



# London Borough of Hounslow

## Mogden Sewage Treatment Works

### TW Site Inspection

<b>Date of inspection:</b> 14 <sup>th</sup> June 2018	
<b>Attendees:</b> Mr Steven Maunders (London Borough of Hounslow) and Mr Manzoor Hussain (Thames Water)	
<b>LB Hounslow Observation</b>	<b>Thames Water Action / Response</b>
<p><b><u>Storm Water Storage Tanks (SWST)</u></b></p> <p><b>Tank 1A</b> – Tank empty and flushed - approximately 40% of tank covered by dried grit and sludge – requires further flushing. Hoppers 1, 2 &amp; 3 drained down to bottom level.</p> <p><b>Tank 1B</b> – Tank empty and flushed clean - approximately 20% of tank covered by dried grit and sludge – requires further flushing. Hoppers 1, 2 &amp; 3 drained down to bottom level.</p> <p><b>Tank 2A</b> – Tank empty and flushed clean - Hoppers 1, 2 &amp; 3 drained down to bottom level.</p> <p><b>Tank 2B</b> – Tank empty and flushed - approximately 30% of tank covered by dried grit and sludge – requires further flushing - Hoppers 1, 2 &amp; 3 drained down to bottom level.</p> <p><b>Tank 3A</b> – Tank empty and flushed clean -- approximately 10% of tank covered by dried grit and sludge – requires further flushing - Hoppers 1, 2 &amp; 3 drained down to bottom level.</p> <p><b>Tank 3B</b> – Tank empty and flushed - approximately 15% of tank</p>	

covered by grit – requires further flushing – Hoppers 2 & 3 drained down to bottom level. Hopper 1 approximately 50% - requires flushing/over-pumping.

**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** – Tank empty and flushed - approximately 5% of tank covered by dried grit and sludge – requires further flushing. – Hoppers 1 & 3 drained down to bottom level. Hopper 2 approximately 30% - requires flushing/over-pumping.

**Tank 6B** – Tank empty and flushed - approximately 20% of tank covered by dried grit and sludge – requires further flushing. Hoppers 1, 2 & 3 drained down to 30% - requires flushing/over-pumping.

**Tank 7A** – Tank empty and flushed clean - approximately 20% of tank covered by dried grit and sludge – requires further flushing - Hoppers 1, 2 & 3 drained down to bottom level.

**Tank 7B** – Tank empty and flushed clean – approximately 15% of tank covered by dried grit and sludge – requires further flushing - Hoppers 1, 2 & 3 drained down to bottom level.

**Tank 8A** – Tank empty and flushed clean. Hoppers 2 & 3 full of effluent water – surface of green algae. Hopper 1 approximately 30% - requires flushing/over-pumping.

**Tank 8B** – Tank empty and flushed - approximately 10% of tank covered by dried grit and sludge – requires further flushing. Hoppers 1, 2 & 3 drained down to bottom level.

**Feed Channel** - The level of effluent in both feed channels was low – approximately 5-10% - almost bottomed out in places – some grit and sludge. Large quantity of accumulated grit/sludge and rag attached to ladders and back of gates – some local odour – requires removal and flushing.

## Complaints

**The Council directly received no complaints by telephone in the preceding week.**

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

**On 9<sup>th</sup> June 2018 at 11:32 an email was received advising:**

"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. Please advise on what the council and Thames water are doing to address this".

The odour log for AM shift on 9<sup>th</sup> June detailed: "No odour spikes. PST's 9,10,11,12 smelly. Sludge stocks reduced in PST 9 and 12. Odour unit running in area."

The historic odour monitoring trends for all OMU's within the vicinity showed maximum levels of .005ppm during this period.

**On 10<sup>th</sup> June 2018 at 08:10 an email was received advising:**

I live at 26 wainwright grove and for the 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. I truly hope this situation will be addressed and rectified".

The odour log for AM shift on 10<sup>th</sup> June detailed:

"No odour spikes showing on Trends. Odour Complaints. Odour suppressant unit running on old West, PST's 9,10,11,12 de-sludge and stocks low (39m<sup>3</sup>). Area around skips on E Battery inlet hosed down. Tim called to set second odour suppressant unit up on E Battery aeration lanes. MEA on site as OHC."

The historic odour monitoring trends for all OMU's within the vicinity showed maximum levels of .005ppm during this period.

