MOTT MACDONALD

SW IED Site Condition Report - Goddards Green

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	March 2022	A Bagdadi	S Blackman	A Manns	First issue
B	May 2022	A Bagdadi	S Stone	A Manns	Second issue
C	January 2024	SM Bukar	A Manns	A Manns	Update
D	March 2024	I Moss	S Stone	A Manns	Resubmission
E	November 2024	SM Bukar	S Blackman	A Manns	Update

Document reference: 790101_MSD_SCR_GOD November 2024

Information class: **Standard**

Document purpose:

A Site Condition Report (SCR) provides information regarding the condition of the land and groundwater at permitted sites at particular points in time throughout its permit history. It is an on-going record of the potential and known contamination risks before a permit is granted, whilst activities are carried out under a permit and at the time of surrounding the permit.

The SCR will be submitted as required for Form B2/C2, Question 5b and will be completed following the Environment Agency's Environmental permitting: H5 Site condition report guidance (2013)[1]. The template structure is directly from the Environment Agency's H5 Site Condition Report word template[2].

For all new permits **sections 1 to 3** will be completed.

For sites that are currently permitted **section 1 to 7** will be completed, updating sections from the previous Site Condition Report where available.

Section 8 to 10 are not to be edited; these address surrender of the permit at a later date.

Guidance on SCR is found here https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report

[1] https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report

[2] https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report

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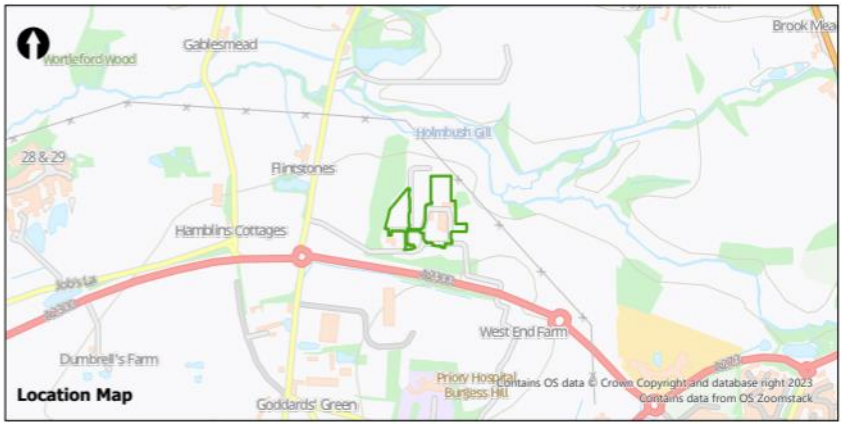
1.0 SITE DETAILS	
Name of the applicant	Goddards Green
Activity address	Goddards Green Wastewater Treatment Works Cuckfield Road Ansty Goddards Green West Sussex RH17 5AL
National grid reference	TQ 28947 20659
Document reference and dates for Site Condition Report at permit application and surrender	Site Condition Report: 790101_MSD_SCR_GOD Date of Permit Application: TBC Date of Surrender: TBC
Document references for site plans (including location and boundaries)	See 790101_MSD_SitelayoutPlan_GOD November 2024

2.0 Condition of the land at permit issue	
Environmental setting including: • geology • hydrogeology • surface waters	**Land use:** The Site, located to the north of the A2300 off Cuckfield Road, lies in a semi-rural location approximately 3km north-west of Burgess Hill. Goddards Green Wastewater Treatment Works (WTW), within which the sludge treatment centre (STC) (hereby referred to as the 'Site') is located, is an irregular parcel of land which has occupied the site since at least 1992. The Goddards Green WTW is approximately 7.5 hectares (ha) in area including its access road. The Site occupies much of the WTW, excluding the northern extent. The wider area accommodating both the Site and the WTW is surrounded by agricultural land to the north, east and west, and an industrial estate beyond the A2300 adjacent to the south of the Site.

Figure 1.1: Site Plan



Source: Extract from 790101_MSD_SitelayoutpPlan_GOD.

Geology:

Artificial Geology

The Site is not located on an area of mapped artificial deposits, which comprise deposits greater than 2.5m in thickness, however a cover of made ground is likely to be present on the Site associated with the development of the site infrastructure.

Superficial Geology

The northern half of the Site lies upon an area of River Terrace Deposits (sand and gravel) formed during the Quaternary period, whilst superficial deposits in the southern half of the Site are mapped to be absent. Alluvium is mapped adjacent to the north of the Site associated with Holmbush Gill (labelled as the River Adur further downstream).

Bedrock

The Site lies upon the Weald Clay Formation predominantly comprising mudstone but with interbedded layers of ironstone clay.

Hydrogeology

The aquifers in the superficial deposits are classified by the Environment Agency as Secondary A aquifers (medium vulnerability) whilst the bedrock aquifer is classified as Unproductive Strata.

No water abstractions or source protection zones (SPZ) are located within 1km of the Site.

Hydrology and flooding

The Adur East (Goddards Green) (also named Holmbush Gill on mapping) flows east to west adjacent to the northern boundary of the Site. The Environment Agency overall classification for this watercourse in 2019 was poor (poor ecological and fail chemical).

