



London Borough of Islington Scrutiny Committee: 24 January 2019

Briefing following burst water main on Offord Road, Islington 29/10/18

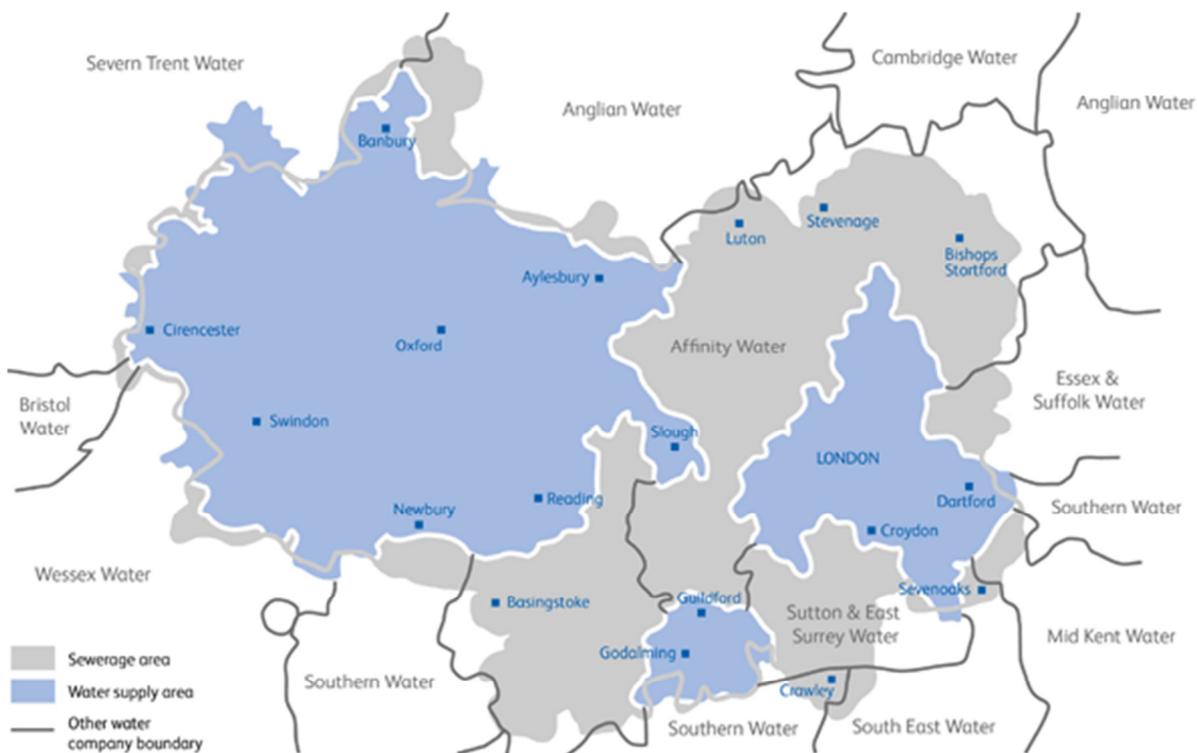
Introduction:

Thames Water Utilities Limited is the UK's largest water and wastewater services company.

Every day, we supply around 2,600 million litres of tap water to 10 million customers across London and the Thames Valley, along more than 31,000 km of water pipes from 97 Water Treatment Works. We also remove and treat more than 4 billion litres of sewage for 15 million customers along 100,000 km of sewage pipes to 351 Sewage Treatment Works.

Thames Water is regulated by the Water Services Regulation Authority (Ofwat). Ofwat is the economic regulator of the water and sewerage industry in England and Wales. Ofwat acts independently from the Government and aims to ensure consumers receive value for money. Ofwat establishes the limit on how much individual water companies can charge their customers, and aims to protect the standard of service customers receive from their supplier.

Map of Area Supplied by Thames Water Utilities Limited:



Burst water main on Offord Road, Islington 29/10/2018

Outline:

A 12" main on Offord Road burst causing flooding on Offord Road to Caledonian Road in the morning of 29 October 2018.

