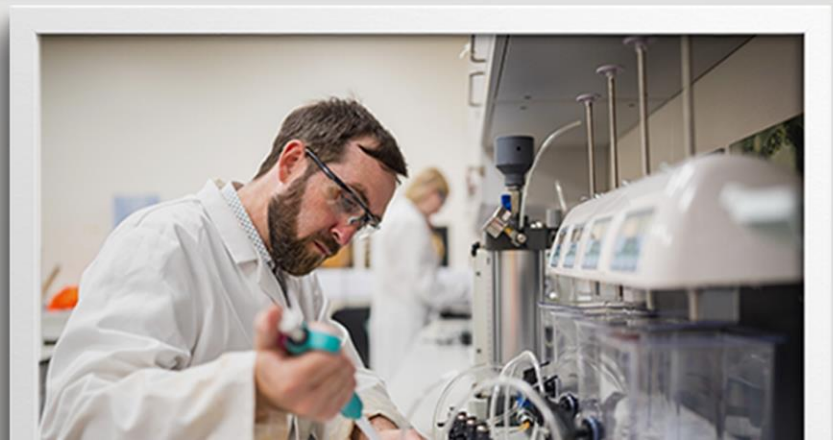
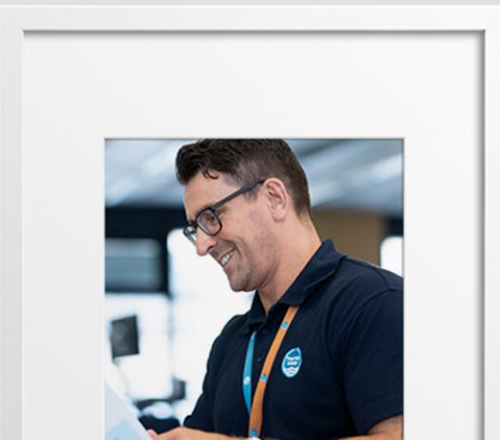
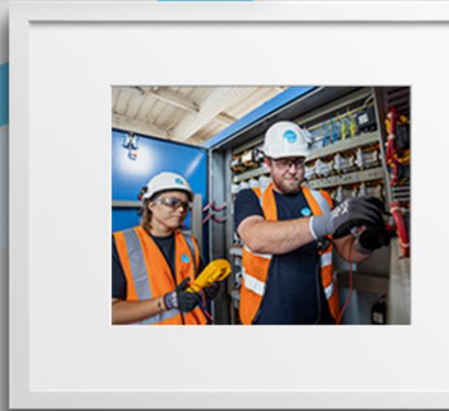
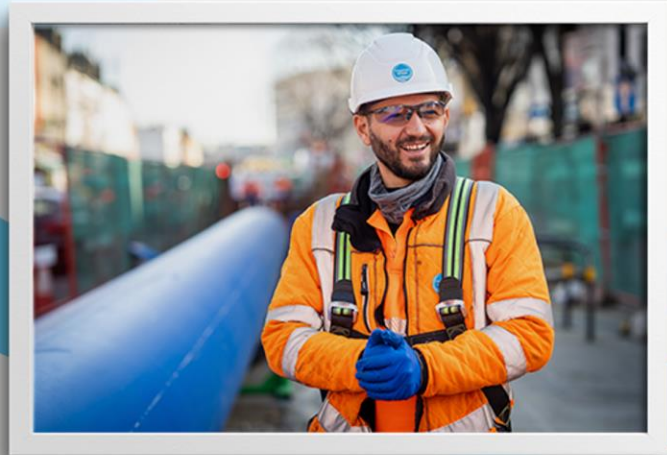
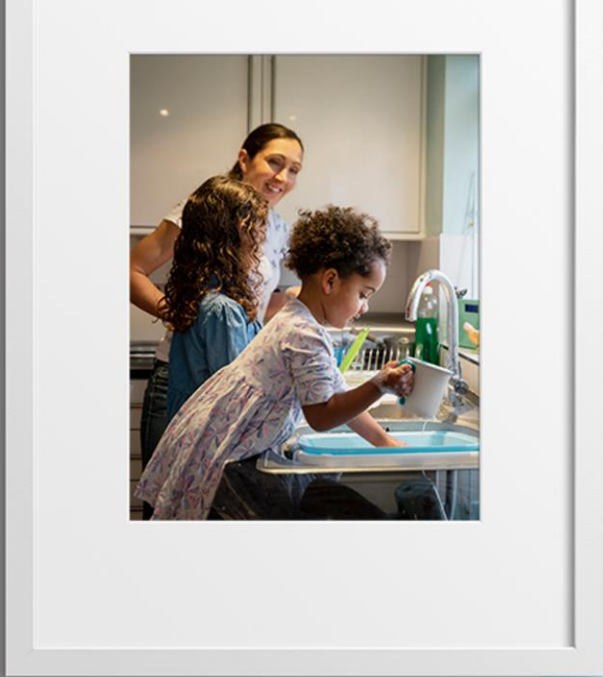
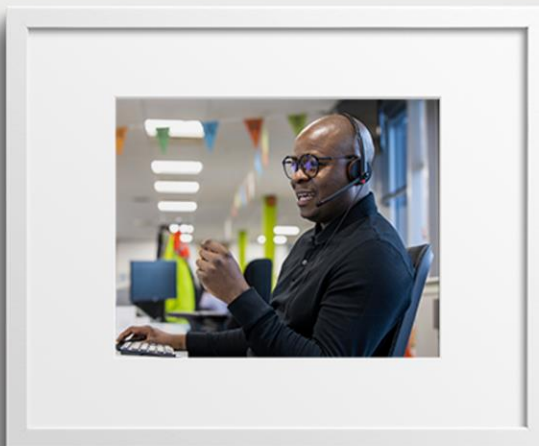