The Site is located in an Environment Agency Zone 1 flood risk area. Areas within zone 1 have a 1 in a 1,000 chance of river or sea related

	flooding. However, the land just north of the Site is located within a zone 3 which indicates a high risk of flooding. **Sensitive land use** The Site is located in a nitrate vulnerable zone (NVZ). There are no Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites or Sites of Special Scientific Interest (SSSIs) within 250m. **Radon** The Site is within a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).
Pollution history including: • pollution incidents that may have affected land • historical land-uses and associated contaminants • any visual/olfactory evidence of existing contamination • evidence of damage to pollution prevention measures	**Recorded landfill and Historical landfill:** There are no BGS recorded or historical landfill sites within 250m of the Site boundary. **Registered Waste Treatment or Disposal Sites** One licenced waste management facility operated by Southern Water Services Ltd is located approximately 50m southwest of the Site. There are no other registered waste treatment or disposal sites within 250m. **Nearby industrial land uses** There are no contemporary trade directory entries within 250m of the Site apart from the active waste disposal service located within the Site's boundary. **Discharge consent:** There are 20 discharge consents registered within 250m of the Site, with 19 of them operated by Southern Water Services, all for sewage discharges (final/treated effluent) into freshwater streams/rivers modified by (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995). The other discharge consent was revoked in 1992 for an unknown discharge from a farm into a stream. **Integrated pollution and prevention controls:** There is one integrated pollution prevention and control record for the Site (onsite), licenced to Southern Water defined as a permit (ref JP3137QB) issued under the Medium Combustion Plant Directive and Specified Generator Regulations. It was issued on the 25th of July 2019 and is still effective. **Pollution incidents to controlled waters** A substantiated pollution incident in 2002 within the Site boundary has been recorded. It was recorded that sewage sludge contamination caused a water quality category 2 (significant) incident and a category 3 (minor) incident in terms of land quality.

	Additionally, a minor (category 3) incident occurring in July 1999 due to pipe failure caused sewage sludge to be released into a river within the Adur catchment 110m from the Site location. **Mining and quarrying** The Site is not in an area effected by mining or quarrying. **Historical land use:** • Earliest mapping from 1981 suggests that the land was predominantly covered by fields, hedgerows and drains. The surrounding area also encompassed similar land use. • By 1912, Goddard Green village 500m to the south has increased in size, including an infectious diseases hospital and farms. By 1963 a works is also labelled 350m to the south-west of the Site, which is labelled as a 'scrap depot' from 1977-1994. • The land on-site and in the surrounding area remained undeveloped until 1992 when the 'Burgess Hill Sewage Works' is marked. • Aerial photography from 1999 shows the Site to have a similar layout to that seen today. The A2300 to the south of the Site has also been constructed. • Currently the WTW is located towards the westerly end of the Northern Arc development area which is a strategic multi-million-pound investment project where Homes England plant to develop up-to 3,500 dwellings, three schools and employment space. **Soil chemistry** The Envirocheck report indicates background soil concentrations in the area of: • 15-25mg/kg of arsenic, • <1.8mg/kg cadmium, • 60-90mg/kg chromium, • <100mg/kg lead and • 15-30mg/kg nickel. **Contaminants of concern** The following contaminants are of concern regarding the industrial activities stated above, in addition to the current use of the Site: • total petroleum hydrocarbons (TPH); • polycyclic aromatic hydrocarbons (PAH); • heavy metals and inorganics; • pathogens; • asbestos; • polychlorinated biphenyls (PCBs); • chlorinated solvents and phenols; and • volatile and semi-volatile organic compounds (VOC/SVOC).

	There may also be ground gases present, likely comprising CO_2 and CH_4.
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	**Site walkover** A site visit was undertaken on 24th January 2022 by a contaminated land specialist from Mott MacDonald. During the visit, the following observations were made: • Some cracking was noted on hardstanding around the Site, and water was standing in some areas. Construction works have resulted in some additional cracking of the hardstanding in and around the cake bays. • The wheel wash at the Site was not in use due to the construction works for the THP plant on the old cake bays. Some debris was noted on roads around the Site. • A borehole in the north of the WTW was seen during the walkover, however the padlock was rusted shut so access could not be gained. The site manager is to attempt to gain access, and identify previous monitoring records from the borehole. • Chemicals were stored in designated areas around the Site and appropriately bunded. • Staining on the sides of the primary digester were seen, indicative of leakage. Ground surrounding the digesters is permeable gravel. • The Site does not accept hazardous waste and all sludge/cake imports are unloaded in specified locations. • A pond exists adjacent to the east of the Site (the old cake bays), which lies in an area of low ground. Anecdotally this has had runoff from the site (including potential contaminants) enter it. **Planning applications** A search of the Mid-Sussex District Council planning portal was conducted on the 7th November 2024. No applications with relevant information on ground conditions were discovered.
Baseline soil and groundwater reference data	No baseline soils or groundwater reference data is known to exist for the site. However, a borehole was identified during the site walkover
Supporting Information	Sources used in the production of this SCR: • Landmark (2021), Envirocheck Report – Goddards Green wastewater treatment Ref- 100419175-001 • British Geological Survey, GeoIndex www.bgs.ac.uk consulted November 2024; • Magic Map http://magic.gov.uk/ consulted November 2024.

