

Environmental Management System 5

Sefton Meadows II Closed Landfill Site: Maintenance Manual

Authorised by: Director of Waste

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| 04 | ASB | 12th March 2014 | Document redrafted to accommodate major alterations to Leachate Treatment apparatus |

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1.0 Site location and Access

1.1 Site location

- 1.1.1 Sefton Meadows landfill site is located adjacent to the northern boundary of Sefton Meadows HWRC which in turn is situated off Sefton Lane (B 5422), Maghull, Merseyside. See Appendix I
- 1.1.2 Keys to the site are kept in offices of the Facilities Section on the 7th floor of 1 No Mann Island, Liverpool L3 1BP.

1.2 Access route

- 1.2.1 Access onto the landfill site can be obtained either through Sefton Meadows HWRC, or the via Green Lan, off A5147 Liverpool Road North. This route leads onto the TransPennine Tail.

1.3 Access into the Leachate Compound

- 1.3.1 Access to the Leachate Treatment Compound is then made on foot across the farmed field.
- 1.3.2 The Leachate Compound is covered by a manned CCTV system. Before entering into the compound, personnel shall inform the monitoring station of their presence and their intention to enter the compound.

Authorised access is password protected, the details of which are not included in this EMS. See member of the Waste Facilities Dept for access arrangements

- 1.3.3 The Compound is secured within an enclosed fence; keys are kept in the Facilities Section on the 7th floor of 1 No Mann Island, Liverpool L3 1BP.

2.0 Purpose of Pumping Station and Aeration System

2.1 Background

Historical

- 2.1.1 Sefton Meadows No.2 landfill site was operational from 1975 to 1981. It is approximately 46 hectares in area.
- 2.1.2 Approximately 1.45 million cu.metres of waste was deposited in the site.
- 2.1.3 The site has been returned to its owners, the Parkhaven Trust, which in turn leased it to tenant farmers for agricultural use.

Southern end of the site

- 2.1.4 The southern end of the site was designed as a dilute and disperse site. It had no leachate drainage facility incorporated into its design.
- 2.1.5 However, leachate from the southern end of the site migrated under the Cheshire Lines footpath into the adjacent surface water ditch. The footpath, which runs parallel to the ditch, forms the eastern boundary of the site.
- 2.1.6 The surface water in the ditch consequently became contaminated. It eventually discharged into the River Alt via an surface water drainage system which was constructed on the base of the site before landfilling commenced. The River Alt therefore became polluted.
- 2.1.7 The Environment Agency (EA) instructed MWDA to implement remedial measures to stop the leachate migration from the site.
- 2.1.8 Measures were put in place in 1997. These included a facility for collecting the leachate and for discharging it into the Hillhouse Public Foul Sewer for which a Trade Effluent Consent was provided by United Utilities. The measures however were unsuccessful. Leachate from the southern end of the site continued to migrate under the Cheshire Lines footpath and into the surface water ditch.
- 2.1.9 In 2003, MWDA intended to implement further measures to rectify the situation but were requested not to by the EA. The EA wanted to review the whole of the Sefton Meadows area with respect to its responsibilities under the Environmental Protection Act (1990) - Part 2A Contaminated Land.
- 2.1.10 Once the EA had carried out its review, it would inform MWDA accordingly. To date the outcome of the review is still awaited. Leachate is still migrating into the surface water ditch and the River Alt is still being polluted.

Northern end of the site

- 2.1.11 The northern end of the site has an underdrainage system which collects leachate that has been generated within the landfill waste.
- 2.1.12 The leachate discharges into the Hillhouse Public Foul Sewer together with leachate which has been pumped from Sefton Meadow No.3 landfill site. A Trade Effluent Consent covering the leachate discharge from both sites has been provided by United Utilities to MWDA.

Site Drainage and Aeration

- 2.1.13 The southern half of the site was installed as a 'Dilute and Disperse', whereby any leachate arisings are allowed to disperse to groundwater.
- 2.1.14 The northern half of the site was installed with a basal drainage system which flowed into MH03 for airstripping prior to discharge to sewer. See site infrastructure drawing in Appendix III
- 2.1.14 In recent years the flow through the basal drainage system ceased, and it is considered that similar to the northern half, the southern half is acting as a dilute and disperse site.
- 2.1.15 As there was no evidence of flow into MH03, the pump discharging leachate from MH03 to PC2 was removed as part of the improvements to the aeration system in order to save on electricity costs.
- 2.1.16 The level of standing leachate in MH03 is regularly monitored for evidence of an increase in the level in the chamber, which could indicate an increase in the level of leachate throughout the site.
- 2.1.17 Since this system was terminated, monitoring of the surrounding water course has not identified any deterioration in the water quality other than that detected from upstream sources.
- 2.1.18 The aeration system on site now functions to provide treatment for leachate arising from Sefton Meadows III only.
- 2.1.19 While the discharge from Sefton Meadows II has been terminated, the infrastructure remains in place to enable leachate to be discharged in the event of elevated levels being detected, or if the quality of the water courses deteriorates within the curtilage of the site.

2.2 Environment Agency

- 2.2.1 There is no requirement for the site to have an Environmental Permit.