Mogden Catchment

Mogden Residents Meeting
27th April 2023



Agenda

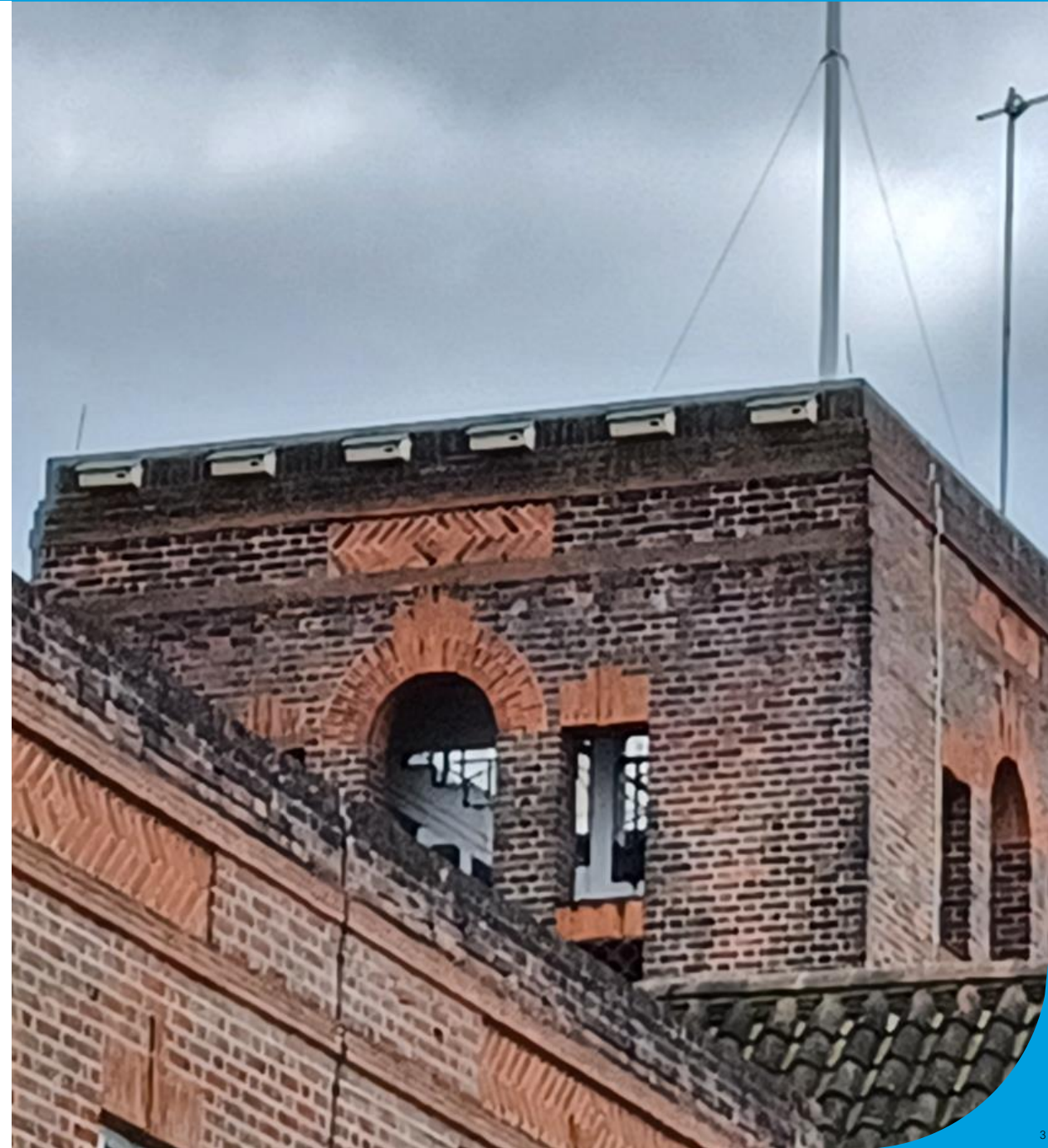
- Welcome / Introductions – Anna Boyles
- Actions from last meeting – Lena Wallin / All
- Operational Site Updates – Joshua Callaway / David Chowings/ Lena Wallin
- Major Project Updates – Eugene Cottrell
- General Investment Update – David Bradshaw
- AOB / Close





Update – Swift Boxes

- Swift boxes have been installed on the main admin building.
- We will ensure they are maintained annually.
- Have worked with our bio-diversity colleagues for the most appropriate place to install them.
- We will keep you updated on Swift activity!



Action Review

Raised by	Action Detail	Due Date	Action Owner	Update	Closed?
Ruth Cadbury MP / Rob Gray	Update on measures taken to prevent flooding incident from happening again	Mar-23	David Chowings	Catchment approach with pro active cleaning of the network to reduce amount of grit in first flush. CSO to be re-inforced with bricks and steel/RSJs. Rainfall was 29.8mm for the day - Happy to have a separate session to discuss further learnings in more detail.	
Barry Edwards	Tracking of World Health Organisation guidance - PPM recommended but odour management plan is double this figure. .007 is guidance but currently working to .015	Apr-23	Lena Wallin	Discussed with Hounslow council and the legislation states .015 which is what the council manage Thames Water on. Our PPM is well controlled with multiple OCU's and we quite often fall below the .007	Y
All	Please send out dates for next Teddington DRA consultations to all	Feb-23	Lena Wallin	Completed - Sent	Y
Barry Edwards	Re-start the technical working group	Apr-23	Anna Boyles	Currently looking for a new chair and then we will be able to look to start these. We are currently making contact with a new chair.	

Operational Site Updates

Treatment Overview

Headlines

- 3rd Largest STW in the UK (largest in the world upon its construction in 1936)
- Population Equivalent of 2.04mn
- Diverse and economically-significant catchment
- Flow-to-Full-Treatment of 1064 MLD
- Lower-Tier COMAH Site with highest inventory of any STW in Europe
- Generation capacity of 44GWH – equivalent to powering 15,000 homes annually through Poo-Powered CHP Engines
- Imminently to include BioMethane Plant to produce heating gas for c. 4,000 homes





Overarching Structure

...For Team Mogden to become the 'Gold Standard' of Big Site operations – in which we **actively and purposefully connect** the importance of our Day-to-Day actions to the critical role that our site plays in society and in the environment.

Safety

We operate a site with **Zero Harm** and **Zero Compromise**, recognising the unique hazards of a COMAH site

This is a place **where coming to work improves wellbeing**, not detracts from it.

Process

We get the basics right on our process – **maintaining** and **operating our assets** in a sustainable manner.

We have industry-leading Asset Availability and technically-fluent teams

Finance

We run a fiscally tight ship that doesn't spend conservatively but *wisely*.

Our managers are fluent in the importance of OPEX and CAPEX– and the mechanisms for obtaining them

Environment

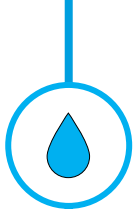
We are an **absolute force for good** in our local **communities** and **environments**.

Our teams are confident in articulating the value we contribute as a significant part of London

Strong Foundations – Building an inclusive, diverse, supportive and productive Team Mogden that has each other's backs

Mogden STW – Operational Updates

Key updates:



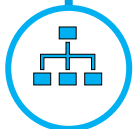
There have been **5 discharges** to the Storm Tanks and River from January 2023 to the end of March 2023.



