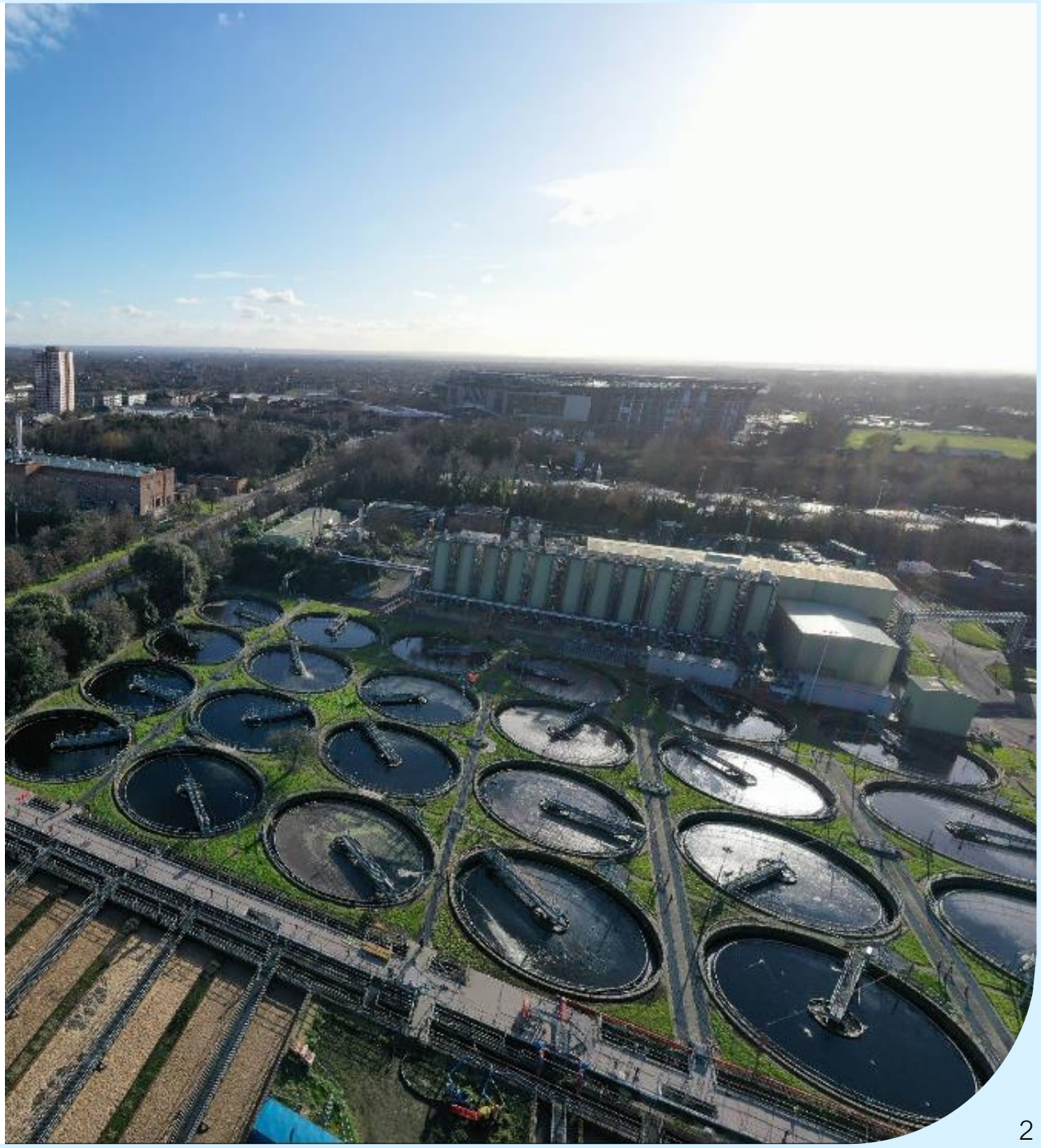
Mogden Residents Meeting

27th October 2022

Agenda

1. Welcome & Introductions
2. Mogden Catchment Update – Anna Boyles
3. Review of previous actions - All
4. Mogden Site Performance – William Randall/David Chowings
5. Complaints Update – Lena Wallin
6. Major Works Update – Eugene Cottrell
7. AOB including Local Networks & Biodiversity



Mogden Catchment Update

Mogden Catchment

Why Mogden?

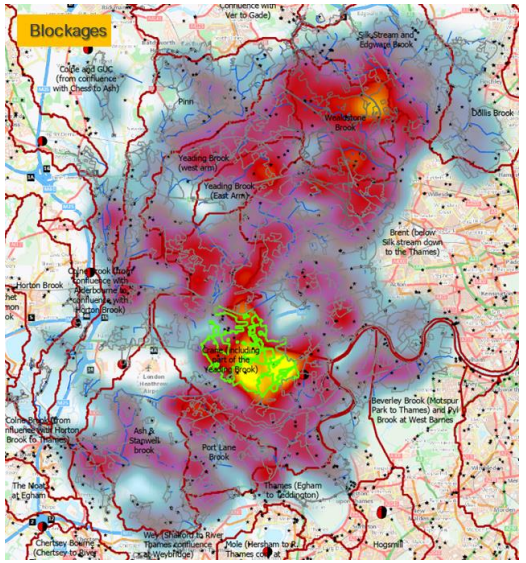
The Mogden catchment covers North West London. It treats sewage from some large key sites including Heathrow Airport, Wembley Stadium and Twickenham Stadium.

