**Mogden Sewage Treatment Works**

**TW Site Inspection**

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| **Date of inspection:** Tuesday 13th December 2022 (10:00pm) | |
| **Attendees:** Mr Z Kadri (LB Hounslow) and Mr John Staines (Thames Water) | |
| **LB Hounslow Observation** | **Thames Water Action / Response** |
| **Storm Water Storage Tanks (SWST)**  **Tank 1A** was empty and clear of grit across the entire surface.  Hoppers 1, 2 and 3 were all full of effluent and completely frozen.  **Tank 1B** was empty and clear of grit across the entire surface. Hoppers 1, 2 and 3 were all full of effluent and completely frozen at the surface.  **Tank 2A** was empty and clear of grit across the entire surface.  Hoppers 1 was just under 50% full of effluent (frozen), Hopper 2 and 3 were clear.  **Tank 2B** was empty and clear of grit across the entire surface. Hoppers 1, 2 and 3 were all full of effluent and completely frozen.  **Tank 3A** was empty and clear of grit across the entire surface. Hoppers 1 and 2 were approx. 50% full of effluent (frozen) however hopper 3 was empty.  **Tank 3B** was empty and clear of grit across the entire surface. Hoppers 1, 2 and 3 were all full of effluent and completely frozen.  **Storm Feed Channel** - The level of effluent in this feed channels was minimal and bottomed out in places. The remaining effluent looked grey and icy- the entire channel was frozen.  **Tanks 4A, 4B, 5A & 5B** All tanks are covered and odour controlled. I was able to gauge the conditions which demonstrated the tanks as being full and in use.  **Tank 6A** was empty and clear of grit across the entire surface. Hoppers 1, 2 and 3 were all full of effluent and completely frozen.  **Tank 6B** was empty and clear of grit across the entire surface. Hoppers 1, 2 and 3 were all full of effluent and completely frozen.  **Tank 7A** was full of effluent at approx. 10% just above the amajets level throughout the whole length of the tank- The entire tank surface was heavily frozen.  **Tank 7B** was full of effluent at approx. 10% just above the amajets level throughout the whole length of the tank- The entire tank surface was heavily frozen.  **Tank 8A** contained effluent up to half the length of the tank which had frozen over. All hoppers were full and frozen.  **Tank 8B** contained effluent up to half the length of the tank which had frozen over. All hoppers were full and frozen.  **Storm Feed Channel** - The level of effluent in both feed channels was minimal and bottomed out in places- In places the effluent looked murky and the entire length was frozen.  **Complaints**  The Council received no complaints in the preceding week |  |
| **Odour Monitors**  The odour readouts (H2S) was not available at 10:00 on the 13th of December 2022. SKADA SYSTEM OUT OF SERVICE   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Monitor 1 | - | ppm |  |  | | Monitor 2 | - | ppm |  |  | | Monitor 3 | - | ppm |  |  | | Monitor 4 | - | ppm |  |  | | Monitor 5 | - | ppm |  |  | | Monitor 6 | - | ppm |  |  | | Monitor 7 | - | ppm |  |  | | Monitor 8 | - | ppm |  |  | | Monitor 9 | - | ppm |  |  | | Monitor 10 | - | ppm |  |  | | Monitor 11 | - | ppm |  |  | | Monitor 12 | - | ppm |  |  | | Monitor 13 | - | ppm |  |  | | Wind Speed | - | mph |  |  | | Wind Direction | - | Deg |  |  | |  |
| **Odour Logs**  **Thursday 8th December 2022**  **DAY SHIFT**  **Temp.** Cold  **Weather.** Cloudy with sunny spells  **Odour Readings.** All OMU’s in operation  **Time:** 17:30.  **Observations / Customer Complaint.**  OM8 multiple spikes 8:31-15:10 0.021ppm max  OM9 spiked at 11:47- 15:33 0.018ppm max  OM4 0.018ppm 09:52-10:09  OM5 0.016ppm 06:32-06:46  OM5 O.023pp 8:02-08:32  **Operational issues / causes observed.** Area checked no source found, Boiler running for gas testing  **Actions Taken.**  **NIGHT SHIFT**  **Temp.** Freezing  **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.  **Friday 9th December 2022**  **DAY SHIFT**  **Temp.** Cold  **Weather.** Cloudy  **Odour Readings.** All OMU’s in operation  **Time:** 17:30.  **Observations / Customer Complaint.**  OM5 0.016ppm 15:47-16:02  OM5 0.018ppm 06:40-06:54  OM8 0.017ppm 13:01-13:15  OM8 0.031ppm 05:28-05:45  OM8 0.016ppm 06:43-06:59  **Operational issues / causes observed.**  Areas checked no source found , Odour complaint from waste control Court Road, Twickenham  **Actions taken.**  Site check carried out, no abnormalities found  **NIGHT SHIFT**  **Temp.** Freezing  **Weather.** Clear night  **Odour Readings.** All OMU’s in operation  **Time:** 05:30.  **Observations / Customer Complaint.**  OM5 multiple breaches overnight peaking at 0.034ppm  OM5 0.020ppm 21:17-22:17  OM5 0.024ppm 23:17-00:02  OM5 0.034ppm 00:17- 02:48  OM5 0.028ppm 04:31- 05:02  **Operational issues / causes observed.**  Area around monitor checked no evidence of any odour , freezing conditions -5 degrees  **Actions taken.**  Blank.  **Saturday 10th December 2022**  **DAY SHIFT**  **Temp.** Freezing  **Weather.** Cloudy with sunny spells  **Odour Readings.** All OMU’s in operation  **Time:** 17:30.  **Observations / Customer Complaint.**  OM5 multiple spikes 0.024ppm max peak  OM9 0.019ppm 16:19-16:49  OM9 0.018ppm 17:03-ongoing  **Operational issues / causes observed.**  Area checked no source found  **Actions taken.** Blank  **NIGHT SHIFT**  **Temp.** Freezing  **Weather.** Clear night  **Odour Readings.** All OMU’s in operation  **Time:** 05:30.  **Observations / Customer Complaint.**  OM3 spiked to 0.035ppm at 21:32-21:47  OM3 0.020ppm 23:17-00:17  OM5 0.019ppm 19:17-20:17  OM5 0.029ppm 02:02-02:17  OM9 0.021ppm 18:48-19:03  OM9 0.021ppm 20:31-20:48  OM9 0.019ppm 21:19-22:19  **Operational issues / causes observed.**  No odour issues on site , freezing conditions maybe effecting monitors  **Actions taken.** Blank.  **Sunday 11th December 2022**  **DAY SHIFT**  **Temp.** Freezing  **Weather.** Cloudy with sunny spells  **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.** Freezing  **Weather.** Cloudy  **Odour Readings.** All OMU’s in operation  **Time:** 05:30.  **Observations / Customer Complaint.**  OM3 0.023ppm 19:02-19:17  OM8 0.015ppm 01:01 – 01:14  **Operational issues / causes observed.**  Blank  **Actions Taken.** Blank  **Monday 12th December 2022**  **DAY SHIFT**  **Temp.** Freezing  **Weather.** Cloudy  **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.** Freezing  **Weather.** Clear night  **Odour Readings.** All OMU’s in operation  **Time:** 05:30.  **Observations / Customer Complaint.**  OM5 0.015ppm 18:48-19:02  OM5 0.030ppm 19:32-19:47  OM3 0.037ppm 00:17-01:32  OM3 0.019ppm 02:01- 02:47  **Operational issues / causes observed.**  OCU11 performance poor- no odour issues on site.  **Actions Taken.** Blank.  **Tuesday 13th December 2022**  **DAY SHIFT**  **Temp.** Freezing  **Weather.** Cloudy with sunny spells  **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.** Freezing  **Weather.** Clear night  **Odour Readings.** All OMU’s in operation  **Time:** 05:30  **Observations / Customer Complaint.**  OM5 0.021ppm at 20:47-21:02  OM5 0.021ppm 21:32-21:47  OM10 0.021ppm 18:09-18:24  **Operational issues / causes observed.**  OCU 11 poor performance  **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 m3** | | | | | | | OMP limit | **500** |  |  | | | | | 9/12/2022 | 0 | 595 | 412 | 1007 | 1088 | 2095 | | 12/12/2022 | 0 | 1297 | 267 | 1564 | 1601 | 3165 |   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 have been an average of 0imports of sludge per delivery in the preceding week. This was reported on the 13th of December 2022  **No.5 Pumping Station (West Side)**  The doors of No.5 pumping station were open at the time of inspection.  **Sludge Import Area**  It was noted that the condition around the sludge import area was much improved and noticeably clean. No odours witnessed.  **Raw Sludge Screening Building (West Side)**  The large roller shutter doors of the Raw Sludge Screening building were open at the time of the inspection. No activity observed.  **Digesters on the 13th December 2022**  **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 and had a low (below approx. 2ft) wet seal – No evidence of recent/previous sludge spillages- the coping stones were tidy.  **Digester 6** was in service and had a low (below approx. 2ft) thick sludgy seal – No evidence of recent/previous sludge spillages.  **Digester 7** was in service and had a low (below approx. 1ft) sludgy seal – some bubbling of gas being produced.  **Digester 8** was in service and had a low (below approx. 1ft) wet to thick seal– No evidence of recent/previous sludge spillages.  **Digester 9** was in service and had a low (below approx. 1ft) wet to thick seal– No evidence of recent/previous sludge spillages.  **Digester 10** was in service and had a low (below approx. 1ft) sludgy thickish seal – No evidence of recent/previous sludge spillages.  **Digester 11** was in service and had a low (below approx. 1ft) sludgy seal approx. 1ft below coping stones– No evidence of recent/previous sludge spillages.  **Digester 12** was in service and had a low (below approx. 1ft) thick seal – There was evidence of some previous sludge spillages.  **Digester 13** was in service and had a low (below approx. 1ft) thick seal – No evidence of recent/previous sludge spillages.  **Digester 14 Out of service.**  **Digester 15** **Out of service.**  **Digester 16 Out of service.**  **Digester 17** was in service and had a low (below approx. 1ft) thick sludgy seal approx. 1ft below coping stone– No evidence of recent/previous sludge spillages.  **Digester 18** was in service and had a low (below approx. 1ft) thick sludgy seal – No evidence of recent/previous sludge spillages.  **Digester 19.** was in service and had a low (below approx. 1ft) thick sludgy seal – No evidence of recent/previous sludge spillages.  **Digester 20** was in service and had a low (below approx. 2ft) thick sludgy seal – There was no evidence of recent spillage.  Anti-foaming agent is in use, which TW advised was also being applied manually to all operational digesters. |  |
| **GENERAL**  **Final Settlement Tanks East Side of Works**  The 8 circular tanks 71, 72, 73, 74, 75 ,76 ,77 and 78 were all in operation at time of the inspection and had good clear surfaces. The hoses on the arms were all rotating and clearing off any remaining deposits. No odours or offensive odours witnessed.  **Skips**  **Skips on the East side:**  There was 1x 20yds open bulk carrier (uncovered) that was designated for grit – The carrier was full of grit and frozen over. There was a sign stating the skip was designated for “Grit Only” .  There was 1x 14yds skip designated for rag only. The skip had a sign reading “Rag Only” and contained minimal amount of rag at time of inspection . There was a cover (lid) which was covering the skip.  No other skips were present on the East side.  **Skips on the West Side:**  There was 1x 14yds skip adjacent to the pasteurisation plant (West of the works) that was designated for Metals only- At time of inspection the skip was empty.  There was 1x 14yds skip adjacent to the raw sludge screening building (West of the works) that was designated for general waste only- At time of inspection the skip was full and covered.  There were no other skips observed in the West Side of the works.  **East Side Screen House**  All the doors and roller metal shutter was closed 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 nearest the service road was clogged along 80% of its length.  **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 and had relatively fat free surfaces.  No other issues were evident with these tanks.  Circular PST 12 is still out of service.  **Pasteurisation Plant**  The pasteurisation plant is in service. TW advised 7/12 streams were in operation. Stream 1, 2, 6, 10 and 11 were out of service.  **Section 106 agreement**  There have been no breaches of the s106 agreement in the last week.  **West Side Aeration Lanes**  The surface area of the mixed liquor feed channel serving the aeration lanes of E-Battery was all free-flowing between lanes 22-25- All the lanes in E Battery were distinct and dividing walls were all visible. Most sprinklers were in operation.  **New Inlet Works (West Side)**  No issues appeared evident at the new inlet works and everything appeared to be in a good tidy order. No offensive odours noticed. |  |

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| **Odour Control Unit (OCU) performance monitoring: 13th December 2022**   |  |  |  |  | | --- | --- | --- | --- | | **Plant** | **Reading (ppm)** | **Action Level (ppm)** | **Compliant** | |  |  |  |  | |  |  |  |  | | Main pumping station inlet | Not provided | Unknown | Unknown | | Main pumping station outlet | 0.00ppm  0.00ppm  0.00ppm | 0.2 | Unknown | | East OCU | 0.036ppm  0.038ppm  0.040ppm  **Ave: 0.038ppm** | 0.05 | Yes | | West inlet OCU | Not provided- Fans OOS | 0.05 | Yes | | Sludge reception inlet | Not provided | Unknown | Unknown | | Sludge reception outlet | Not provided | 0.8 | Unknown | | Thickening plant inlet | Not provided | Unknown | Unknown | | Thickening plant outlet | 0.056ppm  0.060ppm  0.062ppm  **Ave: 0.059ppm** | 0.6 | Yes | | New West inlet (OCU 11) | 0.089ppm  0.092ppm  0.096ppm  **Ave: 0.596ppm** | 0.5 | No | | Pasteurization (OCU 12) | 1.36ppm  1.39ppm  1.43ppm  **Ave: 0.092ppm** | 0.5 | Yes | | Transfer PS inlet | 1.29ppm  1.35ppm  1.38ppm  **Ave: 1.34ppm** | Unknown | Unknown | | Transfer PS outlet | 0.00ppm  0.00ppm  0.00ppm | 0.6 | Yes | | GBT Plant OCU Outlet | 0.00ppm  0.00ppm  0.00ppm | Unknown | Unknown | |  |