



**Mogden Sewage Treatment Works**

**TW Site Inspection**

<b>Date of inspection:</b> Wednesday 1 <sup>st</sup> July 2020 (12:00am)	
<b>Attendees:</b> Mr I Inman (London Borough of Hounslow) and Ms C Page (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> was empty and clean. Hoppers 1 and 3 were all approx 40% full and require draining down, hopper 2 was empty.</p> <p><b>Tank 1B</b> was empty and clean. Hoppers 1, 2 and 3 were all &lt;25% full of fresh final effluent.</p> <p><b>Tank 2A</b> was empty and clean. Hoppers 1 and 2 were approx 25% full, hopper 3 was completely full, all required draining down. TW advised hopper 3 was blocked.</p> <p><b>Tank 2B</b> was empty and clean except for large areas of dry grit at the top end of the tank. Hopper 1 was completely full, hoppers 2 and 3 was approx 30% full, all require draining down. TW advised hopper 1 was blocked.</p> <p><b>Tank 3A</b> was empty and clean. Hoppers 1, 2 and 3 were all approx 25% full and require draining down.</p>	

**Tank 3B** was empty and clean although dry surface grit was evident across parts of the tank floor.

Hoppers 1, 2 and 3 were all approx 45% full and require draining down.

**Tanks 4A, 4B, 5A & 5B** All tanks are covered and odour controlled. Unable to gauge condition as lighting system still not working.

**Tank 6A** was empty and clean.

Hoppers 1, 2 and 3 were all approx 25% full, all require draining down.

**Tank 6B** was empty and clean although there was dry surface grit along the left side of the tank.

Hoppers 1 and 2 were approx 30% full, hopper 3 was 50% full, all require draining down.

**Tank 7A** was empty and clean although dry surface grit was evident across parts of the tank floor.

Hoppers 1, 2 and 3 (shallow hoppers) were all full of stagnant green water and require cleaning.

**Tank 7B** was empty but almost the entire surface area of the tank floor was covered with dry sludge.

Hoppers 1, 2 and 3 (shallow hoppers) were all full of stagnant green water and require cleaning.

**Tank 8A** was empty and clean.

Hoppers 1, 2 and 3 were all full and require draining down.

TW advised all 3 hoppers are currently blocked. It was noted that odour was present.

**Tank 8B** was empty and clean.

Hoppers 1, 2 and 3 were all full and require draining down.

TW advised all 3 hoppers are currently blocked.

**Feed Channel** - The level of effluent in both feed channels was low along its entire length.

A number of the storm tank hoppers were deemed to be in a poor state and offensive odour was present.

Thames were advised that this area of the works needs urgent attention.

### **Complaints**

The Council has received 6 complaints by email in the preceding week.

On 24<sup>th</sup> June a resident of Runnymede Road, Twickenham emailed the Council at 0.25am to complain of odour (logged under ref: A00188).

On 25<sup>th</sup> June a resident of Ellerdine Road, Hounslow emailed the Council at 10:15am and again at 10:24am to complain of odour (logged under ref: A00222 and A00252).

On 25<sup>th</sup> June a resident of Central Avenue, Hounslow emailed the Council at 16:30pm to complain of odour (logged under ref: A00265).

On 25<sup>th</sup> June a resident of Hall Road, Hounslow emailed the Council at 19:24pm to complain of odour (logged under ref: A00317).

On 25<sup>th</sup> June a resident of Whitton Road, Hounslow emailed the Council to complain of odour (logged under ref: A00295).

The historic monitoring trends provide the following information:

**On 24/06/2020:**

**OM3** spiked at 0.099ppm between 05:30-05:48am.

**OM2** spiked at 0.014ppm between 12:42-13:00pm.

**On 25/06/2020:**

**OM3** spiked at 0.027ppm between 00:15-00:31am, then 0.032ppm between 00:32-00:48am, then 0.031ppm between 01:33-01:48am, then 0.037ppm between 02:03-02:45am.

**OM2** spiked at 0.025ppm between 05:50-06:12am, then 0.011ppm between 07:10-07:28am, then 0.013ppm at 09:14am.

**On 26/06/2020:**

**OM5** spiked at 0.023ppm between 00:48-01:50am.

**OM3** spiked at 0.032ppm between 02:45-03:03am.

**OM4** spiked at 0.020ppm between 04:05-04:17am.

TW advised of a possible bio gas main shutdown last week and a local pumping station blockage on the network that may have added to the problem.

