



# Our investment plan for Hastings

October 2024



from  
**Southern  
Water.** 



# Agenda

- Introduction
- Water infrastructure plan
- Wastewater infrastructure plan
- Next steps



## Purpose of meeting

- After the meeting in July where we apologised for our performance in Hastings, we committed to returning to present our investment plan. There are three key issues that impact on Hastings:
  - Water cleanliness and sewage.
  - Flooding (update about the hydrology study and next steps preparing for winter 2024).
  - Water outage events prevention.
- We welcome the opportunity to present this to you and to hear your feedback as we take you through the plan.



# Water supply

1 For Hastings we produce 34Ml/d (equivalent to 13.6 Olympic swimming pools) serving a population of 113,000.

This is the main that burst in May 2024

4

Beauport supplies 2/3 of Hastings water supply and supports the most of Hastings

2

3

Brede supplies 1/3 of Hastings water supply and feeds mainly to the East of Hastings

- Surface storage reservoirs of raw water
- ◆ Water supply works
- Service reservoirs of treated drinking water
- Strategic trunk mains
- Our supply area



# We have submitted a £40m resilience case to Ofwat.....

‘System/zonal’ risk and resilience asset management is at the heart of our plans.

This allows us to **apply targeted risk-based investment** to our least resilient water zones.

The **planned benefits** are reduced customer outage and improved customer experience.

We have submitted a **£40m resilience case to Ofwat**, which includes the requirements in Hastings.

## *The Four Rs of Resilience*

### Resistance

Preventing damage or disruption by providing the strength or protection to resist the hazard.

### Reliability

The asset or systems are designed to operate under a range of set conditions and hence mitigate damage or loss from an event.

### Redundancy

The availability of backup installations or spare capacity to enable operations to be switched or diverted to alternative parts of the system in the event of disruption to ensure continuity of service.

### Response and recovery

Enabling a fast and effective response to and recovery from disruptive events.

# Our Plan for Hastings...



Site / Asset	Risks	Deliverable	Expected Completion Date
<b>Darwell to Beauport 800mm main</b> <i>(Reliability, Redundancy and Response and Recovery improvements)</i>	Failure of 800mm concrete main	Develop and deliver long term solution to address failure risk of Darwell to Beauport 800mm main	March 2030
	High Pressure shock waves passing along the main	Complete the installation of high-speed loggers on 800mm main	Dec 2024
	Limited access to maintain/repair the main	Complete the review to understand and address multiple rights of access, landowner changes, SSSI challenges and easement, and develop a plan to address findings	Dec 2024
	Hydraulic constraint at Darwell Reservoir	Deliver solution to address 2Ml/d constraint to Beauport supply works	March 2025
<b>Darwell to Brede aqueduct</b> <i>(Reliability improvements)</i>	Condition of aqueduct	Deliver targeted refurbishment of the Darwell to Brede aqueduct	March 2026
<b>Brede</b> <i>(Reliability and Resistance)</i>	Failing aged assets and single points of failure	Refurbish or replace RGF (Rapid Gravity Filters)	March 2030
		Deliver Brede WSW disinfection upgrade under the Disinfection Future Resilience Programme	March 2030

