

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	08/07/21	M Sweeney	S George	A Manns	First issue for client comment
B	29/10/21	M Sweeney	S George	A Manns	Second issue for client comment
C	06/12/21	N. Cunningham	S. Stone	A Manns	Third issue for application submission
D	23/01/24	SM Bukar	A Manns	A Manns	Amended for client comment
E	19/02/24	D. Vargas Castro	S Stone	A Manns	Resubmission
F	12/09/24	S Blackman	A Manns	A Manns	Update for duly making

Document reference: | 790101_MSD_SCR_CAN September 2024|

Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

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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.

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.

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

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

1.0 SITE DETAILS	
Name of the applicant	Southern Water
Activity address	Canterbury Wastewater Treatment Works Sturry Road, Canterbury CT1 1DT
National grid reference	616815, 159737
Document reference and dates for Site Condition Report at permit application and surrender	Site Condition Report: 790101_MSD_SCR_CAN September 2024 Date of Permit Application: TBC Date of Surrender: TBC
Document references for site plans (including location and boundaries)	Document reference 790101_MSD_SiteLayoutPlan_CAN September 2024

2.0 Condition of the land at permit issue	
Environmental setting including: <ul style="list-style-type: none"> geology hydrogeology surface waters 	<p>Land use</p> <p>The Canterbury Sludge Treatment Centre (STC) (hereby referred to as ‘the Site’) is located within the Canterbury Wastewater Treatment Works (WTW), which is 2.75km to the northeast of the centre of the town of Canterbury, Kent.</p> <p>The site has an irregular shape, with the majority of the process works in the southwestern areas of the site. The northern areas of the site area are used as drying beds. Figure 1.1 displays a high-level green line boundary for the site.</p> <p>The Great Stour river is located approximately 15m north of the Site area, and beyond this, the South Eastern railway is located 150m north of the Site, with grazing fields between. Immediately adjacent to the west of the site area, the Vauxhall Industrial Estate is present, including a steel stockpiling centre located immediately adjacent to the site. To the south of the site, a park and ride area is located 70m away with a park adjacent. To the east of the Site is a car dealership, with agricultural fields beyond, including an agricultural development comprising greenhouses 180m east of the Site area.</p> <p>A more detailed plan of the site layout with the STC permit boundary, as of September 2024, can be found in 790101_MSD_SiteLayoutPlan_CAN September 2024.</p>

Figure 1.1: Canterbury Sludge Treatment Centre (STC) Site Plan



Source: 790101_MSD_Sitelayoutplan_CAN September 2024

Geology

Superficial Geology

The Site is immediately underlain by superficial deposits of Alluvium, associated with the Great Stour river. Alluvium is a general term for clay, silt, sand, and gravel. It is the unconsolidated detrital material deposited by a river, stream or other body of running water as a sorted or semi-sorted sediment in the bed of the stream or on its floodplain or delta, or as a cone or fan at the base of a mountain slope. Normally soft to firm consolidated, compressible silty clay, but can contain layers of silt, sand, peat and basal gravel. A stronger, desiccated surface zone may be present.

Bedrock Geology

The Site is underlain by the Thanet Formation. This formation comprises glauconite-coated, nodular flint at its base, overlain by pale yellow-brown, fine-grained sand that can be clayey and glauconitic. Rare calcareous or siliceous sandstones may be present (British Geological Survey , 2021).

Underlying the Thanet Formation is the White Chalk Subgroup.

Published Geology

There are three boreholes recorded on site/immediately adjacent to the Site:

- TR15NE127 in the northern central area of the Site;
- TR15NE126 in the western central area of the Site; and
- TR15NE125 on the western boundary of the Site.

Geology	Description	Thickness Encountered (m)	Depth to Base (m)
Topsoil	Dark brown sandy silt with roots	0.20	0.20
Made ground	Brown silty sand with brick fragments	0.25 - 0.60	0.45 - 0.60
Alluvium	Medium dense rounded to subangular sandy silt to coarse flint Gravel with a slight clayey matrix.	2.85 - 3.60	18.50 – 29.00

Thanet Formation	Stiff to very stiff grey very silty Clay.	1.00 – 6.20*	5.0 – 10.0*
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*Unproven depth.

Source: (British Geological Survey, 2021)

Hydrogeology

The superficial deposits of the Alluvium, encountered underlying the Site, have been designated as a Secondary (undifferentiated) aquifer. These aquifers are defined by the Environment Agency as layers that were previously designated as both minor and non-aquifer units in different locations due to the variable characteristics of the rock type.

The bedrock geology of Thanet Formation underlying the Site is designated as a Secondary A aquifer, defined by the Environment Agency as permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. This is likely in hydraulic continuity with the deeper Principal aquifer of the Chalk.

Hydrology and flooding

The Envirocheck Report (Envirocheck, 2021) and online mapping indicates the presence of surface waters local to the Site.

At the western border of the Site, an outflow from ponds/wetland in the northwest of the Site flows into the Great Stour River, 15m north of the Site area. A second drain is marked to flow off site from the south east corner, flowing east along Sturry Road (A28) and connects to the Great Stour at approximately 475m east of the Site.

Off site, the Great Stour is present 15m north of the Site, flowing west to east. Natural streams/ditches are present in the area, all leading into the Great Stour.

The entire Site area is located within Flood Zone 2 (between 1 in 100 and 1 in 1000 annual probability of flooding).

There are no water abstractions reported to have been issued within 250m of the Site area.

Sensitive land use

There are no sensitive sites identified within 500m of the Site area.

The Site is within a Nitrate Vulnerable Zone.