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3.0 Permitted activities	
Overview of site processes	The Site presently accepts cess and both indigenous and imported sludge and cake waste derived from the wastewater treatment process. The Site is a sludge treatment centre which has both liquid sludge and sludge cake reception facilities. On average the Site accepts 44 tankers containing sludge, cess, septic, and chemical toilet waste. This consists of approximately 21 tankers per day of liquid sludge imports and an average of 23 tankers of imported cess, septic and chemical toilet waste. All imported liquid waste and sludges are transported in enclosed tankers and liquid sludge is unloaded via a hose. Indigenous and imported liquid sludge are screened by two Strain Presses and then thickened by two duty / standby drum thickeners. Imported sludge cake is blended with indigenous liquid sludge and then screened in two Strain Presses (Separate). Blended and thickened sludge is mixed and stored in a Thickened Sludge Storage Tank and fed to two conventional mesospheric anaerobic digesters operating at around 37ºC. Digested sludge is stored in two digested sludge storage tanks before being dewatered by two duty, standby centrifuges. Dewatered digested cake is stored on site in a large, covered cake bay before being recycled to farmland. Biogas produced by the digesters are used by CHP to generate electricity. Centrate and decant liquor from the drum thickeners is pumped to the liquor treatment Cyclic Activated Sludge System (CASS plant). Treated liquor is mixed with settled and crude sewage in the anoxic selector of the oxidation ditch. The Site hosts a strategic liquid waste storage facility which is used to take unscheduled emergency sludge imports. This facility consists of two sludge storage tanks with a combined capacity of 5,000m3. When the tanks are full, a mobile centrifuge is used to dewater the sludge. It can then be pumped back to the sludge reception, as required. The sludge cake is either treated by the STC or transported off site. The centrate drains to the site return pumping station which is returned to treatment on site. This activity lasts for several weeks each time. All sludge treatment process are covered or enclosed. Odorous air is extracted by two separate odour treatment units (OCU) which serve the STC area. Biogas produced by the digestion process is stored in a double skinned gas holder (920m^3). Biogas is fed to the CHP plant where it is used to generate heat (i.e., to control the temperature of the digestion process) and electricity to power the Site's electrical equipment and processes. The CHP unit has a thermal rated input of 1.79MWth. The Site has two back-up boilers (duty and standby) (both 0.88MWth) that operate in the case of an emergency.

Permitted activities	The Site currently has two Environmental Permits in operation. Permit EPR/WP3695HW is the bespoke waste permit existing on-site, as well as permit EPR/JP3137QB which allows for the running of one combined heat and power (CHP) engine to provide electricity for the site. Several directly associated activities (DAAs) are also permitted and include sludge and cake reception, storage and blending, sludge thickening and dewatering, biogas conversion, storage and combustion.
Non-permitted activities undertaken	Waste activities comprising imports, physio-chemical and anaerobic digestion treatment and waste storage are currently non-permitted activities on-site. Anaerobic digestion is to be permitted under the Industrial Emissions Directive under a Bespoke Installation Permit as Anaerobic Digestion of sludge is no longer excluded under the Urban Waste Water Treatment Directive and associated regulations. Permitted Directly Associated Activities include waste import, physio-chemical treatment of sludges and storage of indigenous and imported sludges.
Document references for: • plan showing activity layout; and • environmental risk assessment.	• Environment Agency (2019), Permit with introductory note – EPR/JP3137QB • Environment Agency (2016), Permit with introductory note - EPR/WP3695HW/S005 • Southern Water (2020) Wastewater Above Ground Capacity Assessment AM410 Part 2

4.0 Changes to the activity	
Have there been any changes to the activity boundary?	No
Have there been any changes to the permitted activities?	Due to impending changes in the way the Waste Management industry is regulated by the Environment Agency and Natural Resources Wales, STCs are obliged to apply for Fixed Installation Permits under the Industrial Emissions Directive (IED) and comply with new permit conditions by March 2025. Fixed Installation Permits will amalgamate and supersede all current permits and exemptions under which waste is treated on the STC sites (including Environmental Permitting Regime (EPR), Medium Combustion Plant Directive (MCPD), old style Waste Management Licenses, and T21 exemptions). Activities at Goddards Green STC will continue, as prior to the introduction of the updated and amalgamated permit, although under any new requirements imposed by the permit.
Have any 'dangerous substances' not identified in the Application Site Condition Report been	No prior site condition report (SCR) is known to exist for the site. This SCR presents the condition of the Site at the point of the amalgamation of the existing permits on site and the introduction

used or produced as a result of the permitted activities?	of additional requirements relating to sludge processing, as required under the IED. 'Dangerous substances' that are used or produced at the site include: • Diesel • Hydrated lime • Ferric chloride • Polymer (Camera C496 & C496HMW) • Anti-foam (Flofoam 685) • Sodium hydroxide (47% and 27%) • Gas oil • Lime • Biogas (produced from the digestors and stored in the on-site double membrane gas holder)
Checklist of supporting information	Plan showing any changes to the permit boundary, where applicable (Document reference 790101_MSD_SitelayoutPlan_GOD, November 2024