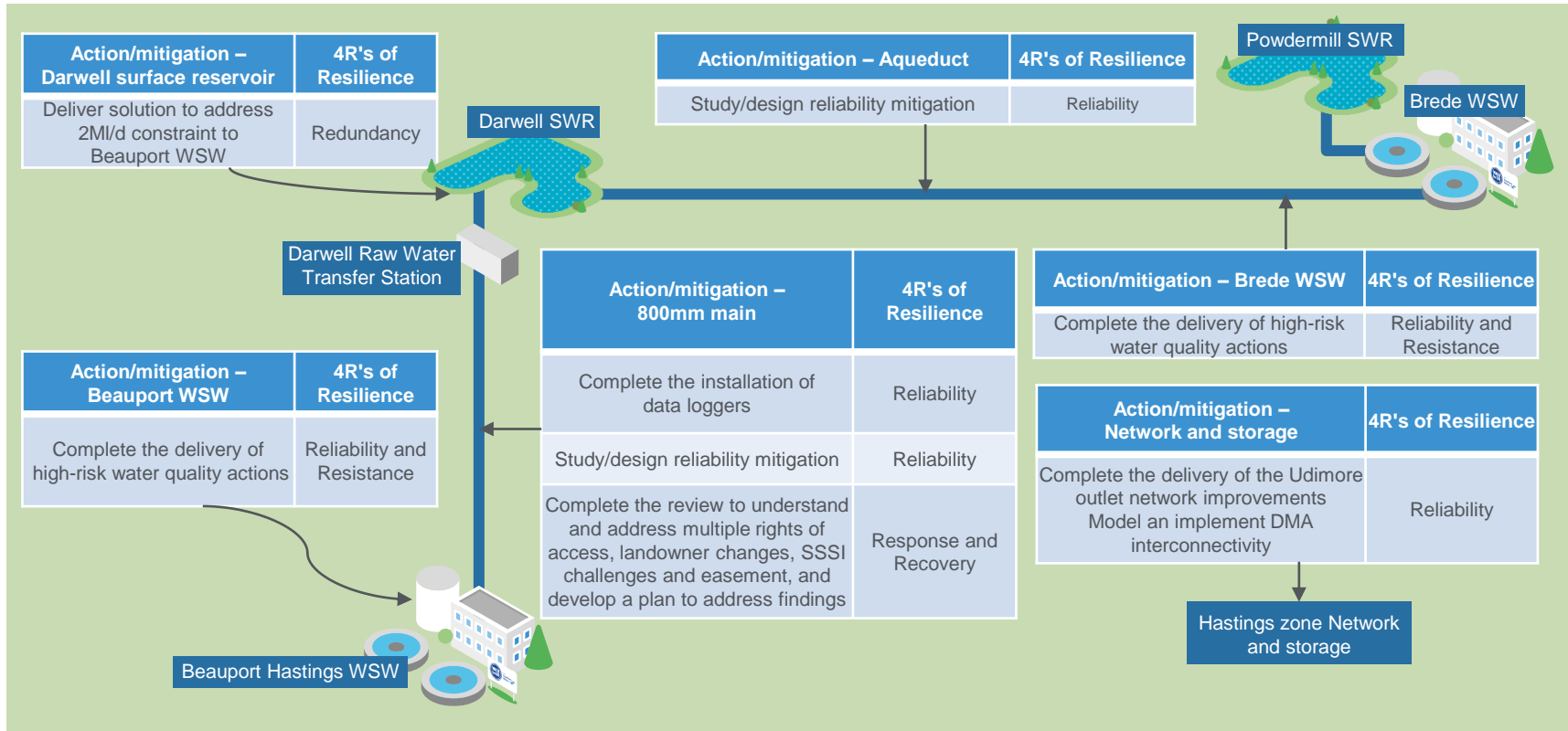


# Our Plan for Hastings...



Site / Asset	Risks	Planned investment (2025-2035)	Expected Completion Date	
Beauport (Reliability and Resistance)	Failing aged assets and single points of failure	Beauport WSW disinfection upgrade under the Disinfection Future Resilience Programme	March 2030	
Network and storage (Resistance, Reliability, Redundancy, Response and Recovery)	Failure of trunk main	Study/design a new bulk supply agreement with South East Water in line with Water Resources management Plan (WRMP)	March 2025	
	Reduce demand	Deliver Smart metering programme (c39k to be replaced)	March 2030	
	Poor network connectivity east to west and west to east		Deliver targeted District Metering Area (DMA) interconnectivity	March 2028
			Study/design a new reservoir at Newgate B, build in additional network connectivity	March 2028
			Deliver targeted network mains replacement under the Leakage delivery programme – 1.24km	March 2030

