

## Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	April 2022	A Bagdadi	S Blackman	A Manns	First Issue
B	May 2022	A Bagdadi	S Blackman	A Manns	V2 Issue
C	January 2024	SM Bukar	S Stone	A Manns	Update
D	March 2024	I Moss	N Cunningham S Stone	A Manns	Resubmission
E	December 2024	S Blackman	A Manns	A Manns	Updated for duly making

**Document reference:** 790101\_MSD\_SCR\_PEA December 2024|

### Information class: Standard

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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)<sup>1</sup>. The template structure is directly from the Environment Agency's H5 Site Condition Report word template<sup>2</sup>. 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.

<sup>1</sup> Environment Agency (2013). Environmental permitting: H5 Site condition report. Available online at: <https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report>

<sup>2</sup> Environment Agency (2013). Environmental permitting: H5 Site condition report. Available online at: <https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report>

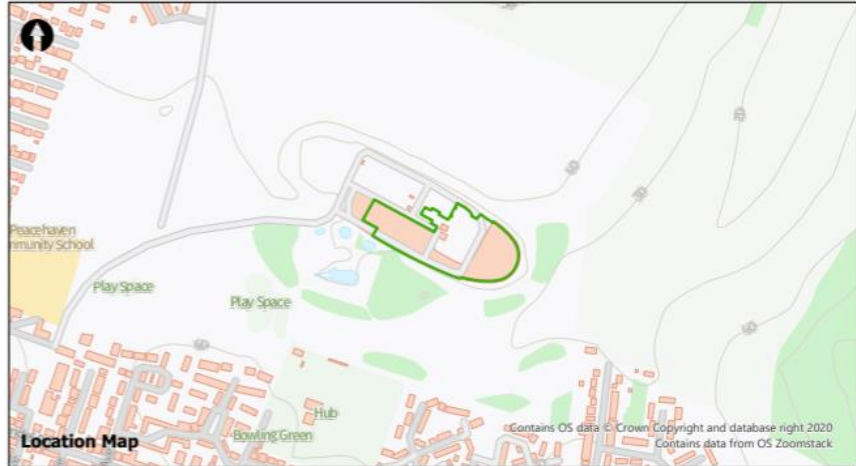
1.0 Site details	
Name of the applicant	Southern Water Services Limited
Activity address	Peacehaven Wastewater Treatment Works Hoyle Road Peacehaven East Sussex BN10 8LW
National grid reference	TQ 42150 01540

Document reference and dates for Site Condition Report at permit application and surrender	Site Condition Report: 790101_MSD_SCR_PEA December 2024  Date of Permit Application: TBC  Date of Surrender: TBC
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Document references for site plans (including location and boundaries)	Location Plan: 790101_MSD_SiteLayoutPlan_PEA, December 2024
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2.0 Condition of the land at permit issue	
Environmental setting including: <ul style="list-style-type: none"> <li>• geology</li> <li>• hydrogeology</li> <li>• surface waters</li> </ul>	<p><b><u>Land use:</u></b></p> <p>The site is located in the north-east of Peacehaven, 1km from the coastline of the English Channel to the south-west. Peacehaven wastewater treatment works (WTW) and sewage treatment centre (STC) serves the Brighton and Hove catchment area. The Peacehaven WTW is operated by Southern Water and is considered to be one of their most state-of-the-art assets and is home to the UK's largest green roof. The site currently hosts the Peacehaven Wastewater Treatment Works (WTW), within which the Peacehaven Sludge Treatment Centre (STC) (hereby referred to as 'the Site') is located (see Figure 1.1 for site boundary).</p> <p>The Site is surrounded by agricultural fields to the north and east, and public open space to the south and west, including three recreational playgrounds. Beyond the public open space to the south and west are areas of residential housing.</p>

**Figure 1.1: Peacehaven Sludge Treatment Centre Site Plan**



Source: Extract from 790101\_MSD\_SitelayoutPlan\_PEA January 2025

**Geology:**

Both superficial and artificial geology are mapped to be absent underlying the site or within 250m.

**Bedrock:**

The Site lies upon Newhaven Chalk Formation comprising chalk, Santonian in age. The Tarrant Chalk Member is mapped to be present adjacent to the south of the site with additional areas of Lambeth Group clay, silt and sand present within 250m of the Site.

**Hydrogeology:**

The Site lies on a Principal bedrock aquifer (high vulnerability). Groundwater vulnerability associated with soluble rocks has a very significant risk and a moderate possibility.

There are no licenced groundwater abstractions or source protection zones (SPZ) within 1km of the Site.

**Hydrology and flooding:**

The English Channel is located approximately 1km to the south-west of the Site. There are no other watercourses or drains within 250m of the Site. Surface water collects in a depression adjacent to the south-west of the Site during rainfall, however this pond is ephemeral in nature.