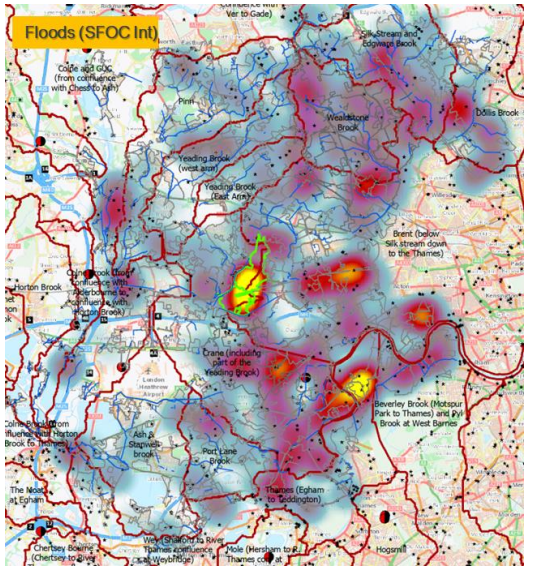
The sewage works serves nearly around *2.3 million people* and is one of our largest treatment works. The effluent from the works flows into the river Thames at Isleworth Ait.

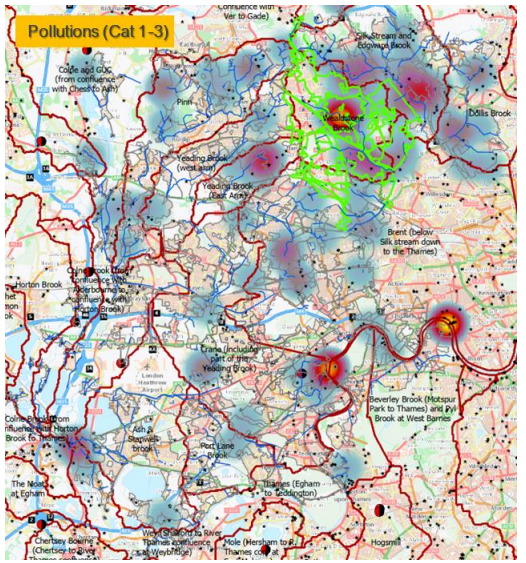
The catchment serves a large population, however, also covers some important ecological sites of interest including Headstone Manor, Bentley Priory SSSI and Osterley Park. London is an area of rapid housing development with Barnet to the North having the 3rd largest housing target in the country.

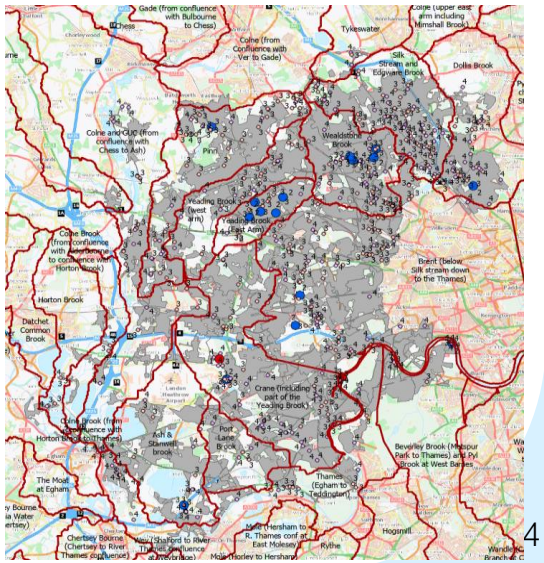
The performance of the Mogden system is a key factor in the overall performance of Thames Water, particularly in relation to blockages. Mogden STW has historically been performing poorly, however it does have potential to be a good performing site, it has the biological capacity, so the focus is now on bringing the assets back up to the service level to enable this capacity to be met.

- On average (per year) in the catchment we have;
    - 12,326 **Blockages**,
    - 375 SFOC **Internal Floods**,
    - 30 (Cat 1 to 3) **Pollution** events
- Pockets of high-density event areas in 4,500 km length of Foul & Combined sewer
- Circa 3400 SDMs (HWM Intel) and 24 EDMs have been installed in this area









Mogden Catchment

Smart waste focus areas

Wealdstone Brook River Catchment Area (why: targeting pollutions)

