, the DWMP's include risk assessment and mapping which could potentially be used in the proposed land use planning prioritisation process and could potentially be perceived as being appropriate for consideration in the Sequential and Exception Tests. As this is a matter that could be raised at Examination this review is performed to understand the nature of the DWMP mapping and data that is now available and the extent to which it can appropriately be used to support the preparation of the Sequential Test. This review was used to support consultation with Southern Water so formal confirmation for the proposed methods and approach used in the preparation of the SFRA and the Plan could be sought.

2 Thames Water DWMP

2.1 Background

The DWMP describes the basis for long term investment proposals by Thames Water that span for more than 25 years and set out the commitment needed to make wastewater systems safe and secure.

Thames Water's plan contains substantive volumes of mapping, information and data that has not previously been made available by water companies. The focus is on planning for the future, so customer flooding is reduced. However, this is only for a 3.3% and 2% annual exceedance probability (AEP) events. By comparison, fluvial, tidal and surface water modelling already used within the Sequential Test is for the 3.3%, 1% and 0.1% AEP events. Additionally, the future epochs considered in the DWMP are 2035 and 2050. The fluvial, tidal and surface water mapping used in the Sequential Test consider events up to 2125.

Thames Water have prepared a regional (Level 1) DWMP which is supported by 13 catchment strategic plans (Level 2 DWMP). Tonbridge and Malling borough is located within Thames Water's Long Reach catchment strategic plan. The Long Reach catchment strategic plan is split into tactical planning units (Level 3 DWMP). The tactical planning units are geographical areas in which a wastewater network drains to a single sewage treatment works.

2.2 DWMP objectives

The planning objectives in the DWMP assess the current and future performance of the drainage and wastewater systems and identify where action and/or future investment is required. The performance is considered as a risk where failure could have an impact on people and/or the environment. A total of 12 objectives were identified by Thames Water to address:

- 1 Sewage treatment works quality compliance
- 2 Sewage treatment works flow compliance

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- 3 Risk of pollution incidents
- 4 Storm overflow performance
- 5 Carbon
- 6 Wellbeing
- 7 Internal sewer flooding risk
- 8 External sewer flooding risk
- 9 Percentage of population at risk of sewer flooding in a 1 in 50-year storm
- 10 Reduce surface water runoff
- 11 Reduce misconnections
- 12 Sewer collapses

Further details can be found here:

<https://www.thameswater.co.uk/media-library/home/about-us/regulation/drainage-and-wastewater/the-plan.pdf>

2.3 Risk-Based Catchment Screening

As part of the DWMP, a risk based catchment screening (RBCS) was completed to identify catchments where further investigations were necessary. Through the RBCS catchment vulnerability was screened against 17 different risk indicators. Catchments that have operated without issue for many years, can accommodate future growth, and are resilient to future changes were classified as low risk for future stages of assessment. Catchments that have known performance issues or are known to be vulnerable to future change were forwarded to the baseline risk and vulnerability assessment (BRAVA) planning stage. Out of 382 catchments, 293 required progression to the BRAVA stage. The remaining 89 catchments have been characterised as low risk by the RBCS process and are unlikely to be vulnerable to changes in future inputs.

Further details regarding the RBCS methodology can be found here:

<https://www.thameswater.co.uk/media-library/home/about-us/regulation/drainage-and-wastewater/appendix-b-risk-based-catchment-screening.pdf>

2.4 Baseline Risk and Vulnerability Assessment

Thames Water conducted a BRAVA to understand the current system performance of the planning objectives and future vulnerabilities. As part of the BRAVA, baseline and future risks were assessed against the planning objectives for 293 catchments identified in the RBCS. The outputs of the BRAVA provide information to determine the severity, location, and type of problems within Thames Water's coverage area with regards to meeting the planning objectives. The full results provide the risk levels of individual catchments according to the planning objectives.

As part of the BRAVA, each catchment was provided a risk level for each of the 12 planning objectives listed in Section 2.2 using the following grades:

- 0 - Not significant
- 1 - Moderately significant

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- 2 - Very significant

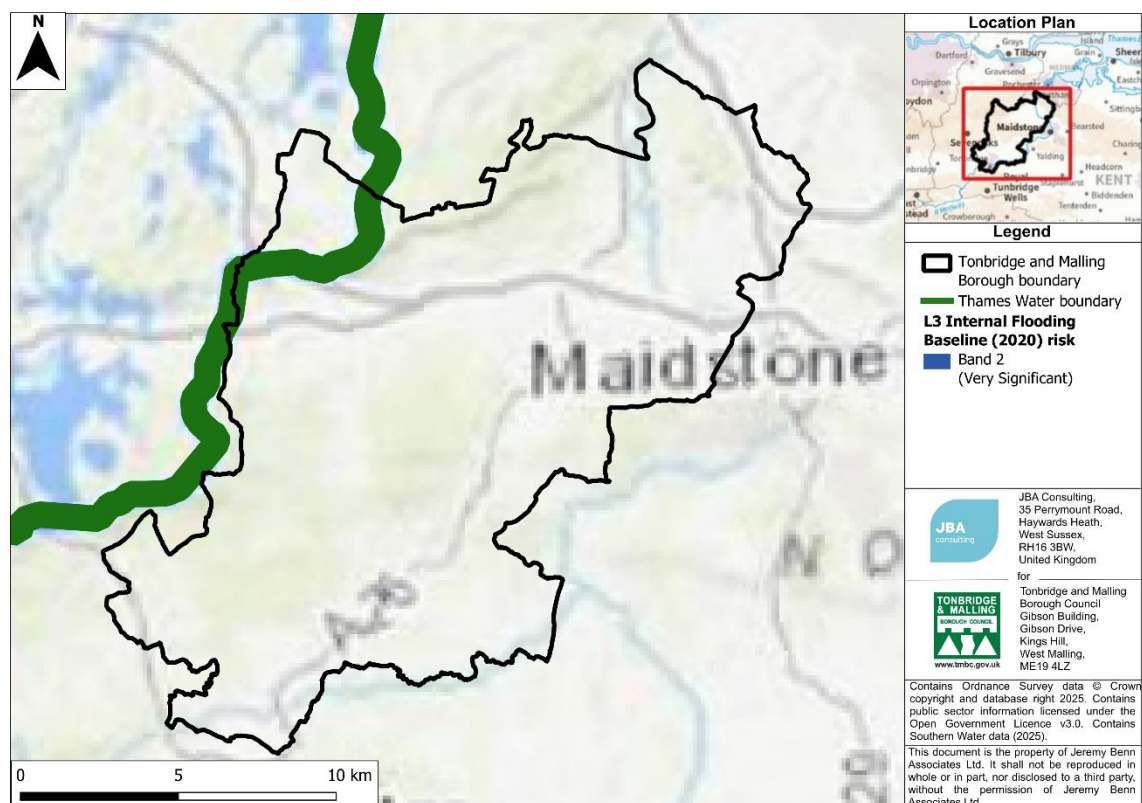
Further details regarding the BRAVA methodology a table outlining the results can be found here:

<https://www.thameswater.co.uk/media-library/home/about-us/regulation/drainage-and-wastewater/appendix-c-baseline-risk-and-vulnerability-assessment-and-problem-characterisation.pdf>

Thames Water produced maps showing the results of the BRAVA for each of the DWMP planning objectives listed in Section 2.2. The maps show the area covered by each of the wastewater systems assessed shaded with the risk band colour. Examples of the maps prepared for two of the objectives, internal sewer flooding and flooding in a 1 in 50-year storm (baseline and 2050) are shown in Figure 2-1, Figure 2-2, and Figure 2-3.

The area of Tonbridge and Malling Borough covered by Thames Water contains a low risk sewer catchment (Ham Hill sewer treatment works), and was therefore not assessed at the BRAVA stage.

Figure 2-1: BRAVA internal sewer flooding map



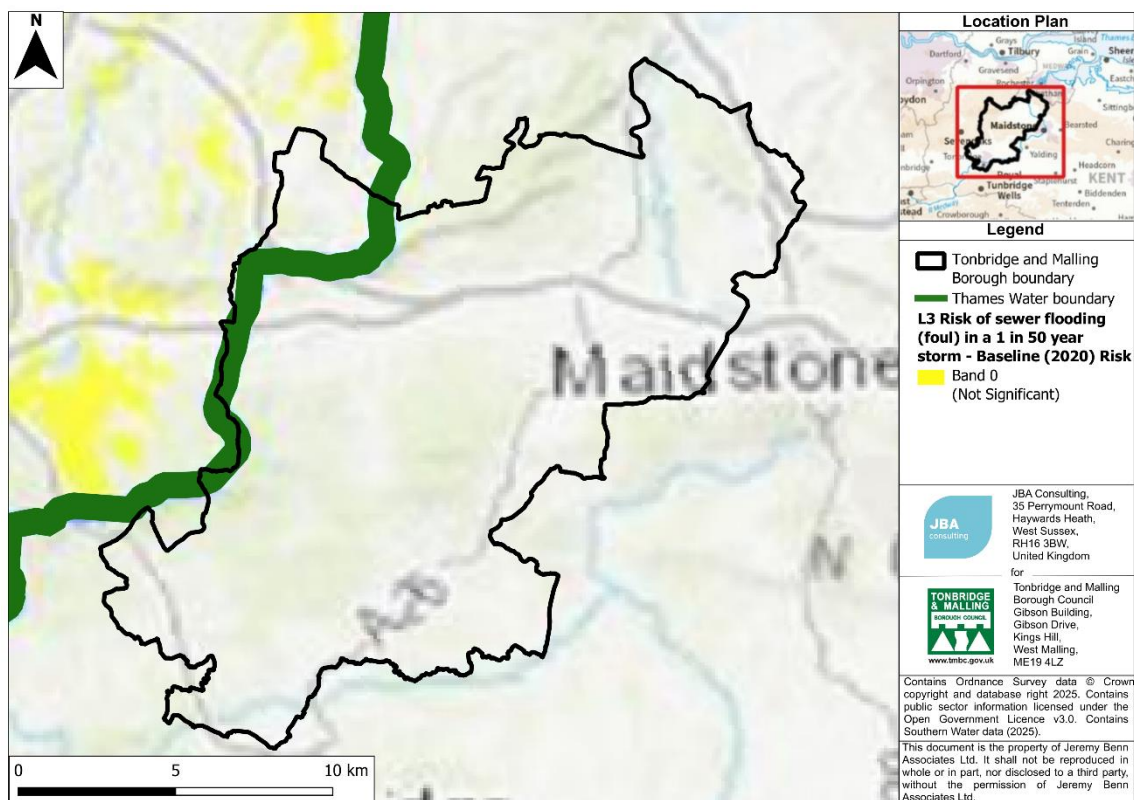
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Figure 2-2: Risk of sewer flooding in 1 in 50-year storm - baseline (2020)