Timeline of response:

- 12" main burst on Offord Road reported 6.34am on Monday 29th October 2018
- Our technicians were dispatched to Offord Road at 7:00am, during rush hour traffic, and were on site at 8:00am, and stopped the flow of water at 8:50am
- Fire brigade in attendance
- Updates from Thames Water Operations to Islington Council Control Room (on 020 7527 6743)
- Identified 218 customers in vulnerable circumstances in the impacted District Meter Area
- Flooding to Offord Road, also reached Caledonian Road
- 211 no water calls (as of 9.45am)
- Water redirected around network to bring all customers back into supply by 10:33am
- Water pressure restored to all customers by mid-morning
- Flood Call, Customer Representatives and Loss adjusters were sent to site
- 12 properties in all were affected by flooding
- Residents of two properties are in alternative accommodation
- Loss adjusters are in touch with those flooded
- Customer representatives remained on site during the following day to ensure all customers were supported
- Ward councillors and Environment Director in Islington Council updated throughout the day and the following day
- Repair completed at 8pm on 29 October 2018
- Electric board attended site on 30/10/2018 as some cables were damaged and there was consequential damage on footpath. Repair to footpath completed 2nd November
- There was 112 square foot of consequential damage in the carriageway; consequential damage and final reinstatement completed by Saturday 3rd November 2018
- Road reopened on Saturday evening of 3rd November 2018
- The Offord Road pipe was not on the risk register

Insurance update:

One resident still in alternative accommodation. All claims progressing.

Communications:

Our social media channels and website were updated throughout the event. Ward Councillors and the Member of Parliament were kept updated. Customer representatives and loss adjusters were on site during then following day to update and support customers. Our call centre staff were briefed on the incident, so as to be better able to support customers making contact with us.

Preventative actions and improvement of event response:

Following the Forensic Review of the trunk main failures of 2016/17, Thames Water has engaged in a full review of how we manage our trunk main network, with significant work focussing on how major bursts and flooding incidents are responded to and managed. More information can be found on our website: <https://www.thameswater.co.uk/trunkmainsreview>

Event Response:

Event response times were address within that Strategic Review alongside the “Social media and communication improvement plan”

By improving and streamlining processes, response times have improved from over two hours to our current average response time of one hour and nine minutes; with aims to improve average response times to sub-one hour by 2020.

We have reviewed and improved contact centre practices, media engagement, social media response and event broadcasting.

This has been achieved by increasing the social media team from 12 to 26 staff, including 24hour coverage, with more frequent updates though social media such as twitter and our website.

The Thames Water website also includes an Interactive Map for customers to report incidents.

Enhanced Control Room training has been undertaken to help duty controllers to identify information more effectively from certain data sources during events.

We have implemented a new operational response process to aid duty controllers in identifying the most appropriate response to a major leak. This has included a full refresh of the categorisation of events and processes to include who to contact and how.

New quick response teams have been set up located throughout London to respond rapidly to the notification of a potential burst. These teams have also commenced an enhanced programme of checks on our assets required for trunk main isolations in the event of a burst.

The Logistic Management Centre is now capable of deploying flood alleviation measures (pumps, sand bags, flood barriers) to operational incidents.

As part of that Strategic Review we have also compiled a booklet entitled “Putting Things Right” that is now issued to residents and businesses affected in the event of a flooding incident outlining the help available, insurance guidelines and the process to follow.

Learnings:

Speed of Distribution of Bottled and Alternative Water Supplies:

Increase standby capability. Team expanding to ensure 24/7 cover capability. This is in progress and will be completed by April 2019.

Speed of Isolation and Containment:

Currently we check availability of over 50% of our trunk main valves, covering the highest consequence trunk mains in our network.

Looking for invisible flaws in our water mains:

Between 2015 and 2020 we will invest £240m in improving our trunk mains, and we’re now embarking on a new project ‘Looking for invisible flaws in our water mains’. This project will further enhance our understanding of our network for 3,200km of trunk mains for the future.

Three-year programme.

Our three-year programme started in 2017, and in that time we'll continue to invest £4.5 million in research and technology trials for trunk mains. We're continuing to inspect the outside of pipes whenever we dig them up to work on them, since this provides useful information about the network as a whole. We're going to build on this experience and our previous research to let us inspect hundreds of metres of pipe at a time without digging up entire roads. To achieve this, we need a method that will work from inside the pipe.

In-pipe scanning technology.

The oil industry has been inspecting pipes from the inside for years, using sophisticated scanners, but we can't just copy them. We need technology that will work on thick cast iron, which is much more difficult for scanners to penetrate than the steel used in oil pipelines. We also need to avoid damaging our pipes or affecting the quality of the water that flows through them. To achieve this we're working with technology companies to test and improve their in-pipe scanners.

Making sense of it all.

Alongside the technology trials, we'll be working with experts from universities and industry on analytical tools to translate this scanning data into insight, to help us invest money where it's needed most.

We've already been working closely with the University of Surrey for a number of years to understand how corrosion affects the strength of cast iron pipes. Further postgraduate research into the corrosion and deterioration of trunk mains is also being funded by this programme.

Our future vision.