Pollution history including:

- pollution incidents that may have affected land
- historical land-uses and

Nearby industrial land uses

There are 15 potentially contaminative contemporary trade directory entries within 250m of the Site area.

Contemporary Trade Directory Entries	Direction	Distance (m)	Active / Inactive
Car Dealers	East	29	Active
Car Dealers	West	89	Inactive
Car Dealers	West	107	Inactive

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<ul style="list-style-type: none"> associated contaminants any visual/olfactory evidence of existing contamination evidence of damage to pollution prevention measures 	Car Dealers	West	107	Inactive
	Car Dealers	West	107	Inactive
	Printers	West	107	Inactive
	Electrical Goods Sales, Manufacturers and Wholesalers	Southwest	135	Inactive
	Electrical Goods Sales, Manufacturers and Wholesalers	Southwest	197	Inactive
	Electrical Goods Sales, Manufacturers and Wholesalers	Southwest	200	Inactive
	Commercial Vehicle Servicing, Repairs, Parts & Accessories	West	227	Inactive
	Car Dealers	West	228	Inactive
	Car Dealers	West	228	Inactive
	Car Dealers	West	228	Inactive
	Car Dealers	Southwest	240	Inactive
	Garage Services	West	244	Active

There are 21 records of tanks identified on site, however these principally relate to the water treatment infrastructure on the wider WTW.

Other identified Points of Interest identified include the Sewage Works and Sludge Tanks immediately outside the Site's eastern boundary and weirs which are found from approximately 80m northwest of the Site. Within 250m of the Site are a Refuse Tip (124m southeast of the Site), a Waste Storage, Processing and Disposal (179m northwest of the Site) and a Sluice (202m east of the Site).

Recorded Landfill and Historic Landfill

There is one record of a Historic Landfill Site within 250m of the Site area. The site is located 70m southeast of the Site and is currently a public park. It is recorded as being operational between 1969 – 1989 and deposited waste included inert, commercial, household and special waste.

There is a record of a licenced waste management facility (registered to Southern Water) situated immediately outside the eastern border of the Site, operational from 1996 – 2012 for biological treatment.

A record of potentially infilled land (non-water) is identified 178m northwest of the Site, registered as unknown filled ground dated to 1989.

There is one record of potentially infilled land (water) recorded on site, recorded around the western section of the Site (unknown filled ground). There are nine further records within 250m of the Site area, all of which are recorded south of the site area, between 51 – 247m from the site area.

Registered Waste Treatment or Disposal Sites

One Registered Waste Transfer site is recorded on site. A licence is provided to Southern Water Services in 1996 for treatment of materials broadly defined as sludges. The licence is for a maximum rate of 10,000 tonnes per year. There is no revocation date.

Registered Waste Transfer Sites

One further Registered Waste Transfer site is recorded 83m southeast of the site area. A licence is provided to Kent County Council in 1978, now known to be expired, is registered to be for various industrial wastes, between 25,000 to 75,000 tonnes per year.

Licensed Waste Management Facilities

A licence is provided for Canterbury WTW for biological treatment. The licence was issued in 1996 and modified in 2012.

Environmental Permits (formerly know as Discharge Consents)

The closest discharge consent relating to the Site is found immediately outside the northwestern border of the Site, recorded for Southern Water. The consent is recorded as operational between 2010 and 2014, registered for sewage discharges – final/treated effluent – into a freshwater stream/river (Great Stour). Additionally, other discharges are marked off-site from the WTW but are licenced to Southern Water Services (Ltd) and are considered to be from the Site. These include sewage discharges – final/treated effluent into the Great Stour River and sewage discharges – storm outflow/storm tank into the Great Stour river. Records of the discharge consents exist from 1967 to the present.

Two further discharge consents are recorded 62m and 66m south of the Site area registered for discharge of surface waters, both recorded in 1991 with no revocation date provided. These were both licenced to Canterbury City Council.

One further discharge consent is recorded 217m northwest of the Site area, registered for the discharge of Non-Water Company Sewage into a freshwater river. The record is from 1988 and is registered to Brett Paving & Construction Company.

Pollution Incidents to Controlled Waters

There are nine recorded Pollution Incidents to Controlled waters within a 250m distance to the Site as reported from the Envirocheck Report, details of these are provided below:

- Two Category 3 – minor incident were registered for sewage – treated effluent, recorded in 1995 and 1999. These incidents were attributed to the Sewage Works on the eastern border of the Site
- Category 3 – minor incident was recorded 54m southeast of The Site, registered for sewage – treated effluent, recorded in 1993. The incident is recorded to a sewage treatment works.
- Category 3 – minor incident was recorded approximately 90m northwest of the Site, registered for sewage – treated effluent, recorded in 1998. The incident was attributed to a sewage treatment works.

Five further Category 3 – minor incidents, are recorded within 100 – 250m of The Site area.

Historical Land use

Pertinent land contamination information indicated in historic maps is reported below.