# By March 2025 we will have delivered the following...



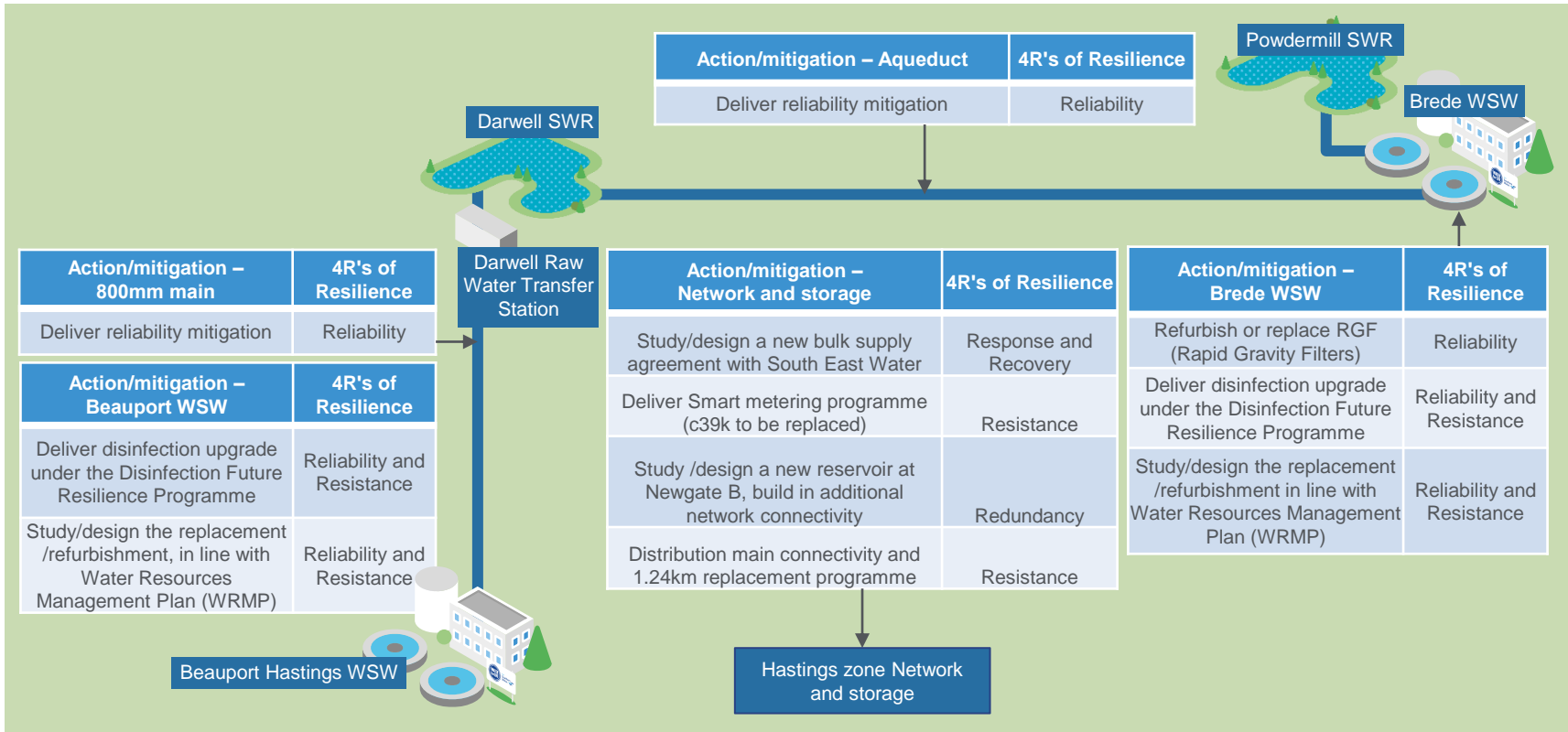


# In the short term we are undertaking the following for the Darwell to Beauport main....

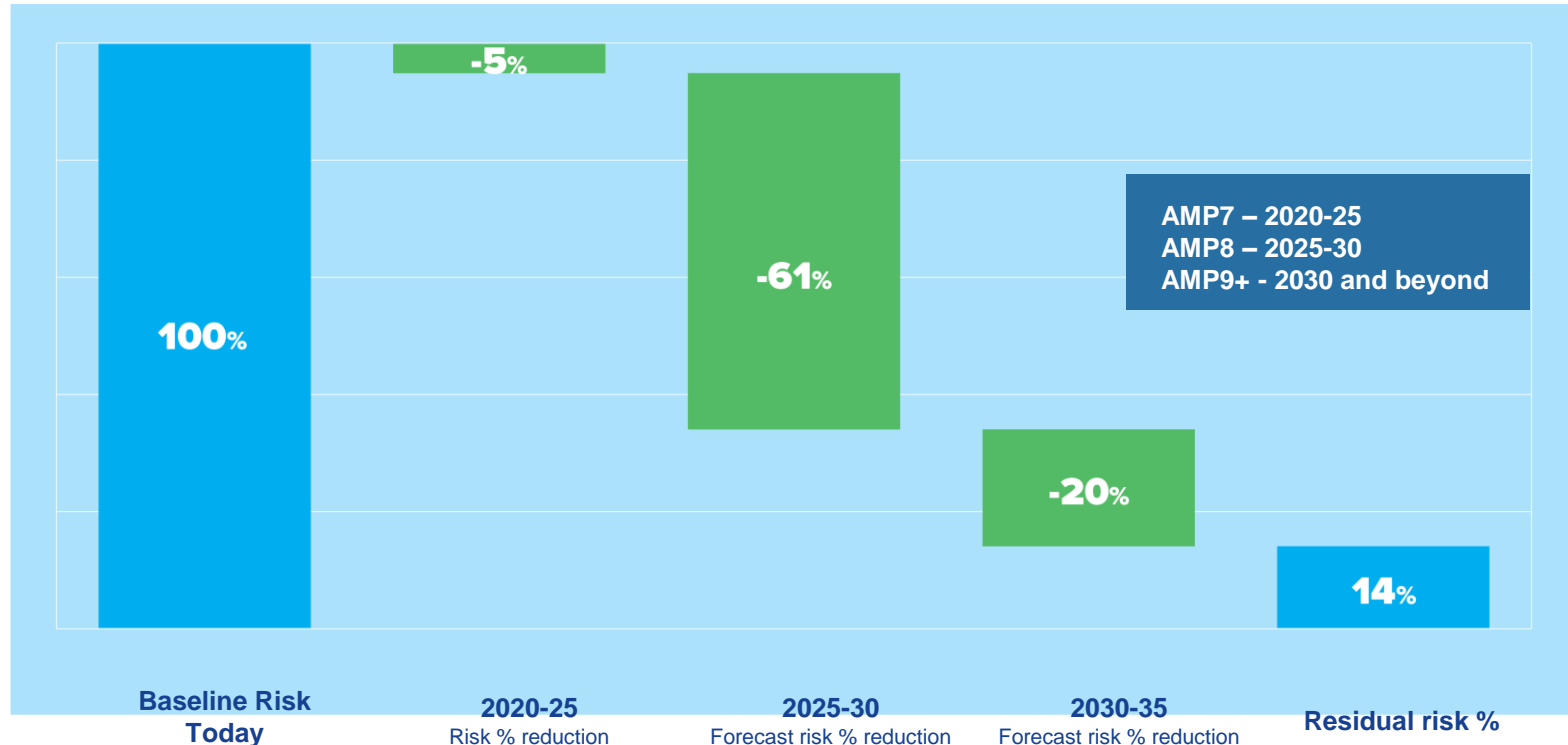


- Resolve hydraulic restriction to **increase Beauport WSW by an additional 2MI/d** (10% uplift in supply) to improve response – Due March 2025.
- Installation of loggers on the 800mm pumping main to **monitor fluctuations in surge**, to improve reliability – Due December 2024.
- Ongoing 800mm **surge suppression optimisation** at Darwell WSR, to improve resilience. – Due June 2025.
- Implementation of a revised **Incident Alternative Response Improvement plan**, to support response – Due December 2024.
- 12 monthly programmed mains walking, utilising IT technology such as satellite surveys to help **identify leaks before they become bursts** – Completed for 2024, will repeat in 2025 (1 main leak found and fixed).

