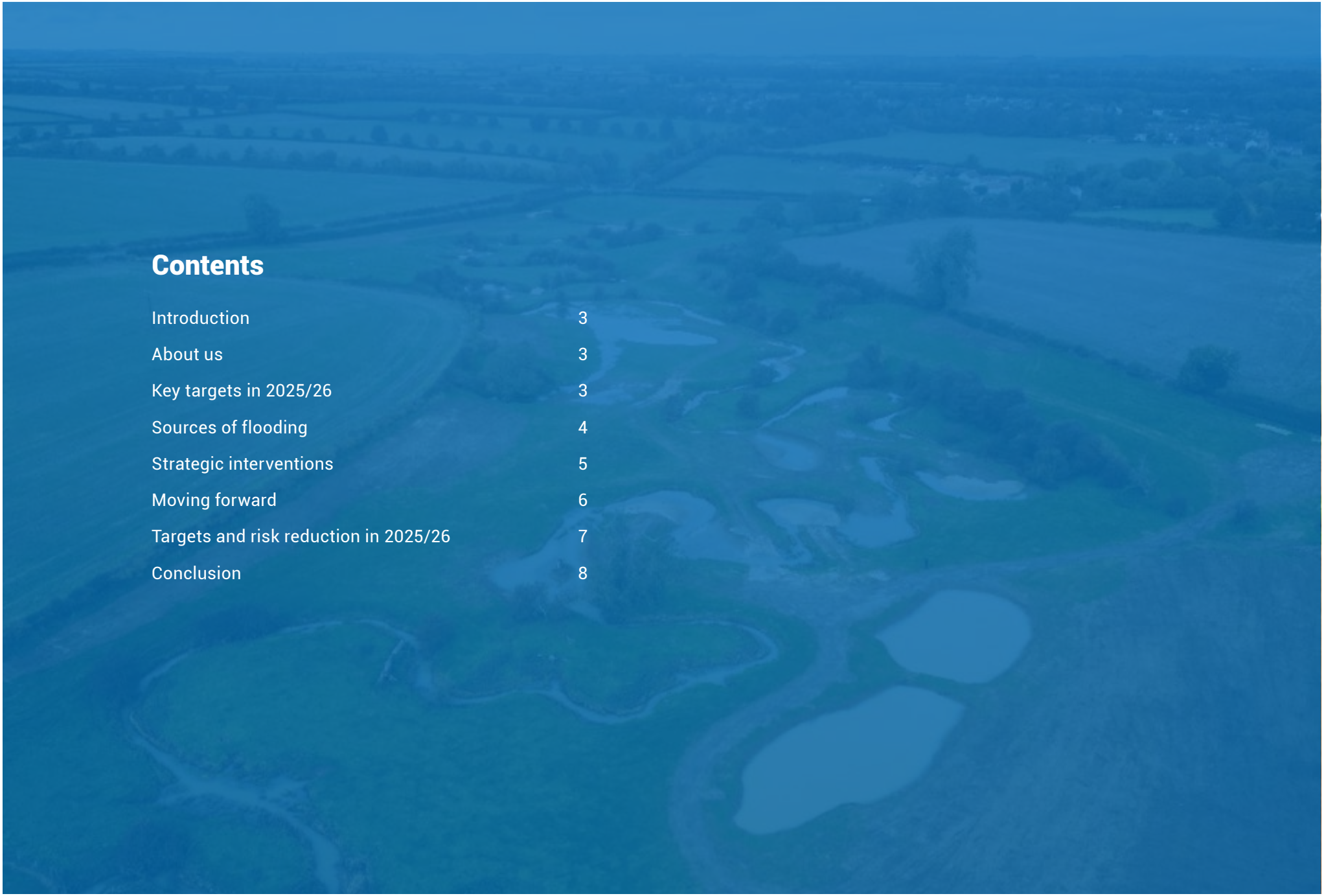
Flooding Incident Reduction Plan: Executive Summary

June 2025



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Introduction

Anglian Water's Flooding Incident Reduction Plan (FIRP) for 2025-2026 aims to mitigate flooding risks across our service region. This plan mirrors the approach of the Pollution Incident Reduction Plan (PIRP) and is designed to be a live, agile document, ensuring continuous improvement in flood risk management in response to changing climate conditions and our commitment to environmental enhancement and exceptional customer service.

