Welcome

Mogden Residents Meeting

January 2023

Mogden Residents Meeting - Agenda

- Welcome & Introductions – Anna Boyles

- Actions from last meeting – Lena Wallin

- Teddington DRA – WRMP – Simon Adams / Mike Bedford

- Major Projects Update – Eugene Cottrell

- Operational Site Update – David Chowings

- Customer Update – Lena Wallin

- SMART Waste – Peter Nash

- AOB & Close – Anna Boyles

Action's

Raised by	Action Detail	Due Date	Action Owner	Update	Closed?
Barry Edwards	Agenda for meeting sent and agreed to prior to the meeting	Jan-23	Lena Wallin	Agenda items requested on invite and agenda sent out on Tuesday 24th January.	Y
Ruth Cadbury MP / Rob Gray	Update on measures taken to prevent flooding incident from happening again	Jan-23	Lena Wallin	Report has been re-disruputed. Questions from report received from Rob Gray and we have called for an internal review to happen. We will then organise a separate meeting/call to update.	
Rob Gray	Update on badgers and plan for swift boxes	Jan-23	Charlie Burgess	Swift boxes to be ordered and we are in discussions on suitable location.	Y
Barry Edwards	Re-start the technical working group	Jan-23	Anna Boyles	This is in progress, we are looking to start them again next quarter and need to work on getting everyone available.	
Anna Boyles	Potential site tour	Jan-23	Anna Boyles	We are happy to take anyone around for a tour - please speak to us after to book the time in or email Lena Wallin at any time to organise.	Y
Barry Edwards	Substitute Kier evnironmental visit regarding the Construction Environmental Management Plan	Jan-23	Eugene Cottrell	Currently organising with kier to see if they can do the date requested.	Y

Planning future water resources

London Water Recycling

January 2023

2. Thames Water's draft Water Resources Management Plan 2024

To read Thames Water's draft plan go to https://thames-wrmp.co.uk/

Planning future water supply

- We've worked with the other water companies across the South East, through Water Resources South East (WRSE), and in collaboration with other water using sectors, to develop a plan for future water supply for the whole SE region. The draft SE plan was published in November and the consultation is open until 20 February 2023.

- Thames Water's WRMP is a statutory plan, it reflects the draft SE plan. TW's draft WRMP24 was published in December and the consultation is open until 21 March 2023.
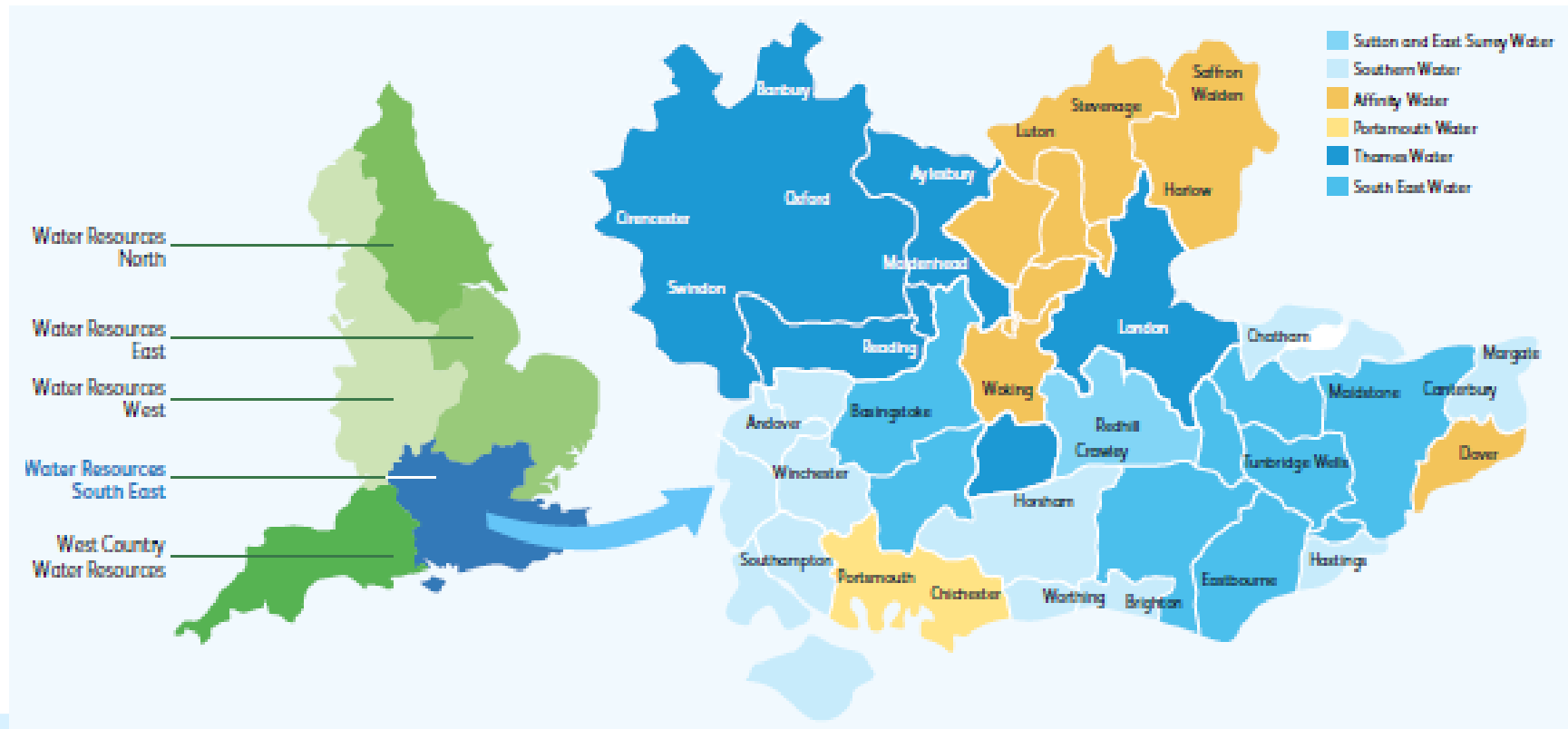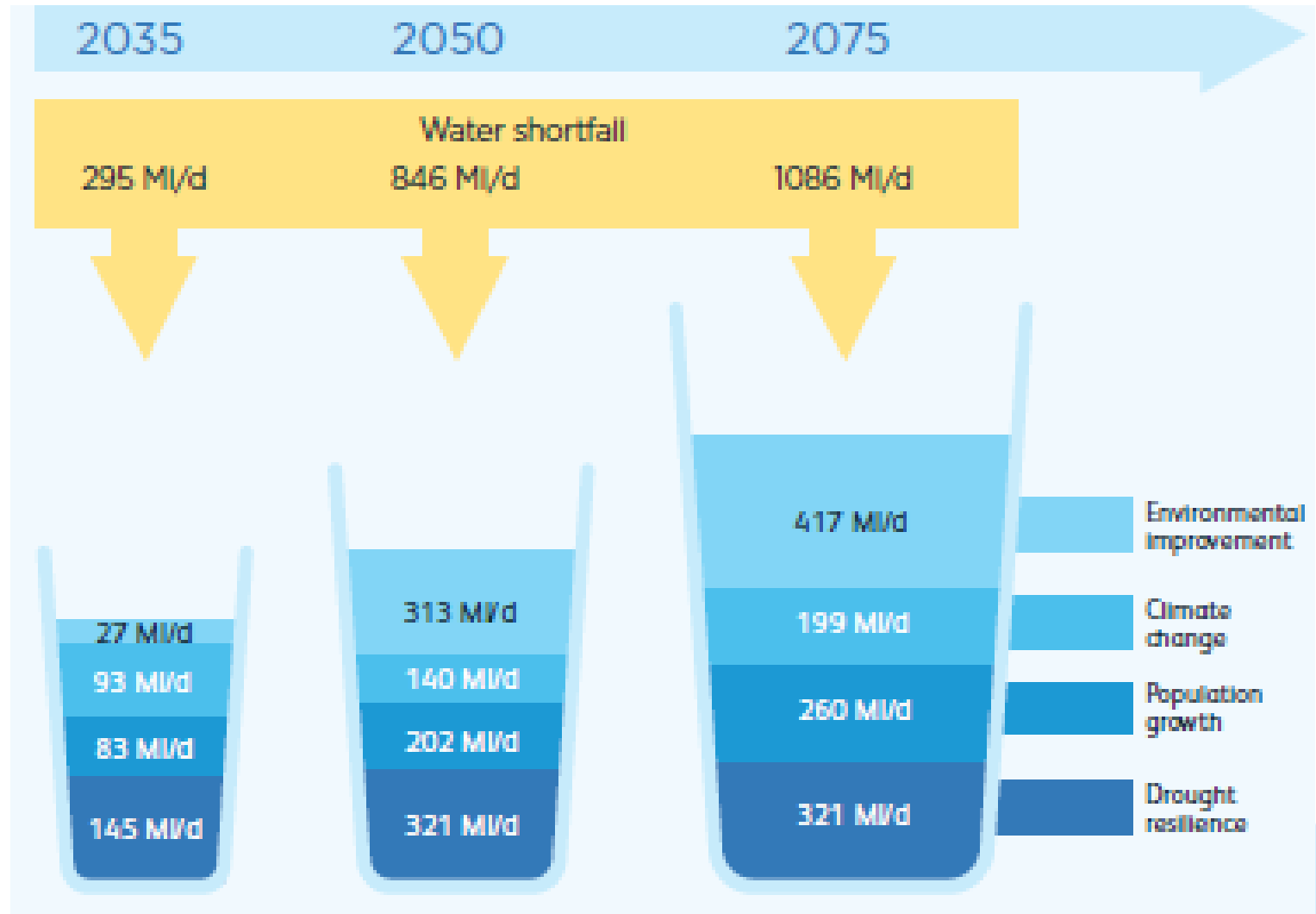
We face a significant planning challenge