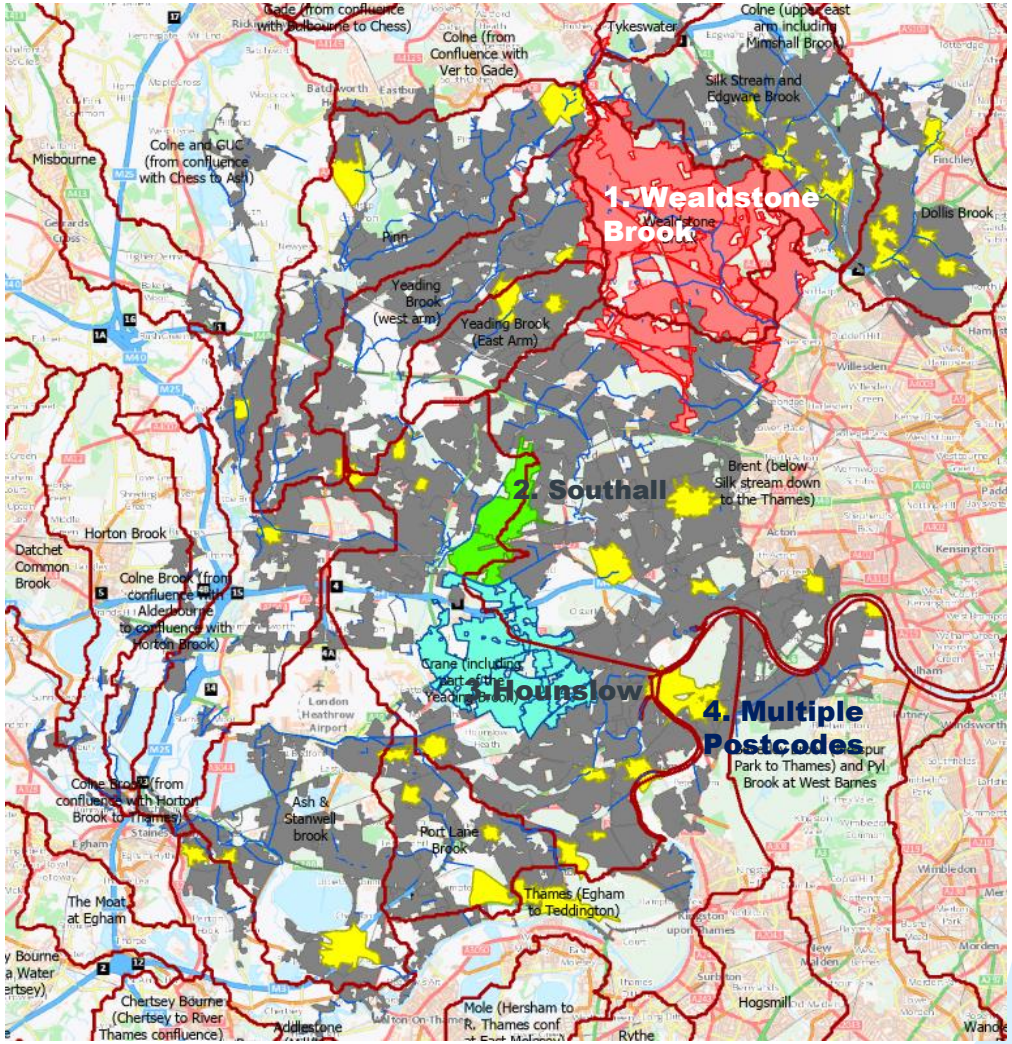
- The entire river catchment area has been selected to target all historically polluted and high-risk pollution areas.
- Observed an average of 6 (23%) Network pollutions events every year.
- Installed 494 (14%) SDM monitors.

Southall Area (why: targeting SFOC)

- Reduce SFOC Internal Floods by targeting high-density event streets in this area.
- A high proportion of FOG related blockages.
- Already installed 102 (3%) SDM monitors.

Pumping Stations & CSO's (why: improved connectivity of the network and understanding performance visibility)

- Installation of devices up and downstream of pumping station (foul and surface), to better connect the network and identify performance around pumping stations.
- Installation of monitors upstream of CSO's to improve the potential of identifying levels in the network, prior to a discharge from taking place.



Mogden Catchment

The future of the Mogden Catchment

- We have developed a model which embeds all our functional specialisms in teams at a *catchment level* to deliver for the environment and our communities
- Mogden will be the showcase area for *catchment management* as well as catchment thinking – from our front-line operations through to investment planning and delivering capital investment

- *Smart waste* will be a cornerstone of the catchment with the next roll out of the programme in the area centered on the Wealdstone Brook (pollution) and Southall (SFOC). We will be installing monitors both up and downstream of pumping stations to improve connectivity of the network and improve visibility to achieve a better understanding of network performance. . An installation upstream of CSO's will also be delivered.
- Specific capability to *deliver capital investment at Mogden WwTW* will be embedded in the team to ensure such a critical asset is operating at its optimum level
- Exploring how the technical skill sets of our teams within the catchment can be utilised in the best way, *blending our people, our data and our technology* to deliver for our communities and the environment

Previous Actions

Raised by	Action Detail	Due Date	Action Owner	Update	Closed?
Murray Edwards/ Leroy Phillips	Update on project - storm tanks	Oct-22	Kris Newell/Will Randall	Will Randall to provide update at meeting.	
Murray Edwards	Update on replacement of seals on digesters	Oct-22	Kris Newell/Will Randall	Will Randall / David Chowings to provide an update at meeting.	
Rob Gray	Update on measures taken to prevent flooding incident from happening again	Oct-22	Will Randall	We have many learnings and the report on the incident provides a summary of the measures that we can take.	
Barry Edwards	link to view odour graphs and storm flow data	Oct-22	Gayle Thomas	sent by email to Barry Edwards	Y
Rob Gray	Update on badgers and plan for swift boxes	Oct-22	Charlie Burgess	We are working on this, with the management change at Mogden this has taken longer than anticipated.	
Barry Edwards	Update if survey was undertaken prior to work on the bank	Oct-22	Will Randall	Will Randall to provide update.	

Site Performance - Update

William Randall & David Chowings

Quarterly Performance Summary

Site performance this year has been excellent with high quality effluent and good quality regulatory samples since a minor breach in April.

Dry weather between March and August 2022 meant that the Storm Tanks were not used at all in this period.

Since August the wetter weather has led to 9 spills to the storm tanks and 4 compliant discharges of Storm Water to the River on the 17th & 25th August and 23rd & 24th October.

Sludge treatment has been fully compliant for some time, and renewable energy generation is on target at approximately 58% of the sites energy needs.