5.0 Measures taken to protect land	
Use records that you collected during the life of the permit to summarise whether pollution prevention measures worked. If you can't, you need to collect land and/or groundwater data to assess whether the land has deteriorated.	
Checklist of supporting information	• Inspection records and summary of findings of inspections for all pollution prevention measures • Records of maintenance, repair and replacement of pollution prevention measures

6.0 Pollution incidents that may have had an impact on land, and their remediation	
Summarise any pollution incidents that may have damaged the land. Describe how you investigated and remedied each one. If you can't, you need to collect land and /or groundwater reference data to assess whether the land has deteriorated while you've been there.	
Checklist of supporting information	• Records of pollution incidents that may have impacted on land • Records of their investigation and remediation

7.0 Soil gas and water quality monitoring (where undertaken)	
Provide details of any soil gas and/or water monitoring you did. Include a summary of the findings. Say whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how you investigated and remedied this.	
Checklist of supporting information	• Description of soil gas and/or water monitoring undertaken • Monitoring results (including graphs)

8.0 Decommissioning and removal of pollution risk	
Describe how the site was decommissioned. Demonstrate that all sources of pollution risk have been removed. Describe whether the decommissioning had any impact on the land. Outline how you investigated and remedied this.	
Checklist of supporting information	• Site closure plan • List of potential sources of pollution risk • Investigation and remediation reports (where relevant)

9.0 Reference data and remediation (where relevant)	
Say whether you had to collect land and/or groundwater data. Or say that you didn't need to because the information from sections 3, 4, 5 and 6 of the Surrender Site Condition Report shows that the land has not deteriorated. If you did collect land and/or groundwater reference data, summarise what this entailed, and what your data found. Say whether the data shows that the condition of the land has deteriorated, or whether the land at the site is in a "satisfactory state". If it isn't, summarise what you did to remedy this. Confirm that the land is now in a "satisfactory state" at surrender.	
Checklist of supporting information	• Land and/or groundwater data collected at application (if collected) • Land and/or groundwater data collected at surrender (where needed) • Assessment of satisfactory state • Remediation and verification reports (where undertaken)

10.0 Statement of site condition
Using the information from sections 3 to 7, give a statement about the condition of the land at the site. This should confirm that: • the permitted activities have stopped • decommissioning is complete, and the pollution risk has been removed • the land is in a satisfactory condition.

A. Site walkover notes

24th January 2022

Record general site observations (as noted above) here:

(Sch 5: Please add comments on areas of:

- **permeable and impermeable surfaces**
- **locations of containment kerbs, bunds and other containment structures)**

Some immediate sewage smells when entering site – possibly nearby storm tanks

MTS lease south-east area of the site

Construction works currently happening in cake bays for THP – only 2 bays nearest centrifuge still in action

Some cracking of hardstanding noted around the site and standing water where not draining

RFI Ref	Site operations	
	Operational contact details for the application forms	[redacted]
	No of site staff (day and shift operators etc)	Total 6 going to 8 in next few months. At once 4 usually but should be 5
I15	During what hours is the site staffed Monday – Friday and at weekends?	14 manned and then 10 covered by standby
	What hours can waste enter the site (planning)	Restriction from planning removed. So can accept 24/7
I16	What hazardous waste treatment capacity (tonnes per day) is available on site?	Provided outside of visit
I17	What non- hazardous waste treatment capacity (tonnes per day) is available on site? This should also include Commercial Waste where appropriate.	Provided outside of visit
I18	What is the total waste storage capacity (tonnes) at the site? Note: Cake, digestors, other tanks relating to STC)	Provided outside of visit
I19	What is the annual waste throughput (tonnes each year) at the site? (TDS volume for the STC)	Provided outside of visit
I20	For the waste types authorised to be accepted at the site (EWC codes) – List the types of waste required to be listed on each permit.	Provided outside of visit
121	How many years is each permit expected to be required for?	Indefinitely

	List details of each permit separately	Want THP operation before permit – will need local position statement
GEN07	Please describe the aspects of the site that generate litter, mud and debris within and outside the site boundary.	Cake bays, offices
GEN08	Describe the site cleaning procedures on site. Including any infrastructure cleaning, wheel wash etc	Currently a wheel wash. Not currently active – power cable broken, will be fixed in next month Cleaning services for offices Sweeping of yard as needed
GEN09	Please describe the site security measures in place at site. Can you elaborate on the type of fencing e.g. palisade, chain link, barbed wire, and mix of? How high, do they go all around the perimeter? Do they have barbed wire on top? Type of gate, what are the gates made of, height etc? Gate control, CCTV, how many cameras etc	6ft chain link with barbed wire at top around all of site other than around entrance. Steel palisade at gate (2.5-3m) with 2m electronic metal gate controlled by control room or fob Total 8 CCTV: 2x cameras covers main gate (CCTV and number plate recognition), 2 on inlet (thermal and CCTV) 2 on big fuel tank/generator (thermal and CCTV) 2
	Site Plans	
GEN13	Please provide a copy of the Site Plan showing the proposed permitting boundary in green. This can be overlaid the Site Layout Plan. The Site Plan will be placed in the permit and needs to show a north arrow, identifiable location indicators (such as roads).	THP to take up 4 of the current 6 cake bays (bottom right remaining) so capacity to be reduced.
	Visual impacts	
GEN10	Please describe the visual impacts of each site.	Mostly surrounded by trees, not visible from road. However new housing permission to east which will introduce new receptors
	Emergency procedures	
GEN17	Provide a description of the emergency procedures for each site	Generic plan at moment updated plan coming through in next few weeks. Incident management plan needs updating for permit
	Sludge import	

