

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	14/09/21	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	M Sweeney	S Stone	A Manns	Third issue for application submission
D	25/09/24	S Blackman	C Cowdrey	A Manns	Fourth submission for duly making

Document reference: 790101_MSD_SCR_FOR |

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)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.

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

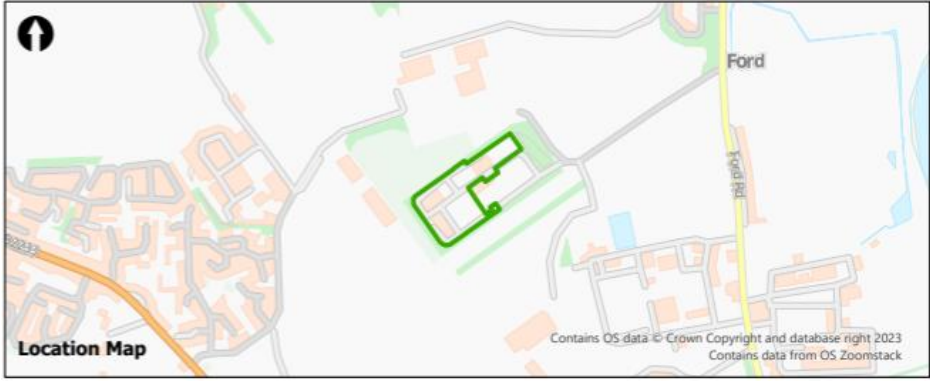
¹ Available at: <https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report>

1.0 SITE DETAILS	
Name of the applicant	Southern Water
Activity address	Ford Sludge Treatment Centre, Off Ford Road, Ford, Arundel, West Sussex, BN18 0DD
National grid reference	SU 9946 0313

Document reference and dates for Site Condition Report at permit application and surrender	Site Condition Report: 790101_MSD_SCR_FOR Date of Permit Application: TBC Date of Surrender: TBC
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Document references for site plans (including location and boundaries)	790101_MSD_SiteLayoutPlan_FOR
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2.0 Condition of the land at permit issue

<p>Environmental setting including:</p> <ul style="list-style-type: none"> • geology • hydrogeology • surface waters 	<p>Land use</p> <p>The site (as presented by the green line boundary below) is located within Ford Water Treatment Works (WTW) and Sludge Treatment Centre (STC), to the west of the hamlet of Ford, approximately 7km northeast of Bognor Regis.</p>  <p>The site lies within a former airfield, now Ford Airfield Industrial Estate. The area surrounding the site is mixed industrial and agricultural usage. To the north is a waste management centre with agricultural fields elsewhere. To the west and south, agricultural fields surround the site with areas of residential housing. To</p>
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	<p>the southeast is HMP Ford, a large prison, with further agricultural fields surrounding. Rutfield industrial estate is located 415m south of the site.</p> <p><u>Geology</u></p> <p><u>Superficial Geology</u></p> <p>The site lies upon an area of River Terrace Deposits (RTD), comprising sand, silt and clay. These superficial deposits formed up to 3 million years ago in the quaternary period. Local environment previously dominated by rivers.</p> <p><u>Bedrock Geology</u></p> <p>The site lies upon the Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (undifferentiated) - Chalk. Sedimentary Bedrock formed approximately 72 to 94 million years ago in the Cretaceous Period. Local environment previously dominated by warm chalk seas.</p> <p><u>BGS Boreholes</u></p> <p>Three BGS boreholes are recorded within 100m of the site area. The summarised geological section underlying the site is described as;</p> <ul style="list-style-type: none"> ● Made ground (0 - 0.60m below ground level (bgl)) ● River Terrace Deposits (0.60 – 6.98m bgl) ● Chalk (4.60 – 30.44m bgl) <p><u>Hydrogeology</u></p> <p>The RTD superficial aquifer underlying the site is designated by the Environment Agency as a Secondary A aquifer.</p> <p>The Lewes Nodular Chalk formation is designated as a Principal aquifer.</p> <p>The site lies within an area of groundwater flooding capability with potential flooding to property situated below ground level and at the surface</p> <p><u>Hydrology and flooding</u></p> <p>The River Arun is located 850m east of the site area, flowing south and joining the English Channel 3km downstream. A drain is present 200m south east of the site area and flows into the River Arun, and no further drains are located within 500m of the site area. The River Arun is listed on the OS Water Network Map as a tidal river; a river influenced by tidal action.</p> <p><u>Sensitive land use</u></p> <p>The site does not fall with a nitrate vulnerable zone or is within 500m of a Site of Special Scientific Interest (SSSI). The River Arun is noted to be a drinking water protected area (surface water).</p>
<p>Pollution history including:</p>	<p><u>Pollution incidents to controlled waters</u></p> <p>There have been no pollution incidents to controlled waters on site. There have been two pollution incidents between 500m and 1km of the site.</p> <p><u>Nearby industrial land uses</u></p>