The infrastructure present on Site is within an Environment agency Zone 1 flood risk area. Areas within zone 1 have 1 in a 1,000 chance of river or sea related flooding. However, the ponds located close to the southern boundary of the Site are located within a Zone 2 which is associated with areas of land that have between 0.1% – 1% chance of flooding from rivers/the sea per year.

**Sensitive land use:**

The Site is located on an environmentally sensitive area as part of the Site is within a national park. Additionally, the Site is located within a nitrite vulnerable zone (NVZ). The Site is not within 250m of a site of special

	<p>scientific interest (SSSI), special protection area (SPA), special area of conservation (SAC) or Ramsar site.</p> <p>Part of the Site lies within the boundary of the Sussex Downs Area of Outstanding Natural Beauty (AONB). This area lies immediately adjacent to the development but is not affected by any permanent works. There is a public bridleway which crosses the Site and a public footpath to the east, as well as informal established footpaths on the edge of the urban area to the east of Peacehaven.</p> <p><b><u>Radon:</u></b></p> <p>The Site is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). However, no radon protection measures are required.</p>
<p>Pollution history including:</p> <ul style="list-style-type: none"> <li>• pollution incidents that may have affected land</li> <li>• historical land-uses and associated contaminants</li> <li>• any visual/olfactory evidence of existing contamination</li> <li>• evidence of damage to pollution prevention measures</li> </ul>	<p><b><u>Recorded landfill and Historical landfill:</u></b></p> <p>No BGS or historical landfill sites present within 250m of the Site boundary.</p> <p><b><u>Registered Waste Treatment or Disposal Sites</u></b></p> <p>Incinerators present on Site are monitored and regulated by the Environment Agency and South East Region, Solent &amp; South Downs council. There are no other registered waste treatment or disposal sites within 250m.</p> <p><b><u>Nearby industrial land uses</u></b></p> <p>There are no contemporary trade directory entries within 250m of the Site apart from the waste disposal service located within the Site's parameters which deals with waste storage, processing and disposal.</p> <p><b><u>Discharge consent:</u></b></p> <p>No discharge consents within 250m of the Site.</p> <p><b><u>Integrated pollution and prevention controls:</u></b></p> <p>No local authority pollution and prevention controls are recorded within 250m of the Site.</p> <p><b><u>Pollution incidents to controlled waters:</u></b></p> <p>No pollution incidents to controlled water are recorded to have occurred within 250m of the Site.</p> <p><b><u>Mining and quarrying:</u></b></p> <p>The Site is in an area not effected by mining or quarrying.</p> <p><b><u>Historical land use:</u></b></p> <ul style="list-style-type: none"> <li>• Earliest mapping of the area in 1874 (Envirocheck report) indicates the presence of an old chalk pit.</li> <li>• Maps from 1984 show the presence of a reservoir and a pond surrounded by grassland located south of the chalk pit.</li> </ul>

	<ul style="list-style-type: none"> <li>● Mapping from 1971 suggests an embankment formed surrounding the pond.</li> <li>● Residential and play areas surrounding the south of the Site first appeared in 1978.</li> <li>● From 1985 (Google Maps pro) indicates that the land was used as agricultural land and Hodden Farm stables occupied the north section of the Site.</li> <li>● Prior to development between 2006 – 2009 the land comprised of agricultural land with road access from the end of Hoyle Road.</li> <li>● The construction of the WTW development started in 2009 and was completed by 2013.</li> </ul> <p>Currently, agricultural and farmland lies north of the Site. A school and recreational playground are located south-west of the Site. Residential dwellings are located to the south and west of the Site with an area of public open space (park) in between.</p> <p><b><u>Soil chemistry:</u></b></p> <p>The Envirocheck report indicates background baseline soil concentrations in the area of:</p> <ul style="list-style-type: none"> <li>● 15-25mg/kg of arsenic,</li> <li>● &lt;1.8mg/kg cadmium,</li> <li>● 60-90mg/kg chromium,</li> <li>● 100-200mg/kg of lead and</li> <li>● 15-30mg/kg nickel.</li> </ul> <p><b><u>Contaminants of concern:</u></b></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"> <li>● total petroleum hydrocarbons (TPH);</li> <li>● polycyclic aromatic hydrocarbons (PAH);</li> <li>● heavy metals and inorganics;</li> <li>● pathogens;</li> <li>● asbestos;</li> <li>● polychlorinated biphenyls (PCBs);</li> <li>● chlorinated solvents and phenols; and</li> <li>● volatile and semi-volatile organic compounds (VOC/SVOC).</li> </ul>
<p>Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)</p>	<p>The Site was constructed around 2012 on previously undeveloped land, with predominantly residential or agricultural land surrounding the Site. All processes on-site since construction have been controlled and monitored. Historical contamination of soils or groundwater is therefore unlikely to exist on or underlying the site.</p> <p><b><u>Site walkover</u></b></p> <p>A site visit was undertaken by a contaminated land specialist from Mott MacDonald on 27<sup>th</sup> January 2022. The full notes are presented in Appendix B and a summary of key observations is below:</p>