	Date	Land Use
	1877 (1:10,560)	<p>On site: The earliest available historic maps from 1864 indicate that the Site is an agricultural land.</p> <p>Off site: The Great Stour river is present 15m north of the Site area, with the South Eastern Railway 150m north of the Site. A road is present in an east-west orientation, immediately south of the Site area. The majority of the surrounding land area is agricultural fields.</p>
	1885 (1:2,500)	<p>On site: Two tracks are present in the northern areas of the Site.</p> <p>Off site: No changes.</p>
	1896 (1:2,500)	<p>On site: No changes</p> <p>Off site: An irrigation works is present 20m southwest of the Site area, with a track, or boundary, which passes onto the Site area. A residential development is present 50m south of the site, and a public house 170m east of the Site.</p>
	1907 (1:2,500)	<p>On site: The Site area is developed into further segmented areas. The northern area of the Site is designated as a filter bed, and a marshy area is noted to the south of that filter bed.</p> <p>Off site: A tank has developed to the southwest of the Site, associated with the sewage irrigation works.</p>
	1937 (1:1,250)	<p>On site: The Site has been redeveloped. There are 11 filter beds on site, a storm tank and a humus tank. The sewage irrigation works is now labelled as a sewage works. Filter beds in the north of the Site are no longer listed.</p> <p>Off site: Further storm tanks, humus tanks and filter beds are present immediately west of the Site area. No further changes are present.</p>
	1951 (1:10,560)	<p>On site: No changes.</p> <p>Off site: A tank is present 10m east of the Site area, later labelled as a gasholder. A residential development is present 250m west of the Site area.</p>
	1956 (1:2,500) 1956 – 1971 (1:2,500)	<p>On site: The northern areas of the Site is indicated as drying beds.</p> <p>Off site: A drain is indicated to the north and south of Sturry Road. Allotment gardens are present immediately south of the Site area.</p>
	1972 – 1973 (1:10,000) 1973 – 1974 (1:1,250)	<p>On site: A total of six drying beds are present in the northern areas of the Site. The filter beds in the central areas of the Site are no longer present. The southern areas of the Site are where the process machinery is located, and consisted of 11 tanks and a decanter.</p> <p>Off site: A concrete mixing works is located immediately adjacent to the west of the Site area. A Steel Storage Depot is located 40m west of the Site area. Electrical substations are present 110m and 200m west of the Site. A refuse tip is present 180m south of the Site area.</p>
	1977 – 1985 (1:1,250) 1979 (1:10,560)	<p>On site: Further development is present on Site, including settling lamella and two large tanks in the northern central area of the Site.</p> <p>Off site: The refuse tip is larger and now encroaches 55m south of the Site area. More buildings have been developed 200m west of the Site area and labelled as a depot. The residential buildings 250m west of the Site are no longer present.</p>
	1989 (1:10,000)	<p>On site: No changes.</p> <p>Off site: The refuse tip to the south of the Site is larger and is now located 10m south of the site. Further developments are present from the site area to 250m west of the site area, as part of an industrial estate development.</p>
	1992 (1:10,000)	<p>On site: The north western areas of the site are now used as a pond. Further process machinery is present in the central western areas of the site.</p>

	<table border="1" data-bbox="470 268 1385 425"> <tr> <td data-bbox="470 268 625 336"></td> <td data-bbox="625 268 1385 336">Off site: A car park (park and ride) is noted 100m south of the site and a DIY store 150m south of the site.</td> </tr> <tr> <td data-bbox="470 336 625 425">2021 (1:10,000)</td> <td data-bbox="625 336 1385 425">On site: No changes. Off site: No changes.</td> </tr> </table> <p><u>Contaminants of concern</u></p> <p>The Site is within a lower probability radon area (less than 1% of homes are estimated to be at or above the action level).</p> <p><u>Soil Chemistry</u></p> <p>The following soil concentrations are found on site, as detailed in the Envirocheck Report:</p> <ul style="list-style-type: none"> ● Arsenic: 15-25mg/kg; ● Cadmium: <1.8mg/kg; ● Chromium: 90-120mg/kg; ● Lead: <100mg/kg; and ● Nickel: 15-30mg/kg. <p><u>Contaminants associated with current and historic land use</u></p> <p>The following contaminants are of concern regarding the industrial activities stated above, in addition to the current use of the Site:</p> <ul style="list-style-type: none"> ● 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). <p>There may also be ground gases present at the site, especially due to the presence of the landfill, and would likely comprise CO₂ and CH₄.</p>		Off site: A car park (park and ride) is noted 100m south of the site and a DIY store 150m south of the site.	2021 (1:10,000)	On site: No changes. Off site: No changes.
	Off site: A car park (park and ride) is noted 100m south of the site and a DIY store 150m south of the site.				
2021 (1:10,000)	On site: No changes. Off site: No changes.				
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	<p><u>Site walkover</u></p> <p>A site walkover was undertaken by a Mott MacDonald contaminated land specialist on 20 July 2021. Notable findings are summarised below:</p> <ul style="list-style-type: none"> ● cake is deposited onto the ground or into a waiting trailer from the centrifuge conveyor then move into cake bays in north of site. Some cake was seen on roadways around the cake bays ● some slight cracking of roads and cake bays but general condition reasonable ● drainage in the cake bays is not ideal so cake placement must be away from the gullies to avoid blockages, which can result in puddling of water in the bays if not resolved ● a hose is used to clean the wheels of cake export vehicles as the wheel wash station is currently broken 				

