

On behalf of: Anglian Water Services Limited

Witness: Mark Frogatt

Statement: 2

Exhibit: MF2

Date: 11 May 2022

Application Name: Eastern Northants Management Facility Western
Extension

Application Ref: WS010005

ANSWERS TO **THE EXAMINING AUTHORITY'S WRITTEN QUESTIONS AND**
REQUESTS FOR INFORMATION (ExQ2) ISSUED ON 27 April 2022

I, MARK FROGATT of professional address Lancaster House, Lancaster Way, Ermine Business Park, Huntingdon, Cambridgeshire PE29 6XU state as follows:

1. I make this statement in addition to my previous statement dated 12 April 2022 and submitted in relation to **Augean South Limited's ("Augean") development consent order ("DCO") application for the alteration and construction of hazardous waste and low-level radioactive waste facilities at the East Northants Resource Management Facility, Stamford Road, Northamptonshire ("the Proposed Development")**.
2. The facts and matters set out in this statement are within my own knowledge unless otherwise stated, and I believe them to be true. Where I refer to information supplied by others, the source of the information is identified; facts and matters derived from other sources are true to the best of my knowledge and belief.
3. There is now produced and shown to me a paginated bundle of true copy documents marked "MF2". All references to documents in this statement are to Exhibit MF2 unless otherwise stated.
4. All defined terms used within this statement are as defined in my previous statement unless otherwise stated.

Examining Authority's Written Questions

5. Set out below are the Examining Authority's written questions to Anglian Water together with my response.

Q8.4 Please expand on the concerns set out in your D4 submissions [REP4-013 and REP4-014] with particular regard to:

a) quantification of the increased risk of failure of an AW pipeline as a result of the Proposed Development;

6. Our networks are assessed in accordance with our risk model, the Monte Carlo technique, which is an established mechanism. This is an industry accepted standard which takes account for age, pressure, population served and ground conditions which gives us a risk factor (or likelihood of) failure within a given time period.
7. Using the Monte Carlo technique I have carried out a network analysis around the Mains. A copy of this analysis can be found at pages 1. The analysis, and therefore theoretical position, for a main of this type would suggest that it is low risk. However, the model would have assumed that the Mains are undisturbed and loaded as by occasional agricultural equipment. It does not account for the fact there are two mains there, so the risk is at least doubled (as is the level of potential damage) as well as, crucially, the unique and so far undetermined consequences of **Augean's Proposed Development**.
8. As previously noted there has already been a leak recorded in the proceeding section of one of the mains. I understand that this leak was caused by local corrosion to that section which in turn may suggest more aggressive ground conditions in this area than our risk model currently accounts for.
9. Previous studies have concluded that the ground conditions to this region have clays which are prone to both shrinkage and heave (I refer to the Report: The Impact of Environmental Factors on Leakage in the Anglian Water Region in my previous statement). Once excavation loading is removed from adjacent areas which, given the lack of detail in the phasing and excavation local to the corridor, could result in ground movement. Likewise, the subsequent filling and capping could again lead to movement along the corridor length. This could be further exacerbated by construction plant, extremes of rainfall or extended dry-spell / temperature rise. I am unaware of any monitoring of stability to support **Augean's** position that the Mains remain in situ.
10. The Mains are operating at approximately 8 bar pressure driven by the topography of Wing Water Treatment Works to the North West. Average peak flows are circa 300 litres per second however in the event of a rupture the instantaneous flow from a pipe of this size would be above 1000 litres per second. After the initial surge, alarms would be prompted

within the Control System which would lead to the throttling of flows which would maintain expected flows. We would then seek to understand the nature of the leak. Once we have located the leak, we will then seek to reduce flows further to minimise the leakage rate whilst still maintaining an onward pressure within the downstream pipe (i.e. we will not turn flows off and keep pressure within the downstream to avoid it **going "flat"**). **If** the Mains are depressurised this would allow contaminated water into our Mains thus rendering our supply to Peterborough null and void. In tandem we would review our downstream reservoir storage capacity to understand if we can isolate the Mains. Only at this time will isolation be considered, and repair undertaken.

