

Mogden Sewage Treatment Works

TW Site Inspection

Date of inspection: 07th June 2018

Attendees: Mr A Devine (London Borough of Hounslow) and Mr M Hussain (Thames Water)

LB Hounslow Observation

Thames Water Action / Response

Storm Water Storage Tanks

Tank 1A –was empty and had dry residue on the tank floor at the hopper end. Hopper 1 was approx 1/3 full, hoppers 2 & 3 were both approx <1/4 full and had started to form a crust on the surface. This tank was noted to be locally odorous.

Tank 1B – was empty and clean. Hoppers 1, 2 & 3 were all approx <1/4 full and had started to form a crust on the surface.

Tank 2A – was empty and clean. Hoppers 1, 2 & 3 were all approx <1/4 full and had started to form a crust on the surface.

Tank 2B – was empty and clean. Hoppers 1, 2 & 3 were all approx 80% full and a scum was noted to have started forming across the surface.

Tank 3A –was empty and clean. Hoppers 1, 2 & 3 drained down.

Tank 3B – was empty and had dry residue on the tank floor at the hopper end. Hopper 1 was approx $\frac{3}{4}$ full, hoppers 2 & 3 were both approx $<\frac{1}{4}$ full and had started to form a crust on the surface. This tank was noted to be locally odorous.

Tanks 4A, 4B, 5A & 5B which are covered and odour controlled were all empty - unable to gauge condition as lighting system still not working.

Tank 6A – was empty and clean. Hoppers 1, 2 & 3 were all approx $<\frac{1}{4}$ full.

Tank 6B – was empty and clean. Hoppers 1, 2 & 3 were all approx $<\frac{1}{4}$ full and had started to form a crust on the surface.

Tank 7A – was empty and clean. Hoppers 1, 2 & 3 are all shallow hoppers and were full of grit.

Tank 7B – was empty and clean. Hoppers 1, 2 & 3 are all shallow hoppers and were full of grit.

Tank 8A – was empty and clean. Hoppers 1, 2 & 3 were all approx $<\frac{1}{4}$ full.

Tank 8B – was empty and clean. Hoppers 1, 2 & 3 were all approx $<\frac{1}{4}$ full.

Feed Channel - The level of effluent in both feed channels was approximately 5% full of a thick black sludge – no local odour.

Complaints

The Council received 3 complaints in the preceding week via email

EMAIL:

On the 31st May 2018 at 19:30 an email complaint was received from a resident of Harvesters Close, Isleworth, which is located to the West of the site (ref: 973878). The complainant stated that they have been 'plagued with bad odour almost daily. Having to keep doors and windows shut. It seems sunshine or rain we have this stench'. During the inspection, the odour trends were inspected for the time of the complaint. The historic odour monitoring trends at the time of the complaint showed that there were no spikes or excessive readings around the time the complaint was made. The new inlet, aeration lanes and digesters are part of the works closest to Harvesters Close. The Storm tanks are located on the east side of the works and the AM storm water tanks logs recorded all the tanks in use while the PM log recorded uncovered storm tanks 3A to 4B were in use and hoppers 1A to 3B and 6A to 8B required overpumping but that none of the tanks required flushing. The digester records for the 31st May recorded that there were no spills. The odour log for the AM shifts on the 31st May recorded Odour monitoring 11 spiking throughout the day – max 0.037ppm until 15:30 and that Thames Water took the following action: Perimeter around digester checked several times and around E battery finals. No obvious odours found. Digester domes low as gas generation low. The odour log for the PM shift on the 31st May recorded no odour issues and nothing of note on trends. As the storm tanks are located on the east side of the site it is unlikely that these were the cause of the odour complained of and therefore it has not been possible on this occasion to identify the source of odour complained of by the resident.

On the 05th June 2018 at 16:31 an email complaint was received from a resident of Harvesters Close, Isleworth, which is located to the West of the site (ref: 973824). The complainant stated 'Yet another sunny

afternoon having to keep doors and windows shut'. During the inspection, the odour trends were inspected for the time of the complaint. The historic odour monitoring trends at the time of the complaint showed that there were no spikes or excessive readings around the time the complaint was made. The new inlet, aeration lanes and digesters are part of the works closest to Harvesters Close. The Storm tanks are located on the east side of the works and the AM storm water tanks logs recorded tanks 4A and 4B were in use and that tanks 1A and 3A needed flushing and hoppers 2B, 6A 8A and 8B required draining while the PM log recorded none of the tanks in use and hoppers 6A, 8A and 8B required overpumping but that none of the tanks required flushing. The digester records for the 05th June recorded that there were no spills. The odour log for both the AM and PM shifts on the 05th June recorded no odour issues and nothing of note on trends. As the storm tanks are located on the east side of the site it is unlikely that these were the cause of the odour complained of and therefore it has not been possible on this occasion to identify the source of odour complained of by the resident.