	<ul style="list-style-type: none"> no odour issues or complaints for the site waste is managed appropriately in appropriate skips/bins etc and removed by a contractor. Site was seen to be well-kept and tidy <p><u>Planning applications</u></p> <p>A review of the Canterbury City Council planning portal was conducted in September 2024 and returned one Planning Application (CA/21/01393) within 100m of the site area with ground investigation data.</p> <p>A ground investigation has been undertaken on a site adjacent to the Canterbury WTW and STC site, located at the Former Sewage Works (to the west of the current site). The approximate centre of the site is located at NGR 616746 159601. The ground investigation was conducted by Capita Symonds Structures on the 29 – 30th July 2008, and comprised of:</p> <ul style="list-style-type: none"> Six windowless sampler boreholes, including installations with standpipes for ground gas monitoring; Three cable percussion boreholes installed with gas and groundwater monitoring standpipes; Eight mechanically excavated trial pits, backfilled; and Representative environmental sampling. <p>Soils results determined there was one exceedance of generic assessment criteria (GAC) identified at the site, for total petroleum hydrocarbons (TPH) (C5 – C35), of six soil samples submitted.</p> <p>No further exceedances of representative GAC for human health risks identified at the site. Tested determinands included; metals, non-metals, TPH, polycyclic aromatic hydrocarbons (PAH), and Methyl Tert Butyl Ether (MTBE). No visual or olfactory evidence of contamination was noted.</p> <p>Groundwater results indicated exceedances of TPH concentrations in one of the three boreholes monitored.</p> <p>Ground gas monitoring detected a maximum carbon dioxide concentrations of 4.4% and minimum oxygen concentrations of 18%. No positive gas flows were detected.</p>
<p>Supporting information</p>	<p>Sources used in the production of this SCR:</p> <ul style="list-style-type: none"> Landmark (2021), Envirocheck Report – Canterbury WTW and STC, ref: 281423046_1_1; British Geological Survey, GeoIndex www.bgs.ac.uk consulted July 2021; British Geological Survey, Borehole Scans www.bgs.ac.uk consulted July 2021; Magic Map http://magic.gov.uk/ consulted July 2021; Canterbury City Planning Portal (2024). Planning application search. Available at: https://www.canterbury.gov.uk/info/20014/planning_and_building/232/search_and_comment_on_planning_applications/1 (Accessed July 2021) Capita Symonds Structures (2008) Geo-Environmental Investigation and Assessment for the site at Sturry Road, Canterbury. Report ref. SS016679-PE-08-266-R.

3.0 Permitted activities	
Overview of site processes	The site serves as a regional STC which receives 1,105 m ³ of liquid sludge import weekly in 2022. Imported sludge and indigenous sludge are screened by two Strain Presses. Screened sludge then enters two Post Screened Storage Tanks and is pumped to two Drum Thickeners. Thickened sludge is pumped to a Thickened Sludge Storage Tank and on to two Primary Anaerobic Digesters followed by a Secondary Digester. Digested sludge is dewatered by 2 No. Centrifuges. Biogas is used by the CHP plant.
Permitted activities	<p>The STC operate under permit EPR/NP3698HN which has undergone five variations since its first issue in 1996. The permitted activities relate to A23: Biological Treatment Facility.</p> <p>The most recent variation to the permit was in 2012, and includes:</p> <ul style="list-style-type: none"> ● Condition 1.6 – No more than 38,220 tonnes of waste controlled by this licence shall be accepted per year i.e. 1 April to 31 March. ● Condition 1.7 – Other than controlled waste dealt with in accordance with an activity that is exempt from requiring a Waste Management Licence, no controlled waste shall be received or handled at the Site other than controlled waste detailed in the permit. ● Waste Category D (non-special liquid and sludge waste) – 735 tonnes per week.
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 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: <ul style="list-style-type: none"> ● plan showing activity layout; and ● environmental risk assessment. 	<ul style="list-style-type: none"> ● Southern Water (2020) Operating Plan for Canterbury WTW/STC ● Southern Water (2020) Site Process Activity Manual – Canterbury WTW. ● Southern Water (2013) Southern Water: Operational Continuity Plan Template Wastewater Treatment Works. OCP-WTW 306. ● Southern Water (2014) Process Flow Diagram. ● Southern Water Environmental Permits. Folio No. EPR/NP3698HN ● Southern Water (2014) Wastewater Above Ground Capacity Assessment AM410 Part 2.

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In Part B of the application form you must tell us about the activities that you will undertake at the site. You must also give us an environmental risk assessment. This risk assessment must be based on our guidance (*Environmental Risk Assessment - EPR H1*) or use an equivalent approach.

It is essential that you identify in your environmental risk assessment all the substances used and produced that could pollute the soil or groundwater if there were an accident, or if measures to protect land fail.

These include substances that would be classified as 'dangerous' under the Control of Major Accident Hazards (COMAH) regulations and also raw materials, fuels, intermediates, products, wastes and effluents.

If your submitted environmental risk assessment does not adequately address the risks to soil and groundwater we may need to request further information from you or even refuse your permit application.

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?	<p>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 August 2022. 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).</p> <p>Activities at Canterbury STC will continue, as prior to the introduction of the updated and amalgamated permit, although under any new requirements imposed by the permit.</p>
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	<p>No prior site condition report (SCR) is known to exist for the site, due to the length of time that the site has been in operation. This SCR presents the condition of the Site at the point of the amalgamation of the existing permits on site and the introduction of additional requirements relating to sludge processing, as required under the IED.</p> <p>'Dangerous substances' that are used or produced at the Site include:</p> <ul style="list-style-type: none"> ● Polymer – Superfloc C494 and Superfloc C496 ● Antifoams – Flowfoam 681F (digester) ● Methane (produced from the digestors and stored in the on-site double membrane gas holder);
Checklist of supporting information	<ul style="list-style-type: none"> ● Southern Water (2020) Operating Plan for Canterbury WTW/STC ● Southern Water (2020) Site Process Activity Manual – Canterbury WTW. ● Southern Water (2013) Southern Water: Operational Continuity Plan Template Wastewater Treatment Works. OCP-WTW 306. ● Southern Water (2014) Process Flow Diagram. ● Southern Water Environmental Permits. Folio No. EPR/NP3698HN ● Southern Water (2014) Wastewater Above Ground Capacity Assessment AM410 Part 2.