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<ul style="list-style-type: none">• pollution incidents that may have affected land• historical land-uses and associated contaminants• any visual/olfactory evidence of existing contamination• evidence of damage to pollution prevention measures	<p>There are no active Contemporary Trade Directories within 250m of the site.</p> <p>There are three further points of interest within 250m of the site, three tanks are listed between 76 – 158 m north of the site area.</p> <p><u>Recorded Landfill and Historic Landfill</u></p> <p>There is one BGS recorded landfill site within 250m of the site area. The site is registered to R J Page and Sons Ltd, 93m north of the site area. The site was operational for one year in 1985 and deposited waste included inert waste.</p> <p>The R J Page and Sons Ltd record is also listed as a Registered Landfill site, 147m north of the site. The record indicated the accepted material is totally inert solid waste.</p> <p><u>Registered Waste Treatment or Disposal Sites</u></p> <p>There is one licenced waste management facility on site, and two further facilities within 250m of the site area. On site, the waste management facility is registered for sludge drying operated by Southern Water. Two further licenced waste management facilities within 250m are listed below:</p> <ul style="list-style-type: none">• Grundon Waste Management Ltd located 146m north of the site area was issued a licence in 2015 for HCI Waste TS and treatment.• Viridor Waste Management Ltd located 218m southeast of the site area was issued a licence in 2009 for Material Recycling Treatment Facilities. <p><u>Discharge Consents</u></p> <p>There are seven discharge consents indicated on the wider WTW, all issued to Southern Water Services Ltd, all for sewage discharge, although only one is currently active. The earliest discharge consent is 2003, and the most recent (and ongoing) discharge consent was issued in 2010. The receiving water is the English Channel (controlled sea) for each of the discharge consents.</p> <p>Within 250m of the site area, one further discharge consent is present 150m north of the site, licensed to Tarmac Topblock Ltd for trade discharge – mineral discharge. The receiving water is not listed.</p> <p><u>Local Authority Pollution Prevention and Controls</u></p> <p>There are three integrated pollution prevention and control records for the WTW, and one further record within 250m of the site area. On site, all three records are licenced to Southern Water Services Ltd. Two were awarded in 2010 for combustion; recovered oil greater or equal to 3MW but less than 50MW, and a further record is listed for an associated process – no further details given.</p> <p>Located 196m north of the site area, an authorisation was provided to Tarmac Topblock Ltd, dated 1992.</p> <p><u>Mining and quarrying</u></p> <p>The site is located in a non-coal mining area. No mining or quarrying sites are located within a 250m radius of the site.</p> <p><u>Historical Land use</u></p> <ul style="list-style-type: none">• Earliest historic mapping from 1876 indicates that the site lies within an area of predominantly greenfield land. A small farm is present on site in the
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	<p>southern extent of the site area. The surrounding areas are also predominantly greenfield areas, with the Chichester & Arundel canal runs in an east – west orientation, approximately 220m north of the site.</p> <ul style="list-style-type: none"> • The site area is listed as an airfield for the first time in 1962 mapping. No surface features are mapping within the airfield until 1974 mapping, where the airfield is listed as unused. No features are noted within the site area associated with the airfield. A runway runs along the south eastern and south western boundaries of the site. In 1974, two buildings listed as works with an associated tank is listed 170m north of the site. A prison is now also listed 120m south east of the site. Within the prison site area, a pond is indicated, which is assumed to be a settling pond servicing the prison. • In 1984 mapping, further development associated with the works to the north of the site include an additional works building, tanks, a travelling crane, and an electrical substation. Two further unlisted buildings have been developed 40m southwest of the site area. • The site area is first indicated to be developed for the first time in 2006, indicative of the layout of the site of the present day. Aerial imagery (Google Earth Pro) indicates that the run to the south of the site has been used to store a large number of cars, possible for use in the surrounding industrial estates. <p><u>Contaminants of concern</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, likely comprising CO₂ and CH₄.</p>
<p>Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)</p>	<p><u>Site walkover</u></p> <p>A site visit was conducted by a Mott MacDonald waste specialist on 19/07/21. Key points recorded during the visit included:</p> <ul style="list-style-type: none"> • the site was relatively small and kept clean and tidy • raw chemicals were kept in bunded tanks or IBCs, however the ferric tank was in poor condition and requires replacing • site wastes are kept in appropriate skips or bins and collected by external contractors • site staff confirmed that there and not been any environmental incidents that have occurred within or near to the site within their memory • permeable gravel was present around the digesters and concrete surfacing along roadways

