

# Brightling Parish Council

10 April 2024



# About South East Water

We supply fresh, clean drinking water to **2.3 million** customers

On average, we treat and pump **540 million litres** to customers each day

Each customer uses an average of **150 litres** a day

The average daily household bill is **66p**

We operate **88 treatment works**

Deliver water 24/7 through **9,000 miles** of pipe

Manage **33 sites** of Special Scientific Interest

Undertake **500,000** water quality tests each year

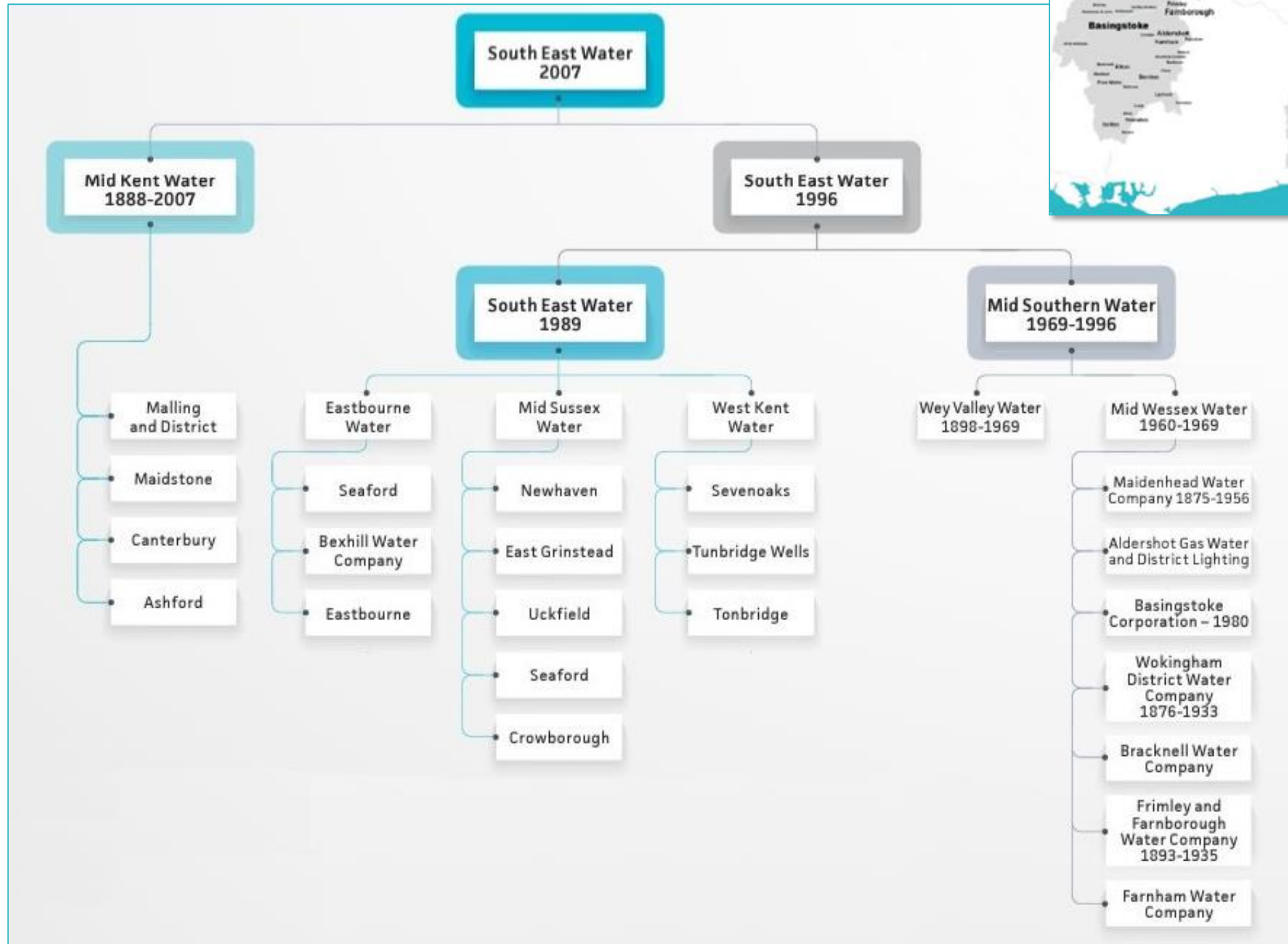
## Our purpose

To provide today's public water service and create tomorrow's water supply solutions, fairly and responsibly, working with others to help society and the environment to thrive.





# History of South East Water



# Recap on recent events



# Water Demand Challenges

We have seen a **change** in how customers are using drinking water during periods of peak demand.

