



London Borough of Hounslow

Mogden Sewage Treatment Works

TW Site Inspection

Date of inspection: Thursday 17 th September 2020 (1:00pm)	
Attendees: Mr I Inman (London Borough of Hounslow) and Mr T Costin (Thames Water)	
LB Hounslow Observation	Thames Water Action / Response
<p><u>Storm Water Storage Tanks (SWST)</u></p> <p>Tank 1A was empty and clean. Hopper 1 was approx. 25% full, hopper 2 was drawn down and hopper 3 was approx. 50% full.</p> <p>Tank 1B was empty and clean. Hoppers 1 and 3 were both <25% full, hopper 2 was drawn down.</p> <p>Tank 2A was empty and clean. Hoppers 1 and 3 were both approx. 25% full, hopper 2 was drawn down.</p> <p>Tank 2B was empty and relatively clean except for a large area of dry grit at the top end of the tank. Hopper 1 was approx. 30% full, hoppers 2 and 3 were both <25% full.</p> <p>Tank 3A was empty and relatively clean but had grit at the bottom end of the tank. Hopper 1 was approx. <25% full, hoppers 2 and 3 were both drawn down.</p>	

Tank 3B was empty and relatively clean but had areas of dry grit at both the top and bottom end of the tank.
Hoppers 1 and 3 were both <25% full, hopper 2 was drawn 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 and 2 were both approx. 25% full, hopper 3 was approx. 70% full, all require draining down.

Tank 6B was empty and relatively clean but had areas of dry grit at both the top and middle of the tank.
Hopper 1, 2 and 3 all contained black inky liquid and required cleaning.

Tank 7A had empty but had dry grit across the bottom half of the tanks surface.
Hoppers 1, 2 and 3 (shallow hoppers) were all full of stagnant water and overflowing, all require cleaning.

Tank 7B was empty and relatively clean except for an area of dry grit at the bottom end of the tank.
Hoppers 1, 2 and 3 (shallow hoppers) all had dark liquid and grit in them and require cleaning.

Tank 8A was empty and clean.
Hoppers 1, 2 and 3 were all approx. 30% full.

Tank 8B was empty and clean.
Hoppers 1, 2 and 3 were all <25% full.

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

Complaints

The Council received 3 complaints in the preceding week.

On 15th September at 7:03am a complaint was received from a non-

Hounslow resident from Seaton Road, Twickenham (ref: A04834).
 On 16th September at 8:07am a complaint was received from a non-Hounslow resident from Chase Gardens, Twickenham (ref: A04923).
 On 16th September at 14:55pm a complaint was received from a resident of Whitton Dene, Isleworth (ref: A04965).

The historic odour monitor trends for the time before, during and after the complaints showed the following elevated odour level.

On 15th September OM3 peaked to 0.018ppm between 03:40-03:50am before dropping to 0.013ppm between 04:20-04:40.

OM2 peaked from 0.003ppm at 07:10am to 0.030ppm until 07:23am, then dropped to 0.016ppm until 07:40am, before dropping further down to 0.005ppm.

The remainder of the odour monitors showed no readings above 0.008ppm during this period.

OM8 spiked at 19:42pm to 0.015ppm until 20:35pm. A further spike occurred (0.015ppm) between 22:10-22:38pm.

On 16th September OM9 spiked between 00:10-00:20am to 0.016ppm. Then at 05:50am OM9 spiked again to 0.012ppm until 06:12am.

One further spike occurred on OM9 between 07:12-07:52am to 0.012ppm.

Odour Monitors

The odour readouts (H₂S) for all monitors that were providing data at the time of the inspection are below.