On the 10th June 2018 at 18:10 an email complaint was received from a resident of Wainwright Grove, Isleworth, which is located to the West of the site (ref: 973998). The complainant stated that 'last week have found the smell coming from Mogden appalling. It has affected me sitting in my garden in these wonderful summer eves and I have spoken to many residents in the area that have felt the same. The smell has severely deteriorated in the last week and am disappointed that Mogden have said they were addressing this yet the awful issue remains'. During the inspection, the odour trends were inspected for the time of the complaint. The historic odour monitoring trends at the time of the complaint showed that there were no spikes or excessive readings around the time the complaint was made. The new inlet, aeration lanes and digesters are part of the works closest to Wainwright Grove. The Storm tanks are located on the east side of the works and the AM storm water tanks logs recorded that the only uncovered tank that was in use was 4A and that none of the tanks required flushing and none of the hoppers required

overpumping while the PM log recorded uncovered tanks 4A and 4B in use, none of the tanks were recorded as requiring flushing and none of the hoppers required overpumping. The digester records for the 10th June recorded that there were no spills. The odour log for both the AM and PM shifts on the 10th June recorded no odour issues and nothing of note on trends, however the PM shift recorded that odour monitors 5, 12 and 13 were showing negative readings. Actions were recorded as being undertaken on the Am shift these were recorded as follows: Odour suppressant unit running on old west PST 9, 10 11 and 12 desludge and stocks low (39m³). Area around skips on E battery inlet hosed down. Tim called to set second odour suppressant unit up on E battery aeration lanes. Mia on site as Out of Hours Controller. As the storm tanks are located on the east side of the site it is unlikely that these were the cause of the odour complained of. Based on the actions taken on site it is likely that the source of the odour on this occasion is related to the skips, inlet area, E battery aeration lanes all located on the west side of the site.

MRAG:

On the 07th June 2018 at 16:41 an email complaint was received from MRAG. The original email was received by MRAG on 07th June 2018 at 14:34 from a resident of Wainwright Grove, Isleworth, which is located to the West of the site (ref: 973884). The complainant stated that 'It's been a while since I have complained as regards the stench from Mogden, however I have no choice now as it's so foul I can't breathe outside, nor can I have my windows open. What's going on? It hasn't been like this for a very long time. Please inform of any failures at you plant'. During the inspection, the odour trends were inspected for the time of the complaint. The historic odour monitoring trends at the time of the complaint showed that there were no spikes or excessive readings around the time the complaint was made. The new inlet, aeration lanes and digesters are part of the works closest to Wainwright Grove. The information provided to the to the Local Authority during the weekly inspection stated that due to a plant shut down there is no storm tank logs or digester records for the 07th June 2018. The odour log for the AM

shift stated that there were no odour spikes or odour problems, however Primary Settlement Tanks (PST) 9, 10, 11 and 12 were recorded as very smelly and that PSTs 9 and 12 had been back flushed and PST 9 is pumping but PST 12 is not pumping. The action recorded by Thames Water on the log is that the day works team were called to unblock PST 9 and 12. It has not been possible on this occasion to identify the source of odour complained of by the resident.

On the 08th June 2018 at 14:06 an email complaint was received from MRAG. The original email was received by MRAG on 25th March 2018 at 18:45 from a resident of Kneller Gardens, Isleworth, which is located to the South West of the site (ref: 973916). The complainant stated that there was a 'Really bad neat sewage smell in Kneller Gardens for 4 days – Friday 16th March-Monday 19th March, all four days all day long'. Due to the delay in receiving the complaint it has not been possible on this occasion to inspect the odour traces. The digesters are part of the works closest to Kneller Gardens. The Storm tanks are located on the east side of the works and the AM storm water tanks logs recorded that none of the uncovered tanks were in use and that none of the tanks required flushing and that only hoppers 1A, 6A, 8A and 8B required overpumping while the PM log recorded uncovered tanks 4A and 4B in use, none of the tanks were recorded as requiring flushing and hoppers 1A, 6A, 8A and 8B required overpumping. The digester records for the 25th March recorded that there were no spills. The odour log for both the AM shift on the 25th March recorded no odour spikes and no other issues. The PM shifts on the 25th March recorded Odour monitor 10 peaked at 0.019ppm between 18:27 to 18:42. Odour monitor 4 peaked at 0.019ppm between 22:46pm to 23:19pm. Odour monitor 4 also peaked at 0.022ppm between 00:34am to 00:49am. Odour monitor 7 peaked at 0.021ppm between 21:41pm to 22:40pm. Odour detected from PAS area. Unable to identify exact source. OCU 12 running. Odour suppression units running in thickening area already. As the storm tanks are located on the east side of the site it is unlikely that these were the cause of the odour complained of. Based on the information provided in the odour log it is likely that the odour complained of on this occasion

was related to the odour detected in the PAS area which could relate to elevated readings recorded by Odour monitor 10 near the time of the complaint. This monitor is located to the south/southwest of the site.