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

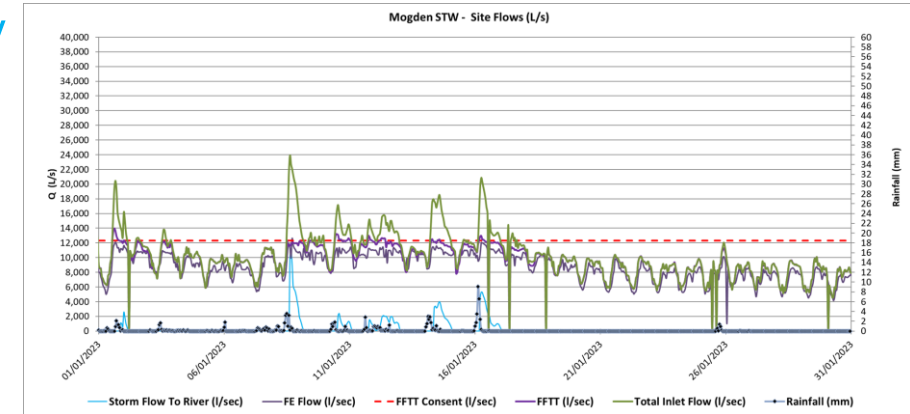


Gas production has been good for the first quarter this year, with **downtime associated with planned and reactive works** on the CHP engines.

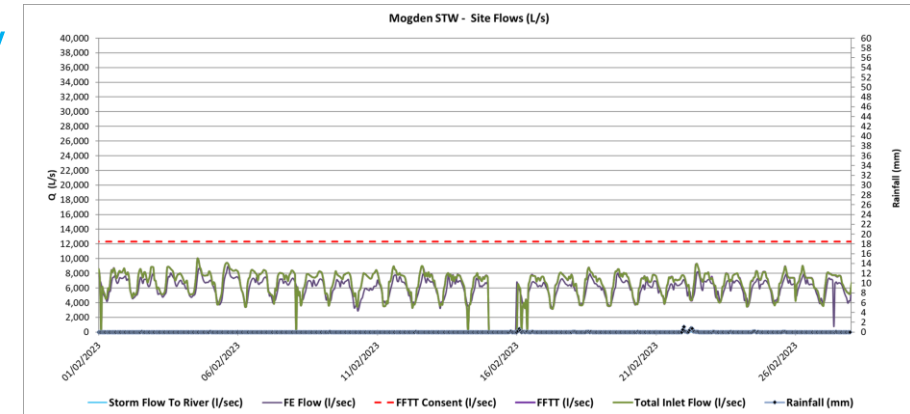


Establishment of new Management Structure and **solidification of Catchment Approach**