	<ul style="list-style-type: none"> <li>• The Site is surrounded by a large earth bund (&gt;5m high) which provides visual screening from nearby public and residential areas.</li> <li>• Within the bund, all ground is hardstanding (concrete or tarmac in good condition) with the exception of an area of gravel around the lamellas. The majority of infrastructure is contained under a large canopy roof (~20m high) with segregated process areas.</li> <li>• All chemicals and chemical delivery points were appropriately banded.</li> <li>• Tanks were seen to be in good condition.</li> <li>• The Site has issues with pigeons, resulting in high guano loading in some areas.</li> <li>• Some evidence of sludge release inside buildings was noted at pressure relief valves, but hardstanding was all intact and drainage present which takes sludge to works return.</li> <li>• No known leaks or spills have occurred with are likely to have caused any environmental impacts (only inside buildings which are washed down and returns to treatment process). No environmental incidents have been reported on-site to the operator's knowledge.</li> </ul> <p><b><u>Planning applications</u></b></p> <p>A search of the East Sussex County Council and Lewes District Council planning portals in December 2024 identified planning permission for the construction of the WTW and STC which was granted in March 2013 (planning application reference number - LW/537/CM(EIA)). No condition was placed for the investigation of the site prior to construction. A condition (number 48) related to the use of only uncontaminated naturally occurring materials for permanent deposits associated with the construction of the works, however no validation report for this condition has been found.</p>
Baseline soil and groundwater reference data	No baseline soils or groundwater reference data is known to exist for the Site.
Supporting information	<ul style="list-style-type: none"> <li>• British Geological Survey, GeoIndex <a href="http://www.bgs.ac.uk">www.bgs.ac.uk</a> consulted September 2021;</li> <li>• Magic Map <a href="http://magic.gov.uk/">http://magic.gov.uk/</a> consulted December 2024.</li> <li>• Landmark (2021), Envirocheck Report –Peacehaven wastewater treatment</li> </ul>

<b>3.0 Permitted activities</b>	
Overview of site processes	<p>Currently, Peacehaven STC accepts indigenous sludge from the Peacehaven WTW process, imported sludge cake from Newhaven WTW and imported cess waste.</p> <p>Approximately 9-10 roll-on roll-off (Ro-Ro) containers of sludge cake are imported to the Site from Newhaven per week. Imported raw sludge cake is discharged via Ro-Ro trucks into a raw cake bay (Cake import bay). The</p>

	<p>cake is then blended with indigenous liquid sludge in co-settled sludge holding tanks.</p> <p>Blended sludge can be passed through the standby sludge screen, if required, but is normally thickened by three gravity belt thickeners, and then pumped directly to two digester feed tanks which are equipped with external chopper mixing pumps.</p> <p>Sludge is then fed to three anaerobic digesters at 6.5-7% dry solids (DS) operating between 32°C and 38°C. Polyelectrolytes are added to aid the thickening process. Digested sludge is held in two Post Digestion Storage Tanks (PDST) which are mixed via the use of a chopper pump mixing system. Digested sludge is then fed, via centrifuge feed pumps, to two centrifuges for dewatering.</p> <p>Digested sludge cake is stored in a cake silo before being pumped to six sealed Ro-Ro containers where it is taken off-site for recycling in agriculture.</p> <p>All wastewater treatment and sludge treatment processes are covered or enclosed. All tanks are enclosed or covered, and air is extracted to the odour control units (OCU). The Site is equipped with a comprehensive ventilation and odour control system. Treatment buildings and processes are provided with fresh air supply and foul air extraction systems to prevent escape of odours. The odour control unit undergoes monthly scheduled maintenance by specialised contractors. Extracted odorous air is treated by a two-stage chemical scrubber system which utilises three acid scrubbers followed by three alkaline hypochlorite scrubbers. The 3 carbon filters are not currently in use.</p> <p>Biogas produced by the digestion process is stored in a double skinned gas holder (2,400m<sup>3</sup>). 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 for the Site. The CHP unit has a thermal rated input of 3.154MWth. The Site has two back-up boilers (1.418 – 1.482MWth) that operate in the case of an emergency.</p>
<p>Permitted activities</p>	<p>There is an existing environmental permit (EPR/KB3435RB) which relates to the combined heat and power (CHP) activities at the WTW site (located within the Site boundary).</p> <p>The following activities are permitted at the Site:</p> <p>R1: Use principally as a fuel or other means to generate energy.</p> <p>R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).</p> <p>D9: Physico-chemical treatment not specified elsewhere which results in final compounds or mixtures which are disposed of by any of the operations numbered D01 to D12.</p> <p>D10: Incineration on Land.</p>