On the 09th June 2018 at 12:33 an email complaint was received from MRAG. The original email was received by MRAG on 09th June 2018 at 11:32 from a resident of Kneller Gardens, Isleworth, which is located to the South West of the site (ref: 973997). The complainant stated that 'I am a resident in Kneller Gardens. I am emailing to make you aware that the odour in the area has been strong for about 3 days. It is unpleasant and can at times be smelt inside the house'. During the inspection, the odour trends were inspected for the time of the complaint. The historic odour monitoring trends at the time of the complaint showed that there were no spikes or excessive readings around the time the complaint was made. The new inlet, aeration lanes and digesters are part of the works closest to Kneller Gardens. The Storm tanks are located on the east side of the works and the AM and PM logs recorded that the only uncovered tanks that were in use was tanks 4A and 4B and that none of the tanks required flushing and none of the hoppers required overpumping. The digester records for the 9th June recorded that there were no spills. The odour log for both the AM and PM shifts on the 9th June recorded no odour issues and nothing of note on trends, however the AM shift recorded PSTs 9, 10, 11 and 12 were smelly and that sludge stocks reduced in PST 9 and 12. Thames Water recorded that an odour unit is running in this area. As the storm tanks are located on the east side of the site it is unlikely that these were the cause of the odour complained of. It has not been possible on this occasion to identify the source of odour complained of by the resident.

TELEPHONE:

On the 9th June 2018 at approx 17:25 a telephone complaint was received from a resident of Harvesters Close, Isleworth (ref: 974226). The duty officer contacted the complainant at 17:37 'who stated that the odour had ceased'. The duty officer explained that if the odour returned

and was affecting them at their property to contact the out of hours' team again. During the inspection, the odour trends were inspected for the time of the complaint. The historic odour monitoring trends at the time of the complaint showed that there were no spikes or excessive readings around the time the complaint was made. The new inlet, aeration lanes and digesters are part of the works closest to Kneller Gardens. The Storm tanks are located on the east side of the works and the AM and PM logs recorded that the only uncovered tanks that were in use was tanks 4A and 4B and that none of the tanks required flushing and none of the hoppers required overpumping. The digester records for the 9th June recorded that there were no spills. The odour log for both the AM and PM shifts on the 9th June recorded no odour issues and nothing of note on trends, however the AM shift recorded PSTs 9, 10, 11 and 12 were smelly and that sludge stocks reduced in PST 9 and 12. Thames Water recorded that an odour unit is running in this area. As the storm tanks are located on the east side of the site it is unlikely that these were the cause of the odour complained of. It has not been possible on this occasion to identify the source of odour complained of by the resident.

On the 10th June 2018 at approx 14:09 a telephone complaint was received from a resident of Harvesters Close, Isleworth (ref: 974228). The duty officer contacted the complainant at 14:30 who stated that the odour was not present. The Duty Officer stated that the odour would need to be present and affecting them at their property' The complainant then stated that he would like a visit and the odour is currently coming and going. The duty officer visited the area at approximately 15:23 and took H²S readings. The average of these readings was 0.00ppm. A subjective assessment of the odour was also made and odour was noted to be present. While on site the Duty Officer contacted the Thames Water Out of Hours Controller (OHC) and explained the situation. The Thames Water OHC confirmed that they would contact site and if required make a site visit. The Thames Water OHC called the Duty Officer back and confirmed that they were on site and had carried out the following actions: Area around skips on E battery inlet hosed down and set second odour suppressant unit up on E battery aeration lanes.

