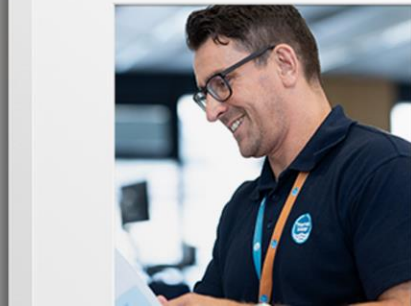


Mogden Catchment

Mogden Residents Meeting
25th April 2024



Agenda

Item	Description
1	Welcome & Introductions
2	Action Review
3	Odour Event
4	Operational Updates including nuisance control, customer complaints and Summer preparedness.
5	
6	Major Projects – David Bradshaw & Eugene Cottrell
7	Teddington DRA Update (Conor Loughney/Gareth Bennett)



Welcome & Introductions

Action Review

Mogden Residents Meeting Actions: March 2024

Raised by	Action Detail	Due Date	Action Owner	Update	Closed?
Barry Edwards	EHO Reports on the odour control unit readings why are the action levels different to 0.015PPM and what happens when the breach the action levels why are some of the readings unknown.	Nov-24	Lena Wallin	Email sent to explain this. These readings are from the odour control unit exhaust, when the OCUs are installed the action levels for these are set on what the PPM would be at site boundary with air dispersal. As the readings are directly from the OCU the action levels are higher as no air dispersal has happened. The unknown readings are on the INLET and thats as we only base it on the OUTLET where all readings are provided for all OCUs that are in service.	Y
ALL	To be kept up to dates with developments on the Teddington DRA consultations	On-going	Lena Wallin	We have a commitment from Teddington DRA that they will input to any others.	
Ruth Cadbury MP / Cllr Guy Lambert	Kew Bridge and Brentford High Street are experiencing surface water flooding, what actions have TW completed to assist the local authority.	Apr-24	Lena Wallin / Ashley Book	We have aided investigations with the flood authority, we are in regular contact and we have investigated our assets which there are no defects or issues in.	Y
Nic Ferriday	PR24 Questions 1) Capital spend (18.7bn) to be split between water supply and sewerage 2) More detail on demand side needed, We assume that the following would be the main components of the demand: 1. Replacement of crumbling infrastructure (that should probably have been done a long time ago as an ongoing programme, but wasn't). 2. Increasing consumption of water per person. 3. Increasing dwellings/population. 4. Climate change (more extreme weather).Assuming all are relevant, how much of the supply/investment is attributable to each?	Apr-24	Unknown	A reply has been sent to Nic via Lena from the Environmental Information Request team, all future requests of this nature can be made to EIR@Thameswater.co.uk and anyone can make these requests. We have agreed that these questions fall out of the terms of reference for this meeting.	Y

Operational update – Glossary and Jargon Buster



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Acronym	Full Title	Explanation
STW	Sewage Treatment Works	The entire area and process of a Treatment Facility, for example Mogden STW.
FtFT	Flow to Full Treatment	The maximum flow that Mogden STW can process, it is measured at 1,064,000,000 litres per day
PST	Primary Settlement Tanks	Tanks that sewage is retained in to allow Raw Sludge to 'settle' in, to be taken away for processing.
ASP	Activated Sludge Process	The bubbling, fermentation part of the Treatment process which removes Ammonia and Phosphorus
OCU	Odour Control Unit	A chemical or biological scrubbing machine designed to reduce the presence of odorous gases (Hydrogen Sulphide) from sewage gas.
OMAC	Odour Management Assessment Check	Pre-emptive checks undertaken at Mogden STW by our team to assess the odour impact of any critical works.
CPAC	Compliance Process Assessment Check	Pre-emptive checks undertaken at Mogden STW by our team to assess the environmental compliance impact of any critical works.
FST	Final Settlement Tank	Also known as a 'Clarifier', these characteristic circular tanks provide a final polish by removing residual organics after Aeration.
PAS	Pasteurisation Plant	An industrial process which heats sludge (organic matter taken from the PSTs and FSTs) to kill off any pathogens prior to Digestion.
---	Biogas	The calorific byproduct of digesting Sewage Sludge. At Mogden STW, we use this in engines and recently in our Gas-to-Grid facility

Acronym	Full Title	Explanation
G2G	Gas-to-Grid	A new facility, commissioned in December 2023, which 'uprates' our BioGas into Natural Gas to be exported directly into the Gas Grid
MCC	Motor Control Cabinet	Automation machines that convert electrical power into controllable electricity for the site
COMAH	Control of Major Accident Hazards	Safety Legislation which governs how we mitigate Dangerous Substances at Mogden, and how we prepare for potential emergency
CHP	Combined Heat and Power Engine	Combustion Engines that are fed with BioGas to produce electricity. We have 3 at Mogden that created the equivalent to 15,000 homes' worth of power in 2023!
-	Consented Discharge	A legally-permitted discharge of sewage to river that occurs in high rainfall and when the Works has reached its FtFT
-	Storm Effluent	The sewage that is discharged into the River Thames during a Consented Discharge – please see photo below