	<ul style="list-style-type: none"> boreholes were reported to have been installed around the perimeter of the STC to check water levels prior to the FST, PST and digester construction, however the current condition of these wells is not known. <p>Site data</p> <p>No site investigation reports are known to be available for the site.</p> <p>No pollution incidents have been recorded on site to date and the majority of site operations are enclosed. No monitoring or assessment results are available.</p> <p>Cracks in pavement may lead to leachable contaminants being present in the subsurface, but this has not been confirmed.</p> <p>Planning applications</p> <p>A search of the Arun District Council planning portal was conducted on the 25th September 2024. No applications with relevant information on ground conditions were discovered.</p>
Baseline soil and groundwater reference data	No reference data is currently available for the site.
Supporting information	<p>Sources used in the production of this SCR:</p> <ul style="list-style-type: none"> Landmark (2021), Envirocheck Report –Ford Sludge Treatment Works SCR, ref: 276378024_1_1. British Geological Survey, GeoIndex www.bgs.ac.uk consulted April 2021; British Geological Survey, Borehole Scans www.bgs.ac.uk consulted April 2021; Magic Map http://magic.gov.uk/ consulted April 2021; Southern Water (2014) Wastewater Above Ground Capacity Assessment – Ford WTW & STC, Issue 2.0

<h3>3.0 Permitted activities</h3>	
Overview of site processes	<p>Ford serves as an STC receiving both liquid sludge and dewatered sludge cake. Imported liquid sludge is screened by 2 No. strain presses and then mixed with indigenous sludge in 2 No. post screening sludge storage tanks. The sludge is then thickened by 2 No. drum thickeners. Imported sludge cake is blended with SAS from the SAS buffer tank. Excess SAS is thickened by 4 No. drum thickeners. Thickened primary sludge, thickened SAS and blended cake are mixed and stored in 1 No. thickened sludge storage tank. Thickened sludge is fed to 3 No. anaerobic digesters. Digested sludge is stored in 2 No. post digestion storage tanks and then dewatered by 2 No. centrifuges. Digested sludge cake is transported off site for storage and recycling to farm</p>

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	<p>land. Biogas produced by the digesters and post digestion storage tanks are fed to 1 No. CHP unit.</p> <p>The STC consists of the following:</p> <ul style="list-style-type: none">● Sludge reception tank (100m³)● Strain presses 2 No.● Post Screening Sludge storage tanks 2 No. (1732m³ each)● Drum thickeners;● 2 No. for post screened sludge● 4 No. for excess SAS● Thickened sludge storage tank 1 No. (total 960m³)● Anaerobic digesters 3 No. (each 1848m³)● Post digestion storage tanks 2 No. (each 352m³)● Lime plant● Centrifuges 2 No.● CHP unit 1 No (1.84MWth)● Gasholder (670m³)● Biogas burner (flare) 1No.● Cake Silo (100m³)● Emergency cake bays (two 16tonne ro-ro skips)● Odour control units (OCU) 2 No. one wet chemical scrubber OCU and one granular activated carbon (GAC) OCU.● Generator 1 No. (diesel)● Boiler 1 no. (biogas and natural gas)
Permitted activities	<p>As of 30th November 2010, an environmental permit has been awarded to Southern Water Services Ltd (Ref. KP3130KX) for the use of the sludge dryer. A variation of the permit was determined on 2nd April 2013, for the burning of bio-gas in the sludge dryer from receipt of fuel to emission of exhaust gas to air.</p>
Non-permitted activities undertaken	<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 Anaerobic Digestion is no longer operational under T21 exemptions. Permitted Directly Associated Activities include waste import, physio-chemical treatment of sludges and storage of indigenous and imported sludges.</p>
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. Ford STC Site Location Plan.● Southern Water (2013) Environmental Permits. Permit Ref. EPR/KP3130KX.