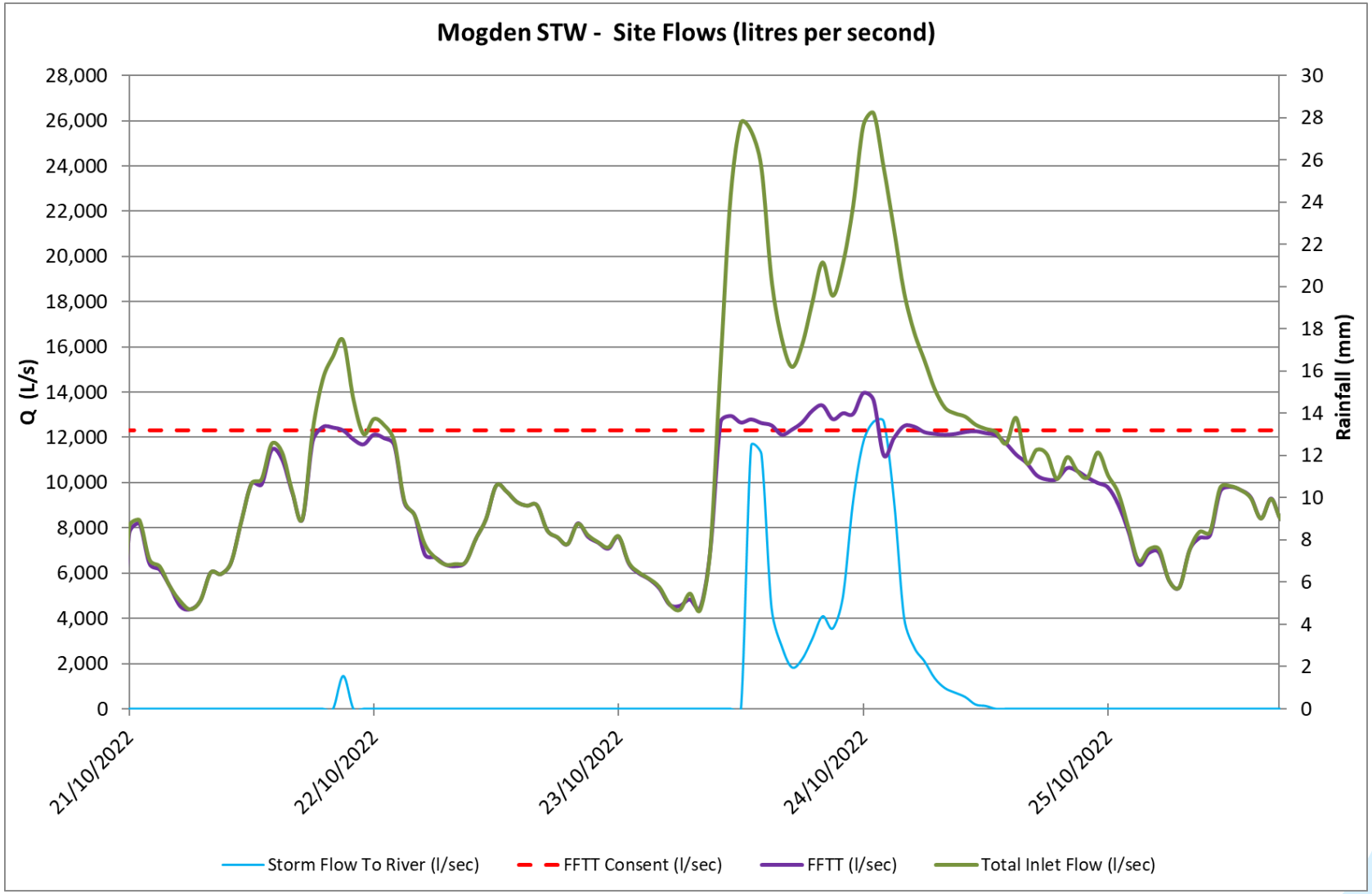
Mogden Storm Discharges Explained

October Storm Flows

Wet weather on 23rd & 24th October led to partially treated storm water being discharged from Mogden STW to the River Thames

Peak flows of 26,000 litres per second were received during the storm, compared to 8,000 l/s on a dry day

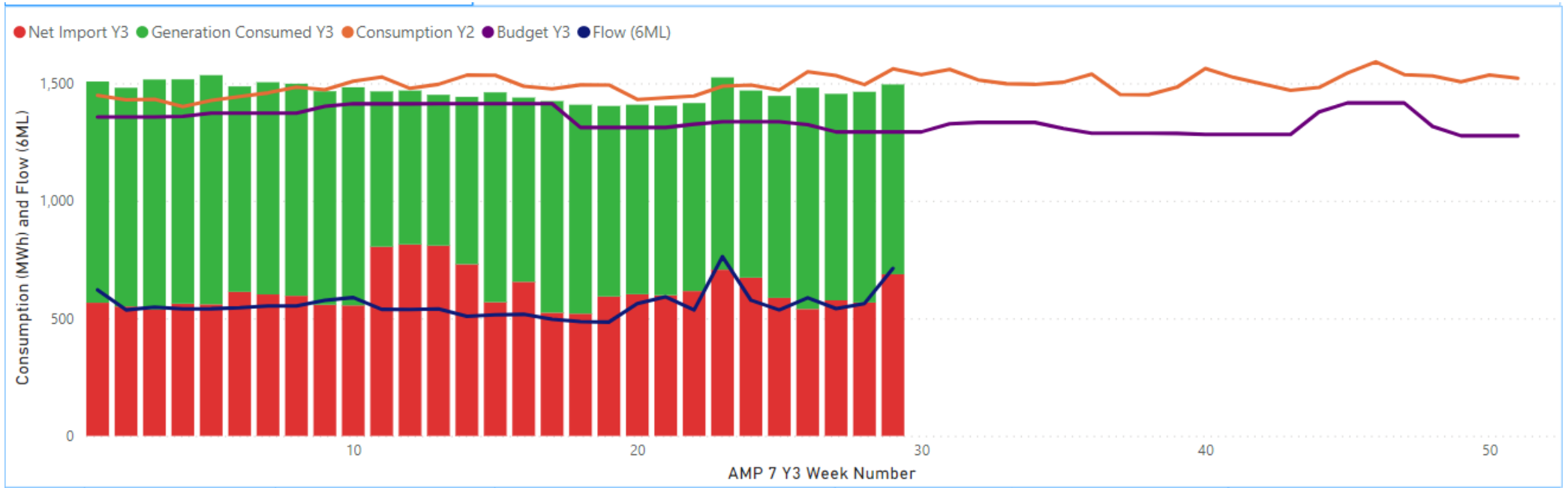
Site met it's Full Flow to Treatment target of 12,215 l/s meaning all discharges were legal and consented