'Storm Effluent' sampled during a 'Consented Discharge' on 20th September 2023

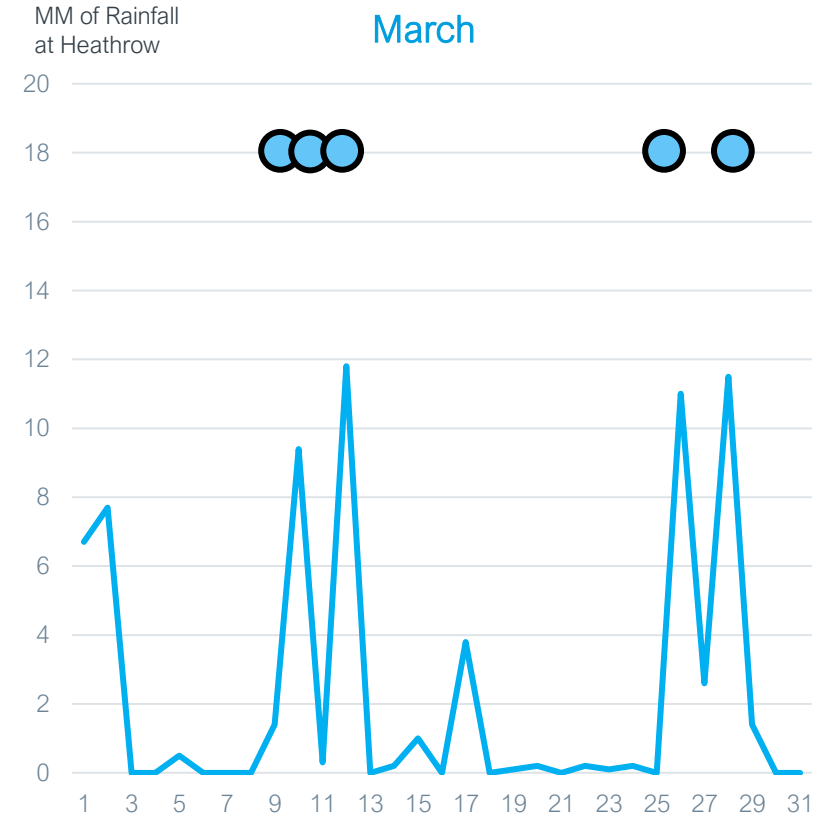
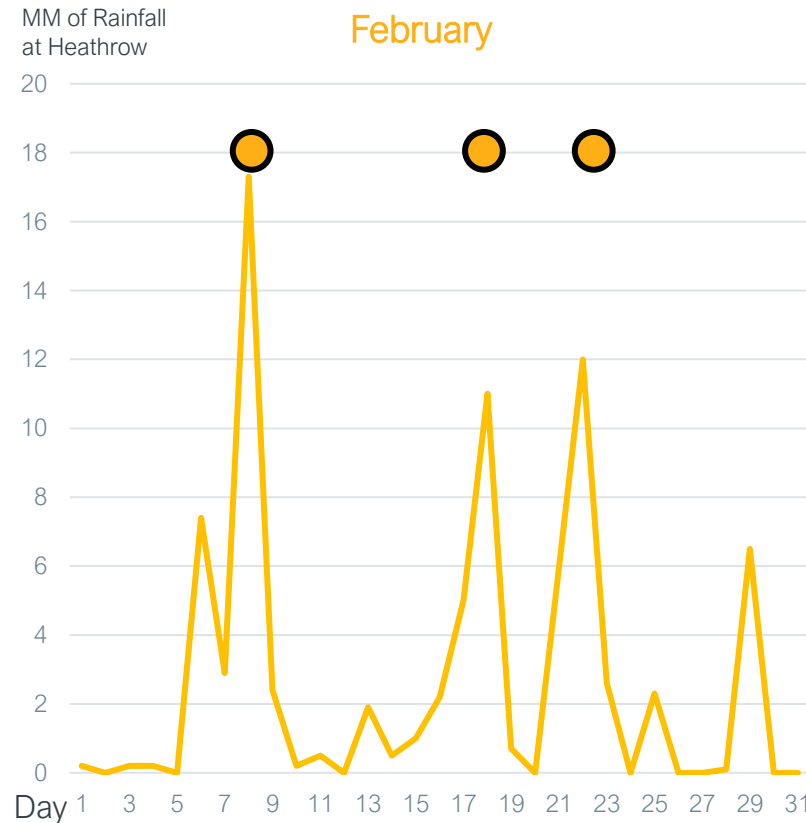
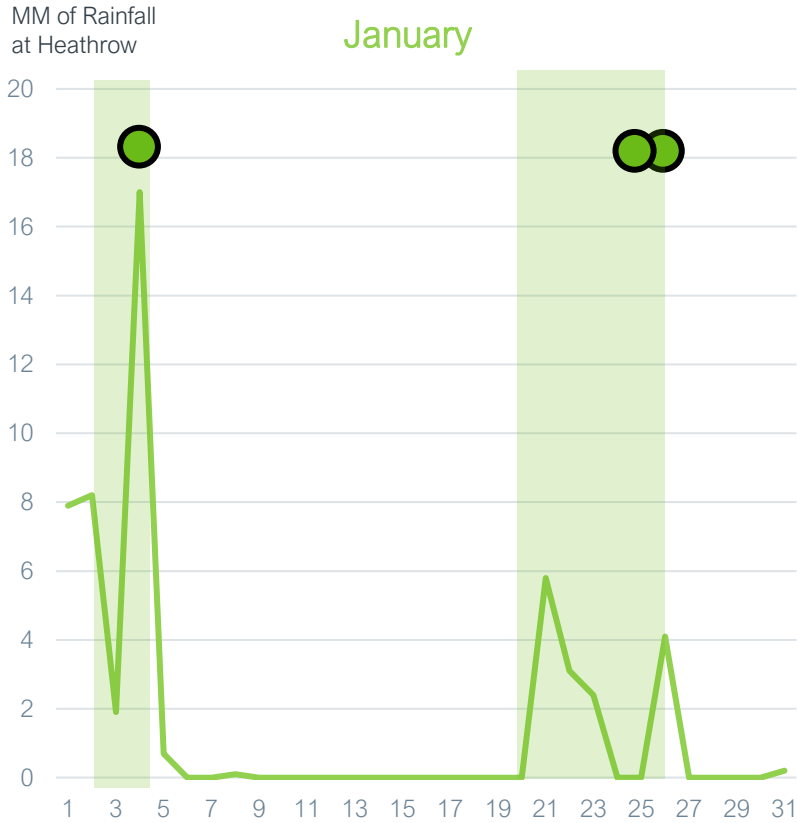
Note that this 'sewage' has been heavily diluted by significant rainfall.