<table>
<tr><td>SV01</td><td>Does the site accept trade waste (commercial tankers)?</td><td colspan="2">Not currently but will do with this permit – needs including in application</td></tr>
<tr><td>SV01/02</td><td>How many tankers arrive at the site per day?

Where are the tankers unloaded? Is an odour control hose used during unloading?</td><td colspan="2">Provided outside of visit

Unloading via hose</td></tr>
<tr><td>SV03</td><td>Where is sludge imported from? Sludge imported from other satellite sites? How many?</td><td colspan="2">Provided outside of visit</td></tr>
<tr><td>I22</td><td colspan="3">Air Emissions</td></tr>
<tr><td></td><td>Please provide the emission/maintenance report(s) for the flare(s).

Are there any maintenance reports?</td><td colspan="2"></td></tr>
<tr><td></td><td>Please clarify whether safety zoning of areas is undertaken under DSEAR/PEXA at site.</td><td colspan="2">DSEAR</td></tr>
<tr><td></td><td colspan="3">Air Emissions from plant</td></tr>
<tr><td></td><td></td><td>Plant 1, 2 etc</td><td>Plant 1,2 etc</td></tr>
<tr><td></td><td colspan="3">Additional space for information on plant (if required)
<table>
<tr><th>National Grid Reference and or activity reference/ emission point</th><th>Activity listed in the EP Regulations</th><th>Description of MCP and/or specified generator</th><th>Fuel</th><th>Operating hours limit per unit per annum</th></tr>
<tr><td>Tranche B Biogas CHP Engine
TQ 29006 20653</td><td>Schedule 25B – Specified generator</td><td>1 x 1.79MWth CHP engine</td><td>Biogas</td><td>Unlimited, but may not be run when the back-up boilers are running</td></tr>
<tr><td>Tranche A Diesel Engine
TQ 28812 20624</td><td>Schedule 25B – Specified generator</td><td>1 x 1.73MWth diesel engine</td><td>Diesel</td><td><100 hours per annum</td></tr>
<tr><td>Back-up generator
TQ 29018 20643</td><td>Generator that is excluded.</td><td>1 x 0.43MWth generator</td><td>Diesel</td><td>A back-up generator operated for the purpose of testing for no more than 50 hours per year</td></tr>
</table></td></tr>
</table>

	<table><tr><th>Emission point ref. & location as referenced in table S1.1</th><th>Pollutant</th><th>Combustion Technology</th><th>Emission limit mg/Nm^3</th><th>Reference period</th><th>Monitoring frequency</th><th>Monitoring standard or method Note 1</th></tr><tr><td>Tranche B Biogas Engine TQ 29006 20653</td><td>Oxides of Nitrogen (NO and NO_2 expressed as NO_2)</td><td>Gas engine</td><td>190</td><td>Periodic (average over one hour)</td><td>Once within 4 months of the issue date of the permit, or as otherwise agreed with the Environment Agency</td><td>MCERTS BS EN 14792</td></tr><tr><td>Tranche A Diesel Engine TQ 28812 20624</td><td>Oxides of Nitrogen (NO and NO_2 expressed as NO_2)</td><td>Diesel engine</td><td>No limit set</td><td>---</td><td>No monitoring required</td><td>---</td></tr><tr><td>Back-up generator TQ 29018 20643</td><td>Oxides of Nitrogen (NO and NO_2 expressed as NO_2)</td><td>Diesel engine</td><td>No limit set</td><td>---</td><td>No monitoring required</td><td>---</td></tr><tr><td colspan="7">Note 1: Monitoring requirements are defined at a temperature of 273.15 K, a pressure of 101.3 kPa and after correction for the water vapour content of the waste gases at a standardised O_2 content of 15% for engines.</td></tr></table>	
	Emissions		
GEN13	Please explain how and where discharges solely of sanitary determinands are undertaken, including details of any treatment prior to discharging. Include reference to any permissions held for the discharge (permits/exemptions etc).	Permit covers both discharges (standard and storm) Sampling point before outfall	
	Emissions to land		
GEN20	Please describe where all condensate pipes discharges (typically CHP exhaust , gas bag and digester), including the exact location of the emission and the quantity/rate of discharge. Include NGR is discharges to ground. Include location of inlet works if condensate goes to site drainage. If container used to collect condensate, where and how often, does it get emptied?	Condensate go back to raw tank then to aeration lanes. Very little, don't know exact rate Soakaway around the raw liq tanks	
	Exemptions		
	What exemptions are used on site? Typically SW have T21, D5 and S1.		
	Cake storage		