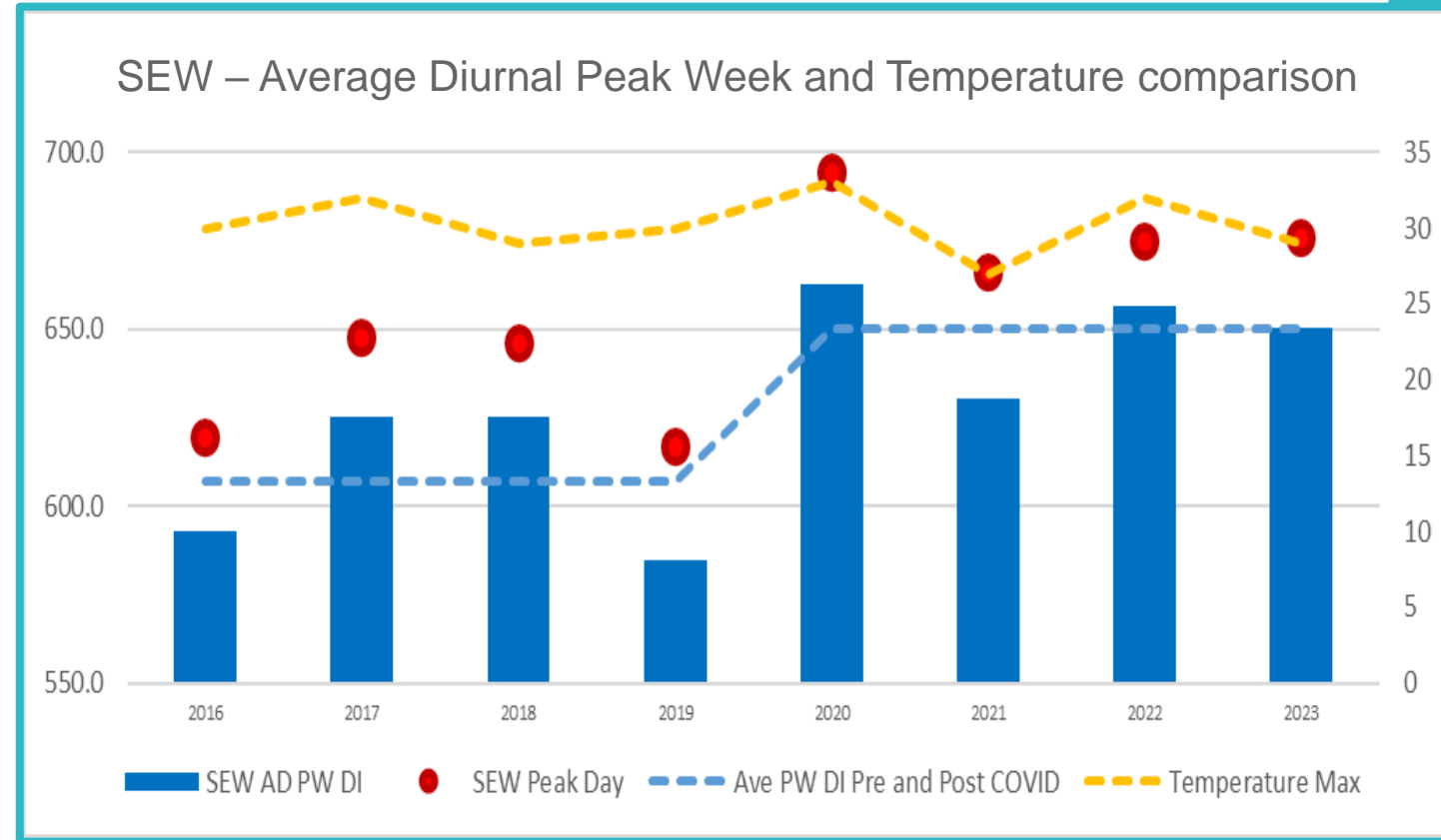
Initially in 2020 this was linked to **COVID** lockdown periods however this pattern has continued since 2020 with more of our customers working from home.

The chart compares demand for water during the hottest 7-day periods for each year since 2016

Demand for Water has increased during these hot periods on average by **7 per cent**. For commuter and rural areas these increases have been far greater.

This combined with earlier impacts of **climate change** have put pressure on our ability for meeting the demand for water during these peak times.

## Changes in Demand Patterns



## Recent outages:

Whilst the customer outcome was the same, the causes of the interruptions were different.

December 2022	June 2023
Freeze / thaw caused bursts which increased demand	High temperatures impacted demand via increased usage

Leading into both events, we took the same approach:



Set up incident management teams



Ensured every water treatment works is operating at 100%



Stopped flushing works



Maximised localised storage



## Recent outages: December 2022



We saw a cold spell down to -7 with temperatures not getting above freezing for 11 days.



Found and fixed approximately 500 bursts in one week. A normal leak fix run rate is 150 a week.



Received hundreds of calls about customer side leaks



Two thirds of water lost was on customers' pipes

This was actually four separate incidents at once, impacting over 30,000 households across our network

Factors which affected our response include:



Our emergency plan is for a max. 15,000 households, driven by Defra planning guidelines



Mutual aid was limited as all other water companies had the same challenges



Alternate water deliveries hampered by weather congested road network

## Recent outages: June 2023

Responding to significantly higher levels of demand, due to the hottest June on record our network treatment and distribution capacity was exceeded. We produced an additional 110 million litres of water per day. This is like adding an additional four towns the size of Eastbourne to the network overnight.

Whilst there was no significant increase in bursts and leaks across our network, factors which affected our response included:



Demand rising to 678 million litres per day, mainly through customer demand



The design standard produced by the regulatory framework to which we invest up to was exceeded



We asked customers for their help but, despite direct comms e.g. e-mails, demand did not reduce as we have seen previously



Water storage tanks hit critical levels, leading to outages. During the incident, the amount of water going into the area was only 20 per cent lower than normal



We believe an element of the increase was from agriculture, compounded by the preceding very dry period