11. I would also note that we have had incidents whereby a single circa 600mm main (smaller than the Mains) ruptured and filled a quarry as we were unable to stop flows until repair. Details of this incident can be provided if required and whilst these events are thankfully rare the risk is real.
12. In the event of a major burst of one of the Mains a cascade of water would flow towards the very point of access required to remedy it. As outlined previously, Anglian Water would need to maintain flow in the Mains and this would lead to us working within a narrow flowing area, increasing the easement would allow safer access and vehicular movement, adequate construction zones to facilitate safe access and the ability to move materials and labour safely past construction activity in what is a corridor.
13. Diversion of the Mains would avoid the risk of settlement of either the Mains or surrounding embankment in both construction and trafficking **activities. Moving the Mains to the periphery of Augean's land would** allow the Mains to be re-designed to cope with the potential for any subsequent movement during the lifespan of the Proposed Facility. Further our issues concerning sustained traffic movement and excavation to both sides would also be alleviated and reduced. Moreover not having the Mains in their current location would simplify the phase arrangement and avoid a costly bridging process.
14. In conclusion, it is exceptionally difficult to quantify the risk posed by the Proposed Development because I do not believe Augean have considered the full long-term implications of the Proposed Development to our Mains. Due to this omission, my advice must remain that the Mains be diverted (as it was moved previously).
 - b) the options for avoiding/mitigating the increased risk of failure of the pipeline (for example, routes for diverting the pipelines or, if the pipelines were retained in their current positions, increased stand-off distances and/or enhanced protective measures or changes to the design of the Proposed Development;*
15. **The Mains are currently located circa 10 meters from Augean's Southern Boundary** excluding any buffer zone from phases 3A, 4B, 5B, 6 and 7.

Unfortunately I have no details as to the previous easement agreed for the Mains and cannot comment on the assessment for the easement width which was undertaken at that time.

16. The current acceptable standard operated by the industry follows a **general guidance (pages 2 to 9) ("the Guidance")**. The Guidance provides that a pipe of this size (800mm) would require a minimum of 12 meter easement (page 6). However, this measurement assumes that access is generally unfettered and that it is a single main. In this case there are two mains and they are bounded by banked inaccessible ground (either by excavation or capped phase areas) allowing access only from the corridor ends. My understanding is that the corridor will be circa 350 meters long. In the event of a major leak the corridor itself would act to channel the escaping water into the access path. An increased width (if the Mains were to remain in their current location) would allow improved access and the ability to move equipment around the rupture and crater zone in a safe manner without compromise or **risk to Augean's work area**.
17. Without prejudice to my position that the Mains ought to be diverted, in terms of potential easement widths, Anglian Water is currently installing a major strategic pipeline and our learning from the Lincoln to Grantham section which is also an 800mm pipe is that our easement assessment (referred to above) is incorrect and ideally for sufficient working it should be 40 meters.
18. I would request an extended easement width to allow access following worse case conditions, given our limited corridor and flood potential, as described above. During the construction and fill periods, provision should be allowed for bank stability monitoring, possible hydrophone installation for early leak detection. We would need to be assured that loading of vehicles crossing our lines would in no way impact on them by provision of a suitable independent bridging structure. In summary Anglian Water would need to be provided with:
 - a. Stability monitoring of easement bank;
 - b. Plans of how they propose to go over the pipe (their proposal) and location;
 - c. Proving that no external loads will be placed on the Mains; and
 - d. Monitoring of water levels within the existing pipe trench
 - e. **Mains' bedding**.
19. Notwithstanding my comments above in relation to easement width, I would re-emphasise that this is still not a viable solution in view.
 - c) *provisions to allow satisfactory access to maintain and repair the pipelines.*
20. The bare minimum standard, as per the attached document for this size of pipe is 12 meters (access to twin pipes cannot be across or over the

other pipe). However, for reasons outlined above the corridor, especially in the finished condition some years hence when the pipe has advanced in failure risk, will channel any subsequent flows from a rupture directly to the working area and accesses. By diverting the Mains this will allow safe access to the rupture and working zone for further support plant and personnel as required.