<p>Non-permitted activities undertaken</p>	<p>Operation of the dual fuel boilers on natural gas.</p> <p>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 the anaerobic digestion of sludge as wastewater treatment works 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.</p>
<p>Document references for:  Plan showing activity layout; and environmental risk assessment.</p>	<ul style="list-style-type: none"> <li>● Environment Agency (2016), Permit with introductory note – EPR/KB3435RB</li> <li>● Southern Water (2020) wastewater Above Ground Capacity Assessment AM410 Part 2.</li> </ul>

<p>4.0 Changes to the activity</p>	
<p>Have there been any changes to the activity boundary?</p>	<p>Yes – permit EPR/KB3435RB covered the CHP activities on-site. This SCR incorporates the information provided in the SCR for permit KB3435RB (produced in 2012) along with information for the updated site boundary for the inclusion of the STC activities.</p>
<p>Have there been any changes to the permitted activities?</p>	<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 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).</p> <p>Activities at Peacehaven WTW will continue, as prior to the introduction of the updated and amalgamated permit, although under any new requirements imposed by the permit.</p>
<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>	<p>Dangerous substances' that are used or produced at the Site include:</p> <ul style="list-style-type: none"> <li>● Gas oil and lubricating greases</li> <li>● Polymer (FLOPAM FO4490, FO4698SSH and AN923) for centrifuge, GBT and lamella</li> <li>● Anti-foam (FLOFOAD 681F and 139) in digesters and centrifuge</li> <li>● Lime (limesol 45%)</li> <li>● Salt tablets, Sulphuric acid (50%), Sodium hydroxide (32%) caustic soda and sodium hypochlorate (14-16%) for odour control</li> <li>● Biogas (produced from the digestors and stored in the on-site double membrane gas holder).</li> </ul>



	<ul style="list-style-type: none"> <li>• Effluent screenings (rag and grit from screening process at inlet works).</li> </ul>
Checklist of supporting information	Plan showing any changes boundary, where relevant.

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	<ul style="list-style-type: none"> <li>• Inspection records and summary of findings of inspections for all pollution prevention measures</li> <li>• Records of maintenance, repair and replacement of pollution prevention measures</li> </ul>

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 SW investigated and remedied each one. If information is not available, land and /or groundwater reference data must be provided to assess whether the land has deteriorated.	
Checklist of supporting information	<ul style="list-style-type: none"> <li>• Records of pollution incidents that may have impacted on land</li> <li>• Records of their investigation and remediation</li> </ul>

7.0 Soil gas and water quality monitoring (where undertaken)	
Provide details of any soil gas and/or water monitoring. Determine and discuss whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how this was investigated and remediated.	
Checklist of supporting information	<ul style="list-style-type: none"> <li>• Description of soil gas and/or water monitoring undertaken</li> <li>• Monitoring results (including graphs)</li> </ul>

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	<ul style="list-style-type: none"> <li>• Site closure plan</li> <li>• List of potential sources of pollution risk</li> <li>• Investigation and remediation reports (where relevant)</li> </ul>
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9.0 Reference data and remediation (where relevant)
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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	<ul style="list-style-type: none"> <li>• Land and/or groundwater data collected at application (if collected)</li> <li>• Land and/or groundwater data collected at surrender (where needed)</li> <li>• Assessment of satisfactory state</li> <li>• Remediation and verification reports (where undertaken)</li> </ul>
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10.0 Statement of site condition
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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

27<sup>th</sup> 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)

Barrier at the far end of the access road with intercom to control room. Further gate (2m) to enter bunded area in which WTW/STC sits. 2m metal palisade fence at base of bund.

18,000m<sup>2</sup> green roof to reduce visual impacts to surrounding area

Over 26,000m<sup>3</sup> of concrete used and the spoil from the excavations was used to landscape the surrounding area into bunds to reduce visual impacts.

Prior to the walkover, pressure in the cake silo had increased too high due to lack of MTS drivers to remove the cake in ROROs. Pressure relief valve had released cake into cake silo area (hardstanding inside covered building) and has remained in situ for ~1 week until contractor comes to clean up.

The site has a sludge dryer and a digested sludge cake reception facility which are mothballed.

The OCU was designed to have carbon filters for polishing but these have since been removed and only the acid and alkaline scrubbers remain.