Note:

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 Ford 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. 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"> ● Diesel for generator; ● Polymer (powder for centrifuge, liquid for SAS); ● Anti-foam for the digester; ● Lime for sludge thickening; ● Sodium hydroxide; ● Sodium hypochlorate; ● Methane (produced from the digestors and stored in the on-site double membrane gas holder).

Checklist of supporting information	
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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"> • Inspection records and summary of findings of inspections for all pollution prevention measures • Records of maintenance, repair and replacement of pollution prevention measures
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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	<ul style="list-style-type: none"> • Records of pollution incidents that may have impacted on land • Records of their investigation and remediation
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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	<ul style="list-style-type: none"> • Description of soil gas and/or water monitoring undertaken • Monitoring results (including graphs)
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8.0 Decommissioning and removal of pollution risk
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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"> • 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)	
<p>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.</p> <p>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.</p>	
Checklist of supporting information	<ul style="list-style-type: none"> • 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	
<p>Using the information from sections 3 to 7, give a statement about the condition of the land at the site. This should confirm that:</p> <ul style="list-style-type: none"> • 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

RFI Ref	Site operations	
	Operational contact details for the application forms	APC
	No of site staff (day and shift operators etc)	5 shift ops – currently 3 + 1 new 6am-6pm 2 ops 6pm – 6am 2 ops 4days on 4 off 7 cycles then 18days off 2 day ops
I15	During what hours is the site staffed Monday – Friday and at weekends?	7.30 – 4pm M-W 7.30 – 3pm T-F Shift ops at weekends 1 weekend in 4 standby rota Site operates 24/7. On call rota is to assist. Also cover Horsham, Shoreham, E.Worthing and Ford whilst on standby
	What hours can waste enter the site (planning)	M-F 24hrs full quota (300m3/day + 2 roros Sat – half imports Sun – none
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.	TBC No TTW
I18	What is the total waste storage capacity (tonnes) at the site? Note: Cake, digestors, other tanks relating to STC)	TBC
I19	What is the annual waste throughput (tonnes each year) at the site? (TDS volume for the STC)	TBC 318.27m3/day produced – indigenous & imports
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.	Brenda to provide
121	How many years is each permit expected to be required for? List details of each permit separately	Permanent
GEN07	Please describe the aspects of the site that generate litter, mud and debris within and outside the site boundary.	Rag, grit, screenings, 3 strain presses for sludge

GEN08	Describe the site cleaning procedures on site. Including any infrastructure cleaning, wheel wash etc	As per std SW procedures
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	Automated electronic gate – palisade 8ft high. ANPR + 8 CCTV cameras. Chain link fencing covering total perimeter 2.8m high
Site Plans		
GEN13	Please provide a copy of the Site Plan showing the proposed permitting boundary in green. This can be overlaid the Site Layout Plan. The Site Plan will be placed in the permit and needs to show a north arrow, identifiable location indicators (such as roads).	To be provided by SW
Site condition report		
SCR02	Please provide a list of permitted activities per site.	Dryer only, mothballed
SCR03	Please provide a list of non-permitted activities per site. Including exemptions	T21 exemption Import cess Raw cake import pre-AD process – in RoRos
Emergency procedures		
GEN17	Provide a description of the emergency procedures for each site	Std SW procedures
Sludge import		
SV01	Does the site accept trade waste (commercial tankers)?	None
SV01/02	How many tankers arrive at the site per day? Where are the tankers unloaded? Is an odour control hose used during unloading?	300m3 on average in 27m3 (6k) and 18m3 (4k) No OC on artics (6k) – have to leave door open due to length. Only on 4k – exhaust extraction units and doors closed
SV03	Where is sludge imported from? Sludge imported from other satellite sites? How many?	TBC
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	TBC

