ses WATER

Keeping your water flowing

How we maintain our network of pipes

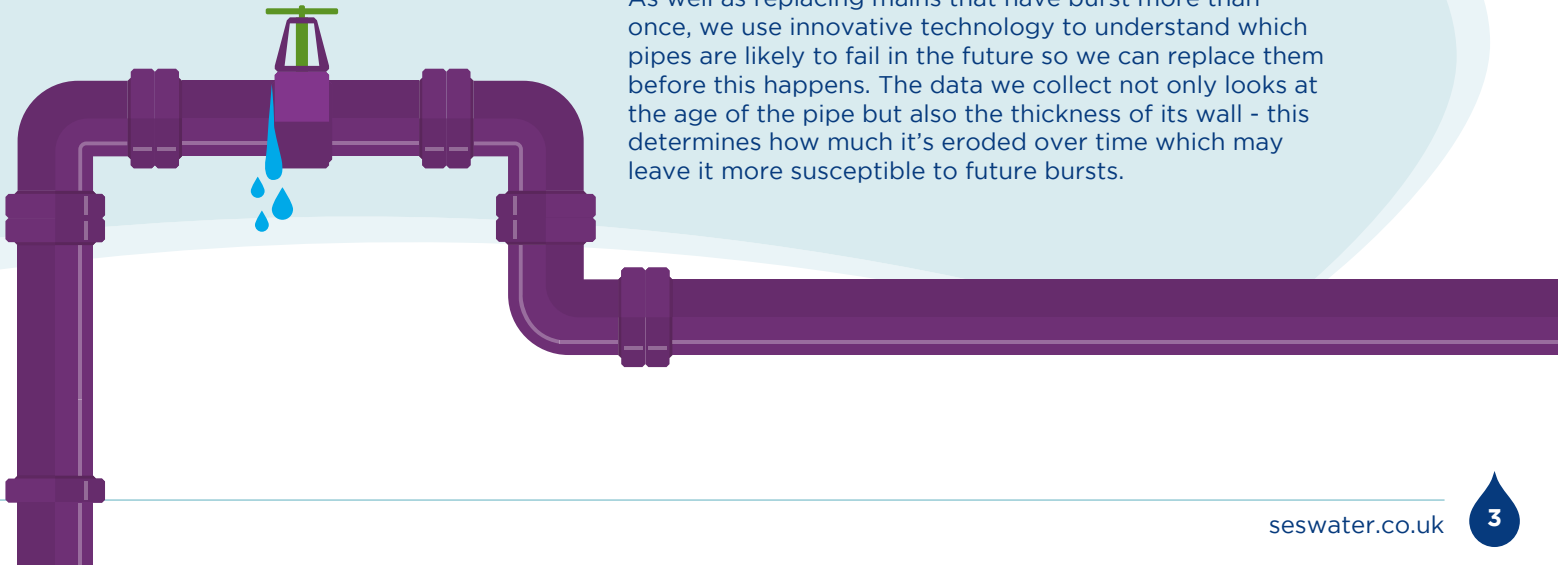
Keeping your water flowing

To make sure you continue to receive a reliable supply of drinking water we must look after the pipes we use – this could be through repairs and maintenance or a complete replacement. This booklet explains the importance of the work we carry out, safety precautions we have to take and what we do to minimise disruption.

Why do we replace water mains?

Once we have treated the water at our treatment works we are then responsible for around 3,500km of water mains, delivering 160 million litres of water to over 735,000 people every day.

With some of our pipes dating back to the Victorian times, they have been built to last and we only replace a main when it has reached the end of its useful life. In an ideal world our pipes would never fail but from time to time things do go wrong and we need to make it right!



As well as replacing mains that have burst more than once, we use innovative technology to understand which pipes are likely to fail in the future so we can replace them before this happens. The data we collect not only looks at the age of the pipe but also the thickness of its wall - this determines how much it's eroded over time which may leave it more susceptible to future bursts.

Environment

As well as providing a reliable supply, another factor we consider when planning for a mains replacement is the amount of water lost every time a pipe bursts. Water is a precious resource and we ask our customers to use it wisely so we must too! To find out more about saving water and ways you could become more water efficient visit our website: seswater.co.uk/savewater

We must consider how our work may affect surrounding land and habitats, which is why we employ ecologists to carry out detailed surveys of the area we plan to work in. The impact on water courses, trees, hedgerows and protected species are all taken into account, as well as the potential for any archaeological finds, and if necessary we adapt our programme accordingly.