RFI Ref	Site operations	
	Operational contact details for the application forms	Steve James (FPM)
	No of site staff (day and shift operators etc)	5 Operators (7-4.30pm weekdays), 3 MNE on site standard Standby op for evening and weekends
I15	During what hours is the site staffed Monday – Friday and at weekends?	Mon-Fri 7am-7pm

		Sat-Sun Unmanned. Standby op attends site to do samples and site checks. Time depending on rest time
	What hours can waste enter the site (planning)	7am – 4pm
I16	What hazardous waste treatment capacity (tonnes per day) is available on site?	0
I17	What non- hazardous waste treatment capacity (tonnes per day) is available on site? This should also include Commercial Waste where appropriate.	To be provided
I18	What is the total waste storage capacity (tonnes) at the site?  Note: Cake, digestors, other tanks relating to STC)	Cake – 400m3 Digesters – 9750m3 PDST – 1354m3 Digester feed tanks – 766m3 Co-set tanks – 4120m3
I19	What is the annual waste throughput (tonnes each year) at the site? (TDS volume for the STC)	
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.	
121	How many years is each permit expected to be required for?  List details of each permit separately	Indefinitely
GEN07	Please describe the aspects of the site that generate litter, mud and debris within and outside the site boundary.	Offices – general waste Some cake where loading/unloading but not much
GEN08	Describe the site cleaning procedures on site.  Including any infrastructure cleaning, wheel wash etc	Spills as needed straight away Cleaner for offices Order sweeper for access road if needed (MTS)
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,	Up down barrier at access road end Main electrical Main Manual gate Cameras round site - Total 21 CCTV and 1 ANPR (~5not working currently but have a contract to fix) Camera record system

	what are the gates made of, height etc? Gate control, CCTV, how many cameras etc	Site outer wooden stake wire fence (~1m) Site Inner Metal fence (2m) Card control and phone controlled entry to buildings with mag locks on doors and manual locks Intruder alarm	
	<b>Visual impacts</b>		
GEN10	Please describe the visual impacts of each site.	Dug into the ground covered by large perimeter mound and hidden by grass roof	
	<b>Site condition report</b>		
SCR02	Please provide a list of permitted activities per site.	Water discharge, CHP	
SCR03	Please provide a list of non-permitted activities per site. Including exemptions	T21, centrifuges, no liquor treatment (goes back to inlet)	
SCR05	Please provide any environmental risk assessments for site.	No contam H1 assessment	
	<b>Emergency procedures</b>		
GEN17	Provide a description of the emergency procedures for each site	Muster point, call 999, get out Spill kits around site, especially near deliver/use points	
	<b>Sludge import</b>		
SV01	Does the site accept trade waste (commercial tankers)?	No sludge imports Unless in emergencies	
SV01/02	How many tankers arrive at the site per day? Where are the tankers unloaded? Is an odour control hose used during unloading?	Cake import (9-10/week) on roros Cake export ~25/week (15T) roros	
SV03	Where is sludge imported from? Sludge imported from other satellite sites? How many?	Zero – only cake from Newhaven	
	<b>Air Emissions from plant</b>		
		<b>Plant 1, 2 etc</b>	<b>Plant 1,2 etc</b>
I27	What date did the combustion plant become operational?	CHP – 2012 (refurbished 2021)	Boilers - 2012

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		
I29 (Sch 5)	What is the <b>MWth</b> input of each plant? (CHP, Boiler, Generators) No generators here site runs on (dual power) Take photos of any plates	3.154	1.418-1.482
I30	What are the guaranteed emission limits for the plant?		
I31 (Sch 5)	What are the total operating hours for the year expected in any given year? (for each combustion plant, including boilers)- <b>worst case per item</b>	24/7	2x per year (~2 days)  Only when CHP not working.
I32 (Sch 5)	What is the stack height for each stack? (Boiler, CHP, Generator, Flare)		
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?		Biogas/natural gas  Natural gas from mains
	Provide manufacturer's specifications for all combustion plant where possible.		
Sch 5	Provide the make and model of each combustion unit. (Take photos of plates where possible) (Boilers, generator, CHP)		
Sch 5	Height of the building the stack is attached to (m).		
Sch 5	Provide approx. height and length of nearest building to the stack (m).		
	<b>Emissions</b>		
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).	Water discharge 1.5miles out to sea (gravity pump)	
	<b>Emissions to land</b>		
GEN20	Please describe where all condensate pipes discharges (typically CHP exhaust , gas bag and	Condensate back to works return	