# Daily water demand

## 1 - 27 June 2023

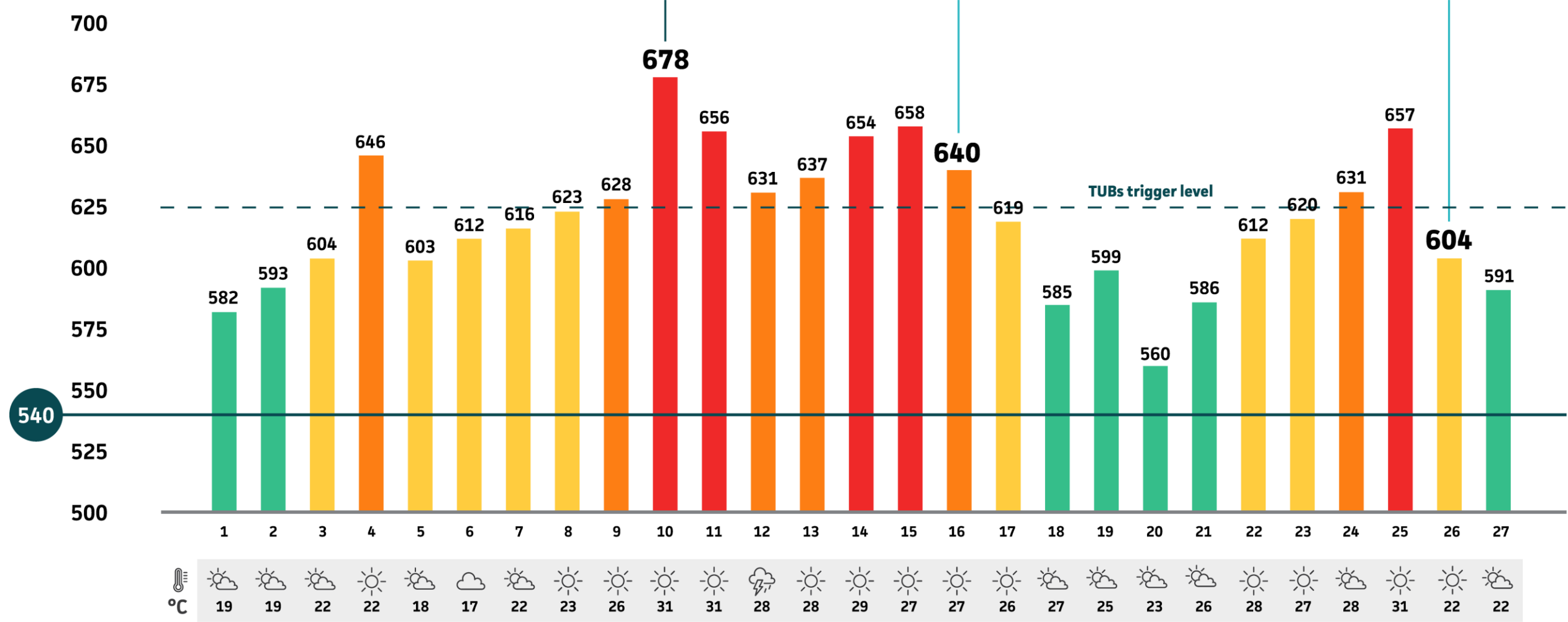
Million litres (Ml/d)

**i** Normal daily demand is 540Ml/d

10 June 2023  
Highest daily demand  
so far this year

16 June 2023  
Temporary Use Ban  
(TUBs) announcement

26 June 2023  
TUB restrictions now  
apply in Kent and Sussex



\*Normal daily demand is 540Ml/d during the warmer months. Please note: Figures may change following audit reviews. Weather and °C temperature data is for the South East of England and was sourced from: [timeanddate.com/weather](https://timeanddate.com/weather)

## Recent outages: What have we learned / What next?



A better understanding of the new demands both in terms of volume and location has meant we are able to plan and deliver network capacity and works upgrades in the right areas



We have made significant progress in the provision of alternate water during incidents. We met with Wealden DC officers in August 2023 to present our improved alternate water strategy and continue to work with them on this.



This bespoke plan now includes new strategies to support schools, hospitals, care homes and livestock (both commercial and non-commercial) and continues to be monitored and updated to ensure its efficacy.



We have created new teams and appointed permanent, focused roles to manage our incident responses.



Whilst we didn't get it 100% right, bottled water stations were set up and available in the district much quicker, remaining stocked for longer periods of time. We will build on this improvement.



Following December 2022's incident, we reviewed our incident communication tool – In Your Area, and deemed it no longer suitable for our purposes. Instead, we have built our own alternative, but this wasn't ready in time for June.



Since June 2023, our new tool – Aqualerter has now launched. We can now reach approximately 75% of customers by SMS, with regular updates during supply interruptions. It has been used on several occasions already, with customer feedback very positive.

# December 2023 incident – Local to Brightling

- A burst main on the inlet to the reservoir on Tuesday caused the storage reservoir feeding the area to drain
- The Reservoir was shut in Tuesday night, once the burst was repaired we refilled it back up to 30% before recharging the network.
- We started the recharge at approx 09:30 on Wednesday but struggled with airlocks in the system.
- Most of the affected customer were back on - but Brightling Village District Metered Area (DMA) proved very problematic.
- We are used a tanker to try and clear the air and hope and resolve the issues.
- We also deployed our leakage teams to looking for other leaks which might be robbing water and preventing the pressure building up – no significant leaks were found
- The Top Water Level of Brightling Service Reservoir and the high point in Brightling is only about 10 metres difference – making it a very tight balance and difficult to restore once supplies are lost.
- Around the same time we were having issues with our Crowhurst Bridge Treatment works
- Pumps due for replacement began to lose flow and also became airlocked
- The teams worked through the issues, which went into December
- We continued tinkering into the area until a few days before Christmas

## Since then:

- New pumps for Crowhurst Bridge have been ordered (Due for delivery/installation in May/June)
- Cross connections in the local network have been established and trialled – gives us more options operationally to bring water in from other areas and 'backfeed' the area in the event of a burst main.
- There is also a mains renewal scheme in Punnett's Town this year which will further enable us to backfeed the area once completed
- Further confirms the need for the resilience schemes put into our recent business plan.