5.0 Measures taken to protect land

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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)**

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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 Record


Site Name	Canterbury WTW and STC
Date	20/07/21
Attendees	
Permit and exemption references	EPR/NP3698HN
Covid secure measures for accessing site	

Follow the process through the site – Start with sludge import area and walk the site going through the process. Make notes on condition of site infrastructure and assets such as bunds, tanks, impermeable surface, storage areas etc.

Please remember to take photos as documentary evidence of useful information, e.g. CHP generator name plates. Note on the survey form when a photo has been taken and reference in numerical order (photo 1, 2, 3 etc...)

Make notes of the general site housekeeping, is it kept clean and tidy.

Notes relating to surrounding area.

Record general site observations (as noted above) here:	
Entry gate = 2m high metal rung gate, manual, both gates swing to open. Chainlink fence with barbed wire top moving away from gate. Palisade fence with spike top in other areas of boundary	
Some slight cracking of roads and cake bays but general condition reasonable.	
RFI Ref	Site operations
	Operational contact details for the application forms 
	No of site staff (day and shift operators etc) 4 – rostered 3 operators + 1 current vacancy

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		1 process controller
I15	During what hours is the site staffed Monday – Friday and at weekends?	7am-8pm Mon-Fri 7am-5pm Sat-Sun
	What hours can waste enter the site (planning)	Commercial tankers – 7am-6pm Mon-Fri, 7am-1pm Sat No restrictions on CESS or sludge imports
I16	What hazardous waste treatment capacity (tonnes per day) is available on site?	No
I17	What non- hazardous waste treatment capacity (tonnes per day) is available on site? This should also include Commercial Waste where appropriate.	735T/week of sludge import – permit <41 tankers per week - permit Commercial and CESS not limited – imported to inlet
I18	What is the total waste storage capacity (tonnes) at the site? Note: Cake, digestors, other tanks relating to STC)	Thickened SST – 1,200m3 Secondary digested sludge storage tank – 1,300m3 Post-screened storage tank 2 x 300m3 Pre-screened ST – 100m3 Digesters – 2 x 1450m3 Cake bays 1-6 – 800m3 each Cake bays 7 – 1000m3
I19	What is the annual waste throughput (tonnes each year) at the site? (TDS volume for the STC)	38220T/year – permit
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.	TBC
121	How many years is each permit expected to be required for?	Indefinitely
GEN07	Please describe the aspects of the site that generate litter, mud and debris within and outside the site boundary.	Cake bays – onto ground or trailer then move into cake bays Waste streams from office carefully managed into BIFA bins Litter from outside of site blows onto site
GEN08	Describe the site cleaning procedures on site.	Littler pick as and when seen

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	Including any infrastructure cleaning, wheel wash etc	Housekeeping ongoing – site walkaround quarterly or when needed to highlight issues which need rectifying. Ops do jobs when time available. Offices managed by external contractor – twice per week. Cake yard hosed and swept to keep clean as and when needed Hose to clean wheels of cake export (wheel wash station is currently broken).
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	2m high dual swing manual metal entry gate 2m high chain link fence with barbed wire top in east of site from entry to north of aeration lane and in south of site Palisade around west of site Lake and river are natural barriers AMPR at front gate and CCTV Inlet (day CCTV and night vision CCTV), Gas oil (day CCTV and thermal camera) Lab store building (3 x night vision CCTV)
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.	Provided already
Visual impacts		
GEN10	Please describe the visual impacts of each site.	Storm tank in south-west corner is quite tall and close to receptors but site generally screened from external by trees and hedges – 10-25ft high
Site condition report		
SCR02	Please provide a list of permitted activities per site.	Discharge permit Sludge import and treatment
SCR03	Please provide a list of non-permitted activities per site. Including exemptions	T21: Waste exemption WEX012669 S1, S2: Waste exemption WEX230940 D5: Waste exemption WEX251104 U6: Waste exemption

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SCR05	Please provide any environmental risk assessments for site.	Not aware of any
SCR06	Site overview	
	Emergency procedures	
GEN17	Provide a description of the emergency procedures for each site	Documents on notice board for emergency contacts, procedures etc
	Sludge import	
SV01	Does the site accept trade waste (commercial tankers)?	Yes - regional STC which receives 1034m3 of liquid sludge import weekly
SV01/02	How many tankers arrive at the site per day? Where are the tankers unloaded? Is an odour control hose used during unloading?	Average 6/day commercial but up to 10 – unloaded at the inlet (in future inlet will be backup and new reception tanks) CESS 6-12/day domestic and up to 60 if a PS nearby has broken. 220m3 sludge/day – 27m3 tankers = 10loads/day. Imported via hose to unload in centre of site Can accept emergency sludge
SV03	Where is sludge imported from? Sludge imported from other satellite sites? How many?	8 – Westbere, Newnham Valley, Minster, Eastry, Chartham, Chillham, May Street, Swalecliffe
I22	Air Emissions	
	Please provide the following information for all point source emissions (CHP, boilers, flare, pressure valves/vents, odour abatement, emission points) to air from each site:	
	Source 1	<i>Indicate individual sources on site layout plan</i>
	National Grid Reference	TBC
	Source type	TBC
	Parameter (e.g. oxides of nitrogen)	TBC
	Quantity (with its unit)	TBC
	Stack height	Flare stack 6m high
	Source 2	<i>Indicate individual sources on site layout plan</i>
	National Grid Reference	TBC
	Source type	TBC
	Parameter (e.g. oxides of nitrogen)	TBC
	Quantity (with its unit)	TBC
	Stack height	TBC