# By March 2030 we will have delivered the following...



# Multi-AMP resilience plan: 66% forecast risk reduction by 2030



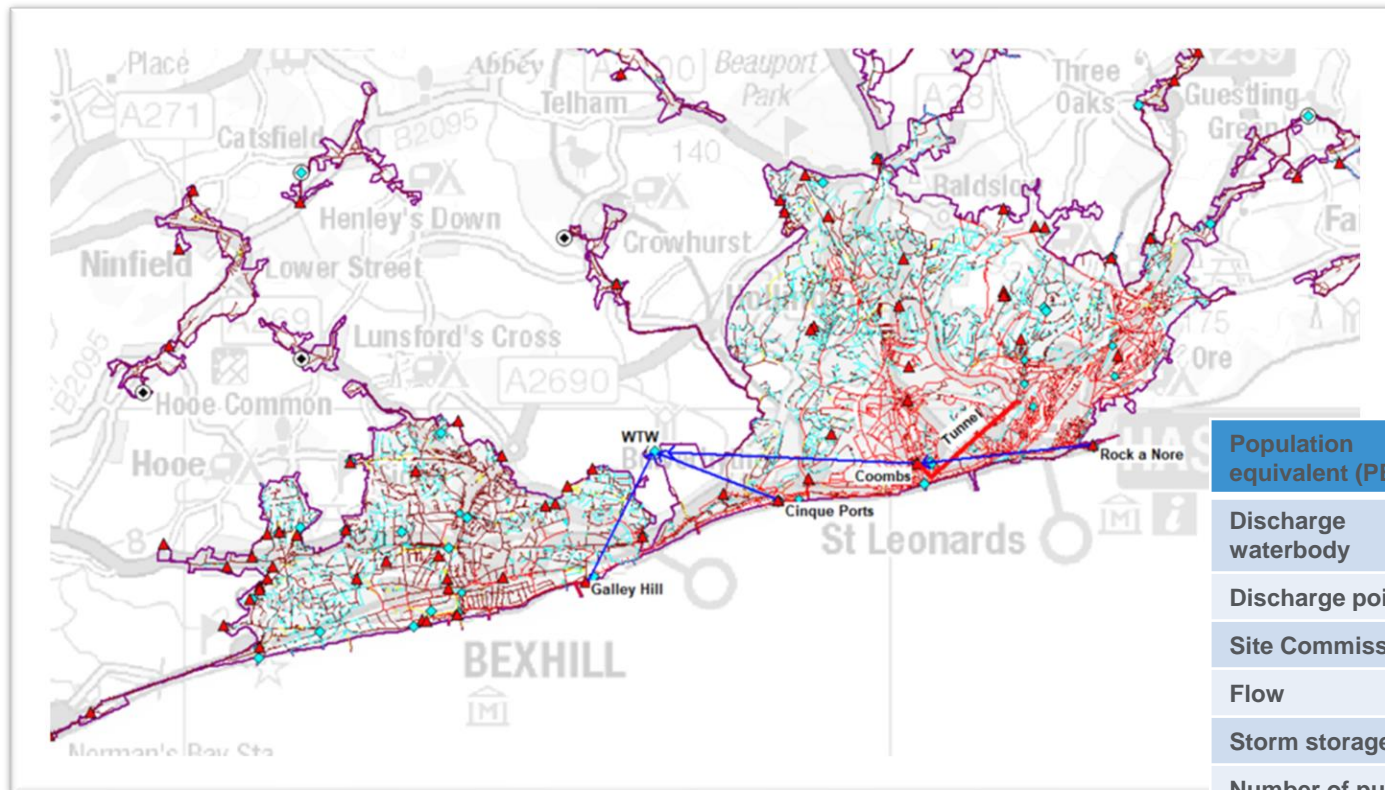
\*AMP = Asset Management Period (The five year regulatory periods governing the water industry, the next period is 2025 – 2030)