Operational Updates

Operational update – Consented Discharge Vs. Rainfall Data






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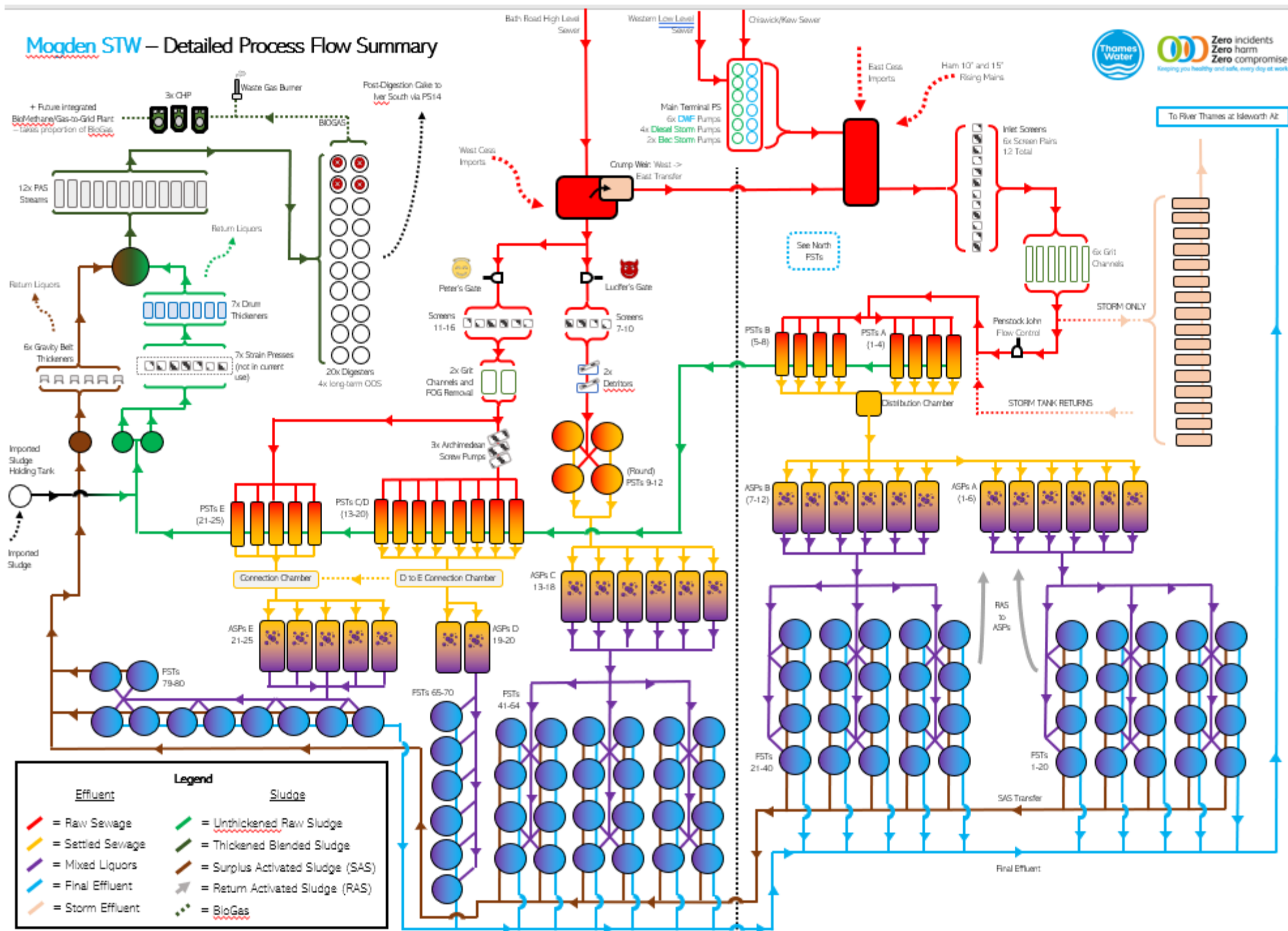



 } Consented Discharge to River Thames with STW at Flow to Full Treatment

Named Storms in January 2024

-  = Storm Henk (2nd January)
-  = Storm Isha (22nd January)
-  = Storm Jocelyn (24th January)

All Storm discharge data across all Combined Sewer Outfalls (CSOs) is publicly available at <https://www.thameswater.co.uk/edm-map>

Mogden STW – Detailed Process Flow Summary



Effluent		Sludge	
—	= Raw Sewage	—	= Unthickened Raw Sludge
—	= Settled Sewage	—	= Thickened Blended Sludge
—	= Mixed Liquors	—	= Surplus Activated Sludge (SAS)
—	= Final Effluent	—	= Return Activated Sludge (RAS)
—	= Storm Effluent	—	= BioGas

Winter Statistics

- Exceptionally wet and mild winter with more regular and more intense rainfall events - particularly in February and March
- Total Rainfall across UK was 129% of 1990-2020 average and 137% of 1990 Prior*
- 9 named storms from October 2023 to January 2024

Mogden STW Statistics from 2023

- Over 225,000,000,000 litres of Sewage treated
- 62,500 tons of Sludge (organic matter) Digested
- c. 7,300 tons of Wet Wipes removed

*<https://www.metoffice.gov.uk/research/climate/maps-and-data/summaries/index>



Odour Updates – Summer Preparedness and Open Doors



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Kew Society...