21. Previously there has been indication that a high voltage cable would be installed near the Mains. If this were to occur we would not be able to safely place mechanical excavation within 3 meters of this, further widening the easement request.
22. In terms of an absolute minimum easement width, a theoretical calculation may assume; a 20-tonne tracked excavator allowing 4 meters track extending to 6 meters for slewing, 1 meter minimum for edge of passage, haulage road 6 meter plus a minimum segregated pedestrian walkway of 1.5 meters. This working zone will of course be distanced from the pipeline to avoid loading, and an eruption/excavation crater of a minimum 4 meters (conservative). This would take us to a minimum from edge of pipe of circa 20 meters plus. Whilst it is tempting to assume that in emergency situations, we would compromise these arrangements as an organisation we pride ourselves in the fact that nothing we do is so important as not to do it safely, therefore we will not compromise on a safe working zone.
23. If the Mains were to remain, the proposed greater easement width would ultimately provide a greater mass stability to the pipe embankment, this is particularly relevant as the information provided to date is silent on the issue of the pipe crossing. Augean intend to cross the pipeline by some form or ramped access or roadway to gain access to the respective phases. **I imagine Augean's proposal will include some form of bridged structure, which would most likely be piled, to enable spanning of the Mains and risk of settlement.** This position will need to be agreed and undertaken ahead of any excavation to enable temporary works and piling rig access; the additional easement will allow for this potential as it would carry increased risk and cost to try to do this against and excavated areas. To provide piling in this area will itself be a risk to the Mains and would need to be carefully planned.
24.

d) Q8.5 Please provide an update on discussions following AW's D4 submissions.
25. On 9 May I met with Gene Wilson of Augean and Leslie Heasman the environmental advisor to discuss outstanding issues. In the meeting we discussed the potential of a broader easement and outlined the fact that our stance is usually to remove the Mains from the area, and therefore the risk.

26. I would summarise that there is no certainty that if the Mains are left in situ that they will remain in good condition. To the contrary, there is evidence that they will be disturbed to an unknown extent, which in itself may lead to a burst, the result of which will be far reaching and difficult to fix. My concerns are multiple but my main concerns are:
- a. The nature of the Mains being in a corridor which restricts access for maintenance and repair;
 - b. In the event of a major failure there is risk of damage/flooding to the Proposed Development which is one we do not currently carry (increased risk to Anglian Water); and
 - c. The amount of trafficking proposed between the phases of the Proposed Development that will need to go over the Mains which is a real source of localised loading which is one of the commonest causes of pipe failure; and
 - d. The duty we have to our customers to provide clean and wholesome water and we may be judged on the perception that we have allowed our mains to run through a low level nuclear waste facility.

Summary

27. For the reasons mentioned above I am not satisfied in my capacity of Chief Engineer at Anglian Water that Augean have addressed the significant effects of the proposed development on the environment that are likely to arise as a result of the same (The Town and Country Planning (Environmental Impact Assessment) Regulations 2017, Regulation 27).
28. In conclusion, I remain steadfast in my advice that the Mains be relocated to ensure their preservation and longevity during and after the construction of the Proposed Development.
29. Statement of truth I believe that the facts stated in this witness statement are true.

Signed

Mark Froggatt

Date11 May 2022.....