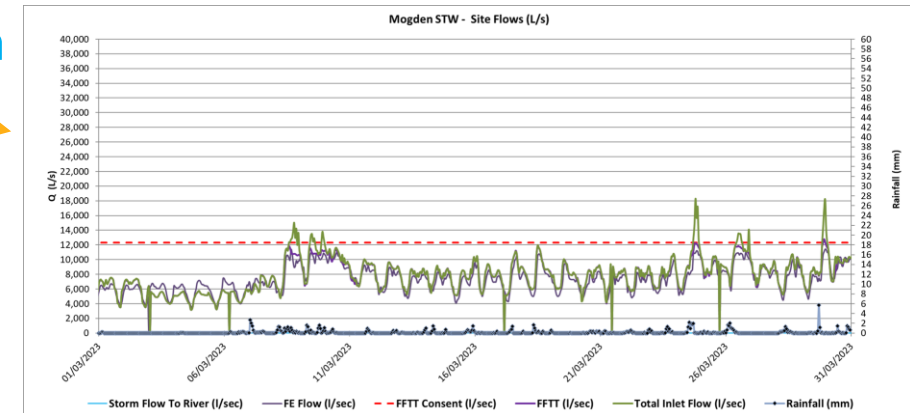
January



February



March



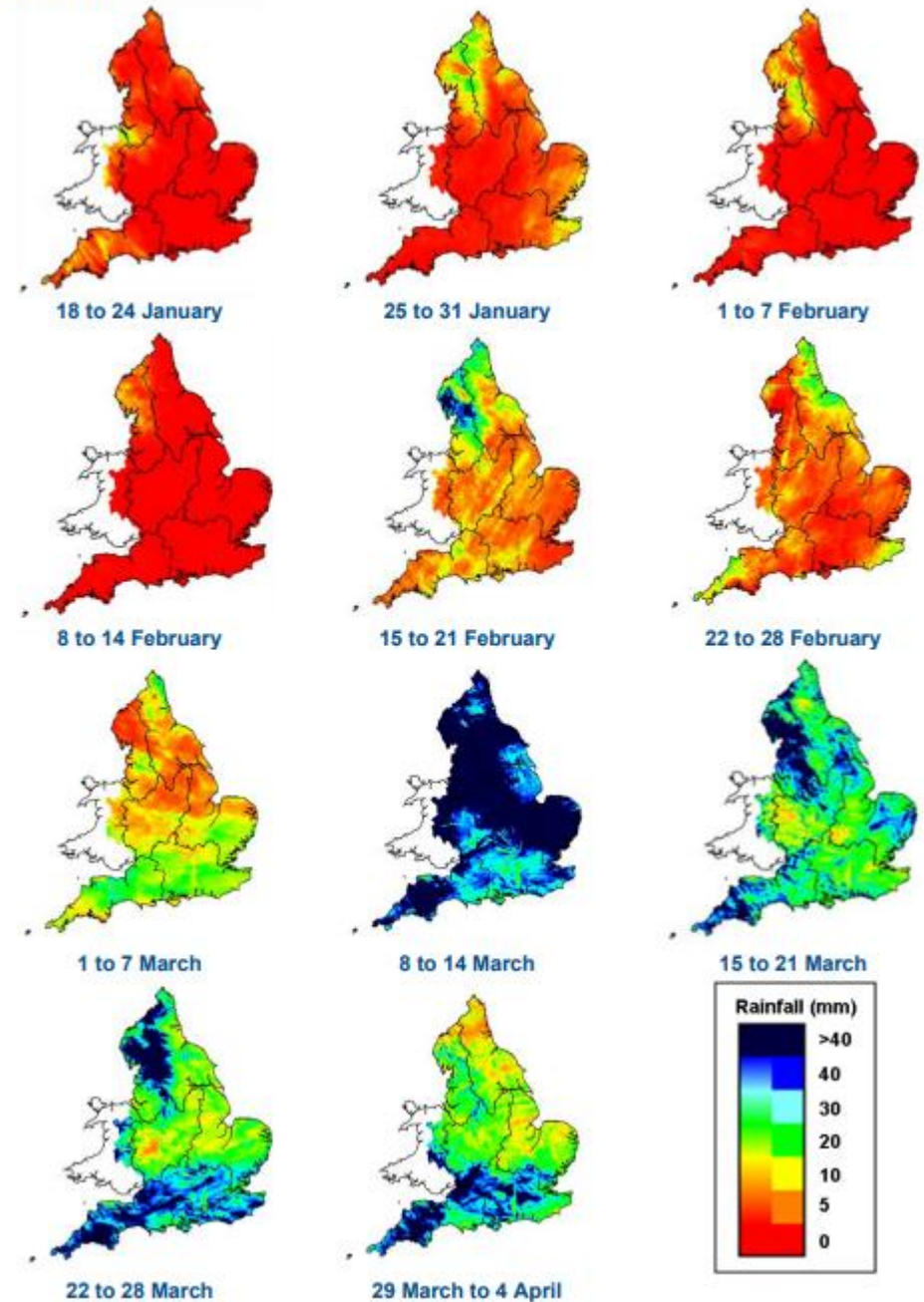
Mogden STW – Weather Data

Geographic regions	Latest Week: 29 Mar to 4 Apr 2023	Latest month to date: Apr 2023		Last month: Mar 2023		Last 3 months: Jan to Mar 2023		Last 6 months: Oct 2022 to Mar 2023		Last 12 months: Apr 2022 to Mar 2023	
	Total (mm)	Total (mm)	% LTA	Total (mm)	% LTA	Total (mm)	% LTA	Total (mm)	% LTA	Total (mm)	% LTA
north-west	17	2	3	149	157	345	119	788	119	1,218	102
north-east	14	2	3	92	132	193	93	478	107	759	91
central	27	0.5	1	111	193	184	105	450	120	671	93
east	16	0.6	1	88	188	140	104	349	117	519	86
south-east	31	0.7	1	124	210	220	122	558	139	777	106
south-west	38	2	4	171	201	333	117	799	132	1,079	106
England	24	1	2	119	178	225	109	548	122	801	97

Table 1 Latest rainfall summary information (Source: Met Office © Crown Copyright, 2023)¹

¹ Notes: LTA = long term average rainfall for 1961 – 1990. Data for the current month are calculated using MORECS (Met Office Rainfall and Evaporation Calculation System); data for past months are provisional values from the National Climate Information Centre (NCIC). The data are rounded to the nearest millimetre or percent (except when values are less than 1). Recorded amounts of rainfall are likely to be underestimated during snow events.

Rainfall





Recently Completed Works

- A Battery FST inlet valve **refurbishment work** completed on 4 FSTs.
- **Aeration lane re-doming** complete on the East side.
- Preparation for **Summer Maintenance Plans**

In Planning and Delivery Phase

- C-Battery circular PSTs – refurbishment of scum removal system and replacement of sludge pumps
- **Main pumping station pump refurbishment** – long term completion.
- **Odour Control Unit 11/12** refurbishment
- PS14 Iver South Sludge Main Refurb & Improvements – complete end of May

Longer-term Strategic Focus

- **Screw Pump 1 Refurbishment** orders placed to start end of May
- **Stand-by generator exhaust modifications** as requested by the EA. Designs approved and orders raised.
- PS14 Iver South Sludge Main Refurb & Improvements.
- **Anti foam tank/IBC replacement** – Design reviews on going – Scheduled to start Summer 2023.

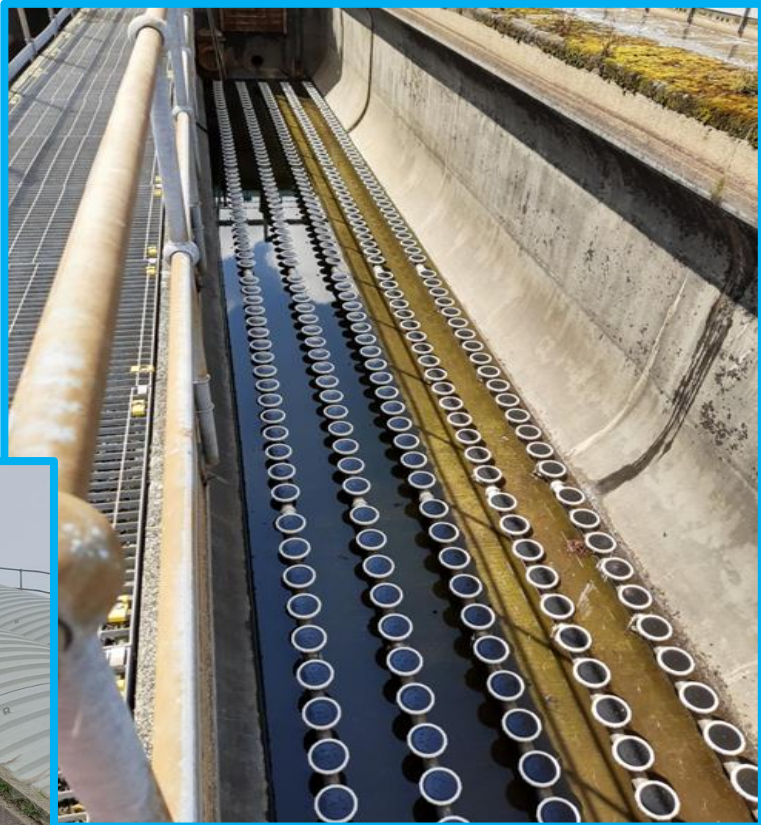
Mogden STW – Upcoming Projects and Timeline



Zero incidents
Zero harm
Zero compromise
Keeping you healthy and safe, every day at work.



Current Anti-Foam IBC setup



Re-doming works on East Side Aeration



Screw Pump no. 1 Remedial Works





Mogden STW Gas-to-Grid

April 2023 Update

Mogden STW – Biogas-to-Grid Project Summary



Zero incidents
Zero harm
Zero compromise
Keeping you healthy and safe, every day at work.

Project Overview

Summary:

- Project to install, commission, and make operational a **Biogas-to-Grid export facility** at Mogden STW
- This involves the **refinement and enrichment of Biogas** produced through conventional sludge digestion and pasturisation.

Project Cost: TBC

Project Deliverer: SGN facilitated by TWUL Ops

Theoretical Gas Export Yield: Enough to power c. 4,000 homes in Hounslow

Project Priorities:



Safe and collaborative approach to the delivery and commissioning of the project – with **zero harm** and **zero incidents**.



Seamless interface with Mogden Ops



Effective balancing of demand for BioMethane export to Grid with Mogden' own generation capacity (CHPs)