2.3 United Utilities

- 2.3.1 The leachate arising from the site is classified as trade waste, and as such a Trade Effluent Discharge Consent (Water Industry Act 1991) is required from United Utilities. This sets out the parameters with which the leachate must comply, in order for it to be discharged to foul sewer.
- 2.3.2 Limits are set upon the composition, volume and rate of discharge. See Appendix II
- 2.3.3 Monitoring of the leachate composition and compliance with the TEDC is undertaken as part of the [Environmental Monitoring Procedure EMS 5](#)

3.0 Leachate Treatment System

3.1 Leachate treatment compound

The aeration system on Sefton Meadows II functions to provide treatment for leachate arising from Sefton Meadows III.

3.1.1 Emergency electrical override

An emergency electrical override switch is located in the Surface Water Pump Station and Lagoon building.

3.1.2 The leachate treatment compound comprises of:

- 1 No Sheet metal housing unit
- A submersible pump chamber
- A manhole chamber (From Sefton Meadows Ext II basal drain)
- The leachate aeration and settlement apparatus
- A Methane Analyser

All of which are enclosed within a secure fenced compound.

3.2 Equipment inventory

3.2.1 A full inventory of the system apparatus can be found on MWDA's Asset Register for the closed landfill sites. This is a live document that details the individual components and their locations, along with a source for their replacement.

3.2.2 A Store of standby components is kept at the Authority's storage unit at its South Sefton facility. An individual member of the Waste Facilities department is tasked with maintaining the stock in Stores as part of general duties. A list of Stores can be found in [Asset Register](#).

3.2.3 Apparatus in the Leachate Treatment compound:

- 1 No Sheet metal housing unit (Containing pump control panels)
- 1 No Pump chamber with Submersible (Supply) pump
- 1 No Jetting tank including jetting nozzles (Mounted above the pump chamber)
- 1 No Stainless Steel Sparge tank, incorporating sparge pipework and jetting nozzles, and ancillary pipework.
- 2 No Centrifugal (Transfer) Pumps
- Methane Analyser

3.3 Trace Heating and Insulation

All external process pipework which might hold static leachate has been fitted with trace heating, and is fully insulated against frost to prevent the Leachate Treatment System freezing up.

3.4 Telemetry System

A telemetry system is in place to enable the leachate level inside the submersible pump chamber to be monitored from MWDA's head office

3.5 Leachate Aeration process

3.5.1 The following drawings detail the apparatus assembly and process of the Leachate treatment system.

MWDA.520.2-350-002 General arrangement
MWDA.520.2-350-003. Elevations and Flow diagram,

3.5.2 **Stage 1.** Leachate Collection (Pump Chamber):

- 1 Leachate is discharged into the outer annulus of the Pump Chamber (PC2) via the rising main from Sefton Meadows III.
- 2 Once the leachate level rises to a pre-set level in the outer annulus (picked up by the level transducer) the Supply pump, located in the bottom of the chamber, is automatically switched on. The Supply pump then discharges the leachate into the above ground Sparge tank, until the leachate level in the Pump Chamber is lowered to another pre-set level (again picked up by the level transducer) and the Supply pump stops running.

3.5.3 **Stage 2.** Air Stripping (Sparge Tank)

- 1 The leachate from the Pump Chamber is discharged by the Supply pump into the Sparge Tank where it is injected through the jetting nozzles, allowing the dissolved methane contained within the leachate to be released to air. The leachate then falls into the body of the Sparge tank.
- 2 As the leachate collects in the body of the Sparge Tank, it will rise to a pre-set level where the level probes activates one of the Transfer pumps; discharging the leachate from the Sparge Tank to the Jetting Tank. As the leachate level in the Sparge Tank is lowered to a pre-set point, the Transfer pump stops running.

- 3 The Transfer Pumps operate on a 'duty' and 'stand-by' rotation, with the pumps alternating in each operational cycle.

3.5.4 Stage 3. Secondary Air Stripping (Jetting Tank)

- 1 The discharged of the leachate from the Sparge tank via the Transfer pumps provides an opportunity to introduce a secondary air stripping stage; utilising the pressure from the Transfer Pumps as the leachate is discharged into the Settlement Tank.
- 2 The Jetting tank contains an inner Settlement tank, with a short length of sparge pipe with jetting nozzles. As the leachate is discharged from the Sparge Tank into the Jetting tank, it is injected through the jetting nozzles, releasing any residual dissolved methane.
- 3 The leachate then falls into the Settlement tank.

3.5.5 Stage 4. Settlement (Settlement Tank)

- 1 The leachate falling into the Settlement tank will gradually build up and overflow, falling into the inner annulus of the pump chamber immediately below. From here it flows through the gravity drain into the public sewer.
- 2 The leachate in the Settlement tank is displaced with each successive pump cycle, preventing the leachate stagnating.

3.5.6 Stage 5. Tertiary Air Stripping (Air Blower)

- 1 The Methane Analyser serves to sample the dissolved methane content of the leachate in the Settlement tank, and controls the activation of the Air Blower. The Air Blower in turn is connected to aeration domes, located in the Settlement Tank.
- 2 Samples are taken by the Methane Analyser at predetermined intervals (typically every 30minutes). Should the Analyser record a dissolved methane content >0.073mg/l, it automatically switches on the Air Blower.
- 3 The Air Blower injects air through the aeration domes creating a continual stream of bubbles which flow through the body of the leachate, releasing dissolved methane.
- 4 The Air Blower will continue to operate until the Methane Analyser records a dissolved methane content of <0.073mg/l, and automatically switches the Air Blower off.