On behalf of: Anglian Water Services Limited

Witness: Mark Frogatt

Statement: 2

Exhibit: MF2

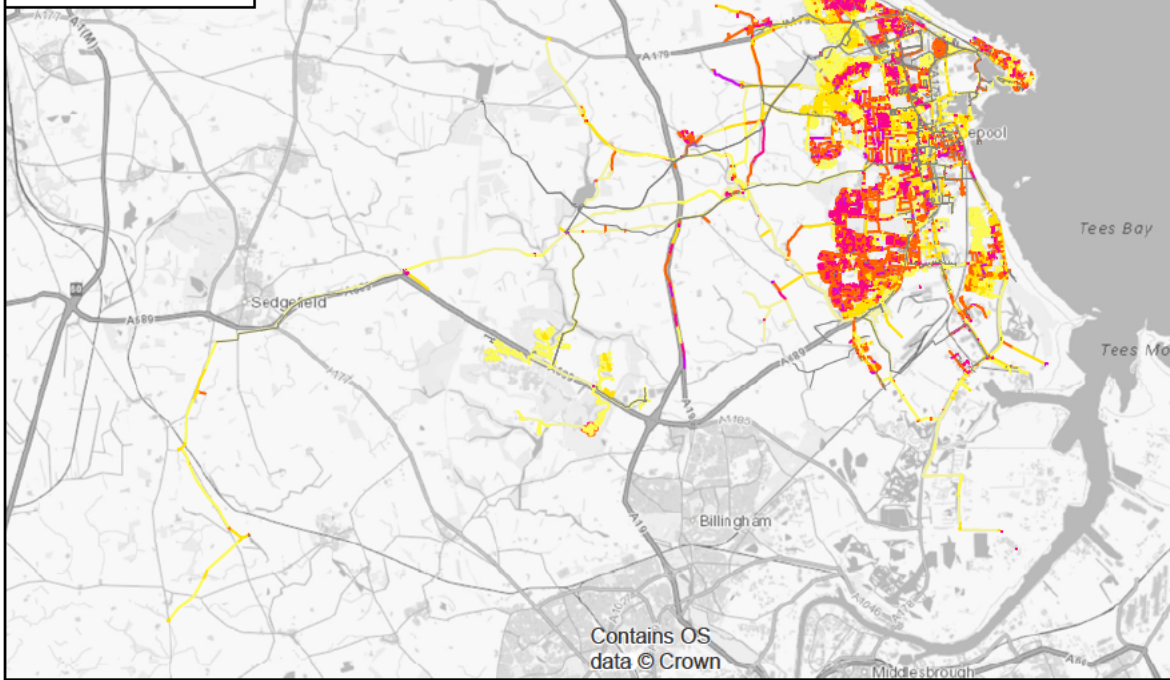
Date: 11 May 2022

Application Name: Eastern Northants Management Facility Western
Extension

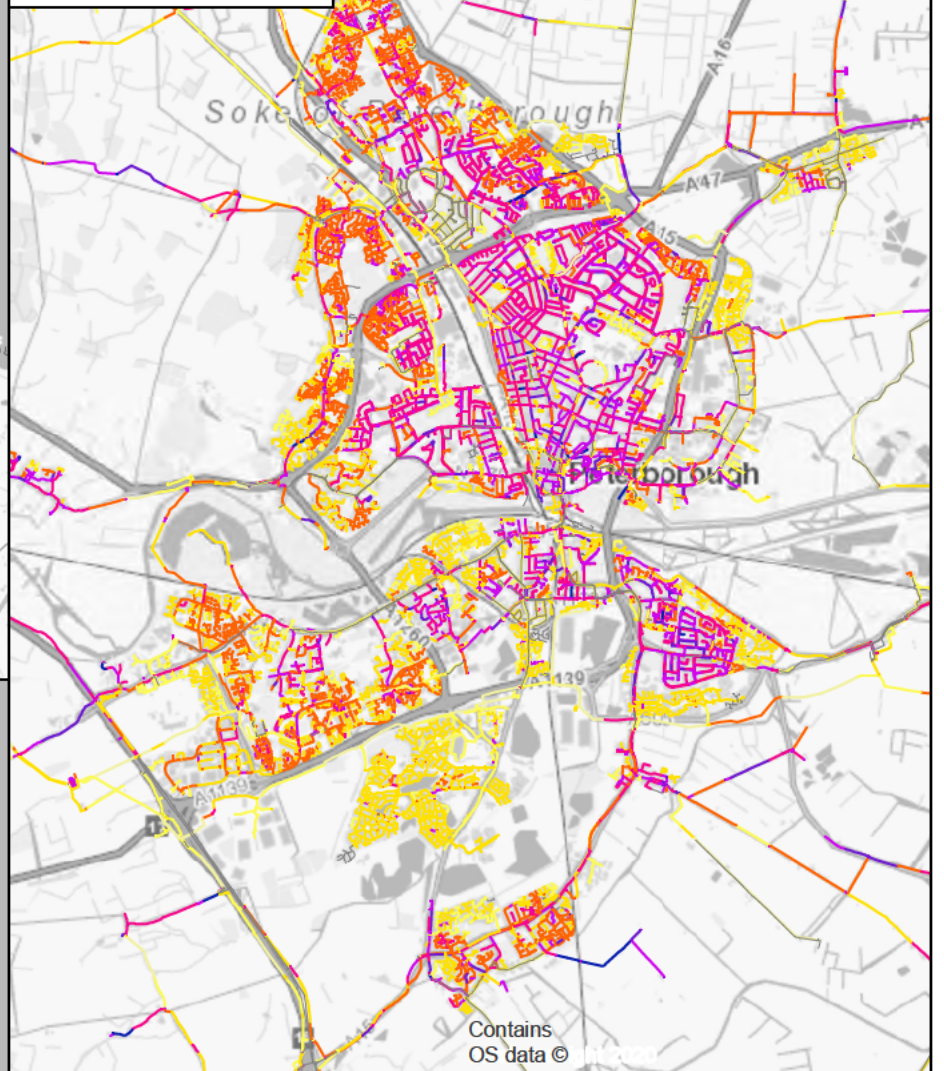
Application Ref: WS010005

EXHIBITS TO **ANSWERS TO THE EXAMINING AUTHORITY'S WRITTEN**
QUESTIONS AND REQUESTS FOR INFORMATION (ExQ2)
ISSUED ON 27 April 2022