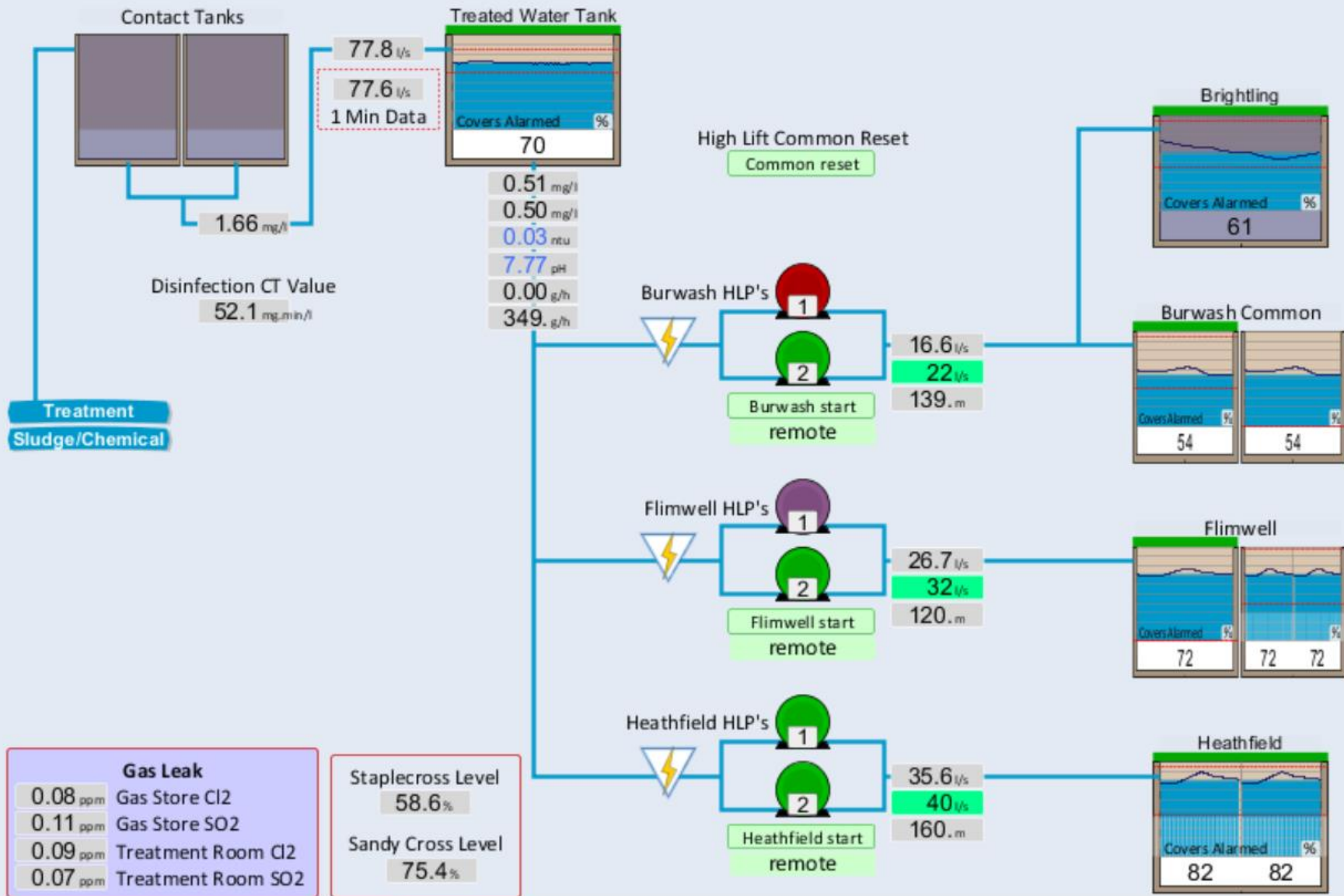


# Crowhurst Bridge Out

Sites W C E



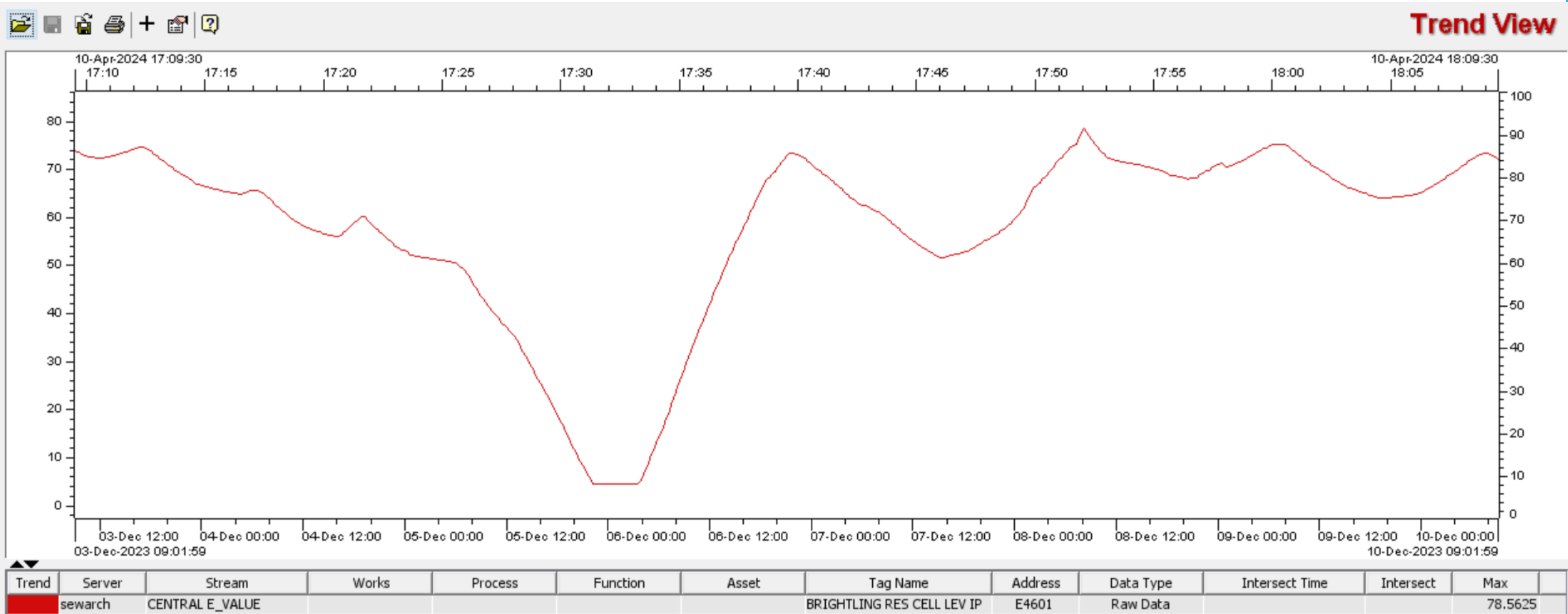
04/01/2010



Update 16.58 CROWHURST OS1

Mimic Map Notes Power Int' Ovr IO Auto ASD

# Brightling reservoir levels 3-10<sup>th</sup> December 2023
















# Current improvement work





# Long term resilience options proposed for Sussex

## AMP8 Resilience Schemes

- Barcombe WTW upgrade 
- Hourne Farm SR upgrade 
- Horsted Keynes SR upgrade 
- Standard Hill SR upgrade 
- Barcombe to Horsted Keynes Reinforcement Main 
- Powdermill Reinforcement (Battle & Telham) 
- Bewl WTW reinforcement to Best Beech & Cottage Hill 
- Bewl WTW to Flimwell SR 
- Renewal of ~1km of AC main (tbc) 
- Groombridge & Crowborough Reinforcement (via Crow & Gate) 
- Feasibility Study - Shellbrook upgrade 
- Feasibility Study – Crowhurst Bridge upgrade 
- Cornish WTW Reinforcement 



# Improving resilience in Sussex

	Proposed solution	Improvement
Completed	<ol style="list-style-type: none"> <li>1. Re-commissioned three drinking water storage tanks which have been out of service for repair and maintenance</li> <li>2. Beckley/Rye main into Staplecross to Iden network completed</li> <li>3. Bolnore/Warninglid – Meter on bypass installed / PRV installed and network changed to allow second feed to area</li> <li>4. Bolnore Boosters at Butlers Green upsized</li> </ol>	<ol style="list-style-type: none"> <li>1. Providing an additional 22.5 million litres of water to the Sussex and Kent system with no further storage reductions planned</li> <li>2. Reduced likelihood of the main failing in this area (which has been a recent issue)</li> <li>3. Earlier warning of interruption and greater flexibility/resilience</li> <li>4. Providing greater flow into the Bolnore area</li> </ol>
Short-term	<ol style="list-style-type: none"> <li>1. Additional tanker driver, bottled water and Arlington tank agreements being confirmed</li> <li>2. Air valves being installed on Flimwell trunk main</li> </ol>	<ol style="list-style-type: none"> <li>1. A more resilient and agile service</li> <li>2. Minimising risk of aerated water (discolouration) and improving recovery time of supply into the area</li> </ol>