Click here for our Pollution Incident Reduction Plan 2025

Anwick Water Recycling Centre under water. Image credit: Paul Barham, Maintenance Support Technician

About us

Anglian Water provides water and water recycling services to nearly seven million people in the East of England. Our extensive sewer network plays a crucial role in transporting wastewater from customers' properties to our water recycling centres. However, the network faces challenges. Factors like sewer issues, failures at pumping stations, excess flow into the network from heavy rainfall and infiltration from high groundwater levels can result all in internal and external flooding incidents, significantly impacting both the environment and the communities we serve.

To manage and mitigate these risks we comply with the performance commitments set by Ofwat, the economic regulator of the water sector in England and Wales. These commitments involve measuring and reporting internal and external flooding incidents. Internal flooding refers to incidents where water from the sewer system enters a building, while external flooding occurs within the boundary of a property but outside the building itself. By tracking these incidents, Anglian Water can better understand the performance of its sewer network and identify areas for improvement.

Key targets in 2025/26

We have set ambitious end-of-AMP8 (2030) targets to significantly reduce flooding incidents and overall risk. These targets reflect our long-term commitment to improving network resilience and customer outcomes:

Internal flooding:

Reduce to **1.21 incidents per 10,000** sewer connections (352 incidents)

External flooding:

Reduce to **12.78 incidents per 10,000** sewer connections (3,736 incidents)

We will report on the outcomes of our 2024/25 key targets in our Annual Integrated Report, to be published in July 2025.

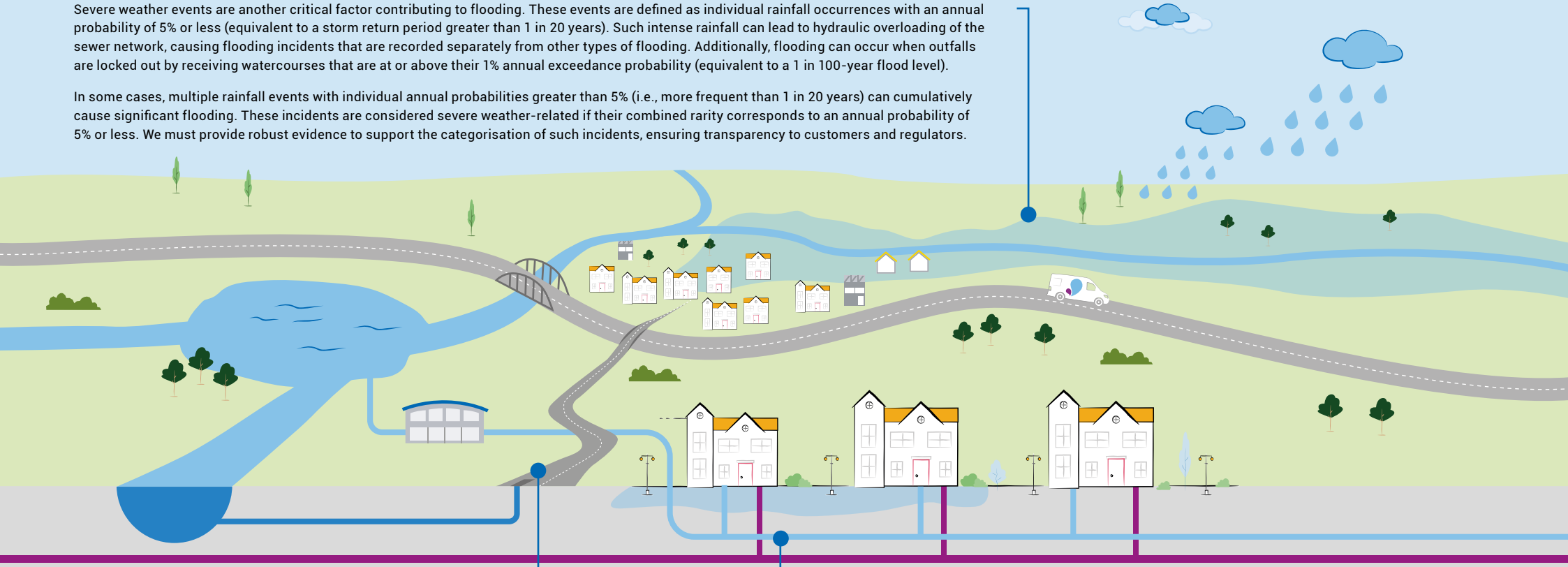
Sources of flooding

Flooding in our region can arise from several sources, each contributing to the overall risk and complexity of managing our sewer network.