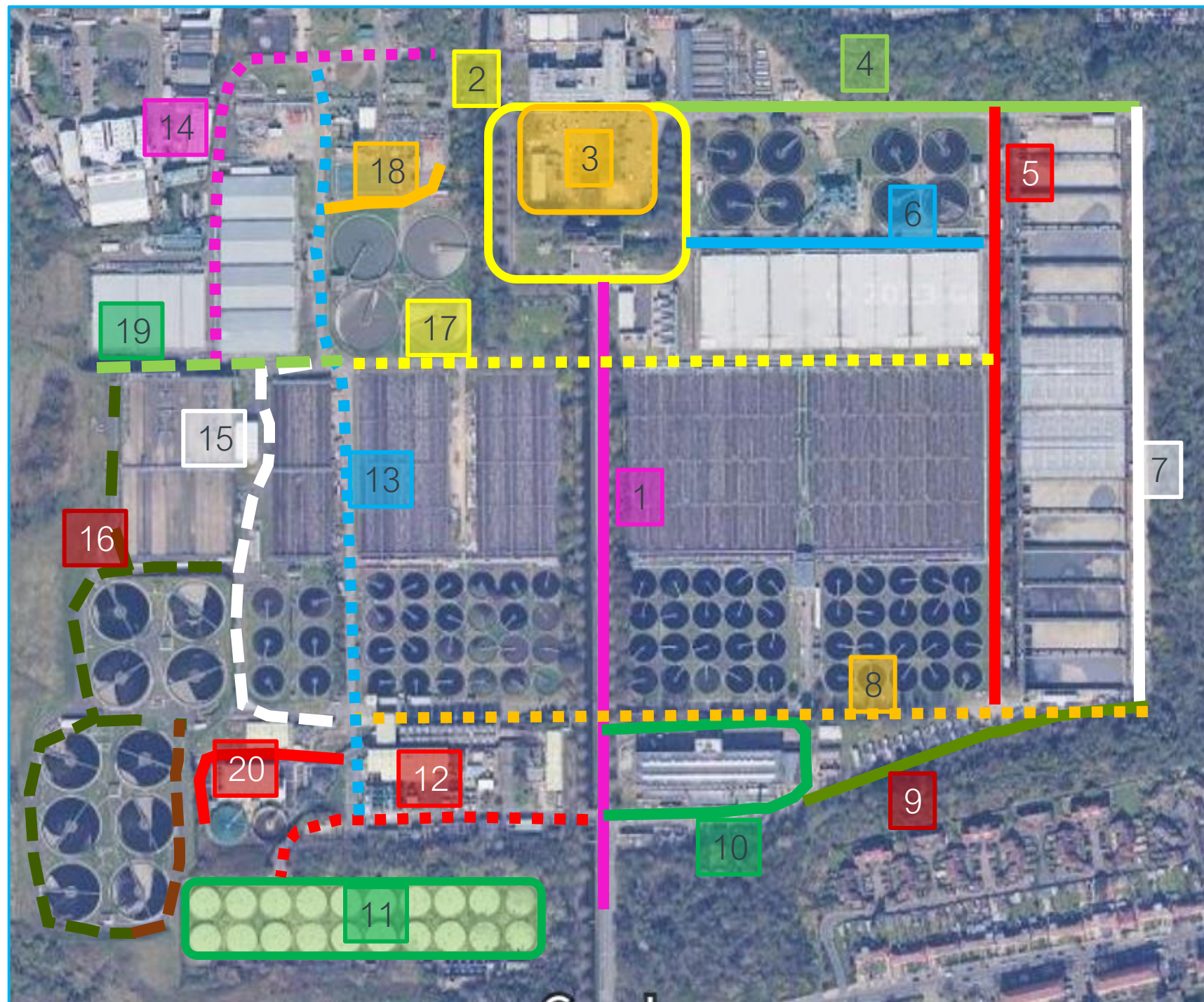
...And Isleworth Society on site



Site Pride Stand-down to spruce up A and B Battery

Historically troublesome Storm Tank 6 getting a Spring Clean



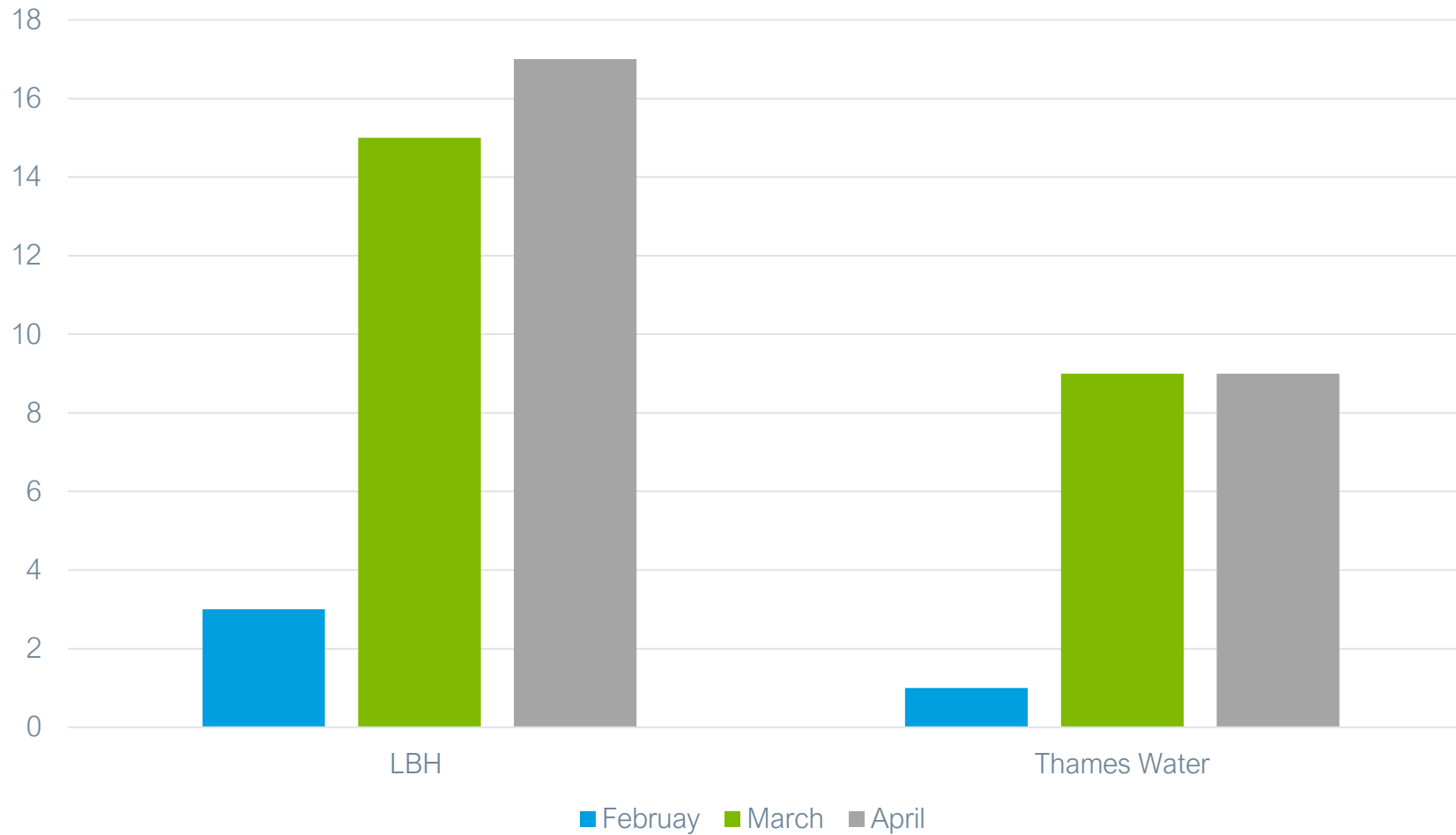


1	The Main Drive
2	The Kingsley Loop
3	Memorial Square
4	Taggart Terrace
5	Palmer Drive
6	Carrick Drive
7	Storm Weir Way
8	Bomber's Run
9	Electric Avenue
10	Power House Loop
11	The Gas Ring
12	PAS Alley
13	The Queen's Drive
14	Baker Street

15	Blower Road