Medium-term (2024)	<ol style="list-style-type: none"> <li>1. Commission Forest Row WTW</li> <li>2. Increase in transfers available to support Cottage Hill from Popeswood and to Ashdown from Horsted Keynes drinking water storage tanks</li> <li>3. Improving resilience to power cuts and blips</li> <li>4. Increasing number of tanker injection points</li> </ol>	<ol style="list-style-type: none"> <li>1. Addition 2.5 million litres of water to areas impacted by recent events</li> <li>2. Improved reliability and continuity of supply</li> <li>3. Improved continuity of water supply</li> <li>4. Improved resilience and flexibility</li> </ol>
Long-term (2025)	<ol style="list-style-type: none"> <li>1. Turners Hill – installation of meter at connection between South East Water and Southern Water</li> <li>2. New pipeline from Bewl WTW to Best Beech and Cottage Hill drinking water storage tanks</li> <li>3. Increase water treatment capacity at Bewl WTW</li> <li>4. Review of raw water at Coggins Mill WTW to determine if we can increase output</li> <li>5. Increased number meters to be installed in the network</li> <li>6. A new Stocks to Iden trunk main to be installed</li> </ol>	<ol style="list-style-type: none"> <li>1. Improved resilience</li> <li>2. Increased supply flexibility in Mayfield and Five Ashes / Wadhurst / Rotherfield</li> <li>3. Increase in capacity to 23 million litres per day</li> <li>4. Potential increase in water output</li> <li>5. This will help identify leaks, usage and hydraulic movement</li> <li>6. Minimise customer impact during an incident by allowing greater flexibility in how we move water through the network</li> </ol>

\* Some of these solutions are subject to regulator approval of our business plan (submitted 2 October 2023)



# Improving Emergency Planning and Alternative Water





# Incident response and lessons learned

Following the major incidents we have experienced in recent years, we have made significant improvements to our incident response process, as well as greatly improving the resilience of our sites and equipment. [These improvements include:](#)