Project Location



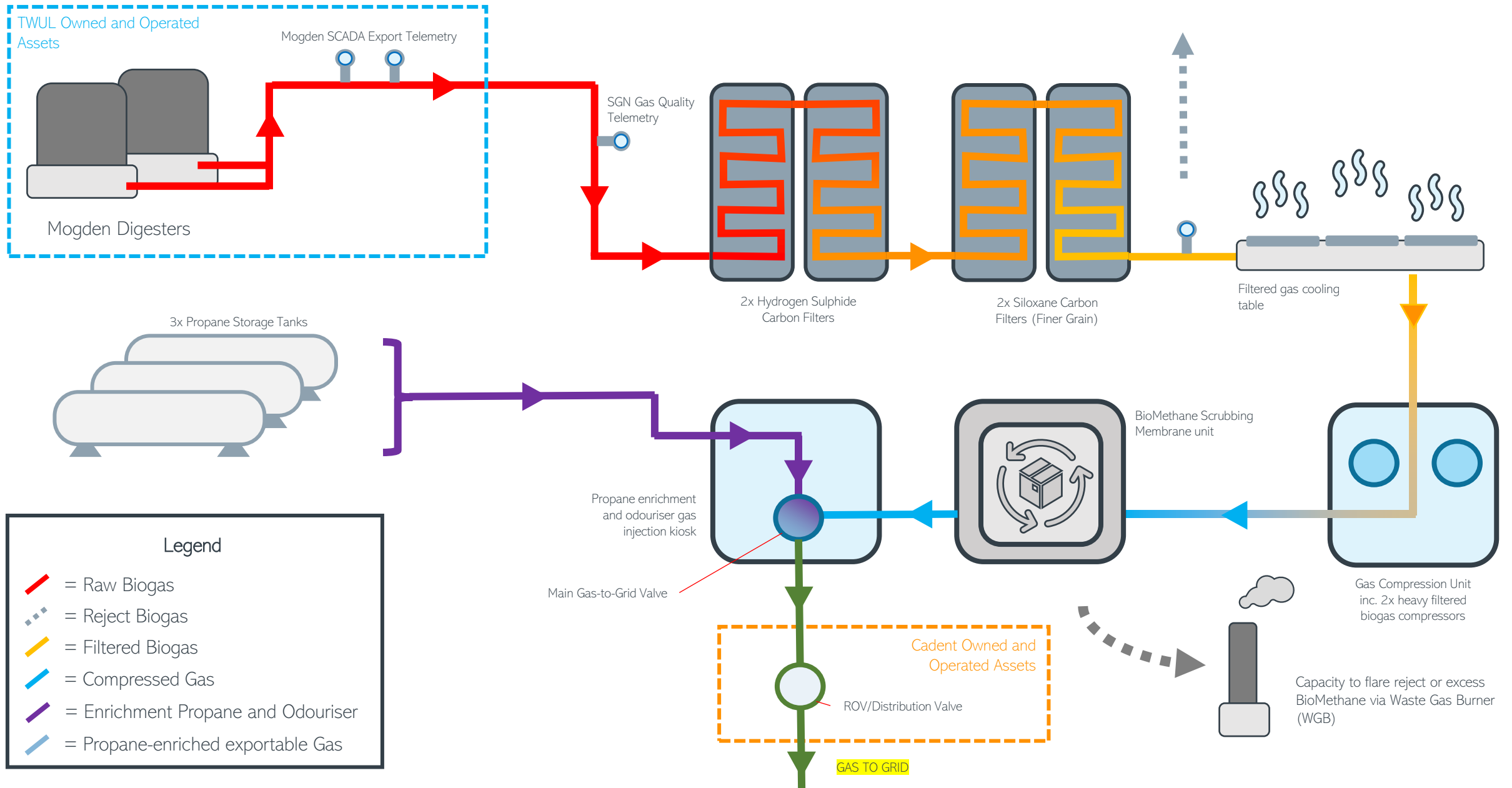
= SGN Operating TOCOP



Mogden STW – Biogas to Grid Process Flow Diagram



Zero incidents
Zero harm
Zero compromise
Keeping you healthy and safe, every day at work.



Deephams STW – Previous Case Study Photos



Zero incidents
Zero harm
Zero compromise
Keeping you healthy and safe, every day at work.



Enrichment membranes



View of compressor plant and propane dosing tanks



H2S and Siloxane Filters



Main Gas-to-Grid propane dosing valves, export valve and PRVs



Customer & Stakeholder Update

Complaints

- Complaints remain low with 2 being received for the quarter.
- We are looking into pro-active maintenance of the boundary of Mogden due to an increase in contacts.

Odour

- Odour management plan review planned for May 2023.
- OCU media replacements scheduled.

Fly & Mosquito Control

- Moving to summer schedule this week W/C 24th April 2023
- Control and treatment remains effective

Major Works - Update

Gas to Grid

Export Pipeline

Stage 1 – Completed on 4 November 2022

Stage 2 – Completed 9 to 27 January 2023

Stage 3 – Chertsey Road crossing

- 3 of 4 segments completed (2/3/4 June 2023)

Stage 4 – Modgen Lane (Eastbound lane closure)

- 11 April 2023 to 5 May 2023

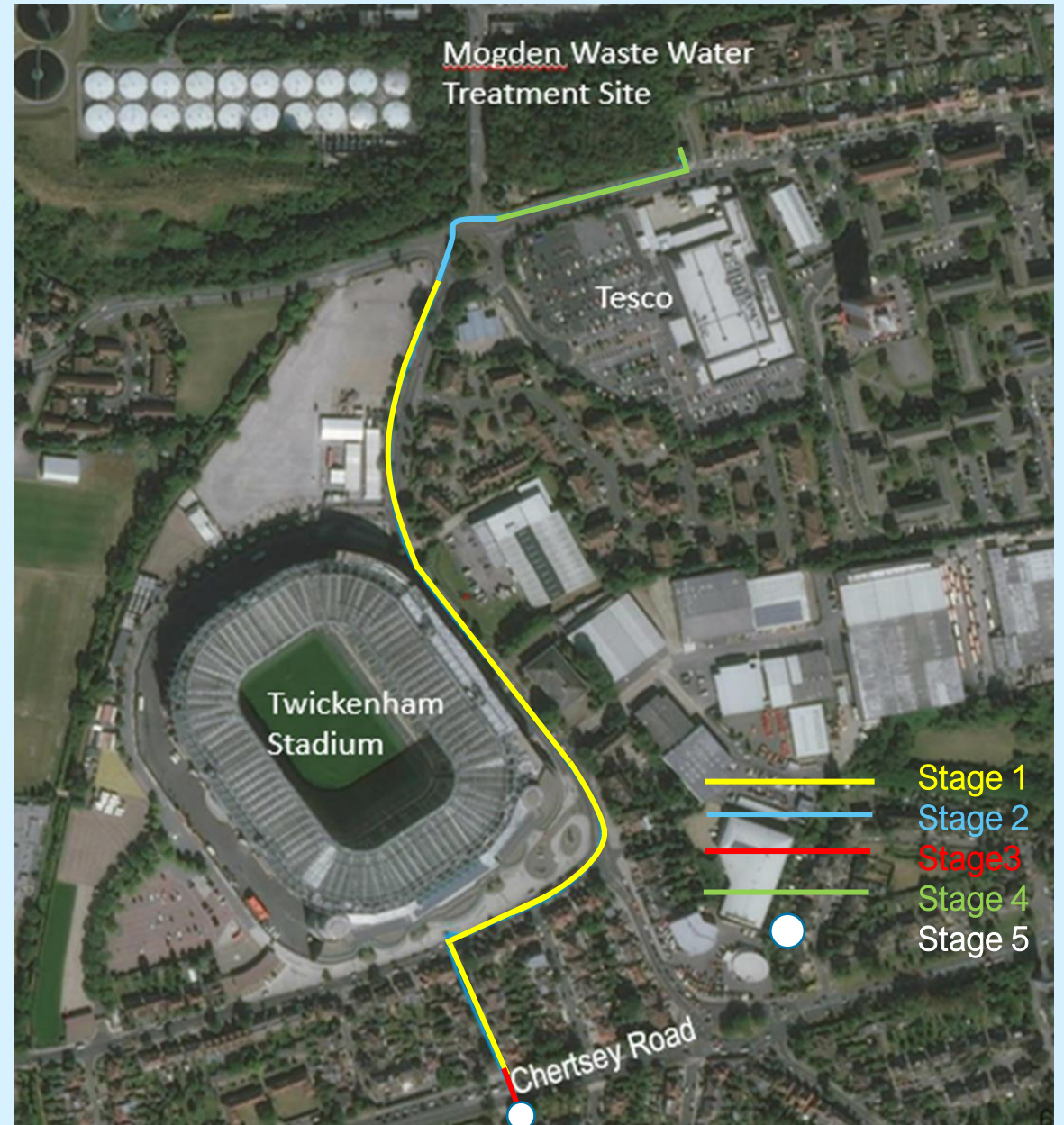
Stage 5 – Connection to Cadent Main (Chertsey Road)