# Wastewater Overview



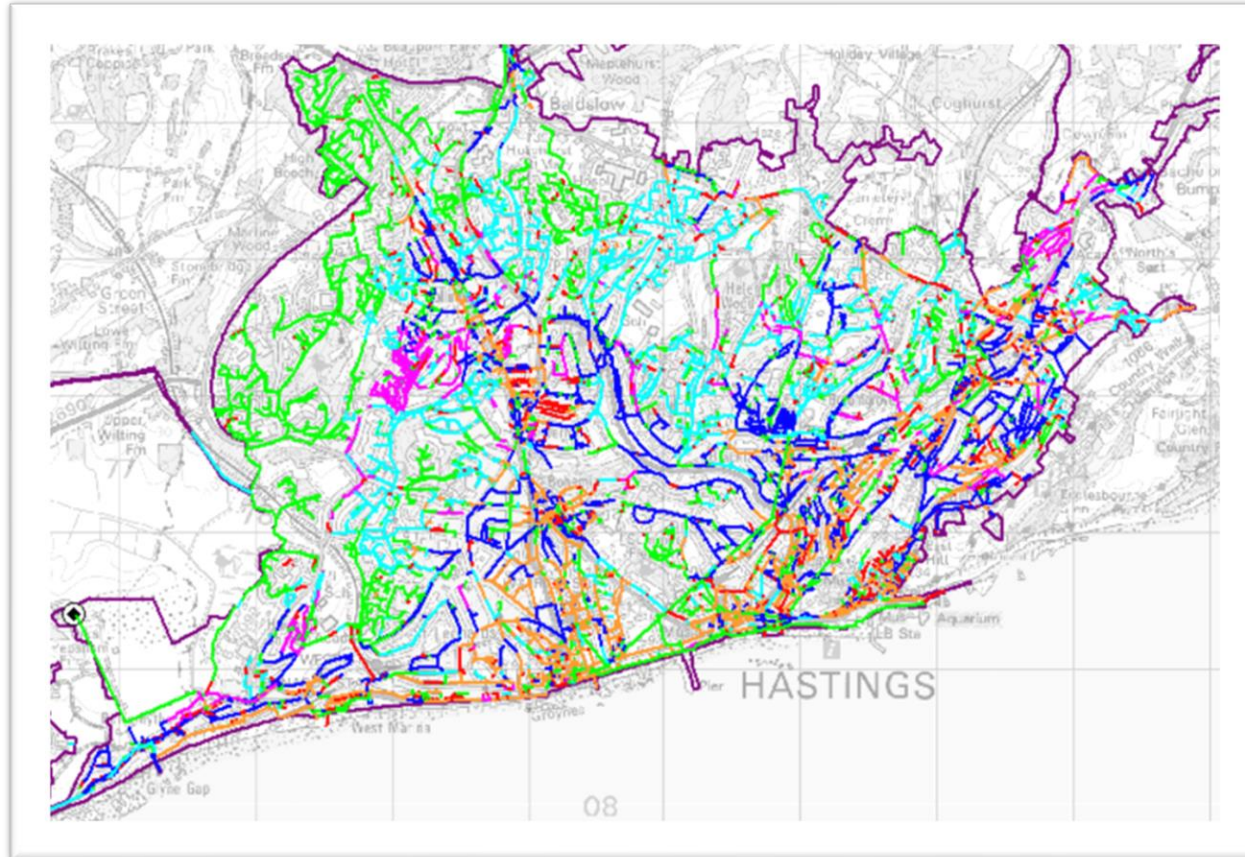


# Bexhill and Hastings – Overview



<b>Population equivalent (PE)</b>	141,300
<b>Discharge waterbody</b>	2 long sea outfalls into English Channel
<b>Discharge point</b>	3.2km offshore
<b>Site Commissioned</b>	2003
<b>Flow</b>	922l/s
<b>Storm storage</b>	53,000m <sup>3</sup>
<b>Number of pumping stations</b>	74
<b>Length of sewer</b>	1225.2 km

# Focus on Hastings – sewers by age



No. sewers by age range

1980 to 2024	(4895)
1960 to 1980	(2718)
1940 to 1960	(972)
1890 to 1940	(2987)
1800 to 1890	(1896)
No Age data	(3752)