Mogden Renewable Energy Generation

Electricity generated by utilising biogas from the sludge digestion process is currently providing 58% of Mogden's energy needs.

The new gas to grid plant will further increase the utilisation of this renewable energy source.



YTD	108%	58%	98%	102%	3,350	1,466
	Consumption vs Budget	Generation Vs Consumption	Av Wk Consumption Y3 Vs Y2	Generation Vs Budget	Weekly Average of Flow Ml	Average Weekly Site Consumption (MWh)

Storm Tank Updates

- Tanker now on site 5 days per week to assist with clearing storm tank hoppers and other odour related tasks
- £300k project funded to replace leaking non-return valves and borger pumps on tanks 5-8. Delivery expected in the spring
- Servicing and minor repairs to Amerjet system being quoted and will be funded before next spring
- Continued focus from day works team, hosing down tanks and pumping out hoppers

Key Project Updates

Works completed:

Refurbishment and cleaning of primary settlement tanks 24 & 25 on E-Battery

Further final settlement tank refurbishments on North FSTs

Digester 18 back into service and Digester 14 taken out of service for refurbishment

Re-doming of further aeration lanes on A & B Batteries

Screenings handling plant refurbishments on A & B Battery inlet

Biogas forwarding compressor and boiler refurbishments

On going works:

Digester anti-foam dosing system upgrade

Main pumping station refurbishment

E-Battery blowers panel replacement

C-Battery circular PST scum & sludge removal enhancement

General Updates

Complaints

- We have had a total of 4 complaints since the last meeting.

As part of the Mogden Catchment we will now manage all of the complaints regarding wastewater assets in the area not just relating to the sewage treatment works.

Fly & Mosquito Update from Schultmay

- As expected due to the rather mild weather, we still find mosquitoes outside. However, some of these are most likely *Culex pipiens biotype pipiens* looking for overwintering sites.
- Due to the rather mild weather we have agreed with Thames Water that our last survey under the summer schedule is on 28th and 29th November.
- It is likely that due to the very mild weather mosquitoes are still active, but except for the larvae all these numbers show a downwards trend and have decreased.

Major Works Update

Eugene Cottrell

Project scope and benefits (major items)

Improve capacity and resilience to Battery C with new blowers, pipework and remodelled tanks

Benefits: flow and quality, improved plant efficiency

Digester refurbishments

Benefit: resilience and potential odour improvement.

Inlet work plant refurbishment/ replacement

Benefit: flow and quality by improving performance of downstream plant

Improve final settlement tank flow throughput

Benefit: flow and quality

Biogas system improvements and new biomethane gas to grid plant

Benefit: reduction in emissions and carbon

There is also a site wide extensive maintenance programme that has started

Project Update- AMP7 Resilience Works

Complete

- Most surveys complete with the exception of surveys inside the digesters
- Planning Approval granted 27/07/22 (details on next slide)

In progress

- Third party surveys being undertaken on site
- Design development being undertaken by Aecom including 3D model of designs