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	Source 3	<i>Indicate individual sources on site layout plan</i>		
	National Grid Reference	TBC		
	Source Type	TBC		
	Parameter (e.g. oxides of nitrogen)	TBC		
	Quantity (with its unit)	TBC		
	Source 4	<i>Indicate individual sources on site layout plan</i>		
	National Grid Reference	TBC		
	Source Type	TBC		
	Parameter (e.g. oxides of nitrogen)	TBC		
	Quantity (with its unit)	TBC		
	Source 5	<i>Indicate individual sources on site layout plan</i>		
	National Grid Reference	TBC		
	Source Type	TBC		
	Parameter (e.g. oxides of nitrogen)	TBC		
	Quantity (with its unit)	TBC		
	Please clarify whether safety zoning of areas is undertaken under DSEAR/PEXA at site.	Yes, recently surveyed in last 3 years		
		Flow to flare recorded daily		
	Air Emissions from plant			
		CHP	Generator	standby boiler
I27	What date did the combustion plant become operational?	2004	Pre-1998	1998
I28	What type of SG/MCP is at each plant? E.g. diesel engine, gas turbine, other engine or MCP Take photos of all relevant tanks/equipment and processes	biogas	Diesel	biogas or mains gas backup
I29	What is the MWth input of each plant? Take photos of any plates	360kWA No plates	1250KVA	
I30	What are the guaranteed emission limits for the plant?	No permit so no emission limits – nothing on SW consents and licences		

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		management system		
I31	What are the total operating hours for the year?	Should be 24/7 unless breakdown. 4134hrs for 01 Jan-30 Jun 2021.	Standby but run in triad (20 per year)	standby only for heating digester
I32	What is the stack height for each stack?	Approx 6m		TBC
I33	What fuel is used? Natural gas, biogas, diesel) Dual or co- fired? What total volume of fuel is used? What total volume is stored at any one time?	Gasbag – 780m3	Diesel tank – 16,000L (9000L used in last 12 months – also for telehandler)	
	Provide manufacturer's specifications for all combustion plant where possible.	TBC		See box below
<p>Additional space for information on plant (if required)</p> <p>CHP</p> <p>The engine runs at an average of 90% output when running.</p> <p>The CHP engines generates the equivalent of 91% of the sites usage but some of the generation is exported not used on site.</p> <p>The site imports 54% of the time.</p>				
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).	Secondary treated sewage effluent to the River Great Stour from TR1663 5988.		
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.	<p>Condensate pots marked on plan, all return to inlet other than CHP which is collected in container.</p> <p>The condensate discharge rate is a difficult one to answer, the PDST compressor is a tiny trickle, the flare is manually drained weekly and only a small amount.</p>		

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	<p>Include NGR is discharges to ground.</p> <p>Include location of inlet works if condensate goes to site drainage.</p> <p>If container used to collect condensate, where and how often, does it get emptied?</p>	<p>CHP – weekly check and collection – contractor (Finns)</p>
	Exemptions	
	<p>What exemptions are used on site? Typically SW have T21, D5 and S1.</p>	<p>T21: Waste exemption WEX012669</p> <p>S1, S2 Waste exemption WEX230940</p> <p>D5: Waste exemption WEX251104</p>
	Cake storage	
SV04	<p>Is any cake imported? If so, how is it unloaded from trucks and where is it unloaded?</p>	<p>Cake storage from other sites in emergency – removed when can. Not processed.</p> <p>Happened twice last winter (2020)</p>
SV05	<p>Where is cake stored?</p> <p>How is cake stored? E.g. Cake bays, silos, directly into skips etc</p>	<p>In cake bays</p>
	<p>How many cake bays/silos/other are there on site?</p> <p>How long does it take to fill a bay e.g. 4-6weeks?</p>	<p>7</p> <p>1-6 = 4 weeks, 7 = 7 weeks</p>
	<p>What is the total surface area of the cake bays?</p> <p>Or total volume that can be stored if known? E.g. L x H x W.</p> <p>What is the total capacity (if in a silo)?</p>	
SV06	<p>How is cake moved to the cake bays (enclosed truck etc)?</p> <p>How frequently is cake moved around the site?</p>	<p>Trailer and telehandler – no cover</p> <p>3x/day</p>
SV07	<p>Is the cake treated further after the centrifuge e.g. liming of cake within cake bays?</p>	<p>Not usually but liming if adverse weather.</p> <p>Couple of times a winter</p>
SV08	<p>When cake is within the bay, is the cake turned/disturbed at all?</p> <p>How often?</p> <p>Why?</p>	<p>No – stacked only when loading bay</p>

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SV09	How is cake removed from the site? How often? Over what timeframe? e.g. 2weeks constantly	Hauler – self load – covered. Wash wheels with hose before leaving site 3 days to empty bay – approx. every 4 weeks
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?	Concrete, generally good condition but some cracking, 2m high, yes contains cake Drainage not great so need to look after drain and need to keep cake away from gullies. Puddles in bays though if drains blocked. Drains back to head of the work
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 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)	Potable for offices and poly makeup Secondary washwater/final effluent for hoses and centrifuge/thickeners, carrier water, inlet screens 50/50 for normal operation Potential for using effluent for poly make-up No other water sources
SV12	Does the site get water from other sources? Abstraction from river 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	Standby generator 1250kVA, triad once/twice a week for 4 months (winter) total ~20 times for 2 hours. Diesel. Operates approx. 3 times per year for 2 hours. Redundant generator – on site but will never be used CHP dumps heat so no external issues for running – biogas (24/7)