- Week in June 2023

Main Works

“Gas on” forecast for 21 September 2023

www.thameswater.co.uk/mogdengastogrid



Gas to Grid – Photos





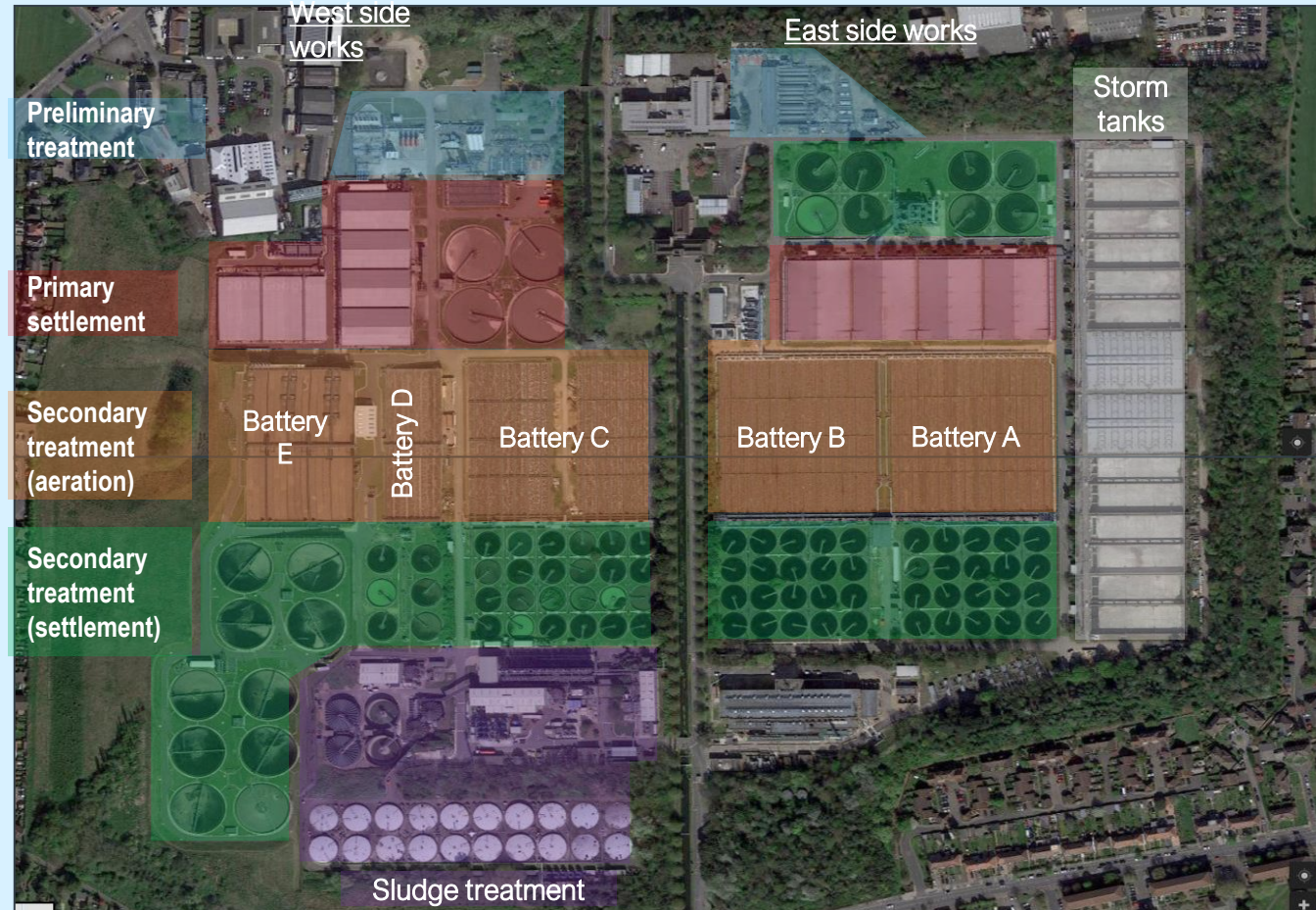
Mogden Residents Meeting Mogden AMP7 Resilience Project Update

27 April 2023

Project Update- AMP7 Resilience Works

Current activities

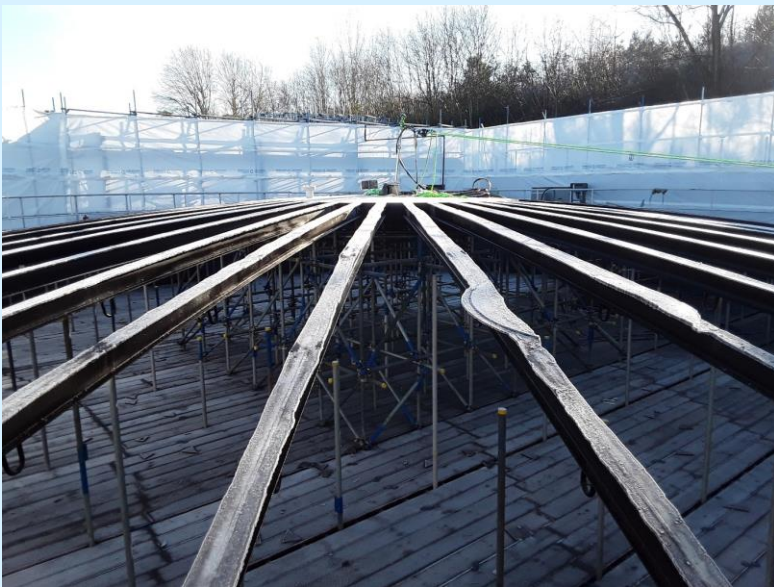
- Digester 14 & 16 refurbishment and upgrade
- NFST trial solution testing commenced
- Installation of HV ducts complete
- Battery C ASP blower building, RAS pump station, transformer pens and MCC
- Battery D blower building to start end May 2023
- New SCADA and Process Control Network system – install to start 02/05
- Install of the new screens for the East Side Inlet Works to start end May 2023
- Other enabling works across the site