SV04	Is any cake imported? If so, how is it unloaded from trucks and where is it unloaded?	Yes, tipped into strain press. Inside shuttered building. Connected to OCU but having bigger shed put over top
SV05	Where is cake stored? How is cake stored? E.g. Cake bays, silos, directly into skips etc	Cake bays
	How many cake bays/silos/other are there on site? How long does it take to fill a bay e.g. 4-6weeks?	Currently 6 bays but will reduce in the future as the TPH will take up at ~4 of the bays
	What is the total surface area of the cake bays? Or total volume that can be stored if known? E.g. L x H x W. What is the total capacity (if in a silo)?	65m x 85m currently
SV06	How is cake moved to the cake bays (enclosed truck etc)? How frequently is cake moved around the site?	Conveyor straight into bays from centrifuge building. Moved in the bays via telehandler. Placed from conveyor then exported when ready
SV07	Is the cake treated further after the centrifuge e.g. liming of cake within cake bays?	Liming – liquid injection into centrifuge feed
SV08	When cake is within the bay, is the cake turned/disturbed at all? How often? Why?	Not turned. Moved into position then left until removal
SV09	How is cake removed from the site? How often? Over what timeframe? e.g. 2weeks constantly	Daily at moment as wet but 5-6 days/week normally Takes about a month to fill a cake bay
SV10	What is the condition of the cake bays? Eg condition of base, height of walls? Does this sufficiently contain the cake? Are there any known issues?	Currently building works going on so not best condition at moment and has temporary blocks to form walls. Outside walls ok condition. New THP cake will sit in dutch barn so less runoff than currently
	Water usage	
SV11	What sources of water does the site use? E.g. potable, secondary washwater, other process water etc What proportion/% of the site's water usage is from this source?? E.g. 2% potable water for	Potable in offices Final effluent secondary washwater – hoses around the site UV plant – can use FE for poly make up but not always running so use both

	polymer make-up and drinking, 98% primary or secondary wash water for other i.e. cleaning etc? What is it used for e.g. poly make-up, washing down etc? Is specifically potable water required for any of the site processes? (e.g. poly make-up)	Caustic hose is potable
SV12	Does the site get water from other sources? Abstraction from river etc? How much is permitted to be abstracted/day/hr etc? What is it used for e.g. poly make-up, washing down etc?	No
	Generators	
SV13 - 19	Are there any generators on site? How many and what size (MW)? What are they used for e.g. primary/secondary. Site running, exporting power to grid? Do they export to grid or import from grid to run the site? Is operation of the CHPs temperature sensitive? If yes, what is their optimum temperature range? Is there a temperature above/below which they will not operate? What are their fuel sources? E.g. diesel, biogas, other source How many hours per year do they operate? Any monitoring undertaken? If so, what for and what are the standards used?	Small backup for STC but may change – needs to be included in permit No export to grid No temp sensitivity, no real downtime Boilers run about 10 hrs/year (backup only or for test maintenance) Steam generators will run all the time SCADA monitors remotely. Schedule of maintenance for CHP – weekly, and about every 6 months for boilers
	CHP engines/boilers	
	How many CHPs/boilers on site?	*Take photos of any plates*
SV18 SV17	What size (MW)? What are they used for e.g. primary/secondary. Site running, exporting power to grid? Are there any flares? If so how often is the flare used? E.g. during emergency or maintenance of the engines or all the time? Are the CHP's/boilers/ generators adequate for the amount of gas produced by the site? Any monitoring undertaken? If so, what for and what are the standards used?	Flare runs for about 20-30 hrs /year as CHP sufficient Max CHP runs at is 80%

GRA01 MIL01	Is operation of the CHPs temperature sensitive? If yes, what is their optimum temperature range? Is there a temperature above/below which they will not operate? What is the annual load of CHP (given as %) for sites in Tranche 3? What is the annual load of CHP (given as %) for sites in Tranche 5?	
	Noise	
I64	Please describe any noise mitigation measures on site.	None
	Other abatement?	No
	Have any noise assessments been undertaken on the site?	No
	Have there been any noise complaints?	Check from customer support management system
SV19	Any monitoring undertaken? If so, what standards are used?	No
	Odour	
SV20	Please describe any odour mitigation measures on site e.g. processing of imported sludge immediately, odour control hoses for tankers, water suppression sprays, enclosed processes, doors to buildings kept closed, buildings under negative pressure?	Site has own management plan. OCU, future THP, covered tanks (PSTs, storage tanks), hose for unloading Jet wash in storm tanks to clear sludge Portable mist spray with fragrance
SV21	What is the odour control system used – specific to locations on site? Bio-scrubbers/carbon filter etc? What is the media used? Which processes are odour controlled? How and when is the odour control maintained/inspected to ensure they remain effective? Please provide full maintenance schedules for each site	*Obtain as much information as possible on system used and take photos.* Biofilter with online monitoring, serviced every 6 months Automated hydrogen sulphide monitors Covers: sludge reception, Cess,
Sch 5	Stack height of the OCU	
Sch 5	Emission rate of the OCU (leaving the stack)	
SV24	Is odour monitored? If so how?	Sniff tests daily