Severe weather events

Severe weather events are another critical factor contributing to flooding. These events are defined as individual rainfall occurrences with an annual probability of 5% or less (equivalent to a storm return period greater than 1 in 20 years). Such intense rainfall can lead to hydraulic overloading of the sewer network, causing flooding incidents that are recorded separately from other types of flooding. Additionally, flooding can occur when outfalls are locked out by receiving watercourses that are at or above their 1% annual exceedance probability (equivalent to a 1 in 100-year flood level).

In some cases, multiple rainfall events with individual annual probabilities greater than 5% (i.e., more frequent than 1 in 20 years) can cumulatively cause significant flooding. These incidents are considered severe weather-related if their combined rarity corresponds to an annual probability of 5% or less. We must provide robust evidence to support the categorisation of such incidents, ensuring transparency to customers and regulators.



Excess flow and hydraulic overloading

Another significant source of flooding is the excess flow of water entering the sewer network. This can come from multiple sources, including surface water, groundwater infiltration, fluvial flooding, and misconnections, where surface water is incorrectly connected to our foul sewer system. The presence of excess flow reduces the capacity of the sewer network, increasing the risk of escapes and making the system less efficient in pumping and treating water.

Hydraulic overloading occurs when the flow within a sewer exceeds its capacity, causing contaminated water to escape from the network. This can result in flooding, pollution incidents, spills, and non-compliance with dry weather flow standards at water recycling centres. The complexity of hydraulic overloading often requires extensive investigation and a multi-agency approach to resolve, as it can be influenced by numerous factors such as illegal or improper misconnections, infiltration from excess surface water or high groundwater, and inadequately designed new developments.

Blockages and other causes

One of the primary causes of flooding is blockages within the sewer system. These blockages often result from waste, fats, oils, grease (FOG), and unflushable materials being improperly disposed of by customers and non-household users into our sewer network. When these substances accumulate, they can create significant restrictions within the pipes, preventing sewage from flowing freely. This can lead to a build-up of pressure and eventually cause sewage to escape from the network, resulting in both internal and external flooding incidents, and in some case, contributing to pollutions incidents.

In addition to blockages, other factors can contribute to flooding. These include root masses infiltrating the sewer pipes, collapses within the sewer infrastructure, and unmaintained third-party assets such as highway drain gullies, ditches, and watercourses. Over-pumping from building sites and defects in the pipes can also restrict the flow of sewage, leading to similar outcomes.

Strategic interventions

We have prioritised several activities to ensure to reduce the risk of flooding in our area. These include:

Removal and management of excess flow

To address hydraulic overloading, we are working to remove sources of infiltration that contribute to excess flow in the network and ingress. This involves identifying and eliminating points where groundwater or surface water enters the sewer system, which can lead to overloading and subsequent flooding. By reducing these infiltration sources, the pressure on the sewer network is alleviated, thereby minimising the risk of flooding incidents.

Proactive response to blockages and asset failure

We are utilising intelligent modelling, weather data, and network visualisation tools to implement proactive interventions. This includes an agile response strategy, often referred to as a 'blue light' response, which is deployed to the most affected areas during severe weather events. By predicting and responding to potential blockages and asset failures before they escalate into major incidents, we can significantly reduce the impact of flooding on customers and the environment.