Monitor 1	0.005	ppm	12.34pm
Monitor 2	0.007	ppm	12.34pm
Monitor 3	0.003	ppm	12.34pm
Monitor 4	0.004	ppm	12.34pm
Monitor 5	0.003	ppm	12.34pm
Monitor 6	0.004	ppm	12.34pm
Monitor 7	0.005	ppm	12.34pm
Monitor 8	0.003	ppm	12.34pm
Monitor 9	0.003	ppm	12.34pm
Monitor 10	0.006	ppm	12.34pm

Monitor 11	0.006	ppm	12.34pm
Monitor 12	0.005	ppm	12.34pm
Monitor 13	0.004	ppm	12.34pm
Wind Speed	39.105	mph	12.34pm
Wind Direction	7.661		12.34pm

Odour Log (Thames)

Thursday 10th September 2020

DAY SHIFT

Temp. Warm.

Weather. Sunny w/patchy cloud.

Odour Readings. All OMU's in operation.

Time: 17:30.

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

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. OM2 0.019ppm 23:24-23:38. 0.029ppm 00:38-00:54am. 0.017ppm 01:24-01:54am. 0.020ppm 02:08-03:08am.

OM5 0.016ppm 03:23-03:38am.

Operational issues / causes observed. Area checked no source found

Actions Taken. East inlet area hosed down, OCU11 high ppb output.

Friday 11th September 2020

DAY SHIFT

Temp. Warm.

Weather. Cloudy w/sunny spells.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. OM2 spiked at 06:38-07:23, max 0.020ppm.

OM5 spiked at 09:10-09:22am, max 0.019ppm.

OM3 spiked at 13:18-13:34pm. Max 0.048ppm.

Operational issues / causes observed. Smell of thickening pasteurised sludge in the air but no obvious source found.

Actions Taken. Blank

NIGHT SHIFT

Temp. Cool.

Weather. Clear night.

Odour Readings. All OMU's in use.

Time: 05:30.

Observations / Customer Complaint. No odour issues.

Operational issues / causes observed. Blank

Actions Taken. Blank.

Saturday 12th September 2020

DAY SHIFT

Temp. Warm.

Weather. Sunny w/patchy cloud.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. OM3 spiked at 09:33-949am, max 0.054ppm. 09:33-09:49, max 0.025ppm.16:03-16:18pm, max 0.021ppm.

Operational issues / causes observed. OCU No.11 stack reading out of range >0.5ppm.

Actions Taken. Logged and reported.

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.

Sunday 13th September 2020

DAY SHIFT

Temp. Warm.

Weather. Sunny w/patchy cloud.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. OM2 spiked at 16:39-16:53pm but <15 mins duration, max 0.016ppm and at 17:10-17:23 <15mins duration, max 0.017ppm.

Operational issues / causes observed. No obvious sources of odour found.

Actions Taken. Blank.

NIGHT SHIFT

Temp. Cool.

Weather. Clear night.

Odour Readings. All OMU's in operation.

Time: 05:30.

Observations / Customer Complaint. OM2 showing odours all shift, max 0.049ppm.

Operational issues / causes observed. East inlet and MPS checked.

Actions Taken. Area around skips and washpactors washed down. No abnormal smells found.

Monday 14th September 2020**DAY SHIFT**

Temp. Hot.

Weather. Sunny.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. OM2 0.033ppm 16:23-16:39.

Operational issues / causes observed. Area checked no sources found.

Actions Taken. Blank.

NIGHT SHIFT

Temp. Cool.

Weather. Clear night.

Odour Readings. All OMU's in operation.

Time: 05:30.

Observations / Customer Complaint. OM10 at 03:40-03:50, max 0.019ppm.

Operational issues / causes observed. Digester 16 gas leaking around seal
Actions Taken. Dome pulled down.

Tuesday 15th September 2020

DAY SHIFT

Temp. Hot.

Weather. Sunny w/patchy clouds.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. OM2 0.030ppm 07:08-07:38.

Operational issues / causes observed. Area checked no source discovered.

Actions Taken. Blank.

NIGHT SHIFT

Temp. Cool.

Weather. Clear night.