**The Council received one complaint by email from MRAG.**

**On 8<sup>th</sup> June 2018** an email was received via MRAG at 14:06 – forwarding a communication regarding an incident reported to them at 18:45 on 25/03/18 (11 weeks previously). No data search conducted

***Thames Water controller advised that they had received no direct complaints in the preceding week (although this contradicts Odour Log).***

**Odour Monitors**

The odour readouts (H<sub>2</sub>S) for all of the monitors, which were providing data at time of inspection:

Monitor 1	0.005	ppm	13:15
Monitor 2	0.000	ppm	13:15
Monitor 3	0.000	ppm	13:15
Monitor 4	0.000	ppm	13:15
Monitor 5	0.004	ppm	13:15
Monitor 6	0.004	ppm	13:15
Monitor 7	0.005	ppm	13:15
Monitor 8	0.008	ppm	13:15
Monitor 9	0.004	ppm	13:15
Monitor 10	0.000	ppm	13:15
Monitor 11	0.005	ppm	13:15
Monitor 12	0.000	ppm	13:15
Monitor 13	0.000	ppm	13:15
Wind Speed	10	mph	
Wind Direction	236°		

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

**Thursday 7<sup>th</sup> June 2018:**

**AM** – Warm with Sun and light cloud.

No OMU data.

**Observations:** “No odour spikes. No odour problems. PST 9,10,11,12 VERY SMELLY. PST 9 back flushed/pumping now. PST 12 back flushed/not pumping.”

**Actions:** “Day works called to unblock PST 9 and 12.”

**PM** – Cool/Warm with partial Sun and heavy cloud.

No OMU data.

**Observations:** “No odour issues. Nothing to report on Trends.”

**Actions:** None noted.

**Friday 8<sup>th</sup> June 2018:**

**AM** – Warm with clear Sun.

No OMU data.

**Observations:** “No odour spikes. PST’s 9 and 12 both back pumping.”

**Actions:** None noted.

**PM** – Cool with Sun and heavy cloud.

No OMU data.

**Observations:** “OM 1-5 = No spikes. 6-13 = No spikes.”

**Actions:** None noted.

**Saturday 9<sup>th</sup> June 2018:**

**AM** – Warm with Sun and partial cloud.

All OMU’s in use.

**Observations:** “No odour spikes. PST’s 9,10,11,12 smelly. Sludge stocks reduced in PST 9 and 12.”

**Actions:** “Odour unit running in area.”

**PM** – Cool with Sun, heavy cloud and rain.

No OMU data.

**Observations:** “OM 1-5 No spikes. 6-13 No spikes.”

**Actions:** None noted.

**Sunday 10<sup>th</sup> June 2018:**

**AM** – No observations noted.

No OMU' data.

**Observations:** "No odour spikes showing on Trends. **Odour Complaints.**"

**Actions:** "Odour suppressant unit running on old West, PST's 9,10,11,12 de-sludge and stocks low (39m<sup>3</sup>). Area around skips on E Battery inlet hosed down. Tim called to set second odour suppressant unit up on E Battery aeration lanes. MEA on site as OHC."

**PM** – Cool.

OMU's 5, 12 and 13 out of use.

**Observations:** "OM 1-5 – No spikes – Mon 5 reading Negative. OM 6-13 – No spikes. Monitors 12 + 13 – Negative reading."

**Actions:** None noted.

**Monday 11<sup>th</sup> June 2018:**

**AM** – Hot with clear Sun.

OMU - All OMU's in use.

**Observations:** "No issues on site. No spikes on Trends."

**Actions:** None noted.

**PM** – Cool with Sun and light cloud.

OMU 10 out of use.

**Observations:** "Odour Complaint received by WOCC at 23:50hrs. OM 1-5 = No spikes. 6-13 = No spikes."

**Actions:** "Tech 1 visited area approx. 20:00 and at MN. Only odour was from ASP. Monitors not recording any problems."

**Tuesday 12<sup>th</sup> June 2018:**

**AM** – Warm with Sun and light cloud.

All OMU's in use.

**Observations:** "No spikes on Trends. No odours issues."

**Actions:** None noted.

**PM** – Cool with Sun with light cloud.

OMU's 1-5 in use. No data for other OMU's

**Observations:** "No odour spikes. No odour actions taken."

**Actions:** None noted.

**Wednesday 13<sup>th</sup> June 2018:**

**AM** – Warm with Sun and light cloud.

All OMU's in use.

**Observations:** "No odour spikes on site. No spikes on Trends."

**Actions:** None noted.

**PM** – Hot with Sun and light cloud.

All OMU's in use.

