



# London Borough of Hounslow

## Mogden Sewage Treatment Works

### TW Site Inspection

<b>Date of inspection:</b> Tuesday 23 <sup>rd</sup> November 2021 (1pm)	
<b>Attendees:</b> Mr I Inman (London Borough of Hounslow), Ms C Simmonds (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. Hopper 1 was 50% full, hopper 2 was 10% full and hopper 3 was 20% full. Hoppers 1 and 3 required further draining down.</p> <p><b>Tank 1B</b> was empty and clean except for dry grit along the left hand side of the tank. Hopper 1 was 15% full, hopper 2 was drained down and hopper 3 was 20% full. Hoppers 1 and 3 required further draining down.</p> <p><b>Tank 2A</b> was empty and clean but had dry grit along the right hand side of the tank. Hopper 1 was 15% full, hopper 2 was 10% full and hopper 3 was drained down. Hoppers 1 and 2 required further draining down.</p> <p><b>Tank 2B</b> was empty and clean but had dry grit along the left hand side of the tank. Hoppers 1, 2 and 3 were all 25% full and required further draining down.</p> <p><b>Tank 3A</b> was empty but had wet sludge across 50% of the tanks</p>	

surface at the hopper end

Hopper 1 was 20% full, hopper 2 was <10% full and hopper 3 was 15% full. Hoppers 1 and 3 required further drained down.

**Tank 3B** was empty and clean but had dry grit along the left hand side of the tank.

Hoppers 1 and 2 were completely full, hopper 3 was 65% full. All hoppers required draining down or over-pumping.

**Tanks 4A, 4B, 5A & 5B** All tanks are covered and odour controlled. Still unable to gauge condition of these tanks as the internal lighting system is still not working.

**Tank 6A** was empty and clean but had dry grit along the right bottom side of the tank.

Hoppers 1 and 2 were full 50% full, hopper 3 was 80% full. All hoppers required draining down or over-pumping.

Odour was noticeably present between tanks 6A and 7A.

**Tank 6B** was empty and clean but had dry grit along the left bottom side of the tank.

Hoppers 1 and 2 were both full 90% full, hopper 3 was 40% full. All hoppers required draining down or over-pumping.

**Tank 7A** was empty but had wet sludge across 50% of the tanks surface at the hopper end.

Hoppers 1, 2 and 3 (shallow hoppers) were relatively clean and the X hopper was grit free.

**Tank 7B** was empty but had wet sludge across 30% of the tanks surface at the hopper end and along the left side and top end of the tank.

Hoppers 1, 2 and 3 (shallow hoppers) were relatively clean and the X hopper was grit free.

**Tank 8A** was empty but had wet liquid across 20% of the tanks surface at the hopper end.

Hoppers 1 and 3 were full, hopper 2 was 10% full. Hoppers 1 and 3 required draining down or over-pumping.

**Tank 8B** was empty but had wet sludge across 50% of the tanks surface at the top end and along the left hand side of the tank. Hoppers 1, 2 and 3 were full, All hoppers required draining down or over-pumping.

**Storm Feed Channel** - The level of effluent in both feed channels was low, bottomed out in some areas, it was again noted that large amounts of grit (possibly 18" thick in places) was present, along with sludge containing solid deposits in a number of areas. This material was present in both the near and far side channel, and both were odorous in places.

### **Complaints**

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

The Council received no complaints by either email or the on-line web system in the preceding week.

The Council received no complaints by email from MRAG in the preceding week.

### **Odour Monitors**

The odour readouts (H<sub>2</sub>S) for all monitors that were providing data on 23/11/2021 at the time of the inspection are below.