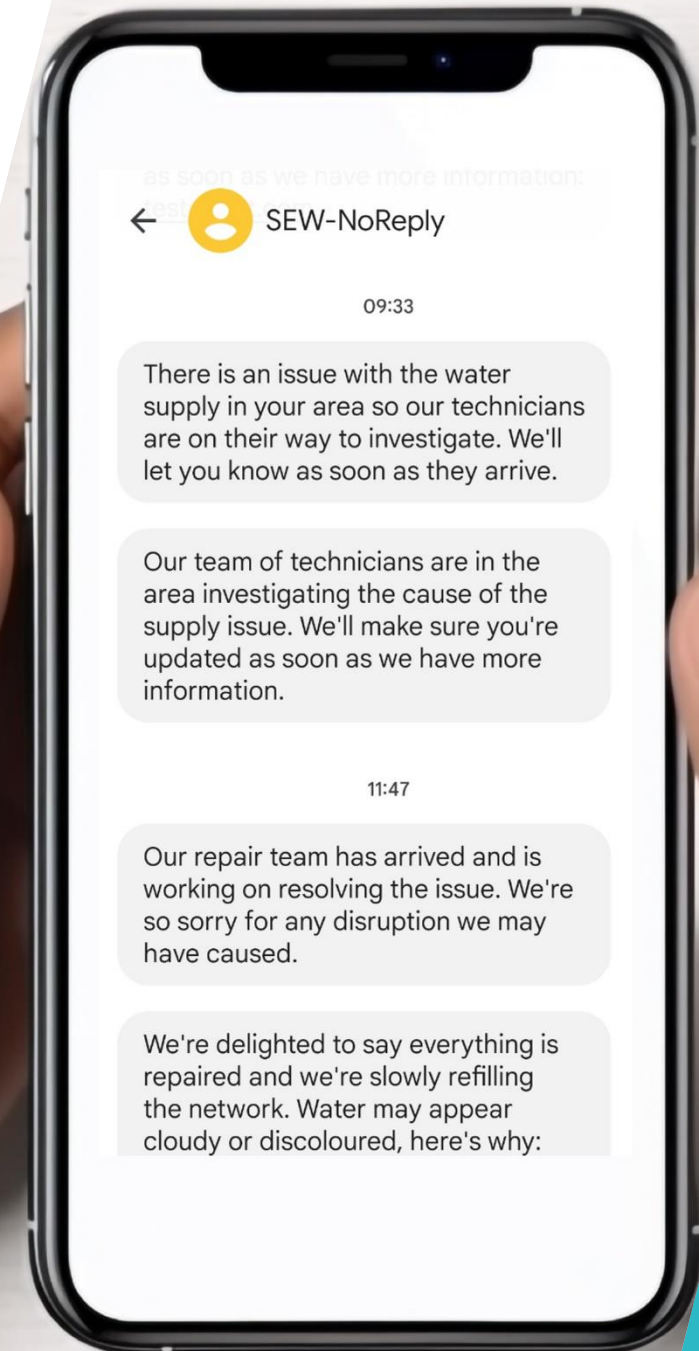
- Installing additional generators at key operational sites
- Switching key operational sites to generator power only in advance of anticipated severe weather
- Installation of flood protection barriers at key sites
- Increasing the amount of water held within our treated water storage tanks
- Launched our new AquAlerter customer SMS messaging system, where customers affected by disruption to their water supply receive text message updates from us. Feedback has been universally positive.

## [In the event of an incident, we have:](#)

- Reviewed bottled water stocks and increased reserves where necessary
- Prepared our bottled water station staff
- Prepared our tanker drivers for potential call-outs
- Increased the number of staff on standby to react quicker in the event of any issues

## [Storm Ciarán](#)

Through the implementation of these changes and improvements above, as well as stepping up our Silver Incident Team earlier than in previous incidents, we were able to reduce the impact of Storm Ciarán, with only a few localised areas impacted by short-term, intermittent supplies for short periods of time due to power cuts.



## Improving Alternative Water:

We have reviewed our emergency plan, making changes to strengthen our response. Many of these were enacted in time for the June incident and, whilst not perfect, we believe our response on alternate water was quicker and more supportive.

We are developing bespoke local emergency plans, piloting this in the Wealden DC area. We are actively working with Wealden DC officers to get this right and will be undertaking similar work across our supply area. We have a draft plan for Sevenoaks which we are happy to share and would welcome your input / feedback on

### The draft plan includes:



When the plan should be activated



What our response will be



Support for bottled water stations



Support for schools, care homes, GPs, livestock and hospitals



Support for vulnerable customers on our Priority Services Register, with proactive delivery of bottled water

## Improving Alternative Water:



In 2022 we purchased two [water tankers](#) that can be utilised to inject water into points in our network. We have 10 more on order, but the lead time for new vehicles is two years.



We will continue working with other water companies through mutual aid, as well as 3<sup>rd</sup> party commercial providers, where required.



We are overhauling our approach to [alternate water for livestock](#) and working with commercial livestock operations in the district to improve this.



[Schools and care homes](#) will see a similar solution, with us plumbing alternate supplies into their pipes to ensure toilets can flush and showers work.



Our new customer messaging tool, [Aqualerter](#), reaches 75% of customers for whom we have a mobile phone number. It is already proving successful

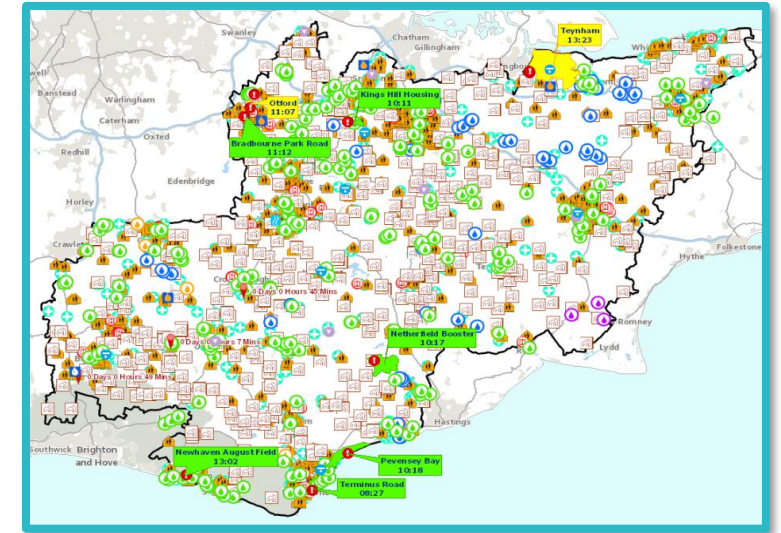


# Improving Alternative Water

**Improved mapping:** We have fully updated our mapping of alternative water, adding new bottled water stations, farms, livestock, schools, care homes and hospitals. We are also in the process of adding livestock filling points, tanker injection and filling points.

**Contingency plans:** Bespoke contingency plans have been written to date to ensure all activity is place-based and up to date.