Project Photos



Digester Cleaning & Roof Removal





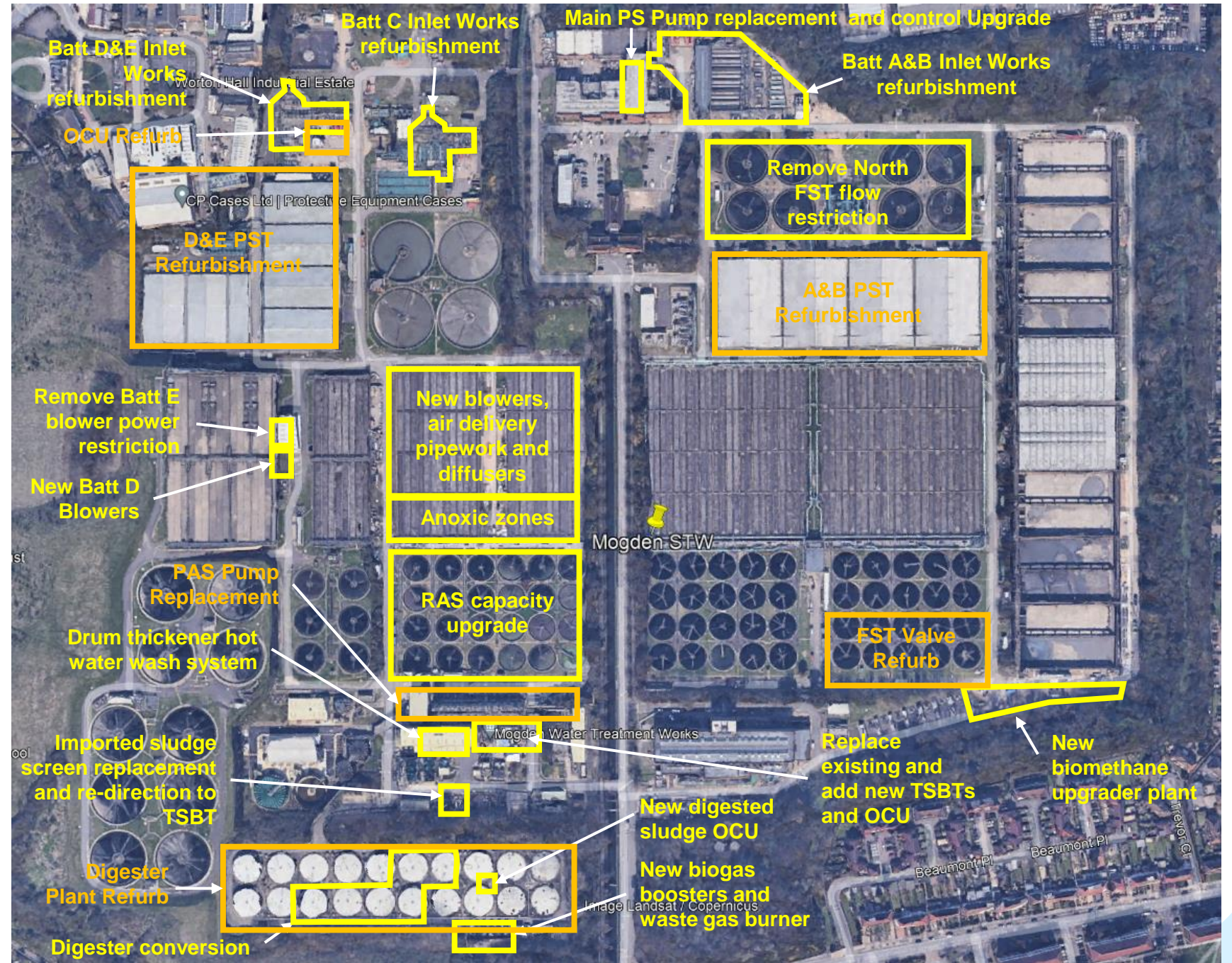
Thank you

Mogden Overall Investment - Update

Mogden Investment

Capital Maintenance Project

- Circa £10.8 million



Mogden Maintenance Scope

- PAS refurb works – Pumps, Coils, Boilers
- Digester ancillary works – Feed and draw-down pumps, Anti-foaming, Gas compressors
- Iver South Sludge Treatment – Centrifuge Refurb, Pump Refurb, Level Sensor, OCU Refurb
- Inlet Pumping Station – Diesel Storm Pump fuel supply and control upgrade – Valve Works
- Chemical dosing refurb
- Intermediate pumping – Refurb
- A&B PSTs – Refurb
- D&E PSTs – Refurb
- A&B FSTs – Inlet Valves
- Sludge stream repairs – Tanks Repairs
- Electrical infrastructure upgrades

Resilience Programme Risks

Risk No	Title	Finish Date	Percent Complete
109683	Mogden STW - MRP C-Battery PST Isolation, Sludge and Scum Pump Replacement (S)	30/11/2023	70%
121726	Mogden STW - New Digester Anti-foam Bulk Storage & Dosing Facility - MRP (S)	30/11/2023	62%
141800	Mogden STW - Storm Tanks 6 to 8 NRV, Isolation Valve and Borger Pump Refurbishment	30/11/2023	20%
136180	Mogden STW - MRP - Main Pumping Station Refurbishment (S)	31/10/2023	88%
128619	Mogden STW - PST 7 & 8 and PST 3 & 4 Refurbishment (S)	29/09/2023	87%
118847	Mogden STW - D Batt PST Refurbishment - (S)	31/08/2023	96%
128324	Mogden STW - A and B Battery FST Inlet Valve Refurbishments - MRP - (S)	31/08/2023	80%
140759	Mogden STW - PAS 1, 2 & 6 Refurbishment & Heat Exchanger Coil Replacement	31/08/2023	99%
153812	Mogden STW -Blanking of Open Ended Pipes in Main Pumping Station	31/08/2023	68%
134793	Mogden STW - New West PST 21 - 25 Refurb - (S)	31/07/2023	88%
151649	Mogden STW - FST 6 bridge and cable replacement (S)	31/05/2023	80%
154139	Mogden STW - E-Battery Blower Panel Replacement (Fire Damage)	31/05/2023	95%
136766	Mogden STW - Ring main unit 24A replacement - S	26/05/2023	99%
136761	Mogden STW - Ring main unit 25B replacement - S	28/04/2023	99%
141803	Mogden STW - MRP Critical Process Pump Spares - (S)	30/11/2022	100%
140017	Mogden STW - Battery D Inlet penstock & flowmeter replacement - (S)	21/11/2022	100%
119738	Mogden STW- Drum Filtrate main Replacement (S)	31/10/2022	100%
138774	Iver South SDW - Repair of return liquor pump station pipework for pumps 1 to 4	31/10/2022	100%
141804	Mogden STW - PS14 Buffer Tank & Thickened Sludge Balancing Tank Repairs - S	03/10/2022	100%
140884	Mogden - Gas compressor 4 Refurbishment.(S)	05/09/2022	100%
136767	Mogden STW - Ring main unit 24B replacement - S	31/08/2022	100%
143335	Mogden STW - Pasteurisation Streams 9 to 12 Hot pump replacement (S)	31/08/2022	100%
119083	Mogden STW - Pasteurisation 10 & 11 Refurbishment - MRP - (S)	18/08/2022	100%
151858	Men STW - Duke of Northumberland CSO Repairs (S)	31/07/2022	100%
151523	Mogden STW - Combi Washpactor 2B Refurb (S)	30/06/2022	100%
150051	Mogden STW - E Battery Air Main Modifications and Diffuser Acid Cleaning of 4 Lanes (S)	10/06/2022	100%
137553	Mogden STW - Storm Diesel Engine Main Diesel control system (S)	27/05/2022	100%