We forecast a deficit of over 1 billion litres every day in the next 50 years

A growing population: We forecast an extra 3 million people living in our area by 2075

A changing climate: We've used Met Office climate change projections to assess the impact our water sources and we're making our supplies more resilient to severe drought

Protecting our environment: We plan to reduce the amount of water we take from the environment to ensure environmental resilience

2035	2050	2075

Water shortfall

295 Ml/d	846 Ml/d	1086 Ml/d

2035	2050	2075
27 Ml/d	313 Ml/d	417 Ml/d
93 Ml/d	140 Ml/d	199 Ml/d
83 Ml/d	202 Ml/d	260 Ml/d
145 Ml/d	321 Ml/d	321 Ml/d

Environmental improvement
Climate change
Population growth
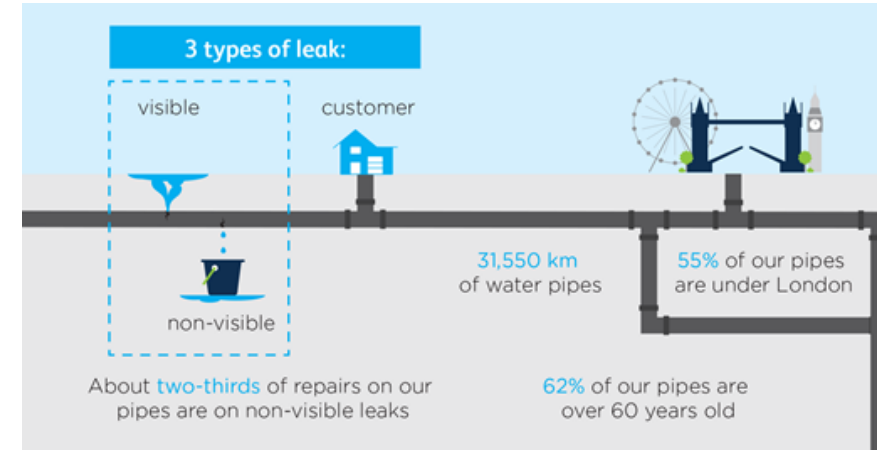Drought resilience

Managing demand is the foundation of our draft plan

These actions contribute over 50% of the forecast shortfall.

Tackling leakage

- Reducing leakage is a priority – we're currently spending over £1 million a day.

- We're working to reduce leakage by 20% by 2025 and to halve leakage by 2050

- We're using new technologies and sophisticated analysis but we need to invest to modernise our ageing network
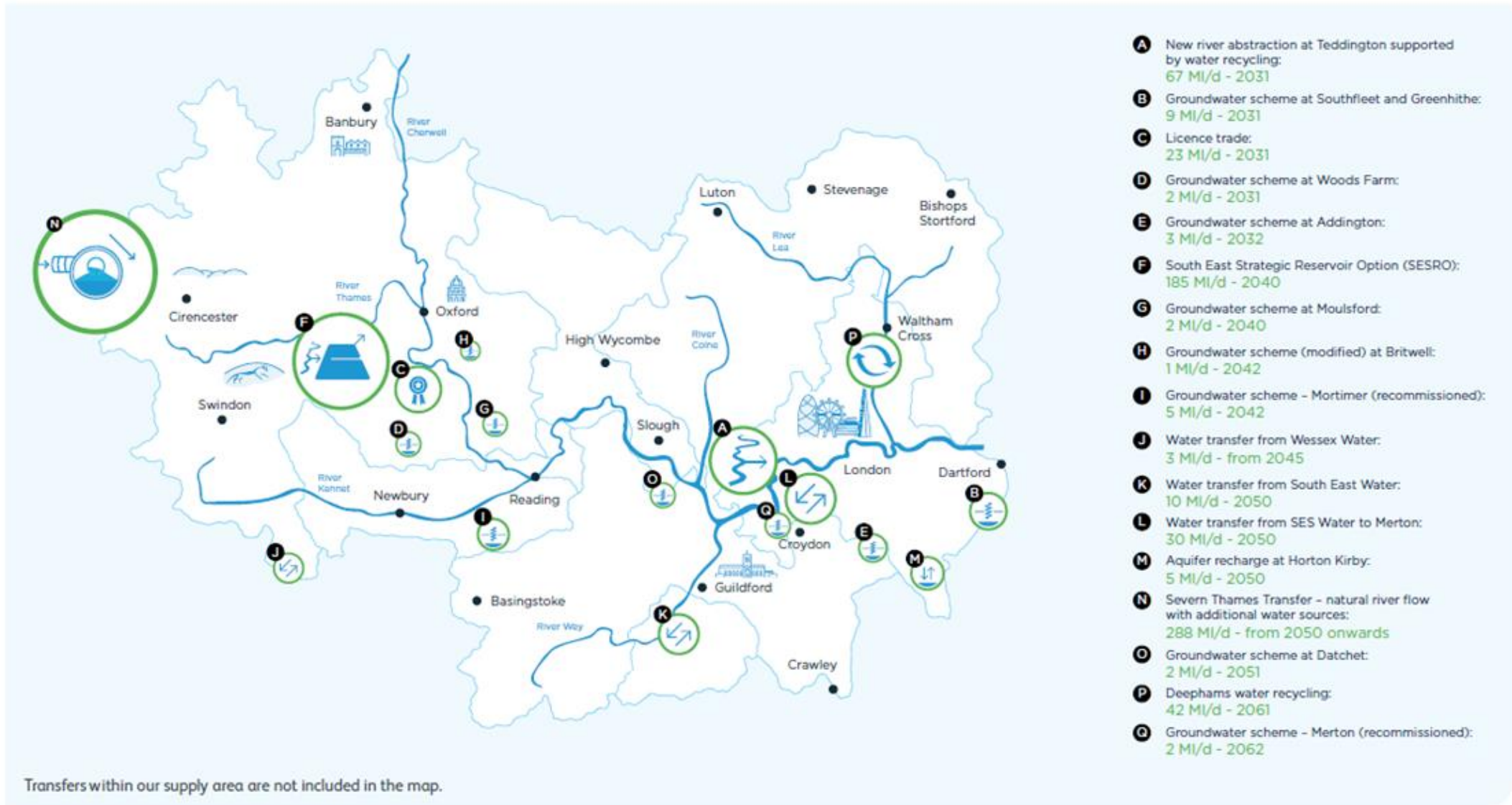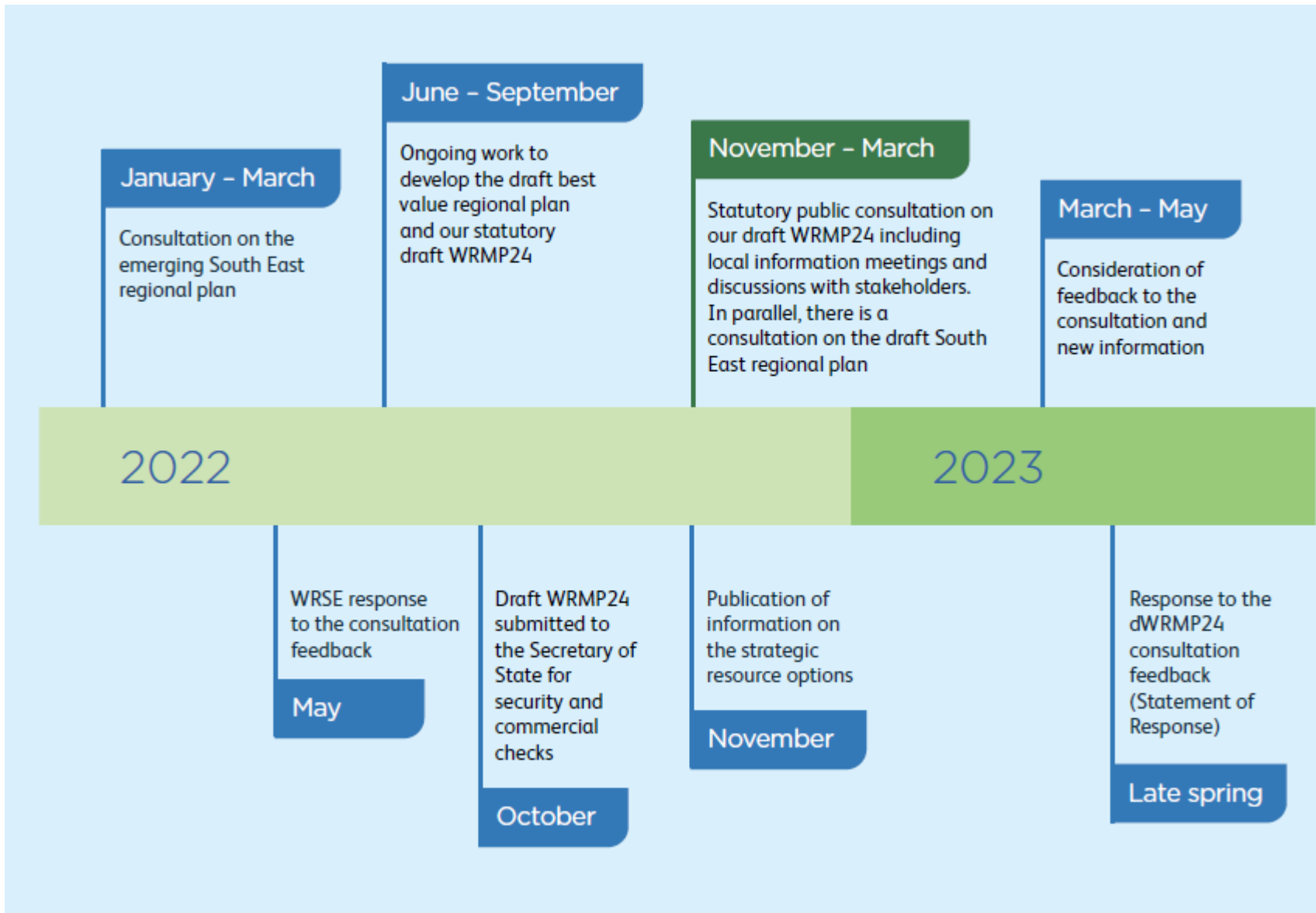