16	Stadium Crescent
17	Bazalgette Road
18	Old West Close
19	Settlement Rise
20	Iver End

Complaints

Quarterly Complaints February to April so far

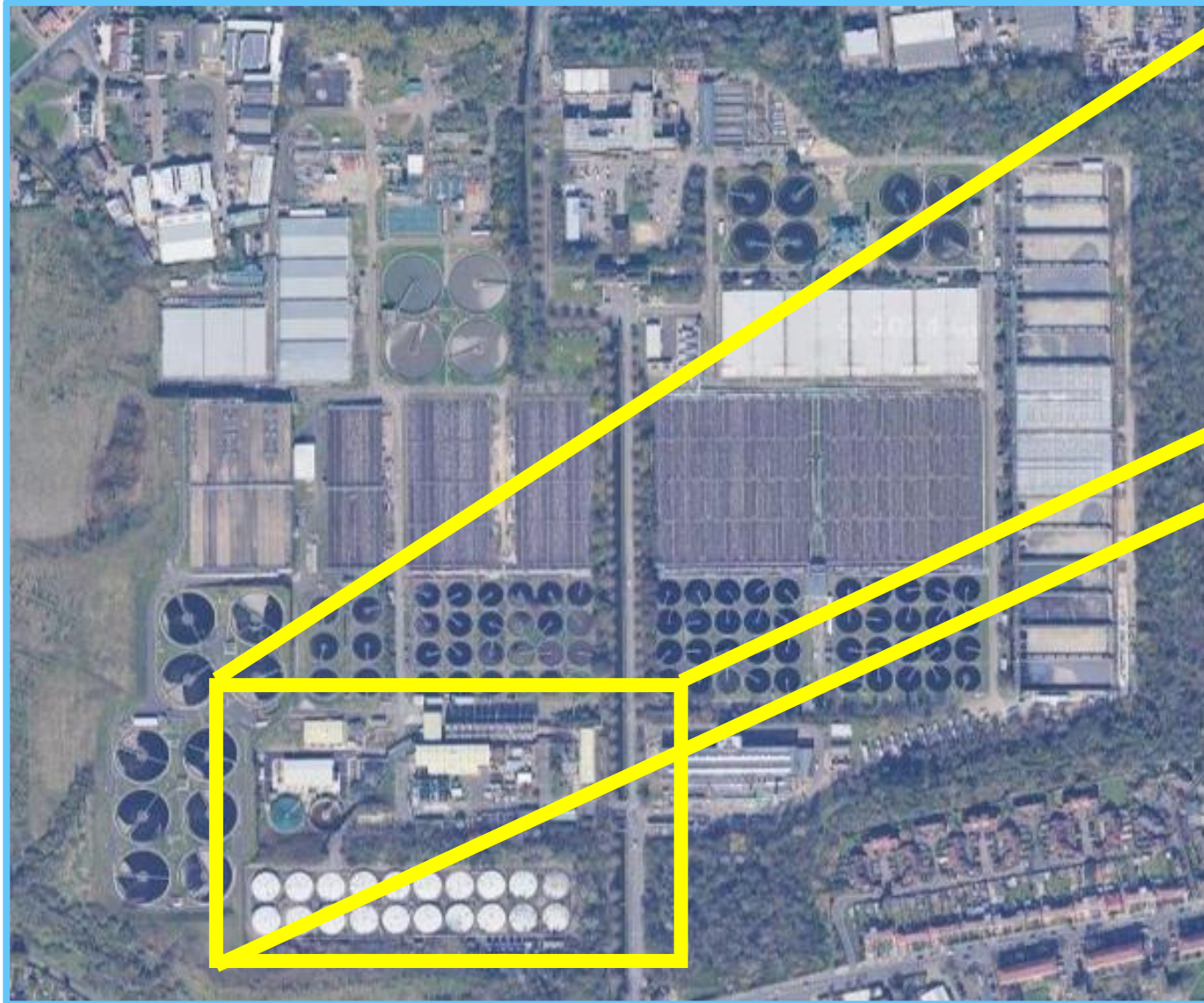






Odour Event

Odour Event – Location of Odour Control Unit (OCU) 12



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-  = Prevailing Wind Direction for past 2 weeks
-  = Pasteurisation Streams 1-12
-  = Impacted Odour Control Unit (OCU) 12
-  = Established Odour Suppressant Units (OSUs)