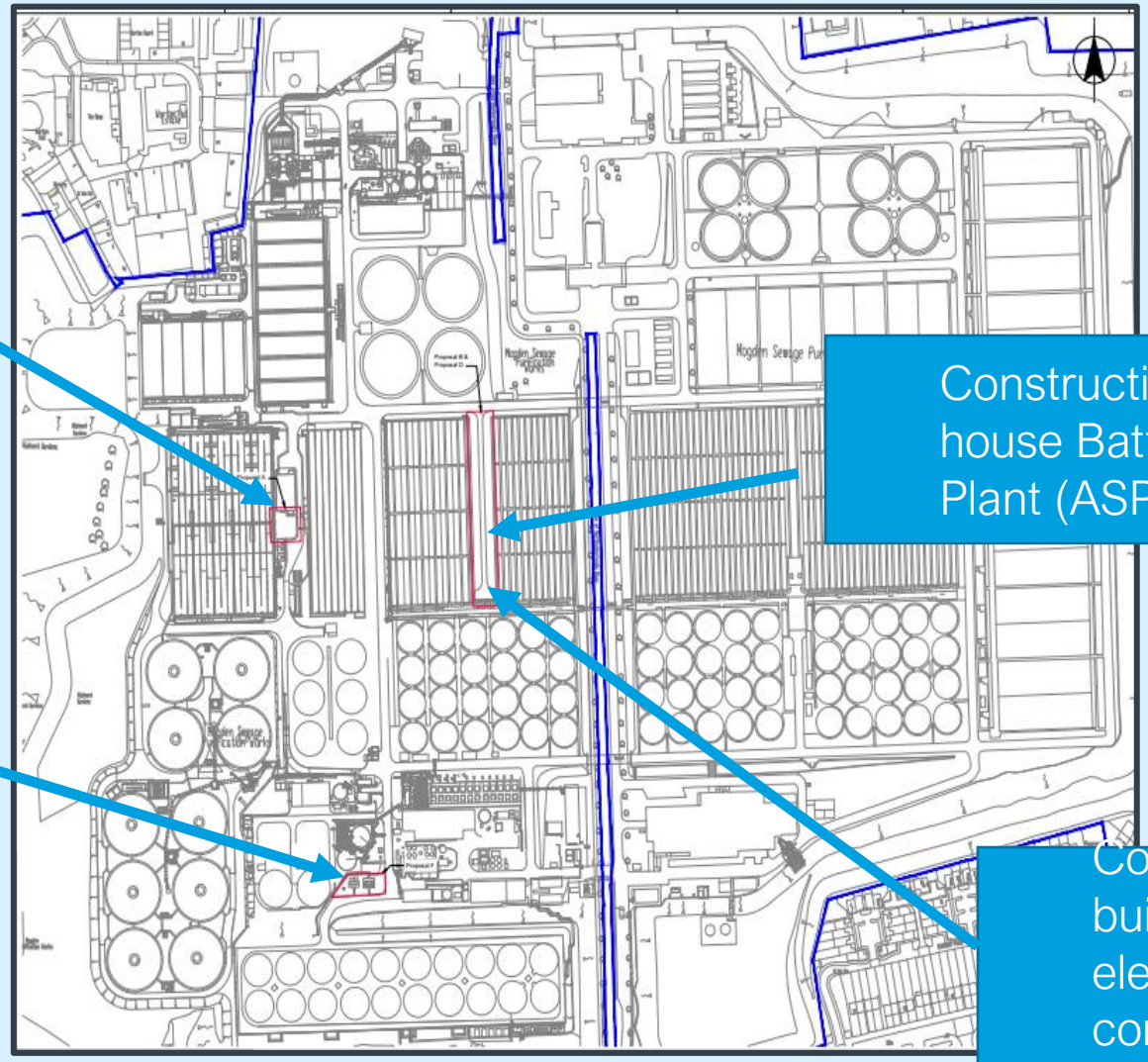
Next steps

- Review and accept outline design proposals (February 2023)
- Detailed design and construction (Summer 2022 to 2026)
- Commence work on digesters (July 2022, work comprises taking two digesters out of service at a time, draining them, cleaning them inspecting for defects and repairing any issues, complete design for new digester roofs and new pipework)

Planning Application

- :

Extension of existing Battery E Blower Building and installation of new blowers (253sqm)



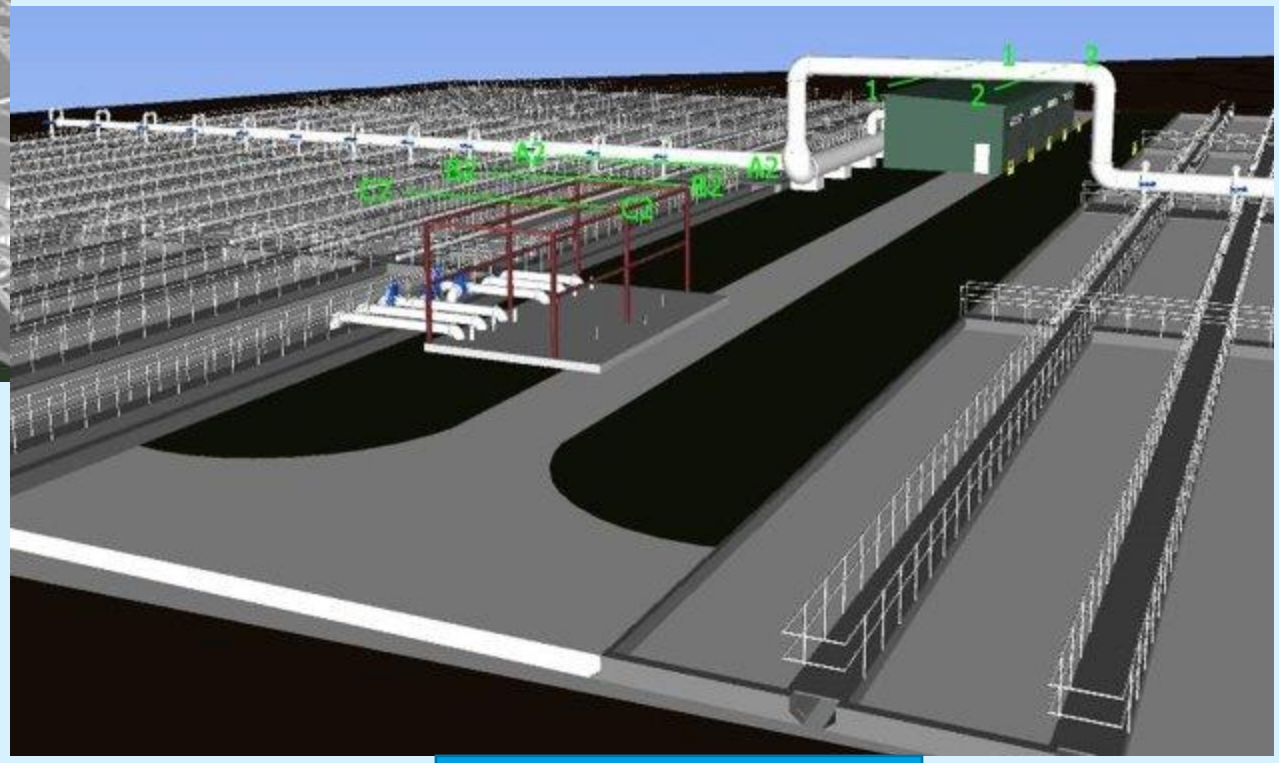
Construction of a single building to house Battery C Active Sludge Plant (ASP) Blowers (243sqm)