Using water wisely

- We'll continue to roll out smart water meters installing or upgrading a further 1,000,000 smart meters by 2030.

- Working with government, partners and customers we aim to reduce average water use from 141 to around 123 litres per person per day.

We also need to develop new sources of water

A — New river abstraction at Teddington supported by water recycling:
67 Ml/d - 2031

B — Groundwater scheme at Southfleet and Greenhithe:
9 Ml/d - 2031

C — Licence trade:
23 Ml/d - 2031

D — Groundwater scheme at Woods Farm:
2 Ml/d - 2031

E — Groundwater scheme at Addington:
3 Ml/d - 2032

F — South East Strategic Reservoir Option (SESRO):
185 Ml/d - 2040

G — Groundwater scheme at Moulsford:
2 Ml/d - 2040

H — Groundwater scheme (modified) at Britwell:
1 Ml/d - 2042

I — Groundwater scheme – Mortimer (recommissioned):
5 Ml/d - 2042

J — Water transfer from Wessex Water:
3 Ml/d - from 2045

K — Water transfer from South East Water:
10 Ml/d - 2050

L — Water transfer from SES Water to Merton:
30 Ml/d - 2050

M — Aquifer recharge at Horton Kirby:
5 Ml/d - 2050

N — Severn Thames Transfer – natural river flow with additional water sources:
288 Ml/d - from 2050 onwards

O — Groundwater scheme at Datchet:
2 Ml/d - 2051

P — Deephams water recycling:
42 Ml/d - 2061

Q — Groundwater scheme – Merton (recommissioned):
2 Ml/d - 2062

Transfers within our supply area are not included in the map.

Consultation and engagement

January – March

Consultation on the emerging South East regional plan

June – September

Ongoing work to develop the draft best value regional plan and our statutory draft WRMP24

November – March

Statutory public consultation on our draft WRMP24 including local information meetings and discussions with stakeholders. In parallel, there is a consultation on the draft South East regional plan

March – May

Consideration of feedback to the consultation and new information

2022

2023

May

WRSE response to the consultation feedback

October

Draft WRMP24 submitted to the Secretary of State for security and commercial checks

November

Publication of information on the strategic resource options

Late spring

Response to the dWRMP24 consultation feedback (Statement of Response)

Community Events

- 16 January Richmond
- 18 January Paddington Stat.
- 20 January Abingdon
- 27 January Reading
- 1 February Oxford
- 4 February Swindon
- 9 February Cirencester
- 18 February Steventon

- We are proposing further events with stakeholders interested in the scheme in west London

3. A new water resource scheme near Teddington

- Drought scheme selected in the draft SE regional plan for 2031. One of a programme of schemes selected over the next 50 years.

- River water is abstracted above Teddington weir and replaced with recycled tertiary treated wastewater from Mogden STW a few hundred metres downstream from the abstraction point.

- Scheme ensures there is no net change of flow over Teddington weir while providing an additional source of water to Lockwood reservoir during drought.

- Scheme size currently 75Ml/d but potentially could be up to 100Ml/d.

- Scheme consists of three main components
    o Tertiary treatment plant at Mogden STW
    o 4.5km conveyance and new submerged outfall just upstream of Teddington weir
    o New abstraction intake with associated fish screening and connection pipe to the TLT.

- Scheme construction approx. 3½ years, with construction starting in 2027.

- Scheme predicted to be fully operational for a few months per year (typically Aug-Nov) and every 2 or 3 years.