Ultimately, by scanning the highest-risk trunk mains, we want to be able to work out which sections really need to be replaced, and which sections are safe to carry on using. Being able to target our investment better will help us avoid replacing pipes needlessly, which will benefit customers and improve efficiencies.

Innovative trial.

In August 2017, we carried out the first ever 'in-situ' trunk main survey in the UK using a pipe scanning technology not previously used with cast iron mains of this size. The 24 inch trunk main was out of service following a burst in Lee High Road in December 2016, providing an opportune test location for this trial. The aim of the trial was to measure the success of this new scanning technology by detecting defects along a 1200m length of the pipe.

For this trial, we manually machined different shaped defects, including holes of various sizes, into a section of the trunk main (which we'd already scheduled to remove and replace after testing was complete). We then cut a special hatch into the main, and lowered a torpedo-shaped scanning device into the pipe. The device used acoustic resonance technology to measure the condition of the trunk main wall – a technique which had never been used before in cast iron mains of this size.

In the end, although the scanner couldn't detect our deliberate test defects, we still learned important lessons from this trial. The scanner was able to travel a significant distance along the pipe, but we now believe that such thick metal trunk main walls (up to 25mm) are beyond the limit of this scanning technology. The scanner's data analytics and hardware are now being further developed by the supplier, and future tests of any modified version will be possible at our new dedicated trunk main testing facility.

Unique testing facilities.

We're building a dedicated facility for testing trunk mains at one of our sites. This will give us a testing ground for a variety of trunk main technologies, including in-pipe scanners, while simulating many of the challenges of the real water network without disrupting traffic or water supplies to customers. We're also collaborating with other water companies to share technology testing, and demonstrate a wider market for new technologies.

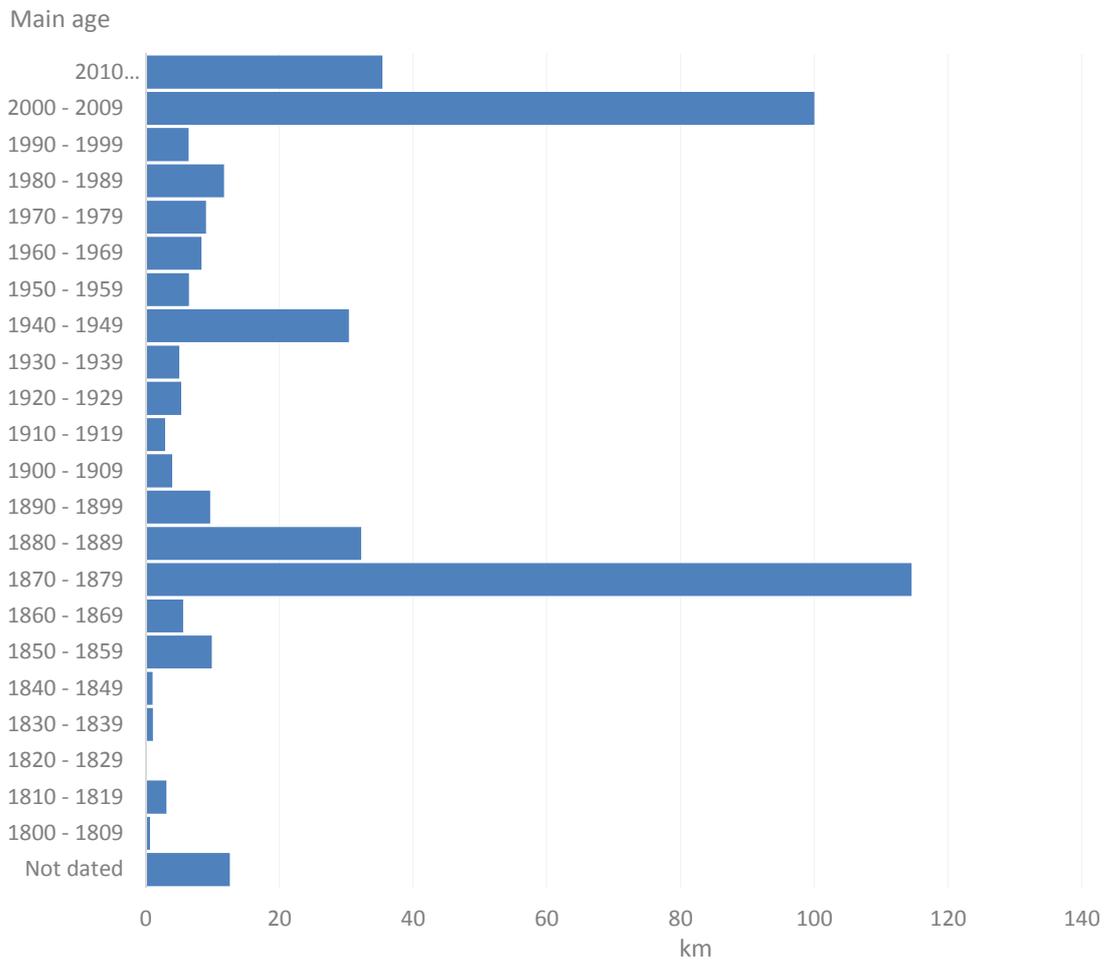
Scanning real trunk mains.