**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	0.000	ppm	12.00pm
Monitor 2	0.004	ppm	12.00pm
Monitor 3	0.000	ppm	12.00pm
Monitor 4	0.000	ppm	12.00pm
Monitor 5	-0.003	ppm	12.00pm
Monitor 6	0.000	ppm	12.00pm
Monitor 7	0.004	ppm	12.00pm
Monitor 8	0.000	ppm	12.00pm
Monitor 9	0.003	ppm	12.00pm
Monitor 10	0.000	ppm	12.00pm
Monitor 11	0.000	ppm	12.00pm
Monitor 12	0.000	ppm	12.00pm
Monitor 13	0.000	ppm	12.00pm
Wind Speed	11.157	mph	12.00pm
Wind Direction	264.745		12.00pm

**Odour Log (Thames)**

**Wednesday 24<sup>th</sup> June 2020**

**DAY SHIFT**

**Temp.** Very hot.

**Weather.** Sunny.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** OM2 0.015ppm 12:47-12:57 <15mins.

OM3 0.098ppm 5:31-5:49.

**Operational issues / causes observed.** Areas in vicinity of OM3 checked but no sources of odour found.

**Actions Taken.** Blank.

#### **NIGHT SHIFT**

**Temp.** Warm.

**Weather.** Clear night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:00.

**Observations / Customer Complaint.** OM3 spiked on and off between 00:15-02:15, max 0.037ppm

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

#### **Thursday 25<sup>th</sup> June 2020**

#### **DAY SHIFT**

**Temp.** Very hot.

**Weather.** Sunny.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** No odour problem.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

#### **NIGHT SHIFT**

**Temp.** Warm.

**Weather.** Clear night.

**Odour Readings.** All OMU's in use.

**Time:** 05:00.

**Observations / Customer Complaint.** OM3 spiked at 02:47-03:02, max 0.032ppm.

OM9 spiked at 04:30-04:45, max 0.022ppm.

**Operational issues / causes observed.** Area checked No: 16 Digester gassing off (OM9), waste gas burner failed to start in auto.

**Actions Taken.** Manually intervened and burnt down digester bell heights to 24.5m

**Friday 26<sup>th</sup> June 2020**

**DAY SHIFT**

**Temp.** Very hot.

**Weather.** Sunny.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** No odour issues.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Warm.

**Weather.** Clear night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** OM2 0.030ppm 03:04-03:49.

**Operational issues / causes observed.** East inlet area checked, no source found.

**Actions taken.** Blank.

**Saturday 27<sup>th</sup> June 2020**

**DAY SHIFT**

**Temp.** Hot.

**Weather.** Rain w/sunny.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** No odour problem.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Clear night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** OM3 0.030ppm 1:47-2:03.

**Operational issues / causes observed.** Area checked no source found.

**Actions Taken.** Blank.

**Sunday 28<sup>th</sup> June 2020**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Rain w/sunny spells.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** OM2 spiked to 0.046ppm at 08:30, less than 15 minutes.

**Operational issues / causes observed.** Odour complaint from Weavers Close reported but wind direction going wrong way, East inlet works checked and washed down.

**Actions Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Clear night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** No odour issues.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

**Monday 29<sup>th</sup> June 2020**

**DAY SHIFT**

**Temp.** Cool.

**Weather.** Sunny w/patchy clouds.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** OM2 0.023ppm at 07:37-07:59, and 0.029ppm at 09:39 for less than 15 mins.

OM3 0.021ppm at 16:48-17:03.

**Operational issues / causes observed.** East inlet and OCU11.

**Actions Taken.** Blank

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Clear night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** OM3 0.020ppm 19:33-19:48,

0.020ppm 22:03-22:18.

**Operational issues / causes observed.** OCU11 high ppb output due to chemical dosing off.

**Actions Taken.** Blank.

**Tuesday 30<sup>th</sup> June 2020**

**DAY SHIFT**

**Temp.** Blank.

**Weather.** Blank.

**Odour Readings.** All OMU's in operation.

**Time:** Blank.

**Observations / Customer Complaint.** Blank.

**Operational issues / causes observed.** Blank.

**Action Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Overcast night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** No odour issues.