Planning

Once we have identified a water main in need of replacement we take great care to understand the impact our essential work may have on the community.

We understand our work sometimes has the potential to cause disruption to residents and road users, so we spend a long time exploring all available options.

We inform the Highways Authority of our plans at an early stage and this gives them time to co-ordinate our activity with any other planned utility work in the same place.

We also work closely with our specialist contractors to survey the area to identify the least disruptive installation technique (this is explained in more detail on the next page). If our water main is under private land, we liaise with the landowner directly and ensure they are involved in the planning stages to discuss their requirements.

Electrical earthing

If your property uses the metal water service pipe as a means of electrical earthing, our works may make it unsuitable for this purpose.

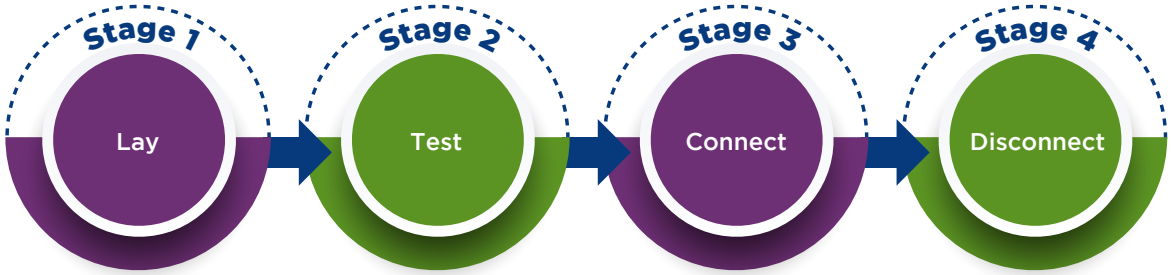
Using a metal service pipe as an electrical earth has been prohibited by the Institution of Electrical Engineers Wiring Regulations since 1966. However, it is possible that buildings built before that date may still be earthed in this way.

Therefore, we strongly advise that you contact your local electricity supply company or an approved electrician for advice. They may recommend that you have your earthing checked and are entitled to charge you for this service.

Earthing for a property is an essential safety requirement and is the sole responsibility of the property owner. We cannot accept liability for damage or injury resulting from the use of a water pipe as an electrical earth.

If you are not responsible for the electrical earthing of the property, please ensure that the owner or the appropriate person is informed.

Replacing a water main



Stage 1 – Lay the new main

We will use one of two installation methods – open dig or trenchless excavation - and sometimes we use a combination of both. Trenchless excavation still needs some digging but the amount is significantly reduced.

Open dig – we dig the areas where we plan to lay the new water main, typically with a mechanical digger but occasionally by hand to avoid damaging other pipes and cables. We then lay plastic pipes in the ground in multiple sections and fuse them together. Sometimes we use iron pipework but this depends on ground conditions.

Trenchless excavation – we use three different types of trenchless excavation – directional drilling, slip-lining and pipe bursting:

Directional drilling – we dig two pits, one to launch a remote-controlled drilling head and the other to receive it. We then feed the new pipe from one pit to the other and connect it to the existing pipe. This process is then repeated for roughly each 100-metre section of pipe installed.

Slip-lining – this technique is used to extend the life of larger water mains – we feed a new plastic main, with a similar diameter to the existing pipe,

through the existing main. We can typically do this 400-metres at a time and the only excavations are at either end of the new pipe.

Pipe bursting – this technique is used when laying smaller pipes over shorter distances. We dig two pits to expose the existing water main and feed a 'wedge' through the old pipe to break it out as the new water main is pulled through. The new pipe fills the same space as the old pipe.

Stage 2 – Test the new main

Whichever method is used, we then have to sterilise, pressure-test and check the water quality before it can be connected to the mains network.

During this stage, it might seem that not much is happening on site but back at our laboratory our scientists will be busy carrying out detailed analysis of water samples to make sure the new main is clean and sterile. As we supply drinking water we follow a much stricter criteria compared to other utilities which means our testing process can take longer than a new gas pipe for example.

Our engineers will also be pressure testing the new main to guarantee that our workmanship meets our strict standards and that there are no leaks.

Stage 3 – Transfer properties to the new main

We switch properties over to the new main by laying a new service pipe from the new main to the properties' existing stopcocks – this is usually located just inside or outside of the property boundary.