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	<p>above/below which they will not operate?</p> <p>What are their fuel sources? E.g. diesel, biogas, other source</p> <p>How many ours per year do they operate?</p> <p>Any monitoring undertaken?</p> <p>If so, what for and what are the standards used?</p>	
CHP engines/boilers		
	How many CHPs/boilers on site?	<i>Take photos of any plates</i>
SV18	<p>What size (MW)? What are they used for e.g. primary/secondary. Site running, exporting power to grid?</p> <p>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?</p> <p>Are the CHP's/boilers/ generators adequate for the amount of gas produced by the site?</p> <p>Any monitoring undertaken?</p> <p>If so, what for and what are the standards used?</p> <p>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?</p> <p>What is the annual load of CHP (given as %)</p>	<p>1 CHP, 1 boiler</p> <p>1 flare – used 5-10x/day. Currently running approx. 5-6hours/day</p> <p>Depends on sludge production</p> <p>CHP going to be replaced during this AMP – for same size unit. Planning stages at moment</p> <p>CHP monitored by Finnings</p> <p>Boilers monitored by SCADA</p>
Noise		
I64	Please describe any noise mitigation measures on site.	No
	Other abatement?	No
	Have any noise assessments been undertaken on the site?	No
	Have there been any noise complaints?	No

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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?	Extraction only OCU for sludge building and PSTs, sludge reception, TSST. Tanks sealed Hoses for unloading No misting, including portable No buildings under negative pressure – other than generator room but not sure if that is supposed to happen
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	Plastic media seeded with baby bio and water pump to 'rain' inside flue but proven to have no effect so now turned off other than extraction – so only funnels emission to one location. No maintenance/servicing happens. SW maintain extraction plans No issues with odour so nothing done to improve system
SV24	Is odour monitored? If so how?	No other than sniff tests. Very low H2S so very few issues
	Is there a site specific odour management plan?	No
	Any odour complaints?	No
	Other abatement?	No
GEN16	Describe the maintenance programmes that are undertaken to ensure odour and bioaerosol control measures are maintained, prioritising Tranche 2 sites.	Maintenance scheduled tasks and checks by ops to ensure things running ok
OMP02	Please identify the most common sources of odour complaints (i.e. during movement of cake, etc)	No complaints but cake movement is main reason for smell
OMP01	Dry solids range (%), sludge type, sludge pH, and storage time at average throughput for different tanks / processes.	Sludge reception/PSST – 2-4%, no pH TSST – 7-8%, no pH

		<p>Digesters – 4-4.5%, pH 7.5-7.7, fatty acid tests 0.25:0.45 (alkalinity to VFA)</p> <p>PDST – 4-4.5%</p> <p>Cake bays - 25-25.5%</p>
OMP04	<p>For each asset on-site, please provide:</p> <ul style="list-style-type: none"> • Potential odour source • Odour controls in place (see SV21) • Potential for odour emissions • Action to be taken in case of failure • Person responsible 	<p>Inlet screens – no odour management</p> <p>PST – open - no odour management</p> <p>Aeration lanes – open - no odour management</p> <p>FST – open – no real odour source</p> <p>Screw pumps – open – RAS - no odour management</p> <p>Outfall screens – open – no real odour source</p> <p>Sludge reception – pipe – potential for spills, washed with hoses asap - no odour management</p> <p>Strain presses – no source</p> <p>PSST – covered – odour extraction</p> <p>Thickeners – indoors – odour extraction</p> <p>TSST – sealed tank – odour extraction</p> <p>Digester/PDST – sealed</p> <p>Centrifuge – sealed</p> <p>Conveyor – open</p> <p>Trailer to transport to cake bays – open and not controlled</p> <p>Cake bays open</p> <p>Whesso valves open – gas source – no control. No alert to going off other than sound and drop of pressure in SCADA.</p> <p>Flare stack fails to light – vent to atmosphere (rare but potential)</p> <p>Maintenance to fix if any issues.</p>
	Bioaerosols	
GEN15	Describe the processes and bioaerosol control measures (e.g. odour abatement systems, enclosed tanks, filters) associated with:	
	<ul style="list-style-type: none"> • Sludge reception/transfer of sludge between the vehicles and the facility (including: frequency of deliveries and collections, and 	<p>Tanks usually can discharge but potential 20 min wait on occasion</p> <p>Arctic lorries</p>

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	types of vehicles used to transport waste; proportion of water within the sludge cake delivered to site etc)	
	• Handling and storage of sludge/digestate throughout AD process	Pipes into system then piped around (contained) until output from conveyor
	• Disposal of biogas (combustion)	CHP, boiler or flare – no control measures
	• Any other relevant procedures onsite which could generate bioaerosols	Aeration lanes, screw pumps, washing down with hose, spray bars on drums inside tanks
	If using odour suppression sprays are they used to just mask the smell or to catch and drop the odour?	None
	Is sludge arriving on site processed immediately? If not how long is it until it is fed into the system?	
	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?	Seagulls, pigeons, rats, rabbits, fox Rentokill - rats/pigeons – monthly unless requested more frequently
	Raw materials – Write here or refer to table at the bottom	
135	Will operations require raw materials?	See table at end
	Resource efficiency	
I41	Explain and justify the raw and other materials, other substances and water that SW use at site	
SV28	Describe waste avoidance and waste recovery measures (for the whole site operations, including staff generated waste). Describe how waste is disposed, by whom.	Recycling in offices – BIFA IBC returned WEEE Pallets – by MTS 'Fly tipping request' for any other eg oil drums, scrap metal