Construction of a new building to operate plant and equipment (107sqm)

Construction of one new building to house electrical distribution and control equipment (120sqm)

3D Model Images

Battery E- Blower Building



Battery C ASP Lanes

NFST71 – Drum Demolition



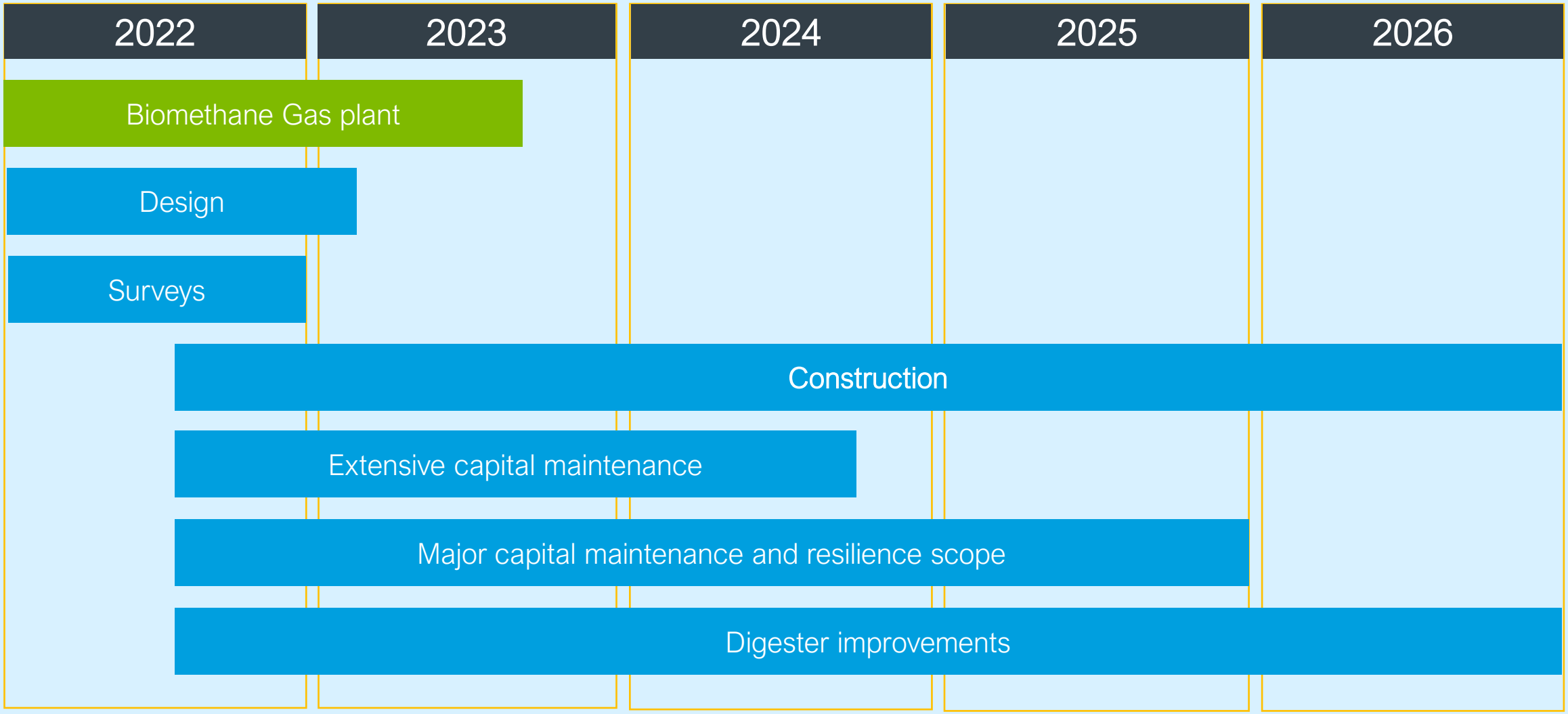




Digester 16 – Birdcage installation

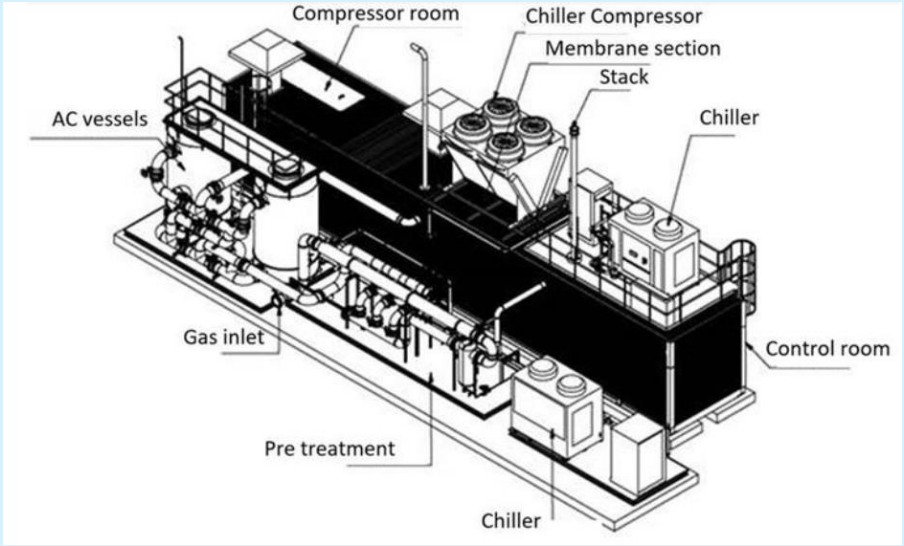
Digesters

Project Timeline



Gas to Grid Project Objectives

- The project objective is to convert excess biogas originating from the site into biomethane that can be used to provide the gas needs for 3,500 houses in the local area.
  - Create 900m^3/hr of biomethane that will replace the use of natural gas
  - Reduce carbon emissions by over 8,000 tons/year helping TW **achieve its Net Zero carbon target by 2030**
  - Improvements to air quality – reduced need to burn excess biogas