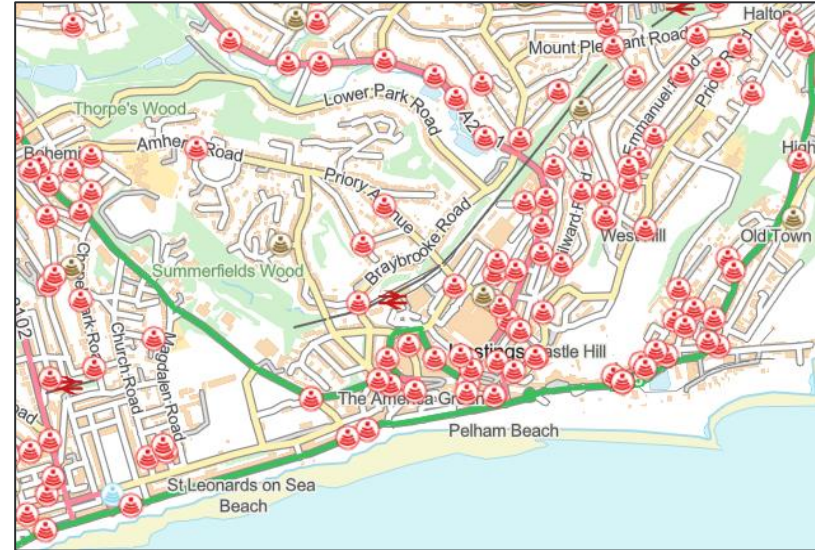
- Age reflects the development of the town with 44% of sewers less than 80 years old
- 42km of critical sewer > 600mm diameter have a 10 year inspection cycle, which we carry out
- Critical sewers found to be in poor condition to be repaired proactively as needed, based on industry standard condition grading



# Operating and Maintaining - our Assets in Hastings



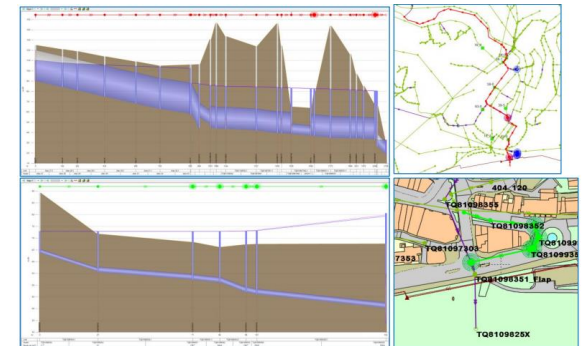
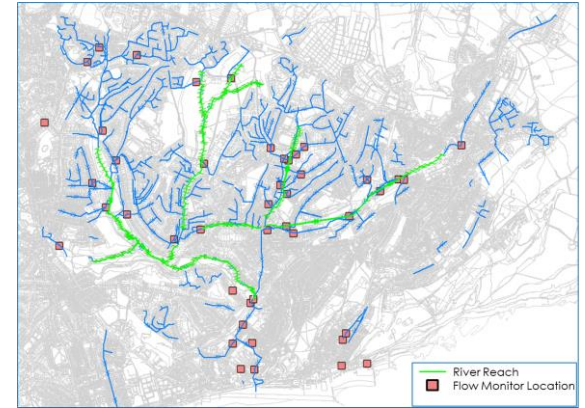
- We carry out regular Inspection and Maintenance (equivalent of an MOT) of our pumping stations and have continuous monitoring technology which allows us to identify faults before they occur.
- We have **installed and have live access to 670 monitors in the Hastings sewer network** which provide us with early warnings of sewer blockages.



# Independent Report into Town Flooding – Conclusions



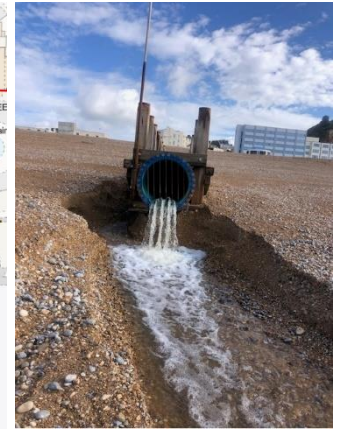
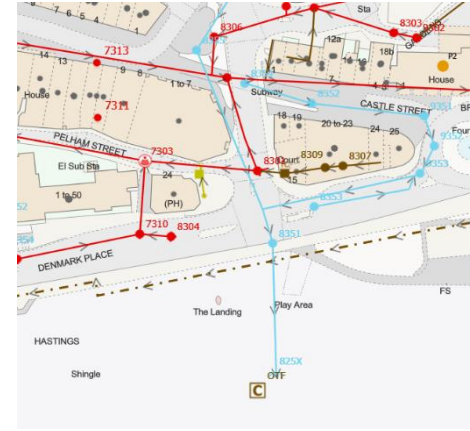
- **In 2024 a Hydraulic model of the system was built and verified by Stantec.** This simulates, based on evidence, the flows through the town dependent on rainfall and groundwater.
- Cause of flooding in both events was a broken tidal flap in the section upstream of the Pelham Outfall, causing flows to back up through the system and overflow at South Terrace.
- As a reminder, we have fixed the tidal flap at Pelham and removed the manhole at South Terrace.
- With system returned to original capability model predicts protection to **1 in 30 years at Alexandra Park** (higher than the industry standard) and **>50 years at Town Centre** which equates to rainfall of 45 – 60mm in 8 hours.
- Due to the recognised impact of the flap and restrictions, we have a maintenance plan in place to check the system is not impeded and is free to discharge.