3.6 Emergency Isolation Switch

- 3.6.1 Otherwise known as a Kill Switch, an emergency isolation switch has been installed in the Surface Water Lagoon building. This enables the electrical supply to the Leachate Treatment Compound to be terminated in the event of an emergency.
- 3.6.2 In throwing the Kill Switch, all electrical power to the Treatment Compound will be isolated, shutting down all operational systems.
- 3.6.3 Access is made via the Sefton Meadows HWRC as described in 1.2 above. The Surface Water Lagoon is located approximately 450m along the track way leading from the HWRC facility.

4.0 Checking, Monitoring and Maintenance

4.1 Meter Readings

- 4.1.1 Readings are taken of all the electrical and operation meters in order to monitor the performance and efficiency of the plant and apparatus; along with the electrical consumption of the facility.
- 4.1.2 The readings are generally undertaken by the Waste Facilities' Environmental Officers during the course of the Environmental Monitoring activities. When necessary, this shall be undertaken by other members of the Waste Facilities Department with a sufficient familiarity of the Leachate Treatment System.
- 4.1.3 Details, and the locations, of the meters to be read can be found in Meter Details and Locations – EMS 5. This is a pictorial guide to each meter and its location.
- 4.1.4 The meter readings are recorded by hand on the 'crib sheet' Meter Record Sheet – EMS 5. A store of blank hard copies are kept in housing unit.
- 4.1.5 The readings are then archived on the spreadsheet Meter Reading – EMS 5. This automatically analyses successive readings for anomalies.
- 4.1.6 Anomalies could reflect blockages in the pipework, or pumps running inefficiently, and are investigated accordingly

4.2 Condition Monitoring and Maintenance

- 4.2.1 The Leachate Aeration system is an automatic system, requiring no manual operation.
- 4.2.2 The installation is visited by Waste Facilities' Environmental Officers during the course of the environmental monitoring activities, and by Waste Facilities' Mechanical Engineer as part of general duties.
- 4.2.3 Condition Monitoring and Maintenance work is generally undertaken by members of the Waste Facilities Department with a sufficient familiarity of the Leachate Treatment System; assisted by Contractors as and when required.
- 4.2.4 Contractors are selected from the Authority's list of authorised Contractors and Suppliers EMS 4
- 4.2.5 The frequency of the Condition Monitoring and Maintenance shall be in accordance with the Monitoring and Maintenance Schedule – EMS 5.
- 4.2.6 Flow Meter pipework

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- 1 The flow meter pipework shall be periodically inspection for blockages or build up that might influence the effectiveness of the flow meter.
- 2 The procedure for opening and inspecting the pipework can be found in [Flow Meter Pipework Cleaning Protocol EMS 5.](#)

4.2.7 Sparge Tank Filter

- 1 The Filter is located on the incoming pipework mounted on the external face of the Sparge tank, and serves to filter out any small deposits in the leachate that might block the jetting nozzles.
- 2 The procedure for opening and inspecting the Filter can be found in [Flow Meter Pipework Cleaning Protocol EMS 5.](#)

4.2.8 Pressure Gauge

- 1 A pressure gauge is mounted on the incoming pipe to the Sparge tank Filter to provide an indication of the condition of the sparge tank pipework.
- 2 The gauge contains a red tell-tale needle and black operating needle. If either needle is beyond the operating pressure, indicated by the blue mark on the gauge face, it indicates a blockage in either the Filter or the pipework.
- 3 Inspect the Filter condition in accordance with [Flow Meter Pipework Cleaning Protocol EMS 5.](#)
- 4 If after inspecting the Filter the black operating needle is still beyond the blue mark, it indicates a blockage in the pipework. This shall be reported to the Facilities Mechanical Engineer for further investigation.
- 5 The Supply pump should be switched off at the control panel until the source of the blockage has been found and cleared.

4.2.9 Air Blower

- 1 The Blower is surface mounted, and located inside Housing Unit.
- 2 This is a disposable unit which does not require any servicing.

4.2.10 Submersible Pump

- 1 The submersible (Supply) pump is located at the bottom of the outer annulus in the pump chamber (Beneath the Jetting/Settlement tank).
- 2 The lifting out and servicing of the submersible pump is undertaken by a Contractor on the Authority's behalf.

4.2.11 Centrifugal Pumps (2No Transfer)

- 1 The Centrifugal pumps are not subject servicing due to their low monetary value. (The servicing of these low value pumps is as costly as their replacement with new).
- 2 The pumps operate until a mechanical fault develops. The pump is then replaced, with an identical pump kept in Stores, by Waste Facilities' Mechanical Engineer. The Stores pump is then replaced with a new identical pump.
- 3 The pump's mechanical fault shall be investigated to determine if the pump is worth repairing.

4.2.12 System Cleansing

- 1 Given the organic nature of the leachate; the aeration system can be subjected to the development of a biofilm on various elements of the system. This is particularly problematic to the jetting nozzles, where the biofilm can reduce their efficiency.
- 2 The Sparge tank and Jetting tank pipework shall be cleansed in accordance with [Sparge Tank Cleansing procedure EMS 5](#).

