



Mogden Sewage Treatment Works

TW Site Inspection

Date of inspection: 15 th March 2018	
Attendees: Mr A Devine (London Borough of Hounslow) and Mr A Haines (Thames Water)	
LB Hounslow Observation	Thames Water Action / Response
<p><u>Storm Water Storage Tanks</u></p> <p>Tank 1A – Tank empty and flushed but sludge noted in the tank near to the hoppers. Hoppers 1, 2 & 3 drained down to 50% from bottom level.</p> <p>Tank 1B – Tank empty and flushed with a small amount of sludge in the tank near the hoppers. Hoppers 1 and 2 drained down. Hopper 3 required over pumping.</p> <p>Tank 2A – Tank empty and flushed clean. Hoppers 1, 2 & 3 drained down.</p> <p>Tank 2B – Tank empty and flushed with a small amount of sludge in the tank near the hoppers. Hoppers 1 and 2 drained down. Hopper 3 required over pumping.</p> <p>Tank 3A – Tank approximately 75% full. Amajets 1, 2 and 3 all working.</p> <p>Tank 3B – Tank approximately 75% full. Amajets 1, 2 and 3 all working.</p> <p>Tanks 4A, 4B, 5A & 5B which are covered and odour controlled were all empty - unable to gauge condition as lighting system still not working.</p>	

Tank 6A – Tank approximately full.

Tank 6B – Tank approximately full.

Tank 7A – Tank has some residual effluent water at the base and all the hoppers were full, however these are the shallow hoppers.

Tank 7B – Tank empty and flushed – All shallow hoppers full.

Tank 8A – Tank empty and flushed clean. Hoppers 1, 2 & 3 full – issue with faulty subterranean non-return valve allowing back-filling of hoppers – requires repair/replacement.

Tank 8B – Tank empty and flushed clean. Hoppers 1, 2 & 3 full – issue with faulty subterranean non-return valve allowing back-filling of hoppers – requires repair/replacement.

Feed Channel - The level of effluent in both feed channels was high – approximately 70% full and flowing.

Complaints

The Council directly received one complaint by telephone in the preceding week.

On the 16th March 2018 at 12:51 a telephone complaint was received by the call centre from a resident of Steele Road, Isleworth, located to the east side of the works. The call was passed to the duty officer at approximately 13:05. The duty officer contacted the complainant at 13:10 who advised the odour had been bad all week and was still bad today. The duty officer asked if the odour was still present and affecting them at their property. The complainant confirmed that it was still present. The duty officer therefore visited the area at approximately 13:37 and undertook H₂S readings for 10 minutes. The average H₂S readings were 0.000ppm which is below the threshold level of 0.015ppm. The historic odour monitoring trends were inspected and no levels above the threshold were noted on odour monitors 1 to 13 at the time of the

complaint. Therefore it is not possible on this occasion to identify the potential source of odour complained of by the resident.

The Council directly received two complaints by email in the preceding week.

On the 14th March 2018 at 09:22 an email complaint was received. The resident did not provide their address. An email was sent to the complainant requesting additional contact information and a telephone call was made to complainant on the 20th March but there was no response and a message was left requesting a call back. The resident stated in their email that the odour from Mogden had been quite bad lately but it is horrendous and unbearable today and could we do something about the smell. The historic odour monitoring trends around the time of the complaint showed the following. Odour monitor OM's 1-5 showed no spikes or excessive readings around the time of the complaint. With regards to odour monitors 6 to 13, odour monitor 12 showed a slightly elevated concentration of H₂S at 0.016ppm. Storm tanks 3A to 5B were in use at the time of the complaint, however it should be noted that storm tanks 4A and 4B are covered and odour controlled. No spillages were recorded with digesters at the time of the complaint. As the location of the complainant could not be ascertained it is not possible on this occasion to identify the potential source of odour complained of by the resident.

On the 14th March 2018 at 14:32pm an email complaint was received from a resident of James Street located to the North West of the site. The initial email complaint did not provide a location for the complainant so an email was sent to the complainant requesting additional contact information, which were provided. The resident stated in their email that the smell is really strong today and the house really smells as they tried to open the windows to get fresh air into the property and that on their way to work this morning they smell it in the car driving through Hounslow. During the call to obtain additional information the Local Authority officer did explain that there was a local sewer problem in the Hounslow area. The historic odour monitoring trends around the time of the complaint showed the following. Odour monitor OM's 1-13 showed no spikes or excessive readings around the time of the complaint. Storm tanks 3A to 5B were in use at the time of the complaint, however it should be noted that storm tanks 4A and 4B are covered and odour controlled. No spillages were recorded with digesters at the time of the complaint.