## 2020-25 investment – Pelham surface water outfall

- Southern Water adopted the Pelham surface water outfall in September 2022.
- It was in a degraded state which often blocked.
- **£1.3 million has been spent** on replacing the outfall pipe to its previous length, significantly reducing the risk of flooding.
- Due to development of the harbour and the changes to shingle movements, **we are reviewing options to extend the outfall during 2025-2030.**



Check valve example



# Wastewater - Planning for growth in Hastings



- Southern Water uses local plan data to forecast investment required for wastewater treatment sites. **We are a statutory consultee on local plans but not individual planning applications.**
- For the sewer network we comment on planning applications with respect to the available capacity, any reinforcement needed and preferred connection points.
- Where there is insufficient capacity, **we request conditions to be placed on the development which require the developer to engage in discussions with us about connection points, flows and timescales.**
- We include in our investment plans the funds required for network improvements.
- Premier Inn site consulted on and advised to connect all flows to combined system; must not connect to culverted watercourse



# Hastings – Key Risks and Investment Actions



The full Drainage and Wastewater Plan, previously shared, highlighted a number of risk areas and actions. These are summarised below:

Risk category	2024 risks	Actions and planned investment	Expected Completion Date
<b>Bathing water quality</b>	Hastings Pelham improved from 'sufficient' to 'good'.	<ul style="list-style-type: none"> <li>Working with Council and EA to deliver bathing water improvement, with over 4km of sewers rehabilitated and 45 illegal connections identified and resolved.</li> </ul>	Excellent by Summer 2026
<b>Storm Overflow performance</b>	Bexhill & Hastings main overflow spills circa 120 times per year.	<ul style="list-style-type: none"> <li>Defra target to reduce spills to less than 10 by 2035, we have proposed to accelerate investment for 2027/28 start.</li> </ul>	Complete by 2035
<b>Internal sewer flooding risk</b>	Significant flooding in town centre but recent work provides 1 in 50 year protection	<ul style="list-style-type: none"> <li>In 2024 Manhole sealed, flap valve reseated. Pelham outfall refurbished.</li> <li>Independent model completed on surface water flows shows 1 in 50 year protection for town centre following completion of work. This is greater than industry standard.</li> <li>Ongoing shingle removal activity to ensure free discharge. Reviewing options to extend outfall or use end-of-pipe check valve to prevent shingle ingress, by 2030.</li> </ul>	Complete, with further extension by 2030
<b>Pollution risk</b>	Recent pollution at Cinque Ports, Old Roar Ghyll.	<ul style="list-style-type: none"> <li>Cinque Ports rising main replacement nearing completion</li> <li>Galley Hill WPS refurbished with further power resilience work</li> <li>Ghyllside Road separation of surface/foul sewer nearing completion (early 2025).</li> </ul>	2025 -2027
<b>Network asset health</b>	Some rising mains/ sewer condition concerns. Rock-A-Nore WPS condition.	<ul style="list-style-type: none"> <li>Rock-A-Nore pumping stations refurbishment planned overhaul of control system and power mgmt</li> <li>Repairing or replacing 500m critical sewers in Hastings</li> <li>Resurveying the 11km of poor condition sewers, refurbish based on results.</li> </ul>	2027
<b>Treatment works asset health</b>	Poor condition - inlet and screens, settlement tank (lamella) covers.	<ul style="list-style-type: none"> <li>Good quality effluent from treatment process – maintain current performance.</li> <li>Planned refurbishment of screens and settlement tanks (lamellas)</li> <li>Renewed concrete and civil structures</li> </ul>	2027

## Next Steps

- We will send a report every six months on our progress to the Council.