**Livestock / farms:** We are arranging deliveries of tanks to farms and livestock owners, without storage, allowing them to have their own storage, reducing demand on the network and enabling us to respond quicker to those without water.



## Still to come:

- Updated web pages where customers can make alternative water requests more easily
- Increasing the size of our tanker fleet
- Improved tracking of water deliveries to increase performance and efficiency
- Updated equipment for bottled water stations

## Alternative water for livestock

We've set up a new way to help those customers with livestock if there is a water supply interruption as we know they rely on a continuous water supply.

We are lending owners specialist tanks which can be kept topped up and ready to use in case of an interruption.

This scheme has been set up to specifically help those customers who keep livestock on a non-commercial basis.

A separate scheme is already up and running for commercial livestock operators.

Find out more [here](#)



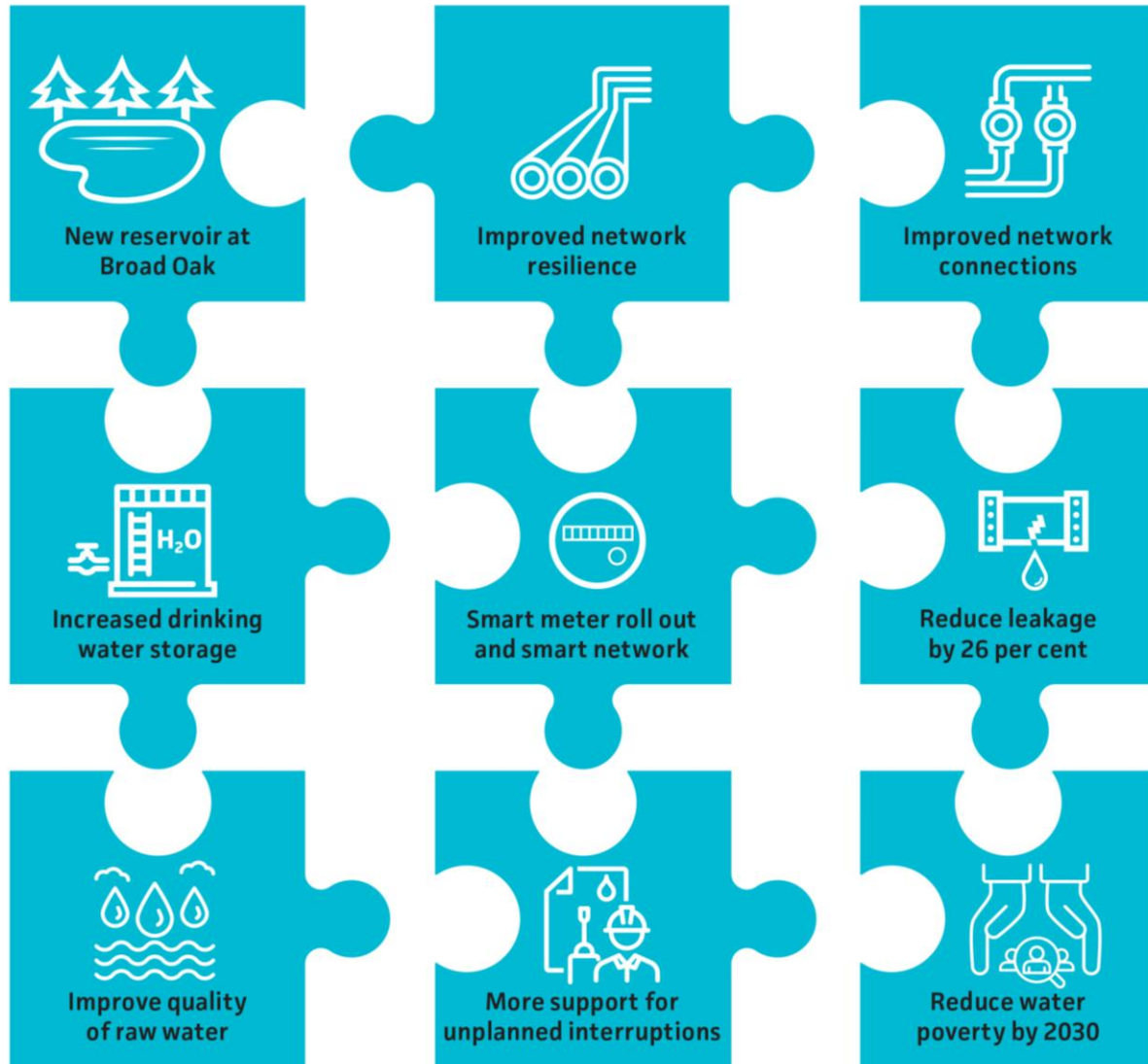


# Planning for the future

PR24 Business Plan



# This is the boldest and most ambitious plan we have ever submitted



## Headline investment £1.9bn

Average Bill – 2025: £231.93

Average Bill – 2030: £277.48

Increase of 19.6% or £3.79 / month

\*Based on comparison to 2017/18 baseline



# How will the £1.9bn be invested?

## Proposed investment in running the network - £1.061bn (+20%)



Investment area	£
Day to day running costs	£532m
Rates, licence charges etc	£116m
Maintaining assets	£373m
New development connections and associated network upgrades	£40m

## Proposed investment in enhancing the network - £831m (+330%)



Investment area	£
Water resources – new water and demand reduction	£389m
Environment – improvements and studies	£96m
Water quality – prevent raw water deterioration	£57m
Emergency planning / cyber security	£45m
Resilience – storage and interconnectivity	£231m
Carbon – various including electrifying fleet	£13m

## Network capacity:



On 31 August, we published our revised Water Resources Management Plan (rWRMP). In our revised plan, we detail the need to increase the water resources available across our regions, whilst working with customers to reduce water consumption.