	<p>digester), including the exact location of the emission and the quantity/rate of discharge.</p> <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>	No emissions to land
<b>Exemptions</b>		
	What exemptions are used on site? Typically SW have T21, D5 and S1.	T21, S2, U6
<b>Cake storage</b>		
SV04	Is any cake imported? If so, how is it unloaded from trucks and where is it unloaded?	Raw cake imported from Newhaven WTW in raw cake bay/Silo Tipped by MTS RORO truck
SV05	<p>Where is cake stored?</p> <p>How is cake stored? E.g. Cake bays, silos, directly into skips etc</p>	Cake silo 400m <sup>3</sup> inside building and x6 RORO bins not covered but cake pumped in (no exposure to environmental air)
	<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>1 cake silo</p> <p>6 roro bay/bins</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>	<p>No cake bays on site. Pumped straight into RORO</p> <p>Silo capacity 400m<sup>3</sup></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>Cake moved in sealed roro bins</p> <p>5 bins day mon-fri</p> <p>2 bins Saturday</p> <p>Max 3 days storage on site over weekend until roro removed. sit only has 6x roros so returned once empty and ffilled</p>
SV07	Is the cake treated further after the centrifuge e.g. liming of cake within cake bays?	Liming is injected in feed pump to centrifuge
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 cake bays.</p> <p>Cake is pumped into roro bin once full is removed from site, tipped at farm and brought back empty to refill</p>

SV09	How is cake removed from the site? How often? Over what timeframe? e.g. 2weeks constantly	Daily 5 a day mon-fri 2 a day on saturday
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?	No cake bays Only x6 RORO bin bays
<b>Water usage</b>		
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 2% poly make up units and drinking and washing (personal use)  Final effluent 98% wash down hoses, screens, centrifuge
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
<b>Generators</b>		
SV13 - 19	Are there any generators on site?	No
<b>CHP engines/boilers</b>		
	How many CHPs/boilers on site?	<i>Take photos of any plates</i>
	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?	1 CHP (16,000m3 biogas through per day)  Site running and Digester recirculation temp  1 Flare Variable use pending on gas volume created and excess unused by CHP. New flare stack installed 2021.



	<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 %) for sites in Tranche 3?</p> <p>What is the annual load of CHP (given as %) for sites in Tranche 5?</p>	<p>Flare every day (&lt;3,000m<sup>3</sup> biogas, but currently 1 digester off, less normally – maybe 2000m<sup>3</sup>)</p> <p>No plans to increase CHP size at the moment.</p> <p>CHP constantly on unless service or broken (1150kW/hr)</p>
	<b>Noise</b>	
I64	Please describe any noise mitigation measures on site.	<p>See permit for noise levels requirements and actions</p> <p>Site in bund and roof over most equipment.</p>
	Other abatement?	
	Have any noise assessments been undertaken on the site?	Not known of
	Have there been any noise complaints?	At least 1 from resident (~5years ago)
SV19	<p>Any monitoring undertaken?</p> <p>If so, what standards are used?</p>	Monitoring for known complaint near complainants address
	<b>Odour</b>	
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?	<p>Most equipment covered and odour extraction fixed (green pipe) (digesters and PDST not covered but OCU but tanks sealed)</p> <p>Exhaust emission extraction in lorry/ tanker bays</p> <p>Doors and roller doors closed before work carried out part of interlock systems</p> <p>Fresh air input into building (grey pipe)</p> <p>Odour suppressant system round roof with odour eliminator hook up</p>
SV21	<p>What is the odour control system used – specific to locations on site? Bio-scrubbers/carbon filter etc?</p> <p>What is the media used?</p> <p>Which processes are odour controlled?</p>	<p>Carbon filters but now removed. Acid and alkali scrubbers still operating</p> <p>ERG maintain monthly (scheduled). Do reactive jobs as needed when here</p>

	<p>How and when is the odour control maintained/inspected to ensure they remain effective?</p> <p>Please provide full maintenance schedules for each site</p>	
Sch 5	Stack height of the OCU	
Sch 5	Emission rate of the OCU (leaving the stack)	Not known. Air flow meter broken but need scaffold to get to
SV24	<p>Is odour monitored?</p> <p>If so how?</p>	<p>Inlet and outlet H<sub>2</sub>S tapes monitor system.</p> <p>Ops sniff test as walk around site but not recorded. Historically had H<sub>2</sub>S reader (Gerome) but stopped using over 5 years ago.</p>
Sch 5	<p>How are potential diffuse emissions from open storage areas (such as cake storage areas) and open processes prevented or otherwise minimised?</p> <p>(drop heights to the cake bays, open tanks, wall heights)</p>	<p>Clean up Mess and overspills if cake on floor from RORO fill points.</p> <p>Cake pumped into ROROs – no drop.</p> <p>RORO bays out in open</p>
	Is there a site specific odour management plan?	Yes although couldn't fine when on site. Only map showing where sniff tests should be undertaken
	Any odour complaints?	No – complaint relating to muck spreading at the back but nothing for site
	Other abatement?	no
GEN16	Describe the maintenance programmes that are undertaken to ensure odour and bioaerosol control measures are maintained,	ERG maintain OCU monthly
OMP02	Please identify the most common sources of odour complaints (i.e. during movement of cake, etc)	None
OMP01	Dry solids range (%), sludge type, sludge pH, and storage time at average throughput for different tanks / processes.	<p>PST (lamellas) – 1.5-3%ds (aim for 2%), 1152m<sup>3</sup>/day,</p> <p>GBT x3 – 6.5-8.5%ds (target 7-8%ds)</p> <p>Digester feed tanks - 6.5-8.5%ds, max 2-3 days retention</p> <p>Digesters 3-4%ds, pH7-7.7 (normally 7.5) kept at 37oC. 12 days minimum retention but currently 28 days</p>