Odour Readings. All OMU's in operation.

Time: 05:30.

Observations / Customer Complaint. OM2 spiked at 19:54-20:09, max 0.018ppm.

Operational issues / causes observed. No odours detected in vicinity.

Actions Taken. East inlet hosed down.

Wednesday 16th September 2020

DAY SHIFT

Temp. Hot.

Weather. Sunny w/patchy clouds.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. No odour spikes.

Operational issues / causes observed. Blank.

Action Taken. Blank.

NIGHT SHIFT

Temp. Warm.

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 ³					
OMP limit	500					
11/09/2020	0	61	305	366	2241	2607
14/09/2020	0	244	122	366	1440	1806
16/09/2020	12.0 ?	11.0 ?	4.0 ?	27.7 ? 244*	14.5 ? 456*	12.2 ? 700*

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.

? Totals entered as X.XX format (e.g. 2.75, 4.0, 3.75, 3.5 ?).

* Total entered on Thames Water paperwork.

Imported Sludge

No average sludge import totals entered on Thames Water paperwork for the last week?

No.5 Pumping Station

The doors of No.5 pumping station were open at the time of the inspection although odour did not appear present.

Sludge Import Area

It was noted that the sludge import area was still in a very poor condition.

Although the tank leak has been resolved the area surrounding the skips is in a poor state and requires cleaning.
TW were advised they are frequently hosing this area down.

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.

Digester 5 was in service but had a wet sloppy seal and was bubbling off gas.

Dry crust/evidence of last week's spill when anti foam pumps failed was still present and required clearing up.

Digester 6 was in service but had a wet sloppy seal and was bubbling off gas.

Dry crust/evidence of last week's spill when anti foam pumps failed was still present and required clearing up between digester 6 and 8.

Digester 7 is currently out of service.

Digesters 8, 9, 10, 11, 12, 13 and 14 were all in service but had wet sloppy seals and were all bubbling off gas.

Dry crust/evidence of last week's spills when anti foam pumps failed was still present around these digesters and required clearing up.

Digester 15 was out of service.

Digester 16 was in service and had a high bell, it was also spitting and bubbling that required gas to be drawn off and cleaning.

Digester 17 was in service and had a fairly good dry seal.

Digesters 18 and 19 were both out of service.

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

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 12yds open skip that was empty and one 40yds closed bulk carrier that was also empty

In the Sludge Import area there were two 8yds open skips, both of which contained rag and other debris, both were only part covered.

On the service road next to the raw sludge screening building was an 8yds open skip that was approx. 50% full of rag and only partially covered.

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 open at the time of the inspection for no apparent reason.
This matter is to be taken up with Thames water management.

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. 40% 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 12 is currently out of service.
PST's 9, 10 and 11 were all in service and had relatively fat free surfaces.

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 (New)

All lanes are now much improved and appeared to be free flowing, with the internal dividing walls being visible again.
 Most of the sprinklers were back in operation and floating debris had been removed.

The mixed liquor feed channel serving the first 2 lanes of aeration lane 25 of E-Battery was partially clogged but no other issues were evident.

New Inlet Works (West Side)

No issues appeared evident at the new inlet works.

Odour Control Unit (OCU) performance monitoring: 15/09/2020

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station inlet	Blank	Unknown	Unknown
Main pumping station outlet	Blank	0.2	Unknown
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	Blank	Unknown	Unknown
Sludge reception outlet	Blank	0.8	Unknown
Thickening plant inlet	Blank	Unknown	Unknown
Thickening plant outlet	0.00 0.00 0.00	0.6	Yes
New West inlet (OCU 11)	0.00 0.00 0.00	0.5	No
Pasteurisation (OCU 12)	0.00 0.00 0.00	0.5	Yes

Transfer PS inlet	0.00 0.00 0.00	Unknown	Unknown
Transfer PS outlet	0.00 0.00 0.00	0.6	Yes