Only the most promising in-pipe scanners will get the opportunity to be used in real trunk mains in our network. By 2020 we aim to have identified technology that can be used more routinely. But this will still be expensive work, so we'll need to target our inspections carefully.

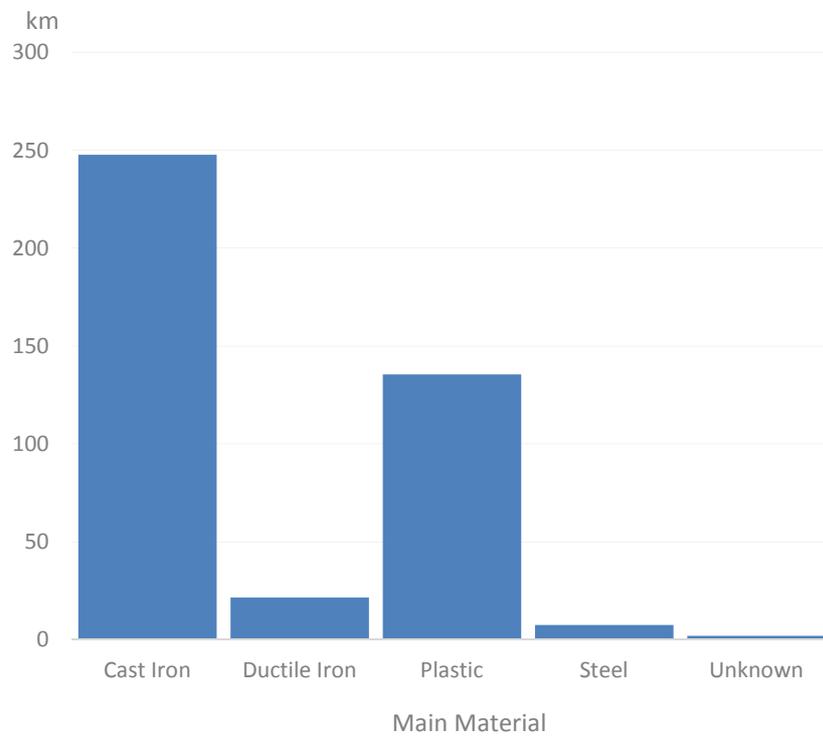
In addition to this by the end of AMP6 (2020), 7% of our highest risk trunk mains will be monitored by active monitoring units (Trunk minders and Hydroguard units), with a further 12% covered by other leak detection monitoring points, giving around 19% coverage overall. Our investment plans are to increase this coverage to 25% by 2025.

We have undertaken a major data improvement to our trunk main consequence modelling by incorporating the outputs of a 2D rolling ball flood model across our entire trunk mains network. This provides improved granularity of outputs, giving a better prediction of the impact of a trunk main failure event.