		(270m <sup>3</sup> /day feed to digesters) – 22 days at moment as only 2 dig PDST – 3-4%ds, Centrifuges – 25-28%ds. Lime dosing in feed pump = pH9.2-9.5 Silo – water injection in silo to allow pumping ~25%ds
OMP04	For each asset on-site, please provide: <ul style="list-style-type: none"> <li>• Potential odour source</li> <li>• Odour controls in place (see SV21)</li> <li>• Potential for odour emissions</li> <li>• Action to be taken in case of failure</li> <li>• Person responsible</li> </ul>	FPM responsible but no issues as maintained and sealed to reduce odour generation
Sch 5	Has the site had odour modelling undertaken? If so, when and please provide a copy.	Yes for original CHP permit. Report available.
<b>Bioaerosols</b>		
GEN15	Describe the processes and bioaerosol control measures (e.g. odour abatement systems, enclosed tanks, filters) associated with:	All tanks enclosed or covered by OCU. Cake pumped into ROROs.
	• Sludge reception/transfer of sludge between the vehicles and the facility (including: frequency of deliveries and collections, and 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	
	• Disposal of biogas (combustion)	
	• Any other relevant procedures onsite which could generate bioaerosols	
	If using odour suppression sprays are they used to just mask the smell or to catch and drop the odour?	
	Is sludge arriving on site processed immediately? If not how long is it until it is fed into the system?	
	<b>Pests</b>	
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?	Yes, pigeons nesting under external roof.  Quote to net underside of the whole external roof

	<p>What measures are in place to remove pest issues?</p> <p>What's the frequency of visits by a pest control contractor?</p>	<p>Rats.</p> <p>Use Rentokil to put out bait boxes</p> <p>When required</p>
	<b>Raw materials – Write here or refer to table at the bottom</b>	
SV26	<p>How and where are they stored? Bundled, stored undercover etc?</p> <p>Are they in IBC's, bags, tanks etc?</p>	<p>IBC's under cover and bundled</p> <p>Bags under cover and on pallets</p> <p>Diesel tank outside and bundled</p> <p>Lime tank outside and bundled</p>
	<b>Resource efficiency</b>	
SV28	<p>Describe waste avoidance and waste recovery measures (for the whole site operations, including staff generated waste). Describe how waste is disposed, by whom.</p> <p>This relates to all wastes generated by SWS operations on site – e.g. wash water, screenings etc</p>	<p>Return liquor has floats to tell when full. Improved feed on/off, reduces energy use</p> <p>Dwell timers on mixers to reduce energy uses</p> <p>Odour fan reduced overnight to 30%</p> <p>No well cleans during peak times</p> <p>Don't water roof unless drying then sprinkler system used. Needs to blend in with surrounding fields</p>
	Any water saving measures?	FE used for hoses
	<b>Combustion</b>	
I43	Does the site have an aggregated net thermal input of combustion plant/s more than 20MW?	No - below 6.XMW
	<b>Risk Assessment</b>	
I55	Please provide any existing environmental risk assessments relating to the operations of the site	
I57	Please confirm whether the site sources all water or a proportion of water through surface water or ground water abstraction.	No
I61	<p>Please provide details of the tanks on each site, their contents, how they are maintained, capacity and specification (e.g bunding features)</p> <p>What are the age/condition of tanks?</p>	<p>Cake silo – 400m3</p> <p>Digesters – 3x 3250 (9750m3)</p> <p>PDST – 2x677 (1354m3)</p> <p>Digester feed tanks – 2x380 (760m3)</p> <p>Coset tanks – 2x2060 (4120m3)</p> <p>2012 when site built</p>