Sch 5	How are potential diffuse emissions from open storage areas (such as cake storage areas) and open processes prevented or otherwise minimised? (drop heights to the cake bays, open tanks, wall heights)	Barn arrangement in future. Sheltered area that the conveyor drops into
	Is there a site specific odour management plan?	Yes
	Any odour complaints?	Yes – should have been sent over in reports from customer support management system
	Other abatement?	
GEN16	Describe the maintenance programmes that are undertaken to ensure odour and bioaerosol control measures are maintained, prioritising Tranche 2 sites.	OCU maintained by external contractor monthly
OMP02	Please identify the most common sources of odour complaints (i.e. during movement of cake, etc)	Storm tanks
OMP01	Dry solids range (%), sludge type, sludge pH, and storage time at average throughput for different tanks / processes.	Sludge reception (3% ds, pH6.8-6.9) PSST TSST (7.5-8.5%ds, 6.9-7pH) Digester (4.5%ds, 7.2-7.3pH) Centrifuge (27%ds, 9.5pH)
OMP04	For each asset on-site, please provide: • Potential odour source • Odour controls in place (see SV21) • Potential for odour emissions • Action to be taken in case of failure • Person responsible	Cake bays – portable suppressant Storm tanks – keep clean and portable suppressant if needed [redacted]
Sch 5	Has the site had odour modelling undertaken? If so, when and please provide a copy.	Has air dispersion modelling which should have been supplied with permit (EPR/JP3137QB) Odour modelling completed about 18 months ago
	Bioaerosols	
GEN15	Describe the processes and bioaerosol control measures (e.g. odour abatement systems, enclosed tanks, filters) associated with:	OCU, covers on tanks, unloading by hose or in covered building, centrifuge in building
	• Sludge reception/transfer of sludge between the vehicles and the facility (including: frequency	OCU for cake reception, bioscrubber.

	of deliveries and collections, and types of vehicles used to transport waste; proportion of water within the sludge cake delivered to site etc)	Hose for unloading sludge
	• Handling and storage of sludge/digestate throughout AD process	RAW tank covered, liqueur PS covered, aeration lane could generate bioaerosols
	• Disposal of biogas (combustion)	Whessoe valves not connected to SCADA
	• Any other relevant procedures onsite which could generate bioaerosols	Storm tank spray bar
	If using odour suppression sprays are they used to just mask the smell or to catch and drop the odour?	Sea breeze flavour mask
	Is sludge arriving on site processed immediately? If not how long is it until it is fed into the system?	Yes but can sometimes have backlog if lots of sites bringing sludge at once
	Pests	
SV25 & GEN12	Does the site experience pests and if so what are they (birds, vermin etc)? What measures are in place to prevent/control pests? What measures are in place to remove pest issues? What's the frequency of visits by a pest control contractor?	Rats Contractor monthly to come in and check
	Raw materials – Write here or refer to table at the bottom	
I35	Will operations require raw materials? What raw materials are used on site? List all including diesel, poly, lime etc Try to get the proper chemical name as well as what it is referred to.	See table at bottom
I36	How much is stored on site of each at any one time (maximum tonnage)?	
	What is each material used for?	
SV26	How and where are they stored? Bunded, stored undercover etc? Are they in IBC's, bags, tanks etc?	
SV27	What is the storage capacity of tanks, IBC's etc, how many on site?	
	How often are they replaced?	

I38	Describe the basic measures for improving energy efficiency of the activities carried out on site	
	Resource efficiency	
I41	Explain and justify the raw and other materials, other substances and water that SW use at site	Required for site operation. Use of everything optimised by SW optimisation team to reduce use where possible
SV28	Describe waste avoidance and waste recovery measures (for the whole site operations, including staff generated waste). Describe how waste is disposed, by whom. This relates to all wastes generated by SWS operations on site – e.g. wash water, screenings etc	FE used on site Recycling Disposal where not able to be recycled Contractors remove waste and recycling
	Any water saving measures?	FE use rather than potable
	Combustion	
I43	Does the site have an aggregated net thermal input of combustion plant/s more than 20MW?	No
	Site Plans and Processes	
I50	Please obtain a site layout plan for the site to show the location of all equipment, key aspects of the site infrastructure and operations and emission points	
I52	Please explain the waste treatment processes carried out on site, the associated environmental risks and how these are managed/mitigated for each site	General maintenance, storage of chemicals on hardstanding
	Risk Assessment	
I55	Please provide any existing environmental risk assessments relating to the operations of the site	None known
I57	Please confirm whether the site sources all water or a proportion of water through surface water or ground water abstraction.	None
I61	Please provide details of the tanks on each site, their contents, how they are maintained, capacity and specification (e.g bunding features) What are the age/condition of tanks?	To provide
I62	Please provide details of all environmental incidents that have occurred within, or near the site, including any fires and spills.	None