Between 2025 – 2040 our preferred plan includes:



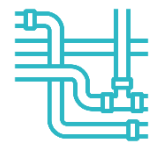
Leak reduction and water efficiency activities – saving an additional 34 million litres of water a day



New smart meter installation programme with trials starting in 2025 and full roll out from 2027 onwards. The goal is to provide smart meters in 90 per cent of our homes by 2035



Reduce non-household consumption with measures such as business smart meters and water efficiency audits



New pipelines to increase the amount of water moving between water companies and within our supply area

## Network capacity:

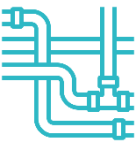


Schemes to improve our network connectivity at a local level and allow the reduction of our abstractions that could impact on the environment



Further development work and feasibility studies on schemes such as Peacehaven recycling and Reculver desalination

Longer term options from 2040 to 2075 include:



Additional pipelines to increase amount of water moving between water companies and within our supply area



New reservoir at Arlington (Sussex) – providing an additional 18 million litres of water a day, as well as scheme to improve our pipe network's connectivity by 2057

## PR24 investment specific for Sussex

	Investment	Improvement
1	Barcombe WTW third process stream	Improve site redundancy and increase the available deployable output (~10MLD additional) to the supply area as mitigation during climate-related peak demand
2	Groombridge WTW reinforcement.	Improve interconnectivity in the distribution system, with the ability to transfer demand (~5.7 MLD) to an adjacent network as mitigation during climate-related peak demand.
3	Telham SR system (Powdermill SR bypass)	Improve interconnectivity (and remove a single point of failure) in the distribution system, with the added flexibility to transfer demand (~5.6 MLD) to an adjacent network as mitigation during treatment works outages and to more flexibly manage peak demand.
4	Hourne Farm SR	Increase of 3.25 ML storage capacity within area as mitigation through climate-related peak demand.
5	Deep Dean WTW system	Improve interconnectivity (and remove a single point of failure) in the distribution system, with the added flexibility to transfer demand (0.7 MLD) to an adjacent system during peak demand.
6	Smart Water Network installation	Improve network visibility, enabling network optimisation.
7	Additional Tankers	To support incident management through transition phase.



# WRMP investment specific for Sussex

## rWRMP24 Preferred Plan supply side schemes

Option name	WRZ	Capacity	Year selected
RZ1 Sub-Zonal Scheme - Bloodshots to Darnley	RZ1	0.5	2028
New Bulk Supply: SESW to SEW RZ1 Transfer - Bough Beech to Riverhill	RZ1	10	2039
RZ2 Sub-Zonal Scheme - Poverty Bottom & Underhills Deficits	RZ2	1.45	2026
New Bulk Supply: SESW Outwood to SEW Whitely Hill	RZ2	5	2049
New Arlington Reservoir, R. Ouse - 26mAOD - 3,900MI	RZ3		2057
RZ3 Zonal Scheme - [RES-24] - Arlington to Windover Transfer	RZ3	18	2057
RZ3 Zonal Scheme - [RES-24] - Arlington to Folkington Reservoir	RZ3		2057
RZ4 Sub-Zonal Scheme - Greywell to Swaineshill	RZ4	9.65	2030
RZ4 Sub-Zonal Scheme - Surrey Hills to Fleet	RZ4	18.00	2030
RZ4 Sub-Zonal Scheme - Ewshot to Itchel	RZ4	9.95	2030
RZ4 Sub-Zonal Scheme - Oakhanger to Alton	RZ4	3.5	2030
RZ4 Sub-Zonal Scheme - Greywell to Whitedown	RZ4	5.0	2031
New Bulk Supply: T2S (Culham) spur to SEW Northgate	RZ4	10	2040
New Bulk Export: SEW RZ4 to TWU Guildford	RZ4	-10	2050
New Bulk Supply: TWU to SEW RZ4 Transfer - Kennet to Wokingham	RZ4	5	2070
New Bulk Export: SEW Tilmore to SWS Hardham	RZ5	-10	2040
RZ6 Sub-Zonal Scheme - Reconfigure Southern Maidstone	RZ6	4.3	2037
RZ6 Sub-Zonal Scheme - Hermitage to Linton ring main	RZ6	4.3	2038

Option name	WRZ	Capacity	Year selected
New Company Transfer: RZ1 to RZ6 Transfer - Blackhurst to Aylesford	RZ6	4	2040
RZ1 Zonal Scheme - [CTR-40] - Additional storage at Blackhurst	RZ1		2040
Groundwater Licence Trade - Cemex UK Materials Ltd.	RZ6	1.22	2040
RZ6 Zonal Scheme - [LIC-20] Halling to Halling Reservoir	RZ6		2040
New Company Transfer: RZ1 to RZ7 Transfer - Blackhurst to Bewl	RZ7	4	2034
New Company Transfer: RZ2 to RZ7 Transfer - Cottage Hill to Bewl	RZ7	5	2040
RZ7 Sub-Zonal Scheme - Paddock Wood to Beech	RZ7	6	2039
Broad Oak Reservoir - 36mAOD - 5,126 MI	RZ8		2033
RZ8 Zonal Scheme - [RES-31] - Distribute water from Broad Oak to Blean	RZ8	22	2033
RZ8 Sub-Zonal Scheme - Thanington to Godmersham	RZ8	3.42	2037
RZ8 Sub-Zonal Scheme - Hollingbourne to Warren reinforcement	RZ8	9	2038
Reculver RO Desalination of brackish groundwater (30MI/d Option)	RZ8	30	2044
RZ8 Zonal Scheme - [DES-15] - Transfer of water from Ford WTW	RZ8		2044
New Bulk Supply: SWS Brede to SEW Kingsnorth: 10MI/d	RZ8	10	2050
New Bulk Supply: SWS Wingham to SEW Canterbury (Broad Oak)	RZ8	20	2052
Release surplus hydrological yield at Ford WTW upgrade	RZ8	1	2058

**Thank you.**  
**Any questions?**