4.2.13 Electrical Safety Testing

The entire Leachate Treatment facility is tested for safety and compliance by a specialist electrical contractor selected from the Authority's list of authorised [Contractors and Suppliers EMS 4](#)

4.2.14 Telemetry System

The telemetry system is serviced by the specialist company providing the online access to the telemetry records.

4.3 Flowmeter Calibration

- 4.3.1 The flowmeter shall be calibrated on an annual basis, or when as described in clause 4.3.7
- 4.3.2 Immediately prior to the calibration exercise, the flowmeter and associated installation pipework shall be inspected and cleaned as detailed in [Flow Meter Pipework Cleaning Protocol EMS 5](#)
- 4.3.3 The flowmeter shall be calibrated for accuracy of flow rate/ readout by an independent accredited body.

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4.3.4 If the flowmeter is taken off site for repair or service, the leachate system will be shut down until the flowmeter is returned; whilst maintaining the use of the telemetry system to monitor levels.

4.3.5 Once re-installed or replaced, the flowmeter shall be subject re-calibration.

4.3.6 A Calibration Certificate shall be supplied, and filed for reference.

4.3.7 Re-Calibration:

Consideration shall be made to any changes in the operation, installation or pipework configuration which may influence the rate of flow through the discharge pipeline; or cause turbulence in or at the flow meter and its associated installation pipework. In such instances the flow meter shall be re-calibrated.

4.4 Procedures in event of System Failure

4.4.1 Typical events which have caused a system failure:-

- Power failure from electricity supplier.
- Power failure from control panels to pumps, or pump failure.
- Blocked discharge pipe work.
- Acts of extreme vandalism.
- Severe weather events.

4.4.2 In the event of a system breakdown, carry out a visual inspection for evidence of the above. In the event of:

1 Power failure from electricity supplier

Inform the electricity supply company and request an immediate presence on site to investigate/re-establish the supply. Contact details can be found in the site portfolio held in the Waste Facilities dept.

If a long delay is expected before power supply is re-established, the following options for controlling the leachate level are available:-

- i) Request Maintenance service contractor to attend site with a portable generator. This can be coupled straight into the control panel. The aeration system should run on auto, as normal, provided the generator is periodically fuelled up.
- ii) Arrange for tankering of leachate off site. Leachate can be extracted from the Pump Chamber beneath Housing Unit No 1.

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2 Power failure from control panel to pump, or pump failure.

- i) Commission an electrical contractor to investigate/rectify problem.
- ii) If the fault is due to a pump failure, and a long delay is expected before fault can be rectified, organise a contractor to replace the unserviceable with the standby pump from Stores.

3 Blocked discharge pipe work

Ensuring that the system is offline:

- i) Open all pipework at the various joints to locate the blockage, and arrange to have the pipeline jet cleaned to remove the blockage.
- ii) If the pipework has suffered a build-up that cannot be jet cleared, arrange to have the relevant pipework replaced. Details of the pipework can be found on the Asset Register.

4 Acts of extreme vandalism

Acts of extreme vandalism are varied in their nature and the damage to the treatment system is unpredictable. In such instances remediation works will need to be relevant to the nature of the damage.

When the vandalism entails a loss of power, it shall be rectified in accordance with procedures set out above for loss of power.

5 Severe weather events (*Freezing temperatures*)

Severe weather events in the form of very low temperatures have in the past resulted in the freezing of the pipework in and around the treatment compound.

To combat this, protective measures in the form of thermostatic heaters and pipework insulation have been put in place.

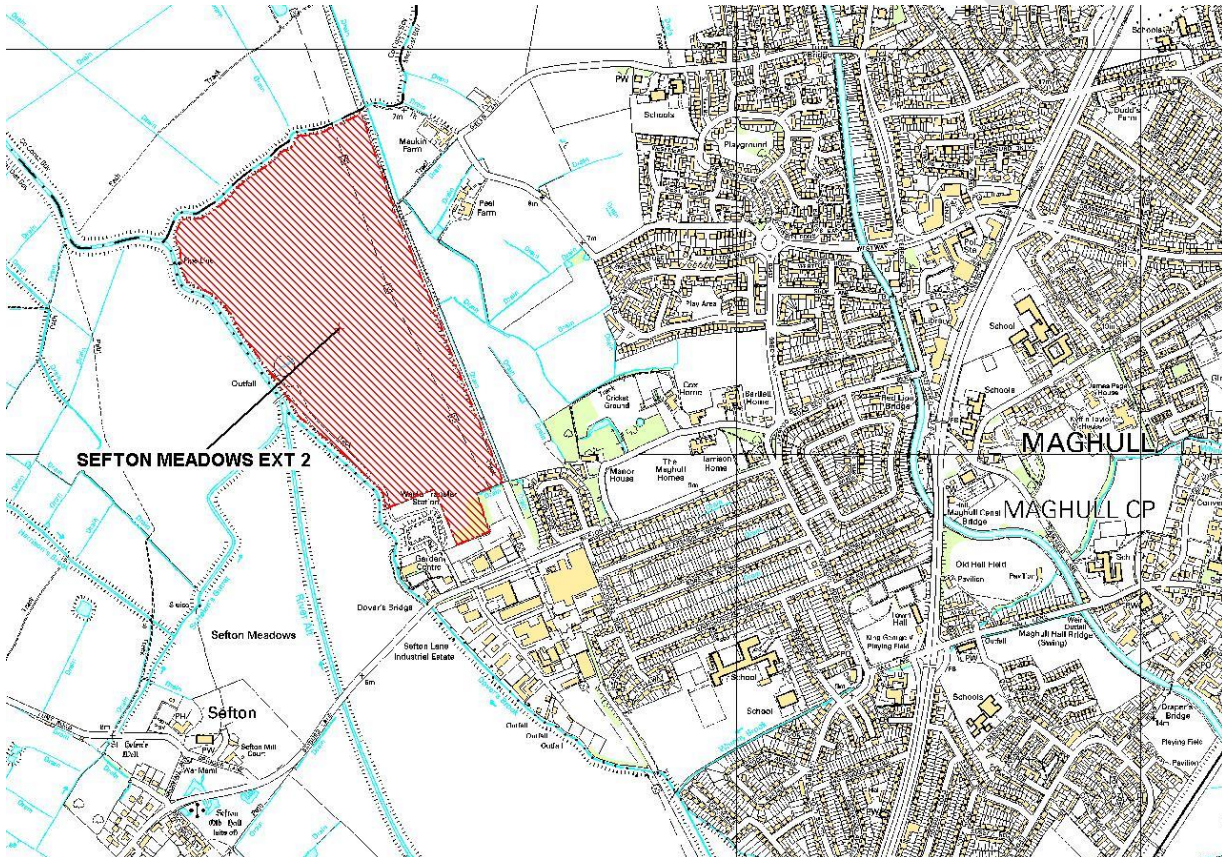
Despite these protective measures being in place, there have been occurrences when extremely low temperatures have still resulted in freezing pipework.