It is not possible on this occasion to identify the potential source of odour complained of by the resident.

The Council received no complaints by email from MRAG.

Thames Water controller advised that they had received no direct complaints in the preceding week.

Odour Monitors

The odour readouts (H₂S) for all of the monitors, which were providing data at time of inspection:

Monitor 1	0.008	ppm	10:07
Monitor 2	0.007	ppm	10:07
Monitor 3	0.000	ppm	10:07
Monitor 4	0.006	ppm	10:07
Monitor 5	0.006	ppm	10:07
Monitor 6	0.010	ppm	10:07
Monitor 7	0.009	ppm	10:07
Monitor 8	0.008	ppm	10:07
Monitor 9	0.008	ppm	10:07
Monitor 10	0.008	ppm	10:07
Monitor 11	0.007	ppm	10:07
Monitor 12	0.009	ppm	10:07
Monitor 13	0.008	ppm	10:07

Odour Log (Thames) - Photocopies of log entries taken:

Thursday 08th March 2018:

AM Observations: No odour issue. Nothing to report on trends.

Actions: No action

PM Observations: Odour monitor spiked at 20:56pm but less than 15 minutes duration (max0.015ppm). Odour monitor 6 spiked at 19:20pm but less than 15 minutes duration (max0.016ppm)

Actions: None noted.

Friday 09th March 2018:

AM Observations: No odour issues. Nothing to report on trends.

Actions: None noted.

PM Observations: No odour spikes. No other issues.

Actions: None noted.

Saturday 10th March 2018:

AM Observations: No odour issues. Nothing to report on trends.

Actions: None noted.

PM Observations: Odour monitor 1 0.016ppm at 20:22pm. Spiked then dropped down. No other issues.

Actions: None noted.

Sunday 11th March 2018:

AM Observations: No odour issues. Nothing to report on trends.

Actions: No other issues

PM Observations: Odour monitor 12 fluctuating between 0.015ppm and 0.016ppm between 02:59am and 03:57am. No other issues.

Actions: No source found.

Monday 12th March 2018:

AM Observations: Odour monitor 1 to 5 no spikes. Odour monitor 6 to 13 no spikes.

Actions: Scada Rebooted – Trend info lost from 6am – noon.

PM Observations: No odour spikes. No other issues. Sludge thickening OCU 20.55ppb odour monitor 8 alarming (0.005ppm)

Actions: None noted.

Tuesday 13th March 2018:

AM Observations: Odour monitor 1 to 5 no spikes. Monitor 8 – 0.017ppm between 08:00am to 08:12am.

Actions: None noted.

PM Observations: Odour monitor 7 spikes to 0.021ppm at 20:39pm to 21:00pm.

Actions: Area check round monitor and eight storm tanks. Perimeter Patrol done. No obvious odours found. Storm tanks half full.

Wednesday 14th March 2018:

AM Observations: Odour monitor 5 0.018ppm between 10:21am to 10:34am.

Actions: None noted

PM Observations: No odour issues. Nothing to report on trends.

Actions: None noted.

Sludge Dip Records

Date	West PSTs 1	West PSTs 2	West PSTs 3	West Total	East PSTs	Grand Total
	All units in m ³					
OMP limit	500					
09/03/18	3816	2255	1199	7270	10949	18219
12/03/18	3438	2568	1199	7205	9267	16472
14/03/18	3816	2816	1574	8206	10618	18824

The sludge stock levels for the West side circular primary settlement tank 1 were **not compliant** with the OMP trigger level (500m³) on the 09/03/18, 12/03/18 and 14/03/18 for which data has been provided.