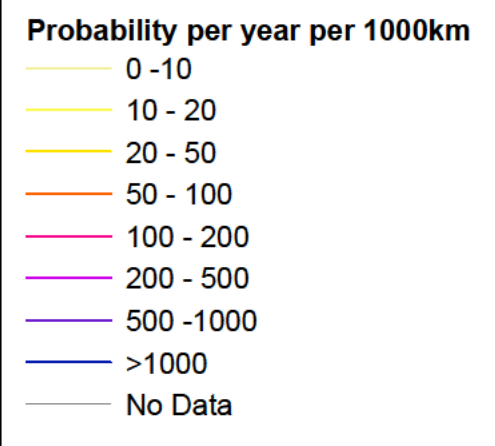
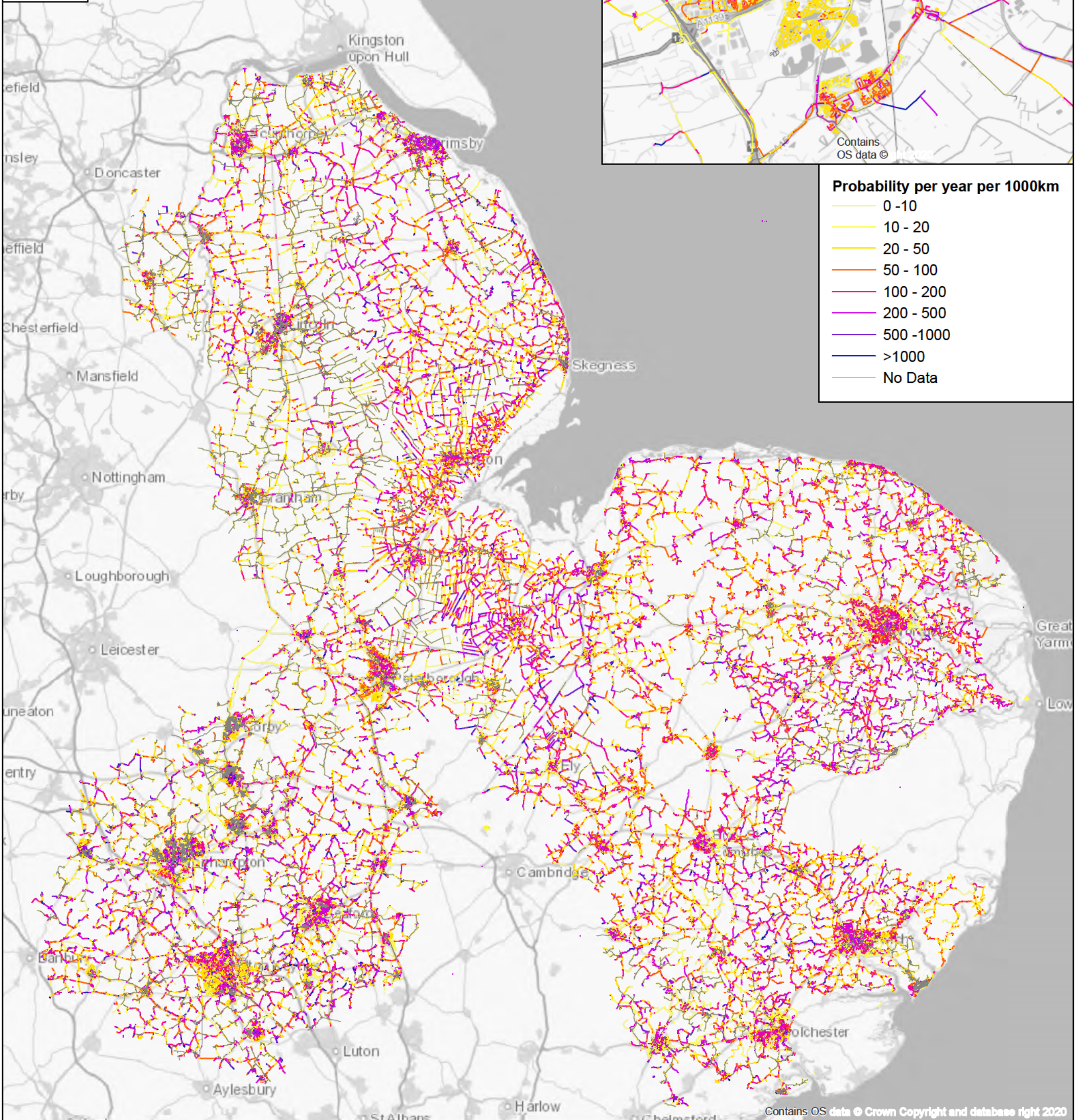
Hartlepool