	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	
	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 provide the emission/maintenance report(s) for the flare(s).	TBC	
	Are there any maintenance reports?		
	Please clarify whether safety zoning of areas is undertaken under DSEAR/PEXA at site.	To be provided by SW	
	Air Emissions from plant		
		Plant 1, 2 etc	Plant 1,2 etc
I27	What date did the combustion plant become operational?	TBC	
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	TBC	
I29	What is the MWth input of each plant? Take photos of any plates	TBC	
I30	What are the guaranteed emission limits for the plant?	TBC	
I31	What are the total operating hours for the year?	TBC	
I32	What is the stack height for each stack?	TBC	
I33	What fuel is used? Natural gas, biogas, diesel) Dual or co- fired?	1 dual fuel boiler (biogas and natural gas)	

	<p>What total volume of fuel is used?</p> <p>What total volume is stored at any one time?</p>	<p>1 large site generator – refurbished - runs critical site equipment, emergency standby use</p> <p>TBC if site exports to grid</p>	
	Provide manufacturer's specifications for all combustion plant where possible.	Maintained by Veolia	
Additional space for information on plant (if required)			
Emergency cake bay 2 x 16t RoRo			
Emissions to land			
GEN20	<p>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> <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>Collected in sump and sent to head of works.</p> <p>AG to send NGRs</p>	
Exemptions			
	What exemptions are used on site? Typically SW have T21, D5 and S1.	T21, others TBC	
Cake storage			
SV04	Is any cake imported? If so, how is it unloaded from trucks and where is it unloaded?	Imported pre-digestion	
SV05	<p>Where is cake stored?</p> <p>How is cake stored? E.g. Cake bays, silos, directly into skips etc</p>	<p>100m3 Silo</p> <p>1-5days retention</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>	1 silo, emptied on Sat – 3 tankers/day to empty (tipper 20t)	
	<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>	N/A	
SV06	<p>How is cake moved to the cake bays (enclosed truck etc)?</p> <p>How frequently is cake moved around the site?</p>	N/A	
SV07	Is the cake treated further after the centrifuge e.g. liming of cake within cake bays?	Lime added prior to centrifuge	

SV08	When cake is within the bay, is the cake turned/disturbed at all? How often? Why?	N/A
SV09	How is cake removed from the site? How often? Over what timeframe? e.g. 2weeks constantly	N/A
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?	N/A
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 – poly makeup, OCU, boiler (digester temps – undersized? To heat 3 boilers) and CHP, office Rest is FE ~5% potable 95% FE
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?	None
Generators		
SV13 - 19	Are there any generators on site? How many and what size (MW)? What are they used for e.g. primary/secondary. Site running, exporting power to grid? Do they export to grid or import from grid to run the site? Is operation of the CHPs temperature sensitive? If yes, what is their optimum temperature range? Is there a temperature above/below which they will not operate?	1 large generator – diesel Dual power supply TBC if exports Booster pumps over heat on CHPs Not running to full capacity in hot temps