A direct river abstraction near Teddington Weir supported by recycled water
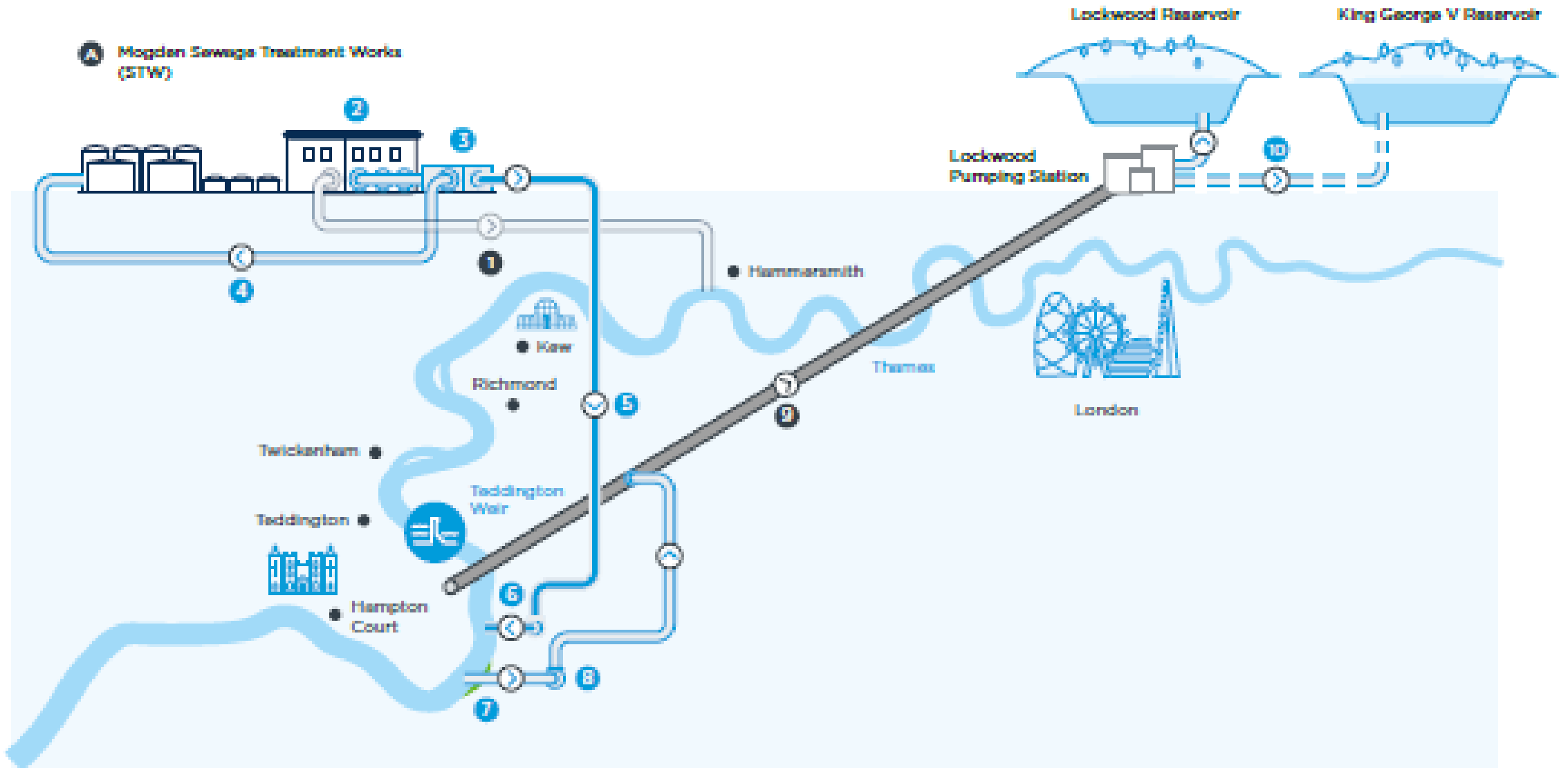
New infrastructure

- The majority of the infrastructure is below ground or limited to Mogden STW

- Trenchless construction of the conveyance pipeline between Mogden STW and the Teddington. Route TBC.

- Outfall will be discrete, intake will be a new structure on the river bank. It will be designed to EA specifications and include fish screens

Photomontage of the TTP at Mogden STW, located on a platform over the existing storm tanks

Photomontage of the intake on the River Thames approx. 250m upstream of Teddington weir

Thank you

Site Operational Update
David Chowings

Operations Update January 2023

Key updates:

- There have been six discharges to the Storm Tanks and river from October 2022 to the end of December 2022.

- Final effluent quality has been good and the site is performing well within the discharge consent

- High flows in the River Thames means that Mogden is currently supplying around 30% of the flow in the River Thames beyond the Isleworth Ait

- A breakdown in our sludge treatment process in January leading to reduced renewable energy generation in the last month of about 20%, but on average we are self-generating 60% of the power used on site

October 2022

Mogden STW - Rainfall and Storm Flow to River (October 2022)

November 2022
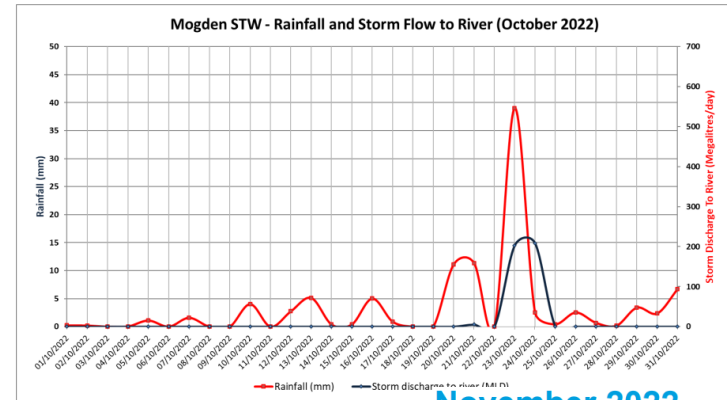
Mogden STW - Rainfall and Storm Flow to River (November 2022)

December 2022
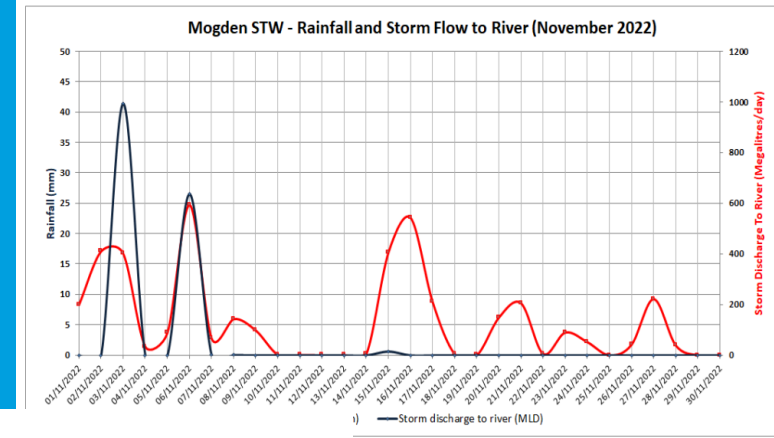
Mogden STW - Rainfall and Storm Flow to River (December 2022)
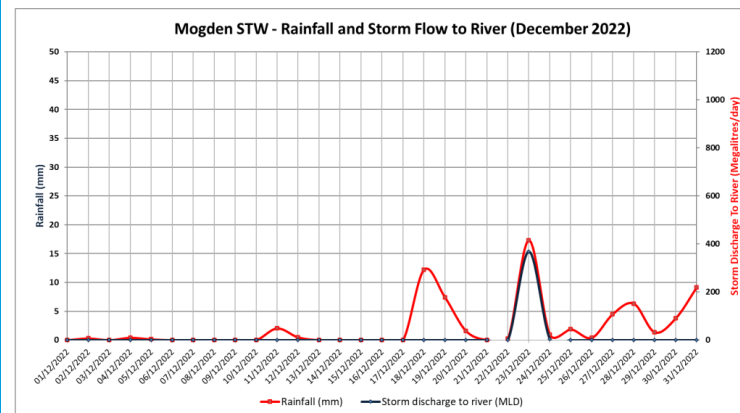
Key Project Updates

Completed work:

- B Battery FST inlet valve refurbishment work completed on 3 of 4 FSTs.

- Process pump replacements – various

- Aeration lane re-doming on going A Battery.

On going:

- C-Battery circular PSTs – refurbishment of scum removal system and replacement of sludge pumps

- Main pumping station refurbishment

- Digester radar level sensor replacement

- New Security entrance area.

- Odour Control Unit 11 refurbishment

- Aeration lane re-doming on going B Battery.

Funded Projects in Planning Phase:

- Screw Pump Refurbishment

- Stand-by generator exhaust modifications as requested by the EA.

- Sludge process plant refurbishments.

- PS14 Iver South Sludge Main Refurb & Improvements

Mogden STW – Storm Discharge Sample Data

Data provided by Senior Process Scientist – Compliance Team 09/11/22

The below table shows typical sample data of Raw Sewage, Storm Effluent and Final Effluent. The purpose of this comparison is to show the reduced polluting nature of settled storm sewage at Mogden STW compared to the raw sewage which enters the treatment process on a typical dry day.

