Mogden Sewage Treatment Works

TW Site Inspection

Date of inspection: 12th January 2017	
Attendees: Mr Zaheer Kadri (London Borough of Hounslow), Mr Manzoor Hussain (Thames Water)	
LB Hounslow Observation	**Thames Water Action / Response**
Storm Water Storage Tanks (SWST) Tanks 1A –3B All tanks were empty and all hoppers had been completely drained down however hoppers in Tank 3A and 3B had some fatty deposits on the surface and had a small quantity of effluent in them (there had been rain for most part of the morning). There was no sign of grit or effluent in the tanks. Tank 3B had slight grit near the hopper end that would need sweeping at some stage. There were no signs of odour. Tanks 4a, 4b, 5a & 5b are covered and odour controlled. Tanks 6A – 8B All tanks were empty and all hoppers were completely drained down apart from the hoppers in Tank 7A and 8B that needed over pumping. Thames Water explained that this was due to issues with backfilling where effluent was not draining down. There were no signs of odour.	

Storm Water Channel

The storm feed channels serving STW's 1A-8B were low however looked sludgy. There was no noticeable odours. The sludge in these channels was dark and murky in colour.

Odour Monitors

The odour readouts (H_2S) for all of the monitors, which were providing data at the time of inspection (approx. 14:20).

Monitor 1	0.004	ppm
Monitor 2	0.004	ppm
Monitor 3	0.004	ppm
Monitor 4	0.004	ppm
Monitor 5	0.009	ppm
Monitor 6	0.009	ppm
Monitor 7	0.003	ppm
Monitor 8	0.005	ppm
Monitor 9	0.005	ppm
Monitor 10	0.005	ppm
Monitor 11	0.006	ppm
Monitor 12	0.005	ppm
Monitor 13	0.104	ppm

Complaints **The Council received 7 complaints via telephone in the previous week.** On the 6th of January at approximately 16.26 a complaint was received from a resident of Linkfield Road located to the north west of the site. The complaint was not passed through to the duty Office. The odour log for the AM shift on that day showed that monitor 5 which is located on the East side of the works near the power house was spiking 0.0152ppm-0316ppm and it spiked throughout the day max 0.076ppm at 15:50. Blowing from drain lower down main drive. Investigated PAS/Digester area. During the weekly inspection the trends for the date in concern was investigated and this showed that around 16:00 hours there was a spike recorded with OM2 which spiked to 0.07 and OM5 which spiked to 0.051. The AM check of the digesters taken at 10.00 showed that there was no foam in any of the seals of the digesters and none of the pressure relief valves had been releasing gas though there was a spillage sludge via the annular seal of digester 14 though this is not likely to explain the source of odour complained of by the resident. On the 6th of January there was another complaint received at approximately 20:06 from a resident of Old Pound Close located to the north of the Works and a considerable distance from the site and who complained of a rotten egg smell along London Road. No visit was made on this occasion by the duty Officer and no specific time that was given by the complainant for the odour. The trends did not show any excessive spikes with the monitors. There were no irregular spikes or readings that would cause concern apart from the spikes that appeared around 16:00 previously mentioned. The storm log for the AM shift on that day taken at 08.00 showed that all of the uncovered storm tanks were empty with the exception of tank 7a which had a very small quantity of effluent in it and the hoppers of tanks 2b, 3b,7a and 7b required over pumping. On	

the PM shift undertaken at 23.00 showed that all of the uncovered storm tanks were empty with the exception of tank 7a which had a very small quantity of effluent in it and that none of the hoppers required over pumpping. It has not been possible on this occasion to identify the source of odour complained of the resident on this occasion. There were 4 complaints via telephone from Summerwood Road area of Isleworth, TW7 7QE between the hours of 11:40-12:50 on the 7th of January 2017. The general complaint from all four complainants was that the odour was much worse during the morning. The on call duty officer visited the area and undertook a series of measurements which were very low at 0.00ppm H_2S and considerable below the trigger level of 0.015ppm. The Officer was also satisfied that nuisance was not being caused. Summerwood Road is due south of the works and closest to the storm water tanks and the storm log for the AM shift on that day taken at 12.15 showed that all of the uncovered storm tanks were empty and that none of the hoppers required over pumping. The odour log for the AM shift showed that PAS plant was smelly and that the chemical scrubber appears blocked so no odour treatment from OCU 1. Scrubber bypassed and odour spikes went. During the inspection on the 12th of January 2017 the trends showed that on the morning of the 7th of January there were spikes on OM 4, 8 and 9 from 10:15am onwards. Furthermore the odour logs for the 7th of January showed much activity and issues with the Pasteurisation plant during the AM shift. The Thames Water officer confirmed that they had issues with the Pasteurisation plant on that particular morning and works were undertaken to rectify the problem and this likely to explain the source of odour complained of by the residents. On the 10th of January 2017 a complaint was received from a resident of Cherry Crescent, Brentford at 16.36 regarding odours allegedly emanating from the Works which is a considerable distance from the works though this was not passed to the duty Officer The trends did not show any excessive spikes with the OMs. There were no irregular spikes	