Stage 4 – Disconnect the old main

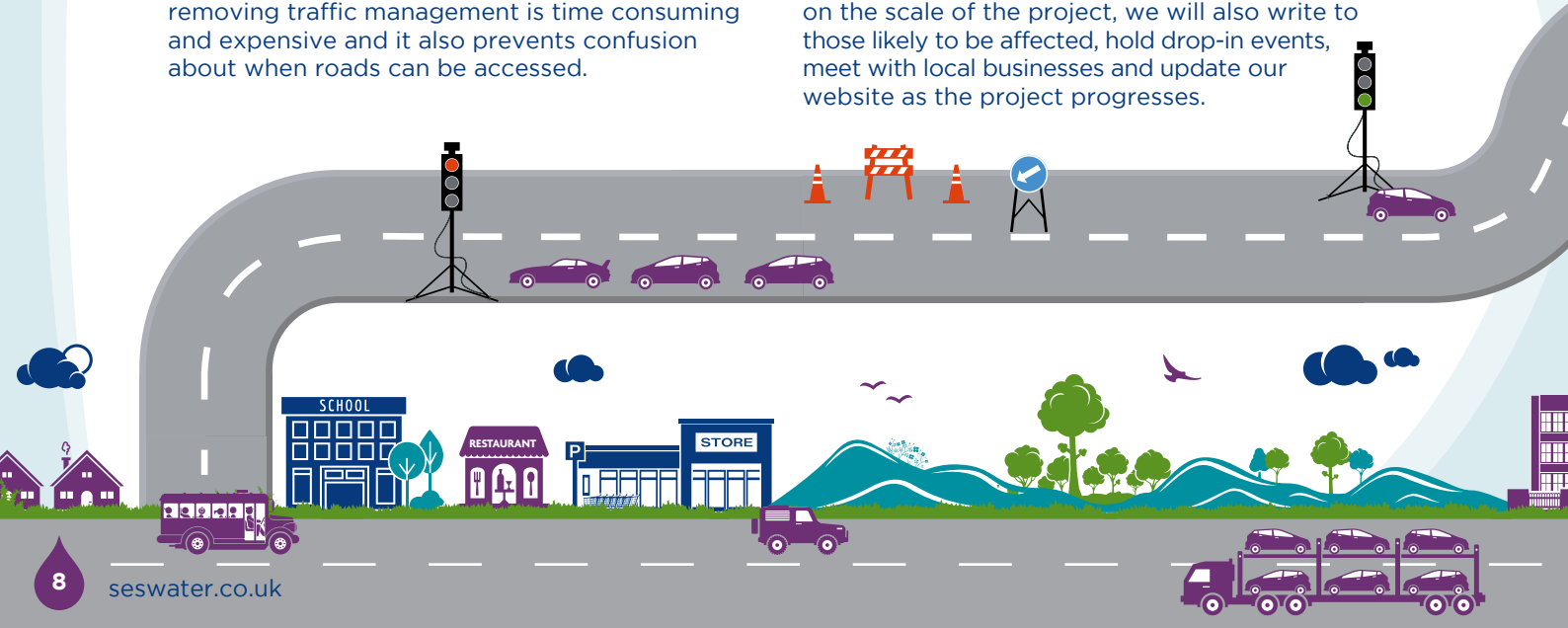
Once all properties have been connected to the new water main and the testing has been successfully completed, the old main can be decommissioned from use.

Roadworks

To safely carry out our work there are several traffic management techniques we use, all of which are discussed with the local council before starting work. The method we use depends on a number of factors: width of the road, number of road users, safety of our workforce and other road users, space needed and type of road users such as a nearby school.

Regardless of our working hours, most traffic management remains in place for the duration of the works. This is because setting up and removing traffic management is time consuming and expensive and it also prevents confusion about when roads can be accessed.

For the safety of our staff, road users and pedestrians, a combination of traffic management methods may be used at the same time. Depending on the scale of the project, we will also write to those likely to be affected, hold drop-in events, meet with local businesses and update our website as the project progresses.



Priority boards are usually used on quieter, straight roads, when our work has narrowed the normal width of the road but two-way access is still achievable.