In such low temperatures, it is unlikely that any remediation works would be practicable due to the physical difficulties presented by freezing weather conditions in getting plant and equipment to site, and the temporary cessation of the leachate treatment and discharge systems is the only option.



MERSEYSIDE WASTE DISPOSAL AUTHORITY

**APPENDIX I
Location Plan**



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APPENDIX II

Trade Effluent Discharge Consent

Hillhouse WwTW
693T06054HIL1



WATER INDUSTRY ACT 1991

CONSENT TO THE DISCHARGE OF TRADE EFFLUENT

Whereas **Merseyside Waste Disposal Authority**

(hereinafter called "the Trader" whose Head Office or Registered Office is at

2nd Floor North House 17 North John Street Liverpool L2 5QY

Is the **Owner/Occupier** of the trade premises at:

Sefton Meadows Landfill Site 2A/3

Off Sefton Lane

Maghull Merseyside

and by the Trade Effluent Notice dated **24 January 2001**

Have applied to **NORTH WEST WATER LTD** (hereinafter called "the Company") for consent to discharge trade effluent from the said trade premises into the sewers.

Under the provisions of the above mentioned Act the discharge of trade effluent in accordance with the said Trade Effluent Notice would not be lawful without the consent of the Company.

NOW THEREFORE in exercise of the powers conferred upon them by the above Act the Company HEREBY CONSENT to the discharge of trade effluent by the Trader from the said premises into their sewers **SUBJECT TO THE FOLLOWING CONDITIONS:**

**ure of
discharge**

- 1(a) Subject to the provisions of conditions 6,7,8 and 9 below the nature or composition of the trade effluent to be discharged under this Consent shall be solely as specified in the said Trade Effluent Notice and shall consist solely of waste water derived from **Landfill Leachate**
- 1(b) The Trader shall give to the Company prior written notice of any change in the process or the process materials or any other circumstances likely to alter the constituents of the trade effluent as set out in condition 1(a). In such circumstances, no substance of which the Company has not had previous notice, may be discharged unless and until the Company has agreed to accept the substance at a limit imposed by the Company which shall then be deemed to be incorporated in this Consent by agreement and shall not prejudice the right of the Company to serve a Direction earlier than two years from the date of such incorporation.

The Trader shall also give not less than seven days written notice to the Company of any change in the name of the occupier or owner.

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MAINTENANCE MANUAL

Sefton Meadows No.2

Hillhouse WwTW
693T06054HIL1

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| Sewer affected | 2. The sewer into which the trade effluent may be discharged and the point of discharge is the foul sewer situate at Hillhouse Public Foul Sewer |
| Connections | 3. No connections shall be made to the said sewer without the prior approval of the Company and all such connections shall be constructed and maintained to the satisfaction of the Company at the expense of the Trader |
| Maximum volume of discharge | 4. The maximum amount of the trade effluent discharged in any one day of twenty four hours shall not exceed 1300 m³ without prior written consent of the Company. |
| Maximum rate of discharge | 5. The highest rate at which the trade effluent may be discharged shall not exceed 20 litre/sec. |
| Matters to be eliminated prior to discharge to sewers | 6. The following matters shall be eliminated from the trade effluent before it is discharged into the sewers of the Company: <ul style="list-style-type: none">a) Petroleum spirit;b) Calcium carbide;c) Carbon disulphided) Except as provided in paragraph 7 hereof, the prescribed substances listed in Schedule 1 to The Trade Effluents (Prescribed Processes and Substances) Regulations 1989, as amended from time to time, insofar as they are present at a concentration greater than the background concentration (as defined in the said Regulations);e) Where the trade effluent derives from a prescribed process mentioned in Schedule 2 to the said Regulations, and except as provided in paragraph 7 hereof, asbestos (as defined in the said Regulations) and chloroform in concentration greater than the background concentration (as defined in the said Regulations);f) Organo-halogen compounds including pesticide residues and degreasing agents;g) any substance which either alone or in combination with each other or with any other matter lawfully present in the said sewers would be likely to;<ul style="list-style-type: none">i) cause a nuisance or produce flammable, harmful or toxic vapours either in the sewers or at the sewage works of the Company;ii) injure the sewers or interfere with the free flow of their contents or affect prejudicially the treatment and disposal of their contents or have injurious effects on the sewage treatment works to which it is conveyed or upon any treatment plant there;iii) be dangerous to or cause injury to any person working in the sewers or at the sewage treatment works;iv) affect prejudicially any watercourse, estuary or coastal water into which the treated effluent will eventually be discharged. |