	<p>What are their fuel sources? E.g. diesel, biogas, other source</p> <p>How many hours per year do they operate?</p> <p>Any monitoring undertaken? If so, what for and what are the standards used?</p>	TBC
CHP engines/boilers		
	How many CHPs/boilers on site?	<i>Take photos of any plates</i> 1 CHP – on upgrade list
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? If so, what for and what are the standards used?</p>	<p>1 boiler</p> <p>1 flare >10% time – need to meet ELVs</p> <p>No – only generator is</p> <p>H2S monitors on site – 6 perimeter monitors – 3/4 in centre of the site & OCU</p>
SV17	<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>ERG service wet chemical scrubber – sodium hypochlorite and Sodium Hydroxide</p> <p>No longer use sulphuric acid – tanks require emptying.</p>
GRA01	What is the annual load of CHP (given as %) for sites in Tranche 3?	OCU streams inlet works & sludge reception, PSTs, lime silo
MIL01	What is the annual load of CHP (given as %) for sites in Tranche 5?	Carbon scrubber for sludge building
Noise		
I64	Please describe any noise mitigation measures on site.	None – noisy ops all enclosed
	Other abatement?	N/A
	Have any noise assessments been undertaken on the site?	None
	Have there been any noise complaints?	No not in recent years – check CSMS
SV19	Any monitoring undertaken? If so, what standards are used?	None
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?	<p>Sludge processed immediately</p> <p>Open AS lanes and FST</p> <p>Doors closed for 4k tankers but not 6k tankers</p>
SV21	What is the odour control system used – specific to locations on site? Bio-scrubbers/carbon filter etc?	<i>Obtain as much information as possible on system used and take photos.</i>

	<p>What is the media used?</p> <p>Which processes are odour controlled?</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>	<p>Wet scrubber – PSts, inlet works, sludge reception, lime silo</p> <p>Carbon scrubber – sludge building.</p> <p>Carbon filter on CHPs to clean gas prior to use.</p> <p>Maintained by ERG – 1/month TCP service</p>
SV24	<p>Is odour monitored? If so how?</p>	H ₂ S monitors
	<p>Is there a site specific odour management plan?</p>	Generic OMP
	<p>Any odour complaints?</p>	Check CSMS
	<p>Other abatement?</p>	Mobile odour control system on site but don't use it. Looking to install a cobra system on cake silo
GEN16	<p>Describe the maintenance programmes that are undertaken to ensure odour and bioaerosol control measures are maintained, prioritising Tranche 2 sites.</p>	
OMP02	<p>Please identify the most common sources of odour complaints (i.e. during movement of cake, etc)</p>	Around cake silo
OMP01	<p>Dry solids range (%), sludge type, sludge pH, and storage time at average throughput for different tanks / processes.</p>	<p>Digester feeds 7.2% DS, blending <7%, thickened sludge >6-6.5%, primary >7-10%</p> <p>3hrs storage</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 	
Bioaerosols		
GEN15	<p>Describe the processes and bioaerosol control measures (e.g. odour abatement systems, enclosed tanks, filters) associated with:</p> <ul style="list-style-type: none"> • 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 <p>If using odour suppression sprays are they used to just mask the smell or to catch and drop the odour?</p>	<p>AS lanes, FSTs,</p> <p>All other processes enclosed</p> <p>Cess reception – contained Inlet works not contained, but inlet screens covered and ferric dosing added @ inlet works – 30l/hr</p>

	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?	Rats – new contract – NEA? Bait boxes Birds/seagulls Was monthly on previous contract, not had a visit with the new contract yet
	Raw materials – Write here or refer to table at the bottom	
135	Will operations require raw materials? What raw materials are used on site? List all including diesel, poly, lime etc Try to get the proper chemical name as well as what it is referred to.	See Raw materials page near back
I36	How much is stored on site of each at any one time (maximum tonnage)?	See Raw materials page near back
	What is each material used for?	See Raw materials page near back
SV26	How and where are they stored? Bunded, stored undercover etc? Are they in IBC's, bags, tanks etc?	<i>Take photos of any plates</i> Bunded Ferric – tank needs replacing
SV27	What is the storage capacity of tanks, IBC's etc, how many on site?	<i>Take photos of any plates</i>
	How often are they replaced?	See Raw materials page near back
I38	Describe the basic measures for improving energy efficiency of the activities carried out on site	TBC
	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. This relates to all wastes generated by SWS operations on site – e.g. wash water, screenings etc	WEEE, metal, fluorescent tubes – MTS – Light Bros. General, recycled – Biffa Rag removed 2xweek – imported screenings and inlet – T&F IBCs Grit
	Any water saving measures?	
	Combustion	
I43	Does the site have an aggregated net thermal input of combustion plant/s more than 20MW?	