Peterborough



Anglia



Anglian Water's Cross Sector Infrastructure Access Statement

March 2019

Contents

1.0	Introduction.....	3
1.1	Our objectives	3
1.2	What we do	3
1.3	Where we operate	4
2.0	Purpose	4
3.0	Site Contact	5
4.0	Arrangements for Accessing Information	5
4.1	Locating our assets:	5
5.0	The Process	6
5.1	Contacting us	6
5.2	Crossing a Water Main or Sewer	6
5.3	Diverting an existing Water Main.....	7
5.4	Diverting an existing Public Sewer.....	7
5.5	Building over or near a Water Main	7
5.6	Building over or near to a Public Sewer	7
5.7	Timescales.....	8
6.0	Fees and Charges	8
7.0	Keeping Infrastructure Providers Informed	8
8.0	Dispute Resolution	8

1.0 Introduction

1.1 Our objectives

At Anglian Water we seek to enable development and support growth within our region. We know that a key part of this is enabling extensions to essential infrastructure.

As well as supporting vital development we also need to protect the assets that we use to deliver vital water and sewerage services to our customers. We also need to ensure that we can access our assets to carry out essential maintenance activities.

1.2 What we do

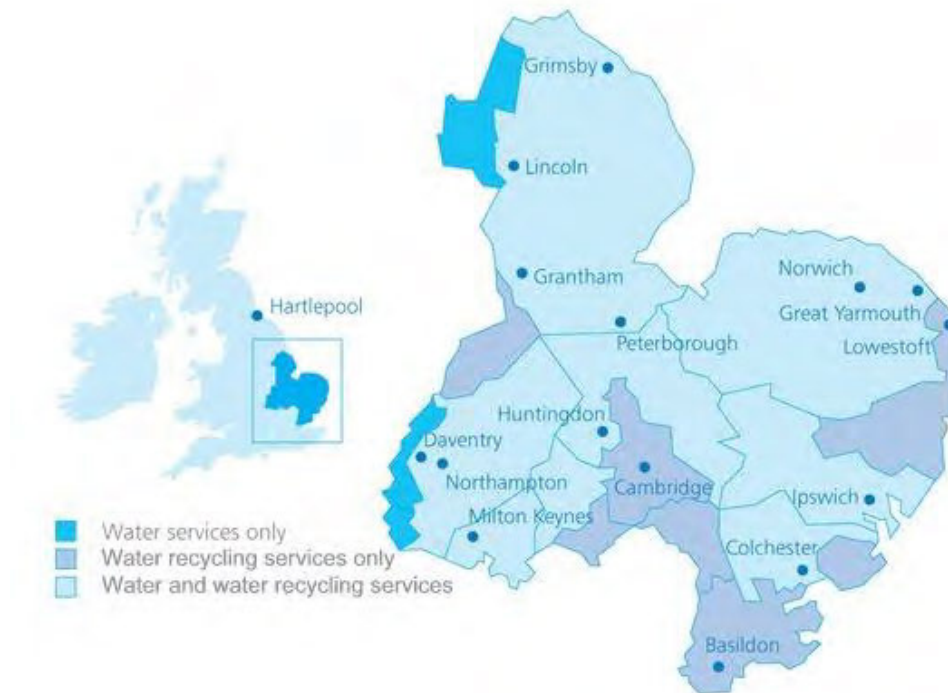
We have two major statutory duties (as set out in the Water Industry Act 1991). The first relates to the supply of drinking water, which is our “duty to develop and maintain an efficient and economical system of water supply within our area and to ensure that all such arrangements have been made for providing supplies of water to customer premises and for maintaining, improving and extending the water mains and other pipes”.

The second duty is our “duty to provide, improve and extend a system of public sewers and to cleanse and maintain those sewers as to ensure that the area we serve is and continues to be effectually drained; and to make provision for the emptying of those sewers and such further provision as is necessary from time to time for effectually dealing with the contents of those sewers”.