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| Matter to be limited prior to discharge to the sewer | <p>7. The trade effluent shall not contain</p> <ul style="list-style-type: none"> a) Sulphides, hydrosulphides, polysulphides and substances producing hydrogen sulphide on acidification in excess of 1 mg/l b) Separable grease and oil in excess of 100 mg/l c) Sulphates as SO₄ in excess of 1000 mg/l d) Toxic metals in excess of 10 mg/l either individually or in total ie Antimony, Beryllium, Chromium, Copper, Lead, Nickel, Selenium, Silver, Tin, Vanadium, Zinc e) Cyanides and cyanogen compounds which produce hydrogen cyanide on acidification in excess of 1 mg/l f) Methane in solution in excess of 0.14 mg/l g) Ammonia in excess of 250 mg/l |
| Temperature | <p>8. No trade effluent shall be discharged which has a temperature higher than 43.3°C (110°F)</p> |
| pH value | <p>9. No trade effluent shall be discharged having a pH of less than 6 or greater than 10</p> |
| Inspection chamber | <p>10a) An inspection chamber or manhole shall be provided and maintained by the Trader in a suitable position in connection with each pipe through which the trade effluent is discharged and shall be so constructed and maintained as to enable a person readily to obtain at any time samples of the trade effluent so discharged, to the approval of the Company</p> |
| Measurement of the discharge | <ul style="list-style-type: none"> (b) There shall be provided, operated and maintained in working order by the Trader a meter in such a position and of such specification as shall be approved by NWWL such as will measure and provide a continuous record of the quantity and rate of discharge of any trade effluent being discharged from the premises into the said sewer and following the written request of NWWL to have the accuracy of the meter independently tested by an agreed body. c) If the measuring and recording apparatus aforesaid ceases to function satisfactorily, then the Company shall have the right to make estimates of the volume and composition of the trade effluent until such time as the said apparatus is again operating to the satisfaction of the Company. d) Records shall be kept by the Trader of the volume, rate of discharge, nature and composition of the trade effluent discharged to the sewer, together with any records required to be kept by the Trader under the provisions of any Notice of Determination issued by the Secretary of State under Sections 120 and 132 of the Water Industry Act 1991. Such records shall be kept available for inspection at all reasonable times by an authorised officer of the Company and copies shall be sent to the Company on demand. e) The foregoing provision of this condition shall be deemed to be complied with if other methods of sampling the trade effluent, determining its nature and composition, and measuring and recording the discharge are agreed and confirmed in writing by the Company. |

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Hillhouse WwTW
693T06054HIL1

Payment 11. Payment shall be made to the Company on demand of charges in respect of the reception, conveyance, treatment and disposal of the trade effluent in accordance with the Company's Charges Scheme in force from time to time.

Dated 16 March 2001

Issuing Office Asset Management
Asset Strategy – Wastewater Trade Effluent
Lingley Mere
Lingley Green Avenue
Great Sankey
Warrington
WA5 3LP

Signed

BUSINESS MANAGER

for and on behalf of North West Water Limited

Your attention is drawn to of Section 122 of the Water Industry Act 1991 which provides that any person aggrieved by any conditions attached to this Consent may appeal to the Director General of Water Services.

Consent.9/97

North West Water Ltd
Registered in England and Wales: Registered No. 2366678
Registered Office: Dawson House, Great Sankey, Warrington WA5 3LW

Authorised by: Director of Waste

Issued by: ASB

Issue Number: 4

Document control: EMS 5–Maintenance Manual Sefton Meadows No.2–FA–MAN–93–ASB–Issue