85.62%

Directly Managed Capital

Mogden Catchment Waste Pumping DMC Investment

Investment Profile since November 2022

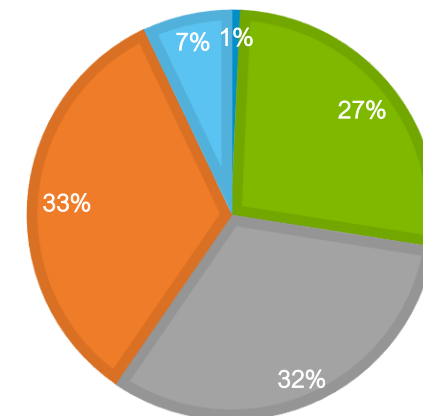
We have identified and invested in 44 Risks since Nov 22

Please see below some of the key investments we have progressed

Risk Number	Title	Investment
158537	Pharaohs Island SPS - Pumps & Macerator Replacement	£ 34,800
158506	Holders Hill SPS - Hand Rails around fall arrest	£ 5,690
159426	Boddington Gardens SPS - MCC & Outstation Replacement	£ 78,445
160146	Haws Lane - Installation of swing jib arm	£ 20,000
160694	Kew SPS - Pump Replacement	£ 19,946
160779	Kew SPS - OCU Replacement	£ 49,976
161239	Kew SPS - New Covers	£ 39,889
158413	Wyke Green SPS - Strata Pump/Panel Refurbishment	£ 130,000
159727	Red Lion Square SPS - Full site refurbishment	£ 150,000
62325	Nine Elms Uxbridge SPS - Full site refurbishment	£ 250,000

Total Investment

£1.1m



Mogden Catchment Waste Network DMC Investment

Investment Profile since November 2022

We have identified and invested in 8 Risks since Nov 22

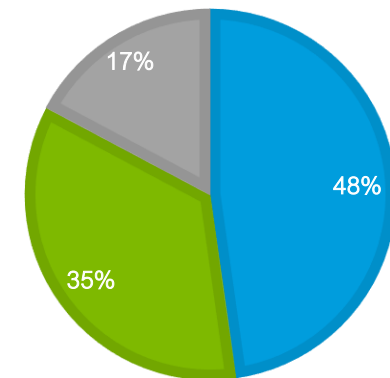
Please see below some of the key investments we have progressed

Risk Number	Title	Investment
158824	Man Hole lining at Hampton Court Road, KT8 9BP	11,460
158386	Man Hole lining at Magistrates House, Market Place, Brentford, TW8 8FJ	19,171
159308	Enabling Surveys at various sites including Cross Deep, TW1 4RB	17,126
160493	Man Hole lining at Childs Hill School, Dersingham Road, NW2 1SL	18,631
160590	Man Hole lining at Edgware Road, Kingsbury, London, NW9 6LP	16,363
161002	Man Hole lining at The Shipping Buil, Blyth Road, UB3 1HA	17,224

Total Investment

£124k

- Richmond Upon Thames London Borough
- Barnet London Borough
- Hillingdon London Borough

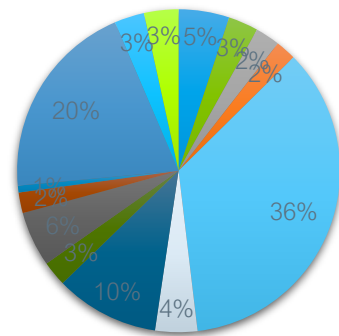


Mogden Catchment Waste Treatment DMC Investment

Investment Profile since November 2022

Total Investment

£3.4m



- Biogas
- FE Consent monitoring
- Inlet works pumping
- OCU
- Secondary treatment Effluent
- Sludge treatment - Digester
- Sludge treatment - RAS
- Effluent Treatment Filtration
- HV
- Inlet works screening
- SCADA
- Sludge treatment
- Sludge treatment - PAS
- Sludge treatment - sludge pumping

We have identified and invested in 35 Risks since Nov 22

Please see below some of the key investments we have progressed

Title	Investment
Iver South STW - Centrifuge 2 Refurbishment	£ 58,443
Mogden STW - D Battery Inlet Archimedes Screw Pump 3 Refurb	£ 71,320
Mogden STW - D-Battery - Inlet Archimedes Screw Pump 1 Refurb & Fuel	£ 605,000
Mogden STW - Eastside OCU Fan 2 Replacement	£ 95,428
Mogden STW - E-Battery Blowers Harmonic Filter Replacements x 2	£ 119,563
Mogden STW - FST 23 Bridge Repair	£ 68,523
Mogden STW - Gas Forwarding Compressor 4 Refurbishment	£ 65,947
Mogden STW - HV SS battery charger sets replacement	£ 58,078
Mogden STW - MPS DWF Pump 3 & 6 Replacement	£ 52,290
Mogden STW - New North FST Outfall Ammonia Monitor	£ 69,839
Mogden STW - OCU 12 Refurbishment	£ 199,081
Mogden STW - PAS 11 Reactor Stirrer Motor & Gearbox Refurbishment	£ 112,564
Mogden STW - PAS 12 Reactor Stirrer Motor & Gearbox Refurbishment	£ 70,000
Mogden STW - PAS 4 Reactor Stirrer Motor & Gearbox Refurbishment	£ 70,000
Mogden STW - PAS 8 Heat exchanger coil failure and Reactor bearing failure	£ 100,000
Mogden STW - PAS 9 Reactor Stirrer Motor & Gearbox Refurbishment	£ 70,000
Mogden STW - PS14 Iver South Sludge Main Refurb	£ 97,500
Mogden STW - Storm Pump 6 - Gearbox Thrust Bearing Failure	£ 196,182

Questions?