or readings that would cause concern and it has not been possible to identify the source of odour complained of on this occasion. **The Council received one complaint by e-mail in the previous week** On 10th January at 21.08 a resident of Malting Way located to the north east of the of the site complained of a "nasty Mogden odour on St Johns Road". The odour log for the PM shift on that day showed that monitor 5 had two spikes Max 0.025ppm both less than 15 minutes duration and that monitor 13 was still not reading correctly though this in itself would not have explained the source of odour complained of. The storm tank log for the PM shift taken at 23.00 showed that showed that all of the uncovered storm tanks were empty with the exception of tank 7a which had a very small quantity of effluent in it and only tank 8b required over pumping though tank 2b required flushing. Thames Water also advised that "*there was a small sludge spillage in the pasteurisation area which was addressed straight away. This could have been the reason an off-site odour was created"*. It has not been possible to conclusively identify the source of odour complained of on this occasion. **<u>Odour Log (Thames) - Photocopies of log entries taken:</u>** **Thursday 5th January 2017** **AM** – No odour issues on site – Nothing to report on trends **PM** – OM6 multiple spikes throughout shift – Max 0.049ppm OM3 one spike Max 0.017ppm (less than 15 minutes) OM4- one spike max 0.027ppm OM9- one spike Max 0.018ppm (for 55minutes) Manhole venting on main line PAS stream 15 reactor overflowed to low level **Friday 6th January 2017**	

AM – OM5 spiking – 0.0152ppm- 0316ppm. OM5 spiked throughout the day max 0.076ppm at 15:50. Blowing from drain lower down main drive. Investigated PAS/Digester area **PM** – OM5 5 showing all shift low level sewer venting out of cover. **Saturday 7th January 2017** **AM** – PAS plant smelly. Chemical scrubber appears blocked so no odour treatment from OCU 1. Scrubber bypassed and odour spikes went, OM4- 0.023 @ 06:49-07:04 and 0.049 @09:34-13:34 OM8- 0.036@ 06:32- 12:15 OM8- 0.017@ 12:30-12:47 OM8- 0.086@ 1.17- 13:30 OM1- 0.026@ 07:24- 07:54 OM9- 0.027@ 10:32-12:45 PAS 11 Stream source of odour Actions taken – OMC informed- Oscil will attend site tomorrow to investigate OCU12. Problems **PM –** No odour spikes from trends. PAS area ok No H2S issues from OCU 12. **Sunday 8th January 2017** **AM** – OM1-5 & OM6-13 no odour spikes **PM** – No odour spikes showing on trends **Monday 9th January 2017** **AM** – OM5 one small spike- no other spikes. **PM** – No odour spikes/No odour problems. Storm tanks 4 & 5 returning **Tuesday 10th January 2017** **AM** – OM1-5 & OM6-13 no odour spikes **PM** – OM5 Two spikes Max 0.025ppm both less than 15minutes duration. OM13 still not reading correctly	

Wednesday 11th January 2017 **AM** – OM1 was reading at 0.021 between 11:57am-12:10pm **PM** – No odour issues on site – nothing to report on Trends	

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**					
06/1/2017	1073	0	0	1073	5569	6642
09/1/2017	0	1424	0	1424	4573	5997
11/1/2017	0	1073	0	1073	8257	9330

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

Imported Sludge

There have been 72 imports each of $30m^3$ of sludge in the last week.

Digesters

Digesters 1-4 are permanently out of use.

Digester 13, 16 and 19 were out of use at the time of inspection.

All of the other digesters which were in use had good seals.

Digester 8 had some gassing and there was evidence of sludge spillage on the coping stone. This was reported to the TW officer at time of inspection to take action. There was contractors working around the Digesters erecting scaffolding. Automatic dosing of anti-foaming agent in now in use and TW advised that this is also applied manually as required to all operational digesters. Digesters 14 and 18 clearly had pellets in use.	
Return Activated Sludge Channel The RAS channel (which runs in the ground between FST's 61-64 & 65-67) were free flowing, there were no deposits or sludge. **West side primary settlement tanks (PST)** Rectangular PSTs are now covered and odour controlled. Circular PSTs 9, 10, 11 & 12 were all in operation with no noticeable issues and no algae build up.	
GENERAL **Final Settlement Tanks East Side of Works** The 8 circular tanks previously used as PSTs are now being used as final tanks (71-78). At the time of the inspection all 8 tanks were in operation. All 8 tanks have hose and sprinkler systems fitted onto the	

sweeper bridges. Thames Water confirmed that there were currently no issues with these tanks. There was no sign of algae build up. **East Side Screen House** The screen house now has new doors fitted, both pairs of which were closed at the time of the inspection. Thames Water confirmed all screens were in operation. **Skips** **East side** 4 x Bulk carriers covered and hatches closed (Screening House) 1 Large Bulk carrier – full and covered with tarpaulin (Grit skips ¼ full) **West side** 1 x Large Bulk carrier – empty but tarpaulin pulled over 1 x 6yard skip carrier – empty and uncovered **Pasteurisation Plant** The pasteurisation plant was in service at the time of the inspection with no reported problems. **Section 106 agreement** There have been no breaches of the s106 agreement in the last week. **West Side Aeration Lanes (Old)**	

No issues appeared evident and looked as if they were operating effectively.

New Works (West Side)

West side aeration lanes seemed to have a lot of sludge and rag that had collected in part of the lane . The TW officer had explained that MTS regularly are on site to draw out the rag and allow free flow of effluent. Thames confirmed that crews would be on site to clear this out manually.

New Inlet Works (West Side)

There were no reported issues on this part of the site.

Odour Control Unit (OCU) performance monitoring – 11/01/2017

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station outlet	0.112(av)	0.2	Yes
East OCU	0.009(av)	0.05	Yes
West inlet	0.000(av)	0.05	Yes
Sludge reception outlet	0.000(av)	0.8	Yes
Thickening plant outlet	0.065(av)	0.6	Yes
Pasteurisation plant outlet (OCU 12)	0.002(av)	0.5	Yes
Transfer PS outlet	0.005(av)	0.6	Yes
New West OCU 11 outlet	0.006(av)	0.6	Yes

Jerome reading