4

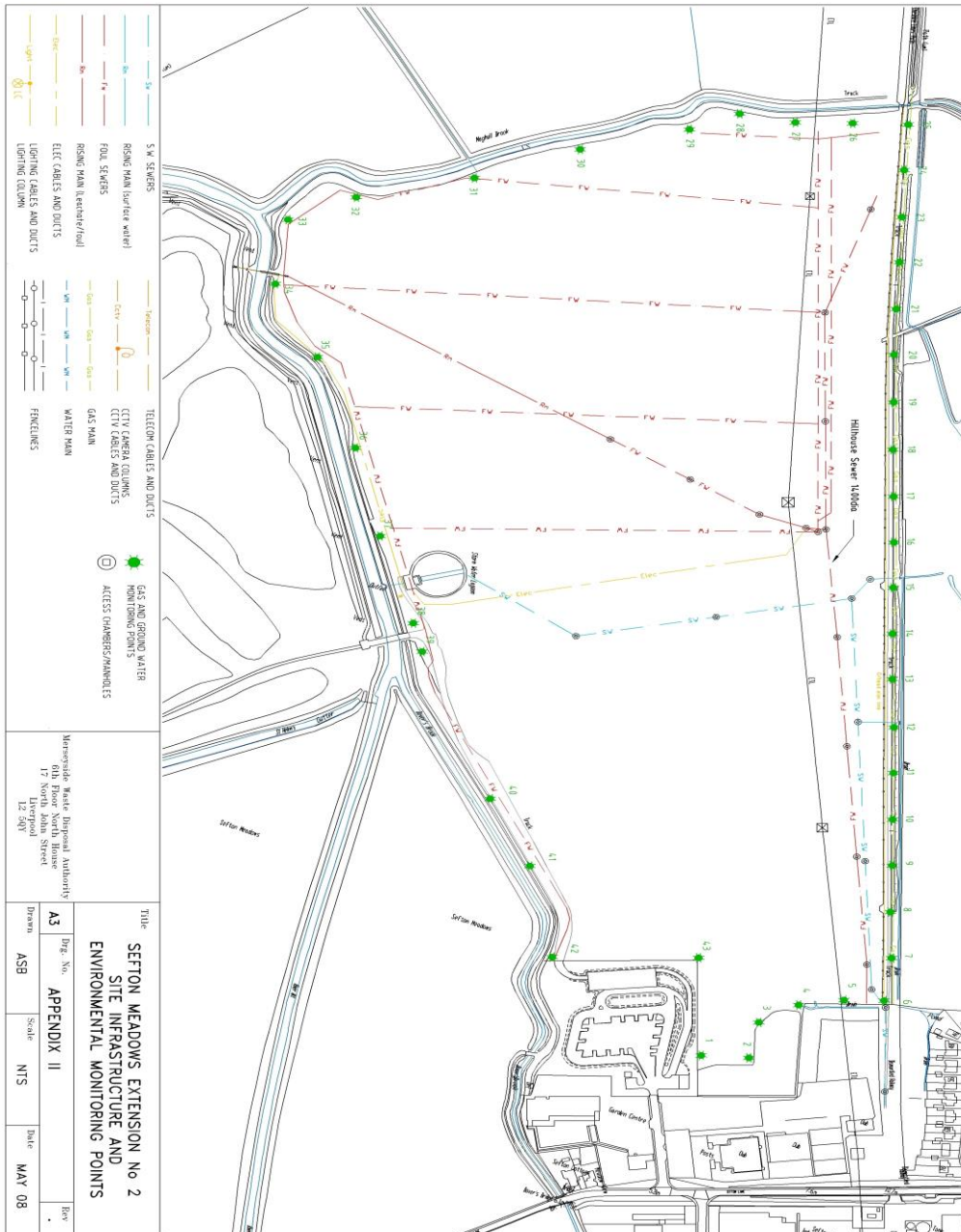
Date of Issue: 12th March 2014

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MERSEYSIDE WASTE DISPOSAL AUTHORITY

APPENDIX III Site Infrastructure



**APPENDIX IV
Photographs**



Typical Mains distribution board

Authorised by: Director of Waste

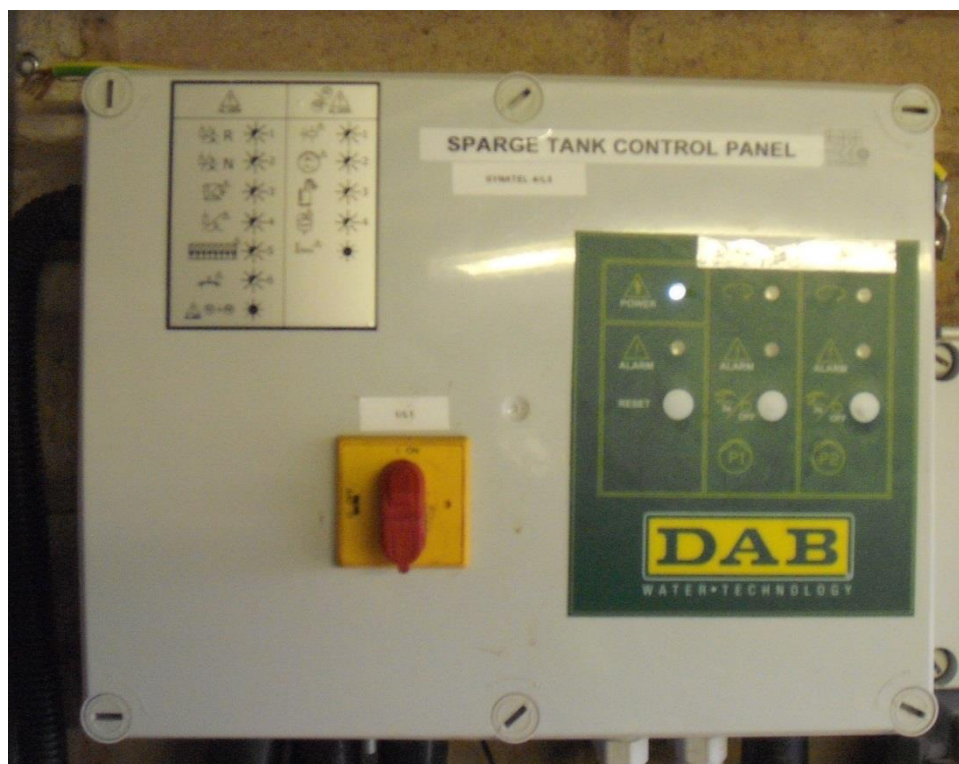
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Typical Transfer Pump control panel