Component Measured	Unit	Typical Dry Day Raw Sewage	Wet Weather Storm Effluent*	Typical Final Effluent	EA Discharge Consent Final Effluent Maximum Allowed Value
Suspended Solids	mg/l	292	34	15	45
Chemical Oxygen Demand	mg/l	589	73	38	125
Ammoniacal Nitrogen	mg/l	43	5	0	3.5

* Storm effluent sample collected during storm discharge at Mogden STW storm tanks on 3rd November 2022

Photos

Storm Discharge samples taken 17th November – Crude sewage sample taken

Crude Sewage	Storm crude Sewage	Storm Discharge	Typical Final Effluent

Mogden Investment

Capital Maintenance Project
- Circa £10.8 million

Mogden Resilience Project
- Circa £100 million
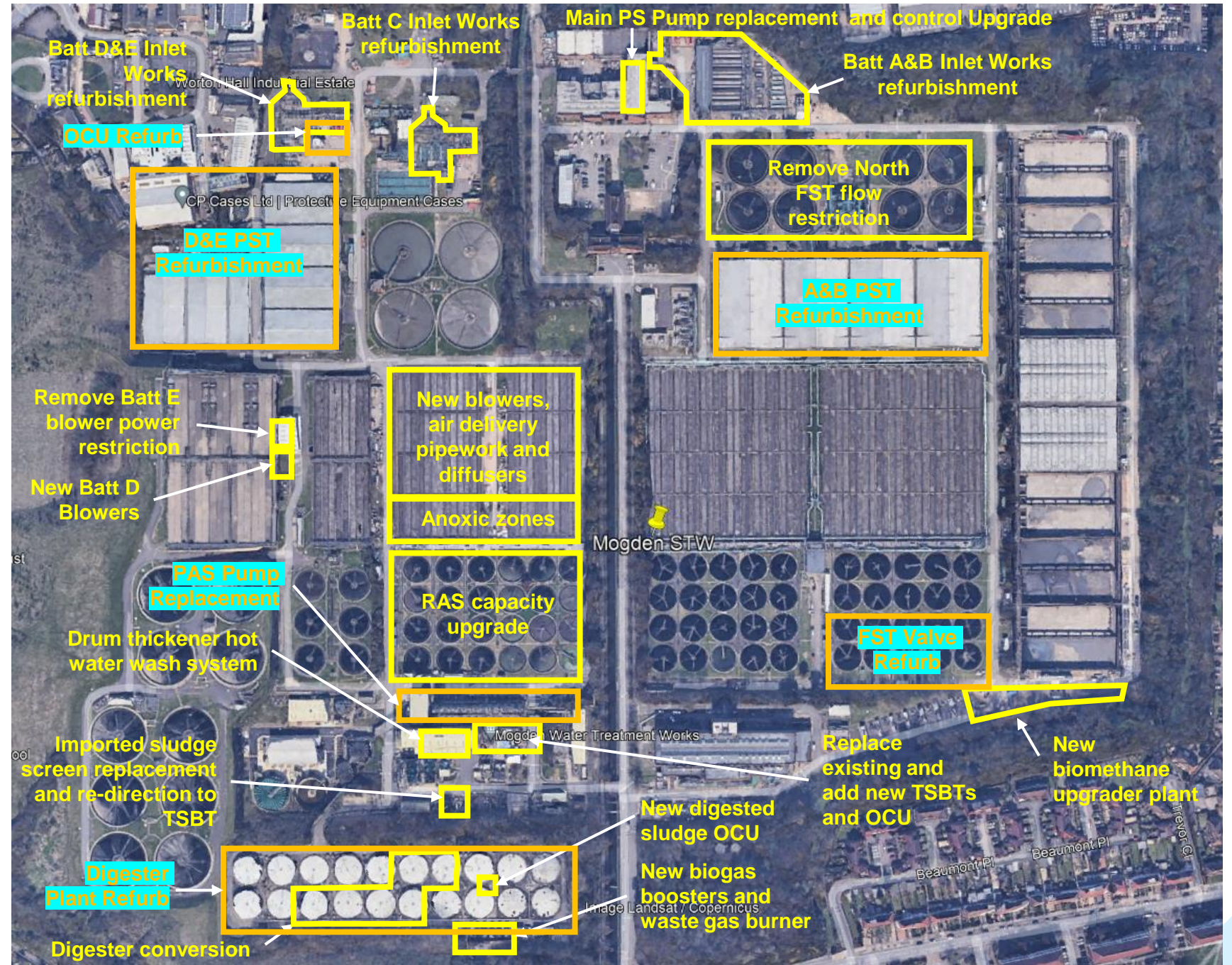
Customer & Stakeholder Update

Odour	Fly / Mosquito's	Event Discharge Monitors
• 1 STW Complaint (Oct-Jan) • Reviewing our odour control units and looking at investment opportunities. • Updated Odour Management Plan in line with new management continuously being reviewed and updated as necessary.	• Schultmay moved to winter monitoring schedule in December 2022 and will go back to Summer schedule in April. • Bio guard continue to treat as appropriate. • Audited by LBH in December 2022 which passed next one planned March 2023.	• Now online • Published for transparency • Shows when we are storming to river and the duration. • Next generation coming which will show history and total hours spilled.

Mogden Residents Liaison Meeting
Gas to Grid Project Update

26 January 2023

Gas to Grid - Export Pipeline

Stage 1 – complete on 4 November 2022

Stage 2 – Mogden Lane roundabout
- 9 to 27 January 2023
- Light motor vehicles access STW via Oak Lane

Stage 3 – Chertsey Road crossing
- February to April 2023 (weekend lane closures)

Stage 4 – Modgen Lane (Eastbound lane closure)
- 4 weeks from 11 April 2023

Stage 5 – Connection to Cadent Main (Chertsey Road)
- Week in June 2023

www.thameswater.co.uk/mogdengastogrid
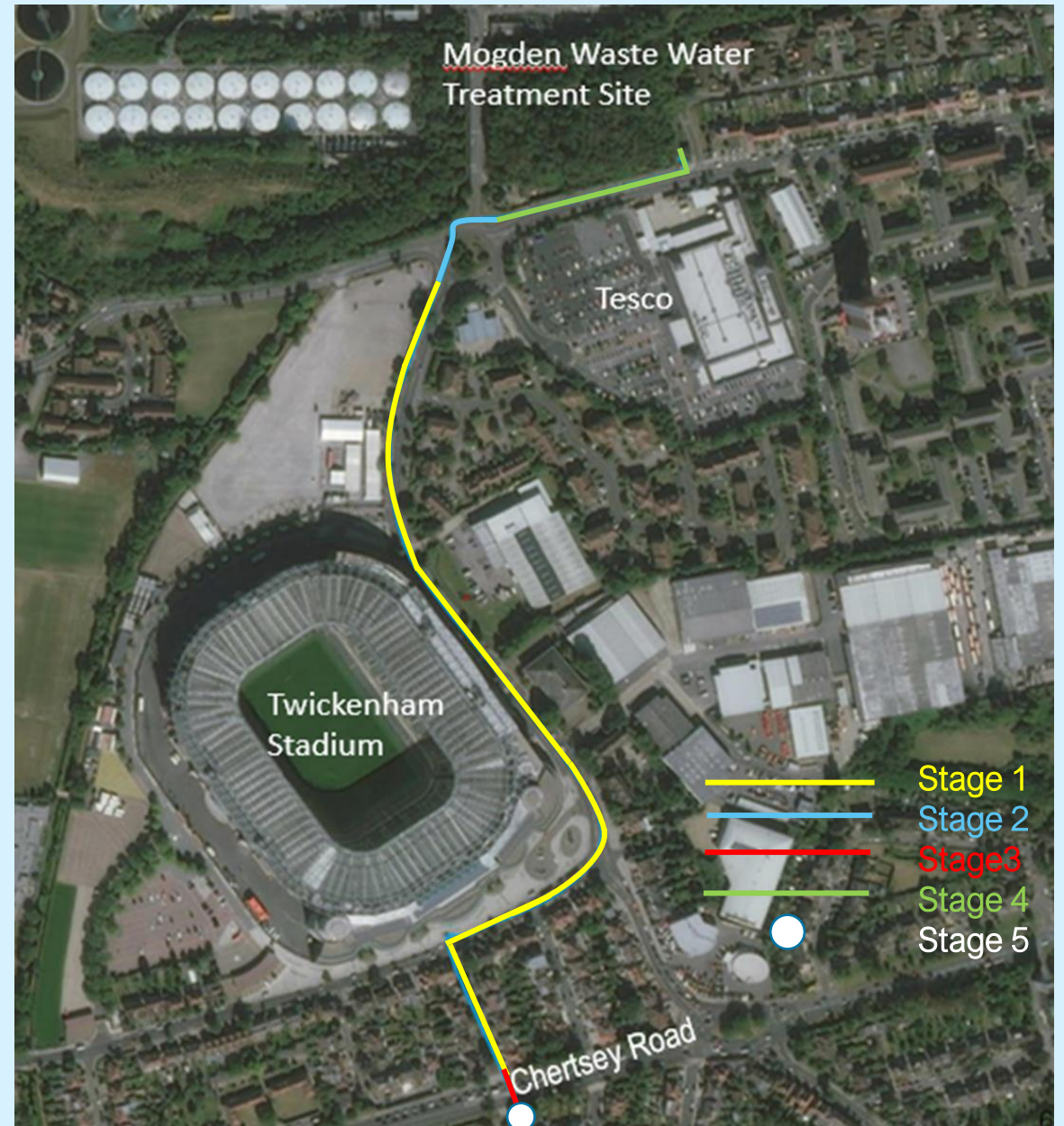
Mogden Residents Liaison Meeting
Mogden AMP7 Resilience Project Update