**Operational issues / causes observed.** Blank

**Actions Taken.** Blank.



### **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					
26/06/2020	0	473	183	656	2072	2728
29/06/2020	39	328	183	550	1920	2470
01/07/2020	0	412	661	1073	2418	3491

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.

### **Imported Sludge**

There has been an average of 10 imports of sludge daily over the last week.

### **No.5 Pumping Station**

The doors and windows of No.5 pumping station were open at the time of the inspection and strong offensive odour was present.

### **Sludge Import Area**

It was noted that the sludge import area was in a very poor condition. A tank leak had occurred and sludge had spilled out across the surrounding area and around the skips. Small insects were visible in large numbers and odour was present. TW were advised this needed to be addressed urgently.

### **Raw Sludge Screening House**

The large roller shutter door of the Raw Sludge Screening building was closed at the time of the inspection.

### **Digesters**

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

Thames advised of a long term project currently initiated to bring these units back into service that will require significant investment.

**Digesters 5 and 6** were both in service but had wet sloppy seals.

**Digester 7** was out of service.

**Digesters 8, 9 and 10** were all in service but had wet sloppy seals.

**Digesters 11, 12 and 13** were all in service but had wet seals that were all bubbling off gas.

**Digesters 14 and 15** were both out of service.

**Digester 16** was in service but had a very high bell and was bubbling spitting heavily.

TW contacted the controller during the inspection so gas could be drawn off.

**Digester 17** was in service but had a wet sloppy seal.

**Digester 18** was out of service.

**Digester 19** was in service but had wet sloppy seal.

**Digester 20** was in service and had a good dry seal.

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.

The area around all digesters was much improved with no evidence of recent or historical sludge spills. Thames advised they have been actively undertaking regular clean-ups of this area of the works.

## **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).

All tanks were operational at the time of the inspection.

### **Skips**

On the East side there was one 20yds open bulk carrier that contained general inert rubbish and had been on site for a number of months. TW were requested to arrange its removal ASAP.

In the Sludge Import area was a part covered 8yds open skip that contained general rubbish and a very small amount of grit.

On the service road next to the raw sludge screening building was an uncovered 8yds open skip that was approx 30% full of rag.

On the West side there was one 20yds open bulk carrier that was empty.

### **East Side Screen House**

The doors at both ends of the screen house building were propped open at the time of the inspection.

TW advised this was due to a fire alarm issue and a job had been raised with their contractor. TW confirmed all screens were in operation.

### **Return Activated Sludge Channel**

The nearside RAS channel (which runs in the ground between FST's 61-64 & 65-67) was free flowing and clear.

The far side channel was partially clogged along approx 30% of its length, was visibly crusty in areas and had weeds growing out of it.

### **West side primary settlement tanks (PST)**

Rectangular PSTs are now covered and odour controlled.  
TW advised no issues.

Circular PST 10 was out of service.

PST's 9, 11 and 12 were all in use and had relatively fat free surfaces but with some floating debris. PST12 also had a large area of green algae across part of its surface.

### **Pasteurisation Plant**

The pasteurisation plant is in service. TW advised 10 streams are currently operational.

### **Section 106 agreement**

There have been no breaches of the s106 agreement in the last week.

### **West Side Aeration Lanes (New)**

All lanes are now much improved and appeared to be free flowing, with the internal dividing walls being visible again.

However, a number of the sprinklers were clogged with pondweed and floating debris was present around these areas.

The mixed liquor feed channel serving aeration lanes 22 to 25 of E-Battery was clogged with thick dark scum (appearing black in places) and floating debris.

TW were advised they should consider using a tanker crew to undertake a clearance of all clogged areas.

**New Inlet Works (West Side)**

No issues appeared evident at the new inlet works.

**Odour Control Unit (OCU) performance monitoring: 00/00/2020**

TW advised no OCU data was available for the previous week, which was an oversight on their part and assured it would not happen again.

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station inlet		Unknown	Unknown
Main pumping station outlet		0.2	Yes
East OCU		0.05	Yes
West inlet OCU		0.05	Yes
Sludge reception inlet		Unknown	Unknown
Sludge reception outlet		0.8	Yes
Thickening plant inlet		O/S	O/S
Thickening plant outlet		O/S	O/S
Transfer PS inlet		Unknown	Unknown
Transfer PS outlet		0.6	Yes
New West inlet (OCU 11)		0.5	Yes
Pasteurisation (OCU 12)		0.5	Yes