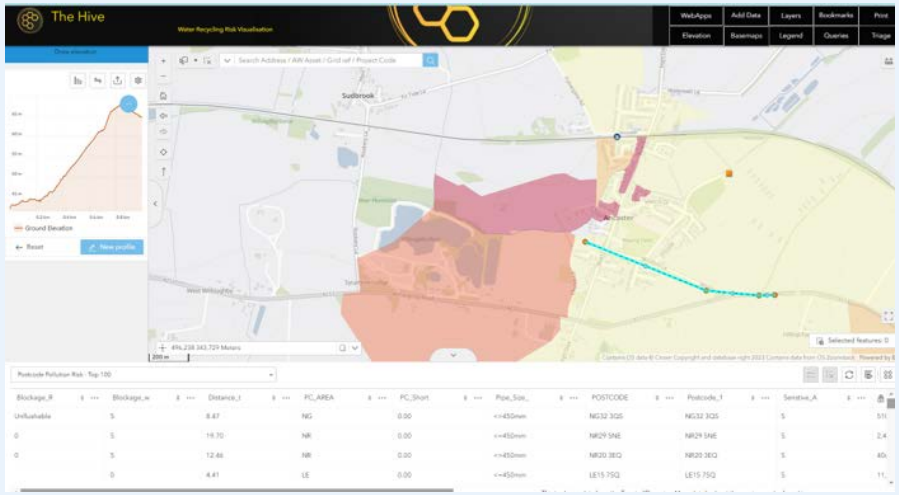
Risk-based assessments, modelling, and visualisation

We are implementing plans to conduct smart mitigation at a property level based on detailed risk assessments. This involves using advanced modelling and visualisation tools to identify high-risk areas and prioritise interventions accordingly. By leveraging data and technology, we can implement targeted measures that are more effective in preventing flooding. This approach ensures that resources are allocated efficiently to areas where they are most needed.

The Hive, networks portal success story:

"While using The Hive, I noticed a local pumping station was operating at a high level. I contacted the Operations Manager to address this concern, and we promptly arranged for a technician to inspect the site, who confirmed the pumps were blocked. The pumps were quickly unblocked, the site was pumped down and normal operations were restored. Thanks to the visual insights provided by The Hive, we were able to catch the problem early and prevent a potential flooding. This scenario highlights the critical role of The Hive in helping us stay on top of potential issues and ensuring we can act quickly to protect our environment."

David Underwood, Senior Network Technician



A screen-view of The Hive

Reducing sewer misuse

A key component of our FIRP is the implementation of smart, targeted customer education programs designed to prevent blockages and reduce flooding risks. These programs are based on historic hotspot data and aim to inform customers about proper sewer use and the consequences of misuse. By educating the public on the importance of not flushing inappropriate items and managing fats, oils, and grease (FOG) properly, we will reduce the incidence of blockages that can lead to flooding. See page 6 for more.

Hedgehog's activity in Northampton, December 2024

Moving forward

Having completed a detailed root cause analysis on flooding, we are now addressing performance drivers, most notably with a step change in hydraulic overloading. This approach is expected to mitigate the impact of weather changes on future measures and reflects our goal to deliver the full commitments outlined in our agreed transformation program.

Governance and accountability

The Flooding Incident Reduction Plan (FIRP) is managed by the Head of Water Recycling Networks, who holds overall responsibility for the plan's implementation and success. This role is supported by various relevant functions within Anglian Water, ensuring a collaborative and integrated approach to flood risk management. The governance structure is designed to provide clear accountability and oversight, ensuring that all aspects of our plan are effectively managed and executed. To ensure comprehensive coverage and effective management, the following workstreams have been integrated into the governance framework:

MAG and Flood Preparedness Steering Group

Multi Agency Groups (MAGs) and the Flood Preparedness Steering Group play crucial roles in Anglian Water's flood incident reduction strategy. These groups ensure effective coordination and communication among all relevant agencies, which is vital during flooding incidents to manage resources and responses efficiently. Regular training and communication sessions are conducted to prepare for real-life flooding scenarios, improving response times and effectiveness. The Flood Preparedness Steering Group identifies high-risk areas for flooding during winter months and outlines specific actions to mitigate these risks, such as clearing drains and reinforcing flood defences. Public awareness campaigns are also a key aspect, educating communities on how to protect themselves and their properties from winter flooding.

Data, mapping improvements and effective planned preventative maintenance

This section focuses on enhancing data collection and mapping to improve the design and effectiveness of Planned Preventive Maintenance (PPM). By leveraging advanced data analytics and mapping technologies, we aim to optimise our maintenance schedules and interventions, ensuring that resources are allocated efficiently and effectively to areas most at risk of flooding. This proactive approach helps identify potential issues before they escalate into major problems, thereby reducing the overall risk of flooding incidents.