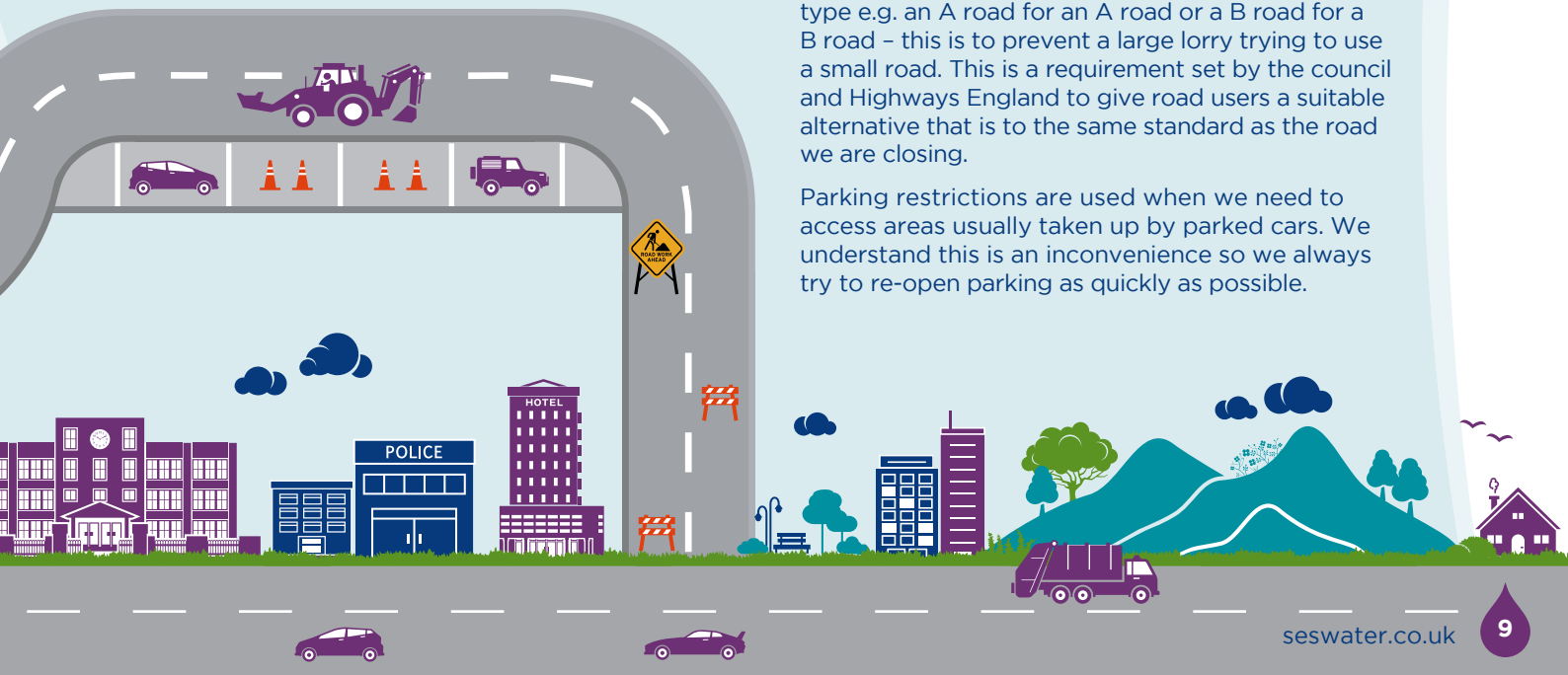
Traffic lights can vary from simple two-way systems to complex set-ups managing multiple junctions. Lights are usually set up on a timer to allow a steady flow of traffic but we may manually control them at peak times to prevent congestion.

Closures come in several forms – footway, lane and road. Closures are used when we are unable to provide the required legal distances around our work and where necessary, a diversion will be put in place. We may also have to leave heavy machinery on site and trenches may remain open, both of which are a health and safety risk if accessible by the public.

Regardless of the type of closure, we will always try to maintain access to individual properties.

For road closures in particular, we work with the relevant council to agree a diversion route suitable for all road users which means a like-for-like road type e.g. an A road for an A road or a B road for a B road – this is to prevent a large lorry trying to use a small road. This is a requirement set by the council and Highways England to give road users a suitable alternative that is to the same standard as the road we are closing.