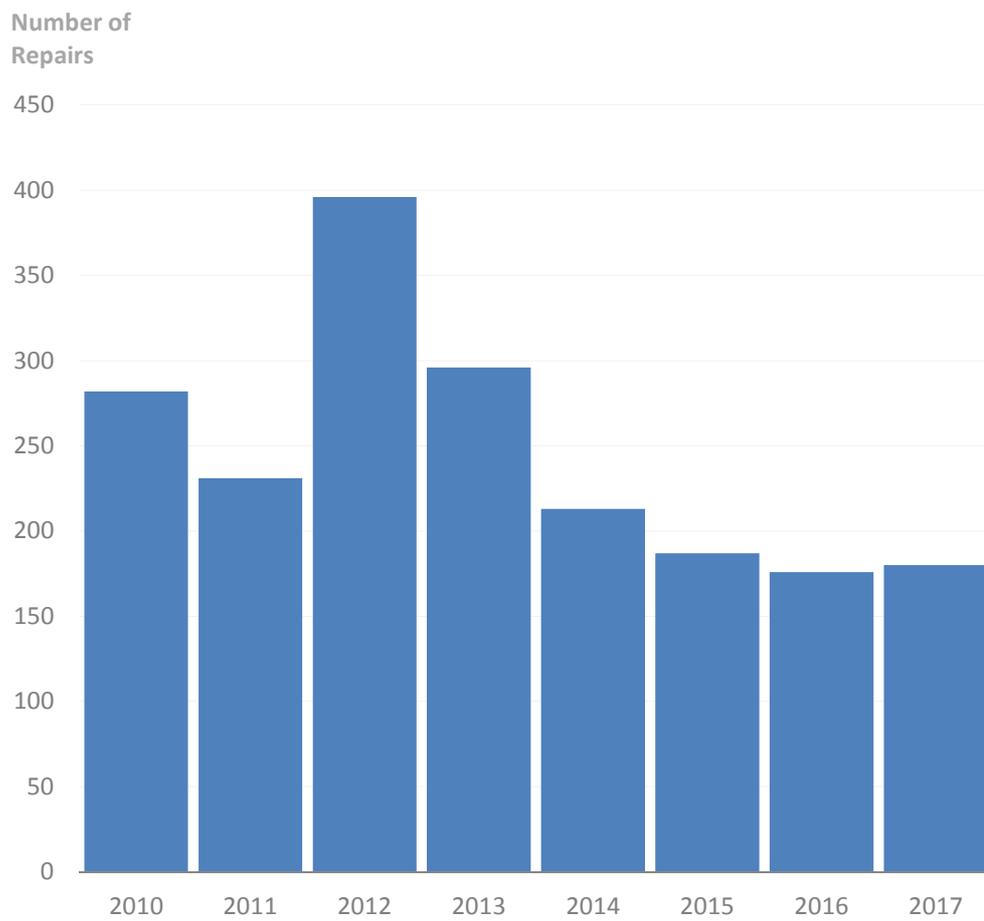
Mains Age in the Borough of Islington



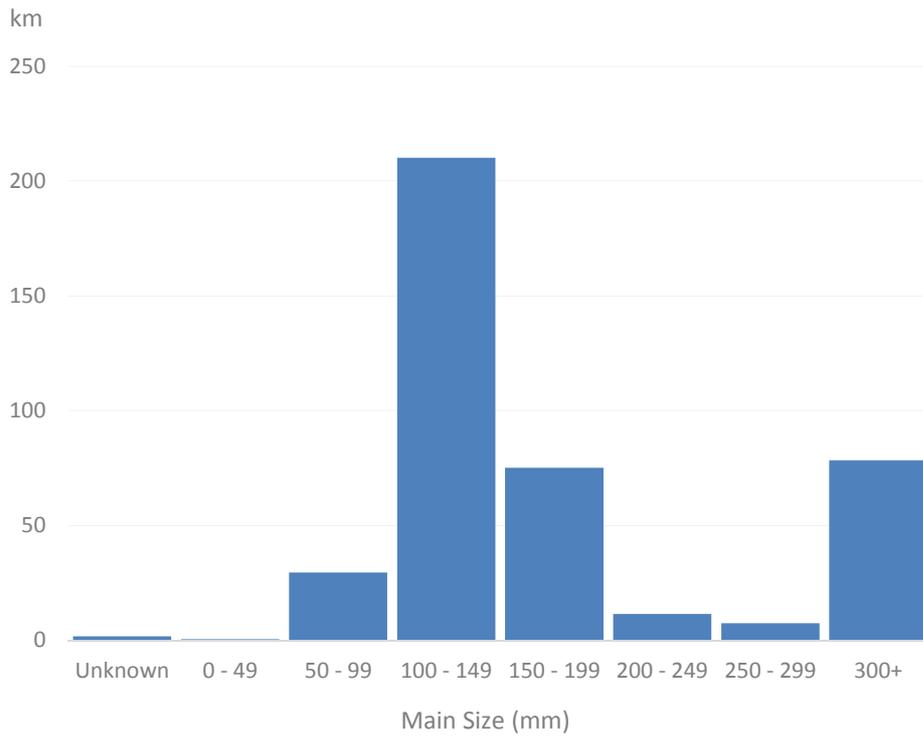
Mains Material in the Borough of Islington:



Mains Repairs in the Borough of Islington between 2010 and 2017



Mains Size in the Borough of Islington



Breakdown of Valves in the Borough of Islington

General Valves	7,661
High Consequence Valves	959
High Consequence Valves (Missing)	60

Trunk Main Monitoring Coverage in the Borough of Islington

Active Monitoring Coverage	5.1km	4.90%
Pro-Active Monitoring Coverage	2.8km	2.80%
Total Coverage	7.9km	7.70%