		<p>Condition of pumps and seals of cake silo not good so waiting until silo empty to replace</p> <p>All site underlain by concrete, drains lead to works return</p> <p>No bunding on tanks other than ferric</p>
I62	<p>Please provide details of all environmental incidents that have occurred within, or near the site, including any fires and spills.</p> <p>Please explain how these were handled and any environmental impacts identified following the incident.</p>	None
GEN03	<p>Please provide historical flood records for all sites</p> <p>Are these events recorded anywhere e.g. site diary/log</p> <p>How often are flooding occurrences – e.g. monthly, during heavy rainfall?</p>	<p>None</p> <p>Rain runs down access road but then into drains</p>
GEN04	<p>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</p>	
<b>Health and Safety</b>		
	<p>Is SCADA used on site?</p> <p>What processes are covered by SCADA?</p>	<p>Yes</p> <p>Black rock pumping station</p> <p>Albion flush chamber</p> <p>Brighton Marina GDS</p> <p>Marine Drive Pump station</p> <p>Portobello Pump station</p> <p>Telescombe Lower beach Storm</p> <p>Peacehaven site:</p> <p>Inlet Preliminary and Primary treatment</p> <p>Sludge Reception (imports)</p> <p>Sludge Treatment</p> <p>Odour control</p> <p>Baff (secondary)</p> <p>Alarms Live and old</p>

		<p>SRC traffic management</p> <p>Daily flow totalisers</p> <p>Weather Station</p> <p>Centrifuge and Dryer operations</p> <p>Spill points Environment Agency monitoring levels</p>
Sch 5	<p>Does the site have a Leak detection and repair plan?</p> <p>What are the methods for locating unknown emission sources?</p> <p>What are the monitoring methods and frequency of monitoring to quantify significant emissions?</p> <p>What are the leak mitigation measures? (maintenance programme etc)</p>	<p>No, just general maintenance and daily report with walkover</p> <p>SCADA would pick up water usage, drops in flows/pressure etc</p> <p>Alarms on systems /controls to break flows if process has issues – break disks</p>
	<b>Digesters</b>	
	How many digesters on the site?	<p>1 POOA being refurbished</p> <p>2 Working</p> <p>3 Working</p>
	Digester capacity	
SV29	<p>Any Wesso valves? How many?</p> <p>Any temperature sensitivity observed in the Whesso valves? (previously we have heard of Whesso valves freezing below -5°C)</p>	<p>Yes</p> <p>2 per digester totalling 6</p> <p>2 gas bag</p> <p>2 per PDST</p> <p>(12 total)</p>
SV30	Any monitoring of tanks/gas? Is there an alarm system attached to the Whessoe valves (inform SCADA when operational)? (Pressure relief valve)	<p>Yes</p> <p>Pressure detections</p>
	What is the ground like surrounding the tanks? E.g. permeable gravel, concrete etc	Concrete
SV31	Underground pipework for digesters? Known condition?	All above ground other than sludge pumps, potable/FE supply
	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, can do if needed. Tanks kept about ½ full to allow time for emergency
	<b>Drainage</b>	
	Where do the drains go? E.g., Head of the works	Return Liquors

		Inlet return liquors
	Is site adjacent to a river or stream?	No
	Is the whole site bunded	No
	Are there any cracks in the pavement	No
SV31	Any other underground pipework? Condition known?	No
GEN21	Please describe whether all drainage (surface or foul water) will be captured by the onsite drainage systems.	Works return
GEN21	Please describe the drainage surrounding the cake storage bays and whether run off from there is also captured by the drainage system.	
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?	Yes, should be before and after on each bit of kit
	<b>Abnormal conditions – extreme high temperature, flooding (Climate Change RA)</b>	
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?	No onsite storm water storage
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?	No
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?	78,304m <sup>3</sup> /day Throughput normally ~50,000m <sup>3</sup> /day dry weather
CC04	How large is the site's stormwater storage capacity, OR how much retention time do the storm storage tanks allow?	No storm tanks but we have a storm tunnel at black rock capacity 150000m <sup>3</sup>
CC06	Does the site require potable water for any of its processes?	Yes poly make up system and if FE system fails
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"	Digesters x3 operating temps between 32c-38c
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. '2 incomers"
<b>Waste generation</b>		
	What wastes are generated by the site?	Rag Grit General waste Metal waste Electrical waste Paper and card Pallets (wooden) Used oils grease and can sprays
	How is it stored?	Rag – Skips Grit – Skips General waste – General waste skip and colour coded internal bins Metal – Metal skip Electrical waste – WEEE bins / Coffins



		<p>Paper and card – Recycling bins</p> <p>Pallets – stored in safe area and collected</p> <p>Used oils grease and cans – dirty oil drum and separate Bunded bins</p>
	<b>Other</b>	
SV39	Has any ground investigation/monitoring been undertaken on the site eg for planning permissions? Are there any available monitoring boreholes?	No
	Planned AMP7 schemes for the site that may impact the permit application?	Non known
	<p>What is the general site infrastructure like?</p> <p>Any areas of concern?</p>	Good condition
	<p>Age of site?</p> <p>What infrastructure is enclosed?</p>	<p>2012/3</p> <p>Everything</p>