There are no limits for the East Side Primary Settlement tanks as these are covered and odour controlled. Thames is required by the terms of the abatement notice agreed in 2005 to notify LBH on the next working day of any such exceedance and notify LBH within three working days of any appropriate remedial measure taken within three days and which has been complied with in this instance

Explanation to the high levels of sludge in the PSTs: TW advised that the sludge readings are not true readings for sludge in the West Side PSTs 1. Thames Water advised that there is clean water being pumped to the head of the circular PSTs (West Side) and into circular PST 9. The force of this water entering PST 9 is causing the thin layer of sludge within the tank to be blown up and mixed throughout the tank (mixing blanket). When the tanks are dipped for sludge they are encountering it at a much higher level due to this mixing. Thames Water has to record when they encounter sludge as part of their procedures and this is why they believe they consider they have the false higher readings. Another reason why they believe these are false positives is due to the flow out of the PST. If the levels of sludge present in the tank are correct they would expect to see flows at 40l/s however they have flows of 60l/s with current levels. Thames Water advised they would have flow like this with lower levels of sludge in the tank and therefore they do not believe it is an issue and would also not be an odour issues.

Thames Water have confirmed that the high readings shown have now been addressed by diverting the return flow to the covered rectangular PSTs. Thames Water have also confirmed that the sludge dip readings for the West PSTs 1 have returned to below 500m³. Thames Water took 4 portable Jerome monitor readings while the sludge dip readings were above 500m³ and the results were all zero.

Digesters

Digesters 1-4 – Out of use (permanent) – noticeable quantity of water accumulated to the brim of these tanks which is thick with algae – requires draining.

Digester 5 - in use – good seal – No signs of spillages.

Digester 6 - in use – good seal – No signs of spillages.

Digester 7 – in use – seal weak and bubbling – No signs of spillages.

Digester 8 – in use – seal weak and bubbling – No signs of spillages.

Digester 9 - in use – good seal – No signs of spillages– No signs of spillages.

Digester 10 – in use – seal weak and bubbling – No signs of spillages.

Digester 11 – in use – seal weak and bubbling – No signs of spillages.

Digester 12 – in use – seal weak and bubbling – No signs of spillages.

Digester 13 - out of use.

Digester 14 - in use – good seal – No signs of spillages.

Digester 15 – in use – seal weak and bubbling – No signs of spillages.

Digester 16 - out of use.

Digester 17 - in use – good seal, pellets used – No signs of spillages.

Digester 18 - in use – good seal, pellets used – No signs of spillages
Digester 19 – in use – seal weak and bubbling – No signs of spillages
Digester 20 - in use – seal weak and bubbling – No signs of spillages
There was evidence of anti-foaming agent in use and TW advised that this is applied daily to all of the digesters that are operational.

GENERAL

Sludge Screening House

Shutter doors closed at time of inspection - no local odours.

Imported Sludge

Ten imports of 35m³ daily for preceding seven days.

Final Settlement Tanks East Side of Works

The 8 circular tanks previously used as PSTs are now being used as final tanks (71-78). Tank 71 drained down and out of service to refurbish valve.

Skips

1x empty large loader skip located at East side grit house. – empty, uncovered
3 x 6 yd skips located at East side grit house. – empty, uncovered
1x small open skip – half full of general waste located Service Road by Pasteurisation plant.

1x small open skip approximately 50% full of general waste.

East Side Screen House

All doors closed.

Pasteurisation Plant

The pasteurisation plant is in service and 10 streams are fully operational.

West side primary settlement tanks (PST)

Rectangular PSTs – no issues

Circular PST's 9, 10, 11 & 12 all in use.

West Side Aeration Lanes (Old)

No issues found.

New Works (West Side)

Feed Channel for Aeration Lanes were being tankered off during the inspection. However the feed channel was noted to be obstructed during the inspection.

Approximately 90% of tanks have again developed “fluffy” coverage across surface – worsened since previous inspection. Quantity of physical detritus in tank that has bypassed screener has decreased significantly. Sprinkler head performance has been improved (cleaned/pressure increase).

Odour Control Unit (OCU) performance monitoring – (12/03/18)

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station outlet	0.008 (av)	0.2	Yes
East OCU	0.00 (av)	0.05	Yes
West inlet OCU	0.00 (av)	0.05	Yes
Sludge reception outlet	0,00 (av)	0.8	Yes
Thickening plant outlet	0.00 (av)	0.6	Yes
Transfer PS outlet	0.020 (av)	0.6	Yes
New West outlet (OCU 11)	0.003 (av)	0.5	Yes
OCU 12 (Pasteurization Plant)	0.00 (av)	0.5	Yes