During the inspection, the odour trends were inspected for the time of the complaint. The historic odour monitoring trends at the time of the complaint showed that there were no spikes or excessive readings around the time the complaint was made. The new inlet, aeration lanes and digesters are part of the works closest to Wainwright Grove. The Storm tanks are located on the east side of the works and the AM storm water tanks logs recorded that the only uncovered tank that was in use was 4A and that none of the tanks required flushing and none of the hoppers required overpumping while the PM log recorded uncovered tanks 4A and 4B in use, none of the tanks were recorded as requiring flushing and none of the hoppers required overpumping. The digester records for the 10th June recorded that there were no spills. The odour log for both the AM and PM shifts on the 10th June recorded no odour issues and nothing of note on trends, however the PM shift recorded that odour monitors 5, 12 and 13 were showing negative readings. Actions were recorded as being undertaken on the Am shift these were recorded as follows: Odour suppressant unit running on old west PST 9, 10 11 and 12 desludge and stocks low (39m³). Area around skips on E battery inlet hosed down. Tim called to set second odour suppressant unit up on E battery aeration lanes. Mia on site as Out of Hours Controller. As the storm tanks are located on the east side of the site it is unlikely that these were the cause of the odour complained of. Based on the actions taken on site and the site visit made by the Duty officer and the Updates from the Thames Water OHC it is likely that the source of the odour on this occasion is related to the skips, inlet area, E battery aeration lanes all located on the west side of the site.

On the 10th June 2018 at approx 14:10 a telephone complaint was received from a resident of Harvesters Close, Isleworth (ref: 974229). The complainant was contacted by the duty Officer at 14:30 in an attempt to confirm the odour was still apparent and in order to witness the nuisance however the number that the duty officer was given was incorrect as it went through to a member of the public that did not make the complaint. The number was confirmed with the out of hours call

centre. However, the duty officer did make a visit to the area in relation to another complaint, please see details of this above.

On the 10th June 2018 at approx 16:24 a telephone complaint was received from a resident of Harvesters Close, Isleworth (ref: 974230). The duty officer contacted the complainant at 16:27 who stated that 'the odour for the last two weeks had been a really disgusting bad odour and that there had been a much stronger odour from Mogden. The Duty Officer explained that they had been out to the area only recently (15:23) to take readings in Harvesters Close and that they were not shown to be excessive. The Duty Officer then explained that they had identified odour while on site and had contacted the Thames Water OHC. Full details of this can be seen above, including the potential source of the odour complained of.

Odour Monitors

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

***reading showing a date and time of 6/06/18 15:53. May indicate an issue with this monitor.**

Monitor 1	0.005	ppm	12:45
Monitor 2	0.003	ppm	12:45
Monitor 3	0.000	ppm	12:45
Monitor 4	0.000*	ppm	12:45
Monitor 5	0.004	ppm	12:45
Monitor 6	0.003	ppm	12:45
Monitor 7	0.006	ppm	12:45
Monitor 8	0.005	ppm	12:45
Monitor 9	0.005	ppm	12:45
Monitor 10	0.000	ppm	12:45
Monitor 11	0.005	ppm	12:45
Monitor 12	0.000	ppm	12:45
Monitor 13	0.003	ppm	12:45

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

Wednesday 30th May 2018

Observations AM: No odour spikes. No other issues.

Actions: None.

Observations PM: Odour monitor 5 – 2 spikes at 17:58 (0.017ppm) but less than 15 minutes and 22:43 (0.018ppm) but less than 15 minutes. Odour monitor 9 spiked at 19:30 (max 0.020ppm) but less than 15 minutes' duration.

Actions: None.

Thursday 31st May 2018

Observations AM: Odour monitoring 11 spiking throughout the day – max 0.037ppm until 15:30.

Actions: Perimeter around digester checked several times and around E battery finals. No obvious odours found. Digester domes low as gas make low.

Observations PM: No odours reported or found. No spikes on trends.

Actions: None.

Friday 1st June 2018

Observations AM: Odour monitor 11 spiked to max 0.022 ppm at 09:47am until 10:47am. Odour monitor 11 spiked to max 0.024ppm at 12:17pm to 13:14pm.

Actions: Area checked around digester. No gassing off found. Nothing of note found around E battery final settlement tanks.

Observations PM: No odour spikes. No other issues.

Actions: None.

Saturday 2nd June 2018

Observations AM: Odour monitor 8 spiked to 0.021ppm at 10:15am but less than 15 minutes. Odour monitor 1 spiked to 0.054ppm at 14:24pm but less than 15 minutes.

Actions: None.

Observations PM: No observations made on sheet.

Actions: None.

Sunday 3rd June 2018

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

Actions: None.

Observations PM: No odour spikes. No other issues

Actions: None.

Monday 4th June 2018

Observations AM: Odour monitors 1 to 13 no spikes.

Actions: None.

Observations PM: No odour spikes. No other issues.

Actions: None.

Tuesday 5th June 2018

Observations AM: Odour monitor 1 to 13 no spikes.

Actions: None.

Observations PM: No odour spikes.