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	Has the plan been provided and marked up as necessary? (Y/N)
I52	Please explain the waste treatment processes carried out on site, the associated environmental risks and how these are managed/mitigated for each site	
Risk Assessment		
I55	Please provide any existing environmental risk assessments relating to the operations of the site	
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.	Nothing recent
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.	
	Is SCADA used on site? What processes are covered by SCADA?	SCADA x 2 in control room – covers whole site 5 HMRs in MCC building Whessoe valves warn on SCADA
Digesters		
	How many digesters on the site?	3 digesters
	Digester capacity	1848m ³ each 14 day retention – 132m ³
SV29	Any Wesso valves? How many? Any temperature sensitivity observed in the Whessoe valves? (previously we have heard of Whessoe valves freezing below -5°C)	<i>Mark up a site plan with information during site visit</i> 2 x each digesters 2 x each 2 x PDST 2 x gas holder
SV30	Any monitoring of tanks/gas? Is there an alarm system attached to the Wesso valves (inform SCADA when operational)?	Whessoe valves warn on SCADA
	What is the ground like surrounding the tanks? E.g. permeable gravel, concrete etc	Gravel around digesters and then concrete
SV31	Underground pipework? Known condition?	Yes underground, except AD, all in poor condition, except AD
	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?.	
Drainage		

	Where do the drains go? E.g. Head of the works	Central areas of site goes to domestic PS – head of works Perimeter ones to soakaway Some unknown connections near the liming plant Drainage survey will confirm
	Is site adjacent to a river or stream?	R. Arun on other side of main road
	Is the whole site bunded	No
	Are there any cracks in the pavement	In places, but generally good conditions
SV31	In the condition of the underground pipework known?	All underground pipework. Centrate line was underground – now above ground as line blocked
GEN21	Please describe whether all drainage (surface or foul water) will 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.	
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?	Flooding on site behind centrifuge building due to soakaways
SV32	Are there any isolation valves, penstock etc operational that can isolate flows? If so where and in what circumstances are these used?	Most of the site can be isolated
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?	No storm tanks on site FFT 730l/s
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?	Flooding on site behind centrifuge building due to soakaways No other known
CC07	Is the access route to the site (main road access) at risk of flooding? Has it flooded previously? Are there alternative access routes?"	1 main access road off main road

CC03	What wastewater flow is the site rated at? What is the pass-forward' flow?	730l/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"	AD 36oc (range 32-38oc) AD stop feeding and then foam Anti foam for digesters known to come out the top of AD with sludge – 4 x in 20yrs
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?	None
CC08	Does the site already have a generator installed / provision for a plug-in generator at the site?	
	Other	
SV39	Has any ground investigation/monitoring been undertaken on the site eg for planning permissions? Are there any available monitoring boreholes?	No only during inlet scheme. BH around perimeter to check water levels prior to FST, PST and digesters
	Planned AMP7 schemes for the site that may impact the permit application?	CHP upgrade inlet building rebuild, flare upgrade?
	What is the general site infrastructure like? Any areas of concern?	Inlet works
	Age of site?	2001
	What infrastructure is enclosed?	

Raw materials mainly associated with chemicals	What raw materials are used on site? Proper chemical name as well as what it is referred to.	How much is stored on site of each at any one time (maximum tonnage)?	What is each material used for?
ferric	Ferric chloride dosing	23t/5-6 weeks 30,000l stored at any one time	
poly	Centrifuge poly (powder - bag) Primary poly (powder - bag) SAS poly (liquid – IBC)	750g/6days, 8 x 750g stored at any one time 750g/2weeks, 6 x 750g stored at any one time 1t/2weeks, 4 x 1000l stored at any one time	
anti foam	Liquid - IBCs	1t/8weeks, 1 x 1000l stored at any one time 1t/6weeks, 2 x 1000l stored at any one time	FE Digester
other? Sodium Hypochlorate, sodium hydroxide etc	Sodium hydroxide Sodium hypochlorate	10t/8weeks, 22,200l stored at any one time 10t/6weeks, 22,200l stored at any one time	OCU
Diesel/ gas oil	Generator	1 x yr, 34,000l stored at any one time	
Lime		21t/10days, 25,000l stored at any one time	
Odour control			

B. Landmark Envirocheck Report

Available on request.