Flood partnership – partnership schemes (flooding initiatives (communities) group)

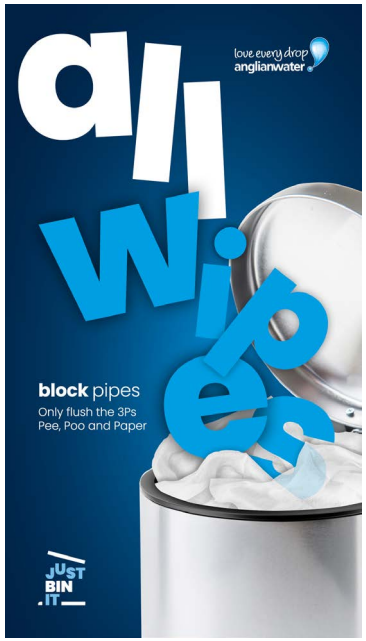
The Flood Partnership team has been instrumental in driving collaborative efforts to manage and mitigate flood risks through various partnership schemes. These schemes leverage the strengths and resources of working in partnership with multiple stakeholders, ensuring a comprehensive approach to flood management. The team has secured funding for several schemes and has successfully completed numerous projects in collaboration with different partners. The focus on partnership working is expected to significantly improve flood reduction numbers by enhancing resource allocation, fostering innovation, increasing funding opportunities, and promoting community engagement. By continuing to expand these collaborative efforts, the Flood Partnership team aims to create safer and more resilient communities.

Customer communications and addressing misuse

We are addressing the issue of domestic misuse, which leads to blockages and flooding, through a comprehensive communication strategy. The 'Just Bin It' campaign focuses on key areas such as Northampton, Kettering, Basildon, and Southend. The strategy includes phased communication and engagement activities to raise awareness, followed by an enforcement program to ensure compliance. The campaign delivers clearer, action-oriented messages to customers, emphasising the importance of proper disposal practices and encouraging customers to dispose of unflushable items in the bin rather than down the toilet. The campaign is supported by a detailed communications plan spanning various channels, including social media, digital platforms, radio, and community events. The goal is to reduce blockages and flooding, protect the environment, and improve customer satisfaction through education, engagement, and enforcement.

Although still in its infancy, the campaign is already showing strong signs of success.

From December 2024 to March 2025 we collected nearly 15,000 wipes over two postcode areas in Northamptonshire alone (NN38 and NN57) and seen a reduction of unflushables entering our network from in these areas by an average of between 26-87% per household.



Our Just Bin It campaign focuses on reducing blockages through customer behaviour change

Targets and risk reduction in 2025/26

We have set ambitious targets in 2025/26 to further reduce flooding incidents and overall risk. Our goal is to decrease internal flooding incidents to 1.21 per 10,000 sewer connections (352 incidents) and limit external flooding incidents to 12.78 per 10,000 sewer connections (3,736 incidents).

To deliver these targets, we have identified several key interventions that are driving significant risk reductions and overall benefits. These include:

Blockage prevention and removal

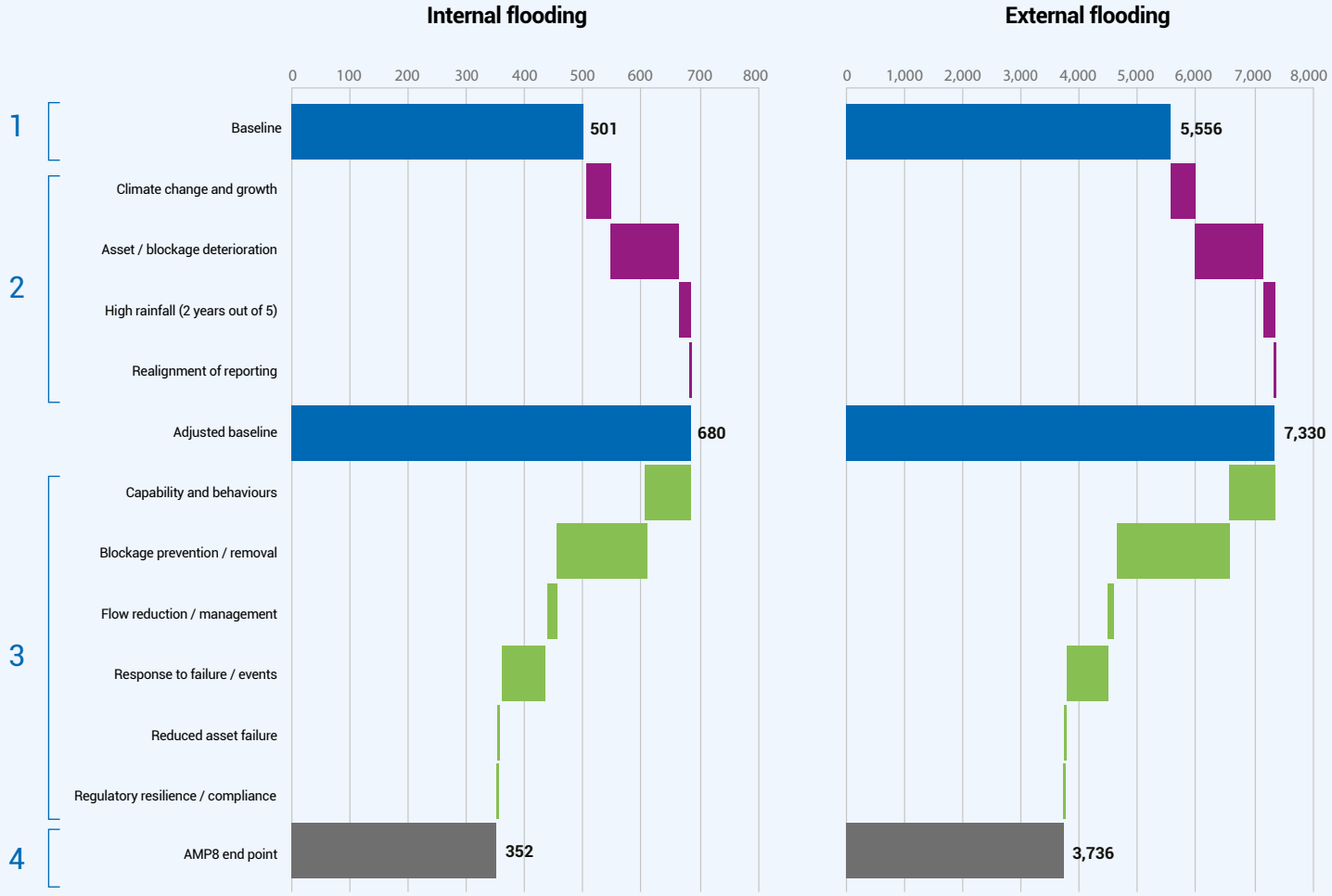
Our strategic interventions to address blockages, which includes the Just Bin It Campaign (Domestic Misuse) and Dynamic Sewer Visualisation leverages. By the end of AMP8 (2030) we are looking to achieve an approximate risk reduction of 22% for internal flooding incidents and 26% for external flooding incidents.

Hydraulic overloading

Our strategic interventions to address hydraulic overloading includes work undertaken by our Complex Investigations Teams, the Drainage and Wastewater Management Plan and Developer Services Strategic Plans. By the end of the AMP (2030) we are looking to achieve an approximate risk reduction of 3% for internal flooding incidents and 2% for external flooding incidents.

Asset failure

Our strategic interventions to address asset failure includes our Catchment Risk Management Approach, Incident Response and Preparation along with the use of technologies such as Ovarro and Syrinix. By the end of the AMP (2030) we are looking to achieve an approximate risk reduction of 12% for internal flooding incidents and 10% for external flooding incidents.