Actions: None.

Wednesday 6th June 2018

Observations AM: Odour monitor 1 to 13 no spikes.

Actions: None.

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

Actions: None.

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					
02/06/18	1248	1256	305	2809	3083	5892
03/06/18	1206	1393	183	2782	5237	8019
04/06/18	1245	1969	0	3214	4569	7783

The sludge stock levels for the West side circular primary settlement tank 1 were **NOT** compliant with the OMP trigger level (500m³) for all of the dates for which data has been provided.

While on site Thames Water stated that there was a blockage on final settlement tank 9 which caused a build-up of sludge in these tanks. Thames water advised that this has now been addressed.

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.

Digesters

Digesters 1-4 - Out of use (permanent).

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

Digester 6 - in use - good seal with no signs of spillages.

Digester 7 - in use - seal weak watery and gassy in some part. No signs of spillages at time of inspection, however this digester had started gassing off.

Digester 8 - in use - seal weak watery but stable. No signs of spillages.

Digester 9 - in use - seal weak watery but stable. No signs of spillages.

Digester 10 - in use - seal weak watery but stable. No signs of spillages.

Digester 11 - in use - seal weak watery but stable. No signs of spillages.

Digester 12 - in use - seal weak watery but stable. No signs of spillages.

Digester 13 - Out of use.

Digester 14 - Out of use.

Digester 15 - in use - seal weak watery but stable. There were signs of an historic spillage on the coping stones. Thames Water advised that they would clean it up while on site.

Digester 16 - Out of use.

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

Digester 18 - in use - seal thick and stable (Pellets used). No signs of spillages.

Digester 19 - in use - seal weak watery but stable. No signs of spillages.

<p>Digester 20 - in use - seal weak watery but stable. No signs of spillages.</p> <p>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.</p>	
<p><u>GENERAL</u></p> <p><u>Return Activated Sludge Channel</u> The nearside RAS channel (which runs in the ground between FST's 61-64 & 65-67) was relatively free flowing but was clogged along approx <math>\frac{1}{4}</math> of its length on the nearside channel with thick sludge.</p> <p><u>West side primary settlement tanks (PST)</u> Rectangular PSTs are now covered and odour controlled. Circular PSTs 9, 10, 11 & 12 were all in operation at the time of the inspection, all had clean fat free surfaces.</p> <p><u>Sludge Screening House</u> Shutter doors closed at time of inspection - no local odours.</p> <p><u>Imported Sludge</u> Eight imports of 35m³ daily for preceding week (Monday - Friday).</p> <p><u>Final Settlement Tanks East Side of Works</u> The 8 circular tanks previously used as PSTs are now being used as final tanks (71-78).</p>	

Skips

2 x empty 14yd skip (Grit house) one empty and uncovered and one for general waste. There was also one rag skip which was open and uncovered.

2 x 14yd open skip empty and uncovered.

East Side Screen House

All doors closed at time of inspection.

Pasteurisation Plant

The pasteurisation plant is in service and 9 of 12 streams are running.

West Side Aeration Lanes (Old)

No issues appeared evident.

New Works (West Side)

Feed channel for aeration lanes 20 to 22 were blocked and a thick crust had formed on the surface. Feed channel for aeration lanes 23 to 25 were blocked and were noted to be odorous.

The aeration lanes were noted to be generally covered with a “thick fluffy” coverage across surface –sprinklers were in operation at time of inspection. However at the inlet for these tanks they were blocked and the surface was covered with a thick solid scum including rag which was noted to be odorous.

These odour issues were raised with Thames Water during the inspection.

Odour Control Unit (OCU) performance monitoring - (06/06/18)

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station inlet	0.00 0.00 0.00	Unknown	Unknown
Main pumping station outlet	0.00 0.00 0.00	0.2	Yes
East OCU	0.00 0.00 0.00	0.05	Yes
West inlet OCU	0.00 0.00 0.00	0.05	Yes
Sludge reception inlet	No Data	Unknown	Unknown*
Sludge reception outlet	No data	0.8	Unknown*
Thickening plant inlet	0.00 0.00 0.00	Unknown	Unknown
Thickening plant outlet	No data	0.6	Unknown**
Transfer PS inlet	No Data	Unknown	Unknown
Transfer PS outlet	No data	0.6	Unknown***
New West inlet (OCU 11)	0.00 0.00 0.00	0.5	Yes
OCU 12 (Pasteurization Plant)	0.00 0.00 0.00	0.5	Yes

- * Import screens currently out of use and therefore OCU readings not recorded.
- ** Readings not provided by Thames Water
- *** Readings not provided by Thames Water