**Observations:** "Trends showing no odour spikes. No odour problems."

**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 <sup>3</sup>					
OMP limit	500					
09/06/18	127	2422	305	2854	3083	5937
12/06/18	982	970	122	2074	1777 (TW figure 2077)	3851 (TW figure 4151)
13/06/18	523	1008	0	1531	1601	3132

The sludge stock levels for the West side circular primary settlement tank 1 were **compliant** with the OMP trigger level (500m<sup>3</sup>) for only one of the dates for which data has been provided.

Explanation provided by Thames Water with regards to elevated levels on 12/06/18 and 13/06/18: **“Elevated sludge stocks on West PST’s due to extra supernatant and NOT sludge.”**

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.

### 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 – seal level approx. 4ft below coping stones – good seal.

**Digester 6** - in use – seal level approx. 3ft below coping stones – good



sea.

**Digester 7** - in use – seal level approx. 5ft below coping stones – seal weak and bubbling vigorously – Bell height high – requires draw down of biogas.

**Digester 8** – in use – seal level approx. 6ft below coping stones – seal weak and bubbling.

**Digester 9** - in use – seal level approx. 3ft below coping stones – seal weak and bubbling.

**Digester 10** – in use – seal level approx. 3ft below coping stones – seal weak and bubbling.

**Digester 11** - in use – seal level approx. 2ft below coping stones – seal weak and bubbling.

**Digester 12** - in use – seal level approx. 2ft below coping stones – seal weak and bubbling.

**Digester 13** - out of use – empty and clean – contractor on site undertaking maintenance.

**Digester 14** - out of use – empty and clean – contractor on site undertaking maintenance.

**Digester 15** - in use – seal level approx. 2ft below coping stones – seal weak and bubbling vigorously – ongoing spill from tank requiring clean-up.

**Digester 16** - out of use – empty and clean – contractor on site undertaking maintenance.

**Digester 17** - in use – seal level approx. 2ft below coping stones – good seal – stones in use.

**Digester 18** -- in use – seal level approx. 2ft below coping stones – good seal – stones in use.

**Digester 19** -- in use – seal level approx. 3ft below coping stones – seal weak and bubbling – Bell height high – requires draw down of biogas.

**Digester 20** - in use – seal level approx. 3ft below coping stones - seal weak and bubbling – Bell height high – requires draw down of biogas.

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.

3x full, 3x partially filled & 5x empty tanks of anti-foaming agent seen positioned throughout area. Installation of “auto-dosing” for anti-foam agent to all digesters operational – currently using 2-3 tanks weekly.

## **GENERAL**

### **Sludge Screening House**

Shutter doors open at time of inspection – contractor hosing down area. No local odours.

### **Imported Sludge**

No data regarding imports 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).

### **Skips**

1x empty open large skip and 1x large open general waste skip positioned in service road by FST's 71-78.

1x large enclosed general waste skip in Service Road (lower) by Power House.

1x large open rag skip covered with yellow tarpaulin and 2x enclosed rag skips located by PST's 9-12 - awaiting collection.

1x empty small grit slips. – Ongoing spill from plant above – with ponded sludge/grit and rag hanging from plant – requires removal.

2x open skip in use for transfer materials from mobile screening plant located by Pasteurisation Plant.

### **East Side Screen House**

All doors closed.

### **Pasteurisation Plant**

The pasteurisation plant is in service and 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)**

Battery C aeration feed channel approximately 30% obstructed in one channel – requires jetting.

### **New Works (West Side)**

Feed Channel for Aeration Lanes 23-25 totally obstructed and Aeration Lane 21 approximately 75% obstructed – requires jetting.

100% 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.

**Odour Control Unit (OCU) performance monitoring – (14/06/18)**

<b>Plant</b>	<b>Reading (ppm)</b>	<b>Action Level (ppm)</b>	<b>Compliant</b>
Main pumping station inlet	0.272 0.300 0.291	Unknown	Unknown
Main pumping station outlet	0.000 0.000 0.000	0.2	Yes
East OCU	0.000 0.000 0.000	0.05	Yes
West inlet OCU	0.000 0.000 0.000	0.05	Yes
Sludge reception inlet	Out of Service	Unknown	Unknown
Sludge reception outlet	Out of Service	0.8	Yes
Thickening plant inlet	0.000 0.000 0.000		Unknown
Thickening plant outlet	0.000 0.000 0.000	0.6	Yes
Transfer PS inlet	No Data	Unknown	Unknown
Transfer PS outlet	0.000 0.000 0.000	0.6	Yes
New West inlet (OCU 11)	0.000 0.000	0.5	Yes

	0.000			
OCU 12 (Pasteurisation Plant)	0.000	0.5	Yes	
	0.000			
	0.000			