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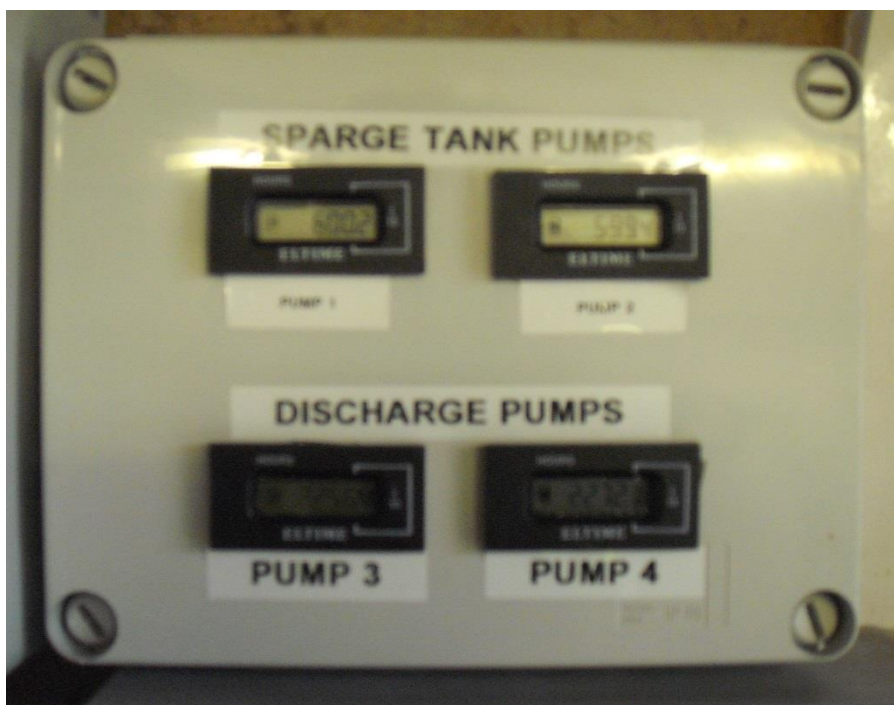
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Typical hours run meters for Transfer pumps



Typical Telemetry display panel

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Typical Submersible (Supply) pump control panel

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Sparge tank Filter and Gauge

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Centrifugal (Transfer) Pumps mounted onto Sparge tank

Authorised by: Director of Waste

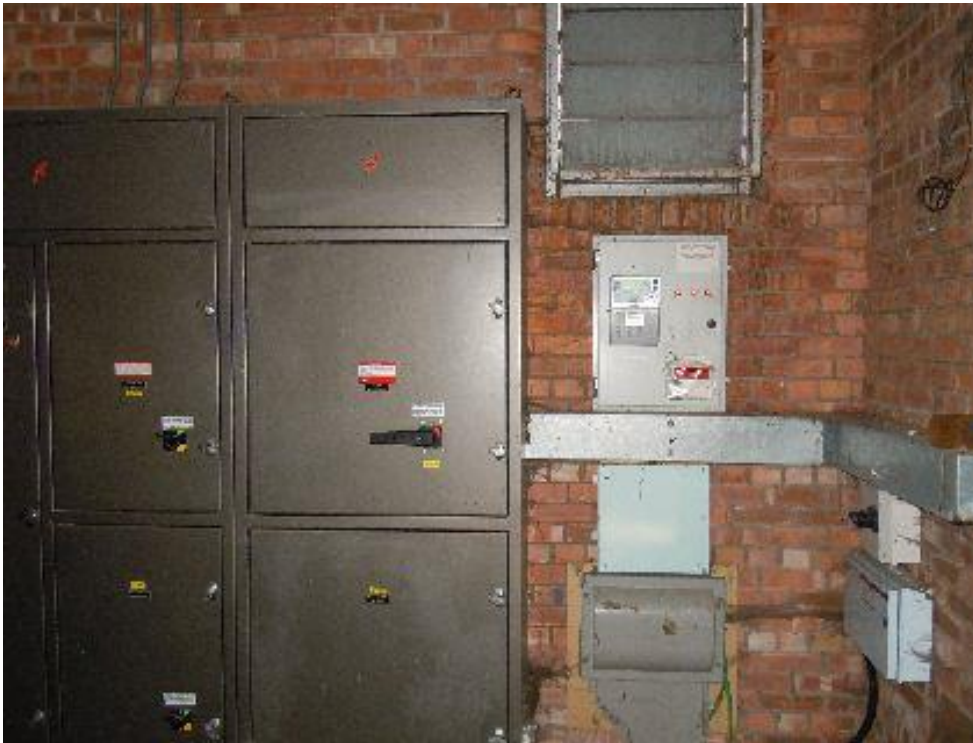
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Isolation switch in Surface Water Lagoon

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