Odour Event – Initial Incident Review



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Date	Action Taken	Public Comms issued
12 th – 17 th April	<p>Increased in Odour Complaints matching increase in presence of H2S around Pasteurisation Plant.</p> <p>MEICA Resource engaged in line with Site Priorities. Partial flow through OCU12 restored. Odour Suppressant Units relocated and set-up</p>	1 st Public Notification issued 15 th April
18 th April	Initial collar-bracing repair affected on feed pipework. Additional causes in jammed and H2S-eroded louvres.	2 nd Public Notification issued 18 th April
19 th April	<p>Jammed louvres replaced and good suction through OCU12 restored</p> <p>H2S levels observed to decrease 10-fold</p>	
22 nd April	P/O for permanent repair of pipework funded – awaiting timescales.	Letter Drop to 3,000 residents
23 rd April	Continued monitoring	



Collar-braced and cleaned OCU12 feed pipework



Personal Gas Detection Monitoring in area

Mogden STW – Proactive Odour Risk Assessment

*Risk Markings { L = Likelihood
S = Severity
T = Total Risk



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	Odour Hazard	Specifics of Hazard	Risk* without any mitigation				Deployed Mitigation Measures	Weekend Risk and Notes
			L		S	T		
Specific Recent Issue	Odour Control Unit (OCU12) and Pasteurisation	Site Team are aware and working on known issues with OCU12		X		=	<ul style="list-style-type: none"> Temporary repair administered on Odour Control Unit to significantly reduce presence of H2S in area. Progress permanent repair ASAP. Place <u>Odour Suppressant Unit</u> at location 	Monitor and operate Odour Suppressors throughout weekend
Ongoing Proactive Odour Management	Digesters	Potential for presence of odour-creating sludge in and around digesters.		X		=	<ul style="list-style-type: none"> Regular daily inspections of all digesters. Any and all sludge spills cleaned up immediately upon discovery Out-of-hours resource on hand as required. 	
	Storm Tanks	Potential for odour-creating organics in any Tanks not cleaned.		X		=	<ul style="list-style-type: none"> Spring Storm Tank cleaning programme now 75% complete. Storm Tanks not predicted to be in use for weekend commencing 26th April 	
	Inlet Works and Sewers	Potential for odour due to nature and quantity of incoming crude sewage		X		=	<ul style="list-style-type: none"> All Odour Control Units associated with Inlet Works and Main Pump Station are operational. 	
	Miscellaneous Housekeeping	Potential for odour is waste skips left uncovered or unclean		X		=	<ul style="list-style-type: none"> All waste skips are cleaned, drained and rotated to prevent build-up of odourous material. All waste skips are covered and remain closed. Odour Suppressant Units available for use 	

Mogden STW – Proactive Odour Risk Assessment Continued

*Risk Markings { L = Likelihood
S = Severity
T = Total Risk



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Ongoing Proactive Odour Management

Odour Hazard	Specifics of Hazard	Risk* without any mitigation					Deployed Mitigation Measures	Weekend Risk and Notes
		L		S		T		
Aeration Lanes	Potential for odour due to nature of aeration process		X		=		<ul style="list-style-type: none"> Exploration of alternative technologies through Mogden Technical Working Group 	
Scum/Solids on Final Settlement Tanks	Due to intense hydraulic strain of winter – scumming and presence of solids on FSTs may be more prevalent		X		=		<ul style="list-style-type: none"> Rotational use of Jetting Tanker to clear FST scums – with particular focus on C Battery Use of Odour Suppressant Units 	Monitor and operate Odour Suppressors throughout weekend

Mogden STW – Photos and Mitigations



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Storm Tanks

- Worse offending Storm Tanks have been cleaned and scrubbed (see right).
- Use **not** anticipated for weekend 26th - 29th April.