Gas to Grid Export Pipeline

Stage 1 – complete by 4 November 2022

Stage 2 – Mogden Lane roundabout

- 9 to 27 January 2023
- 5 way temporary traffic lights (Monday to Friday)
- Light motor vehicles access STW via Oak Lane

Stage 3 – Chertsey Road crossing

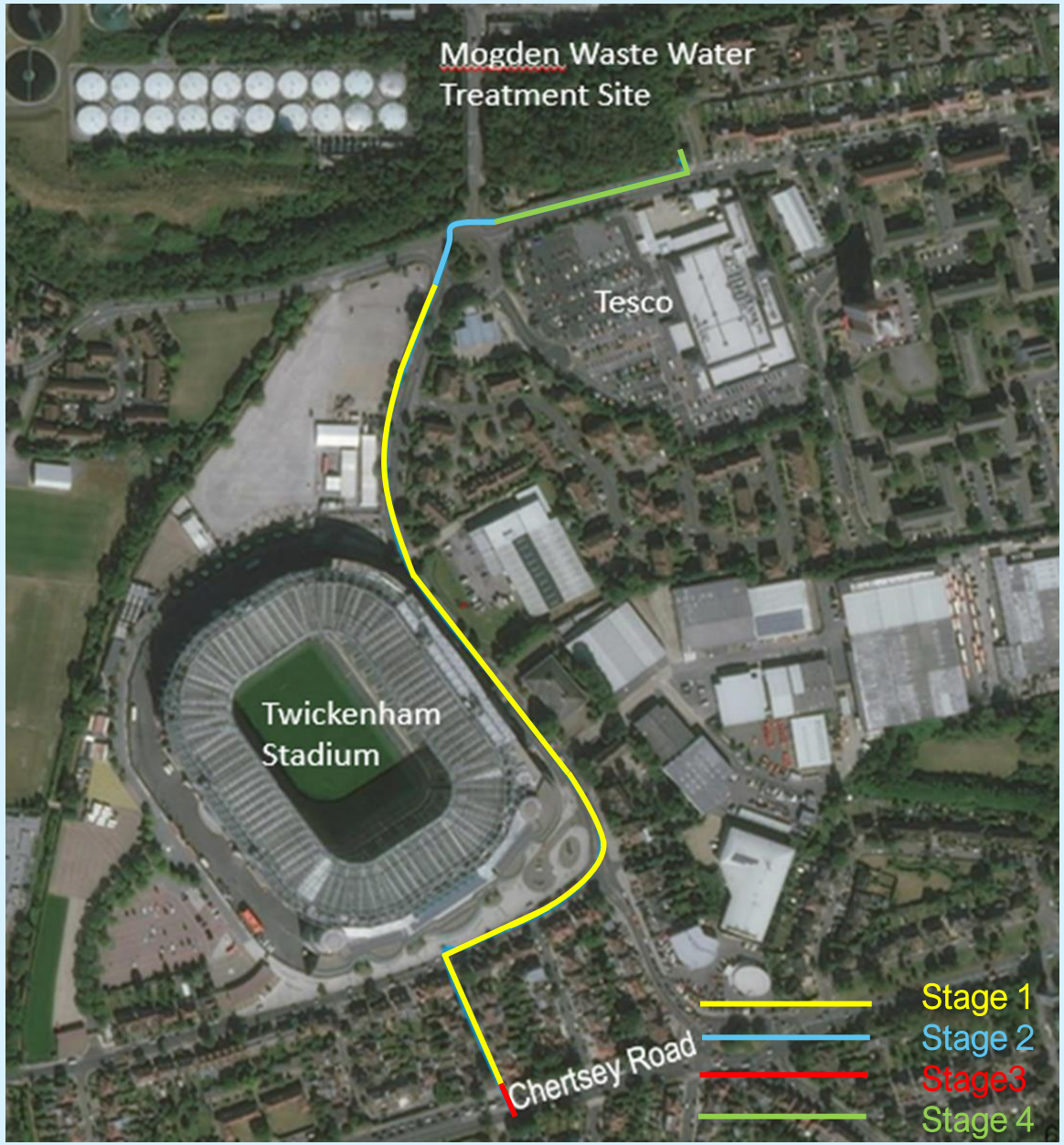
- February to April 2023 (weekend lane closures)

Stage 4 – Mogden Lane (Eastbound lane closure)

- 4 weeks from 11 April 2023

Stage 5 - Chertsey Road connection commissioning

- Date TBC



AOB

Networks

Focus on flooding and pollution reduction

- SMART network – Proactive response
- Targeted customer communications
- Collaboration

Our people

- Upskilled workforce
- Local knowledge
- Part of the community

Standards

- HS&W Zero compromise culture
- Customer excellence
- Custodians of the environment