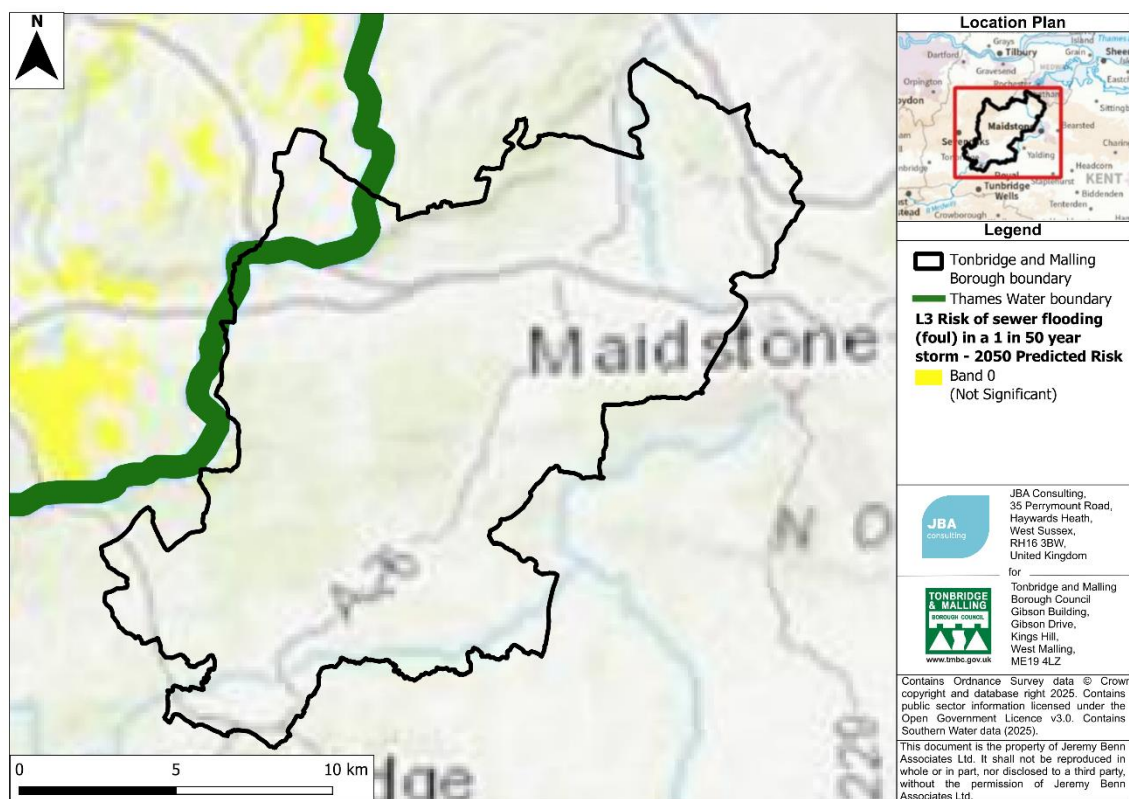
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Figure 2-3: Risk of sewer flooding in 1 in 50-year storm (2050)



3 Recommendation

On the basis of our understanding of the RBCS and BRAVA data, the area of Tonbridge and Malling Borough within Thames Water's coverage boundary does not contain any catchments that were assessed at the BRAVA planning stage. Therefore, the risk assessment and mapping included in the Thames Water DWMP does not introduce any information that would influence the proposed land use planning prioritisation process and the Sequential Test. Accordingly, it is concluded that Thames Water DWMP is not used by Tonbridge and Malling Borough Council in the preparation of the Sequential Test.