26 January 2023

Project Update- AMP7 Resilience Works

Current activities

- Digester 14 & 16 refurbishment and upgrade

- Installation of NFST trial solutions

- Installation of HV ducts

- Battery C ASP Lane blower building and RAS pump station

- Development of the site's new SCADA and Process Control Network system

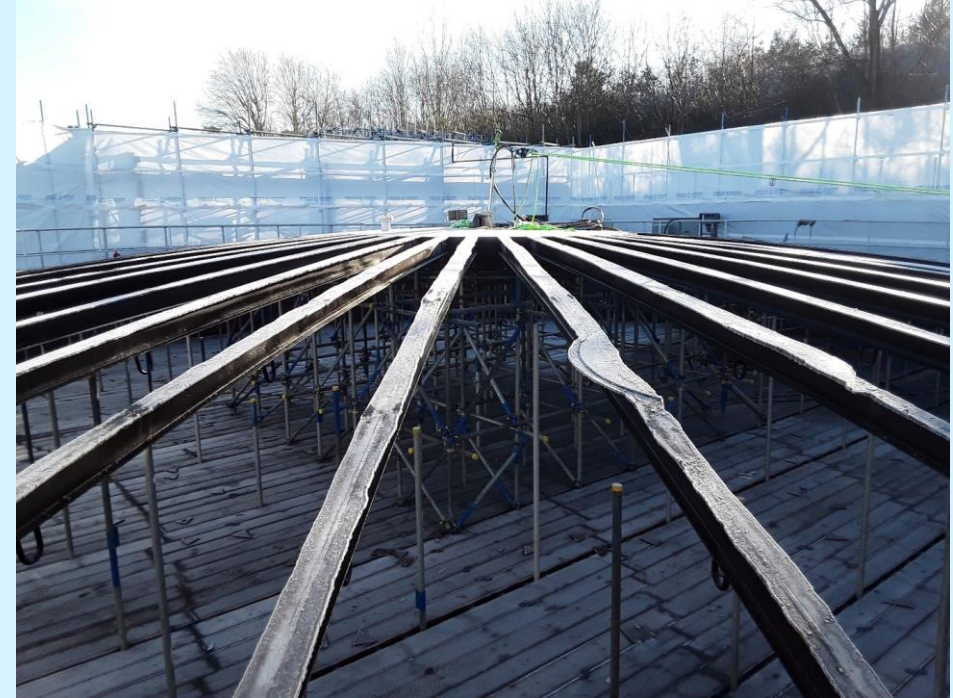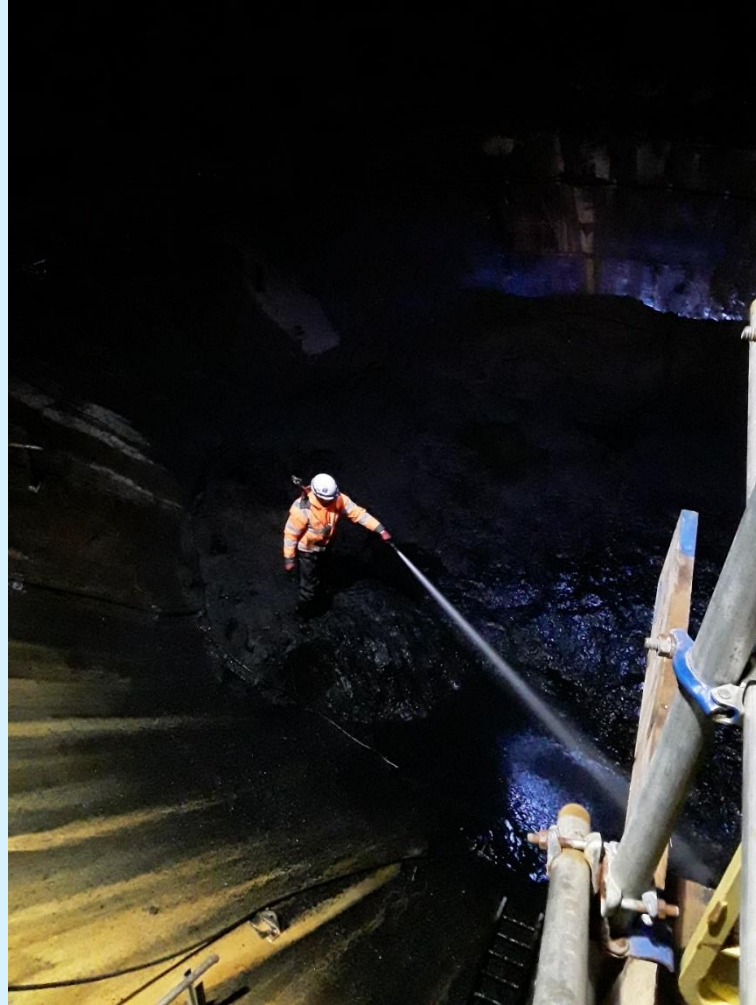- Manufacture of the new screens for the East Side Inlet Works

- Other enabling works across the site
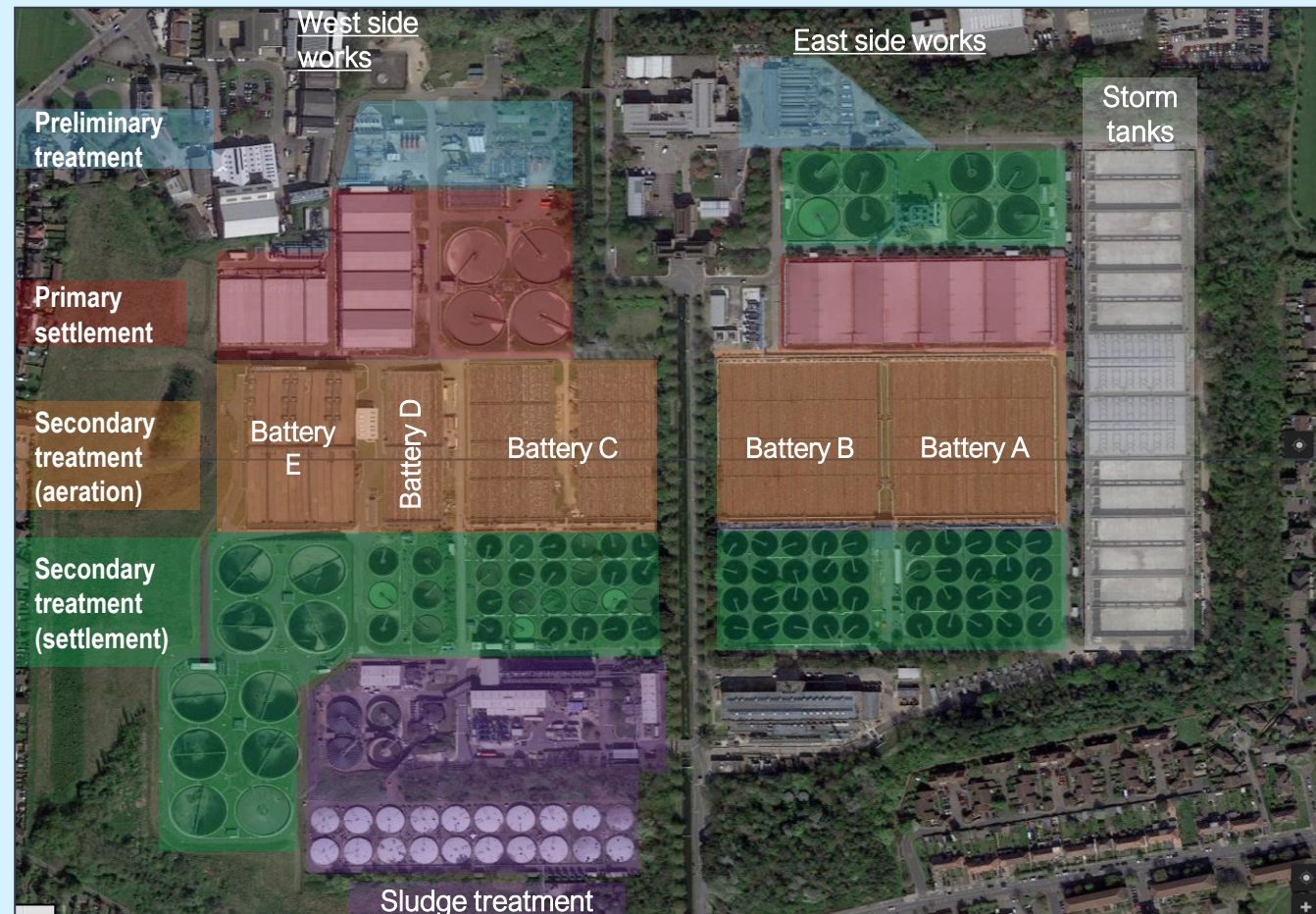
NFST – Drum & McKinney Baffle Installation

HV Duct Installation

Digester Cleaning & Roof Removal

Thank you

SMART Waste – Pete Nash

Smart Waste

- What is Smart Waste

- What is an SLM?