Our key assets used to carry out our duties include:

- Over 76,000km of sewers
- 38,000km of water mains,
- 1,123 water recycling centres,
- 143 water treatment works,
- 5,000 sewage pumping stations,
- 329 water towers and service reservoirs; and
- 14 raw water reservoirs.

1.3 Where we operate



Our region stretches from the Humber, north of Grimsby, to the Thames estuary in the south and from Buckinghamshire in the west to Lowestoft on the east coast. We provide services across an area of 28,000 square km and are the largest water and water recycling company in England and Wales by geographic area.

2.0 Purpose

In this access statement we present the practical information necessary for infrastructure providers whose work requires them to cross or work near our assets. Our purpose is to ensure a clear, predictable and easily understood process for interactions between ourselves and other infrastructure providers.

This statement provides information about:

- A point of contact to cross or work near our assets
- Arrangements for accessing information about our assets
- The process that will be followed to agree arrangements to cross or work near our assets
- The fees and charges that may need to be paid
- How you will be kept informed
- How any disputes will be resolved.

More information about working across or near our assets can be found on the Builders and Developers section of our [website](#). However, this document should be treated as the primary source of information and will be kept up to date on the '[Locating our assets](#)' section of our website.

Nothing in this Access Statement overrides the responsibilities of infrastructure providers and developers under planning or any other legislation.

3.0 Site Contact

For large sites, initial contact with Anglian Water will be through our Pre-development team. You can find out how to contact them [here](#).

You will then be assigned a single point of contact for liaison about working near our assets which will be your Growth Liaison Manager as detailed in the table below:

Growth Liaison Manager	Geographic area covered
John Young	Bedfordshire, Buckinghamshire, Northamptonshire and the borders of Leicestershire and Hertfordshire
Rob Morris	Cambridgeshire, North Norfolk
Paul Lancaster	Essex, South Norfolk, Suffolk
Anthony Hughes	Area North of Peterborough

Your Growth Liaison Manager will be the single point of contact throughout the construction process.

In cases where the work being carried out is considered minor, it will be assigned to a Project Engineer to be the single point of contact for all water schemes. For drainage schemes, your application will be dealt with by one of our Drainage Engineers.

If, for any reason, your Growth Liaison Manager is not contactable you may call our Development Services team on [REDACTED] (8.00am to 5.00pm Mon to Fri).

4.0 Arrangements for Accessing Information

4.1 Locating our assets:

To understand whether work you propose to carry out will go near to or cross our assets; maps detailing the location of our water and water recycling infrastructure and assets are available on request from [REDACTED]. This includes both underground assets (pipes) and above ground assets such as pumping stations, water treatment works and water recycling works.

To order a map for sites within our operating areas, you will need to register on the website and will then be able to search for your chosen location and get an instant quote online.

You can also view maps free of charge at your local council office, (please contact them directly for access and opening hours) or at: Anglian Water, Osprey House, 1 Percy Road, Huntingdon, Cambridgeshire PE29 6SZ (Open Monday to Friday 9.00am to 5.00pm, excluding bank holidays). If you require printed versions of maps, charges will apply.

Depths to services cannot be provided uniformly across our region where records do not exist. If depths are required where data do not exist a survey would be required at the infrastructure provider's expense.

5.0 The Process

If the scheme you are involved in is complex, your initial contact with us will be through the Pre-development team.

Once we understand your infrastructure needs, you will be assigned a Growth Liaison Manager if required. If the scheme is simple, you will be asked to interact directly with our Drainage or Water Development Services Teams.

You will be required to apply formally depending on the work type:

- Building over/near to (sewers only)
- Diversion
- Crossing (advice only)

For simple drainage schemes, we will vet your application and approve for your sewerage contractors to carry out any works. There are occasions where at pre-development stage, we will identify that the drainage scheme is complex and should be managed and carried out by our partners. On these occasions, you will be assigned a Growth Liaison Manager. For water schemes, we will instruct our partners to carry out the works on your behalf.