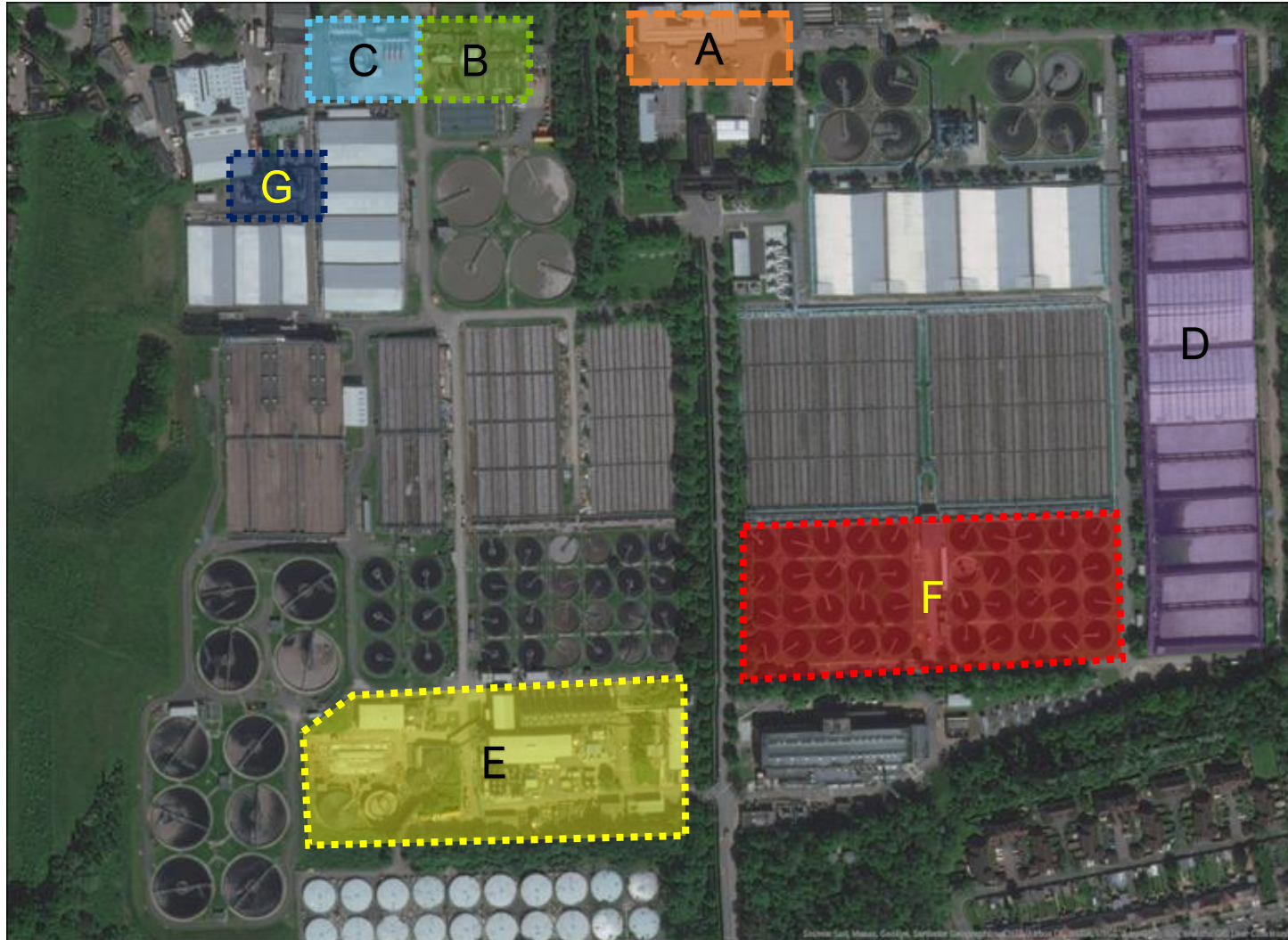
Odour Suppressant Units

- 3x Odour Suppressant units (example on Main Drive) will be set up and dispersing over weekend.
- Locations of OSUs demarcated by ●



Directly Managed Capital Investment

Mogden STW - Fix the Basics – Funding Obtained



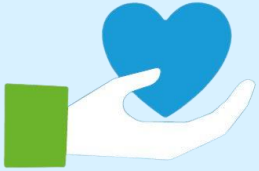
A	Main Pumping Station	
	Continuation of refurbishment	
B	C&D Preliminary Works	
	Penstock & flow meter install	
	Scew PS upgrades & refurb	
C	E Preliminary Works	
	Inlet screening refurb	
	Grit removal refurbishment	
D	Storm Tank Mixing	
	Mixing control upgrade	
E	Sludge Stream	
	Sludge poly system replacement	
	Drum thickener No. 1 replacement	
	PAS refurbishment	
	Boiler replacement + hot water	
F	A & B FSTs	
	FST penstock refurbishment	
G	Odour	
	OCU 11 refurbishment	
H	Iver South	
	Replace poly mixing silo	

Mogden Fix the Basics - Programme

Title	Planned Start	Planned Finish	Percent Complete
Mogden STW - OCU 11 Refurbishment	01/05.2024	30/08/2024	30%
Mogden STW - Storm tank Amajets and control panel refurbishment	18/12/2023	31/03/2025	20%
Mogden STW - Raw Sludge Drum Thickener Replacement	01/11/2023	29/11/2024	30%
Mogden STW - Archimedes Screw Pump Upgrade	07/11/2023	30/10/2024	21%
Mogden STW - Drum Thickening Poly Make up Control Panel	01/01/2024	31/03/2024	20%
Mogden STW - D & E Battery Inlet Screens Proactive Refurbishment	03/10/2023	31/10/2024	94%
Mogden STW - Battery D Settled Sewage Inlet penstock	26/11/2023	15/04/2024	20%
Mogden STW – PAS Stream Refurbishment	01/01/1900	01/01/1900	0%
Mogden STW - West Side Grit Removal Enhancement	30/11/2023	31/03/2025	10%
Mogden STW - A&B Battery Penstock Refurb	01/11/2023	30/11/2026	0%
Mogden STW - MRP - Main Pumping Station Refurbishment	01/11/2023	01/01/2025	20%
Mogden STW - Pumping Station 14 Pump 4 Replacement Bare Shaft Pump	03/10/2023	31/03/2024	80%
Mogden STW - Odour Suppression Units	03/10/2023	31/03/2024	100%
Mogden STW - PAS 4 Heat exchanger coil failure and reactor stirrer failure	24/01/2024	01/05/2024	50%
Mogden STW - Year 4 & 5 Ops Investment Proposal - Boilers and Hot Water System - Replacement	01/08/2024	01/08/2025	0%
Mogden STW - Main SPS - Incoming Power Supply Upgrade	15/01/2024	20/03/2024	100%

Directly Managed Capital overview

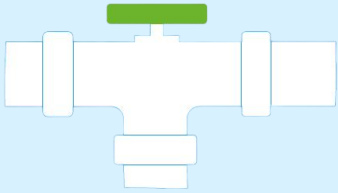
Mogden Treatment



Budget £6.0m
Delivered £4.1m

We have delivered 70% of our Y3 to 4 Budget, this covers over 55 Risks (excluding Minor Capital work activity)

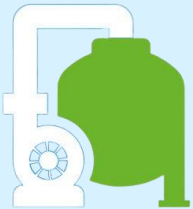
Mogden Network



Planned Budget £863k
Delivered £680k

We have delivered 79% of our Y3 to 4 Budget, this covers over 28 Risks across our estate (excluding Minor Capital work activity)

Mogden Pumping



Budget £3.2m
Delivered £1.4m

We have delivered 41% of our Y3 to 4 Budget, this covers over 25 Risks across our estate (excluding Minor Capital work activity)

Major Projects

Progress Update

Gas to Grid

- Plant commissioned and in the final week of the reliability test, move to operation mode following that.