Monitor 1	0.003	ppm	13:00pm
Monitor 2	0.001	ppm	13:00pm
Monitor 3	0.000	ppm	13:00pm
Monitor 4	0.006	ppm	13:00pm
Monitor 5	0.005	ppm	13:00pm
Monitor 6	0.000	ppm	13:00pm
Monitor 7	0.004	ppm	13:00pm
Monitor 8	0.007	ppm	13:00pm
Monitor 9	0.005	ppm	13:00pm
Monitor 10	0.005	ppm	13:00pm
Monitor 11	0.00	ppm	13:00pm
Monitor 12	0.005	ppm	13:00pm
Monitor 13	0.005	ppm	13:00pm
Wind Speed	0.204	mph	13:00pm
Wind Direction	280.871		13:00pm

### **Odour Log (Thames)**

#### **Wednesday 17<sup>th</sup> November 2021**

##### **DAY SHIFT**

**Temp.** Cold.

**Weather.** Cloudy with sunny spells.

**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.** Cool.

**Weather.** Clear night.

**Odour Readings.** All OMU's in operation.  
**Time:** 05:30.  
**Observations / Customer Complaint.** No odour issues found or reported.  
**Operational issues / causes observed.** Blank.  
**Actions Taken.** Blank.

**Thursday 18<sup>th</sup> November 2021**

**DAY SHIFT**

**Temp.** Cool.

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

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

**Time:** 17:30.

**Observations / Customer Complaint.** OM8 max 0.022ppm @ 15:19-15:33.

**Operational issues / causes observed.** Smell coming from PAS area.

**Actions Taken.** Area checked and no spills found.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Overcast night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** No odour issues found or reported.

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

**Actions Taken.** Blank.

**Friday 19<sup>th</sup> November 2021**

**DAY SHIFT**

**Temp.** Cool.

**Weather.** Sunny w/sunny spells.

**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.** Cool.

**Weather.** Overcast night.  
**Odour Readings.** All OMU's in operation.  
**Time:** 05:30.  
**Observations / Customer Complaint.** No odour issues found or reported.  
**Operational issues / causes observed.** Blank.  
**Actions taken.** Blank.

**Saturday 20<sup>th</sup> November 2021**

**DAY SHIFT**

**Temp.** Cool.

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

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

**Time:** 17:30.

**Observations / Customer Complaint.** OM8 showing odour, max 0.026ppm for less than 1 minute.

**Operational issues / causes observed.** Smell from PAS area.

**Actions taken.** Area checked.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** No odour issues found or reported.

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

**Actions taken.** Blank.

**Sunday 21<sup>st</sup> November 2021**

**DAY SHIFT**

**Temp.** Cold.

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

**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.** Cold.  
**Weather.** Clear night.  
**Odour Readings.** All OMU's in operation.  
**Time:** 05:30.  
**Observations / Customer Complaint.** No odour issues found or reported.  
**Operational issues / causes observed.** Blank.  
**Actions Taken.** Blank.

**Monday 22<sup>nd</sup> November 2021**

**DAY SHIFT**

**Temp.** Cool.  
**Weather.** Sunny w/patchy clouds.  
**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.** Cold.  
**Weather.** Clear night.  
**Odour Readings.** All OMU's in operation.  
**Time:** 05:30.  
**Observations / Customer Complaint.** No odour issues found or reported.  
**Operational issues / causes observed.** Blank.  
**Actions Taken.** Blank.

**Tuesday 23<sup>rd</sup> November 2021**

**DAY SHIFT**

**Temp.** Cold.  
**Weather.** Clear night.  
**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.** Cold.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** No odour issues found or reported.

**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					
17/11/2021	0	1321 1466*	1030	2351	912 760*	3712 3256*
22/11/2021	0	2216	760	2976	936	3912

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.

\* **Incorrect figures entered on Thames Water paperwork.**

### Imported Sludge

There have been an average of 8 imports of sludge per day in the preceding week.

### No.5 Pumping Station

The door and one window of No.5 pumping station were closed at the time of the inspection.

### Sludge Import Area

The condition around the sludge import area has improved and was noticeably cleaner.

Both of the two skips present were fully covered and both skips with the

tailor made tarpaulins

### **Raw Sludge Screening House**

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

Thames advised this unit is currently out of use due to ongoing maintenance, which appeared to be taking place 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.

**Digester 5** was out of service.

**Digester 6** was in service and had a very wet seal that was bubbling off minimal amounts of gas.

**Digester 7** was in service and had a very wet seal that was bubbling off minimal amounts of gas. It was noted digester 7 had a high bell and had been spitting on the service road side of the unit that required cleaning.