	Please explain how these were handled and any environmental impacts identified following the incident.	
GEN03	Please provide historical flood records for all sites Are these events recorded anywhere e.g. site diary/log How often are flooding occurrences – e.g. monthly, during heavy rainfall?	River does come up to site fence on rare occasion but no issues for operation
GEN04	Please provide copies of any additional assessments undertaken at the site e.g. air dispersion modelling, habitats regulations, protected species surveys, preliminary ecological, MCZ screening, noise impact, flood risk, heritage, bioaerosols risk assessments etc	Possible tree protection for Oak tree
	Health and Safety	
	Is SCADA used on site? What processes are covered by SCADA?	Yes Everything
Sch 5	Does the site have a Leak detection and repair plan? What are the methods for locating unknown emission sources? What are the monitoring methods and frequency of monitoring to quantify significant emissions? What are the leak mitigation measures? (maintenance programme etc)	No, maintenance scheduled tasks but not a repair plan CHP and OCU hooked up to SCADA Nothing formal, but notice on site walkovers General maintenance
	Digesters	
	How many digesters on the site?	2 primary 2 secondary
	Digester capacity	
SV29	Any Wesso valves? How many? Any temperature sensitivity observed in the Whesso valves? (previously we have heard of Whesso valves freezing below -5^{o}C)	2 per digester (=8) 2 gas bag
SV30	Any monitoring of tanks/gas? Is there an alarm system attached to the Whessoe valves (inform SCADA when operational)?	No. Drop in pressure or hear
	What is the ground like surrounding the tanks? E.g. permeable gravel, concrete etc	Gravel

SV31	Underground pipework for digesters? Known condition?	Yes but not known
	Is biogas generation managed by reducing the digester feed in the event that the flare stack and/or CHP engine failed and caused the Whessoe valves to release biogas?.	Not formally but probably manage imports if for long period
	Drainage	
	Where do the drains go? E.g. Head of the works	Drainage plan being made. yes to works return
	Is site adjacent to a river or stream?	
	Is the whole site bunded	Areas of hardstanding yes but not full site, some soft landscaping/grass. Pond on site that has acted as receptor for spills
	Are there any cracks in the pavement	Some around CESS import and where construction works ongoing around cake bays
SV31	Any other underground pipework? Condition known?	Drainage survey being undertaken
GEN21	Please describe whether all drainage (surface or foul water) will be captured by the onsite drainage systems.	Other than the soakaway yes
GEN21	Please describe the drainage surrounding the cake storage bays and whether run off from there is also captured by the drainage system.	Previous issues but drainage put in 2010s to resolve.
SV34	Has any flooding on site lead to untreated wastewater being discharged to the watercourses due to high volume of water exceeding the storm storage capacity?	Yes, once storm tank capacity filled, can discharge directly to river
SV32	Are there any isolation valves, penstock etc operational that can isolate flows? If so where and in what circumstances are these used?	6 in inlet that can isolate flows 6 through process
	Abnormal conditions – extreme high temperature, flooding (Climate Change RA)	
SV36	How large is the site's stormwater storage capacity? OR how much retention time do the storm storage tanks allow? Have there been any issues in the past with direct discharge to the watercourse when stormwater storage capacity has been exceeded, occurring repeatedly?	Yes as above
CC01	Has the site previously experienced any flooding incidents?	No

	If yes, is there information on these? When, how frequent, how severe has flooding been. Has the flooding led to untreated wastewater being discharged to the watercourses due to high volume of water exceeding the storm storage capacity?	
CC07	Is the access route to the site (main road access) at risk of flooding? Has it flooded previously? Are there alternative access routes?"	No
CC03	What wastewater flow is the site rated at? What is the pass-forward' flow?	305.5L/s 9060L/s in full storm (storm+treatment)
CC04	How large is the site's stormwater storage capacity, OR how much retention time do the storm storage tanks allow?	
CC06	Does the site require potable water for any of its processes?	Offices, poly make-up
CC05	Does the site operate any temperature-sensitive processes? E.g. do any of the biological treatment processes have optimal operating temperature ranges? What are they? Does the AD plant or anything else have optimum temperature range for operation"	Inside digester but not anywhere else
SV38 & CC02	Has the site experienced any issues related to high temperatures in the past – e.g. any odour control issues? Or Potable water availability issues during drought?	No
CC08	Does the site already have a generator installed / provision for a plug-in generator at the site?	No provision for plug in
	Waste generation	
	What wastes are generated by the site?	Office, recyclates, grit&rag, IBC, metals, WEEE
	How is it stored?	Skips near OCU, WEEE near office
	If possible, can you take photos of the rag skips – for Rowan and his plastics work?	
	Other	
SV39	Has any ground investigation/monitoring been undertaken on the site eg for planning	Borehole seen on site near outlet. Investigate monitoring information

	permissions? Are there any available monitoring boreholes?	
	Planned AMP7 schemes for the site that may impact the permit application?	THP, change in phosphorous consent, Swapping generators,
	What is the general site infrastructure like? Any areas of concern?	Glass coated steel tanks in poor condition (Aux storage, raw liq, liq treatment) 30+ years to above design life
	Any positive interventions witnessed on site?	
	Age of site? What infrastructure is enclosed?	1989 (WTW) 2001 (STC)
	Additional notes and questions Boilers to be replaced by steam boilers to support THP	

B. Envirocheck Report