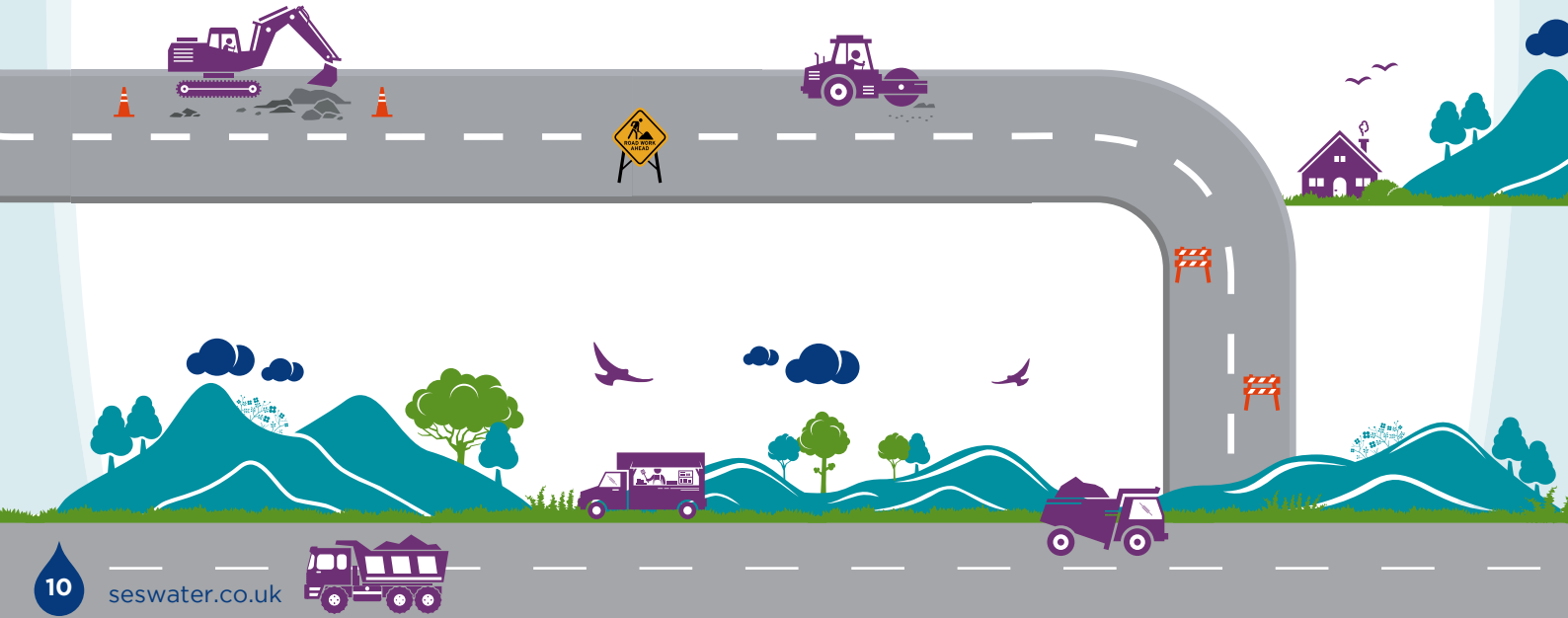
Parking restrictions are used when we need to access areas usually taken up by parked cars. We understand this is an inconvenience so we always try to re-open parking as quickly as possible.



Surface restoration

The final stage of our work is to re-instate the ground we have disturbed to lay the new water main. For public roads our work must meet the Highway Authority's specifications and anything within private land is agreed with the owner.

Wherever possible, we re-use any material we have disturbed. Sometimes we carry out an interim or 'temporary reinstatement' which could be because we need to excavate the same area again later on. Temporary reinstatement may not precisely match the surrounding surface but this should not cause any concern as it will be replaced in the near future. Irrespective of the type of reinstatement, we continue to be responsible for the surface for up to 24 months.



Supporting businesses

We aim to work with local businesses to minimise the impact of our work. In the past we have created custom signage to let customers know they are open as usual, produced flyers for them to display on notice boards and hosted customer drop-ins so we can answer their customers' questions about our work.

Business owners can also contact us if they believe our work has resulted in loss of earnings. We will consider an appropriate level of compensation on a case-by-case basis. Visit **seswater.co.uk/retailers** for guidance on how to make a claim – see the loss of profit section.

Keeping you informed

Although we have statutory powers to carry out water supply works, we have a responsibility to plan, maintain and install new pipework with consideration for residents and businesses affected. We work closely with the local council to agree on a suitable way of working which causes the least disruption.

For larger mains replacement schemes you can find more information on our website. If you are unable to find an answer to your question in this booklet or on our website, you can also contact us in the following ways:

01737 772000 – (including out-of-hours emergencies 24/7)

seswater.co.uk/CurrentProjects

@SESWater

CustomerServicesOPS@seswater.co.uk

SES Water, London Road, Redhill, Surrey RH1 1LJ

If you have a query about your wastewater, please contact your local provider on:

Thames Water **0800 980 8800**

Southern Water **0330 303 0277**