**Digesters 8, 9, 10 and 11** were all in service and had a very wet seals that was bubbling off minimal amounts of gas.

**Digester 12** was out of service.

**Digesters 13 and 14** were both in service and had a very wet seals that was bubbling off minimal amounts of gas.

**Digester 15** was out of service.

**Digester 16** was in service and had a very wet seal that was bubbling

off minimal amounts of gas. It was noted digester 16 had a high bell and had been spitting that required cleaning.

**Digester 17** was in service and had a very wet seal that was bubbling off minimal amounts of gas.

**Digester 18** was out of service.

**Digester 19** was in service and had a very wet seal that was bubbling off minimal amounts of gas.

**Digester 20** was in service and had a very wet seal that was bubbling off minimal amounts of gas.

Anti-foaming agent is in use, which TW advised was being applied manually to all operational digesters due to the automatic dosing equipment not operating.

## **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 in operation at the time of the inspection. It was noted that all 8 tanks had varying amounts of green algae and/or scum on tanks surface, some of which appeared lumpy. However, no odour was present.

### **Skips**

On the East side was one 14yds open skips that was covered with a tarpaulin, which Thames advised was due to be removed shortly.

Also present was one 20yds open bulk carrier that contained a small amount of grit, and one 20yds open bulk carrier that contained general

rubbish (Old flexible pipe)

Also present was one 40yds closed bulk carrier that was empty

Two of the three roller shutter doors on the East side grit building were open and a Bobcat Skidsteer loader was parked inside.

On the service road between FST's 20 and 24 was closed 14yds skip that was clearly signed "Rag only".

On the service road next to the raw sludge screening building was a closed 14yds skip.

All empty/spare skips had been removed from the West side of the works.

#### **East Side Screen House**

Both sets of doors and the roller shutter were open due to ongoing maintenance within the building. Contractors were on site carrying out internal works at the time of the inspection.

#### **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 clogged along 50% of its length, there was a significant number of weeds were growing out of it and through the steel grating.

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

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

Circular PST's 9, 10 and 11 were all in use. All had some surface scum that appeared to be fatty type algae.

Circular PST 12 is currently out of service. It was noted that the tank contained a large quantity of solid fat, thick dry sludge, algae, rag and other debris which was not all present during the officers previous visit.

### **Pasteurisation Plant**

The pasteurisation plant is in service. TW advised 9 streams are currently operational.

### **Section 106 agreement**

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

### **West Side Aeration Lanes**

The previous biological issues in all lanes now seems to have been resolved and the effluent appeared to be free-flowing with reduced surface foam.

A large number of the sprinklers were still out of operation and floating debris was present in most of these areas.

The surface area of the mixed liquor feed channel serving the aeration lanes of E-Battery was free-flowing between lanes 22-25. However, lane 22 was partially clogged on the surface with thick sludge.

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

No issues appeared evident at the new inlet works and everything appeared to be in a good tidy order.

### **Old Inlet Works (West Side)**

A walk around of the existing inlet was carried out and everything

appeared in good order

**Odour Control Unit (OCU) performance monitoring: 22/11/2021**

<b>Plant</b>	<b>Reading (ppm)</b>	<b>Action Level (ppm)</b>	<b>Compliant</b>
Main pumping station outlet	0.00 0.00 0.00	0.2	Unknown
East OCU	0.00 0.07 0.09	0.05	Unknown
West inlet OCU	0.00 0.00 0.00	0.05	Unknown
Thickening plant outlet	0.019 0.015 0.013	0.6	Unknown
New West inlet (OCU 11)	0.00 0.00 0.00	0.5	Unknown
Pasteurisation (OCU 12)	0.21 0.16 0.20	0.5	Unknown
Transfer PS inlet	0.98 0.90 0.89	Unknown	Unknown
Transfer PS outlet	0.00 0.00 0.00	0.6	Unknown
GBT Plant OCU Outlet	0.00 0.00 0.00	Unknown	Unknown