- Why Wealdstone Brook

- Where else will we be deploying SLM's?

- Sewer Surveying

- When will it be here

Smart waste Catchment Tool

What is it?

A Smart Waste Catchment is a geospatial digital tool which collects data from many different data points into a single location. These data points allow us to create a 'digital twin' of the catchment, with a bit of machine learning will allow us to get an understanding of how a catchment is performing from toilet to river.

A digital twin is a digital representation of a product. With enough data points, you can build a digital twin. This can learn over time to identify specific outputs you want to find in the data.

Key data is taken from the network will involve key performance data from:

• Pumping Stations

• Sewer Level Monitors

This tool is in development, with a release to the tool be made available throughout this year. When live, it will be first time where we can fully understand our catchment, with a drive to proactively drive performance improvements in blockages, flooding and pollutions.

Smart waste Catchment Tool

What is it?
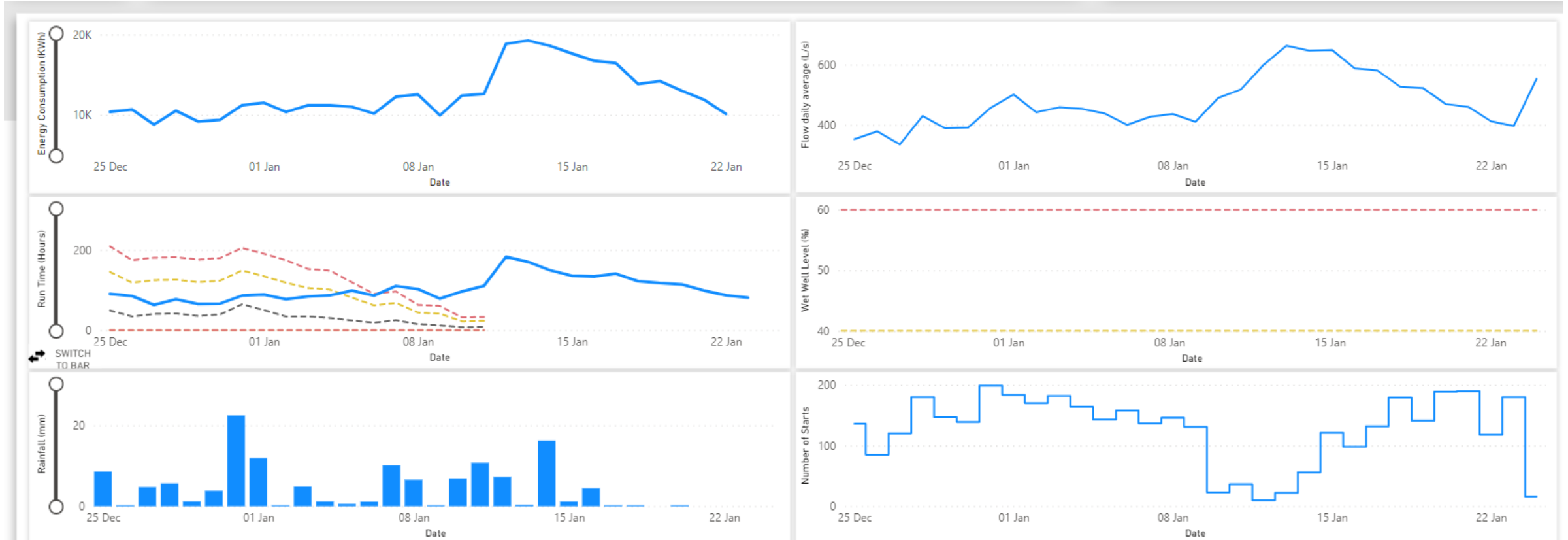
Sewer Level Monitor (SLM)

A summary of…..

- **What**: Sewer Level Monitors (SLM's) are monitors that sit within a manhole chamber and send a signal to us advising whether the level of waste water within the sewer has hit a set height (higher than we would expect the sewer to flow) or not.

- **Why**: An alert of higher flow provide early insight of a problem that could cause a blockage, pollution, or customer flood.

- **Where**: They are commonly found in foul manholes with a history of blockages.

- **Also known as**: Sewer Depth Monitors, but provide the same solution.

- **Not to be confused with:**
    - "Loggers" – which is a catchall title for EDM's, SLM's, and all other types of devices.
    - Event Duration Monitors (EDM) – which are devices that are situated at permitted discharge points. These are monitored and have a regulatory requirement to provide data to the EA.
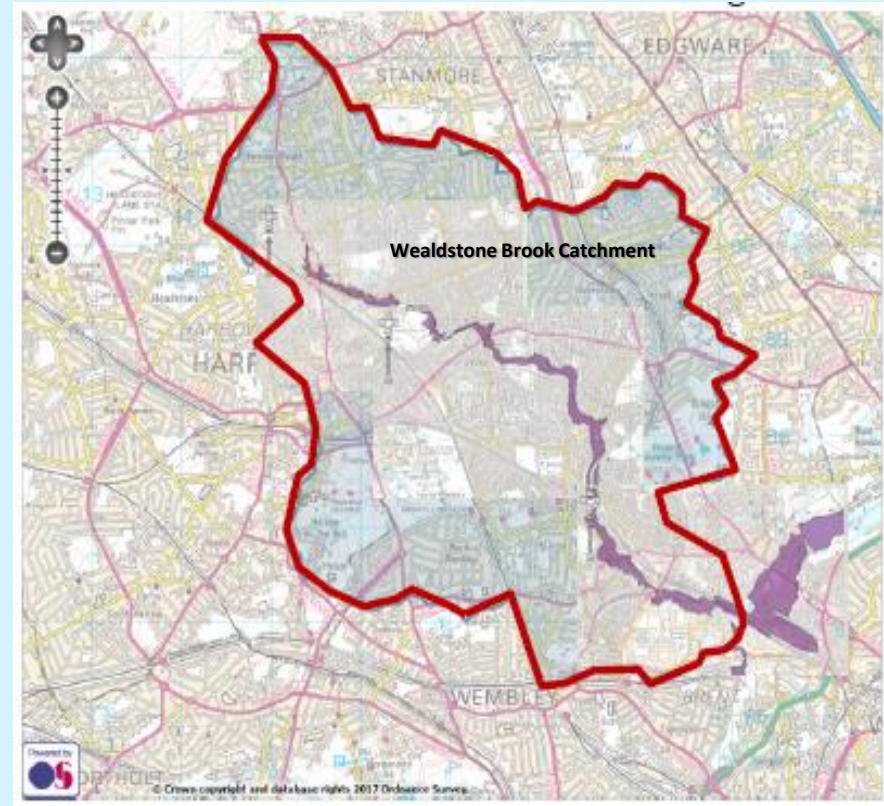
Why Wealdstone Brook?

There will be over 700 SLM's installed within the Wealdstone Brook catchment. These devices will primarily be installed within the foul sewer, but as part of this project, there will be approximately 60 x installs into the surface water network.

What do we want to achieve from installing here?

- Protect river from sewage pollution in the Wealdstone Brook catchment area.

- Sewer levels can rise quickly resulting from rapid run-off from hard surfaces and sewer surcharge. Can we identify this?

- Interconnections between foul and surface water sewers. A lot of work to separate where we know dual manholes are located. Can this project identify potential further dual manholes in the network.


Wealdstone Brook Catchment

Where else will we be deploying?

As well as deploying a great number of monitors in the Wealdstone Brook area, it is our plan to also install monitors in strategic locations around our assets to gain further knowledge on performance.