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	This relates to all wastes generated by SWS operations on site – e.g. wash water, screenings etc	Rag/grit – composted by MTS
	Any water saving measures?	Using final effluent. Optimisation to increase effluent used including for pol make up
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	Screening – removes rag/inorganics that would otherwise go through system PST – removal of sludge from wastewater system Aeration lanes – require aeration to make sure effluent quality is as it should be Digester – waste product if not managed appropriately – retention, temperature and EColi. Spills from digester. Gas release to environment with and without flaring from digesters and flare stack Cake bays – leaks to ground through cracks in hardstanding and drains failing
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)	Sludge reception – concrete – no bunding – good condition PSSTs – concrete sides with plastic tops – no bunding, good condition TSST – glass coated steel tank (2007) – no bunding – holes in non operation upper part of tank

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	What are the age/condition of tanks?	Digesters – glass coated steel – no bunding - refurbished 3 years ago – good condition Secondary dig – glass coated steel – good condition Gas oil tank – bunded, (pre-1998) good condition Ferric chloride tank – bunded – good condition Clean and dirty oil tanks for CHP – not maintained by SW – good condition – double skinned
I62	Please provide details of all environmental incidents that have occurred within, or near the site, including any fires and spills. Please explain how these were handled and any environmental impacts identified following the incident.	Pollution incident – failure to RAS return pumps, discharge to river wasn't within permit conditions. Operator error None nearby
I63	Please describe any noise mitigation measures on site	None
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?	Never flooded. When drains clear, no surface water/pluvial flooding
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	None
	Health and Safety	
GEN05	Please provide a description of the health and safety procedures that are in place to deal with accidents/incidents on site. Please confirm any accreditation achieved for H&S.	Health and safety manual Hazard and near miss reporting line. H&S411 Not known accreditation
	Is SCADA used on site?	Yes,

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	What processes are covered by SCADA?	Some aspects you cant see very well eg inlet, outfall, primary tanks, Everything for STC is included
	Digesters	
	How many digesters on the site?	2 Primary, 1 secondary (PDST)
	Digester capacity	Digesters – 2 x 1450m3 PDST – 1300m3
SV29	Any Wesso valves? How many? Any temperature sensitivity observed in the Whesso valves? (previously we have heard of Whesso valves freezing below - 5°C)	8 wesso <i>No temp sensitivity noted</i>
SV30	Any monitoring of tanks/gas? Is there an alarm system attached to the Wesso valves (inform SCADA when operational)?	No
	What is the ground like surrounding the tanks? E.g. permeable gravel, concrete etc	Shingle one site, road the other
SV31	Underground pipework? Known condition?	Yes, condition 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?.	Yes
	Drainage	
	Where do the drains go? E.g. Head of the works	Head of the works
	Is site adjacent to a river or stream?	Yes – Great Stour
	Is the whole site bunded	No
	Are there any cracks in the pavement	Yes, many
SV31	In the condition of the underground pipework known?	Not known
GEN21	Please describe whether all drainage (surface or foul water) will	Yes, but could go though cracks

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	be captured by the onsite drainage systems.	
GEN21	Please describe the drainage surrounding the cake storage bays and whether run off from there is also captured by the drainage system.	Yes, as long as channels kept clear
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?	No
SV32	Are there any isolation valves, penstock etc operational that can isolate flows? If so where and in what circumstances are these used?	Divert to storm tanks, Can isolate works return pumps, if return well is too high goes to inlet
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?	8100m3 Direct discharge does occur – once/twice per winter
CC01	Has the site previously experienced any flooding incidents? 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, no

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CC03	What wastewater flow is the site rated at? What is the pass-forward flow?	Flows forward are limited to 434 l/s
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?	
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"	
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?	Yes standby generator available
	Waste generation	
	What wastes are generated by the site?	
	How is it stored?	
	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 permissions? Are there any available monitoring boreholes?	No

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	Planned AMP7 schemes for the site that may impact the permit application?	Balance tanks for storage of commercial tankered waste – x2
	Age of site?	1960s

What raw materials are used on site?	How much is stored on site of each at any one time (maximum tonnage)?	What is each material used for?
Ferric chloride 40%	28,000L, 28T/month (336T/year)	Phosphate removal treatment
Superfloc C494 polymer	200kg/each stored on site	Sludge thickening
Superfloc C496 polymer	494 – 30,000kg, 496 – 17,000kg / year	Sludge dewatering
SNF flowfoam 681F antifoam	2100L – get through 10500L/year	Foam suppressant for digestors
Gas oil	16000L – 9000L/year	Tractor/telehandler/standby generator

Bioaerosols	
Control measures for bioaerosols include things such as:	
Limiting frequency of deliveries of sludge to site	All within permit limits and done via hose
Covering/enclosing processes which could release bioaerosols e.g. sludge treatment works, digestors	Yes other than cake bays
Keeping these buildings under negative pressure and keeping doors/covers closed	Doors shut but buildings not under negative pressure although extraction system in place
Processing sludge arriving to site immediately	As soon as possible, normally no wait
Sealing tanks to prevent escape of biogas and monitoring for potential leaks	Yes, tanks sealed. Tanks maintained
Odour control units e.g. biofilters/scrubbers	Not used

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Operating at high temperatures/unfavourable pH e.g. thermal drying of sludge, lime treatment etc.	No
Avoiding handling of cake on windy days	No
Avoiding frequent turning of waste in cake bays	No turning of cake
If using odour suppression sprays are they used to just mask the smell or to catch and drop the odour?	Not used

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B. Landmark Envirocheck Report

Please view document reference 790101_MSD_SCR_CAN_AppB Envirocheck