AMP7 Resilience Project (J010)

- Bat C & D air mains and blowers installed, electrical works commenced. Commissioning to start July 2024
- Bat E Transformers – to be powered up in early May 2024
- Sludge area – the new Odour Control Unit (OCU) installed and being readied for commissioning (May 2024)
- Digesters – Wall extension on Dig. 14 & 16 complete. Work started on sludge pipes.
- New fibre Process Control Network (PCN) and site SCADA system being readied for offsite testing. Commissioning forecast for June 2024.
- Biogas upgrades – Foundation for new flare stack cast. Finalising enabling works for the flare stack install.
- Main Pump Station – Cable diversions completed allowing transformer bases to be constructed.
- Power Management System – Equipment on site and being installed.



Project Photos – Digesters and Sludge Areas



Digested sludge pipeline



Digester 16 – Coating Complete



Sludge Area - New OCU

Project Photos – Battery C ASPs



Main Air Pipeline – Top and Above

Coarse Air Pipeline

Lane 13 Diffuser Pipework

Project Photos – Battery D / E



Battery D – new air main to ASP with connections



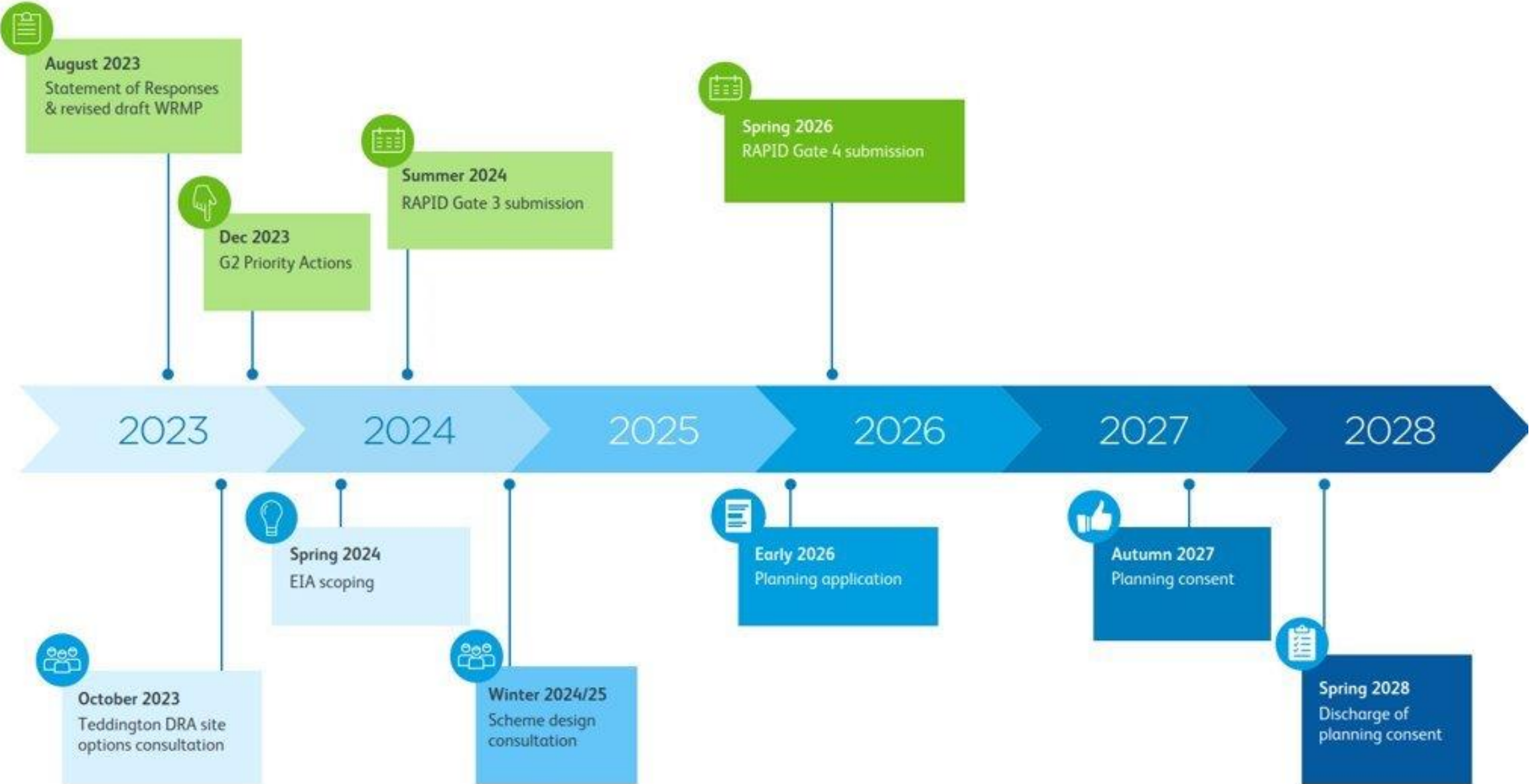
Battery E New Transformers
Cabling to MCC

Teddington DRA

Teddington Direct River Abstraction – Rest of year overview



Zero incidents
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Zero compromise
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- **Update:** We hope to release a summary report of the consultation (number of responses, themes etc) end of May.
- Teddington DRA newsletter to be published in May also.
- The official Statement of response for the consultation will likely be published in August
- Will be working with LPAs on EIA scoping over the course of next few months
- Submit EIA scoping to PINs this summer
- Planning information events where we will go back out to community to discuss our Statement of Response.

If you have any further questions, please do not hesitate to contact Conor the Engagement Manager at conor.loughney@thameswater.co.uk

Future engagement

- Ongoing open dialogue with stakeholders
- Support understanding of Nationally Significant Project / DCO
- Support MP and Local Authority officers with general public enquiries
- Engage with local community around ongoing assessment works, namely Ground Investigation works
- **Newsletters**- available from local community locations
- **Information events** later this year
- Statutory Consultation Winter 2024/25
- Legacy engagement
- Updates to website
- **Community Assessment** as part of our EIA
- **Statement of Community Consultation**



NEWSLETTER

IMPROVING DROUGHT
RESILIENCE FOR LONDON

SPRING
2024

ISSUE 1