It is our aim to install monitors in the following areas:

- Upstream of consented CSO's

- Upstream of Non-consented CSO's

- Up and Downstream of Sewage pumping stations.
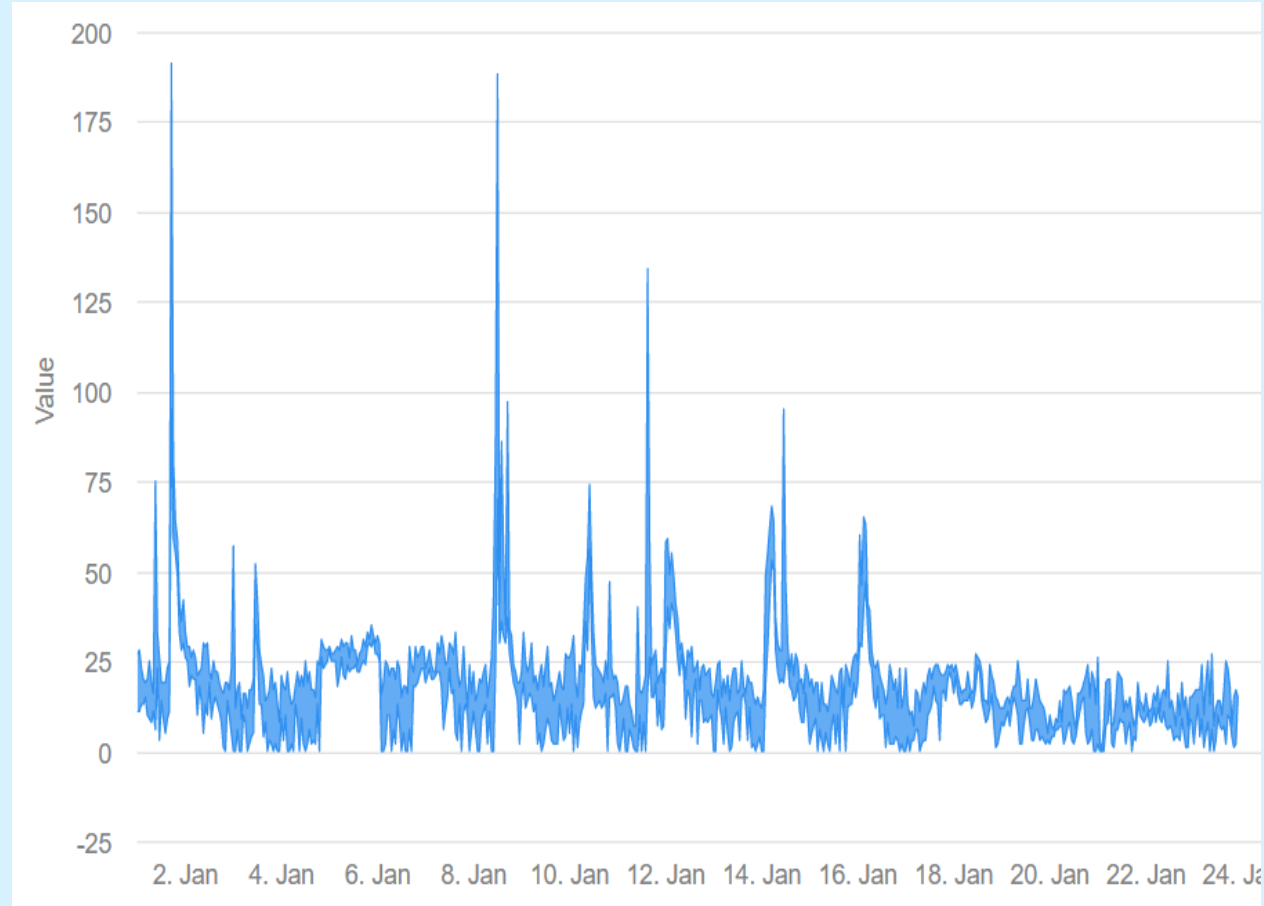
Increased Sewer Surveys

- We estimate an unmapped Length between 30-40% in the Mogden Catchment Area.

- The map shows an area in Brent and the sewer density difference is clearly visible in many areas.

- Fully mapped areas shown in Red Circle. All other areas are not fully mapped.

There will be investment to survey parts of our network to capture as much unmapped sewers as possible.
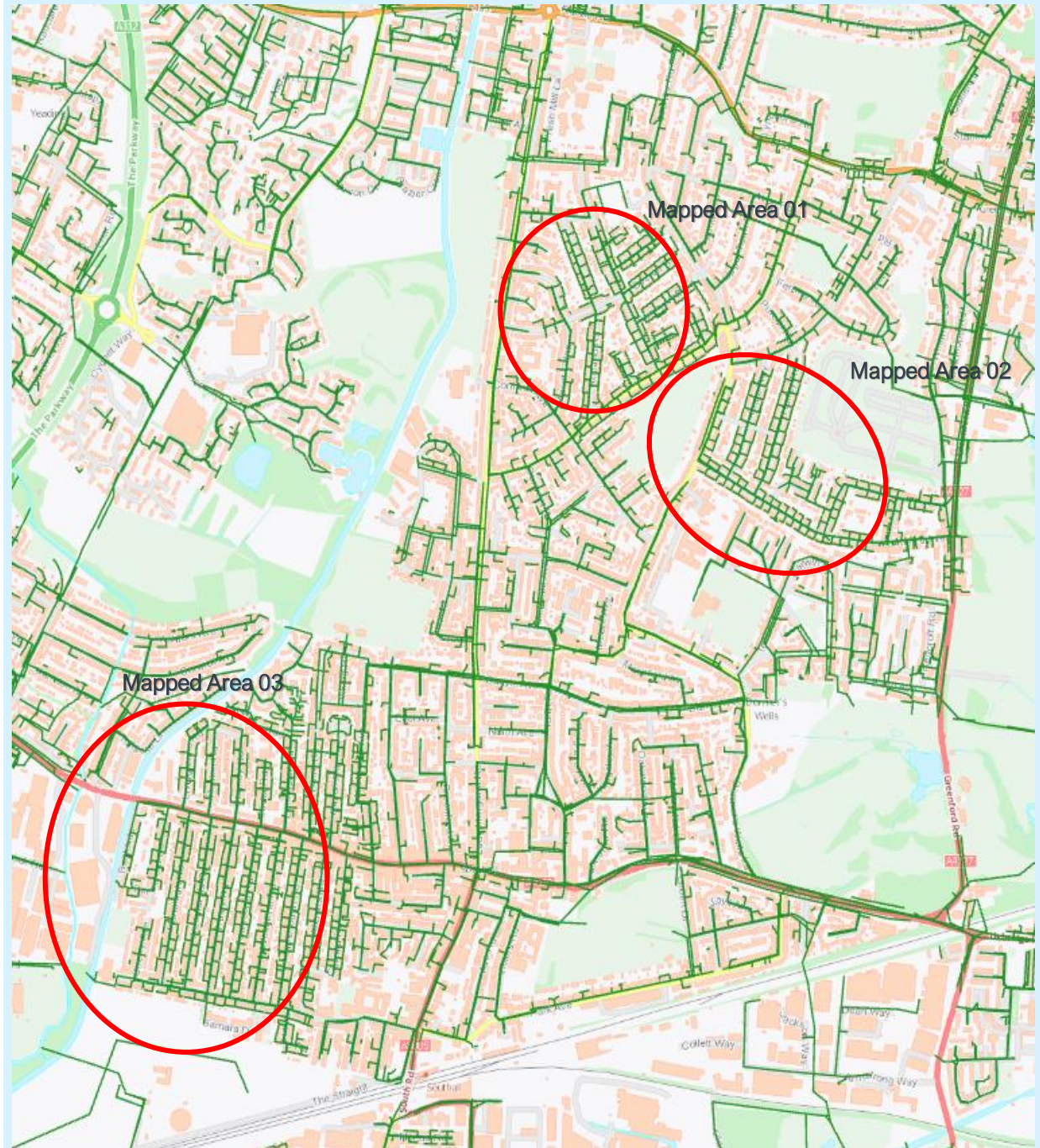
What's Next?

The installation phase of building the smart waste network is due to be completed over the course of 2023.

As more and more monitors are being installed, this data will feed into the smart waste tool. From a previous trial, it is expected that installing at around the 6 month point of the installation program, real data analysis will take place to understand the success and improvements that may be required to further enhance our knowledge of our network.

AOB / Close