1 This is our AMP8 starting point.

2 These are the factors that will increase the amount of flooding incidents.

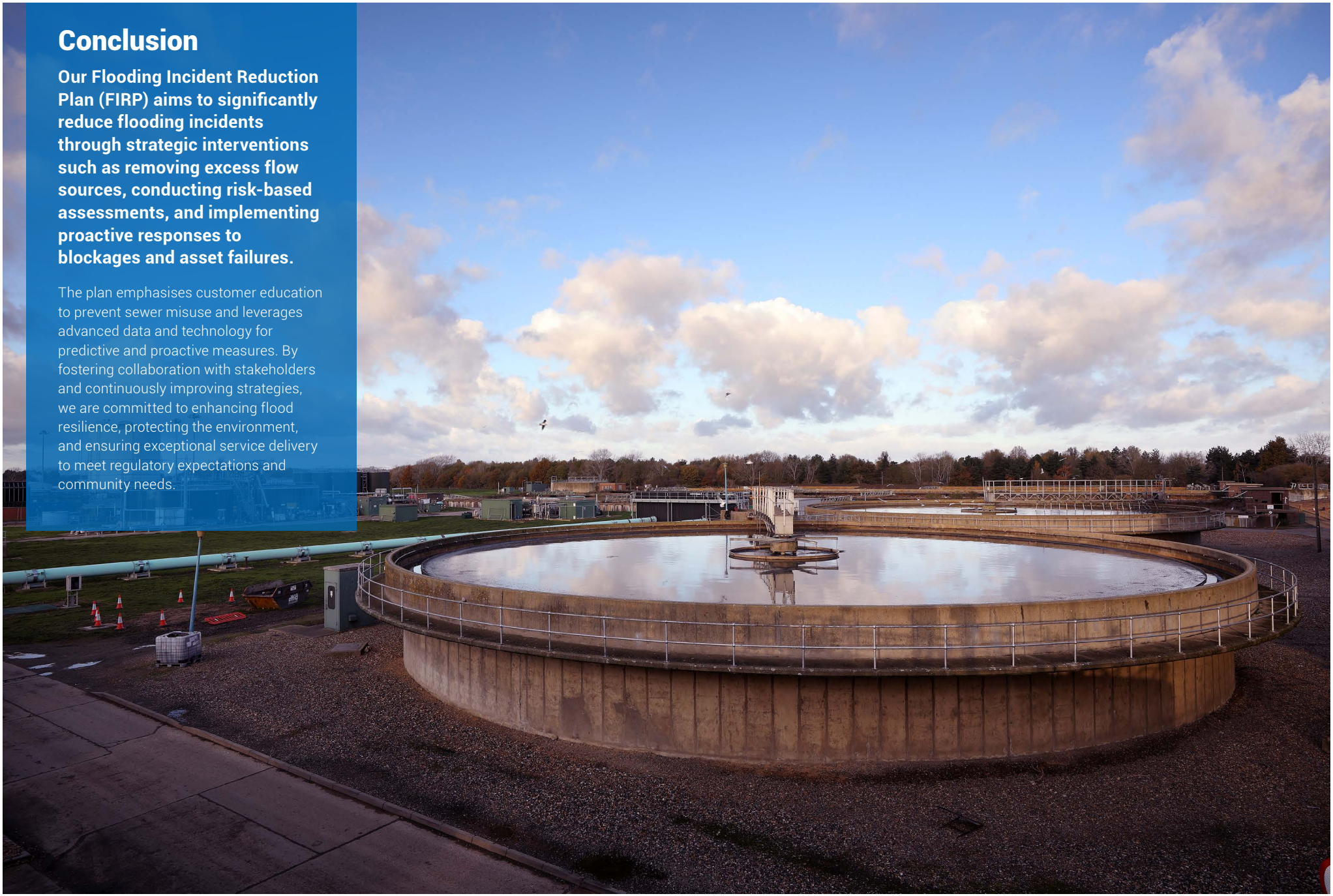
3 These are the interventions we are undertaking to improve our performance.

4 As a result, this is our Year 5 end of AMP forecast for internal and external flooding.

Conclusion

Our Flooding Incident Reduction Plan (FIRP) aims to significantly reduce flooding incidents through strategic interventions such as removing excess flow sources, conducting risk-based assessments, and implementing proactive responses to blockages and asset failures.

The plan emphasises customer education to prevent sewer misuse and leverages advanced data and technology for predictive and proactive measures. By fostering collaboration with stakeholders and continuously improving strategies, we are committed to enhancing flood resilience, protecting the environment, and ensuring exceptional service delivery to meet regulatory expectations and community needs.



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