5.1 Contacting us

In some situations you may not need to contact us if you are working near our assets. Any work undertaken outside our standard easement widths along pipelines may proceed without reference. These widths are shown in the following table:

For land where no development is proposed		For land marked for development or land use changes within the next 20 years in the local plan.	
Pipe Size (mm)	Easement protection required (m) (Overall distance)	Pipe Size (mm)	Easement protection required (m) (Overall distance)
≤ 249	4.0	< 149	4.5
250-449	5.0	150-449	6.0
450-599	6.0	450-749	9.0
≥600	7.0	>750	12.0

Please note: These easement widths are based on a nominal depth of cover (0.9m) to pipes. Easements may be widened where pipes are laid deeper than nominal depth. For example, water mains laid in peat are required to be at 1.1m depth and easements are increased proportionately.

These easement restrictions do not override the general obligation not to damage our assets. We can offer advice for safe ways of working. We may allow roads to be built along a pipeline, provided that we will be able to gain access to carry out maintenance and repairs if necessary. Fences and walls must not be built along the course of a pipe as they will restrict access.

5.2 Crossing a Water Main or Sewer

We do not require infrastructure providers crossing a water main or sewer to seek consent from us. However, any damage to a sewer would comprise a civil liability and certain damage

to a water main would comprise a criminal liability under Section 174 of the Water Industry Act. We can provide advice on how to cross these assets safely and charge the cost price for these services.

5.3 Diverting an existing Water Main

If an existing water main is in the vicinity of your planned works, we can, if practical, divert the main. We will design and estimate the costs of this work and complete the diversion on your behalf.

If an existing water main needs diverting, we will design and estimate the cost of these works. The applicant will pay the full amount of the estimated costs. On completion of the work the costs will be recalculated using the actual costs incurred, and the applicant will be billed for any additional costs or refunded if actual costs are less than estimated.

We will charge a design deposit upon application for a water main diversion. This will be deducted from the scheme costs once the work has been completed.

5.4 Diverting an existing Public Sewer

If the location of a public sewer is preventing your infrastructure project from progressing, we may allow you to divert, alter or remove the sewer.

In order to divert a public sewer:

- You will have to enter into a legal agreement to allow you to divert the public sewer.
- You will be responsible for the costs of carrying out the work, along with fees payable in association with the agreement.

Find out more about diverting a sewer on our [sewer diversion webpage](#).

If an existing sewer needs diverting we will charge the infrastructure provider for completion of the work. For off site diversions that require works on third party land we will meet the land agent/ compensation costs; however these will be re-charged to the infrastructure provider at cost.

5.5 Building over or near a Water Main

Unlike sewers, where building regulations may permit building over or close to public sewers, we DO NOT permit building over water mains or within the easement limits (outlined above). Water mains operate at pressure; hence they have the potential to cause considerable damage for which we could not be held liable.

5.6 Building over or near to a Public Sewer

Some parts of the public sewerage system are situated within the boundary of properties and you must obtain our authorisation to carry out any building works over or within 3m of the public sewerage system.

Please visit our [website](#) to find out how to make an application to build over a public sewer.

The building over of a pumped/rising main sewer is not permitted under any circumstances. An [application](#) for a diversion of the sewer must be applied for instead.

5.7 Timescales

After we have received a Section 185 Diversion Request, we will confirm receipt of the request within 5 days. We will aim to respond to the request with a technical vetting decision within 28 days. If we do not expect to meet this timescale we will inform infrastructure providers in advance.

6.0 Fees and Charges

Details of our fees and charges can be found on our [website](#) at the following location.

Our charges are reviewed annually and run from 1 April to 31 March.

We do not require indemnities for work that crosses or is carried out near our assets.

7.0 Keeping Infrastructure Providers Informed

Infrastructure providers will be kept informed during the design and construction process by the Growth Liaison Management team.

Infrastructure providers will be promptly and proactively informed of any changes to agreed timescales where practicable and once the changes are known.

We give a minimum notice period for changing our plans before work commences. Once work has started on site we will not change our programme unless required by the infrastructure provider.

8.0 Dispute Resolution

We follow the Street Works UK [guidelines on Co-ordination, Co-operation & Communication](#), which is a document detailing cross-industry agreed best practice on working with other utilities. This should minimise the number of disputes.

Any disputes that cannot be solved by the Senior Development Services Account Manager will be passed on internally to Anglian Water's Head of Development Services who will be able to co-ordinate any negotiations with infrastructure providers.

Any infrastructure provider disputing an unsuccessful application to divert a water main or sewer has the right to appeal directly to Ofwat.

Case Management Office
Ofwat
Centre City Tower
7 Hill Street
Birmingham
B5 4UA

